THE INDO-AUSTRALIAN BOMBYCES AND SPHINGES

WITH 104 PLATES

TEXT

ALFRED KERNEN, PUBLISHER, STUTTGART
1933
Preface.

It was three years ago that the first Volume of *Heterocera* — that of the African fauna — was published and today we are glad to announce the completion of the corresponding part of the Indo-Australian Lepidoptera. Simultaneously Supplementary Volume 2 of the palaearctic Sphinges and Bombyces and the final plates and concluding sheets of Volume 6 will be published, so that the third great epoch in the publication of the "Macrolepidoptera of the World" has been reached. The first stage was the completion of the entire Palaearctic Fauna (concluded in 1915). The second stage covered all the Exotic Rhopalocera (1927). And now we have completed the Exotic Sphingidae and Bombycidae, thus having dealt with all the species mentioned in F. Kirby’s "Systematic Catalogue".

This tenth Volume comprises 880 pages of text and 104 plates (numbered 1—100) covering the entire Indian region that lies southwards of the palaearctic boundary and as originally defined, including therefore Australia and all the numerous islands spread over that territory. Whilst this area is the largest of all, it by no means contains the richest fauna or the greatest number of species. Many of these islands, even such that are almost as large as Italy (as for instance New Zealand) show an extraordinary dearth in the species that are dealt with in Volume 10 (in New Zealand there are but 17), despite the fact that climatic conditions would appear to be favourable to their development. The scarcity of insect life shown in some of the regions dealt with in this Volume, is partially counterbalanced by a superabundance of species in other parts of the same territory (for instance the Himalayas and New Guinea). These districts are known to be among the richest in insect fauna in the whole world. It has however been possible to condense the whole essential material into one Volume and one that we hope, prove to be not too unwieldy.

It will be realised that the matter handled in the 10th Volume can by no means be considered exhaustive. The Indo-Australian archipelago, especially the Papuan territories provide new forms almost month by month, so that comprehensive supplementary Volumes will have to follow, until it can be declared that the Indo-Australian fauna has been thoroughly studied and classified. Whilst it cannot be asserted that the entire territory covered by this Volume, has been so little explored as that handled in Volume 14, nevertheless it is a fact that large districts have never yet been visited by expeditions or collectors. Practically the whole of the interior of Australia, as well as numerous of the Islands, have only been very superficially examined. British India and the cultivated areas of the Dutch East Indies have probably been the most thoroughly worked, but the countries bordering on same, have in many instances, as yet never been visited by scientists. Publications that are comprehensive and richly illustrated, only exist of very few districts of the Indo-Australian region. There are of course a large number of excellent illustrations of the Rhopalocera of these districts and splendid preliminary work has been done by Sir George Hampson in regard to the Noctuidae in his masterly "Catalogue of Lepidoptera Phalaenae", nevertheless thousands of *Heterocera* are being illustrated for the first time in the plates of this Volume. Barely one-third of some 320 Zygaenidae comprised on the first 8 plates have ever been illustrated before. Very few of the Drepanidae (abt. 300) have ever been shown at all and the same may be said of the families of the Thyrididae and Limacodidae. Not even one-third of the 500 Lymantriidae figured in this Volume has been illustrated in colour-print hitherto. Taken altogether this Volume contains 4500 illustrations and never yet have collectors been able to quickly diagnose, determine and classify their collections from such coloured illustrations. Most of these illustrations have been made
from life from actual specimens. The chance of being able to illustrate almost every species of Arctiinae, and nearly all from perfect specimens, we owe to the generous assistance of Lord Rothschild, who has so kindly placed the necessary material at our disposal, in spite of all the additional difficulties that were incurred by the outbreak of the World War. In the same way the Sphingidae, Drepanidae among other groups, were all illustrated from specimens in the Tring Museum and I am glad of this opportunity to express my sincere gratitude for the support accorded to me and this work. Thanks are also due to the British Museum for placing at our disposal a large number of types, so that we could incorporate copies of same. We are likewise indebted to the Zoological Museum of Berlin and numerous private collectors for the loan of type specimens, which have enabled us to make the illustrations of this Volume as comprehensive and complete as possible.

The present Volume has suffered more than any other under the adverse circumstances prevailing during the period of publication. Just the work connected with the elaboration of the Heterocera, especially the families Syntomidae and Arctiidae, has been most interfered with, by the disturbances caused by the World War. Sir George Hampson published in November 1914 (i.e. after the commencement of the war) the magnificently illustrated Supplement of his “Catalogue” and this only reached Germany in 1918, too late for the inclusion in this work or even in the supplements of many of the numerous new species enumerated therein. In the case of the 6th Volume which appeared a little later, it was still possible, in spite of great difficulties, to include the corrections and additions (Vol. 6, p. 195—217). The final completion of these families of Volume 10, must now be left until a Supplementary Volume can be taken in hand. This incident will show the harm that can be done to international work by the suspension of communication between cultured peoples and when authors of scientific works are forced to carry on their work without the possibility of intercourse and cooperation.

Numerous discrepancies that have occurred, indicate the danger of a rigid adherence to the methods of nomenclature. Especially when same are declared to be sacrosanct and when usual conventions and customs, as laid down in the “nomenclatural rules and regulations” are superseded by inviolable “nomenclatural laws”. If I revert once more to these rules in their relationship to the whole of this work, it is because of the controversy that has arisen from the remarks in the Preface to the preceding Volume 9. When publishing same I would never have thought that it would have been necessary to justify our point of view. It appears however that in some circles, that have perhaps not been in a position to follow all the endless disputation on this subject, the standpoint of the editor is not fully appreciated.

It is necessary to realise that the publication of this work was envisaged to spread itself over a number of years and that during this time, it was to be presumed that the nomenclatural rules themselves would be subject to many modifications. Apart from such principles, that are elementary and self-understood, the rules have been so often re-modelled and modified, that the more recently published Parts of the Macro-lepidoptera would not have agreed — in regard to denominations and the system of same — with the Parts completed 20 years ago. It must be remembered that in the early years of this century, when the plans of this work were discussed and laid down, only a rough draft of the rules of zoological nomenclature was in existence. And at that time these proposals were rejected by an overwhelming majority of the leading zoologists. It would therefore have been particularly absurd to bind ourselves in advance to such proposals, when taking in hand a work of such magnitude as the present one. In the state of affairs prevailing at that time, it was not difficult to foresee that the rules, that were then being formulated, would never be adopted in that form. Further it was to be expected that the inadequacies manifest in the drafting would soon become so apparent that modifications would have to be made. To refer only to the rule dealing with the mode of denomination, that set no limit to the giving of names, was it not apparent that indiscreet or egotistic persons might turn same to improper use, to the detriment of science?

The editor with his many years experience as a professional breeder, having acted as official expert and judge in questions of race, was able to see at the outset, when this codex was first mooted, that there would be unavoidable differences of opinion in the interpretation of races and populations. He therefore had great compunction in insisting on a rigidly uniform attitude on the part of his sub-editors and collaborators. Quite apart from this however any attempt at such a thing would scarcely have been successful, as on many debatable points everyone had his own interpretation.

In this question of nomenclature — especially on the point of the rules of priority — if one were to abide by the strict letter of the law, any layman could at his own free will and discretion re-denominate almost any of the commonest and best known species. It would only be necessary to create the impression and conviction that a well-known name denoted by Linné, Fabricius, Cramer, Haworth of any other respected
In a work of the nature of the present one, it is essential to preserve a certain uniformity. Were we to seek to enforce a rigorous adhesion to nomenclatural rules the result would be unforeseeable. We need only mention one example to illustrate our point. In Volume 2 the Genus “Spilosoma” is cited. According to Hampson’s “Catalogue” Vol. 3 this name was withdrawn and replaced by the older name “Diacrisia” and this was the name used to denote this Genus in Volume 10 of this work. Meanwhile however Hampson had reinstated the denomination “Spilosoma” in Supplement 3 of his Catalogue and therefore in contradiction to Vol. 10, this name was again utilised in the Supplementary Volume 2 of the Macrolepidoptera. And this merely in a desire to satisfy the rules of priority! An experience like this should be sufficient justification for the contention, that exceptions must be allowed.

The illustrations, which have been the especial care both of the Editor and Publisher, were never intended to be works of art. They are to facilitate determination and classification of species. It has never been the intention of the editor to select the most magnificent specimens as models. Nor did he ever wish to impress his reader with the conception of the beauty of a species. This would merely lead to disappointment, should a student be induced thereby to acquire a particular specimen, which fell far short of his expectations, either in size or beauty as compared with the illustration. Criticisms therefore with the complaint that the specimens illustrated are not especially fine and therefore unsuitable for illustration and that larger and finer models would have been available, merely fail to realise the intentions of the editor and the purpose of the work.

In previous volumes we have mentioned already that we do not claim that every one of the thousands of illustrations has been executed to our complete satisfaction. The present volume that covers the Australian fauna and the many forms that have been newly described during the last decades, has been particularly difficult in this respect. Frequently only the type specimen is known and this is preserved in some quite inaccessible private collection or in a Museum in one of the cities of Australia. One can well understand that the possessor of an unique specimen is not inclined to trust same to the risks of a journey to Europe, for fear it might suffer irreparable damage. Further, these types are frequently in such a poor state of preservation that it is doubtful whether they would be serviceable for illustrative purposes. In such cases as this, one was glad enough to obtain a drawing or water colour sketch of the species in question and then of course one had to accept same as such without being able to verify whether it was true to life. Wherever we have given illustrations of this nature, it has been in the assumption that they represented...
exceedingly rare species, or such specimens that were difficult to obtain. The object being to enable our readers to gain a general impression of the species in question, without regard to the purely scientific or systematic issue.

In regard to the illustrations produced from actual specimens (in some plates this constitutes every single specimen shown) the editor trusts that fullest satisfaction has been given. Our claim is that there is no other work in existence that excels ours in illustrations such as we have given of the Zygaenidae, Arcti-anae, Sphingidae, Drepanidae etc. In order to achieve this and maintain the relatively low price, it has been necessary to group in some instances as many as 100 figures on plate. Whilst this may not be pleasing, it is purposeful as it renders the book more handy as a book of reference. It is to be assumed that these books will often be taken on journeys, where every ounce of luggage weight is a consideration and the editor considered it his duty to bear this in mind and seek to include as much matter as possible in the most condensed space. However even this has been subject to criticism.

In current literature one sometimes comes across such remarks as "nothing is said in Seitz in regard to the underside", or "these markings are not mentioned in Seitz" or even that "it seems to have been overlooked in Seitz". Such criticisms seem to us beside the point. When one considers that some 7000 to 8000 forms have to be dealt with in a volume of less than a thousand pages, it must be clear that there will not be space for detailed descriptions, such as one would have the right to expect in a publication or periodical that can give an author unlimited space. This especially applies to such cases, where one certain characteristic denotes all the members of one group. It seems superfluous to mention more than this one distinctive feature. Wherever illustrations are given showing most of the conspicuous details, no further descriptions seemed necessary in the text.

The editor had no compunction in acting in this way because just on this account he has been able to carry through to completion 12 Volumes of the work (besides maintaining the parts of the uncompleted volumes) and this achievement has been made in spite of the prevailing unrest in the world. All previous efforts to publish a work embracing all the known Macrolepidoptera have failed. Not through any fault in the ability of the editors or publishers, nor actually through any shortcomings. Their inability to complete their task is to be ascribed to the lack of a definite plan. They sought to achieve too much, they considered it possible to issue an unlimited number of volumes, to give the greatest imaginable number of plates and illustrations, a project that was incapable of achievement, either financially or technically. The failure of these earlier attempts has been one of the chief hindrances in the success of the present work. No opportunity has been allowed to pass without disparaging the "Macrolepidoptera" and without referring to the fate of its predecessors with the prediction that a similar early end would attend our labours. Today we have the proud achievement of 12 completed volumes. Only a part of the Noctuidae and the three last of the six subfamilies of the exotic Geometridae have still to be completed. Had it not been for the decline in purchasing power in every country of the earth, the unfortunate state of currencies and exchanges, the closing of frontiers whilst Europe is being "balkanised", the work would have been completed ere this.

Another criticism has been, that we are reproached with having given too many illustrations. This set of critics asserts that the work is too much like a "picture book", that it makes things too easy, that insufficient stimulus is given to the study of the morphology of insects, that it encourages superficiality instead of the pursuit of science. As a matter of fact morphological details have been omitted, wherever it has been possible and where characteristics visible to the naked eye have sufficed, we have avoided giving details of structure and anatomy. For this reason there are no diagrams in the text and amendments will be made for this in Volume 17, when morphology will receive particular attention. Had the specialised volumes been illustrated in this way, such figures would have been valueless as a reference and they would not have complied with the general plan of the work.

The illustration of the main volumes of this systematic work by means of natural coloured plates is all the more important, as it is unfortunately a fact that the interest in entomological science is decreasing throughout the world. It is therefore necessary to provide an easy means of classification to encourage younger students and collectors, who perhaps have not the facilities of visiting any of the larger Museums, to collect and study the fauna of foreign parts. The importance of facilities for quick classification and determination of the value of specimens, the opportunities they offer for an exchange of specimens, these all are of value in stimulating the interest in Lepidopterology and should not be underestimated. Compare for instance the lack of interest that is shown in Microlepidoptera, of which there are no books of reference and few illustrations available. Scarcely any collector is interested in Australian or neotropical Microlepidoptera. These are in so little demand that professional collectors have been instructed by their dealer friends to abstain from collecting them, as they see no chance of disposing of same. What a state of affairs, when
one would imagine that just the majority of collectors would be interested in an order, where in one or two cabinets of moderate size a wealth of species could be stored. The present moment appears to be appropriate for the publication of a work embracing the less favoured groups of Macrolepidoptera such as the Satyridae, Neotriptinae, Geometridae, Thyrididae, Limacodidae etc. This may arouse the interest and raise the enthusiasm of all those studying the science. It will enable them to take in hand the assorting and classifying of all these families, making use of the present comprehensive and systematic work. The study of the natural sciences requires books of reference and other requisites, such as are not required for merely physical sports and games and as the fashion at present is to indulge in physical and mechanical tests of strength, endurance and speed, the early completion of the “Macrolepidoptera of the World” may help to save and keep alive the interest in the science of Lepidopterology.

Students of this branch of science must redouble their efforts to render practical work and diffuse knowledge and interest in same so long as it remains out of fashion and favour. The editor and publisher therefore have spared no effort nor expense to maintain the high standard of the work. Sub-editors and collaborators have one and all done their best to aid and further the completion of the task. The fact that the progress of the principal work — 24 serial parts per annum — has neither been disturbed nor delayed by the publication of a complete volume of the Supplementary Series encourages the editor to hope that in the coming year the completion of a further volume may be achieved. World trade and prosperity have never been at such a low ebb as at present and one has therefore the right to hope that an improvement is in sight. It is of great importance that in spite of the impoverished state of industry, the illustrations have not been allowed to deteriorate in any way. A comparison of the first and last plates of the volume will show that if anything technical improvements have been made in the portrayal of the figures and the last plates are even more accurate and delicately executed than the earlier ones. The reason why the number of illustrations appertaining to the last chapters, is not quite so high in relationship to the number of forms mentioned in the text, is to be explained by the fact that the groups enumerated on the last sheets mostly represent unique types that had gone greasy and were therefore not suited to illustration. In the earlier families practically every species was illustrated. Had an attempt been made to remove the grease of the specimens mentioned, they might have suffered irreparable damage and in any case there was no guarantee that after treatment they would have been fit to have given a true representation of the species. A large number of the models are to be found in old collections, where in some cases they have been 100 years and even longer. As formerly the means of preservation were very primitive, it appeared doubtful whether an illustration based on such specimens, would give satisfaction.

One of the reasons that has induced us to provide such a liberal abundance of illustrations is the deplorable fact that as is common knowledge, unfortunately the means of destruction are constantly being increased and developed. This might mean the total destruction of the valuable collections in the Museums and archives of science. The danger of a complete destruction of so much labour and effort is removed, or at all events the loss to science would not be so irretrievable, if these thousands of recognisable illustrations and all the data relating to same, are distributed over the entire world in the manifold copies that are circulated everywhere. If for instance on one single plate (No. 50) 72 separate forms of butterflies are illustrated for the first time, the value merely as a record, is inestimable.

We therefore ask our readers to be lenient in their judgment of the shortcomings of this 10th Volume. Will they please bear in mind that the communication between editor and sub-editors of the separate parts was often interrupted and that circumstances sometimes even prevented an exact interchange of views and notes. The loss of two of the collaborators whilst their manuscripts were in work, W. Warren and R. Peitzner and whose untimely death we greatly deplore, made the transmission of their papers and elaboration of their work quite exceptionally difficult. That some of the illustrations, which were often executed from a single known specimen, are not absolutely perfect, should also be excused in view of the difficulties we have had to encounter. Often the artists themselves were called up for army service, but the greatest loss we suffered in this respect was through the death of the Principal of the firm that had undertaken the printing of our plates, Dr. hon. causa Fritz Winter, who fell as a victim of the World War.

Darmstadt, December 1933.

Dr. Adalbert Seitz.

The translation of this Preface was entrusted to Mr. Arthur Welti, F.R.E.S., London.
X. VOLUME:

BOMBYCES AND SPHINGES

OF THE

INDO-AUSTRALIAN REGION
PHALAENAE

OR

MOTHS
The enormous assemblage formed by the Indo-Australian Phalaenae is by no means so sharply separated from the butterflies of that fauna as in the Palearctic Region. The peculiar Australian species Euschemon rafflesiae, which forms the conclusion of the butterflies dealt with in vol. IX, constitutes a connecting-link and has recently referred to the Heterocera, as it differs strikingly in several respects both from the Rhopalocera and the Grypocera. We prefer, however, in this work to leave it in the position which it occupies in Kirby's very widely known Catalogue, contenting ourselves with pointing out its taxonomic uncertainty.

Owing to the early colonization of India our knowledge of the Indo-Australian moths already made considerable progress even during the first years in which any interest has been taken in exotic insects. The East India Company early began to admit larvae also into their museum and so the foundations of a thorough knowledge of the life-history were early laid, though far later than Merian made known the first moth larvae from tropical America. Moreover the vigorous colonization of the Dutch Indies early made us acquainted with the striking forms of the Malay Archipelago, although many a surprise may still be in store for us owing to the character of the Indo-Australian archipelagos as a maze of islands, some of which are even to-day difficult of access.

On the whole Anterior India may be considered well known as regards its Heterocera. In Further India scarcely more than the coasts and several points of the Strait have yet been well explored, whilst in the interior of Siam, Annam and Tonkin many novelties will probably still be found. Burma and Tenasserim, adjoining Anterior India, have been well worked, on the other hand in large districts of south-western China our pioneers have only just been occupied with the first rough work. As regards the Indo-Australian part of Japan, especially Formosa, the Japanese have recently been so actively engaged in investigating it that it will not be long before an approximate idea of its Heterocerous fauna can be formed. Australia, well known in the south and east, has still huge tracts of land which are scarcely touched, and with regard to this part of the world the treatment of the Heterocera in our work must be regarded as only provisional; at the same time even the first small genus, Synemon, yields over half a dozen new forms, although, as not coming within the scope of a work of reference, our contributors have by no means been in search of novelties. The South Sea also, poor as it is in species in most parts, will still bring something new to light; only New Zealand, which has more than once been thoroughly worked out monographically, even to the smallest forms, can be regarded as well known.

It is evidently no more possible than with the Palearctic fauna, to say much about the Indo-Australian Heterocera in general. On the whole we meet with an extraordinarily large number of recent groups; in the Malay Archipelago in particular they are very strongly developed. Proceeding from thence towards the north-west we see the Heterocera approaching the European forms; to the north-east we find pretty generally, as in the east of the Palearctic Region, that large forms predominate; to the east the fauna becomes more meagre as the islands become fewer and more isolated and to the south it enters Australia, where it mixes with an endemic fauna consisting of very archaic forms of a distinctive character. It is not possible to separate these two elements of which the Australian Heterocera are composed, as they have become completely blended. Wallace, who recognized the residue of the aboriginal Australian fauna as altogether distinct and moreover did not find his geographical system on the insects alone, on this account separated Australia as one of his main faunistic regions. In this he was followed by Pagenstecher, who likewise opposed the amalgamation of India with Australia into one fauna. Most other authors, and also the practical entomologists (collectors and dealers), have accepted the arrangement which we follow here, uniting Australia with the Indian fauna. This has not been done because the still easily recognizable indigenous forms (notably among the Heterocera Synemon, also Colussa, Pictus, Trichetra, Epicoma etc. etc.) have been overlooked or their peculiarities not sufficiently appreciated, but because proceeding from the north the Indian immigrants have completely submerged the primitive fauna and as the forms derived from these immigrants have spread right to the south.
coast of Australia and to Tasmania it has become impossible to draw a dividing line from the Indian region. The Papuan (Austro-Malayan) fauna, represented as an intergrade, is a subfauna of the Indian region and has nothing to do with the very primitive native Australian fauna. The latter is much more prevalent in the southern and western half of the Australian continent and in Tasmania than northwards.

Whilst we still find among the Indian *Heterocera* affinities with Palearctic forms, in the north-western Himalayas, indeed, even a transitional region, there is no relationship at all between the primitive Australian fauna and that of the Palearctic Region. Australia also shows no sort of connection with South Africa and the southern part of South America. Certain resemblances — which, however, are very rare — have been pointed to as of zoogeographical importance, like the fact that ostriches are common to these regions, and have been regarded as indicating an earlier connection of the southern continents with one another; but as with the ostriches, it is doubtless a question in such cases of convergence.

I. Division: *Bombyces, Sphinges*.

In volumes II and VI it has already been emphasized that not much can be said in common concerning the two great groups known as Bombyces and Sphinges. They embrace the largest and also almost the smallest *Macrolepidoptera*; insignificant grey species and again brilliant, metallic day-fliers; some which, having the mouth-parts atrophied, can take no nourishment in the imago state, and others again which are markedly partial to flowers. As already mentioned, everything is included among the Bombyces which is neither butterfly, Sphinx, Noctuid nor Geometer. Phylogenetically the Bombyces are nearest to the *Microlepidoptera*, to which the Psychid, Cossid, Hepialid, Aegeriid and Thyridid families show a close approximation. The Saturnids and Notodontids approach the Sphinges, the Uranids and Callidulids the butterflies, whilst the Arctiids suggest a connection with the Noctuids, especially the Agaristids and Acronictids.

Among the few families which are confined to the Indo-Australian Region we may first mention the *Callidulidae*. Only quite a few species of this family touch the Palearctic Region. Of the Nyctemerids, which likewise belong almost exclusively here, a few also occur in Africa. But there are also some subfamilies in which the majority of the species inhabit the Indo-Australian Region, and these Indian genera are furthest removed from the American members of the family. Thus we may call the Chalcosiines mainly oriental, and also the Cymbid and Hypsid genera; the latter and the *Agaristidae* also occur in Africa, although not in such large numbers. The other Heterocerous groups referable to the *Bombyces* and the *Sphingidae* are scattered over almost all the faunae.

Finally, as regards the total number of species of Indo-Australian *Bombyces*, it possibly equals that of the American; that of the Ethiopian and Palearctic Regions it far surpasses.
1. Family: Castniidae.

The family Castniidae is composed of a number of morphologically rather divergent groups. The Castniids proper, divided by Boisduval (1874—1875) into 4 genera (Castnia, Gazera, Ortlia, Cerethes), all united into the genus Castnia by Westwood (1877) and Kirby (1892), are exclusively confined to America and are altogether tropical insects; they play a large part in the hot South and Central America, but have scarcely a representative in the United States even in the southern parts. The second group, containing the genus Synemon, occurs in Australia and consists of rather small and not numerous species; the third group, composed of the genera Tascina and Neocastina, contains three Indian species and shows only a slender connection with the other genera*).

Many criteria which appear to connect the Australian Synemon with the American Castnia may possibly prove on closer examination to be due to convergence; e. g. the clubbed antenna, the repeatedly divided cell, etc. We are no doubt dealing with phylogenetically old groups, which in many respects recall the Cossids, Hepialids and Sesiids (Aegeriids).

In addition to the distal thickening of the antenna we may specifically mention as characters common to all Castniids the presence of the frenulum and the fact that on the hindwing vein 8 is present and is widely removed from 7, i. e. from the base of $6 + 7$, and 5 is nearer to 4 than to 6.

The Castniids fly in the hot sunshine with a very vigorous flight, somewhat recalling the Catochilids. The species provided with a proboscis drink at flowers and rest in thickets or on stones with the wings folded together roofwise, in which position they commonly resemble dry leaves or pieces of bark. The $S^C\!S$ lie in wait for the ?? on the tops of bushes and especially on the tips of projecting twigs or the ends of boughs and will attack passing insects and often pursue them with great persistence. They pair by day and the eggs are laid, by means of a projectible ovipositor, in the inside of plants (stalks, orchid bulbs). The larvae, so far as known, are smooth, only provided with a few tufts of quite short bristles on the dorsum, the eggs are laid, by means of a projectible ovipositor, in the inside of plants (stalks, orchid bulbs). The larvae, so far as known, are smooth, only provided with a few tufts of quite short bristles on the dorsum, the larvae, so far as known, are smooth, only provided with a few tufts of quite short bristles on the dorsum, the larvae, so far as known, are smooth, only provided with a few tufts of quite short bristles on the dorsum, the larvae, so far as known, are smooth, only provided with a few tufts of quite short bristles on the dorsum. The Castniids fly in the hot sunshine with a very vigorous flight, somewhat recalling the Catochilids. The species provided with a proboscis drink at flowers and rest in thickets or on stones with the wings folded together roofwise, in which position they commonly resemble dry leaves or pieces of bark. The $S^C\!S$ lie in wait for the ?? on the tops of bushes and especially on the tips of projecting twigs or the ends of boughs and will attack passing insects and often pursue them with great persistence. They pair by day and the eggs are laid, by means of a projectible ovipositor, in the inside of plants (stalks, orchid bulbs). The larvae, so far as known, are smooth, only provided with a few tufts of quite short bristles on the dorsum, the eggs are laid, by means of a projectible ovipositor, in the inside of plants (stalks, orchid bulbs). The larvae, so far as known, are smooth, only provided with a few tufts of quite short bristles on the dorsum, the larvae, so far as known, are smooth, only provided with a few tufts of quite short bristles on the dorsum. — The moths are rather shy and many species seem to be rare.

Besides the Indo-Australian region the Castniids are only represented in the Old World on Madagascar and there only by the isolated genus Peniphagostola Strand (with the single species P. synemonostis Strand).

Detailed descriptions of all the forms dealt with here I am publishing in "Archiv für Naturgeschichte", Jahrg. 1911, Bd. I, Suppl.-Heft.


Synemon differs from the other Castniids in the sharp and knob-like clubs of the antennae, as well as in the neuration, which especially differs from the following genus Tascina in having the cell on the forewing closed but on the hindwing open, whilst it shows far more agreement with the American Castnia. Forewing with closed cell divided by strong veins and with two dorsal veins; vein 3 twice as far from 2 as from 4, 5 further from 6 than from 4, 7 + 8 + 9 stalked, 8 into the apex, 10 and 11 from the anterior-marg in the cell. Hindwing with open cell and 2 dorsal veins; 4 nearer to 3 than to 5, 6 + 7 stalked, 7 into the apex, 8 distinctly removed from 7 at the base. Antenna between the club and the head thin and delicate. Palpus with bristly hairs, first joint short, terminal joint long. Eyes large. Proboscis long and strong. Abdomen of the ?? very long, reaching far beyond the anal angle of the hindwing, that of the $S^C\!S$ almost as thin as in a butterfly with the anal extremity strongly hairy. The colouring of the hindwing is mostly brightly coloured as in Catocala, that of the forewing grey-brown, adapted to the bark of the trees on which the insects rest. They fly freely by day, visit flowers, and many species recall in their flight Hesperids of the genus Helacista. Synemon is confined to Australia, in the southern and south-western parts of which it has attained its greatest development.

S. sophia Ad. White (1a). $\varphi$ up to 45, $\sigma$ 37—42 mm. Forewing brown to black with 2 grey-whitish oblique bands; hindwing with large orange-yellow spots, consisting of two transverse rows and a discal spot.

— Australia, especially in the south.

S. parthenoides Fldr. (9d) is very similar to sophia, but the $\varphi$ still larger (50 mm.), the forewing a little narrower, the white transverse bands on the forewing broader, more regular, more sharply marked and forming a V-shaped mark, and the yellow spots of the submarginal series on the underside of the hindwing entirely or almost entirely confluent behind the middle with those of the preceding row. Adelaide, Swan River. — partita nom. nov. (9d) I name the Synemon form figured and described by Boisduval 1858 (in Hist. Nat. Lept. Het. I, p. 550) as parthenoides, which has nothing to do with the true typical parthenoides (cf. fig. cit.). From "New Holland".

*) This third group has been separated from the Castniids as a distinct family, Neocastniidae. A fourth genus placed here by Kirby, Hecatesia, we treat (following Hampson) as belonging to the Agaristids (nearly allied to the Noctuids).
SYNEMON. By Dr. E. Strand.

S. maja spec. nov. (9a). ♀ 45 mm. Hindwing similarly marked to that of sophia, but the spots pale yellow, forewing with two characteristically shaped light transverse bands. Australia.

S. gerda spec. nov. (9a). ♂ 40 mm. Forewing with similar markings to the preceding species, except that the bands are not white but dark yellow and the yellow spots of the hindwing are smaller and more widely separated. Australia.

S. heliopis Meyr. (9a). Both sexes 27—38 mm. Distinguished among other things by the very broad orange-yellow band on the hindwing, the narrow discal transverse spot on the forewing and the unicolorous brown fringes. West Australia, in November.

S. selene King (1b ♂, sixth figure; ♀ first figure, incorrectly called “theresa”). ♀ up to 48, ♂ 46 mm. Recalls parthenoides and especially the form which I have named portia, and occurs at Adelaide; in the same locality occurs also adelaide Swinh., in which the forewing bears only 2 white spots, a discocellular and a costal spot, and is more scaled with reddish-brown in the apical half; the median row on the hindwing consists of only 2 spots and the subterminal spots are very small.

S. icaria Flbr. ♂ 30, ♀ 38—40 mm., is characterized among other things by the orange-coloured hindwing with black markings; occurs at Adelaide and on the York Peninsula and flies in November. —

S. laeta Wkr. (9b), ♂ 42 mm., much resembles icaria, but is larger and somewhat differently marked.

S. vagans. — Whether vagans Westw. (1c) is the ♀ of laeta or a variety of it is still doubtful.

S. catocaloides Wkr. (9a), ♂ 40 mm., is likewise similar to icaria, but the white discocellular spot of the forewing as a narrow transverse streak, the postmedian transverse band is also narrower, on the hindwing the black markings are more extended, etc. — Swan River.

S. magnifica spec. nov. (9b). ♂♀ 46 mm. No other species of Synemon known to me has the forewing such a deep black and the markings on the hindwing such a fiery orange-red; most resembles S. laeta. — New South Wales.

S. collecta Swinh. (1c). ♂ 34—36, ♀ 37—40 mm. Differing from S. theresa among other things in the long, narrow, very obliquely placed white discocellular spot of the forewing and the dark, lighter-margined, lancet-shaped longitudinal streaks in the marginal area of this wing, which are distinct to the hindmargin, whilst in theresa they are only present in the anterior half of the wing. North Australia, New South Wales.

S. obscuripennis (Sydney), Queensland. A form with the wings darkened is obscuripennis ab. nov., in which the hindwing above is black with extremely indistinct reddish brown markings, whilst beneath it is only indistinctly lighter round the black subterminal spots. — simpia ab. nov., from Queensland, shows indeed lighter longitudinal stripes in the marginal area of the forewing, but not the black lancet-shaped streaks characteristic of the type-form; the yellow in the marginal area of the hindwing is much reduced. — josepha ab. nov. (9c), from Cooktown in Queensland, is also without the black lancet-shaped streaks in the distal area of the forewing, but has instead a blue-grey marginal line and a reddish submarginal band, hindwing with whitish discocellular spot; for the under surface cf. fig. — ab. affinita ab. nov. (1b, erroneously called obscurella), likewise from Cooktown, differs from ab. josepha in the markings of the hindwing and in the pure white, almost longitudinally placed discocellular spot of the forewing.

S. theresa Dbl. is smaller than collecta (27—37 mm.) and has the hindwing darker with five black spots in the marginal area, each surrounded by an orange-yellow ring; the forewing also differs (cf. S. collecta). — South Australia (Adelaide).

S. phaepitila Turn. (9b). ♂ 32—36 mm. Above black-brown, on the forewing with large, obliquely placed, white discocellular spot and two indistinct greyish patches in the marginal area and a similar longitudinal stripe from the base; sometimes the discocellular spot is the sole marking recognizable. Hindwing with a slightly reddish marginal band. Under surface cf. fig. ♀ 34 to 36 mm. North Queensland (Cooktown).

S. nais King (1b) is a smaller species (24—29 mm.) from Adelaide.

S. discalis spec. nov. (9b). ♂ 26 mm. The markings of the upper surface resemble those of S. sophia. Forewing beneath dark with two light orange-yellow, subparallel oblique transverse bands, which are the same distance apart at both ends, whilst in sophia they are twice as far apart anteriorly as posteriorly. The spots on the underside of the hindwing about as above, but paler and angled. — Australia.

S. hesperioides Fldr. (1b) is above dark brown with lighter markings on the forewing, beneath likewise dark brown with a silver-grey band at the costal margin of the forewing, widening apically, and with silver-grey marginal spots, bordering of a transverse row of deep black spots and discocellular spot also silver-grey, basal and inner-marginal areas dusted with grey. South Australia, New South Wales (Sydney).

S. maculata. — I propose the name maculata form. nov. for a form in which the black, lighter-margined spots on the underside of the hindwing are also visible above. Victoria.
SYNEMON. By Dr. E. Strand.

S. plana Wkr. is in the typical form lighter than our figure (1 c); beneath silver-white with narrow dark marginal band and two (forewing) or four (hindwing) dark spots. 32—33 mm. — New South Wales (Hunter River).

S. mopsa Dhl. (9 b) is one of the smallest species (30 mm.). Beneath brown with lighter markings, the forewing tinged with copper-colour, and with lighter and darker spots. Australia (Adelaide).

S. nupta Westw. (9 c). ♂ 42 mm. Forewing beneath black with two red bands, hindwing beneath white and reddish spots. — West or North Australia.

S. notha Westw. (9 c) is smaller than the preceding species (25—30 mm.) and the under surface of both wings is reddish orange with black bands and a white and a black cell-spot.

S. directa Westw. is one of the largest species of the genus (♂ 48 mm.); both wings are reddish orange-coloured beneath, the forewing with two black transverse bands, the hindwing in addition with black basal area. Australia. bifasciata form. nov. (1 c, erroneously called monodesma on the plate) chiefly differs in having the distal band on the forewing quite as sharply marked and as pure white as the proximal band, and even broader.

S. obscurella Westw. (= obscura Satlah. nec Tepp.) (9 c). ♂ 28 mm. The larger basal half of the underside of the forewing, with its distal boundary straight, the apical half ochreous with large brown subcostal discal spot; hindwing beneath as above. — Australia.

S. leucospila Meyr. 31—42 mm. Is said to be characterized by its white markings; the palpi, which in most Synemon are unicolorous white, are here black on the upperside. Forewing lighter and darker brown with an antemedian band composed of three dark brown spots posteriorly margined with lighter, a dark subcostal spot and two rows of similar spots at or near the distal margin. Hindwing black-brown with light yellow discal spot, yellowish white subterminal band, which is commonly broken up into spots, and a submarginal row of 7 white spots. Fringes brown with white tips. — Is said to be common at Geraldton in Australia and to fly in November.

S. austera Meyr. 40 mm. Is compared with S. heliopis and brontias; said to differ from these in its larger size, its lighter colouring, the triangular white discal spot on the forewing and the less extended orange markings of the hindwing. Forewing light brown, tinged with ochreous, the veins in part darker, a grey-whitish longitudinal band and narrower subterminal band. — Occurs at Carnarvon in West Australia in October in marshy places.

S. brontias Meyr. 25—33 mm. Forewing brown with diffuse, round ochre-whitish discal spot, a row of whitish spots almost reaching both margins, and at each side of this row a series of dark spots. Fringes of both wings chequered with brown and white. Hindwing dark brown with orange discal spot and broad orange marginal band enclosing a dark shade (♂) or dark spots (♀). The species is said to differ from heliopis in its smaller size, the rounded discal spot of the forewing, the rows of white and dark spots, the white-chequered fringes and the dark subterminal spots of the hindwing. — Carnarvon in West Australia, in October, in the plains.

S. monodesma Low. (the moth figured 1 c does not represent monodesma but directa bifasciata). ♂ 38 mm. Forewing deep ochreous brown, slightly iridescent; a white median transverse band from below the middle of the costal margin towards, but not reaching, the anal angle; an indistinct whitish band, only half as long, at ¾ the length of the wing. Hindwing black-brown with orange markings; a crescent-shaped band at the end of the cell, another from the costal margin directed towards the anal angle without reaching it, and a row of subterminal spots. — West Australia (Mount Darling Range), in November.

S. pyrrhoptera Low. ♂ 44 mm. Palpi beneath white, above brown. Forewing dark brown sprinkled with lighter scales, discal spot large and but little darker than the surrounding area, beyond the middle an oblique, light reddish streak, white in the middle, directed towards the anal angle, two white transverse subcostal spots, a subterminal row of dark spots. Hindwing scarlet with broad, irregular, black marginal band enclosing two spots of the ground-colour. Forewing beneath dark brown with scarlet oblique streak and a transverse row of 6 whitish, orange-bordered spots. Hindwing beneath with scarlet discal spot and paler spots in the marginal area. The species is said to be especially characterized by the hindwing. — Australia (Fraser Range), in October.

S. obscura Tepp. 33 mm. Is said to be distinguished by the dark ground-colour and blurred markings, of which those on the hindwing are reddish. In the distal half of the forewing three light transverse stripes, in the cell a longitudinal stripe. The light markings of the hindwing are said to occur chiefly in the marginal area, where they are more or less confluent. A very obscure species. — County of Adelaide, Lyndoch, Barossa.

S. livida Tepp. ♂ 32 mm. Is said to be pale greyish with blackish streaks along the principal veins and a blackish subterminal line; along this a row of 5 or 6 black spots. The hindwing with a black streak along the median vein, connected with a narrow black transverse streak which runs into the anal angle; between this and the distal margin there are 4 blackish spots; otherwise the hindwing is for the most part orange. Occurs together with obscura.
2. Genus: **Tascina** Westw.

Large species with the head thick, eyes very large, palpi quite small and tongue completely atrophied. The neuration resembles that of the genus *Castnia*, from America, but the arrangement of the veins is different, especially in that the cells of both wings are open. Forewing with only one dorsal vein, as from 2, 4 and 5 closely approximated at the base, 6 + 7 stalked, 9 runs into the apex and is stalked with 10 and 11. Hindwing with 3 dorsal veins and veins 2 + 3, 4 + 5 and 6 + 7 stalked. The antenna is strong and has the club elongate, provided above with a pad of densely packed sensory scales and sometimes bearing a small hair-pencil at its extremity; the legs are powerfully built with strong tibial spurs. In the species yet known the forewing is dark with a white oblique band, running from the middle of the costa to the inner angle. They are found on Malacca and the island of Palawan.

**orientalis.**

*T. orientalis* Westw. (1a). Forewing dark brown, strongly produced at apex; the white oblique band is broad at the distal margin, which it reaches above the inner angle. Hindwing vermilion with broad dark brown margin. Singapore.

**metallica.**

*T. metallica* Payenst. (1a). Forewing not strongly produced at apex; hindwing with unicolorous dark ground-colour, the basal part with bright metallic blue-green gloss; the species has longer palpi than the preceding and the apex of the forewing is less produced in the♂ and not at all in the♀. Palawan.


Is separated by its author, together with *Tascina*, as a distinct family, on account of the absence of the tongue, the open cell of both wings and not stalked, and the absence of vein 1c. The only known species belonging here is unfortunately not known to me, so I can only cite here the principal characters assigned by Hampson. In addition to those given above may be specially mentioned the very long, thin palpus, the long club of the antenna, the densely spinose tibiae and tarsi, the small terminal spurs of the middle and hindtibia; forewing broad with the costal margin curved and the apex quite short.

**nicevillei.**

*N. nicevillei* Hmpsn. (9c). ? 90 mm. Head and thorax red, vertex blue-green. Abdomen black. Forewing like the thorax, with a broad, cream-white band from the costal margin to the anal angle. Hindwing black, with a blue gloss in and behind the cell. Underside of thorax and legs orange-yellow, the basal half of both metallic, forewing with reddish-yellow subapical spot. — Tenasserim.

### Alphabetical List

with reference to the original descriptions of the forms of the Indo-Australian *Castniiidae*.

* signifies that the form is also figured at the place cited.

- **metallica** Syn. Payenst., Iris 3, p. 3.
- **noba** Syn. Westw., Trans. Linn. Soc. Lond. (2) 1, p. 197.*
- **nupta** Syn. Westw., Trans. Linn. Soc. Lond. (2) 1, p. 197.*
- **obscura** Syn. Tepper, Trans. R. Soc. S. Austr. 4, p. 35.*
- **obereulla** Syn. Westw., Trans. Linn. Soc. Lond. (2) 1, p. 197.*
- **obscuripennis** Syn. Strand, Seitz, Macrolep. 10, p. 2.
- **orientalis** Syn. Westw., Trans. Linn. Soc. Lond. (2) 1, p. 199.*
- **partha** Syn. Strand, Seitz, Macrolep. 10, p. 1.
- **pyrrlioptera** Syn. Westw., Trans. Linn. Soc. Lond. (2) 1, p. 197.*
- **selene** Syn. Klug, Abb. Akad. Berlin 1848, p. 249 (1850).*
- **simpila** Syn. Strand, Seitz, Macrolep. 10, p. 2.
- **vagans** Syn. Westw., Trans. Linn. Soc. Lond. (2) 1, p. 198.*
2. Family: Zygaenidae, Burnets.

First (anterior) submedian vein in both wings developed, with the exception of the genus Akesina Moore.* A forewing without areole. Freneulum and retinaculum are only wanting in the long-tailed Himantopterinae. A more or less distinctly prominent vein in the cell of both wings developed from the base to the end of the cell. Costa of the hindwing mostly separated from the cell, running parallel with it and connected with it by a short oblique nervure (= first subcostal), more rarely the costa coincident with the cell. Ocelli mostly present; they are absent in all the Himantopterinae and some Phaudinae. Claws without tooth. — Egg above somewhat impressed, with very weak sculpturing. — Larva 16-legged, with small head, which is retracted into the thorax; all the segments with bristle-bearing tubercles; ventral legs with a half-circle of hooks. In shape reminding one of the larva of Lomacoidae. Lives free on leaves, more rarely mining. According to Doherty the larvae of Himantopterus fascinervis live with Termites. — Pupa in a loose or firm cocoon; abdominal segments and the extremities of the leg- and wing-cases free; on the abdominal segments a row of sharp little hooks, with the help of which the pupa pushes itself forwards partly out of the cocoon before the emergence of the moth.

Day-flying insects of mostly very bright colouring. Metallic colours predominate, but there are also uniformly dark or yellow forms without gloss. They are mostly slow fliers, and often feign death when touched. These insects are very tenacious of life; their weak body contains an acrid fluid which protects them against the predations of insectiverous enemies. Some forms have glands in the thorax, out of which when they are touched a frothy liquid exudes. They mostly hang lazily on flowers, commonly quite a number on the same flower-head; in the hot sunshine however the $\sigma^{c}$ of many species become lively and bloom along with a straight flight. In the markings, colouring and form many Zygaenidae are very similar to other moths with which they are not nearly allied, especially forms of the families Geometridae, Syntomidae and Arctiidae, as well as Pierids and Danais.

The agreement of the smaller Zygaenids with the Syntomids in their general appearance, especially in the contour and the relative size of the wings, even caused the older authors to regard the insects as closely allied to one another, and to include them in one family. But the small wings of the Zygaenids do not indicate any real relationship with the Syntomids; indeed they are only found in a part of the whole family of the Zygaenidae. The Chalcosiinae with their broad wings and strongly pectinated antennae must be regarded as in many respects the primitive Zygaenids, although in other respects again these Chalcosinds are more specialised than the true Zygaenids. It is quite a general phenomenon, which is met with everywhere when investigating the derivation of animal forms, that an animal form or a group of forms (genus, family, etc.) which in one or other respect is more primitive than a second form, in other organs stands much higher than the second one. This is shown in the Zygaenids in a very pronounced way.

The Oriental Zygaenidae belong to 4 subfamilies, which may be differentiated as follows:

A. Himantopterinae. — Mouth-parts aborted. Ocelli, retinaculum and freneulum wanting. Hindwing produced into a long, thin tail.

B. Phaudinae. — Mouth-parts usually aborted; the forms with long palpi have no ocelli. Scaling rough; without strong metallic gloss.

C. Chalcosiinae. — Tongue (in all the Indo-Australian forms) present. Body more or less metallic. Foretibia without spur, middle- and hindtibiae each with one pair of apical spurs. Ocelli always present.


A. Subfamily: Himantopterinae.

Mouth-parts aborted. Ocelli wanting. Antenna of the $\sigma$ with long, of the $\varphi$ with short pectinations. All the tibiae without spurs; claws as in all the other Zygaenids without tooth. Forewing elongated, distal margin long, hindmargin short, costal area broad; upper angle of the cell produced; median nervures much more proximal than in the other Zygaenids, 2. median branching off considerably before the middle of the cell, the upper submedian sometimes absent. Retinaculum and freneulum wanting. Hindwing produced into a long tail, often the whole wing very narrow; costa coincident with the subcostal from the base to at least 1/3 of the cell. — The earlier stages are not known to us; the larvae according to Doherty in Termites’ nests. — In consequence of their long drawn-out hindwings these peculiar insects, hitherto only found in Africa and in the Indo-Malayan subregion, resemble the Tipulids and the Neuroptera family Nemopteridae. They are usually met with resting on leaves, and are evidently poor fliers, falling into the net when the bushes are beaten and remaining there lying as if dead or with a quivering motion of the wings. They are rare and mostly only taken in single specimens, yet once or twice large numbers have been found, probably in the neighbourhood of the Termites’ nests. As the anal extremity of the $\varphi$, as in some other Zygaenids (e. g. in some species of Pollanitis), is thickly covered with short scale-hairs.

*) In the Ethiopian Region there are several genera in which the 1. submedian vein is absent.
the eggs are probably laid in small masses and covered with this sort of wool. Possibly there are similar relations between the larvae and the Termites to those between many Lycaenid larvae and ants.


Forewing without veinlets between costal vein and margin; upper angle of the cell projecting very far beyond the lower one; 3. subcostal from the cell, 3 or 4 subcostals present; first discocellular oblique, placed in the same direction as the second or forming a very obtuse angle with it; upper submedian present. — Indo-Malayan; 4 species.

**H. fuscinervis** Wesm. (1d). Yellow; antenna, the veins and fringes of the forewing and the hindwing with the exception of the base and apex black; hindwing almost linear, slightly broadened behind the middle, the hindmargin in the ♀ somewhat angled here, but not so strongly widened into a lobe as in the next species. — Sukahumi and Mt. Gedé, Java; Mt. Tahan, east side of the Malacca Peninsula.

**H. dohertyi**. Collar, abdomen, and in the ♀ the basal half of the hindwing red-yellow. Forewing blackish, semitransparent, almost glassy at the base; hindwing in the ♀ very narrow, in the ♂ broadened more or less into a lobe behind the middle of the hindmargin. Assam: in the Khasia and Naga Hills; May, June and August, perhaps all through the summer. — In dohertyi Elw. (= doubledavyi Elw.) the hindwing of the ♀ is comparatively broad, reversed lanceolate, and in the ♂ it has only a few yellow hairscales at the base. Naga Hills. — **elwesi** subsp. nov. (1d) is the form from the Khasia Hills. The hindwing of the ♀ is narrow and behind the middle widened into a lobe; in the ♂ the hindwing is yellowish towards the base.

**H. caudata** Moore (1d). Body red-yellow. Forewing blackish, semitransparent, a patch in the cell and 2 or 3 spots behind it yellow, these spots in the ♂ larger and deeper yellow than in the ♀. Hindwing from the base to ⅔ broad, this part somewhat shorter than the forewing, bright yellow, with 2 black spots, tail black. — South and North India, Burma: Harmsworth found this insect not rare in the Nilgiri Mountains, where he took it by beating at an elevation of about 3000 ft.; he also found a couple of specimens resting on leaves. The black spots of the hindwing are rather variable in size.

**H. zaida**. Body yellow, antenna black. Forewing at least at the base and the broad basal part of the hindwing yellow; 2. and 3. radials of the forewing long-stalked; hindwing with 2 black spots and black tail, the tip of the broad part only very little black at the beginning of the tail; the hinder angle of the broad part more projecting than in **H. caudata**. The 9. abdominal segment of the ♀ above the anal hook with 2 long pointed processes, which in **H. caudata** are only indicated. North India and Burma; two subspecies. — **zaida** Doubl. (1d). Forewing yellow from the hindmargin to the lower angle of the cell or beyond the apex of the cell. Cherrapunj, Assam: a pair in the Tring Museum, the ♀ taken in June; 2 ♀♀ in the British Museum. — **flavescens** subsp. nov. Only 2 ♀♀ known. Forewing entirely yellow, the veins, the narrow costal margin and the fringes of the outer margin black, the costal margin somewhat more broadly black at the upper angle of the cell. The black spots of the hindwing small, the posterior one oblong, the basal part of the wing narrower than in **zaida** Doubl., the hinder angle more strongly lobe-shaped. Donault Range, Tenasserim: in the British Museum.

B. Subfamily: Phaudinae.

Scaling rough, mostly hair-shaped; strong metallic gloss absent. Mouth-parts mostly aborted; ocelli present or wanting, the forms with long palpi without ocelli, easily distinguished by this from the Zygaeninae. — Earlier stages only known of one Javan species, whose yellow eggs are laid in glutinous masses. Larva shiny, reminding one of that of Limacodids. Cocoon firm, fastened on the upperside of a leaf. — This subfamily consists of 2 types according to the shape of the wings: a narrow-winged and a broad-winged type; in both the colours are black-brown, yellow and red. The narrow-winged forms resemble beetles, bugs, Cicadas and Hymenoptera, whilst the broad forms, which look like certain Liparids and Hypsids and are only known from Africa and North-West India, probably mimic Fulgorids (Flatinae). The insects are mostly only taken singly, but some species are found in large numbers both as imago and larva.


Body with rough hairs. Palpus and tongue small. Antenna setiform, with somewhat longer pectinations in the ♀ than in the ♂, but the two on the same segment joined together at their base in < shape. Ocelli wanting. Abdomen laterally with long hairs, in the ♀ with 2 black hair-pencils at the end; penis sheath uniformly curved upwards, with thorn-shaped tip. Spur of the foretibia long; middle and hindtibiae with one pair of short terminal spurs. Wings elongated; forewing with 4 or 5 subcostals, all arising from the cell, or the 4. and 5. stalked, the 1. far before the end of the cell; in the hindwing the 2. and 3. radials from the lower angle of the cell. Last tarsal joint of the ♀ impressed beneath. — Indo-Malayan, distributed northwards to North China. The species, when at rest or crawling, resemble the beetles of the subfamily Lycaenidae, which are protected by an acrid smelling fluid, as well as bugs; they feign death when touched, and raise the abdomen high, the black hair-pencils of the ♀ projecting and bearing a deceptive resemblance.
to the forceps of earwigs or the sting of the *Hymenoptera.* — Larva broader in front than behind, shiny, resembling bird-droppings, with brown dorsal stripe, which is broadened anteriorly; the sides white, more rarely yellow. The cocoon firm, barrel-shaped, striped with yellow, brown and red. Food-plants: Ficus and Terminalia. The eggs are laid in small glutinous masses.

**P. flammans** Walk. (1e). Five subcostals in the forewing. Body and wings vermillon. Antenna, flammans. breast, legs and a spot on the upperside of the abdomen blue-black, as well as a sharply defined marginal area on the forewing and the hindwing from the margin to the cell; underside of the femora, tip of the antenna and the fringes at the apex of the forewing, grey-white; hindwing semitransparent, almost glassy from the base to the middle. Abdomen in ♂ and ♀ red beneath. — Nord India: Lahore, Simla, Sikkim: Burma.

**P. triadum.** Very similar to the preceding species, but only 4 subcostal veins in the forewing. — triadum Walk. (= fortunei H-Sch.) (vol II, 1a). Both wings above and beneath with a blue-black marginal area, triadum. which in the forewing is less sharply defined than in *P. flammans* Walk. Abdomen black at least in the middle, beneath grey in the ♂ and black in the ♀. China: Tonkin. — *erythra* subsp. nov (1e). Forewing above *erythra.* entirely red, only the fringes of the outer margin purple-black, beneath a large purple-black marginal spot as in *triadum* Walk., which is proximally somewhat washed over with red; margin more rounded than in *triadum*; hindwing more densely clothed with red hairs. Abdomen (♀) black above and beneath. Belgaum, one ♀ in the British Museum. The larva dirty white, with light brown oblong patch on the back. — **limbata** limbata. Wallen. ♀: abdomen above black, beneath and laterally red. Wings somewhat narrower than in the preceding forms; blue-black marginal area of the forewing almost straight proximally and costally, sharply defined, extending proximally to beyond the base of the lower median vein, filling up the lower angle of the cell. Hindwing red at the costal margin and the base, the cell only very slightly red. Manila; also 2 ♀ from Singapore and Borneo in the British Museum. — **sumatrensis** Walk. Similar to **limbata,** smaller, **sumatrensis,** forewing only 11—13 mm long; abdomen above less extended black. Sumatra; Java. Larva on Ficus and Terminalia. Apparently only ♀ are represented in collections.

**P. mahisa** Moore (1e). Black; underside of the femora grey; collar, forecoxae, underside of the *mahisa.* abdomen and costal margin of the forewing above deep red; hindwing paler red above and beneath from the base to the tip of the cell and forward to the apex, and also the forewing beneath to about the tip of the cell; thorax above with red and black hairs. 4 subcostal veins in the forewing. — Java; Bali.

**P. rubra** spec. nov. (1e). Still smaller than *mahisa.* 5 subcostal veins in the forewing. Body and *rubra.* wings yellowish red; antenna, the greater part of the upperside of the abdomen and the fringes of the forewing black; the legs and breast yellowish-brown, the tibiae partly red on the upperside. First submarginal vein of the forewing only weakly developed. Length of the forewing 9 mm. — 2 ♀ from Formosa, in the British Museum.

**P. dichroa** spec. nov. (1e). ♀: body and basal half of the wings yellowish red; antenna, legs and distal dichroa. half of the wings bluish black; abdomen above with blackish patch before the tip. 4 subcostal veins in the forewing, the latter 15 mm long. — 1 ♀ in the British Museum from Port Blair, Andamans, found in December.

**P. dimidiata** Snell, (1e). Body including breast and legs as well as the basal half of the wings *dimidiata.* orange-yellow, abdomen in the ♂ white-grey beneath. Distal half of the wings blue-black; tip of the abdomen black. 4 subcostal veins in the forewing. Base of the antenna yellow. — Celebes.

**P. iuscalis** Servah, (1e). Black, abdomen almost entirely yellowish red, with long red tufts of hair *fusatilis.* at the sides. Wings transparent brown-black, the veins darker, the 4. and 5. subcostals of the forewing and the 2. and 3. radials of the hindwing stalked. — Assam; 1 ♀ in the Oxford Museum.

2. Genus: **Alophogaster** Hamps.

Nearly allied to *Phanda.* Antenna thinner, in the ♂ the pectinations not joined together in angle-shape, the last 6—8 segments with short pectinations; in the ♀ all the segments weakly pectinated, the last ones simple, scaling rough, only a narrow ventral stripe being scaleless. Abdomen with anal tufts in the ♂. Ocelli wanting. ♂ and ♀ differently coloured. 5 subcostal veins in the forewing. — 2 species.

**A. rubribasis** Hamp. (♀ = serraticornis Hamp.) (1f). The ♂ purple-black, the collar, thorax, rubribasis. the sides and under surface of the abdomen and the base of the forewing yellowish red; wings blackish, somewhat metallic, semitransparent, more thickly scaled distally. In the ♀ the body and wings reddish yellow, abdomen above with black bands; forewing with large purple-black marginal spot, rounded proximally; hindwing glassy, yellowish posteriorly, apex blackish. — Assam: Khasia and Naga Hills, the series in the Tring Museum caught in May, June and October. The ♀ was also erroneously described as ♂.

**A. tensipennis** Walk. (1f). Body and wings yellow-red; antenna with the exception of the base tensipennis. purple-black and also a somewhat indistinctly defined transverse band behind the middle of the forewing, a transverse band on the underside of the abdomen white. In the hindwing the 2. and 3. radials stalked. — Sarawak, Borneo, 1 ♀ in the Oxford Museum.

Tongue short and thin. Fronds broad. Palpi thin and very long, extending to the base of the antennae. Ocelli wanting. Antenna setiform, very pointed, in the ♂ bipectinated, the last 6–8 segments feebly dentate; in the ♀ with one row of pectinations, on the underside with the exception of these roughly scaled. Spurs of all the tibiae long, hindtibiae with 2 pairs, the proximal pair before the last third of the tibia. Wings long; veins of the forewing branching off from the cell, 5 subcostals, the 1. directly behind the middle of the cell; apex of the cell feebly angled; 2. and 3. radials confluent, 2. median from the angle of the cell. In the hindwing 3. radial and 1. median stalked. — One North Indian species.

P. igneola Hamp. (♂). ♂ and ♀ different in the colouring of the wings. Body purple-black; head, with the exception of a frontal spot, and the upper and underside of the thorax red. Antenna with white tip. Forewing in the ♂ bronze-brown, a broad costal streak and 3 thin longitudinal lines red; the forewing of the ♀ red, the narrow distal margin, as well as a proximal pointed longitudinal spot in the middle of the marginal band black. Hindwing smoky black, proximally somewhat glassy and in the ♀ reddish. — Assam: Khasia Hills, in April.


Mouth-parts quite aborted. Ocelli wanting. Antenna of the ♂ with very long thin pectinations. Foretibia without spur; spurs of the middle and hindtibiae very short, only the apical spurs of the hindtibia present. The body and the broad rounded wings covered with hair-scales. In the forewing only 3 subcostal veins present, the first anastomosing with the costa, the other two stalked, the upper submedian weakly developed. — One species, from North-West India.

A. basalis Moore. Body and base of the semitransparent wings brownish yellow, rest of the wings blackish. — Kangra.

C. Subfamily: Chalcosiinae.

Tongue and palpi present; the latter often short, separated from the eye by a stripe on the face which is usually scaled. The stripe which surrounds the eye at the back broad, sometimes without scales, always with fine erect hairs. Ocelli present. Antenna in ♂ and ♀ pectinated and dentate at least before the tip. Foretibia always without spur; middle and hindtibiae with one pair of short spurs. Anal segment of the ♀ usually modified into an ovipositor. — The species of this central subfamily are almost all more or less metallic green or blue, with red, yellow or white markings. The subfamily includes very diverse looking elements, all of which, however, can be distinguished from the Zygaeninae by the absence of the spur of the foretibia. The species are partly very variable, even in the neuration of the wings, and in many genera the sexes are so dissimilar that until quite recently ♂ and ♀ were placed in different genera. The subfamily is developed principally in the Indo-Malayan Subregion. Many of the genera which occur there reach into the Palaearctic Region. Only very few extend into the Papuan Subregion, which possesses a few endemic genera that do not occur in the Indo-Malayan district. In their habits the Chalcosiids are very similar to the Zygaenids. The larger, broad-winged species have mostly a still heavier flight of only very few forms it is known that they fly rather high above the ground in company with other Lepidoptera, e.g. Pierids. Many dark forms are fond of resting on tree-trunks. The bizarre markings of many species suggest that they mimic spotted flowers. The forms which resemble Geometrids, Arctiids and other Heterocera, are much more rare than these. This may in part be due to the fact that the Chalcosiids are much less easily started up and consequently escape the net of the collector. The rarity of the Chalcosiids in comparison with the similarly marked Geometrids, Arctiids and other Heterocera, are much more rare than these. This may in part be due to the fact that the Chalcosiids are much less easily started up and consequently escape the net of the collector. The rarity of the Chalcosiids in comparison with the similarly marked Geometrids in New Guinea collections for instance is very striking. In India on the contrary the Chalcosiids which resemble the Euploids and Danaini are mostly very common, as are also the forms resembling the Pulgordts. — The short thick larva bears on all the segments, with the exception of the small head, narrow or broad tubercles covered with bristles. The pupa lies in a firm cocoon, which is fastened on the upper side of a leaf, more rarely on the stem, but is also sometimes concealed low down on the plants close to the ground, or even under its surface; before emergence, as in other Zygaenids, the anterior third of the pupa is pushed out of the cocoon.


♂ and ♀ similar; frenulum simple also in the ♀. Head broad, frons flat; antenna with long thick pectinations, which are much shorter towards the base. Distal segments only weakly dentate, reminding one of Procris statices. Legs short, foretibia broad, first tarsal segment short. Abdomen broad, laterally covered with hairs. Forewing elongate-triangular, cell truncate, all the veins arising from the cell or the 2. and 3. subcostal veins stalked, 1. median near the angle of the cell; in the hindwing all the veins from the cell. Ovipositor of the ♀ broad. — Pretty species, with partly transparent hindwing and red-marked abdomen. Indo-Malayan.

C. auratus. Black, collor and two bands on the abdomen red or the latter yellow above; thorax and forewing covered with metallic green scales, which are thickened into an indistinct band on the forewing before the middle. A white spot in the cell of the forewing. Hindwing thinly scaled, semitransparent. nivimacula. 2. and 3. subcostals of the forewing stalked. Ceylon and South India. — nivimacula Fidhe., from Trincomali in Ceylon, has a rather distinct metallic band before the middle, but has otherwise no metallic scales and
the abdominal bands are red also above. — In auratus Cr. (= aurinicta Swinh.), from South India, the auratus. abdominal bands are yellow above and the last three segments are laterally black, with the exception of the ab. gana Swinh., (1f), in which they are laterally red as in uninucula; thorax and forewing rather gana. thickly covered with metallic scales.

The following three species form Semper's genus Ancistroceron (= Pteroceropsis Swinh.).

C. amabilis spec. nov. (1f). Black, head (and probably also the thorax) metallic green-blue; a spot amabilis. on the side of the prothorax red; the last three abdominal segments laterally with reddish yellow tufts of hair; all the tibiae broad. Forewing elongate, metallic green-blue above, a small glassy spot at the end of the cell; hindwing narrow, small, blue, with glassy spot at the base. Under surface blue-black; forewing with two green-blue metallic stripes and hindwing with a small spot of the same colour in the middle; all the veins in the forewing from the cell, 1. median much nearer to the angle of the cell than in C. auratus. Antenna distally compressed, appearing serrate on the upperside. — One ? from Kalidupa. Toekan Besi Islands, to the south-east of Celebes, found by H. Kuhn in January, 1902.

C. uninuncta Swinh. (1g) is similar to the preceding species; prothorax without red lateral spot; uninuncta. abdomen without the yellow-red lateral tufts, but beneath with such a transverse band behind the middle. Forewing black, a metallic band at the base and a second at 1/4 of the length; costal margin of the hindwing, vitreous spot larger than in the previous species. — Borneo. The antennae were described by Swinhoe as proximally unpectinate; but they are bicipitinated as in amabilis.

C. glaunon Swemp. (1g). Frons, 1. abdominal segment above and 5. beneath yellow. Forewing blue- glaunon. spotted; a basal spot, a transverse band as in uninuncta, a spot before the apex of the cell and three before the oblique margin; a glassy spot on the discocellular. Hindwing with glassy spot at the base and blue spot before the margin. — Mindanao.

For the two following species the generic name Mydrothaunia Btlr. has been introduced; but the insects agree very well with Callizygyna auratus both in structure and in the shape of the wings, even the marking of the wings is on the whole the same.

C. semperi Druce (1g). Head and collar red. Forewing green-black, metallic, a green transverse semperi. streak near the base and a broad golden band before the middle; hindwing black, with one or two glassy spots or without any. — Larva on Myrmecylon tinctorum; black, a large green patch in front and behind. tubercles long, yellow with black tips. the broad black median band with entirely black tubercles. Pupal stage 8—13 months; cocoon grey, on a leaf or the tree-trunk. — Luzon.

C. ada. Velvety black, body with green dots, head and collar red. Forewing with metallic line at the base, a thin band before the middle and a broad blue band, which is proximally red or pale gold, behind the middle. Hindwing with one or two vitreous patches. — ada Btlr. (1g), from Borneo, has a very ada. broad band on the forewing, which extends to the margin. — In jucunda Rothsch., from Batu Island, the jucunda. margin of the forewing remains black and the metallic line is placed near to the band; in the hindwing are two small vitreous spots, one at the base, the other before the margin. — javana Rothsch. has a still javana. more broadly black margin on the forewing, the metallic line has the same position as in ada and the hindwing has only one vitreous patch placed at the base. Sukabumi, Java.

C. albipuncta Howmps. (1g). Body glossy green above. Wings green-black; in the forewing a spot albipuncta. near the base, an interrupted narrow band behind the middle and a short black band before the apex yellowish white, semitransparent. — Ceylon, in the thickest jungle, 6000 ft. The genus Longirochboε was erected for this species by Hampson (1900).


Similar to Callizygyna. In the forewing the 1. and 2. subcostals and again the 2. and 3. radials stalked; in the hindwing the 2. and 3. radials and 1. median on a common stalk, 1. radial present. — Only one species known.

P. diminuta Walk. (1h). Body and upper surface of the forewing greenish blue-black, slightly diminuta. glossy. In the forewing a basal streak and a small spot at the apex of the cell glassy; hindwing glassy, costal and outer margins black. — Ceylon.


Very near to Callizygyna. Legs much more slender, first tarsal joint longer. Antenna in the ♀ with long pectinations, which become gradually shorter from near the base onwards, distal third weakly dentate, in the ♂ the pectinations short. All the veins from the cell, in the hindwing the 1. radial wanting, the subcostal partly anastomosed with the costa. — Australia. Small, elegant species, with semitransparent hindwings and red or yellow spotted body.

Frons broad, rounded, not projecting. Palpi short. Antenna in the \( \sigma \) with long pectinations, which are somewhat clubbed, becoming shorter distally, the last 6—8 segments simple, thin; antenna of the \( \varphi \) weakly dentate, beneath impressed longitudinally, thickest at the middle. Veins of the forewing from the cell, 2. median remote from the angle of the cell; in the hindwing the costa mostly merged together with the cell behind the middle of the latter, discocellular sharply angled, 2. subcostal and 1. radial separated, 3. radial absent or stalked with the 1. median. Abdomen in the \( \vartheta \) of most species thickly covered with a brush of yellow hairs at the end. — In form and habits very similar to the Palearctic species of Procris. The earlier stages are not known more exactly than that Meyrick mentions the full-grown larva of one species (capyrea). Hitherto only found in Australia; perhaps representatives of this genus also occur in the higher open localities of New Guinea; these insects, which inhabit open country, may also be represented in the very insufficiently explored Island of Timor.

leucopleura.

P. leucopleura Meyr. (1h). A part of the frons, the palpi, the sides of the breast and abdomen white, as well as a part of the femora and tibiae. Forewing narrow, black-brown. Hindwing triangular, semitransparent in the middle. — Duaringa, in Queensland; Sydney.

coronias.

P. coronias Meyr. (1h). Body and upper surface of the forewing black-green. Hindwing grey-black, with thinner scaling in the middle. — From Queensland to Victoria, common, in November, December and March.

cyana.

P. cyanota Meyr. (1h). Collar and upperside of the abdomen shiny metallic green. Wings narrow, black, without gloss, forewing slightly greenish; hindwing semitransparent in the middle. — Queensland, New South Wales.

amethystina.

P. amethystina Meyr. (1h). Larger than P. cyanota; body glossy blue-green, partly blackish; forewing irrinated with metallic green scales; hindwing semitransparent in the middle. — Perth, Western Australia, in November. Perhaps acinarus Fabr. is identical with this species.

capeura.

P. empyrea Meyr. Similar to amethystina, but the scattered scales on head, thorax and forewing copper-coloured, as also the base of the abdomen. — Albany, Western Australia; one \( \sigma \) in coll. Meyrick. — Larva reddish brown, with white dorsal line. Cocoon rather compact.

subdolosa.

P. subdolosa Walk. (1h). Upperside of the body shiny-cooper-red, middle of the frons and a spot behind the eyes green. Wings narrow, blackish, not glossy, forewing slightly olive-green, hindwing semitransparent in the middle. — East and West Australia, from Cape York to Victoria, frequent.

cupreas.

P. cupreus Walk. (1h). Upperside of the body and forewing shiny copper-colour, sometimes changing into green. — Western and South Australia; common in the neighbourhood of Geraldton, Perth and York in Western Australia. Perhaps a western form of P. viridipulverulenta.

apicallis.


viridipulverulenta.

P. viridipulverulenta Guér. (1h). Very similar to the preceding species, but larger, the forewing broader and the hindwing not semitransparent in the middle. Rather variable in size and colouring; many specimens are golden green, others blue. — From Queensland to Tasmania, the commonest species.

dolens.

P. dolens Walk. Similar to P. coronias Meyr. Antenna of the \( \sigma \) with short pectinations. Wings narrow, upperside of the body and forewing dark green, only slightly glossy. 3. radial of the hindwing present, stalked with the 1. median or arising from the cell close to it. Anal claspers of the \( \sigma \) pointed, with long process at the base. — Tasmania, South Australia and Victoria, according to Meyrick rather common, in December.
5. Genus: Isocrambia gen. nov.

?; in form reminding one of Heteropan. Head broad, frons slightly convex; antenna thin, pectinated, the pectinations rather far from one another, reduced to small teeth on the last segments; palpi very short. Forewing truncate; the 3. and 5. subcostals or only the 3. absent; discocellular in the hindwing oblique from the costa to the lower angle of the cell and scarcely angled, 1. radial absent, 2. subcostal close to the 2. radial. — Four species from New Guinea, partly true copies of Lithosids and Micros; only the ? known, and indeed only one specimen of each, all discovered by A. S. Meeke.

l. melaleuca R. & J. (i). Head and collar light yellow, thorax white, abdomen green-black, legs melaleuca, dirty yellow. Forewing above white, outer margin and distal part of the costal margin brown-black, the angulated band abruptly broken off. Hindwing slate-grey, slightly bluish, covered with white scales at the base and posteriorly. Under surface slate-grey, slightly bluish, marginal band of the forewing not so sharp as above, hindwing with white scales before and behind the middle. Neuration: 1. and 2. subcostals of the forewing free, 3. subcostal stalked with the 1. radial, and the 2. radial with the 3. — In the mountains of British New Guinea, at an elevation of over 6000 ft.

l. lutea spec. nov. (i). — Resembling the preceding species in the shape of the wings. Head, collar lutea, and forecoxa yellow-red, thorax yellowish white, abdomen white, underside of the body and the legs dirty reddish white. Forewing above pale purple-brown, the under scales white, the partly rubbed off places consequently appearing white; hindwing pure pale yellow, with some brown scales at the apex. Under surface pale yellow; forewing almost white, from the apex of the cell distad brown, this marginal band gradually narrowed posteriorly. Neuration: as before, but the 2. and 3. radials of the forewing not stalked. — Aroa River, British New Guinea, 4—5000 ft., in May, 1905.

l. tricolor R. & J. (2b). Body and base of the forewing blue-black, somewhat glossy, the flattened tricolor, frons, the collar and a broad subbasal band on the forewing whitish yellow. Wings black; forewing slightly bluish, with dark yellow dot before the apex; hindwing with very broad white area, extending from the costal margin to the anal angle. Under surface similar to the upper, the light markings more extended. Neuration: 1. subcostal of the forewing very far removed from the end of the cell, anastomosing with the costa, 2. near the apex of the cell, 4. from the angle of the cell, stalked with the 1. radial, 2. and 3. radials also from the cell. — In the mountains of British New Guinea, at an elevation of over 6000 ft.

l. apicalis spec. nov. (i). — In the upper course of the Mambare River, in the north-eastern part of British New Guinea, at a height of about 5000 ft., February, 1906.


Small Lycaenid-like insects, with long produced head. Frons pointed. Antenna in ? and ? pectinated, often laterally compressed, especially in the ? of some species, the pectinations thick and scaled at the base. Palpi long and thin, projecting beyond the edge of the frons. Anal claspers of the ? sole-shaped, closed together. Forewing truncate, the area between costa and subcosta broad, 1. and 2. subcostals free, 3.—5. stalked, 3. far proximal to 5., sometimes wanting; 1. radial from the stalk of the subcostal or like the 2. and 3. from the cell; 2. and 3. radials of the hindwing separately or stalked, which occurs in individuals of the same species. The sexes are similar to one another, yet the ? have almost always a distinguishing mark on the wings, either a scent-organ or a specially coloured spot. — Distributed throughout the whole Oriental Region from Ceylon and Burma to Fiji, but only a few species are known as yet; most of them inhabit New Guinea. Not yet found in Australia and North India.

H. scintillans Walk. (2a). Antenna deep blue, forewing bluish grey-brown, distal margin coppery, scintillans, with a marginal line composed of shiny light blue scales. Hindwing pale metallic blue. Under surface white-grey or more brownish, the margins brownish, outer margin coppery, a black basal streak on the costal margin of both wings and a central streak on the hindwing metallic, hindwing in the ? with a black-scaled fold before the abdominal margin. Body beneath glittering silver-colour. — Ceylon; South India; Burma; Nicobars.

H. cupreatus Hamp. (2a). Body and forewing coppery brown; abdomen and hindwing darker blue than cupreatus. in scintillans. No black-scaled anal fold on the underside of the hindwing. — Ceylon. 1 ? in the British Museum,
H. albicosta Semp. (2a). ♂: body and wings above lilac grey, with shining metallic brown marginal line; hindwing anteriorly bluish white. Under surface white, the posterior half of the forewing and the margin, as well as the fringes of the forewing grey. Legs and underside of the body yellow. — 2 ♂♂ from Panaon, Philippines, in SEMPER's collection. Not known to me in nature.

H. fuscensens Dollm. Head, upperside of the thorax and abdomen black-brown, occiput and sides of the thorax thickly, abdomen slightly blue-scaled; under surface whitish grey. Forewing above grey-brown, broadly edged with brown anteriorly and posteriorly and narrowly distally, with central silver streak. Hindwing grey-brown, with blue sheen. Under surface of the wings white, with light blue sheen, forewing edged with brown; hindwing with brown central streak, and a second brown streak below the cell; no scent-fold. — Sumatra, Borneo, Java. Perhaps only a form of H. argiolina. Unknown to me in nature.

H. argiolina Oberth. (2a). Body blue-grey above, white beneath. Forewing above with grey-white central area, which extends from the base nearly to the outer margin; hindwing blue-white. Under surface as upper, but purer white. — Liva, South-West Sumatra. 1 ♂ in coll. CHARLES OBERTHUR. Not known to me in nature.

H. lycanoides Walk. (2a). Forewing from the base to the lower angle of the cell white, with blue sheen, margin broadly purple-blue, the band purer blue proximally; hindwing blue, paler centrally from the base to the extremity of the cell. Beneath the forewing white in and below the cell, costal and outer margins blue-white, the blue not extending beyond the upper angle of the cell; hindwing with white central patch. 3. subcostal of the forewing present. ♂ beneath on the hindwing with a triangular purple spot posteriorly near the base, the abdominal margin brown-grey. — New Guinea, Waigeu and the islands in the Geelvink Bay.

H. dolens Deve. Similar to H. scintillans; forewing somewhat darker, distally a little coppery, without sharp metallic marginal line; hindwing blue, purple distally. Under surface grey-brown: forewing with whitish central patch, which is placed nearer to the costal than to the hindmargin; hindwing from the costal margin to the median nervure metallic, purplish distally. — Fiji Islands.

H. anisus spec. nov. (2a). Forewing pale slate-blue, distal margin narrowly purple, with metallic marginal spots; hindwing unicolorous glossy blue. Forewing beneath purple distally and costally, in the ♂ brownish grey from the cell to the hindmargin, in the ♀ a white patch present, which occupies the posterior distal part of the cell and the adjoining part of the disc: fringes spotted in side-light; hindwing anteriorly and distally purple, posteriorly in the ♂ dirty yellow-grey and without a purple spot, in the ♀ posteriorly blue and centrally with a white patch reaching nearly to the margin. 3. subcostal of the forewing present. — British New Guinea, in the mountains, and on Woodlark Island.

H. cyaneus spec. nov. (2a). Forewing blue, costal and outer margins glossy; hindwing blue, distally somewhat purple. Beneath purple-blue, with or without white: abdominal margin of the hindwing in the ♂ dirty yellow-grey, with purple spot at the base. The 3. subcostal of the forewing wanting; 2. and 3. radials of the hindwing usually long stalked, in one of our specimens both from the cell. British New Guinea, Louisiade Archipelago and Woodlark. — The Woodlark form cyaneus is on a average somewhat larger than the following form; the wings beneath are glossy purple-blue, without white patches in the middle.

H. difformis subsp. nov. from the Louisiade Islands St. Aignan, Rosel and Sudest, as well as the mountains of British New Guinea, has on the under surface of the forewing a white median streak, which is purer white than in H. lycanoides, and reaches nearer to the apex of the wing; the hindwing in the ♀ has also a light median streak which extends almost to the outer margin.

H. alberti R. & J. (2a). Forewing green-black, with brass-coloured metallic spot before the margin; hindwing like the upperside of the abdomen glossy blue, fringes in the anterior half white-grey. Under surface shiny silver in the forewing from the base to the apex of the cell and in the hindwing beyond it, outer portion of the costal margin and the distal margin glossy purple-blue. 3. subcostal of the forewing present. Upper angle of the cell of the hindwing projecting far beyond the lower angle, 2. and 3. radials long stalked. — In the mountains of British New Guinea, 1 ♂ known.

H. truncata. Forewing green-black, costal margin near the base strongly convex, then straight, distal margin incurred below the apex, before the margin a row of metallic spots, placed at a distance from the fringes. Hindwing rounded, with a brown-black marginal band with blue sheen. Beneath a white patch on the forewing, occupying the apical half of the cell (or somewhat more), costal margin of both wings glossy blue-green; hindwing white, the marginal band purple with a blue sheen. 3. subcostal of the forewing present. Angles of the cell of the forewing at about the same height; in the hindwing its upper angle obtuse and widely projecting. — New Guinea. — truncata Oberth. from Jobi Island, in Geelvink Bay, has a large yellowish white spot on the forewing. — In chitonea subsp. nov. (2b), from British New Guinea, the white spot of the forewing above is only indicated by slightly paler scaling; 1 ♀ known.

H. appendiculata Snell. (2b). The largest known species. Forewing greenish brown, with metallic submarginal line. Hindwing purple-blue, especially beneath, in the ♂ with abdominal fold and the anal angle terminating in a lobe; upper angle of the cell of the hindwing truncate, widely projecting. — Celebes.
H. coeruleus spec. nov. ♀: similar to the ♀ of appendiculata and perhaps only a local form. The coeruleus under surface of the forewing, with the exception of the purple distal margin, as well as the whole upper and under surface of the hindwing glossy light blue. Palpi, breast, coxae and femora purer yellow than in appendiculata. — Talaut; 1 ♀ in the Tring Museum.

H. analis spec. nov. ♂: upperside of antenna and abdomen glossy purple-blue; frons and prosternum analis. silvery; legs yellow; underside of the abdomen metallic grey. Forewing 8 mm long, above grey-brown, narrowly purple at the margin, the latter emarginate below the apex; hindwing glossy blue, as in appendiculata notched at the anal angle. Under surface of the forewing grey in the middle, costal and distal margins brown with blue sheen; anal fold of the hindwing deep blue. As in the ♂ of appendiculata the lower median of the hindwing is far proximal to the middle of the cell, in the ♀ (of appendiculata) the vein is likewise much more proximal than in the other species of Heteropan; 2. radial of the hindwing wanting in appendiculata, weakly developed in analis. — 2 ♂♂ in bad condition from Hsipaw, Northern Shan States, one in the Tring Museum, the other in the British Museum.


Similar to Heteropan. Head long; palpi thin. Antenna in the ♀ pectinated only distally, simple proximally, beneath concave lengthwise. Wings narrow, forewing with 5 subcostals, the 1.—3. free from the cell, the 4. and 5. stalked, the 1. radial from this stalk, the 2. and 3. radials and the 1. median from the lower angle of the cell; in the hindwing the 1. and 3. radials absent. — Fiji. Larva mines in cocoanut leaves and causes considerable damage.

L. iridescens Baker (2f). Antenna, head, thorax, breast and upper surface of the forewing glossy iridescens. green-blue; abdomen, legs and tongue yellow. Hindwing semitransparent, above iridescent green-blue. — Viti-Levu. Our figure is enlarged.

8. Genus: Leptozygaena nov. gen.

Similar in form to Docleopsis. Frons broad, antenna thickly pectinated to the tip, the pectinations scaled, moderately long, the middle ones only a little longer than the distal ones. Contour of the wings as in Docleopsis, all the veins from the cell, in the forewing all present, 3. subcostal to 1. median almost evenly from the end of the cell; in the hindwing only 2 radials, discocellular slightly angled, 2. radial from the apex of this angle, 3. radial from the lower angle of the cell. — One species, from New Guinea.


Similar in form to Heteropan. Scaling rough, head much broader than in Heteropan and palpi shorter. — India; China.

A. bicolor Moore (2b). Forewing above pale greenish brown, on the disc with indications of a bicolor. white spot, which is distinct on the under surface. Hindwing white with brown-black margin. Body beneath white. The 1. subcostal of the forewing running into the costa. — North India: Sikkim, Bhutan, Assam.

A. leis Steinh. (2b). Forewing above black-green. Hindwing yellow, bordered with black, in the ♂ leis. the yellow area narrowed to a patch placed behind the costal margin. Under surface blackish brown, base of the forewing metallic, each wing with a large yellow area, which is much smaller in the ♂ than in the ♀, the latter with a blue marginal line. The 1. and 2. subcostals of the forewing near together. — Assam.

A. ochrea Elw. (2b). Antenna blue-black, the tips of the pectinations yellowish; thorax and upper ochrea. surface of the forewing brownish yellow, covered with opalescent scales; hindwing, abdomen and under surface yellow. The 1. subcostal widely separated from the 2., the 3. near the cell. Frons narrow, projecting. — Assam.

A. flavimacula. Black-brown, slightly purple; forewing with yellow or white costal spot near the apex. Burma and Tonkin. — The costal spot almost pure white, triangular: leucas subsp. nov. (2c), only leucas. 1 ♀ known, from Tonkin. — The costal spot brighter yellow: flavimacula Hamp., of which both sexes are flavimacula. known from Burma.

A. funerea spec. nov. Body and wings purple-black; hindmargin of the head red. 1. subcostal of funerea. the forewing weakly developed, anastomosed with the costa; lower angle of the cell in both wings straight truncate, in the hindwing projecting beyond the upper. — 1 ♂ in the Tring Museum, from Hainan, Mt. Wuchi, found in May.
10. Genus: **Anarbudas** gen. nov.

Similar to *Arbudas*, but forewing with only 3 subcostal veins, all arising from the cell or the 3, stalked with the 1. radial. Name-type: *insignis*. — Malayan, northwards to Hainan.

*A. insignis* spec. nov. (2 c). — Occiput and upperside of the abdomen yellow. Forewing slate-colour, the veins and 3 irregular transverse lines yellowish grey. Hindwing yellow, a marginal band, very broad anteriorly, black. 1. subcostal of the forewing more distal than the 2. median, 1. and 2. radials stalked. Last but one dorsal segment of the *♂* emarginate; the last broadly truncate, the edges thickened; anal clasper short, with thickened, granulated margin. — Borneo; Singapore; Malacca.

*A. acqualis* spec. nov. Very similar to the preceding species in colouring; much smaller, occiput entirely yellowish grey, pronotum yellow. Distal margin of the forewing more rounded, the posterior part of the two distal grey transverse lines more proximal; marginal band of the hindwing much broader, occupying half of the wing, the inner margin of the band almost straight. Basal third of the forewing beneath greyish yellow. Neuration as in *bipartita*. Anal segment (of the *♂*) produced in the middle and emarginate: clasper less thickened than in *bipartita*, dorsally produced into two long thin processes, lying close to one another, the lower of which is pointed, whilst the upper is rounded at the tip. 1 *♂* in the British Museum from Malacca.

11. Genus: **Thaumastophleps** gen. nov.

Frons very feebly concave. Antenna with long pectinations, also in the ♀. Spurs of the tibiae very short. Neuration peculiar: in the forewing the cell spatulate, the edges touching one another in the basal half, the 1. and 2. subcostals from the cell, the 3. wanting, the 4. and 5. stalked, the 1. radial branching off proximally from this stalk, the 2. and 3. from the lower angle of the cell, the two medians far before the angle of the cell, the 1. submedian bent proximally to the middle, at this place a transverse vein connects the 1. submedian to the 2. and with the cell; hindwing small, free subcostal, 1. radial wanting, 2. and 3. from the lower angle of the cell, 1. and 2. medians far before the apex of the cell. — Papuan; one species.

*T. expansa* Walk. (2 c). — Body yellow, vertex, middle of the upperside of the thorax, coxae and the abdomen with the exception of the edges purple. Margins and veins of the wings purple-brown; forewing with yellow spot at the base, a yellow subbasal streak between the two submedian veins, and 5 or 6 vitreous patches. Hindwing with the exception of the margins vitreous, or with 3 vitreous spots. — Mysol; New Guinea.


Head broad, frons convex, but only moderately projecting. Palpi small. Antenna in the ♂ with long pectinations, those in the ♀ in the middle the longest, in the ♀ the distal pectinations longer than the proximal ones. Forewing elongate: 1. and 2. subcostals from the cell, 3.—5. stalked, the 5. placed proximally to the 3. or branching off from the same point, 1. radial often from the subcostal stalk, 2. and 3. radials from the cell or stalked. Hindwing much smaller than forewing, costa partly anastomosed with the cell, 1. radial present or absent, the posterior margin of the cell oblique at the apex. — Larva polyphagous: narrowed posteriorly, an elongated tubercle at each side of the prothorax. Ground-colour variable, mostly red-brown or black, more rarely olive-green, beneath lighter than above, often yellow. Pupa in a firm white or yellowish or reddish cocoon, duration of the pupal stage variable, from 11 days to 5 months. — The insects are partly very common at lower elevations, in North India occurring up to 2000 ft., but ascending higher in Kashmir: they are fond of resting on leaves and are easy to catch. Indo-Malayan, distributed from Ceylon and Kashmir to the Philippines and the Lesser Sunda Islands (beyond the Wallace line), not yet known from Celebes.

*T. semiyalina*. Abdomen with yellow bands. Forewing greenish black, near the base a vitreous spot or a band of such spots, a very large vitreous patch on the disc, composed of many spots. Hindwing with 2 yellowish spots a the costal margin and usually a vitreous patch at the base and another, mostly composed of 5 spots, below the apex of the cell. India; South China. Larva on *Terminalia*, red-brown, the tubercles black, those on the sides red, beneath and in front laterally yellow. Cocoon reddish, somewhat

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In this text, we have a detailed description of various species of butterflies, focusing on their distinctive features such as coloration, vein patterns, and habitat. Each species is designated with a specific name and is described according to its unique characteristics, providing a comprehensive overview of the species within the genus and family mentioned.
mealy. — argyropila Walk. (2c), from Hong Kong (and probably also occurring in other districts of South argyropila. China), has a white frontal spot and commonly there is a similar spot on the patagia. — semihyalina Koll. semihyalina. (= atkinsoni Moore, glaucopoides Walk.) (vol. II, 2a), originally described from Kashmir. is widely distributed in North India. Spots on frons and patagia yellow or red; in ab. humeralis Walk, these spots are reddish humeralis. and the vitreous spots small.

T. australis spec. nov. (2d). $\sigma$: similar to T. semihyalina. Frons and a spot on the mesosternum australis, pale red, margin of the mesosternum and the tergites of the 4. and 5. abdominal segments yellow. a spot laterally at the base of the abdomen white. Vitreous spots as in semihyalina, small in the forewing, the one in the cell cut off straight towards the base, 2 vitreous patches behind the 2. median. Costal margin of the hindwing black, with a small pale yellow spot at the end of the cell, 3 vitreous patches on the disc, placed nearer to the margin than in T. semihyalina, separated from the tripartite basal patch. The two prongs of the 10. abdominal segment ($\sigma'$) obtuse, not spine-like as in T. semihyalina, the spacer-like side- part of the 8. segment truncate, its ventral margin somewhat thickened, slightly separated from the rest of this false clasper and not produced into a point provided with spines, as is the case in T. semihyalina; penis-sheath with large triangular tooth before the tip. — Merkara, South India.


T. javanica Swell. (2c, d). Spots on the frons and patagia red. all the abdominal segments ringed javanica. with yellow, with the exception of the last. Hindwing in the $\sigma'$ with large vitreous patch behind the cell, which reaches from the base to the disc; in the $\varphi$ without this patch, yellow, with black hinder and distal margins. — Larva on the leaves of Terminalia, Anacardium, Spondias, Mangifera, Eugenia and Rosa: the male larvae much smaller than the female: ground-colour red-brown or dark greenish olive-colour; the posterior part of the sides, as well as the underside, reddish or yellow. Pupa yellow-brown: cocoon milky white. — Java: Batavia.

T. elliptica spec. nov. $\varphi$: wings more rounded than in T. semihyalina, antenna and body dark blue; elliptica. a lateral spot on the mesosternum red. The first 5 abdominal segments laterally or also above edged with yellow. Wings black, the forewing above and beneath, the hindwing beneath rather strongly glossy blue-green; forewing with 1 or 2 vitreous spots near the base, a large spot in the apex of the cell and a row of vitreous spots around it; only 4 subcostal veins present. Hindwing with a vitreous spot near the base and a second on the disc. Alor; Sambawa; Sumba. — In elliptica the forewing has a small glassy streak near the base, a large cell-patch and a row of 6 discal spots (3 and 3), as well as indications of 2 further spots. Hindwing with distinct vitreous patch at the base and 3 or 4 glassy spots suffused with black on the disc; anteriorly in the end of the cell a dirty yellow oblong streak. Abdominal segments 1—5 laterally and above edged with yellow. Found by Everett on Alor in October; 1 $\varphi$ in the Tring Museum. — sambawana sambawana. subsp. nor. Vitreous spots as in the following form, but the discal row of the forewing interrupted as in the preceding form. Abdomen as in elliptica. Sambawa, in September; 1 $\varphi$ in the British Museum. — sambuna sambuna. subsp. nor. (2d). Abdomen only laterally edged with yellow. Frons and base of the collar red like the spot on the breast, vitreous patches much larger than in the $\varphi$ form. Forewing with 2 vitreous streaks near the base and a non-interrupted row of discal spots. Costal margin of the hindwing pale yellow from the base nearly to the apex; the basal vitreous patch very large, reaching to the 2. median, a streak in the cell likewise transparent. Wings more elongated than in the other two forms, 1. radial of the hindwing present. Sumba, in December.

T. flavalis Hamps. (2d). Frons. collar, 3 spots on the thorax and broad abdominal rings yellow. flavalis. Forewing yellow; the veins and margins black, a large vitreous spot in and distally to the cell. Hindwing yellow, distal margin narrowly black, posteriorly widened to a spot. — Burma: 1 $\varphi$ in the Genoa Museum. The following 5 species have black wings with yellow spots. Some small veinlets usually run from the costa of the forewing to the margin, as in Cyclosia, Docropis, and others.

T. producens Walk. (= festinata Swell.) (2d). Frons, collar, breast, margins of the abdominal seg- ments and the spots of the wings yellow. In the forewing a spot at the base, following this in succession towards the margin 2, 2 or 3, 1: the single spot situated distally to the discocellulars sometimes divided. Hindwing triangular, with yellow area at the hindmargin and at the end of the cell. On the under surface the yellow markings more or less conflous. Forewing with 5 subcostals, 2. and 3. radials from the cell. — Nias, Sumatra and Borneo. Probably there are several local forms.

T. dissimilis Swell. (2d), from Java, resembles the preceding species, but the forewing has 4 yellow spots dissimilis. distally to the cell, 1 before and 3 below its apex. — Larva on Cinnamomum, very similar to that of T. javanica.

T. delicata spec. nov. (2e). $\sigma$: purple-black, head, breast, a lateral spot on the thorax and the delicata. bases (not the margins) of the abdominal segments yellow. Forewing with 2 large longitudinal spots near
the base; 3 in the middle, and 2 or 3 spots before the margin, separated by purplish black bands and stripes. Hindwing with a streak at the costal margin, another before the hindmargin and a large spot on the disc and in the posterior part of the apex of the cell yellow. The yellow markings somewhat larger beneath than above. Neuration: in the forewing 4 subcostals, 1. radial from the stalk of the 4. and 5. subcostals, 2. and 3. radials stalked. — Philippines: Mindoro, found in December, also near Manila.

**T. luzonensis** Semp. (2e). Similar to the preceding species; abdominal segments margined with yellow; antenna in ♂ and ♀ equally strongly pectinated (mistake?). Forewing with 7 spots: 2 at the base, small, a transverse band, 2 small spots and again 2 somewhat larger ones; hindwing with large yellow basal area, which is much smaller on the under surface than on the upper, and a smaller yellow area on the disc. — Luzon, April, May, July and October; not known to me in nature. — Larva on Eugenia and Memecylon; brown above, yellowish white beneath; tubercles with white tip. Cocoon silver-grey; pupa brown, head orange yellow.

**T. anchora** Druce. Antenna and head black; collar, a spot on the patagia, the scutellum and the margins of the abdominal segments yellow. Wings yellow, the veins, the distal margin and a broad median band black; this band extends in the forewing from the cell to the hindmargin and in the hindwing to the distal margin. — Sumatra; Borneo.


Differentiated from *Trypanophora* Koll., by the non-projecting frons, the weaker tongue and in the ♂ by the abdomen bearing two anal pencils. ♂ and ♀ different in colouring. Forewing with 5 subcostal veins, the 3. and 4. stalked, the 5. from the cell, the 2. median more proximal than in *Trypanophora*. — Malay.

**D. syntomoides** Walk. (2e). ♀: body and antenna green-black, slightly metallic, only the sides of the abdomen glossy; frons, breast, metathorax and sides of the first 3 abdominal segments yellow; forewing above purple-brown, beneath yellow from base to beyond the apex of the cell; hindwing above and beneath yellow, with black distal margin. As ♂ I place here an insect agreeing with the ♀ in neuration, of which the forewing beneath, hindwing above and beneath and abdomen only laterally at the base are yellow (or reddish). These parts as well as the frons and breast are yellow in the only ♂ from Java known to me (in the Oxford Museum), whilst in two ♂♂ from Padang Rengas in Malacca (in the Tring Museum) they are red. The ♂ figured by Swinhoe as *syntomoides* Walk. belongs to the next genus. — Malacca; Java.

14. **Genus: Docleopsis** gen. nov.

Similar to *Trypanophora*. Antenna long, in the ♂ with very long pectinations, in the ♀ dentate. Palpi very short, frons projecting, longer than broad, about as broad as the strongly convex eye is high in a front view (♂). Forewing with 4 or 5 subcostal veins, the 1. and 2. free, the 3. absent or arising from the 4. near the 5., the 4. and 5. long stalked, the 1. radial from this stalk, the 2. and 3. radials stalked together; small veinlets from the costa to the costal margin; in the hindwing all the veins from the cell, 1. radial anastomosing with the 2. distally or running close beside it. — Philippines; Celebes; Sula Islands. Name-type of the genus: *sulaensis*.

**D. zamboanga** Semp. (2e). Body above brown, beneath dirty yellow. Forewing above brown, with two indistinct pale bands; hindwing yellow, margin black-brown. Beneath the forewing anteriorly with a broad yellow streak from the base and a white spot before the apex. — Mindanao, in October and December. This and the two following Philippine species are not known to me in nature; do they belong here?

**D. boradioides** Semp. Abdomen ringed with yellow. Forewing above unicolorous brown, beneath without white spot at the apex; hindwing yellow with a marginal band of equal width. — Luzon, in May.

**D. duganga** Semp. (2e). Somewhat larger than the preceding species. Black-brown, frons white, collar yellow, abdomen beneath with black bands laterally. Forewing above black-brown, with yellow basal spots: distal half of the wing light rust-colour except the margins; hindwing with some yellow at the base. — Mindanao.

**D. fumigata** Rothsch. (2f). Purplish black; collar and sides of the abdomen and breast yellow. Forewing with three faint pale spots on the disc below the apex of the cell and a still fainter spot in it, these spots somewhat more distinct beneath. Hindwing sparsely scaled, semitransparent, darker at the margins. — Celebes.

**D. sulaensis** spec. nov. (2f). ♂: body yellow, abdomen above browned; head and thorax with the exception of the collar purple-brown. Forewing above pale brown with a yellow spot in the apex of the cell and 2 below it; underside for the most part yellow from the base to the apex of the cell. Hindwing above and beneath yellow, with black margin. — Mangoli, Sula Islands. Erroneously figured by Swinhoe (1892) as *Doclea syntomoides* Walk.
D. stigma Rothsch. (2f). ♂: body black; occiput and collar orange; tip of the abdomen yellow. stigma.
Wings purple-brown, with blue sheen, especially on the under surface; forewing with a white costal spot before the apex; 5 subcostal veins. In the hindwing the 1. radial weak, not anastomosing with the 2. distally.
— North Celebes, in November-December.

D. dohertyi Rothsch. (2f). Not a true Docleopsis. Frons broader, 1. and 2. subcostals of the forewing dohertyi close together, 1. radial of the hindwing arising near the 2. subcostal and widely separated from the 2. radial. Purple-black, underside of the body, frons, somewhat more than the basal half of the forewing, an irregular area on the upperside of the hindwing and 2/3 of the underside of this wing yellow. On the forewing 2 feebly indicated yellow spots behind the end of the cell, corresponding to the spots of the 3 preceding species. — South Celebes, in August-September.

15. Genus: Sciodoclea gen. nov.

♂: frons convex, broad. Antenna (♂) with long pectinations, which only become shorter towards the tip. Wings triangular; forewing pointed, with only 3 subcostals, 5. subcostal and 1. radial stalked, and also 2. and 3. radials; costal veinlets weak, only distally indicated. Veins of the hindwing as in Docleopsis.
— 1 species, from Amboina.

S. modesta spec. nov. (2f). Upperside of the body and wings black-brown, frons, palpi, breast, underside of the abdomen and the legs dirty yellow, upperside of the tibiae and tarsi slightly brownish. Forewing beneath before the apex with a yellow curved band, which does not extend to the 2. median vein; a small yellow spot before the apex of the hindwing. — Amboina, in February. 1 ♂ in the Tring Museum.


Frons strongly projecting, triangular in a side view, flattened beneath. Costa of the forewing connected with the costal margin by short veins: 1. subcostal distally coincident with the costa, 3.—5. subcostals and mostly also the 1. radial stalked together, the 3. subcostal either placed distally to the 5. (Cyclosia) or proximally to it (Isbarta) or at the same height, these variations not constant even in the same species. Sometimes one wing of an individual with Cyclosia-neuration, the other with Isbarta-neuration; hinder angle of the cell in both wings more distal than the upper, upper cell-angle of the hindwing obtuse, 2. and 3. radials in both wings separated. — In a number of species the sexes almost alike, whilst in others they are so dissimilar both in size and colouring that the ♂ ♀ were formerly placed in other genera (Pelecus and Pultia). Most of the ♂ and some ♂ ♂ are strikingly like Danaids, a few species also resemble Pierids, and some rare forms brown Euploids. The identity of ♂ ♀ in the case of C. papilionaris australioida Hamp, has been proved by breeding; Piepers has also reared ♂ ♀ of C. pieridoides from similar larvae. — The larvae, which are furnished with rows of bristle-bearing tubercles, live, as far as is known, on Solanaceae and Aroideae.

C. pieridoides is distributed from Tonkin and Tenasserim to Java and Borneo and has developed into several subspecies (= geogr. races), ♂ ♀ very different. ♂ pale blue, the veins dark; a number of white spots on the forewing. Hindwing beneath yellow at least at the abdominal margin; a spot anteriorly in the apex of the cell of both wings, also present in the ♀ ♀, black. ♀ white or dirty white, with black veinstrips and black spots, sometimes the black colouring predominating on the forewing; the hindwing in ♀ of the forms yellow from the cell to the hindmargin. Larva not known. — The most northerly subspecies known is melasina subsp. nov., from Central Tonkin; the forewing of the ♀ black, with white stripes and spots, the veins bluish; hindwing yellow from the middle of the cell to the hindmargin, apex more extended black than in binghami; the ♀ ♀ not known. — binghami Bih. (♂ = cyanescens Hamp.); has a ♀ similar to the binghami preceding form, but the white stripes and spots are larger. In the ♀ ♀ the white spots of the forewing are distinct above, the hindwing above is yellowish white, black at the apex, and beneath yellow for the most part. Tenasserim. — virgo subsp. nov., from Malacca, has in the ♀ ♀ a purer white ground-colour than the virgo, other Malayan ♂ ♀, and the black vein-streaks, especially on the hindwing, are thinner. In the ♀ ♀ the hindwing above is uniformly blue, the veins are not prominent, but the distal margin is black, especially at the apex; beneath the yellow hindmarginal spot reaches to the cell. — glauca Walk. (♂ ♀) is found in Sumatra glauca and Nias (and probably the other islands off the west coast of Sumatra). The white spots on the forewing are distinct; the upper surface of the hindwing has no vein-strips, the apex (or some spots before it) is black. The dirty white ♀ ♀ has broad black vein-strips. — hestinoides Walk. inhabits Borneo. The ♀ ♀ is hestinoides, paler above than the glauca ♀ ♀, the forewing is more extended blue, the white spots (above) are indistinct, and the hindwing has dark vein-strips. The ♂ ♀ are not distinguishable from glauca ♂ ♀. — pieridoides H-Sch. pieridoides (♂ ♀) occurs in Java. The ♀ ♀ is very pale above, the whitish stripes between the veins are also distinct above; the forewing is black from the apex of the cell and has white spots; beneath the white markings
are broader and purer white than in the other forms; resembles small ♀. Forewing of the ♀ broader than in the two preceding forms and somewhat more extended black; the stalk of the club-shaped spot placed between the 1. and 2. radials very thin. — Whilst the ♀ of the two northern Continental forms resemble Pierids, the Malayan ♀ are a strikingly faithful copy of Ideopsis doos, which Danaid has also served as model to some other Lepidoptera (e. g. Pupilio delesserti, Rhymanus kuesteri ♀).

**C. pteroides** Walk. (♂ = lactea Blr.; ♀ = ficta Walk. = pandemia Rothsch.) (2h) is a rather rare species, which resembles Pierids; the ♀ is distinguished by a bright red spot near the base of the hindwing beneath (Delias-patch). ♀ white, apex of the forewing black with white spots, hindwing beneath yellow from the hindmargin to the cell, ♀ larger than the ♂; both wings above black from the cell to the distal margin, or the forewing almost entirely black; hindwing from the hindmargin forwards slightly, beneath distinctly pale yellow. — Borneo, Malacca and Java. Commonest on the Kina Balu in North Borneo.

**C. chartacea** Swinh. (2i).* ♀ and ♀ similar (according to Semper). Basal half of the forewing except the veins, a macular band behind the middle and a row of submarginal dots on both wings white, as well as the hindwing from the base to the hinder angle and beyond the apex of the cell. — Described from Manila; Semper found the insect only on Mindanao and Bohol; Doherty took the species on Basulan. In our 3 specimens (♀) the 2. subcostal of the forewing is united with the costa for a short distance; the two Basulan specimens are "Cyclosia", the 3. subcostal being placed distally to the 5., the third, labelled "Luzon", which comes from the Fielder collection, is on the contrary "Isharta", the 3. subcostal being here far proximal to the 5.

**C. curiosa** Swinh. (= aspasia Swell.) (2h). Minics Danaids of the aspasia group. Black-brown, the body above very slightly bluish; the wings striped and spotted with yellowish white, the yellow tint especially distinct in the ♂ on the under surface, in the ♀ on the upper surface of the hindwing; upper surface of the ♀ much darker than in the ♀. — Java. — Larva dirty yellow, head black, 7.—9. segments including the tubercles grey-green, marbled with black, the tubercles of the other segments ochre-yellow.

**O. distant* Druce (2i). Body brown, spotted with white, abdomen posteriorly bluish. Wings white, the veins brown, these vein-strips broad from the cell to the distal margin. — Malacca; 1 ♀ in coll. Druce.

**C. imitans** Blr. (2i). ♀ and ♀ very similar. 3. subcostal nearly always branching off proximally to the 5. Body above blue, an interrupted dorsal line on the abdomen and some thoracie dots blusin yellow, under surface white. Upper surface of the wings purple-brown, forewing somewhat glossy in a side view, hindwing sometimes slightly blue, both wings with white stripes and spots. Underneath except the margin more or less with blue sheen. — In North India (Sikkim, Bhutan, Assam), in the spring in the warm valleys of the larger rivers. Resembles Danais aglea.

**C. danaiides.** ♀ and ♀ similar. Brown: forewing beneath blue at the costal margin, a large costal patch occupying the apex of the cell and a few spots behind it on the disc white; on the hindwing a large patch from the base to the apex of the cell and sometimes also streaks between the veins white. Hitherto only known from Borneo, Penang and Sumatra. — Sumatra produces the form danaiides Walk., in which the hindwing is striped with white posteriorly from the base nearly to the outer margin; only 1 ♀ known. — In rhadamantha Blr., from Borneo and Penang (doubtless also occuring in Malacca), the hindwing has a large patch reaching from the base to the apex of the cell, but is not striped with white distally to the cell. — The resemblance of this insect to Euploea rhadamanthis is very striking.

**C. inornata.** Likewise Euploeid-like. Wings brown; forewing with or without white submarginal spots, which are sometimes merged together to form a marginal band; hindwing with white submarginal stripes, which are occasionally in parts prolonged to the base of the wing. Borneo and Sumatra to North India and Hainan. — In the island-form inornata Walk. (3a) the 4. subcostal of the forewing is almost straight; the white margins of the segments of the abdomen beneath are interrupted in the middle, forming two rows of spots. Borneo and Sumatra. ab. tristis Jord. (3a) is a Borneo ♀ which belongs here, although very different in aspect; the forewing has a posteriorly narrowed marginal band, intersected by the brown veins. — sobria. Walk. is the Continental form, which is also found on Hainan. In this subspecies the 5. subcostal of the forewing is strongly curved, as well the stalk of the 3., 4. and 5. subcostals, and the white margins of the abdominal segments beneath are not interrupted; in ab. cuprea Swinh., from Assam and Burma, the hindwing is striped with white from the base to near the margin. — C. inornata and also rhadamantha are only rarely taken; perhaps they are overlooked in consequence of their similarity to Euploids.

**C. papilionaris.** ♀ and ♀ very different. 5. subcostal of the forewing almost always placed proximally to the 3. ♀; body above black-green, not glossy, beneath white. Forewing above purple-brown, with dirty white oblique macular band distally to the apex of the cell; hindwing anteriorly brown, posteriorly slightly green, a row of spots on the disc and sometimes a cell-streak dirty white. Beneath more extended white, the dark colour on the hindwing confined to the veins and the costal and distal margins. ♀: body blue-

*) On the plate (2) chartacea is printed by mistake.
black, thorax dotted with white, abdomen (with the exception of the South Indian subspecies) ringed with white; wings white, sometimes somewhat yellowish, the veins purple-black, costal margin of the forewing blue. Distributed from South India to China and Java, not found in Borneo, commoner on the Continent than in Sumatra and Java. Larva in Java on Solanum arisioideae Bl. Head black, pronotum with black patch, anteriorly margined with white; the body otherwise uniformly pearl-grey, the tubercles golden yellow, only the subdorsal tubercles of the three first abdominal segments light red; before pupation the larva, which is then 22 mm long, becomes black. Cocoon red. The moths fly together with Danaids in the hot sunshine on open places, especially at the edge of second growth jungle. — **austrinalda** Howgs. (♂ = latipennis australinde. Howgs.), from South India; ♀ and ♀ less unlike in size than in the other subspecies. ♀: wings broad, the white spots on the upper surface weakly developed, under surface without blue costal streak and without distinct blue submarginal spots. ♀: abdomen not ringed with white above; hindwing with sharply defined marginal band. — **venaria** F. (= parvulus Btlr.), from North India, has in the ♀ distinct white spots on venaria. both wings; in the ♀ the hindwing is not striped with black from the base to the hinder angle and to the apex of the cell and has always a row of white submarginal spots. Sikkim, Bhutan and Assam, from 1—3000 ft., common. — In **adusta** subsp. nov., from Tenasserim and the Shan States, the marginal band of the hindwing (♀) is broad and the white submarginal spots are wanting or are very small. — **nigrescens** nigrescens. Moore is the form from the Andaman and Nicobar Islands; in the ♀ the upper spot of the band of the forewing is more rounded than in North Indian specimens; in the ♀ the marginal band is deeper black, the blue spots before the margin are on the whole more conspicuous, the white submarginal dots of the hindwing are wanting or are quite small and the veins which intersect the tripartite spot placed distally to the end of the cell of the forewing are only very finely blackish. — The first described subspecies, **papilionaris** papilionaris. Drury (♂ = ferrea Walk., ♀ = enodis Swinh.) (3a) is in the ♀ broadly striped with white on both wings, on the hindwing also the posterior stripes usually reach nearly to the base. In the ♀ the under surface of the wing is somewhat more extended brown-black than in the North Indian form **venaria**, especially the patch placed behind the cell of the forewing is narrowed from the hindmargin. South China, Hainan, Tonkin, Malacca, Sumatra and Java.

**C. sordidus** Walk. (♂ = insularis Swinh.) (3b). ♂ similar to that of **papilionaris**; much smaller, sordidus. wings more rounded, hindwing above glossy blue, ♀ above purplish or greenish black; a transverse band on the forewing and the hindwing from the base to near the margin white; no submarginal dots: abdomen beneath white. Minnies *Nyctemera*. — Penang, Malacca, Sumatra, Borneo and Java. — Larva on Aroidae. Yellow, head spotted with brown, 2. and 3. thoracic segments and the two last abdominal segments with red spots, 4 rows of yellow tubercles, which are edged with black.

**C. macularia**. Larger than **sordidus**, forewing of the ♀ more pointed, some of the veins greenish: a whitish macular band before the apex, indistinct on the upper surface; hindwing less glossy than in **sordidus**, ♀ similar to that of **sordidus**, with white submarginal spots, at least on the forewing. Abdomen beneath ringed with white. Java, Bawean, Sumatra, Nias, Malacca and Borneo. Larva found on Pierandia racemosa. Dirty yellow, the tubercles bright yellow, the middle segments greenish. Cocoon red. — **purpurea** purpurea. subsp. nov. ♂: hindwing above with black margin; forewing beneath with white macular band as far as the 2. median and a white dot before the hinder angle; white discal spots of the hindwing remote from the margin. ♀: above purple-red on the forewing from the base to the band, the veins outside the band broadly blue: hindwing entirely black, slightly blue or in the distal third white; under surface black-green, forewing distally to the blue, as also the costal margin of both wings and the line placed before the margin of the hindwing. Nias. — **metachloros** Walk. (♂ = cicalea Blhr.) (3c), from Java and Bawean. ♀: wings rather obtuse, hindwing *metachloros* black at the distal margin. Forewing beneath with a somewhat curved macular band, which runs from the costal margin to the hinder angle and is faintly visible also on the upper surface. ♀: costal margin of the forewing not more metallic than the rest of the upper side of the wings; beneath both wings without a blue line before the margin. Forewing with white band, hindwing white from the base to beyond the cell. Snellen figures an entirely green-black specimen, which is said to be from Java; we know such black examples only from Borneo: as Snellen's specimen, which is without more precise indication of locality (simply "Java"), has a blue line before the margin on the under surface, he is perhaps really dealing with a Borneo example. — **macularia** Guér. (♂ = cyanea Blhr.) (3b), from Sumatra, Malacca and Borneo. ♀: macularia.
castigata. variable; in the ♀-f. castigata Walk. (3b) the hindwing is white from the base to beyond the cell; in the ♀-f. macularis Guér., the hindwing is black; specimens of this form without submarginal dots on the forewing are described by Swinhoe as phonia; ♀-f. snelleni form. nov. is entirely black-green, only the submarginal dots of the forewing are indicated and usually a trace of the discal band also is present. Transitions occur between these forms of the ♀.

panthona.

C. panthona Cr. (3c). ♀ similar to the ♀, but smaller. Green-black; body without white spots, but often with blue sheen. Both wings with a submarginal band of white spots. — Larva greenish yellow, reddish in front and behind; the tubercles black with a white middle. Cocoon pale red. — Distributed from Hong Kong to Ceylon and Mergui, not in the Malay Pen. Subregion.

nivipetens. C. nivipetens Walk. (= panthona Swinh.) (3c). ♀ ♀: green-black; abdomen beneath with thin white transverse bands. On the forewing a broad white band on the disc, in the ♀ touching or entering the apex of the cell, posteriorly narrowed, in the ♀ narrower than in the ♀; hindwing without markings. 3. subcostal of the forewing placed proximally to the 5. — Sumatra and Malacca.

thecloides. C. thecloides Walk. (= uniformis Blth., olivescens Suell.) (3c). ♀ and ♀ unicolorous green-black, abdomen beneath ringed with white. — Sumatra and Borneo.

inclusus. C. inclusus Walk. (= bicolor Moore) (3d). Sexes very different. ♀: body above purple-black, beneath yellow, head and antenna blue above. Forewing above brown, with a straight yellow band, which reaches the margin before the hinder angle; hindwing small, paler than the forewing. Under surface of the forewing proximally and at the hindmargin grey; hindwing purple-brown, suffused with yellowish grey; blue spots before the apex of both wings. ♀: body white, anteriorly black. Wings yellowish white; forewing from the margin to the cell black, purple in a side-view, inclosing two whitish spots. Hindwing with narrower marginal band. — Java, Sumatra, Malacca and Borneo.

hecabe. C. hecabe spec. nov. (3d). Sexes different. ♀: head blue; thorax and base of the forewing with strong green gloss; abdomen pale bluish green, glossy. Wings yellowish white; forewing with a broad metallic black marginal band, marked with blue and excised between the 2. radial and the 1. median; marginal band of the hindwing narrower than in C. inclusus. Beneath both wings spotted with blue before the margin. Here belongs probably a ♀ from Mt. Marapok, North Borneo, which is in the Tring Museum. Head, antenna and fore part of the thorax blue, rest of the upperside of the body green, underside grey-white. Forewing above black-green, with indistinct grey subapical band; hindwing light blue, costal margin black to the middle of the cell. Under surface of the forewing black, posteriorly and at the base grey-white, the cell and a couple of small subapical spots blue, an oblique subapical band grey-white, constricted near the lower angle of the cell; hindwing grey-white, with faint blue stripes at the margins of the cell and before the 1. submedian, a blue marginal spot from the costal to the 2. radial, fringes black. — North Borneo and Penang; 2 ♀♀ and 1 ♀ in the Tring Museum. The ♀ is a good copy of the Papuan (!) Terias candida puella Bois.

eucharia. C. eucharia spec. nov. (3d). ♀: upperside of the body and wings grey, underside of the body white. of the wings whitish blue. Forewing above black from the apex to the 2. median, with 2 yellow spots and some blue scales; beneath somewhat more extended black. Hindwing beneath with black spots in the cell and round its apex. — Penang. 1 ♀ in the Tring Museum. The specimen was in a consignment which also contained a ♀ of C. hecabe, and we consequently took it at first for the ♀ of hecabe.

boholica. C. boholica Semp. (3d). ♀: upperside of the body and wings black-brown; frons and underside of the body yellowish white, abdomen ringed with yellow. Forewing with pale yellow band from the costal margin to the lower median vein; hindwing with yellow central longitudinal area. — Bohol, Philippines; not known to me in nature. Does it belong here or to Pidorus or Boreocephus?

electra. C. electra Swinh. (3d). ♀: forewing above black, with oblique yellow band, which is constricted in the middle; the base blue like the thorax. Hindwing white or yellowish, the hindmargin of the forewing the same colour; apex of the hindwing or also the costal margin black. — North Borneo. In the British Museum.

midamia. C. midamia (= midama auct.), ♀ and ♀ similar. Antenna and upperside of the body blue, beneath and laterally, sometimes also above, with white markings. Wings brown-black, with white dots, distally more or less blue, hindwing in the ♀ often, in the ♀ more rarely striped with white, sometimes also the forewing striped. The two submedians of the forewing connected behind the middle by a transverse vein (in one of our Borneo ♀ this transverse vein is absent on the right wing; Dohrn mentions a ♀ from Sumatra in which the transverse vein is only present on the right wing). Very variable in the extent of the blue and white. Common; Euploea-like in flight. Indo-Malayan. — midamia H.-Sch. (= venusta Walk., sphilophila Walk., stelligera Blth.) (3e) is found from North India (Sikkim, Bhutan, Assam) to Ceylon, extending eastwards to Tonkin. In the ♀ the apex and distal margin of the forewing and often also the entire margin of the hindwing is blue, the blue is rarely wanting or almost so above, but is always present beneath. The white marking of the hindwing are in the ♀ very variable, the discal spots sometimes yellow; the two extremes are ♀-form midamia H.-Sch.,
which resembles the ♂, and ♀-form *hormenia* H.-Sch. (3e), in which the hindwing has broad white streaks, *hormenia*. which sometimes occupy the greater part of the wings. Transitions between these two ♀-forms, which occur together, are very common. Plentiful in North India from May to August, like the other *miduasia* forms so similar in flight to Euploëids as to be easily mistaken for them. — *alcathœ* subsp. nov. inhabits Tenasserim; *alcathœ.* in this the anal angle of the hindwing and a row of stripes before it are dirty white as in the ♀-form *hormenia*, but the band does not extend so far towards the base, and there is only a small spot in the cell. — *submaculans* Wall. occurs in two individual forms. The ♂ of the name-typical *submaculans submaculans.* (= juvenis Btlr.) resembles the Indian *miduasia,* but has on the under surface very little if any blue: in the ♀ the proximal white spots are small or streak-like. In the second form, *striata* Druce (3e) ♂ and ♀ *striata.* have white streaks in the basal half, and the white discal spots are larger than in the non-streaked form; the forewing is either blue at the apex or without blue. This difference of specimens reminds one of the variability of *Papilio paradoxus telesicles* Fldr. (1864), which occurs in the same district. Malacca, East Sumatra and Borneo. — *trepsichrois* Btlr. (3e) inhabits Nias (probably also the other islands off the west coast of Sumatra, perhaps with the exception of Engano, where the forms are usually very divergent). The white submarginal dots are large on the forewing in ♂ and ♀; the blue is absent above and beneath or only present above; the ♀ is streaked. — *padangana* subsp. nov. ♂: wings above and beneath without blue. Forewing with two rows of spots, the discal spots small, the submarginal ones somewhat larger, but not so large as in *trepsichrois.* Hindwing with a small cell-spot and two rows of spots between cell and margin, merged together posteriorly into four long streaks, which do not extend to the base. Padang Bovenlanden, South-West Sumatra. — *dolosa* subsp. nov. ♂: paler brown than the other forms. Forewing *dolosa.* above narrowly blue before the apex: the upper three submarginal spots almost as large as in *trepsichrois,* the five posterior ones small, the discal spots likewise small. On the hindwing before the margin a band of broad white streaks, which do not reach the cell and are two to three times as broad as the brown vein-streaks, the costal streak extending to the base, the next two above incompletely divided into two spots each, the separation complete beneath, the hinder margin narrowly white almost to the base; a white dot in the cell. Preanger, Java.


Frons broad, not pointed above. Forewing very long, the margin very oblique and almost as long as the hindmargin; in the forewing many costal veinlets, 1. and 2. subcostals free, 3. to 5. subcostals stalked, 5. subcostal placed proximally to the 3., 1. radial from the cell, upper angle of the cell projecting, 2. and 3. radians arising close together or short stalked, 1. median about at the same height as the 1. subcostal; cell of the hindwing obliquely truncate anteriorly, the discocellular weakly if at all angled, 1. and 2. radians and again 1. subcostal and 2. median at the same height or 1. subcostal more proximal than 2. median. — North India to the Moluccas; partly mimics of the poisonous *Aristoechoin-Papilio.* At rest the wings lie flat one over another.

*G. papilionaria* Guér. (= selene Koll.) (3f). Black; vertex, the black-spotted under surface of *papilionaria.* the body and some spots at the base of the wings beneath red; veins in the distal part of the forewing pale; hindwing with somewhat bluish green sheen, with or without a white spot edged with green. In ab. *fraterna* Moore this spot is lengthened into a band, whilst in ab. *zara* Swinh. (= rara Hamp.) it is pale *fraterna.* blue. — Himalayas, Calcutta, Assam, Burma, Tenasserim, Annam, Tonkin and Hainan: at low elevations all *zara.* through the summer.

*G. philomela.* Very similar to the preceding species, perhaps not specifically different. Hindwing without discal spot, on the other hand green or white at least at the margin. Sumatra to the Moluccas. — *pavo* Bohrn. Forewing strongly falcate. Hindwing with a green marginal band extending to the pavo. cell, which encloses spots of the black ground-colour. North-East Sumatra. — *philomela* H.-Sch. (3f). *philomela.* Hindwing with grey-white marginal band, not extending to the anal angle. Java, Lombok. — *celebensis* celebensis. Roths. Hindwing with green-blue marginal band; beneath the middle veins whitish before the margin. Celebes. According to Semper a similar form, not more closely described, occurs on the Philippines. — *buruensis* Roths. (3f). Hindwing blue, black at the base, above with indications of black spots before *buruensis.* the margin. Buru. — *virescens* Fldr. Hindwing bluish green, black at the base, above without indica- *virescens.* tions of black spots before the margin. Southern Moluccas: Ambon. — smaller *reducta* Roths. (3f). *reducta* Roths. (3f) smaller. than *virescens;* hindwing above more broadly black at the base and costa and also beneath less extended green than in *virescens.* Northern Moluccas: Batjan.


Closely allied to *Gynautoecera* and *Cyclosia;* 1. subcostal of the forewing anastomosing with the costa: hindwing produced into a long point or the margin at least angled in or before the middle. Larva dark brown, tubercles red. — Indo-Malayan, extending in China into the Palaearctic Region. The insects rest like the other Chalcisids with the wings folded flat over one another.
**H. rhodope.** Head, the black-spotted underside of the body and a spot at the base of the wings beneath red. Wings black, the veins of the forewing at least distally accompanied by brown streaks; hindwing from the base at least at the hindmargin blue, with or without a white spot or band. — **rhodope** Cr. (= flabellicornis F.) (3g), distributed from North India to the Loo Choo Islands, is a large, long-winged form, in which the hindwing is blue at most to the end of the cell or very little beyond. Specimens with a white spot are ab. **albimacula Hamps.** — The Palaearectic form (from West China) has very little blue: **albimacula;** is from Lombok; only 2 ¥¥ known. The black basal Java. Flies early in the morning. — Rothsch.

- **cometaris.** to beyond the end of the cell. — **cometaris** Bih., from Tenasserim and the Shan States, has narrower wings; the white band is present in ¥ and 2, but extends from behind only to or into the cell; the wing only blue posteriorly. — **tahanica** subsp. nor. (3g) has shorter and proportionately broader wings than the preceding subspecies; margin of the forewing more rounded; hindwing in the ¥ (2* not known) with a white band, which does not extend to the costal margin and before the 2. radial does not project distally beyond the extremity of the cell; the veins from the base to the band and the hindmargin green-blue; hindwing beneath black, only at the veins in the basal area very slightly green. 1 ¥ from Mt. Tahan, in the eastern part of the Malay Peninsula. This subspecies connects the continental with the island forms. — **sumatrana** Rothsch. (= anobia Dohrn) (4a). Hindwing in the ¥ pale blue from far beyond the cell; in the ¥ on the contrary with a broad white band, the margin narrowly black; sometimes the white band occupies half the wing, whilst in other specimens it is wholly outside the cell; also in the ¥ traces of the band are often present on the under surface. Sumatra, at low elevations. — The race from the higher parts of Sumatra is **catobia** Dohrn; ¥ and 2 almost alike, darker blue than the preceding form; in the ¥ a slight tinge of brown outside the cell as indication of the white band of the preceding form. — **libelluloides** H.-Sch. (= selene Walk., vacillans Walk., alpinaea Hamps. partim) (4a) is similar to **sumatrana**; the hindwing of the ¥ above paler blue, ¥ and 2 beneath and in the ¥ the hindwing above less blue; the white band of the ¥ outside the cell.

**sumatrana**; the white band rather sharply defined, the end of the cell white. — **lombokensis** Rothsch. from Lombok; only 2 ¥¥ known. The black basal area of the forewing does not extend quite to the middle of the wing; basal area of the hindwing and both wings beneath more extended blue than in **sumatrana**; the white band rather sharply defined, the end of the cell white.

**catobia;** ¥: body beneath yellow-grey, above purple-brown, abdomen green, blue at the base, hindmargin of the head red. Forewing green-black, the veins, a very irregular median band and three spots before the apex pale brown; hindwing glossy blue, the margin narrowly black. Forewing beneath purple-brown, the base, a median band and three subapical spots cream-colour like the hindwing; on the latter a spot in the middle of the cell, a second placed more distally and before the costa produced

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**E. lampra** spec. nov. (4a). ¥: body beneath yellow-grey; above purple-brown, abdomen green, blue at the base, hindmargin of the head red. Forewing green-black, the veins, a very irregular median band and three spots before the apex pale brown; hindwing glossy blue, the margin narrowly black. Forewing beneath purple-brown, the base, a median band and three subapical spots cream-colour like the hindwing; on the latter a spot in the middle of the cell, a second placed more distally and before the costa produced

19. Genus: **Eucormopsis** gen. nov.
to the apex, an apical spot and two in the disc purple-brown, as well as a streak behind the cell and the margin. Length of the forewing 15 mm. — Mt. Gedé, Java; 1 ♀ in the Tring Museum.


Frons convex, not narrowed above. Antenna in ♂ and ♀ pectinated to the tip, about 7/8 as long as the forewing. Apex of the wings broadly rounded; in the forewing the 1. subcostal anastomoses with the costal vein, the 3.—5. subcostals are stalked, the 5. placed proximally, the 1. radial from the cell, upper angle of the cell widely projecting; upper arm of the discocellular much longer than lower, the 2. and 3. radials arising near together, the 2. median much more proximal than the 1. subcostal; in the hindwing the 2. succostal and the 1. and 2. radials near together (or at least not further apart) than the 2. and 3. radials, the discocellular not angled or only slightly, the 2. median at about the same height as the connecting nervure (= the 1. subcostal). Black, with blue gloss, a yellow spot in the apex of the cell on the under surface of the forewing. — Larva on Cinnamomum, in crawling leaves behind traces of a viscous fluid; reminding one of certain Limacodid larvae. Head, prothorax and underside black, otherwise grey-brown, above laterally a row of black tubercles, behind the middle on the side a black patch broken up into spots. Cocoon red. — Only one Malayan species, distributed as far as Burma.

**P. marginata.** Geographically and individually variable. I agree with Smeullen's opinion that all the forms, though in part very different in appearance, belong to one species, varying in size and colouring; I have found no structural difference between these forms. — **acrocyanea** H.-Sch. (= rotundatum Swinh.) acrocyanea. (4b), from Java, has comparatively short, broad wings, and the hindwing above and the underside towards the margin is rather pale brown. The apical margin of the forewing is distinctly whitish. Flies early in the morning and is commonly taken resting on flowers. — **ampliatum** Bith., from Celebes, agrees with the next form, but has somewhat broader wings and is on the whole more deeply coloured beneath, the yellow spot is large. — As **marginata** Guér. (= marginator Druce, cynosura Druce) I unite the specimens from marginata. Burma, Malacca, Borneo, Palawan and the Philippines. One of our Borneo ♀♀ has on the underside of the forewing traces of 3 yellow spots outside the apex of the cell. Specimens in which the blue is much extended above and beneath are ab. **subcyanea** Swinh. In ab. **philippines** Druce, from Mindanao, there is a grey spot at the apex of the hindwing, whilst in ab. **albocyaneum** Semper, likewise from Mindanao (where **marginata** Guér. also occurs), the apex of the forewing above and beneath and of the hindwing beneath is brownish, also the yellow cell-spot is very large. In ab. **anethussa** Druce (= perakana Swinh.), from Malacca, the margin of the hindwing is grey-white and the apex of both wings blue. — In North-East Sumatra the species is apparently a certain Limacodid larvae. Head, prothorax and underside black, otherwise grey-brown, above laterally a row of black tubercles, behind the middle on the side a black patch broken up into spots. Cocoon red. — One Indian species.


Frons projecting, not narrowed above. Antenna of the ♀ with longer pectinations at the tip than in the middle. Wings long, narrow, scales rounded, reminding of *Campylotes*. The 3.—5. subcostals stalked, the 3. placed proximally to the 5., the 1. radial from the cell, upper angle of the cell projecting; discocellular deeply angled, the 2. and 3. radials stalked and curved, marginal cell between the 3. radial and the 1. median much broader proximally than distally; hindwing strongly rounded distally, and the anal angle very much rounded off; discocellular angled, the lower arm of the angle longer than the upper, hinder angle of the cell projecting, the 2. and 3. radials stalked, the 1. subcostal and the 2. median at about the same height, the stalk of the 2. and 3. radials placed nearer to the 2. subcostal than to the 1. median. — One North Indian species.

**H. pulcherrima** Swinh. (4c). Body black-green. Forewing black, a band before the middle and pulcherrima. stripes at the veins in the distal part grey, semitransparent, 5 yellow spots (1, 2, 1, 1). Hindwing with red cell-patch, which is yellow proximally, 4 red discal spots and a yellow hindmarginal patch. ♂ and ♀ alike. — Khasia Hills, Assam.

22. Genus: **Campylotes** Westw.

First tarsal segment in the hindleg shorter than the 4 other segments together. Wings long, scales rounded, the distal veins in part very strongly curved; in the forewing the 2.—5. subcostals stalked, the 1. radial from the cell, relatively far removed from the subcostal stalk, the 2. and 3. radials and 1. median stalked together; in the hindwing the cell obliquely truncate anteriorly, the discocellular straight, or angled before the 1. radial; the 2. and 3. radials stalked. — These bizarre insects are only found in China and

Frons very strongly projecting. Antenna in ♂ and ♀ pectinated. Wings broad; in the forewing the 1. and 2. subcostals free, the 3.—5. stalked together, the 3. arising distally from the 5.; 1. radial from the cell, the 2. and 3. stalked, discocellular weakly angled (Erasmia) or deeply so (Amesia), the upper angle of the cell extending somewhat beyond the lower; in the hindwing all the veins branching off from the cell, the lower angle of the cell somewhat more distal than the upper, the latter truncate. — Larva (of pulchella) velvety black, the tubercles pale red; on the back a rectangular yellow spot extending over the yellow-white area of the hindwing is fully as large as in the Indian form.

C. pulchella. Body, a broad basal band and an interrupted band placed before the middle on the forewing, as well as the vein-stripes glossy green-blue, abdomen pale blue; forewing with yellowish white macular band and before the apex two spots of the same colour, these markings edged with green-blue, sometimes tinged with blue, in the basal third a rusty yellow band. Hindwing from the hindmargin to beyond the apex of the cell yellowish white, the extent of this area, which is broken up into spots at the apex of the cell, differing in the various geographical races. — In the North Indian form, pulchella Hope (vol. II, 2e) by much more vivid colouring; the spots between the outer margin and the dark line running through both wings are large and vivid yellow.

C. chinensis. Body entirely blue-black. Wings black-green; forewing anteriorly striped with red, distal spots white. Hindwing with 3 red spots and indications of stripes. Beneath the red stripes better developed. — Sikkim, at high altitudes.

Some Chinese species likewise belong to Campylotes, namely pratti Leech, romanoci Leech, minima Oberth. (see vol. II, p. 15, 16, pl. 2f, h).

North India; on account of their strongly curved nervures and peculiar colouring they are not easily con-founded with other Zygaenids.

C. histrionicus. Patagia with a yellow spot, abdomen yellow beneath, the margins of the segments black-green. The comma-spots of the hindwing not interrupted by a dark band. The stripes of the wings vary from bright red to pale yellow. — histrionicus Westw. (vol. II, 2g). The specimens from low elevations, up to about 5000 ft., are large; the spots beyond the apex of the cell of the forewing are all white; the stripes bright red to yellow, the usual colouring in Assam is an intergrade; in one of our ♂♂ from the Khasia Hills the wings are washed over with black-green, so that only vestiges of the red and yellow markings are present. The whole of North India to Kashmir and West China. — In Sikkim and Bhutan.

C. sikkimensis Elw. (4c). Collar spotted with yellow. All the spots between the cell and the apex of the forewing yellow. Hindwing usually with a distinct black line before the distal margin, intersecting the comma-spots. — At high elevations in Sikkim and Assam. The stripes deeper or paler red according to individuals.

C. desgodinsi splendida Elw. (4c), from the Naga Hills, Assam, is differentiated from the Chinese form of desgodinsi Oberth. (vol. II, 2h) by much more vivid colouring; the spots between the outer margin and the dark line running through both wings are large and vivid yellow.

C. atkinsoni Moore (4c). Body entirely blue-black. Wings black-green; forewing anteriorly striped with red, distal spots white. Hindwing with 3 red spots and indications of stripes. Beneath the red stripes better developed. — Sikkim, at high altitudes.

Some Chinese species likewise belong to Campylotes, namely pratti Leech, romanoci Leech, minima Oberth. (see vol. II, p. 15, 16, pl. 2f, h).
the cell-spot is small and there are three separated white spots on the disc, of which the middle one is very small. This form is the transition to *sangaica*, which occurs in North China and South Japan.

**E. sanguiflua.** Body not glossy, blue-black. Forewing from the first third striped with purple rust-colour on the veins, the stripes ending in white spots, white dots between the stripes, yellow dots in the black basal area. Hindwing distally marked with white. — *sanguiflua* Drury (≡ sanguiflua Frsthr.) (4d) is *sanguiflua.* found in North India and Burma; it is a common insect at an elevation of 3000—4500 ft. The vein-stripes are broad and the hindwing is distally strongly suffused with blue, also all the white dots on the under surface are blue-edged or suffused with blue. — Sumatra is inhabited by *lugens* Dohrn. The vein-stripes are thin; *lugens.* the hindwing is not blue distally and the white submarginal spots are enlarged to a band. This form is more dissimilar to the North Indian than is the form from Java, which is geographically further from North India. But this only confirms what we know of many forms from Sumatra and Borneo, namely that they contrast in their colouring with those from Java and India, which are more similar to one another. — *gedeana* Frsthr. (= javana Dohrn.), from Java, has proximally thinner vein-stripes and especially on the under surface larger white submarginal spots; on the hindwing moreover the blue sheen is confined to a narrow marginal band except that the white dots have blue borders. PEEPS remarks upon the tenacity of life of these insects; in the cyanide bottle they still made vigorous movements after an hour. According to FAURSTORFER *gedeana* occurs at elevations of 4—6000 ft., and is distinguished by its rapid flight when it comes out of the cloudy heights to sun itself for a few minutes.

**E. aliris.** Similar to the preceding species; forewing without rust-coloured vein-stripes; the places placed in the first third rust-coloured, the two costal spots merged together. The 7. abdominal segment of the c' with deep excision, the two lobes broad, rounded, not curved sideways and developed to a pair of tongues as in *sanguiflua.* — The North Indian form, *aliris* Doubl. (4d), which flies together with *E. sanguiflua,* but is not quite so common, has the apical spot of the hindwing blue and the anal spot brown-black. — *analis* analis. *subsp. nov.* has the anal angle of the hindwing dirty white, also the white spots are somewhat larger than in the North Indian form and the blue color has disappeared except the borders of these spots. Tennasserim.

**E. namouna.** An individually variable species, which appears to be purely Malayan; Sikkim has indeed been given as a locality for two of the forms, but no doubt incorrectly, at least no examples of this species have of late been found in Sikkim. Brown-black, with blue-white dots on head, thorax and breast and at the sides of the abdomen. Both wings with white dots on the distal half, on the hindwing usually a row in the middle of the wing blue. The veins before the outer margin often accompanied by white streaks, the upper streaks on the forewing sometimes extending into the cell and proximally united by the strongly enlarged discal spots. The 7. abdominal segment of the c' above weakly emarginate, beneath provided with a thin spine at each side. — The form which has the most white is ab. *pexifascia* pexifascia. Bblr. (4d); the apex of the cell of the forewing is often white, especially broad in Malacea specimens, and the hindwing has distinct marginal streaks. Malacea; Sumatra. — In ab. *nocitennis* Walk.: the marginal *nocitennis.* streaks at the apex of the forewing are long, but gradually decrease in length and are very short on the hindwing. Borneo; Malacea; Sumatra; Java. — ab. *hyala* Drury (≡ hyala Kirby) has short marginal *hyala.* streaks on both wings. Borneo; Malacea; Sumatra; Java. — ab. *namouna* Doubl. (= euploeoideas H-Sch., namouna. semiradiata Walk.) (4e) has no marginal streaks on the forewing, whilst those on the hindwing are developed and often reach to the discal spots. Borneo; Malacea; Sumatra; Java. — ab. *modesta* Swell. (Voll. n.s.) *modesta.* has no marginal streaks on either wing. The locality of this form is not known; in Mus. Leyden. — ab. *desmiata* nov. (4e, erroneously named *nocitennis* on the plate), from Mt. Gedé in West Java, corresponds *desmiata.* to ab. *pexifascia* Bblr. The marginal streaks of the forewing are short and do not extend quite to the outer margin; they are either separated from a band composed of large and a few small spots (name-type) or are confluent with this band; the marginal streaks of the hindwing short and widely separated; anal angle at least beneath dirty white, but this spot narrow. Beneath there are 2 blue spots on the forewing proximally to the 2. median, one in the cell, the other behind it, this second one more distal than the cell-spot (in the other forms the posterior spot is more proximal than the cell-spot). — All these forms strikingly resemble Euploeoideas. They rest on tree-trunks or under leaves with the wings folded together. When touched the wings are half opened and a frothy yellowish fluid exudes from the thoracic glands in such a large quantity that the body is quite covered by it. Some of the forms descend to the sea-coast.


Scaling hairy, wings and legs appearing almost naked. The 1. and 2. subcostals of the forewing rather near together, 3.—5. subcostals stalked, the 5. proximal, 1. radial from the cell, the 2. and 3. stalked, upper angle of the cell truncate, much produced, upper arm of the discocellular longer than the lower, the

Similar to *Agalope*, but the hindwing in the middle produced into a tail. — Larva thick, dirty light yellow, with 5 violet-brown longitudinal stripes; between the stripes short black bristles. Cocoon dirty white, fastened to the midrib of a leaf. — From Burma to the Amur and Japan; only one species.

*E. westwoodi*. Yellowish white, semitransparent; antenna black; veins and distal part of the wings dohertyi, more or less blackish; base of the forewing yellow. — The form found in the Oriental Region is *dohertyi* Hamp. (5a), which is larger and more blackish than the two Palaearctic subspecies *westwoodi* Voll. (vol. II, 3a) and *condata* Brem. (vol. II, 3a). 1 ♂ from the Naga Hills, North-West Assam, in coll. Elwes.

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Tongue short and weak. Palpi very black. Tibiae without spurs. Antenna in the ♂ from the base to the tip with long, thin pectinations, widely separated; the antenna of the ♀ dentate. Body and wings covered with hair-scales. Anal claspers of the ♂ sole-shaped, closing beneath. Wings broad, rounded;
forewing with 3 subcostals, the 1. vein free, the 2. and 3. stalked; 2. and 3. radials likewise stalked; lower angle of the cell projecting beyond the upper. — One North-West Indian and one Philippine species.

**B. carneola** _Moore_ (5a). Wings semitransparent, yellowish. Head and thorax grey, abdomen _carneola_ blackish. — Simla; Kangra; Dharmsala. Stebbing found hundreds of specimens dead on a path in a pine-wood in July, 1901.

**B. grisea** _Semp._ Body grey, collar, breast and the black-ringed abdomen yellow. Forewing grey, _grisea_ with 2 indistinct lighter bands, the one running across the middle of the cell, the other near to the distal margin; hindwing distally rounded, the 2. median widely proximal, both angles of the cell truncate. — Two North Indian species, the ♂♂ darker than the ♀♀.

**P. basimaculata** _Moore_ (5a). Body yellow, spotted and ringed with black. Wings yellow at the base, spotted with black: in the ♂ both wings almost entirely suffused with black, white before the middle; in the ♀ a band before the middle of the forewing, the apex of the cell and the veins white, as well as the middle of the hindwing. — Sikkim: not rare at an elevation of 3—4000 ft.

**P. rotunda** _Hamps._ (5a). Wings much shorter than in the preceding species; ♂ and ♀ with black _rotunda_ head and white frontal line, thorax spotted with white. Forewing with a white spot below the cell, hindwing with white middle area. — Sikkim: Assam; Manipur.

28. Genus: **Cadphises** _Moore._

Frons broad, projecting. Tongue strong. Terminal segment of the abdomen and anal claspers of the ♂ pale, naked, claspers narrow, curved, forming a ring together, ventral plate of the 7. abdominal segment of the ♀ inflated, pale, naked. Wings broad; forewing with transverse veins from the costa to the margin, 1. subcostal free, 2.—5. stalked together, 1. radial from the cell, remote from the subcostals, 2. and 3. radials stalked, upper angle of the cell obtuse, projecting beyond the lower, the vein in the cell not divided at the tip. Hindwing with very long hindmargin, anal angle less rounded than the apical angle, the veins from the cell, upper angle of the cell obtuse, discocellular scarcely angled, 1. radial either as a direct prolongation of the cell-vein or arising posteriorly to it. — Two large species, both North Indian and both grey-black, thickly dotted with white, resembling no other Zygaenids in the markings, ♂♂ and ♀ alike.

**C. maculata** _Moore_ (? = _azim_ Doubl.) (5e). Hindwing unicolorous yellow from the abdominal _maculata_ margin to the 2. submedian. — Sikkim; Assam. _Doubleday's_ description of _azim_ fits both species; the type appears to be no longer in existence.

**C. moorei** _Btlr._ (? = _azim_ Doubl.) (5e). Hindwing also spotted at the hindmargin; the white spots _moorei_ at the base larger, often confluent. — Sikkim, Bhotan and Assam.

29. Genus: **Corma** _Walk._

Frons not pointed. Upper angle of the cell of the forewing very strongly produced, the 1. and 2. subcostals free, the 3.—5. stalked, 3. subcostal proximal, the 1. radial from the cell, the 2. and 3. radials stalked, the 2. median much more proximal than the 1. subcostal; angles of the cell of the hindwing at about the same height, the 2. subcostal and the 1. radial close together, the discocellular deeply angled, the 2. and 3. radials stalked or from a point. — The species are Indo-Chinese.

**C. maculata.** _Abraxas-like._ Body yellow, spotted with blue-black. Wings white, spotted with pale brown, the spots more or less connected. North India and China. — In the Indian form, _maculata_ _Hamps._ _maculata._ (5a), the hindwing is mostly white; ♂ and ♀ are similar; the forewing has a white band before and another behind the middle, which are united anteriorly with a large cell-spot. Assam; Burma. — In South and West China the ♂ is much darker than the ♀, above the white markings are much reduced, the hindwing...
is almost entirely brown; the ♀ on the contrary is very little different from the Indian form, only the wings, laranda, as also in the ♂, are more elongated: laranda Druce (see vol. II, p. 11, pl. 2e).

**C. zenota** Doub. (= splinita Walk.) (5b). Body pale yellow; antenna, head, thorax (except the hinder part), tip of the abdomen and the sigma-spots black-green. Wings white; base of the costal margin green-brown, a spot in the cell, the broad, light-spotted margin, a spot on the disc, the outer margin of the hindwing and a cell-spot black-brown, slightly green. — Assam; Borneo; Siam; Tonkin.

**C. zelica** Doub. (= lencomelas Moore, neoterica Swinh.) (5b). Wings white; forewing with a brown band before the middle, which at the costal margin is extended to the base, margin brown as far as into the cell, with 3 white spots; hindwing with brown marginal band. The antenna as in the preceding species with very long pectinations. Markings not constant. — Assam; Burma.

**C. fragilis** Walk. (♂ = obscurata Walk.) (5b). ♀: black-brown, somewhat grey, forewing with a white band, hindwing brown, lighter in the middle, or with white with black margin, sometimes also the forewing with white basal area. In the ♀ body and wings white, head and antenna brown, on the forewing 2 bands and the distal margin, on the hindwing an irregular band before the margin black. — Borneo; Sumatra; Java. Larva pearly grey, dotted with black above, head and underside yellowish, legs and the first and last segment orange-yellow.


Broad-winged insects; colours white and grey- or black-brown, on the hindwing also pale yellow. Forewing without costal veinlets, upper angle of the cell projecting, truncate. 1. and 2. subcostals free, 3.—5. stalked, 3. short, often absent, 1.—3. radials from the cell; cell of the hindwing obliquely truncate anteriorly, lower angle projecting, discoeculellar scarcely angled. — Some of the forms resemble species of *Nyctemera*, whilst others are similar to Pierids.

**P. marginale.** Body white; abdomen with black-green dots above and laterally. Forewing grey-brown or black-brown, with a white band and before the outer margin small white spots; hindwing white, marginale, with black-brown margin. Malayam. — marginale Vdl. (♂ = arcumata Vdl.), from Java. Marginal band of the hindwing in ♂ and ♀ broad; ♀ without, ♀ with indistinct white submarginal spots on the upper surface.

**P. perlata.** — perlata subsp. nor. Marginal band of the hindwing narrower than in the preceding form; the white submarginal spots of the upper surface of the forewing very distinct at least in the ♀, usually indistinct in the ♂. West Sumatra, according to Don as also in North-East Sumatra. — taminata subsp. nor. (5b), of which I only know ♀, differs from the preceding forms in having on the forewing broader white vein-stripes, deeper black distal part and larger submarginal spots, and on the underside of the hindwing a row of very distinct white submarginal spots. Nias.

**P. decipiens** Snell. ♂: forewing pale grey-brown, with broad, quite diffuse white median band; hindwing white, margin indistinctly grey-brown. Beneath the forewing is white, mixed with grey, from the base to 3/4. — Java. Only known to me from the figure and description; perhaps is the ♀ of a Javan form of *P. dissimulata*.

**P. nycitemeroides** Semp. (5a). ♀: abdomen above dark, with white rings, beneath yellow; wings black-brown, 4 stripes between the veins at the base of the forewing, a macular band in the middle and a curved row of spots before the apex white, as well as the hindwing, the margin of the latter broadly black-brown. Under surface with metallic green stripes. — Luzon.

**P. dissimulata**. Pierid-like; wings white, forewing with black-brown marginal band, which has white vein-streaks, the veins and partly also the interspaces brown; hindwing above with or without marginal band, beneath pale yellow with a broad marginal band. Indo-Malayan. — pura subsp. nor. (5b), from Assam; veins of the forewing narrowly brown; hindwing above without marginal band, beneath the marginal band is removed from the cell, only the streak behind the 2. subcostal reaching to the cell. — dissimulata Walk. (= lyra Druce, fieta Swinh., pontioides Btbr.) (5c) is more broadly black-brown before the margin above and beneath than pura. Specimens with dark-colored forewing are ab. analis Snell. Malacca; Singapore; Borneo; Billiton; Java (Snellen).

**P. invaria** Walk. I believe to be a dark second ♀-form of dissimulata. Upperside suffused with brown, the white markings obsolete or indistinct, cell of the hindwing grey; on the underside also the white is reduced, and the yellow area of the hindwing is either only indicated or very much reduced. In the name-type of *invaria* Walk., from Sumatra, all the white and yellow colour has disappeared from the wings, only the submarginal spots are faintly indicated on the under surface; the hindwing above is metallic grey-blue from the base to the anal angle and the apex of the cell. All the other specimens known to me have griseiusa, more or less grey on both wings: ab. griseiusa Hamp. (= lyra Druce partim) (5b). — East Pegu; Malacca; Singapore; Sumatra; Borneo.

Frons projecting, longer than broad. Antenna in the ♂ with very long pectinations, bushy. First hindtarsal joint shorter than the other four together. Cell in both wings posteriorly sloping off at the apex, the upper angle strongly projecting: in the forewing the 3. to 5. subcostals stalked, 3. proximal to 5.; in the hindwing all the veins from the cell; scaling of the wings peculiar, the scales long or almost hair-shaped. — Yellow or whitish yellow species with black (or at least in the forewing dark) veins. India and China.

**H. venosa** Walk. (5c). Pale yellow, the veins brown-black, the scales long, but not hair-shaped: *venosa*. the 2. and 3. radials of the forewing usually from the cell, rarely stalked. — Assam. China produces the paler subspecies *sinica* Oberth.

**H. subhyalina** Moore (5c). Whitish yellow, the veins slightly darker: costal margin of the hind* subhyalina. wing blackish; the 2. and 3. radials of the forewing usually stalked; scales very narrow, on the under surface almost hair-shaped. — Sikim; Assam.

**H. primulina** Evers. Perhaps only a variety of *subhyalina*; deeper yellow and the costal margin *primulina. of the hindwing not blackish; antenna pure black. — Assam: Naga Hills.

3 other species occur in China: *basiifrons* Oberth., *luteola* Leech and *ochreola* Leech (see vol. II, 2d). The first of these species probably represents a separate genus: the frons is hairy: in the forewing the first two subcostals anastomose with the costa, the other three are stalked together, the 5. branching off much more proximally than the 3.

32. Genus: **Psaphis** Walk.

Nearly allied to *Eterusia*. Frons broad, slightly projecting. In the forewing the 1. and 2. subcostals distally approaching one another, the 2. subcostal from the angle of the cell or stalked with the 3.—5. subcostals and 1. radial, 2. and 3. radials on a long stalk, 1. median near the angle of the cell, the 2. median more proximal than the 1. subcostal; cell of the hindwing distally somewhat rounded, the lower angle more distal than the upper and the 1. radial more so than the 2. subcostal. — Some of these insects in both sexes or only in the ♂ are strikingly faithful copies of *Dysphania* species (Geometrids). All the species have 5 white spots before the apex of the forewing.

**P. camadeva.** ♂ and ♀ different on the upper surface. ♂ above blue-black, abdomen and hindwing purple-blue; frons and sides of the breast whitish, under surface of the abdomen grey-yellow. Forewing beneath blue, distally black, hindwing beneath with yellow cell-spot and yellow stripes between cell and hindmargin. In the ♀ head and thorax above spotted with white, abdomen yellow, almost white beneath, on upperside the base of the segments blue-black; forewing with white basal dot and 2 yellow macular bands in the basal half; the spots in the distal half of the wing white; hindwing purple and yellow, a spot at the upper angle of the cell whitish; under surface blue and purple, the yellow markings larger than above. Malayan. — *camadeva* Doubld. (♀ = semiplena Walk. = resumpta Walk. = natunensis Rothsh.). In *camadeva. the ♂ the underside of the forewing is almost entirely blue, that of the hindwing purple-blue. The yellow band on the forewing of the ♀ is narrow and the spot at the apex of the cell white. Borneo: Natuna Islands; Malacca; Singapore; Java (Mus. Oxford). There are only very few specimens known from the different localities; perhaps these belong to several local races. — Of *celebensis* subsp. nov. (5c) I only *celebensis. know 2 ♂♂ and 1 ♀, from North Celebes. The yellow band of the green under surface of the forewing is much broader than in the preceding form, the cell-spot is yellow: on the hindwing the yellow area reaches to beyond the upper angle of the cell, being joined to the spot placed at the cell-angle; the blue gloss of the under surface is reduced in extent and intensity and the yellow area of the forewing reaches close to the cell-spot. In the ♂ the forewing above is dull green; the hindwing above is blue, with the exception of the margin, or entirely dull black; beneath the blue is much less extended than in *camadeva.*

**P. gloriosus.** ♂ not known. ♀ similar to the preceding species. The blue gloss of the under surface and of the hindwing above much more extended and very strong. All the spots white except the yellow distal part of the posterior streak of the hindwing. Sumatra; Borneo. — *gloriosus* Rothsh. Hind-gloriosus. wing above and beneath distally broadly deep purple-blue. West Sumatra; 1 ♀ in the Tring Museum. — *bornensis* subsp. nov. (5d). Hindwing above and beneath distally only narrowly deep purple-blue. North Borneo; 1 ♀ in the Tring Museum, a second in the British Museum.

**P. albivitta** Rothsh. (5d). ♂ not known, probably as in *P. camadeva* different from the ♀. An albivitta. angular stripe on the vertex behind the raised tuft, indications of dots on the thorax, first abdominal segment above and the abdomen beneath white; thorax and upperside of the forewing green-black; a band on the forewing and the hindwing white, the distal margin of the latter above and beneath and the underside of the forewing with blue gloss. — Mt. Gedé, Java, 4000 ft.; a second, somewhat different specimen, in bad condition, from Lombok, 2—2500 ft., in June; both in the Tring Museum.
P. euschemoides. ♂ and ♀ similar. Frons, collar, thoracic spots, breast, legs, underside of the abdomen and the broad marginal bands of the hindwing above yellow. Forewing more elongated than in the preceding species; the markings of both wings similar to those of the ♀ of P. camadeva. — The North Indian form, euschemoides Moore (5d), has the most yellow: on the forewing the yellow band is contiguous to the basal spot and the black spots in the distal half of the wing are sharply expressed. Sikhim: javanicus. Assam. — javanicus Roths. (= javana Röh., resumpta Dohrn) is distinguished by the smaller yellow markings in the basal half of the forewing, also the cell of the hindwing on the upperside has no distinct purple-black streak near the base. Mt. Gedé, 4000 ft., Preanger; Sumatra (Dohrn). — scotais subsp. nov. (5d). The patagia only yellow at the tip; the yellow markings on the forewing reduced, the non-contiguous basal spots widely separated from the band, the latter broken up into spots; hindwing with purple-black basal spot in the cell, in the ♂ the yellow reduced even more than in Javan ♂♂, but the margin in both sexes with 4 yellow spots between the 2. radial and 1. submedian. North Borneo.

33. Genus: Eucorma gen. nov.

Frons very strongly projecting; body thick. Antenna similar to that of Eterusia, but pectinations in the ♀ rather short, and the distal ones in the ♀ only a little longer than the middle ones. Forewing elongated; the 1. and 2. subcostals free, the 3.—5. stalked, the 5. subcostal proximal, the 1. radial from the cell, the 2. and 3. radials stalked, upper angle of the cell widely projecting; hindwing distally broad, rounded, lower angle of the cell somewhat projecting, discocellular weakly angled, the 2. radial from the apex of this angle or arising somewhat before it, approaching the 3. radial. ♂ and ♀ alike. — Malayan species, which resemble Milionia (Geometrids) and Episteme (Agaristids). Forewing with a yellow or white band. intercisa.

E. intercisa Moore (5e). Two-thirds of the hindwing above and beneath with very strong green-blue sheen, as also the basal area of the forewing beneath, the wings otherwise black, a dark yellow band extending over both wings, straight on the forewing, on the hindwing posteriorly abbreviated and pointed. — Java. “Fluttered round the casuarinae of the plateau of Pengelengan in company with a deceptively similar Geometrid (Milionia) and was also not rare on the Tjikorai and other mountains” (Frechstorfer Ms.).

obliquaria.

E. obliquaria F. (= euschemoides Fldr.) (5e). Black, antenna blue, abdomen ringed with white. Forewing with white band, sometimes interrupted in the ♀, hindwing with large reddish yellow area, which is broadest at the hindmargin and has a black spot anteriorly which is sometimes very small; under surface with blue vein-stripes at the distal margin, and on the forewing also small whitish blue cell-spots. On Nias together with the ordinary form occurs a ♀ with much broadened white band, distinct blue vein-stripes on the upper surface before the distal margin and enlarged blue stripes and spots on the under surface, also the black spot of the hindwing is small (which also occurs in ordinary ♀♀ from other places); this is ab. zebra. zebra Btlr. (= laja Pagenst.) (5f). — Java; Sumatra; Nias; Malacca; Borneo; Siam; Mergui. “Macassar” has been wrongly given as the habitat of euschemoides.

euphaena.

E. euphaena spec. nov. (5f). ♂: body and wings velvety black. Antenna, head, some thoracic dots and the margins of the abdominal segments glossy blue. Forewing with broad yellow oblique band, which does not extend to the hinder angle, a line near the base, another before the middle, as well as streaks distally on the veins, all glossy blue. Hindwing with broad orange-yellow discal band, which is narrowest anteriorly and truncate posteriorly, some marginal streaks blue. Under surface more extended blue, the yellow bands paler: hindwing with blue crescent anteriorly at the inner side of the yellow band. — Tondano, North Celebes. 1 ♂ in the Tring Museum.

hampsoni.

E. hampsoni Holl. Body black-blue, glossy in parts. Forewing black, with red median band from the costa to the hinder angle and violet-blue subapical macular band; hindwing above broadly glossy blue at the hindmargin. Beneath almost entirely blue; the bands of the forewing beneath more diffuse. — Buru; in coll. Holland. Not known to me in nature.

34. Genus: Opisoplatia gen. nov.

♂: head, antenna and subcostal veins of the forewing similar to those of Eucorma; the upper angle of the cell of the forewing not projecting beyond the lower, the discocellular deeply angled, the two arms of this angle of equal length, the 2. and 3. radials from a point; discocellular of the hindwing weakly angled close behind the 1. radial, the lower angle of the cell projecting somewhat beyond the upper, distance from the 1. to the 2. subcostal very much shorter than from the 1. median to the 2. median; the cell between the 2. and 3. submedians of the hindwing very much widened distally, at the margin about four times as broad as the preceding cell, and the latter twice as broad as the cell between the 1. and 2. submedians, margin shallowly emarginate from the 1. median to the anal angle. — 1 species from Borneo.
EUSPHALERA; ETERUSIA. By Dr. K. Jordan.

O. grandis spec. nov. (5f). ♀: black; abdomen above with blue and beneath with green margins grandis.

to the segments. Forewing above green; hindwing black, the apex metallic blue. Both wings beneath
black, very slightly greenish; forewing before the distal margin with broad green-blue band which is widened
before the 2. radial as far as the apex of the cell; hindwing with blue submarginal spots from the 2. median
costal, also blue scales on the discocellular. Length of the forewing 40 mm. — Kina Balu, North Borneo;
1 ♂ in the Tring Museum.

35 Genus: Eusphalera gen. nov.

Similar to Eterusia; the frons only moderately projecting, not broader than the eye is high, not
pointed above; 8. abdominal segment of the ♀ as in Chalcosia, produced above, not emarginate, forming a
sort of cover over the circular open underside, the ventral part of the segment produced at each side
into a long evenly curved pointed process. Antenna strongly pointed, the pectinations becoming gradually
shorter distally (♂). Neuration similar to that of Eterusia, the 2. and 3. radials of the forewing quite short
stalked or branching off from the cell. — New Guinea. Black species with yellow bands.

E. regina Rothsch. (6a). Head, collar and underside of the body glossy green-blue. Thorax, a regina.
large triangular basal area and a transverse band on the forewing reddish yellow and the distal margin of
the hindwing yellow; the basal area wanting on the underside. — North-east side of British New Guinea.

E. semilava Rothsch. (6a). Body green-black, head, thorax, breast and legs with strong green-blue semilava.
sleen, underside of the abdomen yellow-grey. Wings black, forewing from near the base to two-thirds
and a variable band before the distal margin of the hindwing yellow. — Aroa River, British New Guinea.

E. ligata Rothsch. (6a). As the preceding, middle of the breast yellow-grey like the underside of ligata.
the abdomen. A yellow band across both wings. Perhaps only a form of the preceding species. — North-
east side of British New Guinea. All 3 species in the Tring Museum; only ♂♂ known.


Frons very strongly projecting, but narrowed between the antennae, longer than broad, often twice
as high as broad, in a side view the projection more than half as high as the eye is broad. Antenna in
the ♀ with long pectinations at the tip, the proximal ones short, in the ♂ the antenna with long pectina-
tions. Wings long; in the forewing the 1. and 2. subcostals free, the 3.—5. stalked, the 1. radial from this
stalk or from the cell, the 2. and 3. radials stalked, distance of the 1. subcostal from the upper angle of
the cell greater than the distance of the 2. median from the lower cell-angle, the 1. median usually much
nearer to the angle of the cell than to the 2. median; hindwing with nearly straight costal margin, the
short connecting vein (1. subcostal) between cell and costa far beyond the middle, upper and lower angles
of the cell projecting about equally far, in E. distincta the lower angle projecting much farther than the
upper, distance between connecting vein and upper cell-angle smaller than that between lower cell-angle
and 2. median.

The differentiation of this genus from Pidorus on the one hand and Chalcosia on the other is not
easy, since forms occur which occupy intermediate grades of development between the morphologically
typical species of the three genera. The difficulty will be overcome, after more accurate comparison of
the morphology of these insects with regard to the genitalia, by the erection of a number of genera. —

The larvae live, at least partly, polyphagous on various plants, as tea, roses, Polygonum, etc.; the lateral
tubercles bear long bristles, the dorsal tubercles short ones.

E. pulchella. A very variable, sexually dimorphic species, which with E. costimacula is distinguished
from all the other species by the two median veins of the forewing being at a distance from one another
towards the base and approaching very near together distally. In the ♀ the collar, in the ♀ usually also
the whole head red. Abdomen in the ♀ also above ringed with white. Hindwing in ♂ and ♀ with one or
several brown-black spots before the distal margin. Afghanistan; Kashmir; North India; Burma; Tonkin;
West China. — pulchella Koll. The ♀ occurs in 5 forms, connected by transitions, of which 3 have been pulchella.
described as species. Ab. leptalina Koll. (= trilitturata Walk.) (vol. II. 2a) has on the forewing a yellow leptalina.
basal streak, a transverse band, and at the end of the cell a round spot, the hindwing is yellow or white,
with a black marginal band, the veins partly black. This is apparently the only form occurring in the
western districts of the Himalayas, but it is also found further east. Specimens in which the abdominal
margin of the hindwing is broadly black are ab. flavomaculata Möschr. In the second group of aberrations, flavo-
maculata. which is common in the mountains of Assam, the basal streak is merged together with the transverse band
into a triangular area; the hindwing is pure yellow or white, with black marginal band, beneath yellow,
not whitish, at the distal margin. Finally in ab. olivascens Moore basal streak and band are separated and olivascens.
the hindwing is black, with the exception of a costal streak and a small spot at the apex of the cell, which
are yellow. The ♀ is likewise variable. Forewing either yellow, mostly whitish between the veins, with a sexpunctata.
blue-black spot: ab. sexpunctata Walk., or with two spots: ab. octopunctata Möschr., or the wing between octopunctata.
cicada. the veins more or less blue-black, hindwing white, with blue-black subapical spots: ab. cicada Fldr., or also
pulchella. major. dusted with brown-black at the apex: ab. pulchella Koll. — major subsp. nov. Larger than pulchella, σ:
basal streak of the forewing widely separated from the transverse band, the latter placed near to the end of the
cell. Hindwing yellow, more triangular than in pulchella, the distal margin straighter; the marginal band very narrow. ϕ: wings yellow, or the hindwing whitish: forewing with two very small black-brown spots, hindwing with a small spot, distal margin straight, abdominal margin proportionally longer than in pulchella. Tonkin. — Larva yellowish brown, with black longitudinal lines on the back and sides; on roses, tea, Polygonum. The moths fly in North India in the spring and again from the height of summer until the autumn; very common in Sikkim at elevations of 4—5000 ft.

E. costimacula. At least the face in σ and ϕ not red. In the σ the forewing with two yellow spots behind the costal margin, hindwing orange-yellow or pale yellow, the distal margin very broadly black at the anal angle. — Of malaccensis subsp. nov. (6a), from Gunong Ijau in Perak, only one ϕ is known to me, which is in the Tring Museum. Collar above and beneath pale red, as well as the occiput; no spot on the patagia. Forewing green-black, above without markings, beneath more blue-green, with very small whitish spot on the discocellular; hindwing from the base to the origin of the 1. median white, beneath
with a white dot in the blue-black marginal area. Transition from E. pulchella to costimacula? — battakorum Dohrn (6a). σ without yellow streak at the base on the upperside of the forewing and with no brown-black marginal band on the hindwing beneath. ϕ dimorphic: the forewing above black, beneath spotted with yellow, the hindwing yellow, beneath with two black spots, or the forewing above yellow, distally browned, and beneath almost black, with whitish subcostal spots, and the hindwing white, above with black distal margin, beneath with 2 black spots. Sumatra, in the Battak Mountains. — costimacula Auriv. (6a) has in the σ a yellow streak at the base of the forewing and the distal margin of the hindwing is narrowly brown-black. Forewing of the ϕ above black, somewhat brown or greenish, with pale yellow basal streak, transverse band and discocellular dot of the same colour, beneath the basal half yellowish white; hindwing white, black with brown-black marginal band, which beneath is more blue and is broken up into spots: ϕ-f. lepaltinoides. lepaltinoides Auriv. (6a). A second form has above a yellow forewing, distally browned, which beneath as in the preceding ϕ-form is proximally yellowish white, distally blue-black: hindwing yellowish white, with some blue-black spots before the distal margin: ϕ-f. ochracea Auriv. Java. The σ of from the higher altitudes have on the whole a paler hindwing: the ϕ-f. lepaltinoides flies together with them: we have therefore probably in Java a highland form and a middle mountain form. Ascends to 8000 ft.

shahama. E. shahama Moore (6f, erroneously designated shawana). ϕ: abdomen above unicolorous black, not light-ringed. Collar not red. On the forewing at the base faint whitish yellow stripes between the veins, in the middle a macular band and at the end of the cell a round spot. Hindwing distally and anteriorly black, from the hindmargin to the cell yellow or almost to the costal margin white. — Darjeeling; in the British Museum and in coll. Staedinger.

elizabetha. E. elizabetha Walk. (σ = dirupta Walk., microcephala Fldr.) (vol. II, 2b). Collar not red. ϕ: forewing with yellow spots, namely 1 or 2 streaks at the base, a transverse band of 2 or 3 spots before the middle, a round spot at the end of the cell and a variable submarginal band of small spots; hindwing yellow, the hindmargin, distal margin and usually also the veins more or less broadly black. ϕ similar to pale pulchella; in the forewing 2 spots in the end of the cell, 2 or 3 on the disc, the narrow apical margin, as well as 3 or 4 small spots on the hindwing blue-black. — North and West China, found southwards as far as Hong-Kong.

E. bicolor. Body above unicolorous black, slightly green, beneath green or blue. Wings black, with slightly green veins: a band on the forewing, in the σ an abbreviated band on the hindwing and in the ϕ the whole hindwing with the exception of the distal margin yellow. North India, Tonkin. — In the bicolor. North Indian form, bicolor Moore (ϕ = viridivena Hamps.) (6b), which is known from Assam (Cachar, Khasia and Naga Hills), the ϕ has a very narrow band on the forewing, and in the ϕ the yellow band is not half as broad as the black basal area. — lata subsp. nov. (6b), from Central Tonkin: one ϕ known. Peculiarities of the antenna considerably longer than in the preceding form; band of the forewing as broad as the black basal area.

nigribasalis. E. nigribasalis Hamps. Very similar to the σ of E. bicolor, larger, the band of the hindwing longer. — One ϕ from Sikkim in coll. ELWES. Erroneously taken by SWINHOE for the σ of bicolor.

viridibasalis. E. viridibasalis Dohg. σ: collar red: 1. palpal segment and underside of the thorax and abdomen yellowish white. Forewing with pale yellow, almost straight band, which is about 2/4 mm broad, at the end of the cell, running from the costa to the anal angle of the wing: the veins at both sides of the band and also the larger part of the basal area green. Hindwing above without markings, beneath with some blue longitudinal stripes and blue subapical spots. — Tenasserim; 1 ϕ in coll. DUDGEON. Not known to me in nature.

E. circumdata. σ and ϕ similar. Body black-green. Wings yellow, extreme base black; somewhat less than the distal half of the forewing black or purple; hindwing with black marginal band. North India. — circumdata Moore, from Sikkim, the distal area of the forewing is black and both sexes have on the
under surface of the hindwing a green-blue band. — *purpuralis* subsp. nov. (9b), from Assam, Khasia Hills, *purpuralis*, is distinguished by the distal half of the forewing in ♀ and ♂ being for the most part reddish purple, and only proximally pure black. The frons of the ♀ is very narrow and the blue submarginal band of the hindwing beneath is also wanting in the only ♀ known to me. 1 pair in the Tring Museum.

**E. (?) dichroa** spec. nov. ♀: so similar to *circumdata* as to be easily mistaken for it. All the legs *dichroa*, on the underside yellow-grey. Frons much broader and only slightly projecting. Antenna with much longer pectinations from the base. In the hindwing only 2 radial veins, the 2. and 3. anastomosed, the median veins more distal than in *circumdata*. Base of the forewing somewhat more broadly black, the yellow area distally more symmetrically rounded, the distal area black, the marginal band not extending so far posteriorly as in *circumdata*; no green-blue submarginal band on the under surface. — Khasia Hills, Assam; 1 ♀ in the British Museum.

**E. risa** Doub. (6c). Body and wings of the ♀ above unicolorous green-black, or forewing with *risa*. remnant of a yellow band, collar narrowly red; under surface similar to that of the ♂, but the yellow parts paler. ♀ with yellow band before the middle of the forewing and yellow hindwing, the extreme base of the latter and the distal margin black; beneath more or less blue on the veins, a narrow grey-yellow band before the distal margin. Abdomen beneath with white margins to the segments. — Larva on Symlocos and Thea, brown, later brownish orange-yellow or red, with blackish longitudinal lines; when it is touched drops of a clear scentless fluid exude from the tubercles. — Borneo; Natuna Islands; Malacca; Java.

**E. angustipennis** Rob. (6c) ♀. Confusingly similar to the preceding species. Abdomen beneath with angusti- blue margins to the segments; the last abdominal segment above blue only at the tip, otherwise yellow like the preceding segments; genital aperture on a cone, which is situated in a depression surrounded posteriorly and laterally by a thick chitinous wall. Forewing beneath with blue submarginal line; the black distal margin of the hindwing narrower than in *E. risa*. ♀ not known. — Java; Sumatra; North Borneo.

**E. circinata** H.-Sch. (= fasciata Walk.) (6c) ♀ and ♂ alike: body blue or green, thorax black, *circinata*. Wings black, beneath the base of the forewing and ? of the hindwing blue; forewing with pale yellow band; hindwing with deep yellow marginal area, which has a row of black spots. — North India: Sikkim, Assam.

**E. repleta** Walk. Body above blue-green, beneath green. Forewing above olive-green, with pale yellow band, which is accompanied by black spots and intersected by blue veins. Hindwing blue, from the cell to the hindmargin and at the distal margin; above either without yellow markings: ab. *urania urania*. Sèbouas (6d), with a band of yellow spots: ab. *alompra* Moore, or with a broad yellow band: ab. *repleta* *alompra*. Walk. (= submarginalis Swink.). Beneath a blue or whitish blue band before the distal margin. — North India; Burma; Cambodja. The name-type of *repleta* Walk., a ♀ from Cambodja, is in the Oxford Museum, and was redescribed by Swinhoe.

**E. rajah** Moore (6d). Head, thorax and upper surface of the wings dull green, abdomen and hind- rajah. margin of the hindwing dull blue-green; underside of the body yellow; collar red. Forewing with a yellow band; hindwing orange-yellow, veins black. Beneath the forewing also yellow at the tip, blue in the basal half; veins of the hindwing blue. — North India: Sikkim, Assam; one of the most beautiful species of the Zygaenids.

**E. subcyanea** Walk. (= coelestina Auric.) (6d). Thorax green-black, abdomen blue. Forewing *subcyanea*, above green-black, a basal band, an interrupted band before the middle, a dot at the apex of the cell and a row of oblong dots before the distal margin yellowish white, in the ♀ all these markings smaller than in the ♂. Hindwing from the cell to the hindmargin glossy blue, beneath, sometimes also above, in the ♀ with indication of a white band before the middle. — Mt. Gedé, Java, 4000 ft. Walker erroneously gave Borneo as habitat, the name-type (in the British Museum) came from Java; the frons is rubbed, and therefore rust-colour (see Walker's description).

**E. tricolor** Hope (= trimacula Mosch.) (vol. II, 2b). Abdomen of the ♀ above green-black, with *tricolor*, thin yellow bands, beneath yellow: in the ♂ above yellow. 1. segment black, beneath black with yellow margins to the segments. Forewing black-green, spotted with white; hindwing with broad yellow area, which extends from the hindmargin to the costa and in the ♀ is intersected by black veins. — Larva brown, without black longitudinal lines. — Sikkim, Bhutan, Assam, Burma, 3—6000 ft.

**E. sublutea** Walk. (= scindillans H.-Sch.) (6d). Confusingly similar to the preceding species; the *sublutea*, spots on the breast much larger, the pectinations of the antenna (♀) longer, in the forewing the basal spot smaller, sometimes absent, the median spots larger, the spot at the end of the cell smaller; hindwing somewhat deeper yellow; beneath a white streak at the costal margin of the forewing at the base and before the median spots, the costal margin of the hindwing likewise white before the yellow area and at the base. Anal claspers (of the ♀) produced into a sharp point, whilst the end of the clasper in *tricolor* is only bluntly pointed; the two spiny processes of the 10. segment long, evenly curved downwards, much longer and also narrower than in *tricolor*, the protuberances on the angles of the penis-sheath large. — North India: Sikkim, Assam.

**E. lativitta** Moore (= fasciata Mosch.) (6c). Abdomen in the ♀ above blue-black, in the ♂ yellow: *lativitta*, the first two segments blue-black, 7. segment beneath blue-black, yellow at the tip, with distal, flat, rounded
E. aedea. Abdomen above in ♀ and ♂ pale yellow, 1. and 2. segments green, sometimes also the 3. suffused with black, underside of the abdomen green-black, the margins white. Forewing black-green, a basal spot, a band usually broken up into spots, a spot at the end of the cell and an irregular row of longitudinal spots before the distal margin white. Hindwing black, with or without white or yellow area from the hindmargin to the costa, several white spots before the apex. The forms here united are quite alike in structure and certainly belong to one geographically, and in North India strongly individually variable species. Larva very similar to that of tricolor, on tea and other plants; brown-yellow. Cocoon white, with a reddish tinge.

aedea. aedea L. (= sinaica Men.) (vol. II, 2c) is the Chinese form, in which the distal spots of the forewing, especially the one at the end of the cell, are large and the black basal area of the hindwing is very broad. Extending into the Palearctic Region. Sometimes the middle area of the hindwing is yellowish. — formosana subsp. nor. designates the form in the forewing with the Chinese form, whilst the black basal area of the hindwing, as in the following form, is much smaller. The middle area of the hindwing is white or yellowish. Formosa. — edocla. edocla Doubl. is the subspecies from North India and Burma, which is polymorphic. As edocla ab. lepcha, the dark form is distinguished from aedea aedea by the mostly smaller distal spots, the always smaller spot at the end of the cell of the forewing and the smaller black basal area of the hindwing. The specimens with yellow medial area on the hindwing are ab. magnifica Bhr. (vol. II, 2d), whilst those with black hindwings are ab. edocla Doubl. (6c); transitional specimens between this last form and the other two have a more or less large yellow or white spot in the middle of the cell of the hindwing; this is ab. dulcis Bhr. (= signata Möschl.).

eocles. All these forms occur together: their identity will certainly be easily proved by breeding. — virescens Bhr. is the South Indian subspecies, in which the grey-black basal area of the hindwing and the border posteriorly are broader than in lepcha, the white medial area is therefore much straighter. — cingula Moore inhabits Ceylon; the white basal spot of the forewing is large and the transverse band is near to it, often even joined to it at the hindmargin and behind the cell; border of the hindwing, as in virescens, extended to the anal angle. The larva appears periodically in such abundance that whole areas of the tea-plantation are defoliated by them. The Tachnid Erostatia heterocera Coq. is parasitic on the larvae; as many as 10 pupae of the fly have been found in the dead cocoons of the Euterusia; sometimes almost all the larvae are infested.

distincta. Sexes very different. Forewing with costal veinlets, lower angle of the cell of the hindwing projecting further than the upper angle. Body of the ♀ above blue or yellow, beneath grey; forewing triangular, distal margin as long as the hindmargin, yellow with black spots between the veins; hindwing with the costal and hindmargins about the same length, yellow, black on the veins; under surface less black than upper. ♀ larger, wings more elongated; abdomen above yellow, the ventral segments green, margined with white. Forewing grey-brown or whitish, with large purple-black spots between the veins; hindwing and under surface blue, with black spots or with large white area. Larva on Jambosa densiflora and Melastoma polyantum; brown, beneath lighter and here with single white hairs, the stigmata black. drataraja. legs red; duration of the pupal stage 14 days — drataraja Moore (6c) is the Javan form; the black spots of the ♀ are reduced on the under surface, especially in the hindwing. The veins and the band on the hindwing above and beneath is mostly indicated by a light cell-spot, sometimes fully developed, but narrow. — indistincta Svil., from Borneo. The ♀ is darker than distincta; the hindwing shows above and usually also beneath vestiges of the white area and the band of the forewing beneath is mostly indicated by a light cell-spot, sometimes fully developed, but narrow. — The lightest form is albina subsp. nor., from Mergui, of which only ♀ are known to me. Fore part of the pronotum and the first dorsal segment of the abdomen yellow like the remaining dorsal segments of the latter, the ventral segments broadly white; band of the forewing above and beneath almost pure white, the veins somewhat lighter even than in the Javan form; hindwing white from the base nearly to the apex of the cell, distal border as in distincta without spots.
E. xanthina spec. nov. Like the preceding species; veins and transverse band of the forewing grey; xanthina, yellow; hindwing yellow; marginal band as in the forms of the preceding species broad anteriorly, sharply contrasting with the yellow area. — Cambodja; 1 ♀ in the British Museum.

E. mirifica Steinh. (6e). Body purple-black, slightly metallic green, occiput and pronotum red. mirifica. Forewing blackish brown, the veins yellow-grey, an anteriorly broad, posteriorly linear yellow-grey transverse band from the costal margin almost to the hindmargin. Hindwing brown-black, with slight bluish sheen. — Siam; in the British Museum.


Broad-winged, black or black-green forms, with yellow or white band on the forewing. Frons much less projecting, and not so pointed as in Eridanus. The 1. and 2. subcostals of the forewing free. 3.—5. subcostals stalked, the 1., 2. and 3. radials from the cell, the 1. median about midway between the 2. median and the 3. radial; in the hindwing all the veins from the cell, or the 2. subcostal and 1. radial stalked, upper angle of the cell mostly projecting somewhat beyond the lower, distance from the connecting vein (the 1. subcostal) to the upper angle of the cell less than from the 2. median to the lower angle. — Indo-Malayan, one species distributed northwards to Japan.

P. glaucopis. Body blue-black, the occupit all round and the vertex red. Wings brown-black, somewhat purple, beneath striped with blue; forewing with a white band from the costal margin to the anal angle. North India to Japan. — The form from North India, Burma and Tonkin has on the underside a blue band before the distal margin: glaucopis Drury (= rubrocollaris Goeze) (6f). — In atratus Bll. glaucopis. (vol. II, 2c), from South China to Formosa and Japan, this band is wanting. — One of the commonest species, which occurs in North India up to 5000 ft., but is most abundant at lower elevations.

P. constrictus Walk. (6f). Black-green, the occupit all round red like the base of the prothorax, constrictus. margin of the frons, palpi, breast, underside of the abdomen and the legs dirty yellow-grey. Forewing more elongated than in P. glaucopis, distal margin much shorter, green-black, with pale yellow band from the costal to the hindmargin, reaching the latter just before the angle, its distal edge touching the tip of the cell, faintly edged with blue. Under surface striped with blue as in P. glaucopis, with a blue band before the distal margin, the yellow band of the forewing somewhat broader than above, the 3. subcostal distal to the 5.; upper angle of the cell less projecting than the lower. — Borneo, Singapore.

P. gemina Walk. (vol. II, 2b). Thorax and forewing black-green, breast metallic blue and underside of the abdomen metallic green, palpi, occupit and vertex red. Forewing with yellow band, edged with green-black, from the costal margin to the hinder angle. — North India; Burma; Tonkin; Cambodja; Hainan; Hong-Kong.

P. leno Steinh. (6f). As the preceding, palpi and vertex not red, underside of the body and the leno. palpi in the ♂ yellow-grey, in the ♀ the palpus yellowish, the breast metallic green, the abdomen green-black. Band of the forewing not quite reaching either costal margin or hinder angle, apex of the hindwing yellow like the band; the long anal clasper of the ♂ is woolly. — Assam; Hainan.


P. circe H.-Sch. (= metallica Walk.) (6f). Body blue-black. Forewing with green veins, or entirely circe. green; a curved band yellow: hindwing brown-black, a costal spot before the apex yellow, a band before the distal margin blue. — Assam; Sikkim.

P. abifasciata. Similar to the preceding species, forewing black, with slightly green veins, band white, with yellow costal spot at the innerside; hindwing with yellow costal spot just before the end of the cell, apex of the wing slightly bluish. Assam; Burma: Tonkin. — In abifasciata Moore (6g), from Assam abifasciata. and Burma, the inner margin of the band crosses the cell proximally to the 1. median, and the band is posteriorly about 4 mm. distant from the end of the 2. submedian. — In steleus subsp. nov., from Tonkin. steleus. the band has a somewhat more distal position and the costal spots are deeper yellow.

P. cyrtus spec. nov. (6g). ♀: head as in gemina. Palpus dirty yellow-brown. Forewing above black, cyrtus. the veins dark green; a curved yellow band from the costal margin to the hinder angle, with pale rose-coloured sheen, very narrowly blue at the margins. Hindwing brown-black. Beneath both wings black, with faint blue submarginal band. — Hainan, found in June; 1 ♀ in the Tring Museum.

P. bifasciata Walk. (6g). Black-brown, slightly greenish; underside of the body earth-brown: hind- bifasciata. margin of the head red. Forewing 13 mm. long, a straight yellow band, somewhat irregular at the edges,
from the costal margin to the hinder angle, broader than in gemina, corculum, etc. 3. subcostal of the forewing proximal to the 5. — Sarawak; 1 ♂ in the Oxford Museum.

tricoloratus.

P. truncatus spec. nov. (6g). Black-brown, the occiput red all round, breast and sides of the abdomen somewhat metallic green-blue; a large lateral spot on the mesosternum and the underside of the abdomen pale yellow, forewing black-brown, the veins paler, distal margin almost straight, a straight pale yellow band from the costal margin to the hinder angle, its distal margin crossing the tip of the cell; the 3. subcostal far proximal to the 5. Contour of the hindwing as in P. eire. — Sikkim, April; 3 ♂♂ and 2 ♀♀ in the Tring Museum.

amabilis.

P. (?) amabilis spec. nov. (6f). Agrees neither altogether with Pidorus nor with Eterusia. Frons broader than long, the 3. subcostal of the forewing much more proximal than the 5., the 2. and 3. radials short stalked. Body yellow, head before and behind the antennae, middle-of the collar and patagia, the larger part of the meso- and metathorax, and the extreme bases of the dorsal segments of the abdomen, as well as the antennae, green-black. Wings bright yellow, extreme base of the forewing, three small spots near it, somewhat less than the distal half of the wing and the apex of the hindwing purple-black. Beneath there are grey-yellow spots in the brown-black distal parts. — Mauson Mountains. Tonkin, at a height of 2—3000 ft., April to May; in the Tring Museum.

bicoloratus.

P. bicoloratus Semp. Body black, wings yellow, with broad black marginal band, which has 3 silver spots on the forewing above and on both wings below. — Mindanao.

tricoloratus.

P. tricoloratus Semp. Body black, abdomen beneath ringed with yellow, frons and collar likewise yellow. Wings yellow, forewing edged with black, black at the base, then yellow beyond the middle, distally yellow-black; hindwing yellow, with broad black distal margin. — Pamaon, Philippines. This and the preceding species are not known to me in nature.

splendens.

P. splendens spec. nov. (6g). ♀: antenna blue; occiput red; abdomen above green-blue; body beneath green. Upperside of the thorax and forewing dark olive-green; forewing behind the middle with a yellow band, which is suffused with blue on the veins and which viewed at a very acute angle assumes a very pale reddish tone; the band accompanied by white spots proximally and distally. Hindwing from the base to the anal angle and to ⅔ length of the cell glossy blue; a broad yellow band placed before the middle. Both wings beneath blue proximally; green at the base; hindwing of the forewing broader than above, a blue submarginal macular band. — Kina Balu, North Borneo; 1 ♀ in the Tring Museum.

hilaris.

P. hilaris spec. nov. (7a). ♀: similar to splendens, and perhaps only an individual form of this. Band of the forewing narrower the distal margin of the wing somewhat more oblique; hindwing less broad, without yellow band, but with an indistinct yellow spot at the apex of the cell. — Kina Balu, North Borneo; 1 ♀ in the Tring Museum.

miles.

P. miles Phil. (7a). Black-brown. Forewing with a yellow stripe behind the costa, which runs from the base to beyond the middle and then curves round towards the anal angle, a yellow dot at the apex of the wing; pronotum and patagia likewise yellow. Hindwing with broad red costal stripe. — Sikkim; Bhutan.

38. Genus: Chalcosia Hbo.

Frons projecting, usually as broad as long, above not narrowed, but little, between the antennae. The 1. and 2. subcostals of the forewing free, the 3.-5. stalked together, the 5. branching off proximally; upper angle of the cell of both wings projecting beyond the lower, the latter pointed in the forewing, the 2. and 3. radials of the forewing stalked, rarely from the cell. The hindmargin of the head and the pronotum usually red, rarely yellow. The dark parts of the wings more or less metallic. Dorsal part of the 8. abdominal segment of the ♂ extending beyond the lateral part. Some of the species are very variable and most are very common. The genus is distributed eastwards to Flores and extends northwards to Japan. On Celebes and the Philippines no true Chalcosia has yet been found.

C. adalifa. Vertex blue. ♂ occurring in two forms, a light one, similar to the ♀, and a dark one. Wings in ♂ and ♀ white, with black vein-streaks, or in the ♂ black, with white markings, or intermediate between these extremes; hindwing usually with yellow hindmarginal area. The 8. abdominal segment of the ♂ (the last external one) truncate, usually with a small obtuse lobe in the middle, not emarginate. — adalifa Doubt. (= virginalis H.-Sch., subeyanesens Walk., cardinalis Moore) (7a) inhabits Sikkim, Assam, Burma and Tonkin. The ♀ has a narrow, irregular brown-black band, which extends from the upper angle of the cell of the forewing to the 1. submedian of the hindwing and is sometimes only indicated. The ♂ varies from being almost entirely white to almost entirely black. Dark specimens with little blue on the veins are ab. fuliginosa Walk. (7); in ab. cyanivena Hamp. on the contrary the veins of the hindwing above and of both wings beneath are strongly striped with blue. — On Sumatra and Java is found candida Voll. (= forbesi
Druce) (7a). ♀: the veins usually only slightly browned, hindmarginal area of the hindwing mostly yellow. The light form of the ♂ similar to the ♀, veins and distal margin of the forewing blackish brown, forewing beneath blue in the basal third, this area shining through above; sometimes there is a blue band behind the middle. In the second form: ♂-f. nitida nov., which I only know from West Sumatra, the nitida, upper surface of the hindwing and the under surface of both wings are strongly suffused with blue, the white is also very much reduced above on the forewing and the yellow hindmarginal area is only often present beneath (name-type). This dark form recalls the ♂ of Cyclosia pieridioides.

C. hamiltoni Swinh. (7b). ♂ and ♀ similar. Vertex and pronotum blue, neck red. Forewing green, hamiltoni. purple-brown in a light falling obliquely from the front, between the veins with yellowish white streaks and spots, of which the largest stand in a row running obliquely from the costal margin of the forewing towards the hinder angle. Hindwing yellowish white, posteriorly yellow, distal margin and the veins before it blue. The veins on the under surface blue. Ventral margin of the 8. dorsal segment of the ♂ strongly denticate on the inside and distally produced into a pointed hook. — Khasia Hills, Assam.

C. pretiosa. Only in Ceylon. Pronotum in the middle glossy green like the mesonotum. Forewing above coppery green, not striped with white, a narrow band interrupted at the hindmargin of the cell and accompanied by black spots white, as are also some small spots situated before the apex. Hindwing and abdomen above glossy blue. Hindwing beneath white, with small submarginal spots. Three rather strikingly different forms, which do not seem to occur together; unfortunately more exact observations are still wanting.

— eximia subsp. nov. (7b) has a very narrow white band, beneath the forewing is almost entirely white to eximia. the median band, and the subapical band is interrupted; hindwing above white from the costa to the hindmargin of the cell, this spot not extending distally beyond the end of the cell; vertex not red. Horton Plains, found in September. — pretiosa Walk. Vertex red, band of the forewing broader than in the pre-pretiosa. ceding, forewing beneath blue from the base to the median band, the white subapical band not interrupted; the white costal spot on the upperside of the hindwing smaller. Haldunnula, February to March; Pundaloya. — albina Hamps. Hindwing above white, base and distal margin blue. Found at an elevation of 4000 to 5000 ft. albina.

C. venosa. Likewise only in Ceylon. Vertex always red, pronotum in the middle always green. ♀ more extended yellowish white than ♂. Forewing black, the veins green, hindmarginal yellowish white to the vertex. The median band, the stripe proximally widened into the cell, this area in the ♀ always, in the ♂ often connected at the hindmargin of the cell with the white median band, the black median band consequently interrupted. Hindwing yellowish white, in the ♂ with marginal band, in the ♀ with one or several submarginal spots. Hindwing beneath with black streak anteriorly in the cell. — ♂ variable. In the ♂-f. quadriasciata quadri-— ♂ and ♀ similar. Vertex and pronotum blue, neck red. Forewing green, rarely copper-red, distally black between affinis. the veins; a band behind the middle and a few small spots before the apex yellowish white. Hindwing yellowish white, with black marginal band, which rarely reaches to the middle of the margin. Beneath the forewing has a white subapical band instead of the small spots of the upper surface, and the hindwing has a row of spots before the anterior part of the distal margin. — South India.

C. affinis Guér. (7b). Vertex and neck red, pronotum green, rarely copper-red, distally black between affinis. the veins; a band behind the middle and a few small spots before the apex yellowish white. Hindwing yellowish white, with black marginal band, which rarely reaches to the middle of the margin. Beneath the forewing has a white subapical band instead of the small spots of the upper surface, and the hindwing has a row of spots before the anterior part of the distal margin. — South India.

C. auxo. Forewing above green, distally black between the veins. Hindwing beneath with black marginal band, which often incloses blue or white spots. — albata Moore, from North-West India and Nepal: albata. pronotum usually green in the middle; forewing pale brownish green in the basal half; the hindmarginal and often also the veins between base and band white; hindwing pure white, without black streak in the cell; the marginal band not reaching to the anal angle. — idaeoides H.-Schäff. (7b). Forewing much more glossy idaeoides. green or blue than in the preceding form; hindwing yellowish, more rarely white, distal margin blue, often a black streak in the cell, rarely an indication of an oblique band from this streak to the marginal band. Assam: Khasia Hills. — argentata Moore (= adalifa Walk. nec Doubl., virginalis Mén. nec H.-Schäff.) (7c), from Sikkim argentata. and North-East Assam. Forewing white at the hindmargin, this stripe widened basally into the cell; hindwing white or yellowish. — campa subsp. nov. Similar to albata, more vivid green and blue, the basal area of the campa. forewing posteriorly more broadly striped with white, the distal margin of the yellowish hindwing broader, usually widened posteriorly, the widened part proximally diffuse; cell of the hindwing beneath with a broad black streak; pronotum red. Tonkin. — diana Btvr. (7c), from Formosa; likewise small; the blue-green basal diana. area of the forewing incloses posteriorly to the cell a large white patch, which is separated from the broad median band by two black, blue-edged spots and from the hindmargin by a blue streak, this white patch very distinct also on the upper surface; hindwing with a black streak in the cell, at least beneath. — In auxo L., auxo. (= tiberina C.r., pectinicornis L.) the forewing above and beneath is black and green-blue, the white median band is narrow; the hindwing has beneath a very large black spot in the cell and is also above suffused with black in the cell and posteriorly before the distal margin: in ab. thallo L. (= guerini Krb., pectini- thallo. cornis Guér.) the hindwing is for the most part black, only a lunular patch at the end of the cell is purer white. In South-East China.
C. phalaenaria. Agreeing in structure with C. auxo L., perhaps not specifically different. Under surface of the hindwing usually much deeper yellow than in any specimens of the various forms of auxo. Forewing above yellowish white from the hindmargin to the cell, also the costal margin white at the base. Distributed from Borneo to Java. Larva yellow, with thin brown longitudinal lines; head brown, prothorax dark yellow, the tubercles on the mesothorax black. In Java on Symphocas fasciulata. — birmanica

birmanica. Forewing in ♂ and ♀ with three black spots, suffused with blue, behind the cell, these spots distally to the cell-spot, consequently the white band which separates them from the basal area much more strongly broken than in C. auxo; these spots on the under surface still larger than above, in the ♂ usually extended to the base; veins above blue in the distal part; marginal band of the hindwing not interrupted above. Lower Burma. — annamitica subsp. nov. (♀, not annamitic). Forewing as in the preceding subspecies, the dark parts suffused with pale green-blue, with the exception of the spots between the veins of the second band; the white subapical band beneath twice as broad as the postdiscal black and blue band and almost reaching to the hinder angle. Marginal band of the hindwing above broken up into spots, beneath reduced to a narrow submarginal band, neither above nor beneath extending beyond the first submedian. South Annam. — latifasciata Btlr., from the Malay Peninsula and Penang; the black markings suffused with blue, much reduced; forewing above with 2 spots behind the cell, these spots beneath absent or there is only an indication of one; postdiscal band very narrow and like the narrow marginal band broken up into spots by the white veins; forewing before the distal margin with a row of spots, which beneath reaches farther backwards than above. — coliadoides Walk. The yellowish submarginal band of the forewing is very narrow above and beneath, especially in the ♀ very much narrower than in latifasciata.

coliadoides. Borneo, Sumatra and Nias. One of our Borneo ♀ has pure white ground-colour. — obtusa subsp. nov., from Palawan; only one ♀ known. Forewing more obtuse than in Borneo ♀, the marginal area more strongly blue, the veins yellowish white only close to the margin and the upper ones not at all, the yellowish white submarginal band continuous, nearer to the margin and the two blue and black discal spots larger than in the ♀ of the preceding form. More resembling the ♂ than the ♀ of coliadoides, and still more the Javan ♀. — enganica subsp. nov., from Engano, also only one ♀ known. In the forewing the cell-spot and the two discal spots larger than in all the other Malayan forms of this species, the discal spots distinct also beneath; yellowish white submarginal band somewhat broader than in the ♂ of coliadoides; marginal band of the hindwing only posteriorly crossed by narrow white veins, extending to beyond the 2. median. — phalaenaria Guér. (= pulchella H.-Sch.) (♀), from Java. In the forewing of the ♂ above only a few small white submarginal spots, the veins in the marginal band not yellowish white, the cell-spot and the discal spots small, the marginal band of the hindwing not broken up into spots and not separated from the margin. The ♀ somewhat similar to the Borneo ♂, the yellowish white submarginal line of the forewing nearer to the margin and the veins less broadly yellowish white than in coliadoides.

phalaenaria. C. nympha. Very similar to the following species, perhaps only a variety of it. Forewing white from the base to the apex of the cell and the anal angle, a basal costal streak and the veins in the distal part of the wing copper-red; a cell-spot and one or two smaller spots behind the cell black, shaded with blue; hindwing white, with narrow submarginal band, which does not reach to the anal angle, beneath without blue-black patch in the cell. — paviei Forij. (♀ erroneously written parvici), from Laos, has small white subapical spots on the forewing. — In nympha Moore, from Hainan, these spots are large.

paviei. C. sulfusa. Veins of the forewing above copper-red, at least in the distal part; hindwing beneath aemula. with blue-black streak in the cell. China and Formosa, southwards to Annam. — aemula subsp. nov. Similar to C. paviei, larger, wings broader, forewing with larger middle spots, the marginal area much broader, the marginal band of the hindwing broader and longer. On the underside the middle spots of the forewing are present, the 2. or also the 3. is prolonged to the base of the wing, in the latter case the whole base of the wing with the exception of the hindmargin blue; the cell of the hindwing has a black streak at the anterior margin. Central Tonkin. — subcincta subsp. nov. ♂: shape of the wings as in aemula, the dark markings more extended; the three middle spots of the forewing larger, the purple vein-streaks broader, the marginal band of the hindwing reaching to the anal angle, posteriorly quite suffused with blue. Hindmargin, a narrow median band and two small subapical spots on the forewing; cell-streak of the hindwing broad, the submarginal band extending a little way along the abdominal margin.

subcincta. Annam. — In thaeivana subsp. nov., from Formosa, the costal margin of the forewing is not white at the base, the black cell-spot and the two spots behind the cell are large, continuous; the white cell-spot is broader than the distal part of the white band; the white subapical band interrupted above and beneath; hindwing with small black cell-streak; upperside of the abdomen glossy blue. — hainana subsp. nov. (♀). Wings longer than in the three preceding forms, the basal part of the forewing striped. The hindwing, though often washed over with brown posteriorly before the distal margin, is never so extended brown as in the West China subspecies sulfusa Leech (see vol. II, pl. 2 e).

hainana. C. flavicollis spec. nov. (♀). ♂ and ♀ similar. Small; occiput and costal margin of the pronotum yellow; underside of the body and palpi white; upperside of the abdomen blue. Forewing above coppery
brown, without gloss, basal area with white vein-streaks; close behind the middle an oblique white band, which is pointed posteriorly, a short, interrupted subapical band and the hindwing likewise white; marginal band of the hindwing black-brown, posteriorly blue, uniformly curved and reaching to the anal angle. Under surface suffused with blue in the basal area of the forewing and posteriorly on the hindwing; the two bands of the forewing broader than above, the subapical band not interrupted; marginal band of the hindwing for the most part separated from the margin. — South Flores, found during the dry season in October and November; in the Tring Museum.

C. zehma H.-Schäff. (♀ = viridisuffusa Svin.) (7d). Not agreeing well with Chalcosia; the ♂ only zehma. known to me from the figure. Vertex and occiput red, abdomen blue. Forewing above grey-black, with straight white or yellowish band. Hindwing blue at the base, according to Snellen only in the ♀ with broad white band. — Borneo, Sumatra, Java. The citation of „Silhet“ as locality is doubtless incorrect. The figure described on pl. 7 as zehma ♂ is a copy of H.-Sch.‘s figure; it is a ♀ with white abdomen. Should such a form really exist in India („Silhet“), the name viridisuffusa must be used for the island form.

39. Genus: **Chalcothaedra** gen. nov.

Similar to Chalcosia; frons more strongly projecting, narrowed above; 8. abdominal segment of the ♂ above long, turned downwards, 7. ventral segment of the ♀ very narrow, the 7. dorsal segment reaching to the ventral side and the ventral edges projecting as parallel longitudinal ridges, between which the vaginal orifice lies. Forewing truncate, the 3. subcostal proximal to the 5. (in Chalcosia the 3. subcostal distal to the 5.); anal angle of the hindwing in the ♀ distinctly projecting, the distal margin emarginate before the anal lobe. — One North Indian species.

C. zuleika Doubi. (= corusea and corusea H.-Schäff.) (7d). Head, thorax and base of the abdomen zuleika. glossy green. Forewing with two yellowish white bands, separated by a black band, which has a golden green band centrally, base golden green, distal margin broadly black, veins green. Hindwing white, apex with short marginal band; beneath entirely white. Subbasal band of the forewing beneath pale yellow. — Common in North India: Sikkim, Bhutan, Assam; also in Burma; at medium elevations.


Similar in form to Fidorus. Frons broad, projecting. Antenna in ♂ and ♀ with long pectinations, bushy to the tip; 8. abdominal segment of the ♂ above long, turned downwards, 7. ventral segment of the ♀ very narrow, the 7. dorsal segment reaching to the ventral side and the ventral edges projecting as parallel longitudinal ridges, between which the vaginal orifice lies. Forewing truncate, the 3. subcostal proximal to the 5. (in Chalcosia the 3. subcostal distal to the 5.); anal angle of the hindwing in the ♀ distinctly projecting, the distal margin emarginate before the anal lobe.

R. bocchi Svin. (7e). Black; thorax and a broad costal stripe on the forewing, distally curving to bocki. the hinder angle, red; underside of the body and some vein-streaks slightly metallic blue. — Burma. In China are found costata Walk. and rubiginosa Leech. See vol. II, p. 10, pl. 2c.

41. Genus: **Retina** Walk.

Frons less projecting than in Eterusia and broader, at least as broad as long; pectinations of the antenna in ♂ and ♀ distally decreasing in length, in the middle also long in the ♀. First segment of the middle and hindleg longer than the other joints together. Forewing narrow; hindwing triangular, hindmargin short, distal margin straight, in the ♀ slightly emarginate; neuration as in Eterusia, the 2. and 3. radials of the hindwing stalked or from a point.

R. rubrivitta Walk. (7e). Body black-green, beneath grey; collar red; forewing black-green, a broad rubrivitta. streak from the base to the distal margin red. — Sikkim; Assam.

R. vitripennis Joann. (7e). Similar to the preceding species, both wings narrower, with transparent vitripennis. central longitudinal area, hinder angle of the forewing completely rounded off. — Tonkin; Cambodia.

42. Genus: **Phlebohecta** Hamp.

Form as in Retina. Antenna with short pectinations in the ♂, the pectinations distally long, as in Eterusia. The 3. subcostal of the forewing wanting; the 2. and 3. radials of the hindwing separated. — Indo-Malayan.

P. fuscescens Moore (7e). Greenish black-brown; collar broadly pale red; wings anteriorly and distally fuscescens. very narrowly edged with grey, hindwing in the ♂ beneath white except a broad streak behind the costa; in the ♀ above and beneath white from the hindmargin to the cell. — Sikkim; Bhutan; Assam.

P. lithosina. Both wings at the costal margin and the hindwing distally bordered with yellow; hindwing without white area. Sikkim; Burma; Borneo. — flavicosta Elw., from Sikkim. Distal margin of the hindwing flavicosta. rather broadly yellow. — lithosina Fldr. (= lithosia Oberth.) (7f), named flavicosta on the plate) is from lithosina Burma and Borneo (teste Felder). Distal margin of the hindwing quite narrowly whitish yellow.
P. lypusa spec. nov. (7f). Blue-black, abdomen blue, without metallic gloss. The tip of the antenna and of the tarsi, the margin of the abdominal segments laterally and the fringes at the apex of the wings white, as also an elliptical spot in the apex of the cell of the forewing and a somewhat larger triangular spot proximally to the middle of the hindwing. The 2. and 3. radials of the forewing from the cell. — Tamah Massa, Batoe Islands, 1 ♀ in the Tring Museum, found in September by Kannegieeter.

cuponia. P. (?) cuponia Svinh. (7f). Head, thorax and breast rough-haired; in the forewing the 3. subcostal present, much more proximal than the 5., in the hindwing the lower angle of the cell projecting beyond the upper; scales short, rounded. ♂ black-brown, collar grey, costal margin of the forewing grey-yellow, at the base reddish, as are the patagia, not far from the base a black transverse line. Hindwing yellow-edged, with a red stripe behind the costal margin. ♀ pale, body as in the ♂; forewing pale brown, the veins lighter, the black subbasal line standing out sharply; hindwing yellowish white. — Assam. The species probably represents a separate genus.

43. Genus: HEMISCIA gen. nov.

Antenna with long pectinations, those of the last segments being short. In the forewing the 3.—5. subcostals stalked together, the 3. subcostal proximal to the 5., the 2. and 3. radials from the cell; otherwise similar to Pidorus. Distinguished from Herpa in that the upper angle of the cell does not project beyond the lower and the distal pectinations of the antenna are shorter. The sexes rather different. — New Guinea and Woodlark.

H. meeki. Body of the ♂ above green, moderately glossy, collar orange-yellow at the base, underside yellowish white; in the ♀ antenna, head, thorax, first abdominal segment, underside and legs glossy green-blue. Abdomen above dirty whitish yellow. Wings purple-black, the base blue, in the ♂ the forewing with a narrow white band and the hindwing with a triangular spot of the same colour, which is continued along the costal margin towards the base, posterior half of the hindwing blue; in the ♀ a very broad white band across both wings. New Guinea and the small neighbouring eastern islands. — meeki Rothschild, (7g), of which alone we know both sexes, has in the ♀ two small distinct white double spots before the apex of the forewing and the distal margin of the white area of the hindwing crosses the apex of the cell distally to the point of origin of the 3. radial. Woodlark. — fergussonica subs. nov., from Fergusson, D’Entrecasteaux Islands, is differentiated from the meeki ♀ by the rather larger double spots of the forewing and the broader black margin of the hindwing, the inner edge of this marginal band crossing the apex of the cell proximally to the point of origin of the 3. radial. — In acelis subs. nov., from British and German New Guinea, the double spots of the forewing are only indicated and the marginal band is somewhat broader even than in fergussonica. Of the last two subspecies only a few ♀ are known.

H. albivitta. Body and base of the wings glossy green-blue, underside of the abdomen grey-yellow. Eye glabrous as in Pidorus. Wings purple-black; forewing in the ♂ with short, in the ♀ with complete white band; hindwing with or without white area. — In acrita Rothschild, from Etna Bay, Dutch New Guinea, the ♀ (the ♂ is unknown) has a curved, blue-edged band, and on the hindwing from the hindmargin to near the costa a large white area. — mambarensis subs. nov., of which we also only know one ♀, has on the forewing an almost straight band, placed more proximally, and accompanied on the distal side by a few blue scales; on the hindwing, as in the preceding form, the white area reaches from the hindmargin almost to the costal margin, but the distal part of the wing is much more broadly black. On the upper course of the Mambaré River, at the north-east side of the Owen Stanley Range, in British New Guinea, at an elevation of about 5000 ft. — imusa Rothschild, from Dorey, Dutch New Guinea, resembles the following form, but the white area of the hindwing is suffused with black on the upper surface; the ♂ is not known. — albivitta Rothschild, (7f), from Milne Bay, British New Guinea, has in the ♂ a short white band on the forewing and a white central area on the hindwing; in the ♀ the band of the forewing is very broad, whilst the white area of the hindwing is absent or only indicated.

44. Genus: HERPOLASIA R. & J.

Thorax rough-haired. Frons strongly convex. Palpus very short. Pectinations of the antenna gradually becoming shorter towards the tip. The 1. subcostal of the forewing anastomosing with the costa, the 2.—5. subcostals stalked, the 3. arising near the cell and the 3. near the margin, discocellulars deeply angled, the 2. and 3. radials from the cell; in the hindwing the discocellulars oblique from the subcostal to the 2. radial, feebly or not at all angled, the 2. radial from the apex of the cell, the 1. radial a direct prolongation of the cell-vein, or arising somewhat behind it. — New Guinea.

albomedia. H. albomedia Rothschild, (7g). One ♀ from Kapaur, Dutch New Guinea. Head and tip of the abdomen yellow. Wings purple-black. Anterior part of the thorax, a broad longitudinal stripe on the forewing and the larger part of the hindwing white; rest of the body, abdominal margin of the hindwing, the distal margin of the white area of the hindwing and the underside with the exception of the distal margin blue-green.
41.

**H. augarra** R. & J. (7g). One pair from the Angabunganga River, a tributary of the St. Joseph augarra River, on the south side of the Owen Stanley Range in British New Guinea, found at an elevation of over 6000 ft. Purple-black, base of the collar and tip of the abdomen yellow, in the ♀ the frons and a spot on the patagia white. Forewing behind the costal margin from the base to the apex above with 4 white spots in the ♀, 2 in the ♂, beneath with 3 in ♂ and ♀. Hindwing blue, with black margins, and in the ♂ with one large and one small white spot.

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45. **Genus: Caprima Walk.**

Head broad, frons only slightly convex, almost square; palpus short; antenna in ♂ and ♀ pectinated, the pectinations gradually shorter from the middle. In the forewing the 3. subcostal is absent or is very short, the 4. and 5. subcostals are stalked, the 1. radial from the cell or from the stalk of the 4. and 5. subcostals, the 2. and 3. radials from the cell; in the hindwing the subcostal separated from the costa, running obliquely from the short connecting vein (= 1. subcostal) to the upper angle of the cell, the 1. radial present, discocellular between 1. and 2. radials sharply angled, the 1. median far proximal to the apex of the cell. — Papuan Subregion, not yet known from North Australia. Some of the species are confusingly like Lithosiids from the same localities.

**C. gelida.** Black, purple, underside of the body and base of the forewing slightly metallic green; frons, forecoxa and an area on each wing white. Forewing with red-brown area before the distal margin; hindwing before the apex above and beneath or only beneath with a red-brown spot. Dutch New Guinea. — In *gelida* Walk. (7h), from Mysol, Ron and the mainland, the hindmargin of the hindwing is white from *gelida*, the base at least to the middle. — In *calida* Oberth. (7h), from the island of Jobi, the hindmargin of the *calida* hindwing is black.

**C. dohertyi** Rothsch. (7h). Black; purple above; collar, frons and a part of the underside yellow- dohertyi. grey. Wings with large yellow area; the forewing in addition with a posteriorly narrowed yellow-red band before the distal margin, and the hindwing beneath with a grey spot at the apex. — Kapaur, Dutch New Guinea, 1 ♀ found by Doherty in January.

**C. albifrons** Rothsch. (7h). Smaller than the preceding species; thorax and abdomen unicolorous albifrons. blue-black; the yellow band of the forewing extended almost to the costal margin, the yellow-red band reduced to a large subapical spot; the yellow area of the hindwing triangular, much smaller than in *dohertyi*; hindwing beneath without grey apical spot. — New Hanover, Bismarek Archipelago, found from February to March.

**C. aurantiaca** Rothsch. (7h). Body blue-black. Forewing above purple-black, with a reddish yellow aurantiaca. transverse area near the base and a large curved red-yellow spot before the apex. Hindwing reddish yellow, distally and posteriorly edged with black. — Sudest Island, Louisiades.

**C. mutilata** Walk. (7h). Purple-black, abdomen beneath yellow-grey, legs and breast grey-brown. mutilata. Forewing with 2 yellow patches, one placed before the hindmargin near the base, the other running transversely across the end of the cell, not reaching either costal margin or hinder angle. Hindwing with broad yellow central area, which reaches from the base (where it is extended to the costal margin) nearly to the distal margin, and is distally narrowed. — Dutch New Guinea: Mysol, Dorey, Ron, taken by Doherty in April near Dorey and in July on Ron.

**C. obliqua** Rothsch. (8a). Purple-black; head with the exception of a spot behind the antennæ, obliqua. breast and femora clay-yellow. Forewing with 2 parallel oblique yellow bands, which reach neither costal margin nor hindmargin. Hindwing from the base with a yellow central area, which extends nearly to the distal margin, but neither above nor beneath reaches the costal margin. — Milne Bay, British New Guinea, taken by A. S. Meek in November and December.

**C. cincta** R. & J. (8a). Purple-black; legs brownish. Forewing with a yellow basal streak and cincta. before the end of the cell a short, narrow yellow band, usually broken up into 2 spots, which is sometimes only indicated. Hindwing with a large obliquely-placed yellow central area, distally rounded, which does not reach the base, but proximally extends nearly to the costal margin. The yellow markings on the under surface somewhat larger than above, the narrow band of the forewing not interrupted. — British New Guinea, on both sides of the Owen Stanley Range, from 5000 ft. upwards.

**C. thaumasta** spec. nov. (8a). ♀: body metallic green; antenna blue. Wings above purple-black; *thaumasta*. forewing with blue and green metallic stripes at the base, a broad band occupying the distal third glossy blue, in the band an oblique white transverse patch, apex of the wing purple-black. Hindwing with a glossy blue band just before the distal margin, which is narrowed posteriorly. Under surface of the forewing at the costal margin and around the white spot, as well as the greater part of the hindwing blue, middle of the hindwing and the narrow distal margin purple-black. — Korrido, Schouten Islands, Geelvink Bay.
C. spectabilis Roths. (8a). Purple-black, in the ♂ the frons, the fore part of the collar; the legs and the underside of the abdomen dirty pale yellow, in the ♀ head, thorax, breast and legs glossy blue, abdomen beneath yellow, above as in the ♂ with thin yellow rings. Forewing at the end of the cell with yellow transverse band, which is somewhat shorter in the ♂ than in the ♀ and does not quite reach the hindmargin. Hindwing with large yellow central area, which reaches from the base nearly to the distal margin and at the base is extended to the hindmargin. Beneath both wings with blue submarginal band. The 3. subcostal of the forewing present, short, in all the other forms of this genus absent. — British New Guinea.

46. Genus: Aphantocephala Fldr.

Head broad; frons almost square, projecting very little; palpus short; antenna in ♂ and ♀ pectinated, the pectinations of the distal segments shorter. Forewing much longer than hindwing, the 3. subcostal wanting, the 4. and 5. subcostals long stalked, the 1. radial from the cell, the 1. median far before the angle of the cell, sometimes the 1. subcostal anastomosed with the costa and the 2. subcostal from the angle of the cell or stalked with the 4. and 5.; the subcostal of the hindwing coincident with the costa, then branching off at a right angle, the cell straightly truncate, somewhat angled between the 2. subcostal and 2. radial, the 1. radial absent, lower angle of the cell obtuse, the 2. radial proximal to the angle. — Moluccas, New Guinea and Solomon Islands. Easy to recognise by the right angle which the discocellular of the hindwing forms with the costa.

A. moluccarum Fldr. (8a). Black-brown, abdomen and antenna above somewhat metallic blue-green, underside of the abdomen yellow. Wings unicolorous black-brown, not densely scaled. — Ambon, found by Doherty in February.

A. centralis. Body and wings black, with purple and green sheen, legs partly dirty grey-yellow. Both wings with white central area. In New Guinea and on the small neighbouring islands, and perhaps the Solomon Islands. — In diluta Roths., from Dutch New Guinea (Kapaur), the white area in both wings is large, that of the hindwing being broader than the brown-black distal margin. — centralis Roths., from British New Guinea and the D'Entrecaustes Islands, has smaller white areas; the area of the forewing does not extend distally beyond the base of the 2. median and that of the hindwing is at most as broad as the distal marginal band. — suffusa subsp. nov. (8a) comes from the Louisiade Islands St. Aignan and Rossel. The white area of the forewing is more distal than in the preceding subspecies or smaller, the area of the hindwing especially on the upper surface is washed over with black, and consequently less distinct than in the other forms.

A. solitaria spec. nov. (8a). Like the preceding species, but entirely purple-black; wings centrally thinly scaled, semitransparent, without white scales. — New Georgia, Solomon Islands; 1 ♂ in the Tring Museum.

A. fragilis Roths. (8b). Head, collar, basal half of the abdomen, the whole underside of the body, the legs and a broad band running over both wings yellow, this band beginning at the costal margin near the apex, distally twice curved on each wing. Rest of the wings and the antennae purple; tip of the abdomen purple-black. — Ron Island, Geelvink Bay, July 1897.

D. Subfamily: Zygaeninae.

Foretibia with spur, which usually extends beyond the tip of the tibia. Tongue present. — The species are all small insects, only a few exceeding our Zygaena filipendulae in size. The wings are usually elongated; the hindwing is often small and in many species the upper radial (Herrich-Schaeffer's vein 6) is wanting. Some forms, especially those with vitreous patches, are deceptively like certain Syntometrids and some of them have been described as such; but they are distinguished by the distinct upper hindmarginal vein. The larvae of only a few forms are known. They live free on leaves and pupate in a tough, thick cocoon, which is fastened on a somewhat rolled-in leaf or on a stem. Several species live on the cocoanut palm and allied monocotyledonous plants and sometimes occur in such numbers as to do serious damage. In general the exotic Zygaeninae are rare in collections; they are mostly only taken in quite small numbers. These small forms easily escape the observation of the tropical collector, whose eye is diverted by the butterflies, and many of the species also appear to occur sporadically and only to fly a short time.


Antenna of the ♂ pectinated, simple towards the tip, in the ♀ beneath compressed lengthwise, feebly dentate. Palpus long. Legs slender, hindtibia with 2 pairs of spurs, of which the first pair is placed in the middle or in the second third of the tibia and is always at a distance from the terminal pair. The 1. radial of the hindwing absent, the 2. median rather near the angle of the cell, the 3. radial and the 1. median stalked together (Bracharton) or separated, intergrades effacing the separation of the species into two groups by this character. — Larva found by Piepers on Bambusa and Cocos, as well as another plant
not determined with certainty; which in Java is called Dawon-oundjek (perhaps a species of Pittosporum or Caryodaphne). The Pupation takes place on a leaf in a flat, parchment-like cocoon.

The genus is Indo-Malayan and extends northwards to North-East Tibet, whilst Celebes is the most eastern locality. The species are easy to recognise by the two widely separated pairs of slender spurs on the hindtibia and by the antennae.

**A. hypomelas** *spec. nov.* Thorax above yellow, with a large black spot front and back on the metanotum; breast, legs and underside of the abdomen blue-black; upperside of the abdomen in the ♂ yellow and ringed with black, in the ♀ yellow, the end-segment entirely purple-black. In the forewing the two subapical spots completely merged together into a slightly reniform patch, the two posterior discal spots united to a rounded patch. Hindwing in ♂ and ♀ yellow, with black marginal band and black subcostal streak, which does not reach the marginal band. — Mandi, North-West India, and Chumbi Valley, Sikkim.

**A. walkerii.** Antenna yellow before the tip. Abdomen in the ♂ above black with yellow rings, beneath for the most part yellow, in the ♀ beneath entirely black or the segments margined with yellow; penultimate segment in ♂ and ♀ above and beneath black; forewing with 6 or 7 yellow spots, the two outermost separated, rarely confluent. — In the Javan race, *walkerii* Moore, the black band of the hindwing is rather broad and the abdominal segments in the ♀ above are thinly margined with black. — *nigrescens* nigrescens. Btlr. (8b), from North India, has somewhat less black on the hindwing than the Javan form and the abdomen of the ♀ is not ringed with black above, only the penultimate segment being black. In ab. *confusa* confusa. Btlr. the two subapical spots of the forewing are united into a reniform spot. — *hainana* Btlr. has in the ♀ *hainana*, somewhat larger yellow spots than the ♀ of *nigrescens*; from Hainan and Tonkin. — *baliensis* *subsp. nov., baliensis*. Marginal band of the hindwing narrow, abdomen of the ♀ above entirely yellow. Bali, ♀ in the British Museum.

**A. fulvida** Btlr. (8b), from North India and Burma, is very similar to the preceding species, but smaller; abdomen in the ♂ above black with yellow rings, beneath yellow, with indications of black rings, the penultimate segment black, the 1. ventral segment almost white, in the ♀ on the contrary the abdomen above and beneath is yellow, the penultimate segment however is black beneath and laterally, the ventral plate of the 4. segment is also more or less black, whilst the two following segments are entirely yellow or only have small black lateral spots. The two subapical spots of the forewing are united into a reniform patch, but are separated in ab. *diffusa* Obertl., from Burma.

**A. zebraica** is more slender and smaller than the preceding species; abdomen above in both sexes ringed with black, beneath in the ♂ yellow, with some black, in the ♀ beneath black, with or without yellow margins to the segments. Antenna with white spot before the tip. Hindwing of the ♂ often hyaline in the middle. The anterior subapical spot of the forewing larger than the posterior one, in the ♀ the spots usually united into a reniform spot. — In *zebraica* Btlr., from North-West India, the underside of the abdomen in the ♂ shows distinct black lateral spots and the penultimate ventral plate is entirely black; in the ♀ the ventral segments are margined with yellow. — In *khasiana* *subsp. nov.* (8a), from Assam, the abdomen in the ♀ is entirely black beneath, whilst in the ♂ it is more extended yellow than in the preceding form, the yellow colour also occupying the middle of the penultimate ventral segment. — *guttata* Snell., from Sumatra. The subapical spots of the forewing separated; on the hindwing 2 black stripes run from the distal margin to the base, one behind the costa, the other behind the cell; the black bands of the 3.—6. abdominal segments interrupted above.

**A. zebra** Elwes. With broader wings than the preceding species; abdomen in the ♂ (the ♀ is not zebra known) black, with faint whitish wings. Forewing with 4 yellow spots, of which the subapical spot is composed of two. Hindwing with yellow central longitudinal spot. Fringes yellow, except at the apex of both wings. — Sikkim, 10,000 ft., in coll. Elwes.

**A. refulgens** Hamp. (8b). The body coppery; abdomen ringed with white. Wings black; forewing with a copper-coloured basal spot and 4 yellow spots, of which 2 are placed before the middle and 2 distally to it. Hindwing yellow, bordered with black, the yellow area interrupted by a band running obliquely from the apex of the cell to the distal margin. — Burma; in the Museum at Genoa.

**A. discivitta** Walk. (8c). Forewing with a rather large subapical spot and a longitudinal line, which reaches from the base almost to the hindwing spot. Hindwing with longitudinal patch from the base to beyond the middle. These markings pale yellow. — Only the ♂ known. Almora, North India, and the Nilgiris.

**A. lucasseni** Snell. (8b) is easy to recognise by the yellow longitudinal patches of which there are 3 each on forewing and hindwing. Abdomen above black, with yellow spots (♂), beneath yellow. According to Snellen the sexes alike (is the ♀ really known?). — Java. The larva found by Prepens on Bambusa; not described.

**A. pulchra** Drury. This Chinese form is only known to us from Derry’s figure. Forewing with five yellow spots, the outermost rounded, the posterior one elongate wedge-shaped. Hindwing with broad black distal margin.
flavipuncta. A. flavipuncta Hamps. (8c). First pair of spurs of the hindtibia at 2/3 of the tibia. Antenna without yellow spot. The 3. radial and 1. median of the hindwing stalked or at least arising close together. Abdomen in ♂ and ♀ ringed, or in the ♀ almost entirely black. The yellow markings of the wings much smaller in the ♂ than in the ♀; forewing with 2 streaks at the base and 2 spots placed obliquely to one another in the distal half. — Assam.

catoxantha. A. quadrisignata Snell, resembles the ♀ of flavipuncta, but has less yellow on the hindwing. — Java. Piepers found the larva in West Java on a plant called by the natives Dawon-oundjek, perhaps Pittosporum or Caryodaphne densiflora.

sikkitnensis. A. sikkitnensis Elw. Similar to the ♀ of flavipuncta; hindwing with yellow longitudinal patch in the middle; abdomen beneath yellowish. — Sikkim, found in July, at an altitude of about 12,000 ft.; coll. Elwes.

quadrimaculata. A. quadrimaculata Moore (8c). Forewing above with roundish yellow spot on the disc; a longitudinal patch of the same colour, distally widened as in discivitta, on the hindwing. Fringes yellow; the 3. radial and the 1. median of the hindwing stalked, as almost always in broad-winged species. — North-West India.


postvitta. A. postvitta Moore (8c). Unicolorous black; hindwing with white median streak and white fringes. Legs ringed with white. — Calcutta; according to Moore also in Sikkim.

sythoffi. A. sythoffi Snell, (8c). Brown-black. Antenna and middle of frons pale yellow, as also the base of the collar, the breast, legs and underside of the abdomen. Wings unicolorous; the fringes grey. Hindwing beneath with yellow patch. The antennae of the ♂ are said to be simply filiform (Snellen), which can scarcely be correct. — West Java, 15—1600 m.

chorista. A. chorista spec. nov. (8c). ♀: body, antenna, palpus and legs greenish blue, metallic, but only slightly glossy. Proboscis yellow. Wings above purple-brown, the forewing with very slight metallic sheen; fringes paler. Under surface unicolorous grey-brown, with slight greenish tinge. The 3. radial and 1. median of the hindwing stalked or from a point. — Khasia Hills, Assam.

lugubris. A. lugubris spec. nov. (8c). ♂: body above purple-brown, slightly blue; underside of the head, the breast (with the exception of the middle), the abdomen beneath, the coxae and femora, partly also the underside of the tibiae and tarsi yellow, sides of the frons, underside of the 1. segment of the antenna and middle of the frontal prominence likewise yellow. Wings above purple-brown, forewing somewhat bluish like the body; fringes grey. Under surface grey-brown, hindwing darker; a costal streak near the base of the forewing, a similar one behind the middle of the hindwing and a third in the cell of the hindwing yellow. The 3. radial and 1. median of the hindwing arising close together or stalked. — Khasia Hills, Assam.

microstigma. A. microstigma spec. nov. (8c). Similar to cyclops Stgr. (vol. II, pl. 3d). Upperside of the body and of the wings purple-brown, slightly metallic. Head, with the exception of the broad middle part, the whole underside of the body and the femora yellow. Antenna from beyond the middle nearly to the tip pale yellow. Forewing above with yellow stigma; fringes of both wings grey-white; hindwing in the middle from the base to the cell more thinly scaled, therefore appearing greyish here. Under surface with yellow markings; on the forewing a stigma and before this at the costa a similar spot, which is contiguous with a long costal streak; hindwing with costal streak from the base to the apex and a shorter streak behind it. The 3. subcostal and 1. median of the hindwing from a point or short-stalked, the angle of the cell produced into a point. — Both sexes from the Khasia Hills, Assam.

flavigula. A. flavigula Hamps. (8c). Body above glossy green-blue, underside as well as the middle and hind femora yellow. Forewing above in the basal third bronze-green, in the middle blue, distally almost black; a small yellowish stigma; hindwing in the basal third glossy blue, inclusive of the whole abdominal margin; fringes white. Beneath both wings metallic, with the exception of the apical part to the extremity of the cell, especially the hindwing glossy; a white stigma on both wings, the hindwing in addition with a white cell-patch. The 1. median and 3. radial of the hindwing stalked. — Khasia Hills.

catoxantha. A. catoxantha Hamps. Body and wings above blackish olive-colour; frons, palpus, underside of the body and the legs yellow, a spot in the middle of the frons blackish. Antenna short. Under surface of the wings
paler than above; forewings with a pale yellow costal streak, which expands before the end; a broad yellow costal border to the hindw. Tenasserim, Singapore; Java. Larva injurious to coconutt palms, has a broad whitish dorsal stripe, which contains three dark longitudinal lines. Cocoon flat, parchment like; duration of pupal stage 11-14 days.

**A. posthyalina Hamps.** Very like *A. funerulis Hblr.,* the second median vein of the forewings nearer posthyalina. to the first. Body black; antennae and the borders of the abdominal segments bluish. Forewings brownish black, the veins black. Hindwings black, and transparent from the base to beyond the lower corner of cell. Sikki; 2 ♂ in the Elwes collection caught in April.

**A. pluristrigata Hamps.** (Sd). Body black and yellow. Forew. with yellow streaks; h. w. proximally yellow with black veins, distally black with short yellow streaks. — Pulo Laut, south east of Borneo; 1 ♂ in the British Mus.

**A. celebensis spec. nov.** (Sd). Body above metallic blue, the head and antennae being especially bright and shining, the latter large with a long white streak behind the middle followed by a white spot. Underside of head, palpi, middle and hindlegs, base of the middle and hindtibia as well as the creast and belly cream colored, the tarsi with similar ends. Uppersides of wings purple brown, fringes white, hindwings with a white central streak. Forewings beneath suffused with white basally, especially behind, the tips purple brown like the hindwings, with a weak blue sheen; hindwings with a white smudge on the median vein and undecided streaks on and behind the costal border. The first pair of spurs on the rear tarsi are just behind the hindmargin. The 3rd radial and 1st median veins of the hindwings very shortly stalked. — South Celebes, 1 ♀ found by Doherty in August or September 1891.

2. **Genus: Clelea Walk.**

Antennae of ♀ pectinated, weakly toothed at the end, simple in ♂, and grooved in lengthwise beneath. Palpi short. Forehead slightly protruding. Hindtibia with two pairs of spurs, the first pair at about 3/4 or 4/5 of the tibia, the long spurs reaching generally to near the base of the apical spurs. Veins of both wings arise from the cell, the lst. radial of the hindwings is generally present in the blue spotted forms (*Clelea*), but wanting in the white spotted forms (*Chrysochars*). India to New Guinea; China.

**C. sapphirina Walk.** (Vol. 2, Pl. 3h). Forewings with two basal streaks by which one is situated below the costa and the other on the hind margin, a transverse band before the centre and three spots in the outer portion of the forewings, of which the two upper ones form an ellipse, which is broken on the inner and outer border and further a well defined thin submarginal line, all of which are metallic blue. Hindwings brownish black, with or without a blue streak. Undersides with several blue smudges. The extent of the blue sheen on the body is variable. China, North India.

**C. discriminis Swinh.** (Sd). Very similar to the former, smaller, the basal streaks or all markings of *discriminis*. the forewings greenish, the second basal streak is situated on the median vein and not on the hind margin: the submarginal line not so sharp, frequently only just indicated or entirely wanting. North India.

**C. chala Moore** (Sd). The markings of the forewings are connected with one another to form a network; chala. undersides, especially of the forewings with the blue much extended. The lst. radial vein of the hindwings is wanting, as also the first pair of spurs on the hindlegs (Always?). Java.

**C. nigroviridis Elw.** Resembles chala, the markings green. Abdomen only weakly metallic at the base; nigroviridis. forewings beneath with a metallic streak in the middle, hindwings with extensive green blue. Hind legs with two pairs of spurs. Fringes grey. Northeast India and Burmah.

**C. refugens Hamps.** (Sd). Body above metallic green, bluish in front; breast bluish green; underside of abdomen copper coloured, antennae blue. Wings black; forewings from the base to nearly the middle of the wing metallic green, distally from the end of the cell a large green metallic spot, behind which more to the rear another small spot is situated: a weak submarginal line which is more bluish. Hindwings metallic blue from the hindmargin to the cell, the fringes white. Forewings beneath with a blue costal streak and a similar median streak. Hindwings mostly blue, but black from the apex to the tip of the cell, a thin blue well defined submarginal line, which is continued from the costal margin to the base. — Khasia Hills, Assam, Burmah.

**C. metacynaeana Hamps.** (Sd). Head, thorax, and the underside of the body lead colored, with weak violet metacynaeana, flush; undersides of abdomen and the forewings from the hind border to the cell metallic blue. The basal third of the uppersides of forew, a central band as well as a weak submarg. band lead colored, somewhat violet. Hindwings uniform brown. Beneath both wings have blue scales on the costal borders. Khasia Hills in Assam and Burmah.

**C. plumbeola Hamps.** (Sd). Body weakly metallic. Forewings with indistinct bands before the middle of the wing and an angled band in the outer third, both lead colored, with a sprinkling of white scales. Hindwings uniform brown. Beneath both wings have blue scales on the costal borders. Khasia Hills in Assam and Burmah.

**C. simplex spec. nov.** Antennae and body metallic green blue. Wings more pointed than in the former simplex species, the distal border more oblique; uppersides brown black, with a very faint purple tinge. without markings, undersides somewhat paler, also without spots. Khasia Hills, Assam; 1 ♀ in the Tring Museum.
C. stipata. 

*C. stipata* Walk. (8e). Body and antennae shining green or blue, abdomen with white transverse bands beneath; the metallic sheen is not always distinct all over. Base of forewings above and both wings beneath greenish blue, or striped with green blue, sometimes these stripes are only very faintly indicated. Forewings with two pairs of white spots, hindwings with one white spot in the middle near to the base, occasionally extending to the hind border, and a second before the tip of the wing. North India, Burma, Java.

C. variata. 

Body and base of wings with a faint metallic sheen, antennae as usual blue, thorax copper colored. Wings long. Forewings with 4, hindwings with two white spots. It is known from the

Papuan region, westwards to Sumba. It forms geographical races. — *variata* Swinh. (8e) from Dutch New Guinea: head with a white spots behind the eyes; the abdominal segments generally with a distinct white border, the proximal spots of the forewings long; the two spots of the hindwings large and connected with

fumosa. one another. — In *fumosa* subsp. nov. from the island of Mebo, in the Geelvink Bay, the white markings are suffused with black and therefore very indistinct; the spots of both wings smaller, the white borders of the

undersides of the abdominal segments are represented by pale brown scales. Only one ? known. — *separata* subsp. nov. The spots of the hindwings widely separated from one another, all the spots which are as distinct as in variata are traversed by black veins. From Milne Bay, in British New Guinea and the Key islands; a ? from Sumba, with larger spots belongs probably here, the abdomen of this specimen is purple beneath, the

amboinensis. first segment white; ?? from Key and British New Guinea are not known to me. — *amboinensis* subsp. nov. ??: the 1st abdominal segment dirty white laterally; the spots of the forewings small, the inner smaller than the outer, the latter rounded; outer spot of the hindwings large, the inner larger. Amboina, captured by Doherty in February 1892. — *guttigera* subsp. nov. ??: no white spot behind the eye; abdomen uniform purple brown; the spots of the wings reduced; the inner spot on hindwings suffused with black on the uppersides. Batjan, discovered by Doherty in August 1897.

C. privata. 

*privata* Moore (8e). Resembles the former species, is possibly only a western form of same. Collar white in front, a large white spot behind the eyes; abdomen above at the base more or less white, the 6th and 7th segments being frequently bordered with white. Java; Borneo; Philippines.

3. Genus: **Dendrocera** Hamps.

Small broad winged species: antennae of ♀ with long pectinations, simple in the ♂, somewhat roughly scaled beneath. Palpi very short. Hindtibia with only one pair of spurs. 1st radial vein of the hindwings wanting. Two Indian species.


**D. bipunctata** Hamps. (8e not **quadripunctata**). Body and forewings above greenish black with a faint sheen. Forewings with one pair of white dots in the outer region. South India.

4. Genus: **Homophylotis** Turn.

Forehead protruding, its outer border hollowed out. Eyes large. Palpi long. Antennae of ♀ pectinated with the exception of the tip, in the ♂ from the base to beyond the middle somewhat broadened, then again contracted, broader than in all related small Zygaenides, beneath as usual indented lengthwise. In the hindwings the 1st radial vein is wanting, in some species the 1st median and 3rd radial veins are coalesced. Rear tibia with one, rarely with two pairs of spurs, legs long and thin. From Malacca to New Guinea and Queensland, also occurring in Africa.

**H. melaleuca** spec. nov. Veins of the forewings arising from the cell; in the hindwings the 3rd radial and the 1st median stalked. Body above greenish blue, abdomen with a bright sheen. Forewings purple black ringed with white, the other legs white, ringed with purple black, palpi purple, with white points to the segments. Forewings above brownish black, purple, with a faint sheen. Hindwings milkwhite, iridescent, from the cell to the costal border black. Underside of forewings grey black the black costal border of the hindwings.

**H. melaleuca** interrupted and not reaching to the base. New Guinea. — In *melaleuca* (8e) the forewings are 10 mm long and the hindwings quite white with the exception of the costal border. A ♂ from the Angabunga river, British New Guinea captured by A. S. Meek at an elevation of 5000 ft. — *postica* subsp. nov. Smaller; hindwings with a brown streak on the border on the 2nd submedian vein. Bagger, upper reaches of the Maumbar river, in the north eastern portion of British New Guinea, 3 ♂♀, March, April at an elevation of 5000 ft.

**H. albiflilia** Hamps. (8e). Veins of forewings arise from the cell; in the hindwings the 1st median and the 3rd radial veins are stalked, the second radial arises from the stalk or from the sharply prolonged corner of cell. Brown; underside of the body white, rear tibia also with brown rings before the ends; front tibia and all the tarsi brown, white along the shaft, middle tibia white, brown at the base, wings brown with a faint blue sheen; hindwings in many specimens faintly grey transparent in the middle, fringes white. Undersides paler; the borders of the cell of the hindwings more or less broadly white; fringes white. Length of wings 4—6½ mm. Island of Ron; Ferguson; Tenimber; Ambina; Pulo Laut, South east Borneo; North east Assam-
H. nigra Hamps. Black; forehead, palpi, underside of abdomen and the legs partly yellowish white. Wings brownish black, with paler fringes; veins of the forewings arising from the cell, in the hindwings the 3rd radial and 1st median stalked. Underside of wings uniform brown black. Barmah 1♂ in the Elwes collection; the ♀ described by the author probably does not belong here.

H. sciara spec. nov. (8c). Veins in forewings free; in the hindwings the 1st median and 3rd radial are stalked, the 2nd radial free, but arising near to the stalk. Rear tibia with rudiments of spurs behind the middle. Upper side of body and antennae metallic bronze blue green; middle of the forehead, palpi, hips and underside of the body pale dirty yellow; legs purple on the upper and greenish on the undersides. Antennae white at the tip, these of the ♀ rather slender. Wings above brownish black; forewings purplish and faintly metallic. Hindwings with a transparent streak behind the cell. Undersides greenish brown; hindwings with white smudges; fringes white. Length of forewings 7½ to 8½ mm. A pair from Ambon, August 1892 (W. Doherty).

H. assimilis spec. nov. (8f). A ♀ from the Malacca peninsula (Gunang Ijau in Perak) is in color and neuration quite similar to sciara. The antennae are however much shorter and thicker and without the white spot. Underside of the body quite white; fore tibia brownish, middle and rear tibia with brown spots at the base and at the ends, tarsi with large brown spots. Hindwings from the base to the end of cell and from there to the rear portion of the outer border suffused with white, fringes as well as the outer border of wings white: the second radial close to the stalk of the 3rd radial and 1st median veins. Length of forewings 7½ mm.

H. annulipes spec. nov. ♀: black, the upperside of antennae and body faintly blue: the forehead, palpi, underside of the body and the middle and rear tibia pale yellow, the end of the tarsi and tibia, the underside of the tibia near the base, a half transparent streak on the hind border of the cell of the hindwings, and a round spot on the upper corner of cell on the underside of the wings as well as the fringes of both wings white. The rear tibia with two pairs of spurs, the first pair before the middle. The 3rd radial of the hindwings with the 1st, median with a somewhat long stalk. Resembles sciara and assimilis. A ♀ from Pulo Laut, southeast of Borneo in the Tring Museum, caught by Doherty in June 1891.

H. thyridota Turn. (8e). In the forewings the 3rd and 4th subcostal are stalked; the 3rd radial and the 1st median coalesced. Blackish brown; upperside of body and forewings bluish, faintly metallic; Hindwings from the centre of the base to beyond the end of cell transparent: these windows are composed of a small streak inside the cell and a broad one behind the cell, which latter is divided by the 2nd median vein. Sides and front of forehead, palpi and the larger portion of the underside of body whitish yellow; legs purple brown, white on the shafts. Underside of wings smoky grey, faintly purple; the window iridescent in a sidelight, fringes of the hindwings whitish. Length of forewing 6 mm. Batyan, August 1897 (W. Doherty); Cedar Bay and Kuranda, North Queensland.

H. purpurata spec. nov. (8f). Veins of both wings arising from the cell: the 1st median and 3rd radial of the hindwings coalesced. Upperside of the body and the wings metallic purple blue, somewhat shining. Underside of head, palpi, front thighs, middle and rear thighs and a broad streak down the breast and abdomen pale yellow; legs and underside of the wings greyish brown black, faintly purple. Length of forewings 4 mm. One ♀ from Milne Bay, British New Guinea, November 1898. (A. S. Meek).

H. xanthosoma spec. nov. (8f). Veins of both wings arising from the cell; in the hindwings the 1st xanthosoma. median and 3rd radial are coalesced. Body and wings above brown, faintly metallic. Face, palpi, legs, collar, the greater portion of the upperside of abdomen and the whole of the underside, a portion of the uppersides of the antennae and the middle of the hindwings, as well as on the undersides two streaks on the forewings and the greater portion of the hindwings pale yellow. Length of forewings 6 mm. Two ♀♂ from Mangoli, Sula Islands. October 1897 (W. Doherty).

5. Genus: Onceropyga Turn.

♀: Palpi very small. Antennae thickened and also in the ♀ slightly pectinated to the tip. Rear tibia without middle spurs. In the forewings all veins are present, the 4th and 5th subcostal stalked; in the hindwings likewise all veins are present, the subcostal and 1st radial separated. Resembles Homophylotis, but differs in the shorter palpi and in the antennae being pectinated up to the tip.

0. anelia Turn. ♀: blackish brown; palpi whitish; end of abdomen with a greenish metallic sheen. Forewings with a sprinkling of greyish white scales, which are gathered into an indistinct band in the middle and before the border. Hindwings blackish, thinly scaled, with blackish fringes. Expanse 15—16 mm. Toowoomba, Queensland in April. Not known to me in nature.


Antennae of ♀ strongly pectinated, simple at the ends, peculiar in the ♀, strongly swollen behind the middle and covered, with long hair scales, then again considerably contracted. Palpi very short. Rear tibia
with two pairs of spurs, the first pair being situated in the second third of the tibia. Abdomen of ♂️ with hairy tail. The 1st radial of the hindwings wanting, the 1st median far from the tip of cell. From India to the Amur.

**T. bipars** Walk. (8f). ♂️ and ♀️ similarly colored. Body above with a more or less faint metallic green sheen, especially the abdomen. Tongue yellow red. The narrow forewings purple brown, faintly bluish black. 2nd median indicated. The triangular hindwings are transparent, the borders and portions of the veins brown black. North India: Simla, Kangra, Khasia and Naga Hills in Assam.

**T. longipennis** Hamp. Very similar to the former species, somewhat smaller, tongue yellow; the 2nd median of the forewings completely developed up to the border; the hindwings with considerably more scaling in the centre of the wing, only half transparent, and the thinly scaled portion is not sharply defined. Bernardmyo, Burmah, 6—7000 ft. in May; one ♂️ in the Elwes collection.


Forehead slightly arched. Antennae in the ♀️ simple. Palpi very short. Rear tibia with one pair of short spurs. Forewings long and elliptical, all the veins in both wings arising from the cell; the 1st radial of the hindwings wanting. Indo-Malayan. The ♂️ not known.

**A. cyanescens** Hamp. (8f). Black. Forewings black with bluish tinge very faintly metallic; hindwings blackish brown. Undersides of both wings brown, the costal vein, the fringes and the border faintly greyish blue. 1 ♀️ in the Elwes collection from Moneit Burmah.

**A. compta** spec. nov. (8f). Brownish black; Antennae, head, collar, a few spots on the thorax and the whole upperside of the abdomen shining greenish blue. Abdomen beneath purple, here and there shining greenish blue. Uppersides of the forewings with four small greenish blue spots, one is situated on the cross vein, a second smaller outwards from it, and two before the hind border, moreover the costal border and the cell are dusted with greyish blue scales for about one third of the length of the wing. Both wings beneath have blue scales in the neighbourhood of the costal margin. Length of wings 10 mm. A ♀️ from South Flores, November (Dry season), in the Tring Museum.


Like *Phacusa* but the 1st radial of the hindwings present. Chiefly eastern palaearctic, only two species up to the present having been found south of the Himilayas. Larva resembles that of *Procris*, with low broad tubercles, which bear short hairs. In the Japanese *I. pruni* (1905) the upperside is pale, the underside reddish, a dorsal stripe and a subdorsal row of spots are black; head with black markings. Cocoon white, fastened amongst leaves. Food plant: *Pirus communis*.

**I. diaphana** Hamp. Black, antennae faintly blue; wings transparent with thin black scales, hind border of forewings and costal border of hindwings more thickly scaled both above and below. Forewings pointed, the border very oblique, the scaling is not increased on the oblique end of cell, all veins arise from the cell, the 1st median from the lower corner, the 2nd subcostal nearer to the 3rd than the 1st. Hindwings triangular, border faintly but distinctly hollowed, the upper corner of cell situated somewhat more distally than the lower. Bernardmyo, Burmah 6000—7000 ft. in May: 1 ♀️ in the Elwes collection.

**I. fuligiosa** Moore. Greybrown, without markings. Forehead not arched; tongue pale yellow; palpi and legs short, dirty yellow, the latter not ringed with brown. Hind tibia with one pair of spurs. Antennae of the ♀️ slightly pectinated. In the forewings all veins arise from the cell, in the hindwings the 1st radial is present, the 3rd radial and the 1st median arising together. Fringes not paler than the rest of the wings. Targeeling, one ♀️ from the Moore collection in the British Museum.


Antennae of both ♂️ and ♀️ pectinated to the tips, palpi very short. Forehead not protruding. Spurs of the middle and rear tibia short, the latter with only one pair. Forewings long, generally the 2nd and 3rd or the 3rd and 4th subcostal nervures are stalked together, sometimes all arise from the cell. In the hindwings the 1st radial is wanting. It chiefly differs from *Illiberis* through the absence of the 1st radial of the hindwings. China, India and known eastwards to New Guinea.

**P. nigrigemma**. ♀️: antennae shining blue, pectinations longest between the centre and the tip. Head and a few spots on the thorax also brightly metallic. Abdomen behind and on the sides green; and ring folded, clay yellow. Forewings transparent, the base, borders and a streak on the cross vein black. Hindwings rounded at the apex, black, with transparent spots. All the veins arising from the cell. In the Chinese form *nigrigemma*. *nigrigemma* Walk: (= cyanecula *H.-Schaff*) (Vol. 2, Pl. 3g), known from Hongkong and further northwards the
transparent area of the hindwings is reduced to two spots. The Northwest Indian form has almost entirely transparent hindwings, the window extending from the hindmargin round the cell to the subcostal vein: vitrea subsp. nov. (8f), from Mussourie.

P. cyanocera Hamp. (= ignea Oberth.) (8g). $\varphi$: Resembles the former species. possibly the $\varphi$ of same? cyanocera. Copper coloured spots at the base of the forewings and in the centre of the hindmargin; and a similar spot on the thorax. Burmah.

P. khasiana Moore (8g). $\varphi$: also resembles nigrigemma. Body and antennae blackish green above, with very faint sheen; antennae thinner. Hindwings much more pointed and with two transparent streaks in the cell. In the forewings the 2nd and 3rd subcostal veins on a short stalk. Only $\varphi$ are known from the Khasia- and Naga Hills in Assam.

P. discoidalis Swinh. (8g). Head, collar and a spot at the base of the forewings golden. The broad outer portion of the cell of the forewings, eight spots round the cell, the two latter long and further a row of spots on the hindwings transparent. In the forewings the 3rd and 4th subcostal veins are stalked. Tonkin.

P. crawfurdi. Head, collar, metanotum and the borders of the abdominal segments reddish golden. Wings narrower than in the species already mentioned. Hindwings with a large transparent area on the hind border and another small transparent spot, separated from it. On the forewings the transverse band on the end of cell is connected behind with the black marginal band. The neuration varies, but the 3rd and 4th subcostal nervures of the forewings at least are stalked. Larva according to Pursus black, with rows of brown warts, which bear bunches of white hairs. — The North Indian form tenebrosa Btlr. (8g) is the largest, it is further distinguished, that in the forewings the two upper spots of the row of transparent spots are longer than the remainder; the 3rd and 4th subcostal nervures stalked. — siamensis Oberth. from Renong in Siam, forms a connecting link in the size of the spots between the North Indian and the Malayan forms of P. crawfurdi. — Specimens from the Nicobars, Malacca to Java, Celebes, Ambon, Burm and the Philippines are very variable in size, but never attain the length of wing of tenebrosa; in these Malayan forms, the crawfurdi Moore (on the plate misprinted crawfordi, = strigosa Walk.) (8g) the two upper spots of the outer row of transparent spots are always much smaller than the remainder: in some specimens the 2nd-4th subcostal veins are stalked, and nearly always the 3rd radial and the 1st median of the hindwings.

P. birmana Oberth. (8h). Resembles the former species, but the wings are much less black. The veins being thinly scaled, and the streak at the end of cell is not connected with the outer border in both wings, at least not in the hindwings. Upper-Burmah.

P. dolosa Walk. (8h). Blue black, with small white spots on the wings especially on the forewings a central row of three and an outer row of four (2 small and 2 large), and on the hindwings one little spot: 3rd and 4th subcostal of the forewings are stalked. North India; Upper Burmah.

P. properta Swinh. (= dohertyi Oberth.) (8h). Neuration as in the former species. Antennae blue green. properta. Back of head, collar, shields and the 5th and 6th ($\varphi$) or 6th and 7th ($\varphi$) abdominal segments reddish golden. Forewings with a large transparent area in the cell and a second still larger one behind it, and an outer row of four (= 2 + 2) transparent spots. Hindwings chiefly transparent. North-India: Upper Burmah.


Antennae long, pectinated in the $\varphi$ with the exception of the tip, simple in the female. Forehead strongly arched. Palpi projecting somewhat beyond the forehead. Legs long and thin, rear tibia with one or two pairs of short spurs, the proximal pair before the middle of the shafts. Neuration peculiar, reminding one of some Ileberis species; forewing cell clubshaped, its front and rear margin touching from the base to about $2/3$ of its length, the 5th subcostal and the 1st radial are generally stalked and the 2nd radial runs close alongside the shaft; in the hindwings the 2nd subcostal and the 2nd median are close together and are generally weakly developed, the 1st. radial is absent. — Larva (of virescens) yellow above, the tubercles bearing long hairs, through which the larva resembles those of the Syntomidae; on the prothorax on each side a long pencil of black hairs which are white at the ends. The dorsal tubercles are mostly pale and bear white hairs, the tubercles on the 7th and 8th segments are black and have black pencils. The white cocoon quite flat, surrounded with hairs. Indo-Malayan.

E. ariel Hamp. (8h). Body brilliant green. Veins and borders of wings black. Rear tibia with two ariel. pairs of spurs. Antennae in the $\varphi$ and $\varphi$ pointed. Assam and Burmah.

E. flavocincta Hamp. (8h, in pl. flavocincta). Like the former, the 3rd, 4th and 5th segments of the abdomen flavocincta, (8) yellow; forewings with some yellow at the base. Burmah.

E. virescens Stuhl. (8i). Body blue green. Antennae shorter than in ariel, in the $\varphi$ with swollen end. virescens. Rear tibia with only one pair of spurs (always?). On the forewings the cell, the veins, streaks between the veins and the borders greenish black, the base brilliant green; rear tarsi with long scales. Java; Sumatra.
11. Genus: **Lophosoma** Swinh.

Resembles *Arachotia*. Antennae of the ♂ with long pectinations, thickened at the end and toothed, simple in the ♀, somewhat deeply folded inwards longitudinally. The abdomen has outstanding tufts along the side and at the end. Wings narrow; cell of the forewings with rounded end, all veins arising from the cell; in the hindwings the 1st radial is present, close to the 2nd subcostal, the 2nd radial behind the corner of the end of the cell, the 1st median removed somewhat far from the rear corner of cell. Rear tibia with two pairs of short spurs. India, Andamans.

**L. cuprea** Walk. (8i). Forehead, front of collar, rear border of shoulder plates and the borders of the first six or seven abdominal rings golden; forewings and the remainder of the upperside of the body blue green, faintly shining; forewings with two long streaks at the base, a spot in the apex of cell and a second behind it more or less transparent. Hindwings transparent, costal margin and fringes black. Northwest and North India; Andamans.

**L. quadricolor** Walk. Head and collar blue, abdomen above and below golden copper colored, transparent spots wanting in the forewings. North India.


Antennae of the ♂ with the exception of the ends slightly pectinated, simple in the ♀ and somewhat swollen at the end. Forehead arched. Palpi projecting beyond the forehead. Rear tibia with one pair of spurs. Wings very narrow; all the veins arise from the cell; in the hindwings the 1st radial is wanting, the 2nd radial running close alongside the 2nd subcostal. India and the Philippines.

**A. flaviplaga** Moore (8i). Side of the breast, underside of the abdomen with the exception of the base of each segment and a square spot at the base of the forewings yellow. Upperside of the body and the costal margin of the forewings shining blue green. Forewings with three transparent spaces behind the middle and a live to seven portioned space before the apex; hindw. mostly transparent, the borders and veins black. North India.

**A. vespoides** Moore (8i). Forehead, palpi and sides of the breast whitish yellow, abdomen above with yellow, below with whitish yellow bands; the front of the pronotum, a spot on the thorax and a spot near the base of the forewings yellow. Wings transparent, the margins and the borders of the forewing cell black, the veins very thinly black. North India.

**A. euglenia** spec. nov. (8k). Antennae and upper sides of the body shining blue green, thorax black in the middle; base of the palpi, front legs, sides of the breast and the abdomen white, first and last abdominal segments of the ♀ quite white; remainder of the underside purple brown. Forewings not transparent, greenish blue; hindwings transparent with the exception of the costal margin, the fringes black. Under sides of the forewings black; slightly blue; hindwings shining blue on the costal margin. Khasia Hills Assam. in May, June and October; 1 ♂ and 3 ♀ in the Tring Museum.

**A. aenea** spec. nov. ♀. Body above and beneath bluegreen. Forewings green blue, a transparent streak behind the cell before the centre; apex, outer margin and veins of the hindwings green blue, remainder transparent. Scalloping of the undersides of the wings green blue, especially bright and shining on the hindwings. The 2nd median of the forewings as in *euglenia* branching far from the end of the cell and the apex of the cell rounded; in the hindwings the 2nd radial is nearer to the 3rd radial than to the 2nd subcostal, but before the corner of the cross vein (that is before the fold of the cell), hind corner of cell blunt, right angled in the other three species. A rubbed specimen (♀) from Berge St. Miguel Luzon. Svenner mentions a bad specimen of *Lophosoma quadricolor* Walk, from southeast Mindanao, which possibly belongs to this species. In *Lophosoma* the first radial of the hindwings is present and the 2nd radial arises from behind the corner of the end of cell, and the rear tibia bear two pairs of spurs.


Antennae in the female slightly pectinated up to the tip, but the last pectinations very short. Forehead broadly arched, but only slightly projecting. Palpi just projecting beyond the edge of forehead. Rear tibia with two pairs of spurs. The 2nd median of both wings arises close to the 1st median; in the forewings the 2nd and 3rd subcostal are stalked; in the hindwings the 1st radial present. — Two species from China (*djreama* Oberth, 1893 and *hyalina* Leech (1889) and one form Burmah.
P. albicinctum Hmps. (8k). 2 blueblack; the collar and 1st abdominal ring (above) white, the other segm. albicinctum. (2—6) faintly bordered with bluish white. Wings transparent, with black borders; a long streak in the cell of the forewings which is connected distally with the costal margin is also black. Hindwings with rounded apex. Burmah.

I regard as doubtfully belonging here a Zygaenid described as a Goe (= Illiberis).

P. (?) sizala Seinh. (8k). In the forewings all the veins arise from the cell, the 2nd median arising sizala, quite near to the 1st median but approaching it outwards; in the hindwings the 2nd median is widely separated from the 1st median, 1st radial missing or only slightly indicated, situated quite close to the 2nd subcostal. Proximal pairs of spurs of the hind tibia at about two-thirds of the shaft. Body mostly shining blue green, especially beneath. Forewings above purple brownish black, with numerous transparent spots and streaks. Hindwings transparent, the borders brownish black. Khasia Hills in Assam.


Antennae of the 2 with long, 2 with short pectinations, only slightly decreased at the tip, the last segments (about 7—10) more or less weakly toothed, the antennae reminding one of those of Procris statices. Palpi and the spurs of the middle and rear tibia very short, the latter with only one pair. In the forewings the 2nd median in 3/4ths. of the cell. Hindwings short, costa considerably bent, cell as in the forewings broad at the end, cut short. The veins arise either from the cell or partly stalked, the 1st radial of the hindwings missing or present. The subcostal from the base to near the end of cell quite weak, hardly defined. Larva found by Peipers on Vitis; that of philippina according to Semper on Cissus.

T. subcordata. Black with purple sheen. Collar, mesoscutellum, a portion of the abdomen, as well as a large spot on the hindwings, which often covers the greater portion of the wing, yellow. Forewings with two faint yellowish transparent spots behind the middle and a third in the apex. In the forewings the 2nd to 4th subcostal stalked, the 2nd subcostal of the hindwings missing. — In the North Indian form, subcordata Walk. subcordata (= subcordata Seinh.) (8k) the yellow of the hindwings is not so extended as in the southern form aurodisca aurodisca. Hmps. which inhabits Ceylon and Southern India.

T. procumbens Swell. (8k). Resembles the former; forewings with more distinct basal streaks, the procumbens, transparent spots somewhat larger; abdomen and hindwings with more extensive yellow. In the forewings only the 3rd and 4th subcostals are stalked; the 1st radial of the hindwings present. Java, Sumatra. Larva found by Peipers at Batavia upon Vitis trifolia. It is yellow, paler beneath, with white spots along the sides, further above and along the sides blackish brown spots. It pupates in a grey cocoon on the leaves. Pupa stage 11 to 12 days.

T. penangae. Body as in the former species, abdomen with the exception of the last segment ringed with yellow. Transparent spots of the forewings as in procumbens, transparent in the 2; hindwings with a large transparent spot from the cell to the hind margin and a yellow spot at the end of cell. In the forewings the 2nd—4th subcostals are stalked together, in the hindwings the 1st radial is either wanting or weakly developed (in a Bali 2 in the Tring Museum the vein is developed on one wing and missing on the other). — The form penangae Moore (= diversa Walk) (Vol. 2 Pl. 31), which is distributed from Singapore northwards to China, has distinct yellow forewing markings. — rafflesii Moore from Java and Bali (probably more widely distributed) is smaller and has less yellow on the wings.

T. aprepes Seinh. (8k). Body similarly marked to that of the former species. Forewings with broad half transparent smear at the base behind the cell; transparent area in cell and the three spots behind the cell out off inwards, the middle pane of the subapical transparent area longer and narrower than in penangae. Hindwings transparent from the base to the end of cell, including the cell. Veins of both wings arising from the cell, 1st radial of the hindwings present. Sumba, and according to Swinhoe. Key.

T. philippina spec. nov. (8l). Nearly the whole of the head, the collar, the borders of the shoulder philippina, plates and metathorax and the abdominal rings, a long spot at the end of the antennae, a basal streak on the forewings and a subapical spot on both wings yellow; the transparent spots yellowish. Forewings with three transparent spots from the cell to the anal angle, the middle one double, the rear one drawn out. Hindwings with a yellow basal spot in front and a transparent one behind, besides the subapical spot. In the forewings the 2nd and 3rd subcostals are stalked or arise from the cell; the 1st radial of the hindwings present. Manila, Luzon. SEMPER falsely records it as penangae. The larva described by him as brownish yellow with nine white black bordered spots. From September to October in masses on Cissus acida, but mostly stung. Cocoon reddish, with white spots. Pupal stage 12 days.

T. inconcinna Seinh. (= mimetica Turn.) (8l). Resembles philippina; the spots on the hindwings smaller, the inconcinna 1st radial of the hindwings wanting; the 2nd and 3rd subcost of the forewings on a long or short stalk. Queensland.

T. scuttellaris spec. nov. (8l). Blackish green; pronotum and mesoscutellum brownish yellow, faintly scuttellaris, purple. Forewings with a band of 5 transparent spots in the middle, the 5th spot very small; the veins all arising from the cell. Hindwings with the 1st radial present. Letti and Tenimber, 1 pair in the Tring Museum.
52 PLATYZGAENA; ZYGAENA; EPIZYGAENA; CHALCOSIOPSIS; LEPTOTHRIX. By Dr. K. Jordan.

virescens.

T. virescens Hamp. (81). Greenish black, the 4th and 5th rings of the abdomen yellow. Hindwings unicolorous; in the forewings four transparent spots, of which one is before the tip and three from the apex of cell to near the anal angle, the latter of these three very small. Ceylon, Southern India.


♀: Antennae simple. Palpi very small. Spurs short. Body heavily built. Wings rounded, broad; in the forewings the 3rd and 4th subcostals stalked, the 5th arising close to the stalk, end of cell angled between the 1st and 2nd radial; in the hindwings the 1st radial is present, all the veins arising from the cell. One North Indian species.

moelleri

P. moelleri Elw. (81). Body blue black, with white rings. Wings black; forewings with grey veins a broad white band near to the base bears four white dots; hindwings from the border to the cell white. North India; Sikkim and Assam.

16. Genus: Zygaena F.

Antennae of the ♂ and ♀ strongly clubbed. Hind tibia with two pairs of spurs. Wings ample; the 3rd and 4th subcostals of the forewings with a long stalk; the subcostal of the hindwings separated from the costal, running obliquely from the connecting vein (= 1st subcostal) to the apex of cell. 1st radial present. Palaearctic genus, which is represented by one species on the border of the oriental region.

rubricollis


17. Genus: Epizygaena gen. nov.

A further development of Zygaena F. Rear tibia with one pair of spurs. The forewings with the 2nd—4th subcostal nerves stalked. Northwest India; South Afghanistan.

caschmirensis

E. caschmirensis Koll. (Vol. 2, Pl. 8k). Forewings with five pale yellow spots. Hindwings red with generally two interrupted black transverse bands. The 5th and 6th abdominal rings or the 5th to 7th have broad red bowlers above. The ab. asoka Moore (Vol. 2, Pl. 8k) has more extensive black on the hindwings Afghanistan to Nepal.

erthrosoma

E. erythrosoma Hamp. (81). As before, but the prothorax without the yellow lateral spots. Kumaon; in the British Museum.

afghana

E. afghana Moore (Vol. 2, Pl. 8f). Pronotum and abdomen red; spots on the forewings red, with white border; hindwings red, with narrow black margin. Afghanistan; Quetta.

18. Genus: Chalcosiopsis Swinh.

Antennae of ♂ and ♀ simple, only very slightly swollen towards the tip, with very loose scaling on the dorsal side. Forehead flat. Eyes longer (in a vertical direction) than broad. Ocelli are wanting. Palpi pointed. Rear tibia with two pairs of long spurs; claws at the base with tooth. In the forewings the cell is widely separated from the costal border, the 1st to 2nd subcostals branching from the cell, the 1st far before the centre. In the hindwings the cell is widely separated from the costal border, the 4th and 5th subcostals stalked with the 1st radial. In the hindwings no transverse veins between the costal and the cell, the costal gradually bending towards the costa beyond the middle of the cell. The insect appears to me to belong in the neighbourhood of Callidula rather than to the Zygaenids amongst which it is placed on account of the development of the upper submedian vein.

variata

C. variata Swinh. (81). ♂ and ♀ resemble one another. Brownish black; forewings with white transverse bands and a bluish submarginal line, which is white in front; hindwings white, with hollowed out brownish black marginal band, which sometimes extends over nearly half the wing. Khasia Hills, Assam. The specimens in the Tring Museum where captured in March, April, May, June, July and December.


Antennae of the ♂ long, very finely feathered. Eyes prominent. Rear tibia with two pairs of spurs. In the forewings the 5th subcostal and the 1st radial and in the hindwings the 2nd subcostal and the 1st radial as well as the 3rd radial and the 1st median on long stalks; the cells on both wings long; outside the end of cell on the underside of the forewings, a round cavity covered with a lid (scent organ). ♀ not known. One species from Sumatra. Not known to me in nature; whether it really belongs to the Zygaenidae?

tettagonioides

L. tettagonioides Heyl. With closed wings very much resembles a Homopteron occurring in the same region. Body brown, somewhat greenish metallic; the thorax red spotted. Wings long and narrow, brownish black; forewings with carmine red oval spot in the cell; a large triangular transparent spot in the centre of the hindwings. Expans 51 mm. Padang-pandjang Sumatra; in the Heylverts collection.
Alphabetical List
registering the original descriptions of all the forms described under the Indo-Australasian Zygaenidae.

* Indicates that the form is figured in the work cited.
tiberina Chalc. Cr. Pap. Exot. 1.*
truncata Helerop. Oberta, Et. d'Ent. 19, p. 27.*

xanthosoma Jord. Seitz, Gross-Schmett. 10, p. 47.*
3. Family: Epicopeidae.

This family inhabits the Eastern portion of Asia, from Corea and Japan to Sumatra. In the internal part of the continent, one meets with them in China, Thibet, the Himalayas and the Punjab. The various forms can be immediately recognized from their outward appearance, which is that of a Pharmacophagius. Although not actual mimics of individual species, yet the Indian forms remind one of Indian species of Papilio such as, philoxenus, vacuna, adunsoni, astorion etc.; (see Vol. 9, pl. 19).

As already mentioned in dealing with the palaearctic forms (Vol. 2, p. 35) it is not easy, to assign to this family a special place in the system; although in the Chalcosidae the submedian system contains two nervures in the forewings and three in the hindwings, whereas in the Eriocopeidae there is only one in each wing; yet I believe it correct to place the Eriocopeidae next to the Chalcosidae on account of the double pectinated (c) respective bristly (?) antennae (Westwood), their intracellular veins and the relationship of their so characteristic hindwingshape to the neurition; the flaps forming the hindwing tails represent the subcostal, the first and second radials as in Hisba and Agalope. Frenulum varies, in polydora it is wanting (Westwood) fairly developed in heinseni (NAGANO KIKUDJRO). *)

Like the Chalcosidae, the Eriocopeidae are very tenacious of life; when handled they emit a yellow fluid from the back of the head.

An extraordinary character of the Eriocopeidae consists in the presence of a wax-like mass, in which the skin of the caterpillar is completely enveloped, either in the form of a dust like powder or in the form actual strands, which form an actual texture as in the Indian species E. polydora.

The family has only one Genus, but the two northern species can be seperated from the typical forms from India as a subgenus (Eriocopiopsis).

1. Genus: Eriocopeia Westu-

Imagines of middle size to fairly large. Proboscis present, palpi small; Antennae with double pectinations. Legs well developed, front tibia with one spur, middle-tibia with one pair of middle spurs, rear tibia with two pairs of spurs (middle and end). Beneath, the sides and end of the black abdomen, are red, as also the fore head and sometimes the collar. Forewings with five-branched subcostal: 1st nervure free, 2nd, 3rd and 4th, stalked, 5th either free or else joined together with the 1st radial; cell traversed by a forked inner vein, which is sometimes reduced to a forked fold; discocellular strongly angled; submedian forked at the base. On the hindwings the subcostal is extremely prolonged, so that it sometimes attains double the length of the costa. It is not far apart from the 1st and 2nd radial and these three veins end in a long flap like protuberance, which in some species forms a regular tail; cell traversed by a vein, which sometimes forks and sometimes remains simple and which is directly continued as the 2nd radial. This vein is sometimes reduced to a fold of skin.

The forewings are smokey grey, almost black, the veins and intraveinal folds darker, almost exactly as in the majority of the dark Papilios of the Indo-Malayan territory. The hindwings have distal and submarginal spots, the latter appearing sometimes as ocelli. Generally the submarginal spots are red, the discal spots white, but the latter can also be more or less red and the submarginal spots paler, in which they resemble certain ? specimens of Papilio (dasarada for instance). Beneath similar to above, but the discal spots generally larger, sharper and redder. Very frequently a red spot can be observed on the costa of the forewing-undersides, which occasionally penetrates into the cell: in some forms it penetrates on to the upperside, especially in the forms from Bhutan.

Larva with 16 feet; as far as known they are green or blackish, but always covered by a waxlike mass of substance either in meally, granular or textile form.

E. battaka Dober (91). Only ?? are known of this extraordinary species, which have been captured battaka in the mountains of the Battak countries of Sumatra. It is a slightly scalloped form, the flaps are more

*) In a recent paper C. GRÜNEBERG presumes a relationship between the Eriocopeidae and the Saturniidae. But the differences in all three stages of the Eriocopeidae are against this view. Slender, honeysucking dayflying moths with hairless waxcovered larvae, cannot be placed with the Saturniidae on the ground of slight agreements, such as the absence of the frenulum; and the neurition shews, as indicated in Vol. 2, p. 35, besides certain differences, considerable agreement with that of the Zygaenidae. Moreover this small group has been so altered by mimicry, that it hardly agrees with any other and in a practical hand-book is more easily found, as placed in former Catalogues, than there, where one might place it on the ground of quite subjective views. (A. SEITZ)
toothlike than tail-like and it differs from all others through the bands of spots on the hindwings, formed out of the drawn out submarginal spots, the color of which varies from almost pure white to flesh-colored occasionally near the border, which can be very narrow, dusted with black scales.

As long as comparative observations of the lower stages are wanting, it is not possible to make any definite decision as to the specific identity or divergence of the two chief forms philoxenaea and polydora. A better reason being wanted, I have placed under philoxenaea the less scalloped and smaller spotted forms, which generally on the hindwings shew a bright reflexion, whereas to polydora I reckon those forms which are strongly tailed more richly and brightly spotted, but with a puler color. I incline to the view, that there are two different species, although not denying, that there are certain forms with mixed characters which are sufficient to justify a doubt as to this.

**E. philoxenaea.** This species from the north of India and Indo-China is extremely variable, but its variation seems to be more of an individual, than of a geographical or seasonal character. In general the hindwing border of the philoxenaea forms is less scalloped, than in the following polydora forms and the hindwings have far fewer spots. Although individual variations in neuration are not rare, the intracellular vein of the hindwings is in most cases rudimentary, but distinctly marked by means of a crease, which does not fork at the end of the cell but is directly continued in the second radial. — philoxenaea Westr. (9i), the longest known form of this species, is characterized by the almost black hindwings, which have only two pale spots one in the angle and the other near to the costal border. North India. — maculata Bhlr. has a white area on the disc of the hindwings, in nearly 2/2 of a line drawn from the base the end of the subcosta. the hindwings are a little more scalloped than in the typical form. Bhutan. — In diphiacea Moore the form of the hindwings is more typical, besides the anal spot, there is a small submarginal spot near to the end of the rear median nervure, the disc bears light streaks, which form a crescent with the horns outwards, it is situated nearer to the base than the paler area in maculata. Bhutan, Sikkim. — In lidderdalei Bhlr. there is a third submarginal spot and a fairly large discal spot, formed of three drawn out connected spots, of which the two last, turned outwards are the largest. — In caudata Bhlr. (9i) the hindwings are more extended the three submarginal spots stand in almost a straight line; whereas in lidderdalei they form a blunt angle slightly larger than a right angle; the discal spot is formed of three spots of which the front one is small and isolated, whereas the rear ones are extended outwards to form rounded ends and are connected along the vein. — philoxenaea Moore has very much extended hindwings, comparatively narrow, but their filaments have a less tail-like look than in caudata. Sometimes the anal spot alone is present, sometimes the two submarginal spots are also present. The white discal spot is very variable; sometimes it is formed of three drawn out spots, of which the former pointed outwards is situated opposite the two others, which are pointed towards the base, but sharply defined outwards and sometimes assume the form of a lattice-like band; the costocellular spot of the forewing undersides is strongly developed. Bengal, Burmah. — varunaea Moore finally forms the transition to philoxenaea, has markings and neuration in agreement with it, but the wingshape of polydora. Hindwings quite dark with an anal and a costal spot, as in philoxenaea and further with a long transverse spot. Bengal, Sikkim, Bhutan also recorded from Mu-pin.

**E. polydora Westr.** mimics outwardly a female Pap. rhetenor. Both forms of this species are characterized immediately by a row of more or less ocellated submarginal spots and a large spot in the disc, which as a rule is spread over six intravinal spaces. In the hindwings the intracellular vein, which is not so distinct as in philoxenaea, is not as a rule forked; in the middle and rear discocellular form each with the corresponding branch of the intracellular a kind of Y. — excisa Bhlr. (Vol. 2, pl. 10) more nearly resembles the former species, on account of the relatively small submarginal spots; as a rule they increase in size from the anal angle to the flaps. The discal area forms an exact triangle with the point outwards. Pundjab, Himalayas: also in Tibet. — polydora Westr. is the Epicopeia which is most extensively scalloped between the costal and the subcostal veins; the subcostal spots increase in size beyond the flaps up to that which is situated in the anal angle and nearly all of them are ocellated. The discal area although pointed in the middle has more the appearance of a band than a triangle. Larva covered with threads of a waxlike skin-secretion, which frequently reach a length of 25 mm and give it the appearance of a colony of scale insects according to Dudgeon; when pupating it lowers itself by a silken thread from its foodplant a spins a light cocoon.

There are three other species, caroli (Vol. 2, pl. 10 b), mencia (Vol. 2, pl. 10 a) and hainesi (Vol. 2, pl. 10 b), which chiefly inhabit the paleoarctic region and are therefore described in Volume 2. It is possible that caroli will be found in the Indian Himalayas, as is excisa; perhaps also hainesi, whose occurrence on Shi-Koku, one of the two southern islands of Japan has been ascertained, may also reach the Linchoten or Formosa in a southerly direction. At present we are only justified in including the followings species mencia in the Indian territory, which has been found at Fu-teheu.
Subgenus Epicopiopsis Grünh.

Streaks of scales between the veins are wanting; 5th nervure of the subcostal of the forewings very near to the upper radial (mencia) or even forked with this vein (hainesi). Hindwings distinctly tailed.

E. mencia Moore (Vol. 2, pi. 10a). Abdomen black, the c<sup>3</sup> ringed with red beneath. Forewings fairly mencia, deep blackish grey, with black veins; hindwings deeper especially in the c<sup>3</sup>. Between the neighbourhood of the tails and the anal angle there are two rows of submarginal red spots, which can be coalesced to form a large anal spot. In the ♀ these spots are smaller paler and the inner row especially tend to become yellow. Larva on an elm, which is designated by the missionaries as the Chinese or small-leaved elm. Its skin, which is of a black color, disappears under a cover of whitish wax-like dust, which is easily removed by rubbing, but quickly reforms. According to E. Haldsworth this larva reaches a length of 6 cm and pupates in October; it draws together several leaves, between which the pupa is formed covered with a thick coating of the wax-like powder; the imagines appear in June.

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Alphabetical List

giving list of the original descriptions of the forms described under the Indo-Australasian Epicopeidae.

*) Indicates, that the form is figured in the work mentioned.


Since the publication in this work of the Syntomidae of the palaearctic region (Vol. 2, p. 37—42, Pl. 9) the army the known forms belonging here has considerably increased and at present about 1400 forms are known; but undoubtedly large numbers of undescribed forms are present in collections, which have not yet been examined in this direction. Large numbers of these frequently insignificant looking insects also remain to be discovered, the majority probably in tropical Africa but also a very large number may be expected from the untravelled centre of South America; and also India and the centre and north of Australia will produce numerous undescribed forms. This is the necessary conclusion from the fact, that just recently an especially large number of new forms have been discovered and are being described yearly. Hamon's Catalogue appeared in 1898, according to which the little over 700 true Syntomidae of Krzy's Catalogue of 1892 had grown to far over 1200 forms, including subspecies. One can therefore say, that in the course of 20 years the number of known forms have doubled.

The extraordinary character of this rapid increase in our knowledge of this family is apparent if comparisons are made with other families. Possibly the most exhaustive monograph which has yet appeared, and which was based on the largest possible material, the "Revision of the Sphingidae" by Romboschild and Jordan, contained only 80 species more (that is about 10%/a) than Krzy's Catalogue. To what can we attribute this astonishing increase in known Syntomidae.

The Syntomidae are throughout small forms and frequently disguised by the borrowed forms of stinging insects. In the very old collections we only find very few and then mostly very noticeable forms. The Syntomidae were frequently not recognized by butterfly collectors as such and were left in peace. The richest land in Syntomidae Brazil is especially rich in brilliant butterflies, such as Mopho, Heliconias, Melinaea etc., further with the day flying Castnia, so that up to quite recent times, the collectors in neotropic localities confined their attention to other matters and neglected the insignificant, mostly small and generally poorly colored Syntomidae.

A further reason for the former neglect of this group is to be found in the fact, that in the palaearctic countries with numbers of collectors, sometimes none (England) and mostly only one or two Syntomidae are to be found. So that no desire was manifest to make a special collection of them, whereas for instance the genus Zygaena with about 100 European forms has frequently been specialized in and well worked.

But many branches of the family Syntomidae, contain the prettiest objects amongst the butterfly world. One can designate them as the humming birds of the butterfly world, as many are decorated with such brilliant colors, that they glitter like jewels in the sun, as they fly with a beetle-like flight towards a flower or sit still with their tongues buried deep in their nectaries sucking honey. It has struck me, that just those localities of Brazil, which are the special localities for the Syntomidae, are especially well known as localities for humming birds as well as for number of species as individuals. It is an indisputable biological fact, that certain localities give to their fauna a certain definite character, so that for instance some localities have a preponderance of steel blue some of lemon yellow, in others a bright red and others again a shining metallic sheen, which distinguishes this insect by sunshine during life.

In India we have actually only one genus composed of strongly metallic forms the genus Euchromia. Some Trichaste, for instance the Malayan T. albipalma, which I often captured at Singapore, when alive glitter in the sun a dark metallic blue, but the color fades quickly after death, just as does the metallic green on the uppersides of the living Erebia typharous, which in collections hardly exhibit a trace of this wonderful metallic sheen, which distinguishes this insect by sunshine during life.

Mimicry is in this family almost universal and carried out with the greatest exactitude. It is always a case of pure mimicry, that is to say, it is the appearance of the picture, not the color, which is the object aimed at. We sec for instance certain Brazilian Trichaste, which imitate Ichneumonidae not unlike our Pionula, which are protected by a hard armour and a very penetrating smell against enemies. These otherwise blue-black wasps have a very characteristic appearance in their yellow colored wingspot and their long ovipositors. But these organs which are not present in the moth are copied by it in the most impudent manner. The
wingspot is of course not present, but on the abdomen on each side of the second segment is a brilliant yellow spot, which when the insect is at rest, shine through the transparent hindwings, which are laid over the back and appear in exactly the same spot as these wingspot are placed in the model wasp. It is not easy to see, that these brilliant yellow spots, which give these insects their characteristic appearance, are placed on the wing in the wasp and under the wings in the moth. The half-centimenter long steel-blue ovipositor is imitated by the Trichura by a chitin protuberance at the end of the abdomen, which projects half a centimeter beyond the anal segment. It is of course not possible to see with the naked eye, that this is no sting, but only a soft thread, which has been brought to the thickness of the hard sheath of the ichneumon ovipositor by the presences of scales situated on its sides.

We have not discovered such impudent disguises amongst the Indian Syntomidae. Notwithstanding I was able to discover an undoubted case of mimicry of Pollistes wasps on the part of a Syntomis species in the Indoaustralasian South China, which I have described in Vol. 2, p. 38 in discussing the Palaearctic Syntomidae. When disturbed the insect, when sitting on a flower, raises its wings just as a wasp does, but never in the same way as a Zygama would do and walks with sudden movements just as do the Pollistes, Vespa and others of their imitators such as Aegeriidae (apiforme, tabaniforme etc.).

Generally speaking the Indian Syntomidae do not imitate any distinct model in its details, but the mimicry is confined to a general wasplike appearance and behavior. Transparent veined wings and a yellow ringed abdomen are certainly in a high degree suspicious for any sting fearing agressor and that beasts of prey are capable of forming a better judgement about their prey, than the human intelligence, is a fable, about which anyone laughs, who has spent only a few weeks with the rearing of insectivorous animals. Like the wise horse, whose fine sense of discrimination frequently saves the life of his rider, but who is frequently in a terrible fright about a balk of wood, which is laid across his path and like the dog who no longer recognizes his master, if the latter throws a cloth over his head, but will bark at him, all animals which fear the sting of the wasp will avoid the wasplike dress, even if it is only of a general aculeata character and no distinct modell is imitated.

The Syntomidae are industrious flower visitors and as such are not shy. They collect in sunny, flower covered spots in swarms, but I have never found them in such immense swarms as is for instance the case with the Zygaenidae on the hillsides of Italy and Algeria. Only exceptionally have I met with them in large numbers, so for instance Syntomis grotei in South China and Syntomis passalis in Ceylon. But here certain biological contingencies appear to have been in force. The S. grotei I found collected on certain bushes, whose flowers seemed to attract them from afar and the S. passalis were collected together on grass stalks, which gave one the impression, that a wasps nest was present, when one saw the large numbers of yellow ringed insects coming and going. Possibly females were seated in the neighbourhood.

The number of known Indo-australasian Syntomidae amounts to-day to between 2—300. It varies according to whether one regards the southern Yang-si-kiang bank, on which many species occur, as a boundary of the Palaearctic region, or as is more important as a portion of the Indoaustralasian. The number of forms also varies according to whether one regards the numerous anomalies in the spotting of the wings and the rings of the abdomen as worthy of a name or not. In working the European species, one has gone very far in this respect. (S. phega, D. ancilla) Hauserox on the other hand has observed a worthy moderation. I myself hold the view, which is generally recommended, of using a new name, wherever constant characters so change the look of the insect, that the general appearance is influenced and the possibility arises not to recognize the species or to refer it to the wrong species. When working the Zygaenidae (Vol. 2, p. 18—32 I drew attention at the start to the rule, which may also be applied to the Syntomidae, that the 6-spotted forms, almost invariably occur as 5-spotted, and vice-versa, and that an abdominal ring is almost invariably present and absent. In spite of this since the appearance of this publication, all such forms, where they have been discovered, have been christened; in fact critics have pointed out remarks in this work, where such chance variations have been treated as valueless, as a mistake. Therefore in future, we shall treat such variations more thoroughly and not so summarily as before, whenever such variations seem worthy of observation on the base of sufficient material.

Rarely has a family such constant color caracteristis as the Indian Syntomidae. Transparent, white or yellow toned spots on a black ground or vice-versa and a brightly ringed abdomen characterises 99%/ of all Indian Syntomidae. The shape is also very constant, and not subject to such extensive variation, as is the case with their American relatives. Only the size varies, and this does not extend beyond a modest middle size.

With regard to the general peculiarities of build, the relationship, geographical distribution and the very slightly known younger stages, I have dealt with this thoroughly in Vol. 2, p. 37, 38 and can only refer to it there. Owing to the fact, that in the Indian fauna, a few new Genera are present, the continuity is slightly altered from that in the Palaearctic part.
PSICHOTOE; CALLITOMIS; CERYX. By Dr. A. Seitz.

1. Genus: **Psichotoe** Bsd.

Only one species from continental India and a second from Africa belong to this Genus. The Genus is easily separated from most other **Syntomidae** through the total absence of the tongue; the abdomen which otherwise is always round, is flat with tufts of coarse hair. The wings are comparatively small, half-transparent, rather hairy than scaled; the forewings triangular. The neuration of the two species included here is fairly aberrant. The moths swarm, not unlike flies, in the grass and sit on leaves, but do not visit flowers as they are tongueless.

**P. duvauceli** Bsd. (10 a). Smoky blackish brown with yellow rings at the base of the abdomen and on the 5th abdominal segment. North India from Kurachi in the west to Assam and Burmah, on dry localities; apparently fairly local.

2. Genus: **Callitomis** Btlr.

These insects have the same shape as **Dysauxes**, but the abdomen is more slender. It is separated from the former Genus on account of the fully developed tongue and the more pointed forewings. On the forewings all five subcostal nervures have a common stalk. Further details about this family, of which two forms occur in the palaearctic area may be found Vol. 2, p. 41.

**C. multifasciata** Hmps. (10 a); **multifasciata**. Very like **leucosoma** figured in Vol. 2, pl. 9 b, but the abdomen not as in the latter yellow, with fine black segmental divisions, but on the contrary blackish brown with very fine yellow rings. Eastern Himalayas, Sikkim and the Naga Hills in Assam. Up to the present only found in hilly country. Type in the **Elwes** collection.

**C. syntomoides** Btlr. Very like the former species, but easily distinguished as the abdomen like the **syntomoides** European **S. phegea** is dark and only ringed with yellow at the base and on the fifth segment. More common in the palaearctic Himalayas but extending into the Indian territory. See Vol. 2, p. 41.

**C. gigas** Rothsch. (10 a); **gigas**. Much larger than the former, all the wings more pointed, the ground color duller, the white spots not so bright and their borders indistinct, a costal streak on the forewings and the anal border of the hindwings pale clay yellow; body also pale yellow ochre, the abdomen finely but sharply ringed with black. North Luzon, discovered by Whitehead; type in the Tring Museum.

**C. fruhstorferi** Hmps. (10 a); **fruhstorferi**. Much smaller, but in general appearance resembles the former. Forewings **fruhstorferi**. half transparent smoky brown black; abdomen blackish brown, finely ringed with yellow. Bua-Kräng in the Southern Celebes, 5000 ft high, discovered by H. Fruhstorfer.

**C. distorta** Rothsch. (10 a); **distorta**. Larger than **fruhstorferi**, but the wings not so transparent, but dark sepia. brown, forehead, collar, and very fine abdominal rings at the segmental divisions orange yellow. On Pulo-Bisa an island north of Obi, discovered by Doherty in September.

**C. dohertyi** Hmps. (10 a); **dohertyi**. Wings much broader than in the former species, especially the hindwings **dohertyi**. are larger, colored dull smoky brown and without markings; abdomen almost entirely yellow, only the base and end brown. From Java at an altitude of 3—8000 ft discovered by Doherty.


Recognizable on account of the extreme reduction of the neuration of the hindwings (see Vol. 2., p. 41); otherwise nearly related to **Syntomis**. Many species are very small and delicately built and resemble in flight small wasps or gnats. The spotting of the forewings, mostly yellow or transparent, is often very inconstant. Most species are met with singly; with the exception of one species which penetrates into the palaearctic region; the Genus is spread besides over the greater portion of the Indo-australasian region also over a portion of Africa.

**C. flaviplagia** Hmps. (10 a b); **flaviplagia**. Body and wings yellow spotted, the forehead, shoulder plates, a streak down the centre of the thorax, the sides of the collar, a cross-spot on the metathorax, a row of transverse spots along the back of the abdomen, side spots on the breast and abdomen six forewing and two hindwing spots dull orange yellow; the spots on the forewings are sometimes transparent in the centre. Mindanao.

**C. pleurosticta** Hmps. Smaller than the former; along the middle of the abdomen runs a black band, **pleurosticta**. so that the yellow transverse spots are divided into two rows as lateral spots. Moreover on the thorax, in place of the central yellow transverse spot, there are two small spots. The forewing spots smaller, hyaline and only five in number. From Sandakan (Borneo).
C. diptera F. (= aterens Stoll., incipiens Wkr.) (9f). The smallest species, recognizable from the fact, that the hindwings is reduced to a small scale. Forewing spots hyaline. Abdomen bluish black with yellow rings at the base and on the fifth segment. In typical specimens the basal spot of the forewings and the large square spot in the first median space are separated by a black bridge; — in the form brachypecten Hmps., they are coalesced. In Southern India and Ceylon.

C. ginorea Steinh. (10b). Black, with a yellow ring at the base of the abdomen, the forewing spots quite transparent, that beneath the end of the cell large, constricted towards the base. Hindwings with only one small transparent spot below the branching of the median vein. Much larger than the former. From the Khasia Hills.

C. formicina Swinh. (10b). Almost exactly like the former, but the front legs of the c♀ are only thickened on the tibia and tarsi through thick hairs. Spotting like the former, but all the hyaline spots are larger; that between the median and the submedian almost reaches the outer margin above the anal angle. The hindwings are quite transparent with a narrow black border. From New Guinea (Kapaur).

C. subformicina Beth. Baker. c♀ forehead yellow, occiput black, collar yellow back, patagia yellow, metathorax yellow, abdomen black with yellow segmental divisions. Forewings above black, the transparent spots as follows; a long one in the cell; beneath it one extending to the outer margin, beneath this again above the anal angle a small transparent streak, above veins 3 and 4 a long drawn out glass spot, above six a further long one and above 7 a small one. Hindwings pale lemon yellow at the base and in the cell; two transparent spots beneath the cell, which are divided by vein 2. 31—33 mm. Upper Aroa river; type in the Tring Museum.

C. affinis Rothsch. (10b). Forewings as in the former, but the pro- and metathorax spotted with orange red. Further two rows of beautiful orange red spots along the abdomen, which are only divided by a very narrow line. From the Kumasi river in British New Guinea discovered by Meek in September. Type Tring Museum. — ? resembles the c♀, but in the angle above vein 2 there is a further glass spot.

C. eva Pay. (= gracilis var. lugens Röhl) (10b). The transparent spots arranged as in formicina, but smaller, the whole apical portion of the hindwings black; thorax and abdomen with yellow spots along the side, but weaker than in formicina. From the Key and Aru Islands in February and on Ambonina.

C. guttulosa Wkr. (= melanora Meyr.) (10c). Hindwing spots as in the former species, but the transparent spots in the hindwings are still smaller, only reaching from the anal border to about the middle of the wings. Forehead, shoulders and a spot on the metathorax orange yellow, Aru and Key Islands as well as Queensland.

C. sphenodes Meyr. (10b). Forewings as in the former, but the pro- and metathorax spotted with orange red. The segmental divisions form fine black rings, which broaden on the back of the abdomen, but do not break up the orange rings into spots by coalescing. North east Australia and New Guinea. Type in the University in Sydney.

C. mecki Rothsch. (10c). Differs from sphenodes on account of the complete orange collar, the almost entirely orange abdomen, which is only divided by very fine black segmental divisions and the basal spot of the hindwings being yellow instead of transparent. Milne Bay (New Guinea from November to January; discovered by A. M. Meek; type in the Tring Museum.

C. puncta Drace (10c). The transparent spots in the forewings are larger than in the former, but the thorax and abdomen darker, only slightly spotted with yellow. The yellow hindwing spot is placed as a small yellow oval above the base. Humboldt Bay (New Guinea), discovered by Doherty; type in the Drace collection.

C. ampla Wkr. (10c). All the transparent spots much increased and the whole wings broader; on the hindwings besides the yellow tinged spot above the base there is another transparent spot beyond the middle. Abdomen yellow marked with brown. Aru Islands, discovered by Wallace.

C. aurantiobasis Rothsch. (10c). The submedian spot further separated by black from the spots between the radial veins; in the same manner the yellow basal spot of the hindwings is more widely divided by black from the transparent spot beyond the middle; abdomen black with lateral rows of distinct yellow spots. Dutch New Guinea (Kapaur), caught in January.
C. hageni spec. nov. (10c). Resembles formicinu and the abdomen as in this species with a double row hageni, of orange yellow spots, but the transparent spot in the cell of the forewings is much shorter and the hindwings have a very small basal spot, which is not traversed by any of the veins. Captured by B. Hagen in April at Stephanosort (German New Guinea). Type in my collection.

C. decorata Wkr. (florina Butl.) (10c). Transparent spots much increased in size, between the median decorata veins beneath the cell a further spot is present; the apical forewing spot and the anal hindwing spot are yellow, the others slightly tinged with yellow. Thorax with yellow longitudinal stripes, abdomen yellow, slightly banded with brown. Borneo, discovered by A. R. Wallace.

C. flavibasis Hmps. (10d). The transparent spots are cossed to a large transparent area, only the flavibasis, borders of the wings, a bridge from the discocellular to the outer margin and a tooth like mark at the end of the median nervure are dark brown. Abdomen brown, finely ringed with yellow. Malacca, Sumatra; discovered by E. Hartext.

C. fata Swinh. (10d). Almost like a small decorata, but the apical spots of the forewings are not yellow, fata, the forewing apex itself is broader black. From Borneo; type in the Oxford Museum.

C. exapta Swinh. (10d). Very like the former, but with a broader blackish brown margin (outer); exapta, the forewings, owing to the transparent spots beyond the end of the cell not reaching so near to the outer margin. Sumbawa, Flores, Lombok.

C. claremonti Heyl. (10d). All the transparent forewing spots reach to the outer margin; which only claremonti remains slightly darker; on the other hand the base of the forewings is broad blackish brown. Hindwings in the claremonti c' entirely, in the ? mostly transparent with the exception of a narrow dark costal border. Sumatra and Java.

C. cherra Moore (quisqualis Swinh.) (10d). Has almost the appearance of Synotomis germana, (Vol. 2, claremonti pl. 9g) but besides the wingshape can immediately be recognized by the more extended transparent spots and the more graceful build, abdomen ringed with golden yellow. Khasia Hills, type in the Staudinger collection in the Zool. Museum in Berlin.

C. chea Druce (10d). One of the largest species, which in general appearance somewhat resembles chea Synotomis fortunei. As in the latter the spot under the middle of the forewing cell is aslant. The hindwings have either only one small white spot just above the anal border, as in the specimen figured (caught in Sibulan in January) or sometimes a second just beyond the middle. The abdomen has a yellow ring on the chea 4th segment, but which is interrupted along the side of the back and beneath. Philippines, Mindanao discovered by Semper.

C. imaon Cr. (fusiformis Wkr., approximata Wkr.) (10e). The species is figured Vol. 2, pl. 9h and discussed on p. 41. In the form sargania which was described from Cachar, only a very small spot is present between the costal and terminal groups of spots, which can be wanting in Ceylon specimens of which we figure a ?; in arina Butl. from Calcutta the transparent spot of the hindwings is enlarged, — in mota Swinh. reduced to its lower portion. The species is extremely widely distributed and extends from Hong-Kong through the whole of South China, hither India, Hindustan to Cashmir, where it reaches palaearctic territory. I found them at Kandy in Ceylon locally in April, but occasionally not rare and met with them singly in the Nilghirry Hills from lvoolar to Coonoor.

C. expandens Wkr. (10e). Body and basal third of all wings blackish brown; the three median transparent spots of the forewings are arranged to form a broad transverse band; the transparent spot of the hindwings is placed in the outer half of the wing, or the hindwings are mostly hyaline and have only dark borders (= ab. inaequalis Swell, discovered by B. Hagen on Sumatra Deli); Malacca Borneo. — In ericsonni Rothsh., (10e) from Padang Sidempan (West Sumatra) the hyaline transverse band composed of the three middle spots is sharply defined, whereas in typical expandens the central spot is produced more outwards, and the hindwing spot enlarged.

C. aroa Beth.-Baker. ? Head and thorax black, patagia and metathorax spotted with orange, abdomen brownish black, with a subdorsal and ventral row of orange spots. Forewings above pale brown. Forewings with a long pears shaped transparent spot in the cell, a larger spot under the cell. broadened in the middle and with a rounded end, beneath this a narrow transparent streak, a small spot in the angle of 2 and 3, a longish spot above 3 and 4, a long drawn out one above 6 and a short one above 7. Hindwings with a transparent spot below vein 2 and a further one between 2 and 5. Base of the wings slightly tinged with yellow, 28—33 mm. Upper Aroa river.

C. swinhoei Beth.-Baker. Head, antennae, thorax and abdomen black, patagia with a single yellow swinhoei, spot. Wings blackish brown; forewings with a long clubbed spot in the cell and a more extended one beneath it. A long spot between 3 and 4, a longer above 6 and a short one above 7. Hindwings with a transparent spot beneath 2 and small one beneath 5. New Guinea.
semicincta.  
**C. semicincta** Hamps. (10c). One of the largest species; brownish black with a blue sheen, collar yellow a transparent black divided spot on the first abdominal segment and a brown ring on the 5th abdominal segment, transparent spots of the wings very large and numerous, so that they almost take up the entire surface of the wing. Tenasserim, Malacca, Borneo; discovered by Niceville.

transitiva.  
**C. transitiva** Wkr. (= intermissa Wkr.) (10e). Smaller than the former, crown, forehead, collar; a pair of spots on the first and a ring on the 5th abdominal segment whitish yellow. Forewings with five large and sometimes with more small, hindwings with two transparent spots; the spot beneath the forewing cell is in basalis, typical specimens bean shaped. — In the form basalis Wkr. from Sumatra it is squarer in shape. Malacca, Sumatra and Borneo.

kuehni.  
**C. kuehni** Roth. Somewhat smaller than **innum**, quite black, forewings with an immense transparent spot beneath the cell, which reaches to the outer margin, a large spot in the cell and a few beyond it; hindwings transparent yellow with a black border. Taam Island, westward from the Keys, discovered by H. Kuhn in July.

hyalina.  
**C. hyalina** Moore (= volans Seïنك). Head and body black, forehead white, abdomen with five orange bands and a blue shining end. Forewings entirely transparent with darker veins and borders, which are broadest at the apex and in the centre of the case. Hindwings transparent, yellowish at the base; margin black. North India, Sikkim to BURmah and Assam.

macgregori.  
**C. macgregori** W. Schultze (10d). Thorax and body blackish brown, slightly marked with yellow. Back of abdomen with fine yellow transverse spots on the segments. The glass spots large and clear, as shown in our figure most peculiarly arranged, as we only find in some **Syntomis fenestrata** from the same locality, which however has a broad orange banded abdomen. From the Philippines.

4. Genus: **Streptophlebia** Hamps.

Of this extraordinary Genus two species are known, both from the Indian archipeligo. They are graceful moths with slender bodies, finely feathered antennae in the **C**, broad triangular forewings and small oval hindwings. The genus is immediately recognizable on account of the extremely peculiar construction of the neuration; the upper radial of the forewings running in a curve through the disc and ending not in the outer margin, but in the last subcostal nervure, so that a long space is formed. Further in the **C** the submedian is strongly bent, because the media bears a fur like cushion and the submedian has to run round the lower margin of this. Nothing is known of the life history of these extraordinary insects.

obliquistria.  
**S. obliquistria** Hamps. (9f). From Kina-Balu Borneo, has fine black borders to the wings and parallel streaks running through the forewings which in the **C** arise from the androconia cushion and terminate in the apex, and which broaden to a discal spot in the **S**.

albipuncta.  
**S. albipuncta** Hamps. (9f). From Palawan is very like the former species, but has broader dark margins and the oblique streak from the base of the forewings to the forewings to the outer margin is interrupted and runs less regular. The neuration is also not quite the same as that of the former species, HAMpsoN therefore founded the Genus **Talycoptera** for this species.

5. Genus: **Trichaeta** Swinh.

The 20 species belonging to this Genus generally show such a distribution of the spots, that a very large discal spot is either isolated, or is accompanied by a number of smaller spots; only one species from Cambodia is sharply divided from the mostly dark steel blue **Trichaeta** on account of its orange yellow ground color, and a few others form a transition to true **Syntomis** through the formation of numerous transparent spots. In the forewings the submedian runs close to the rear margin, the lower median nervure branches directly behind the centre of the cell, the middle just at the end of the cell; the upper median nervure is stalked with the lower radial. Tongue is present, palpi short, eyes large, antennae slightly thickened beyond the middle. The moths fly in the sunshine and the blue of their ground colour has a brilliant sheen in the sunlight. The Genus is almost entirely Malayam, one species inhabits Africa and this structurally does not thoroughly agree with the others.

tigrina.  
**T. tigrina** Wkr. (10e). Uniform orange yellow with darker veins and darker borders to the hindwings. In the centre of the submedian space a dark streak. Cambodia; in general appearance it resembles the **Synt. eloesi** Rothsch., which also inhabits hither India.

diplaga.  
**T. diplaga** Hamps. (10f). Black, wings with a slight purplish, abdomen with slight greenish sheen. On each forewing a full-moon shaped pale yellow area and near the base a pale spot. Penang, discovered by Pinwill; type in the British Museum.
T. apicalis Wkr. (=biplagata Snell) (10f). Like the former, but the basal spot is wanting and the apicalis, yellow discal spot is oval. From Sumatra and Borneo. — The ab. flaviplaga has the discal spot somewhat squarer. flaviplaga.

T. albiplaga Wkr. Only one white discal spot, smaller and more irregularly defined. Borneo. — From albiplaga, this form albisignata Wkr. (10e) from Malacca differs in the broader more regular landshaped white spot. The ab., belly is black. I found the species at Singapore, quite near to the town flying along hedges, but always singly.

T. detracta Wkr. (10f). Like albiplaga, but smaller and with less blue sheen; beside the discal spot detracta, there is another white spot near to the base of the forewings. Abdomen of the ♂ white beneath. Borneo.

T. basifera Wkr. (10f). Like detracta, but the abdomen of the ♂ is not white, the discal spot larger and the basal spot smaller, Borneo; specimens from Malacca have sometimes the transparent spots of the hindwings connected.

T. hosei Roths. (10f). Larger than the former with very bright blue sheen, the white discal spot hosei, large, as in albisignata, the spot near the base small, rather square. On the hindwings there are also transparent spots. North Borneo; discovered by Hose at an altitude of over 1000 ft.

T. albifrontalis Pag. (10f). The transparent discal spot longish oval, the basal spot forming almost a albifrontalis complete square, behind it at the root there is another small hyaline spot. Island of Nais, not rare.

T. trizonata Hmps. (10f). Above almost exactly like specimens of detracta but with some white in trizonata, the hindwings, but the underside of the abdomen is not white in the ♂, but dark brown with three yellow rings. From Perak.

T. quadriplagiata Snell. (10f). The discal spot window-shaped and almost as large as in diplaga; but in and below the cell there are two further hyaline spots and also another much larger one in the hindwings; face white, the two middle abdominal segments whitish yellow beneath. Sumatra, discovered by B. Hagen in the Sultanate Deli.

T. divisura Wkr. (10f). Resembles the former species, but smaller, not so shining, the spots in and divisura, under the cell smaller, the discal spot divided into two small hyaline spots. Borneo, discovered by Wallace. Type in the Oxford Museum.

T. vigorsi Moore (10g). Body black, abdomen without rings, forewing spots arranged similar to those vigorsi, of Ceryx transitiva (10e) but the hindwings have not got two hyaline spots as the latter, but with the exception of the margin, which is only broad at the apex, quite transparent and the forewings with a basal spot. Java.

T. kannegieteri Roths. (10g). Abdomen with light pale brown rings at the base and on the fifth kannegieteri segment: the forewings spots arranged differently from the former. remarking one of divisura (10f), but the apical forewing spot is much shorter, so that the apex remains broad blackish blue, hindwings with a fine central spot. Inland of Nias, type in the Tring Museum.

T. separabilis Wkr. (10g). Resembles vigorsi, the forewing spots arranged in the same manner, but separabilis, very variable in size; the abdomen is not quite so black as in vigorsi, but has white rings at the base and on the 5th segment. — In the ab. chloroleuca Wkr. the two spots at the root of the forewings coalesce to form chloroleuca, a streak. Malacca, Borneo, Pulo Laut. Type of both forms in the Oxford Museum.

T. elonginacula Hmps. (10g). All the forewing streaks lengthened to lines and the abdomen with a yellow base and five yellow rings; thorax marked with yellow. Borneo and Pulo Laut.

5. Genus: Syntomis O, cor. Amata F.)

Since it has now been ascertained, that the name Amata was published in 1807 and not in 1808, that is to say before Ochsenheimer's name, this Genus must now be known as Amata. We recommend there fore to label it as such in collections and in literature and only allow the old name to stand here, as otherwise a contradiction would occur with Vol. 2 and in a work of reference it is desirable to preserve uniformity: this is reason why we do not discard the name under which all students would look for these insects, but retain it with an explanation. In old works, one frequently finds the name Glaucopis in use, and the Family name Glaucopidae derived from same is still frequently in use. Wallengren has constituted a large
SYNTOMIS. By Dr. A. Seitz.

Many Syntomis live in colonies, like the Trichacta and swarm in their districts, but are always local. It is therefore reasonable to suppose, that a large number still remain to be discovered, as many a valley at present unexplored, will prove to contain new Syntomia; a proof of this is to be seen in the numerous discoveries of Doherty, Waterstradt, Meek and others. Further a large number of undescribed Syntomis are to be found in Museums, which have not been carefully examined in this direction and it is to be hoped, that the following short synopsis with its rich illustrations will result in the descriptions of these undescribed forms.

Syntomis differs from the other old-world genera of the family as follows: it differs from Psychotias in the well developed tongue; from Callitomis, whose wings are more finely haired, than scaled, in the thickly scaled wings with distinct and well defined hyaline or yellow spots; from Cercy through the absence of the median cushion in the male; from Eressa it differs owing to vein 5 of the hindwings arising from beneath the angle of the cell, which arises above the angle of cell in Eressa and from Trichacta owing to vein 3 of the forewings arising far from the angle of the cell and not close to it as it does in Trichacta. Finally from Euchromia, the finest representatives of the old-world Syntomidae, Syntomis differs at the first glance on account of their comparative insignificance; a glance at our Euchromia Pl. 12 will immediately show this.

Head small, forehead broad, eyes semicircular, very small, comb high and broad and frequently highly colored, face square, palpi short, turned upwards and thickly haired, 3rd joint pointed, smoother, antennae thread like, generally with a white end; secondary eyes wanting. The thorax has frequently a brightly colored collar and frequently orange spotted patagiae, very soft and elastic; behind the nape two small lateral openings, from which under pressure a frothy yellow juice exudes. Legs fairly long, frequently wasplike yellow and black, occasionally the tibia and tarsi thickly haired. Abdomen roller shaped, blunt, in the $g$ frequently with thickened end forewings mostly pointed triangular, in the $g$ or of some species reduced so that they are incapable of flight. Hindwings often very small, sometimes reduced to mere rudimentary scales, and again sometimes drawn out to long transverse flaps. The ova as far as is known are laid in masses, the larvae feed on low plants and are covered with thick short tufts of hairs; they change in a slight web to stumpy pupae; the moths fly in the sunshine and suck flowers especially composite flowers; the females of some species ($grotei$, passalis) found exceptionally at night at lamps.

**S. cyssea** Stoll (= collaris F., schoenherri Bsd., cuprea Prittw.) (Vol. 1, Pl. 9e, not cypsea). Fore wings with five, hindwings with two hyaline spots; abdomen with yellow rings on segments 1 and 5. Looks like a small phegea and is common in the whole of Hindustan, from Kurrachi to Calcutta and from Cashmir where it enters the palaearctic region to Ceylon. In ordinary specimens the forehead is bright orange, but it is occasionally darker. -- In the absence of cysseoides, georgina Btlr. the hyaline spots are larger, in ab. georgina Btlr. reduced.

**S. edwardsi** Btlr. (10 g). Very like the former, smaller, not so shining, without the yellow collar, the spots somewhat larger, similar to cysseoides, but on the hindwings the hyaline spots are coalesced to form a large transparent basal area, which is tinged with yellow at the base; moreover the collar is bright yellow, not black as in cyssea. It also differs through the yellow collar from the otherwise very similar fortunei from Japan. Island of Formosa; recently has been sent to Europe in large numbers.

**S. hydatina** Btlr. (10 g). Very like the former, smaller, not so shining, without the yellow collar, the spots somewhat larger, but in the apical portion of the forewings still considerably removed from the outer margin; the hindwings transparent with black apex. North and Central India.

**S. bicornuta** Koll. (Vol. 2, Pl. 9 g). Resembles phegea and doubtless only the Indian representative of this palaearctic form. (See Vol. 2, p. 38). Hindwings with two hyaline spots. No yellow collar. From Cashmir, throughout the Himalayas and their outrunners to beyond Central China, southwards deep into Hindustan and to Assam.

**S. sperbius** F. (= atkinsoni 'Moore') (10 g, h). One of the commonest Indian Syntomis, from Sikkim to further India and extending eastwards from Burmah to Tonkin and Hainan, north eastwards as far as Yun-nan. Very like hydatina but the spots very much larger, those in the marginal region nearly reaching the outer border, the basal spot being a regular square, about half the hindwings are transparent. In Hainan specimens of which a long series is before me, the black apical portion of the hindwings forms the greater portion,
and the smaller hyaline portion is at the inner margin deep chrome-yellow, not merely faintly tinged with yellow as in Sikkim specimens. Body of ♂ very robust, black, anal segment covered with yellow-grey hair; it hardly ever uses its wings.

S. lucina Bhr. (10h). Black like the preceding species, but hindwing with two separate spots, one near base, greatly reduced, the other beyond it; all the spots faintly tinged with yellowish, the two abdominal rings very fine. Forehead orange-coloured, not pale yellow as in sperbius. In the Himalayas, from Nepal, Sikkim to Calcutta. — assamensis Zeray (= khasiana Bothsch.). ♂: forehead black, thorax with orange collar, abdomen with 6 yellow rings. On the forewing a yellowish hyaline spot below the base of the cell, another near its apex, one each between veins 1 and 2, 3 and 4, 4 and 5, 6 and 7, frequently a further small one between 1 and 8. Hindwing with two large subhyaline yellow spots. Described from a ♂ taken in June in the Khasia Hills. Length of forewing 17 mm.

S. madurensis Hmps. (9f). Antennae of ♂ strongly pectinate. Hindwing brown; frons and patagia spotted with orange; hind tibiae with orange stripes; tarsi with the first segment orange; abdominal segments 1 and 5 ringed with orange; last segment with a small spot. Hindwings with small square spots below base and at the end of the cell; an oblique bar below 2, one spot each above 3 and 4, and another small one above 6. Hindwing with orange median band from cell to inner margin. Madura. A small-sized species.

S. minor War. (10h) is even smaller than the preceding, having the spots reduced to mere dots and the abdominal rings very fine. Discovered by Yerbury in the arid regions of Northwestern India; evidently a dwarfed form of one of the preceding species.

S. insucta Seinh. Nearly twice the size of the preceding; body black with bright, coppery lustre, like in minor. Forehead and collar orange; the two abdominal bands as in the preceding; on the forewings the spots faintly developed, hindwings with small hyaline spot in the discal area; inner margin tinged with yellow. Barakpore, Northern India.

S. cingulata Web. (= annetta Bhr.) (Vol. II, pi. 9 d) described in Vol. II, p. 39 of the Palaearctic Part, is evidently a southern form of the Phegea Group. China, going south as far as Hongkong and Swatow, but not common.

S. albapex Hmps. (9g) resembles the preceding species; hindwing with 2 spots. May be recognized by the yellow collar and the white portion of the fringe below the apex of the forewing. Ceylon, evidently rather scarce; mentioned from Pundaloya, one of the best and most favoured places for butterflies on the island, and from Nawaha-Pitua.

S. meigista Hmps. (10i) resembles in colouring the species of the Phegea Group, but has the spots arranged quite differently. Forewing with 5, hindwing with 2 white, semi-transparent spots which are nearly all equally far apart. Abdominal belts as in the preceding species. Found by Waterstraat on Kina Balu in North Borneo.

S. khasiana Bhr. (nec Rothsch.) (10h) resembles the preceding species in the white portion of the fringe khasiana. below the apex of the forewing; in the spotting it approaches lucina (10h); also the 2 abdominal bands are like those of lucina, whereas the intermediate segments show on either side of the back some pale spots. Assam, Khasia Hills.

S. wuka Pagenst. (10h) has forehead, collar, breast and legs as well as one ring at the base of the abdomen ochreous yellow; the rest of the body and the wings black with a strong steel blue lustre; forewing with 6, hindwing with 2 contiguous spots. — ab. tiandae Hmps. lacks the yellow band at the base of the abdomen. — ab. metan Pagenst. has all the hyaline spots with the exception of that at the apex of the cell reduced to mere dots; also on the hindwing only a minute central dot.

S. leucozona Hmps. ♂ has head and body black-brown with faintly bluish lustre. Frons white, shoulder and breast likewise: abdomen dorsally spotted with white on segments 1 and 2; a white belt on segment 4. Forewings black-brown, with delicate blue lustre; below the middle of the cell a triangular white spot, and similar spots beyond the middle below ribs 7, 5 and 4. Hindwing with a round semi-transparent spot below the cell, and some similar, smaller ones beyond the middle below ribs 5 and 3. Found at Simbang (Borneo) by Moutron: type in the British Museum.

S. leucozonoides Rothsch. differs from the preceding species in the larger semi-hyaline spots. Within the cell a large spot, but the one at the inner angle is lacking. Taken in June near Kuching (Borneo).

S. formosae Bhr. (= eruma Bhr.) (Vol. II, Pl. 9 e) which has been described on page 39 of Vol. II as occurring in the Palaearctic part of China, really belongs to farther India and Formosa. Wings spotted as in edwardsi (10g), but the thorax is much more orange, and the abdomen has not merely the base and fifth segment ringed with yellow, but all segments ringed with orange.

S. flavifrons Hmps. (10h) has likewise its home in Farther India, whence it has spread to Assam and Burma. Its size is somewhat larger than that of the preceding species; on the forewings the spots are similarly arranged but larger and more rounded; hindwings with 2 widely separated spots. Head, collar and shoulders deep yellow, likewise the rings on 1, and 5. segments. All the other segments with strong blue metallic lustre, finely marked with yellow. On the forewing the fringes white below the apex.
**SYNTOMIS. By Dr. A. Seitz.**

_S. luteifascia Hupe. (10i) comes likewise from Assam (Naga Hills). Both wings have the hyaline spots extraordinarily enlarged, so that they touch one another, without actually uniting. Abdomen brightly ringed with orange, the rings more regular than in flavifrons; fringe of forewing not white below apex._

_S. berinda Moore (10h). The abdomen resembles that of the preceding species, but has the rings more conspicuously orange; on the forewings the spots resemble those of flavifrons, also in the white fringe below the apex of the forewing; but on the hindwings the two hyaline spots are somewhat tinged with orange and occasionally united. Tenasserim and the Port of Moulmein._

_S. polymita Sperrius. (= thelebus F.) (10i) was taken by me in great numbers on the flowers growing along the cemetery-walls in Happy Valley near Hongkong, together with Sypt. grotei and Trygonophora argyrospila Wkr., a Zygaenid which it outwardly resembles. Abdomen very conspicuously ringed with orange-red, thorax similarly spotted. As is seen in the figure, the basal hyaline spots on the forewing are nearly touching, being only separated by a dark cross-bar in the submedian interspace. This patch varies greatly, from being heavy and broad, to a slight comma-shaped streak. When it is entirely absent, as is rarely the case, it greatly alters the general appearance: = ab. sepulcromanum nov. nov. (= ab. 1. Hupe). Southern China to Tonkin._

_sepulcromanum._

_fenestrata._

_Drury (9f) closely resembles polymita in colouring and abdominal markings, but both wings have the spots very elongate and, as is the case with most Philippine Syntomids, distinctly drawn out in the direction from base to apex. Filipinns._

_S. perixanthia Hupe. (Vol. II, pl. 9f) is largely Palaearctic and, for that reason, described in Vol. 2. Type from Formosa; it greatly resembles the preceding forms, but the abdominal rings are paler yellow and narrower: ab. persimilis Leech has the patagia black instead of orange. — sinensis Rothsch., lately described from Palaearctic Western China, differs from typical perixanthia in the larger size and yellow instead of orange abdominal markings._

_muirheadi._

_S. muirheadi Fldr. (Vol. 2, pl. 9g) has the hyaline spots in the submedian interspace united like in polymita ab. sepulcromanum, but may be distinguished by having the first four abdominal rings interrupted by black on the back. — In ab. aucta Leech the hyaline spot fills the cell as far as its apex; above rib 5 no spot. From Hongkong northward into Palearctic China; rather scarce, and difficult to distinguish among the great numbers of polymita with which it associates._

_divisa._

_S. divisa Wkr. (9d) replaces in the North of Farther India dichotoma Leech (Vol. 2, pl. 9e) from China which it closely resembles in size and appearance. Like this it has four broad, golden yellow abdominal rings, but the last abdominal third is black without any rings. From dichotoma easy to distinguish by the yellow-marked thorax and the white frons. The hyaline spots may greatly increase and even unite into large patches._

_disrupta._

_as in dichotoma ab. concurrons (vol. 2, pl. 9e), = fa. disrupta Moore. As a rule Sikkim specimens have the smallest, those from Burma the largest hyaline spots._

_sevrate._

_S. serrata Hupe. (10i) has the abdomen just as prominently ringed with orange as in polymita, but several rings are in the middle interrupted, and the last segment is black-blue. The wings are all, except the termen at the ends of the veins hyaline, only the forewings have at the end of the cell a dark cross-bar. Khasia Hills, Assam._

_yunnanensis._

_S. yunnanensis Rothsch. Black; pectus, frons and spots on tegmata and shoulders orange; abdomen with steel-blue metallic lustre, ringed with orange. Wings translucent yellow, with broadly dark brown termen and veins. Forewing with black spot at apex of cell. 21 mm. Upper Yunnan._

_newara._

_S. newara Moore (10i) like serrata, but the forewings nearly completely hyaline, slightly yellowish, only a small spot at the apex of the cell black, and the apex, inner margin and a marginal spot above the anal angle of the forewing blackish-grey. Sikkim, Bhotan._

_signata._

_S. signata Wkr. (10i) has the 1., 5- and 6th abdominal segments delicately ringed with yellow, the other rings broken up into lateral spots by the black markings of the back. Head and thorax brilliant deep yellow. Forewings hyaline with black apex, a similar spot crossing the submedian interspace, and a dash from apex of cell to termen. Java._

_compta._

_S. compta Wkr. (10k). Body quite brilliant yellow, abdomen basally broadly ringed with bright orange, the last 3 segments black-blue. Khasia Hills in Assam._

_quadrisfascia._

_S. quadrisfascia Hupe. (10k). Abdomen with only 4 very broad rings. Wings transparent, borders dark. Two dashes of black, one from the end, the other from the middle of the cell toward the outer margin. From Bernardmioy (Burma), 6000 ft. above the sea._

_vitra._

_S. vitrea Wkr. (= austeni Moore; polyzonata Hupe.) (10k) has the body largely brilliant yellow, finely marked with black. Wings transparent, bordered and streaked with black as in quadrisfascia, but much more delicately. Northwestern part of Farther India._
S. symphona Swinh. 9 has the antennae black, bifide; frons ochreous yellow, black in the middle. Body black, thorax with yellow lateral stripes and similar spot on the shoulder, abdomen ringed with yellow on 1. and 5. segments, and a few yellow markings on the remaining segments. Forewings hyaline, veins heavily black, inner vein connected with median by a broad transverse band; the interspaces ochreous-yellow. Discocellulars broadly black; terminal border narrower, broad at apex. Hindwings with black costal and outer margins, the latter continuing to the anal angle; the inner half of the hindwings ochreous. British North Borneo.

S. grotei Moore (10k) has thorax and abdomen most brilliantly and beautifully marked, almost like in polyneita, but more yellowish instead of red-orange. Wings hyaline, marked as in vitrea, only the space between lower and middle median veins of the forewing not completely filled with black, but only in the outer half; also on the hindwing a spur extends from the middle of the outer margin towards the base. Hongkong, June, till November; South China (Yunnan) and Tenasserim. — The transverse spot extending from the middle of the cell through the submedian interspace has generally the shape of a broad black band; but it also may be either completely absent or be reduced to a mere dot. This form is very scarce; I only found two specimens among countless normal ones near Hongkong, on the bushes fringing the race-course. I call it ab. arenac ab. nov. (10 k as arenac). — Another, likewise very rare aberration has the black band extending from the middle of the outer margin toward the apex of the cell reduced to such an extent that only a slight knob-like widening of the black border indicates where it should start. This form which also is found in Hongkong, is ab. chiawara ab. nov. (10 k).

S. masoni Moore (= davidii Pouj.) (Vol. 2, pi. 9f) has been described on p. 40, Vol. 2, since its real home is in the Palaearctic Region; but it also is found in parts of India, Southern China and Tenasserim. The wings resemble almost exactly those of grotei, but the body is marked with brass-yellow instead of golden yellow.

S. willemian Rothsch. Vertex black, frons white; thorax creamy-white, abdomen the same, ringed with black; legs brown. Wings hyaline, delicately veined and margined with black; the blackish outer margin with irregular whitish submarginal spots between the veins. A deep black spot at the apex of the cell. Hindwings hyaline, veins smoky-black; abdominal area creamy-white. 24 mm. Tainan (Formosa).

S. submarginalis Wkr. (10i) has the body like that of masoni, but rather brass-yellow than golden; abdomen altogether yellow, only finely ringed with black, the wings from termen to the median hyaline spots ochreous, only occasionally clear in apical region. Sikkim, Burma.

S. verecunda Swinh. resembles fervida (9d), from which it differs in the prominent black subbasal spots of the forewings and the hyaline interspace between veins 5 and 6, which in fervida is nearly completely filled with black and of different shape. Jaintra Hills.

S. fervida Wkr. (9d), brilliant golden orange, head and thorax delicately marked with black at the joints, abdomen finely ringed with black. Wings transparent, with narrow black termen. Costal and inner margins of forewing golden-yellow. Farther India.

S. aurea Swinh. from de Khasia Hills greatly resembles the preceding one, but with heavier black aurea markings; abdomen tipped with metallic green. Easy to distinguish from fervida by the interspace below the median vein being divided in the middle by a black bar.

S. aureola Swinh. (9g) resembles grotei (10k), but has the end of the abdomen black, not yellow, and on the hindwing the costa black instead of orange. Body very similar to that of submarginalis Wkr. (10i). Khasia Hills.

S. sladeni Moore (10l). Thorax brilliantly marked with orange, abdomen banded and tipped with orange. sladeni. Wings transparent, yellowish, with narrow black outer border. From apex of cell a black dash to within one half of the distance of the outer margin. Yunnan, Burma (Pegu), Tenasserim.

S. connectens Rothsch. (10l), resembling the former, but with body altogether orange, finely marked with brown. Wings quite transparent, faintly tinged with yellowish, only at apex and end of cell somewhat black. Found at Bernardmyo (Burma) by Doherty. Type in Elwes Collection.

S. elwesi Rothsch. resembles the preceding form in shape and markings of body; but the wings are elwesi. somewhat broader and uniform pale orange-yellow. Burma, discovered by Adamson.

S. ochreopunctata Pageast. has the antennae black, frons yellow, abdomen black with 6 yellow dorsal and ventral spots, and 6 lateral stripes. Forewing with 4 hyaline spaces, the costa, outer and inner margin being bordered with black, and a broad black stripe extending from the middle of the costal margin to the discocellulars, thence to the inner margin above veins 2 and 3, and above veins 5 and 6 to the outer margin. The cell and intramedian portion remain quite clear; the two other areas are each divided by a blackish vein. Hindwings small, hyaline, with broadly black termen, divided in the middle by a black vein. 25 mm. Described from a specimen in RüdE's Collection from Neu-Pommern. Unknown to me in natura.
S. owstoni Roths. Thorax black, with orange collar, abdomen yellow, broadly ringed with fuscous. Forewing dark brown, cell hyaline, two large hyaline spots between median and vein 1, others above veins 2, 3, 4 and 6. Of the hindwings 3/4 are transparent, the remainder fuscous. Collected in Annam during November and December by FEURSTOFER; known also from Hainan.

S. tetrazonata Hmps. (101) resembles in colouring and spotting of wings almost completely S. cingulata (Vol. 2, pl. 9d); but whereas this has only two orange rings on the 1. and 5. segments, tetrazonata has the abdomen from 1. to 4. segments entirely orange, black beyond; moreover, it has the collar yellow. Its home is Formosa, where it is cingulata that does not seem to occur there. Although the two forms are closely related, they are here separated, because for clearness sake we group the species according to the colouring of the abdomen.

S. palanana Semp. (9f), spotted like the preceding, but the apical spot more elongate; easily distinguished by the body being almost completely fuscous, hardly at all marked with yellow. North-Eastern Luzon.

S. pentazonata Hmps. (101) resembles cingulata even more than does tetrazonata, the rings on the 1. and 5. segments being heavy, the intermediate ones quite fine. But on the forewings the hyaline spots are larger, on the hindwing there appears behind the large basal spot another second one, slightly separated therefrom. Burma.

S. gelatina Hmps. (101) is one of the smaller species; collar, 1. and 5. segments orange, the other ones laterally delicately spotted with yellow. Wings transparent, bordered with black, heaviest at the apex of the cell. At the end of the cell a deep black spot, connected with the outer margin by a streak towards the apex. I took a number of specimens in March in the Tiger Mountains (Nilgiris) near Utacamund, at considerable elevations.

S. basigera Wkr. (101). Thorax marked with yellow, abdomen black, quite finely ringed with orange. Forewings transparent, costal margin and apex black, two heavy black dashes from the basal portion of the cell and from its apex to the outer margin; the lower reaching it above the anal angle, the upper one below the apex. Hindwings all but the black-bordered apex brilliant orange, before the black apex transparent, whereby the species is easily distinguished. Batjan, discovered by WALLACE. — gilolensis Roths. (11g) is much smaller, and the hindwings which have been reduced almost to mere scales, display no hyaline spots before the black apex, or only faint traces thereof. Halmahera.

S. simillima Roths. resembles the preceding species, but is larger. The hyaline spots are larger and more densely squamous, and there is between veins 6 and 7 another spot not found in basigera. Hindwings have only the base orange and two quite narrow streaks below and behind the cell. Pulau-Bisa, to the north of the island of Obi. Described from a ? in the Tring Museum, taken by Doherty in September.

S. tunneyi Roths. (101), a most curious form. Forewings broad and blunt, dull hyaline with black transverse spot at the apex of the cell and near the base. Hindwings orange, bordered with black. Discovered by TUNNEY in January, in the Derby District of Western Australia. Type in the Tring Museum. Antennae long pectinate.

S. chlorometis Meyr. (11a) rather closely corresponds to tunneyi in markings, size and shape, but has the wings hyaline instead of orange-yellow. New South Wales and Queensland.

S. passalis F. (= cerbera Sulz. nec L., creusa Cr., latreillii Bud.) (11a) is one of the largest, most remarkable and ordinary Indian Syntomis, the commonest species in the gardens of Colombo. Body, black with metallic lustre, abdominal segments with narrow bands of orange. Forewings with 5 large round transparent spots, between and about which frequently a number of smaller hyaline dots. — At Kandy in the interior of the island I took a few isolated specimens of ab. montana Brtr. (11a), distinguished by the broader orange belts of the abdomen, the larger hyaline spots on the forewing and the increased spots on the hindwings which unite into two elongate patches. Ceylon and Southern India; flies probably throughout the year.

S. aurofasciata Svinh. Equals in size passalis, which it also resembles in having the body black and of a metallic iridescence. Abdomen with coppery rufous bands on segments 1—5, and traces of the same on segment 6. Forewing with hyaline spot below the base of the cell, followed by an oblique hyaline bar below vein 2, a wedge-shaped spot near the apex of the cell, an elongate stripe above vein 6, and two spots between 3 and 5. Hindwing with hyaline spot below the base of the cell and another spot between 2 and 5. From New Guinea. Unknown to me in natura.

S. extensa Wkr. (11a) is one of the largest Syntomis, having the hyaline spots arranged in the shape of a band running parallel to the outer margin. Body and outer half of the wings to the with of 3—4 mm dirty grey-brown, thorax and abdomen with traces of yellow markings and rings. India, Bombay, Matheran. I took one specimen at a high altitude on the Nilgiri Table-land. It seems fairly scarce and not to occur in Ceylon. Flies near Utacamund in March.
S. pseudextensa Rothsch. (11b) resembles the former in the arrangement of the confluent hyaline spots, but has the wings differently shaped, transparent with very narrow grey-brown border. Smaller in size than extensa; from Kina Bula in North Borneo.

S. pryeri Hmps. (11b). This curious species has, in contradistinction to the preceding, the outer half of the forewings hyaline throughout, the inner half and the hindwings black brown, spotted with orange. Collar and 5. ring orange. From North-East Borneo.

S. cantori Moore described from a ♀ without antennae from Penang. Dark black-green, basal half of cantori, forewing black with green lustre; outer half hyaline, apex and discocellular black; hindwing with small hyaline spot at the base of rib 2 and 3. Somewhat larger than the preceding.

S. albifrons Moore (9d), one of the largest Syntomisidae, resembling an Euchromia in shape and lustre of body. Abdomen black with brilliant blue lustre and dull yellow rings, thorax with ivory-white longitudinal stripes. Basal area of wings largely hyaline, terminal area of forewings with a band of hyaline spots reaching the upper median vein. Farther India.

S. arfakensis Rothsch. Head orange, thorax black, tegulae orange, on the mesothorax an orange spot. Abdomen orange, ringed with blackish-olive. Forewings dark olive, with bronze-green lustre, and 6 translucent white spots in and behind the cell, 2 below it and 1 each above and below vein 3. Hindwing with large similar spot near base and beyond cell, and with some small spots inside it. 22 mm. New Guinea, taken in February and March in the Arfak Mountains.

S. melas Wkr. (= melacna Hmps., andersoni Moore) (9g). The name 'melacna' was an unnecessary change, since 'Melas' is also a proper name (Son of Phryxus). It is one of the lightest coloured Syntomisidae, the body being spotted with pale ochreous or golden-yellow, the wings hyaline throughout with the exception of the narrow borders and a spot at the apex of the cell. It is one of the largest species of the family and easily recognized by its shape. Occurs throughout Northern India from Nepal to Assam and Yunnan.

S. flavolavata Rothsch. resembles the former, but generally of smaller size, easy to distinguish by having the antennae not tipped with white, and the last abdominal segment ochreous throughout, not blackish. From the Khasia Hills.

S. derivata Wkr. (11b). Body black, abdomen with blue metallic lustre; forewing with 6 white spots arranged somewhat like in fenestrata Drury and not infrequently confluent. Abdomen with narrow, pale ring at the base. Collar whitish. From Malacca, Sumatra and Borneo. Most specimens have the submedian spot and that on the hindwing divided into two.

S. fenestrata Wkr. (= midas Bilr.) (11b) has on the forewing the spots arranged as in the preceding, but those at the base yellow. Head and abdomen orange, thorax marked with yellow. Cambodja.

S. wallacei Moore (9d) has head and thorax marked with yellow, abdomen with 7 orange rings. Forewings with small, translucent, yellow spots; hindwings with a hyaline spot below the cell, tinged with orange at the inner margin. Behind this another smaller hyaline spot. Collar yellow. From Java.

S. eliza Bilr. (11b). Thorax marked with yellow, abdomen with yellow ring only on segments 1 and 5, eliza, the intervening segments only laterally spotted with yellow. Wings with pretty small, white, rather angular spots. Differs from the preceding species in the absence of the orange rings on segments 2, 3, 6 and 7.

S. pectoralis Wkr. (= basirufa Seinh.) (9e) has the basal area of the forewing and the entire hindwing hyaline, and in the black-brown apical half of the forewings two large transparent spots, each intersected by a vein. The species is easily recognized by the white patagia and the purple-red ring at the base of the abdomen which otherwise is blackish-blue. Farther India, Burma and Cambodja.

S. thoracica Moore (11b), inferior in size to the preceding form from which it differs in having the forehead and patagia black instead of silvery-white. On the forewing the hyaline spots are larger and frequently also increased in number, in consequence of which they form in the outer half a complete row, as is seen in the figure which represents a specimen taken by me in March in Peradeniya (Ceylon). Apparently limited to Ceylon and not common.

S. phoenicozona Hmps. (11c) from the Andamans has the white spots distinct only in the median area, those in and under the cell of the forewing very large; besides the ring at the base of the abdomen also the metathorax is purple.

S. metaphaea Hmps. (11c), just as small as the preceding species, all the hyaline spots small excepting the one in the cell. Abdomen marked with brilliant golden-red rings. Milne Bay, New Guinea.
S. ochrepuncta Hwps. (11b) has, like catena, kinesis and the Palaearctic sintenisi, the wings spotted with yellow, and only two yellow abdominal rings on segments 1 and 5, but is much smaller in size than all other yellow-spotted Synomisae and altogether one of the smallest. From Gujanj (India).

S. hübneri Bul. (= xanthomelaica and conterminia Wkr., pyrrhodera Meyr., cingulata and sangaris Wallgr.) a small-sized, yellow-spotted and highly variable species which has in the Indo-Australian Region an enormous range and is in some places exceedingly common. Head and thorax marked yellow, abdominal segments adorned with golden-yellow rings. On the forewing a small spot near the base, two larger ones in the median and two in the marginal area which latter are each intersected by a vein. Hindwings with two separate spots.

S. marsdeni Hwps. India. Found throughout India as far as Malacca. The very small form marsdeni Moore (11c) from Java has the ground-colour not so deep black, the spots somewhat enlarged, especially in width. — frustulenta Swinh. (11c) from Australia is larger than the first-mentioned form, and has the double spot before the apex reduced to a single one, the abdominal rings golden-red instead of golden-yellow, and the ground-colour deeper black and spreading over a larger area. North Australia and Lizard Island.

S. stenozona Hwps. (11c). Thorax marked with golden-yellow, abdominal rings narrow and yellow. In the basal half of both wings the hyaline spots are confluent to such a degree that the entire inner half appears transparent. The spots at the apex of the cell and the outer margin broadly fuscous. Timor.

S. chlorocera Hwps. (11c), a very small species having the head and abdominal rings broadly yellow. Forewings brown, with two larger hyaline spots in and under the cell and 3 beyond it; hindwings with translucent yellow basal area, giving the insect a superficial resemblance to Dyntaxas. From the Naga Hills in Assam.

S. actea Swinh. and the form swinhoei Leech have been described in Vol. 2, p. 40. actea has forehead collar, spots on tegulae, and thorax as well as patagia orange, on the abdomen 7 (? or 6 (?)) rings of the same colour. Forewings with yellow stripe along costal and inner margins, a wedge-shaped spot in the cell, a longitudinal one below it; moreover several spots between veins 2 and 8 of which the one below 6 is small. From the Khasia-Hills in Assam. Type in Swinhoe's collection. swinhoei is found in Western China, likewise ab. obsoleta Leech which was based on a specimen with very indistinct colouring.

S. diaphana Koll. (= vitreata H. Schäf., oenone Bttr.) (9g), a very large-sized species already described in Vol. 2, p. 40, is found, besides in the localities mentioned there, in Northern India as far as Assam and Burma.

S. baiaea Swinh. (9f) smaller than the preceding form, has the head orange, the thorax the same banded with black, the abdomen black with 7 orange bands; anal segment blackish-blue, often with a yellow spot. Forewing with large intranerval hyaline spots; veins and margin black; along costal and inner margins more or less distinct stripes of yellow. Marginal area broad, projecting basad on veins 5, 3 and 2. Hindwings transparent, bordered with black, with yellow spot at base of costal area, a hyaline spot in the cell and 3 large ones below it and vein 5. Khasia Hills as far as Assam; Java, Borneo.

S. alberti Rothsch. has frons, tegulae and a spot on the black thorax orange; abdomen the same delicately ringed with black. Forewing with golden ochreous spots near the base, in and below the cell, and 3 further ones beyond it. Hindwings translucent, orange with broad, irregular dark border. 11 mm. Taken in August in British New-Guinea, at a low altitude.

S. marella Bttr. (= eclipitis Meyr.) (11c). Head and collar marked with red-orange, abdominal rings beautifully golden-red. On forewing a wedge-shaped spot in the cell, another elongate spot below it, and a large translucent postdiscal band of dull brown-yellow intersected by 3 veins. Hindwings similar, with black band. Not scarce in Queensland, Brisbane, Cooktown, Cairns; also in Geraldton, Townsville.

S. xanthosoma Tun. (= cremnotherma Low), a North-Australian species, described as follows: "Head ochreous orange, without any black spot between the antennae. The latter brown sprinkled with ochreous, those of c? slightly pectinate. Thorax, legs and abdomen orange-ochreous, the latter without any black rings; tarsi brown. Forewing with dull orange spots. Intermediate spot before the apex, and supernumerary spot (in the furcation of the medians) fully developed. Above the apical spot another small spot, and above the cell to within 2/3 of its length an orange basal streak. On the hindwings the spots large and confluent. In a number of cases the intermediate spot in absent. North Western Australia (neighbourhood of Derby District). Irrapatana in South Australia. Type in Turner's collection."

S. phacochyta Tun. Spots yellow, but quite indistinct, so that they frequently disappear altogether; in such cases it is very easy to mistake it for bicolor (11k) or phlepsalotis, from which it may be distinguished by the antennae being without the white tips. Kuranda, January, February, discovered by F. P. Dorn.

S. insularis Bttr. (= steleotis Meyr.) (11d). Head orange, thorax black, abdomen with 7 broad orange belts, c? with black anal tuft; forewing with highly variable angular orange spots, one of which is placed
within, 2 below and 2 beyond the cell. Hindwing with large golden-yellow basal, and a second, smaller, sub-basal spot. Queensland (Cooktown), Barnard-Island.

S. pactolina Wkr. (== sphenophora Turn.) (11d), one of the largest of the generally good-sized Australian species. Forewing with 3 very large yellow hyaline spots and a subapical band consisting of similar ones. North Australia.

S. lampetis Turn. resembles marella of which it possibly is a subspecies. Head red-orange; thorax-black, abdomen with 6 orange-red rings. On the forewings the spots small, translucent red-yellow. On the hindwings two similar ones, a small one at the base, and, touching it, another minute triangular one in the discal area. Queensland.

S. annulata F., a most variable species, limited almost entirely to Australia, being in the North the commonest Syntomis. Black with yellow face, collar and abdominal rings. Wings thinly scaled, blackish-green with dull yellowish transparent spots: on the forewing 5 spots the two outer of which are double, i.e., divided by ribs into two. Hindwings with 2 spots. — ab. nigriceps Btlr. has the vertex black instead of yellow. — pyrocoma Meyr. has on the anal tuft a spot of brilliant golden yellow. — ab. cingulata Btlr. has the last abdominal segment deep yellow as far as the dark base. The two last-named forms have on the forewing between the radials only a very minute spot, which in intensa Btlr. (== hesperidis Meyr) is entirely absent. — synedra Meyr. (9e) closely resembles cingulata Btlr., also in size, but the spots are not so transparent, being more dull ochreous. Many of these closely related forms are justly considered to be good species. Moreover, these exist a number of unnamed aberrations; thus the spots may be reddish instead of yellow, especially those at the base (== var. b. Turn), or they may be partly united (== var. d. Turn) etc.

S. chroma Sirih. (= clementsi Hamps.) (9e) has on the hindwing both spots united, the markings a beautiful golden yellow, the spots not transparent. — Another form amoenaia Sirih. is very closely allied to chroma, but has in the place of the two large united lower spots of the median band a smaller spot, in consequence of which the band is not complete. Also the other spots are smaller and the hindwings less orange. From Roeburne, West Australia.

S. lucta Luc., described from Queensland, but unknown to me in natura. Being not mentioned in Turner’s Monography of Australian Syntomidae either, I assume that it is only an aberration.

S. orphnaea Turn., unknown to me in natura, has according to Turner the head black, antennae black without white tips, and in ♀ fairly pectinate. Thorax black, abdomen very hairy, with pale ochreous rings and anal tuft; in ♀ the 4 rings on the foremost abdominal segments are often indistinct. Forewings thinly squamate, without metallic lustre, spots pale ochreous; the intermediate spot occasionally found in other Australian species between the two marginal groups of spots is either absent or only faintly indicated behind. On the hindwing the spots are large and confluent. Queensland, Toowoomba, Dalby, Warwick, Stanthorpe; mentioned also from Tenterfield (New South Wales). Type in Turner’s Collection.

S. aperta Wkr. (== mochlotis Meyr.) Head orang, thorax with an orange spot. Abdomen of ♀ with 7, of ♂ with 6 orange rings; anal tuft of ♀-♂ orange; on forewings the spots pretty large, ochreous; one below the base of the cell, one wedge-shaped spot below rib 2, occasionally united with the former; another similar one at the apex of the cell, one elongate above vein 6, generally with a short streak on vein 7; 2 spots between 3 and 5. On the hindwing the spots large and confluent; in typical aperta the abdominal rings are ventrally obsolete which is not the case in the form nesothetis: in the smaller form recedens Luc, the spots are pale orange. Ranges from New Guinea over Northern and Eastern Australia as far as Melbourne (form recedens). Very common in the North.

S. xanthuria Turn., unknown to me, type in the Lyell Collection. Two specimens were found by S. P. Croos in Victoria in March. It is said to differ from pyrocomoa Turn. in having the antennae tipped with ochreous-whitish, from magistri Turn. in the golden-yellow thorax. Was later discovered also at Goudie on Sea-Lake.

Of S. choneutospila Turn. two specimens were found by H. Trevos at Brisbane in Queensland; type in Turner’s Collection; closely related to annulata; antennae with white tips; thorax black, abdomen with 7 orange rings; anal tuft of ♀-♂ orange in centre, black at the sides. The basal spot united with the next one; those on hindwing small.

S. phepsalotis Meyr. Abdomen ringed with orange, wings deep black with very small, hardly dot-like, phepsalotis. dull orange spots. Type in the Maclean-Museum in Sydney: from Queensland and New South Wales.

— eschatias Meyr. has on each wing an obsolete spot and the abdomen tipped with yellow: — eschatias.
bicolor. **bicolor** Wlr. (11k) of which it is doubtful whether it belongs to this species, has the wings black-brown without any markings. Queensland, rather scarce.

chromatica. **S. chromatica** Turn., distinguished from the other closely allied forms by its large size and the intense deeper orange colouring of the spots. Queensland, in February and March.

paradelpha. **S. paradelpha** Turn., unknown to me, in size approximating a small annulata. Head black, antennae with white tips; thorax black, abdomen with 7 (♂) or 6 (♀) rings of red-orange. Anal tuft of the same colour, black at the sides. Spots almost entirely hyaline, colourless. Basal spot faintly tinged with reddish, the spots of ♂ mostly small, of ♀ moderately large. Basal and discal spots on hindwing small, in ♂ quite minute, and obsolete above. Found in November by H. Tryon at Killarney (Queensland). Type in the Turner Collection.

magistri. **S. magistri** Turn. (= aperta Meyr’). Thorax and abdomen as in the preceding form, but the spots ochreous, on the forewing often more numerous, those of the hindwing large, touching one another. From Bathurst in New South Wales.

cyanura. **S. cyanura** Meyr. Head orange, thorax black sprinkled with a few yellow scales, spots on wings semitransparent ochreous. Abdomen with only 5 yellow rings, the 3 last segments black. From Thursday Island in Torres Street. — **hyalota** Meyr. The type of this form is said to have formerly been in the Macleay Museum; but I could not find it there when, one year after it had been described, I looked over the Museum together with the Curator Mr. Masters: thus it does not appear to exist any more. Head orange, antennae tipped with black, thorax black, abdomen of ♂ with 7, of ♀ with 6 rings. Forewings with greenish lustre, spots colourless, transparent, those of hindwing small; upper portion of basal spot obsolete, of discal spot reduced or likewise obsolete. (Turner). One specimen is said to be in the Brisbane Museum. From Bowen (North Queensland).

The types of the 5 last named Australian species which I do not know in natura, are contained in Australian collections, and were most likely already there when I examined the University Collections and the Macleay Museum, but were hidden among the long series of S. annulata, aperta, insulana etc. Many types are no longer in existence, as f. i. of anepsia Meyr., which formerly was in the Elizabeth-Bay Museum in Sydney and which its author thinks to be different from antitheta. As it is too risky to send the types, it would be highly desirable that good illustrations were made of these doubtful forms in Australia, in order to establish clearness about them.

antitheta. **S. antitheta** Meyr. (? 11d). Our figure which was taken from a specimen from Cooktown (Queensland), corresponds to the original description, which, however, does not quite coincide with that of Turner’s; since, moreover, Hampson adds to his description the remark that when writing it, he did not personally know the species, we must consider it for the time being as doubtful. Turner in his Synopsis of Australian *Syntomis* widely separates it from *paraula* Meyr. (= macrophaca Meyr.), refusing to unite the two. The latter has below the very elongate apical orange spot another intermediate spot not found in antitheta. — In ab. mikroplaga. **mikroplaga** nom. nov. (= ab. b. Turn). the orange spots, particularly on the hindwing, are smaller than they. Basal and discal spots on hindwing small, in ♂ not infrequently a smaller one in the interspace above. Hindwing with hyaline basal half which is separated by vein 2 from the discal spots. Costal and outer margins broadly black.

sola. **S. sala** Swinh. from Kina-Balu, Borneo. Black, antennae tipped with white, forehead, collar, an oblique stripe at the base of the thorax and abdominal bands ochreous. Abdomen of ♀ much more ochreous with narrow black rings. Spots hyaline; forewing with wedge-shaped spot below the base of the cell, one behind in the submedian interspace, both spots occasionally united and completely filling up said space; 2 discal spots between veins 3 and 5, one elongate one above 6 near apex, and in ♀ invariably, in ♂ not infrequently a smaller one in the interspace above. Hindwing with hyaline basal half which is separated by vein 2 from the discal spots. Costal and outer margins broadly black.

humeralis. In **S. humeralis** Btlr. (= olinda Swinh) (11e) the spots resemble those of the preceding forms, but are clearer and transparent; head, collar, patagia and metathorax golden-orange, only the middle of thorax black-brown. Abdomen with 6 broad orange rings. North-Eastern Australia.

attenuata. **S. attenuata** Hamp. (11d as annulata) is most certainly only an insular form of one of the preceding species. Head orange, thorax black-brown, spotted orange behind, patagia orange, abdomen with 7 rings of the same colour, anal tuft orange in middle, black at the sides, spots transparent, orange, on hindwing basal spot united with discal one. Bathurst, Heywood and Queen Island.
SYNTOMIS. By Dr. A. Seitz.

S. prosomoca Turn. resembles humeralis (11e); head black, scaled with ochreous; antennae not white at tips. Thorax and patagia spotted orange behind; abdomen with 7 (♂) or 6 (♀) ochreous rings, anal tuft of ♀ ochre-yellow, black at the sides. Forewings heavily scaled; spots pretty small, pale ochreous, occasionally increasing in number, those on hindwing separated or confluent. The species is quite variable, and since the corresponding aberrations of other species received special names, the principal forms also of this species should be separated — ab. chrysocephala ab. nov. has the head golden-yellow instead of black; — ab. aureicauda ab. nov. has the sides of the anal tuft yellow instead of black, and ab. dorsatrum ab. nov. the patagia black instead of yellow. Queensland (Rockhampton, Brisbane.)

S. leucacma Meyr. This species with which I am unacquainted and which I doubt to be represented in European collections, has the head orange with a dark line between the base of the antennae. Thorax with orange spot behind; abdomen with 5 orange rings and dark, slightly iridescent anal segment. Anal tuft of ♀ black. Forewings spotted pale ochreous; on hindwings the spots separated, the discal spot roundish, its upper portion reduced. From Geraldton and Cairns. Type in the Macleay Museum, Sydney.

S. heptaspila Turn. Head orange, antennae tipped with black, thorax as in the preceding species, but patagia often thinly scaled with yellow. ♀ with 7 yellow abdominal rings, the hindmost incomplete. Forewings spotted pale ochreous, occasionally slightly scaled with yellow at the base. Since according to the author some specimens of this species resemble paraula, others pyrocoma, it may be presumed that many of the forms described from a rather limited region in Northern Queensland, where Dodd collected most thoroughly, are allied to one and the same or may be referred to a limited number of species. In Europe the types are for the most part unknown. When examining the Macleay-Collection in Sydney some time ago, I noticed only very few species of Syntomis that were obviously different, while many appeared to be intermediate forms. We figure a few, the types of which are found in private collections in Australia; trigonophora Turn. (9e). Antennae tipped with black, ♀ with 7, ♀ with 6 pale golden yellow abdominal rings; anal tuft of ♀ black at the sides, orange in the centre. On hindwing discal spot large, triangular; Brisbane, Sydney. — Closely allied is melitospila Turn. (96). ♀ has the anal tuft orange. On the hindwing the discal spot touches the yellow base; the golden-yellow abdominal rings are so broad that the black disappears almost completely and the abdomen seems uniformly orange. Queensland. — dyschlaena Turn. (9b) has on the hindwing the discal spot rather small, the abdominal rings similar to those of the preceding form, but, like the spots on the forewings, less clear yellow, more brown, and sharply defined. Northern Queensland.

S. geon Drake (11e), a remarkable species; ♀ with brilliant yellow, black-marked body, wings yellow narrowly bordered with black. A black transverse bar in the centre of the submedian space and on the discocellular vein. The ♀ has frequently the forewings traversed by rays of black which may vary considerably. Mindanao, discovered by Semper. Not common.

S. kinensis Hmps. (11e). Wings black-brown with large deep yellow spots; abdomen black-brown with distinct yellow bands on segments 1 and 4, and faint, obsolete rings on 2 and 3. From Kina-Balu, North Borneo. — catena Form. nov. (11e) which I received from Sumatra, may be only a subordinate form of the former, rather golden-yellow, the apical spot larger, that below the apex of the cell smaller; above the inner margin a longitudinal streak of yellow. But the main difference is in the shape of the wings, the primaries being more pointed, the secondaries in-curved below the apex, so that catena appears to be intermediate between kinensis and euryptera, resp. dilatata. — flavigutta Hmps. likewise resembles kinensis, but is smaller, with wings more pointed and spots paler yellow. From Chitral.

S. aurantiifrons Rothsch. Vertex black, frons orange, antennae black, tipped with yellow; thorax orange with black transverse band, tegulae and patagia black. Abdomen orange, ringed with black. Forewings deep chocolate-brown, with somewhat hyaline orange spots, one wedge-shaped in the cell, another, large, irregular, below it; other spots above ribs 2 and 3 and on either side of 5. Hindwings transparent bright orange with broad dark border extending on vein 3 toward the middle of the wing. 22 mm. From Formosa (Tainan).

S. teinopera Hmps. resembles kinensis, but with 4 instead of only 2 abdominal bands, all spots smaller, that at base of hindwing roundish. From Kina-Balu, Borneo.

S. dilatata Snell. (11f). Wings deep black spotted with brilliant yellow. All spots very sharply defined; hindwing of pointed oval shape, with distinct black border, proximally dentate. Abdominal segments 1 and 4 with broad yellow bands between which a number of very narrow, often hardly perceptible, yellow rings. Borneo, Sumatra, Nias; common.

S. euryptera Hmps. (11f) is a transition to the following species, having the hindwings rather broad. euryptera. Head and thorax deep yellow, marked with black; abdomen yellow with broad and narrow black bands. Anal segment tipped with yellow. Malacca, Borneo.
SYNTOMIS. By Dr. A. Seitz.

egenaria.  
S. egenaria Wkr. (11f) almost exactly corresponds to the preceding form, but the hindwing is drawn out analy into a long pointed lobe and its border mostly very broad, as in dilatata. From Borneo.

pfiefferae.  
S. pfeifferae Moore (11f) is smaller and more slender; △ spotted orange-red, abdomen regularly ringed with black and orange; it is easily recognized by the hindwings displaying 2 long arrow-shaped, golden-yellow spots, one along the inner margin, the other traversing the cell. — In ab. acuminata Suel. these two yellow basal streaks are on the hindwings united to an irregular basal patch somewhat resembling kinensis. (11c). Java, Sumatra, in some places quite common.

punctata.  
S. punctata Semp. (9g). Body black, slightly marked with yellow. Collar, patagia and abdominal rings narrow, dull, yellow. Wings shaped as in geon (11c); forewings with 5 almost equidistant spots, hindwings with 2 widely separated spots of deep yellow which are slightly transparent and appear but slightly iridescent in reflected light. Our figure was taken from a specimen in Semp’s Collection. Philippines.

snelleni.  
S. snelleni Rothsch. (11i) is closely related to pfeifferae, of which we also know some very dark △ (like that represented in our figure 11f); differing on both wings in the greater extent of the spots below the cell. Described from a ♀ from Eastern Java.

quadripunctata.  
S. quadripunctata Rothsch. (Ilk) represents, in contradistinction to the preceding form, a pfeifferae with greatly reduced orange spots, of which there are left on the forewing only some few dots, the apical third being completely black, and on the hindwing only a minute golden-yellow spot at the base. From Padung-Sidempuan, Western Sumatra; discovered by Ericsson.

wimberleyi.  
S. wimberleyi Swinh. (11f) from the Andamans is only known to me from Swinhoe’s figure which we reproduce here, and from an imperfect specimen in the Tring Museum. Head and thorax marked with yellow, abdomen with 6 (? or 7 (△) yellow rings. On forewings all spots rounded, excepting that at apex of cell which is angular. Hindwings yellow with moderately broad dark border. Hampson describes the hindwings as spotted with yellow.

tetragonia.  
S. tetragonia Wkr. (11g), with broader wings and larger spots than the preceding species; of heavier build, abdomen with 2 broader and 3 narrow bands. The spot at the apex of the cell subquadrate. From Borneo. — javanica subsp. nov. (11g) from Java has all the spots wider, that below the apex of the cell crescent-shaped and nearly reaching the anal angle. Between both a narrow connecting streak which may occasionally be absent = ab. junctimacula.  
junctimacula nom. nov. (= ab 1 Hamp.). Not so common as the other forms.

bithyris.  
S. bithyris Druce (11g), a large species having thorax and abdomen dark earthy-brown, faintly marked with yellowish; wings faintly spotted, forewings with a large wedge-shaped spot below the cell, a square one at its end and 2 terminal spots the lower one of which is dissected by one of the radials. From Borneo.

elongata.  
S. elongata Hamps. △ grey-brown, frons and vertex orange. 1st Segment of tarsi and tips of antennae white. Abdomen at base and on segment 5 ringed with yellow. Forewing with hyaline spots, one square at the end of the cell, a smaller one below its base, one transverse spot below its middle, and some smaller ones above ribs 2, 3 and 6 (specimens from Travancore) or mere dots (specimen from Canara).
S. taiwana Miyake is closely allied to *cysnea* Stoll, but has the hyaline spots on the forewings taiwana, considerably larger, and below the apex some white marginal scales. On hindwing the two hyaline spots united as in *S. fortunae*. 31 mm. Formosa.

S. ribei Roeb. (= polusea Druce) (11g) is just as slender, although larger than *tessini*. Body black with blue metallic lustre, metathorax orange. Forewing with wedge-shaped white transparent spots, otherwise black with blue lustre. Hindwing iridescent bluish-black, orange at base. Minahassa, Celebes.

S. interrupta Willem. Black with yellow markings. Head black, face yellow, tips of antennae black, above white. Tegulae, patagia and hind margin of thorax yellow. Abdomen with 5 yellow bands, the first one broken, the 3 last ones confluent. On forewing 5 hyaline spots, 1 at base yellow, 1 triangular in the cell, 1 below it, intersected by rib 2, and 2 beyond the cell each of which traversed by a vein. Hindwings hyaline with broad black border protruding proximally in the middle, and a few yellow scales at the inner margin. 37 mm. Formosa.

S. lucerna Willem. is black with yellow markings; face pale ochreous, thorax spotted with yellow. Abdomen lucerna. of ♂ with 8, of ♀ with 7 yellow bands, the first and last ones incomplete. Forewings thinly scaled with yellow at base; 5 hyaline spots, that at base triangular, the others as in *interrupta* Willem. Hindwing hyaline, costal and outer margins with broadly black border projecting inwards in middle. Inner margin likewise black, yellow at anal angle. Forewing with white apical spot beneath. Hyaline spots rather larger in ♀ than in ♂. ♂ 46 mm, ♀ 44 mm. Formosa. — In the somewhat smaller subsp. *flava* Willem, the hyaline portion *flava* of the hindwings is more or less densely scaled with yellow, the 8th abdominal band only indicated by a small spot, and the white apical spot on the forewings beneath absent.

S. everetti Rothsch. (11g). Head orange, thorax black-fuscous, marked with orange; abdomen with transverse orange dorsal spots. Forewings hyaline, only the base, apex and the junction of the median nervules, as well as a dash toward the apex of the cell are black. Hindwings bordered with black. Found in November in Flores by Everett.

S. cymatilis Swink. (= laomedia Druce) (11h) is deep black, with steel-blue lustre; the 5th abdominal segment is adorned by a yellow ring which in ♂ is only visible on the sides and beneath, whereas the back is uninterrupted black. In the typical form the hyaline spots are quite insignificant, on the forewing a small spot near the base, one at the end of the cell, a dot below the costa and a double spot beyond the cell. On the hindwing only a small spot at the base. — ab. *orthrus* nom. nov. (= ab. 1 *Hmps.*) (11h) has on the forewing the spots much larger, and below the cell another good-sized spot, on the hindwing 2 hyaline dots instead of only one. Flies at the same time and in the same localities as typical specimens. Philippines.

S. unifascia *Hmps.* (11h) is very much like the preceding, but of more slender build; forehead white and not black, hindwings broader, and the yellow abdominal band beneath does not in either sex continue on the back. Sikkim.

In *S. stellaris* (11h) the hyaline spots are mostly very small, but complete: it may be recognized by a *stellaris*. white ring at the base of the abdomen and on segment 5. Siam, Malacca, Sumatra and Borneo.

S. orphana Piepers a. Stoll. Black with reddish lustre. Abdomen greenish iridescent, marked white as in *stellaris*. On forewing 3 hyaline spots, the one at the base elliptical, of the other two behind the middle the upper one below rib 6 is square, the lower, larger one triangular, above intersected by rib 4. Hindwing with elliptical median spot. Legs altogether black. Java.

S. vandepolli Rothsch. (11h) has the hyaline spots arranged in such a way that only one spot is *vandepolli*. placed below the middle of the cell, another, smaller one at its apex, and 3 before the apical area. Hindwings with two spots. Two white rings, one at the base of the abdomen interrupted upon the back, and another complete one on segment 5. Sumatra.

S. longipennis Wkr. (11h) is much larger and has the wings longer than the preceding. Below the *longipennis* cell before the middle of the outer margin, and before the apex a large tear-shaped spot; a small hyaline spot at the apex of the cell, on hindwing 2 other tear-shaped spots. From Borneo.

S. albicornis Rothsch. (11i), equalling in size the former, has the spots more angular and differently arranged. May be at once recognized by the antennae being white from the middle onwards and by the large, pointed, double white spot on the forewing. Tonkin, found by FRÜHSTORFER on the Manson Mountains (3000 ft.).
80 SYMPELEBOMIS; PARACERYX. By Dr A. Seitz.

fruhstorferi. S. fruhstorferi Roths. (11i) has the forewings hyaline, marked as in signata (10i), with a dark transverse band near the base, adjoining an hyaline basal spot. Body black. Easy to distinguish by 3 purple bands on the 2nd, 3rd and 6th segment of the black abdomen. In the ♀ the forewings are more profusely black. Discovered by Fruhstorfer in the Manson Mountains (Tonkin).

adjuncta. S. adjuncta Wkr. (11i). Frons golden-yellow, thorax marked with yellow, and the abdomen with rows of lateral golden-yellow spots. Forewing hyaline, from end of cell to the broadly black-brown apex a black streak, another between the medians. Not unsimilar to certain species of Ceryx of the formicina-Group, f. i. tvensis, with which it is generally found together. Ceram, Amboina, Key Islands.

celebesa. S. celebesa Wkr. (11i), a lovely species; forewing black-fuscous with hyaline spots in and below the cell, and before apex and outer margin. Most characteristic are the gorgeously crimson abdominal bands encircling segments 2, 3 and 4, and indicated on the other segments by lateral spots. Celebes. — ab. gracilis Rib. (= elvira Pag.) (11i) has the hyaline spots longer and the red abdominal bands more numerous. The figured specimen came from Minahassa. — sulana Lathy from Sula-Mangoli and Sula-Besi differs from typical celebesa in having the abdominal rings interrupted on the back.

dupensis. S. kalidupensis Roths. (11k) is at once recognized by the vermillion hue of head and shoulders, collar and abdominal rings. The latter give it a resemblance to celebesa, but it is smaller and has the spots larger and more numerous, especially in the middle of the wing whence they almost reach the base. From Calidupa (Tukan-Besi near Celebes), where it was discovered by H. Kuehn. Our figure represents the type.

dupensi. S. antipolo Seun. (9f), a pretty small sized species reminding us of certain Eressa. Forewing characterized by a black, oval discoidal spot, corresponding to the marks on the wings of Ichneumonidae and differing in its position from the hyaline spots of all other Syntomidae. Forewing with only 3 spots, a longitudinal one in the cell, a larger, wedge-shaped one below it, and a double spot between the medians. Hindwings transparent, costa, apex and apical half of outer margin black. Body black, only the forehead white and patagia yellow. From the Philippines. Figured from a ♀ in Semper's Collection at Francfort o. M., taken on June 8th near Manila. The antennae which in whasp-fashion are spirally curved, and the very long hindlegs, together with the characteristic mark on the wing render it beyond doubt that the living insect mimics an Ichneumonid.


This genus is easy to recognize by the large, oval, raised patch which extends on the forewing from behind the end of the cell to near the apex and which is even more clearly noticed on the under surface of the hindwings. This results in rendering the neuration abnormal, reducing the veins somewhat on the forewing, in as much as the median vein which follows its normal course as far as half the length of the cell, here suddenly turns in the direction of the apex of the wing until it reaches said patch the lower margin of which it follows; thus the cell is widest in the middle and tapers considerably towards the apex, as is also the case in Streptophlebia which the only known species resembles as to neuration, but from which it differs in the greater length of the hindwings and the completely different shape of the anal angle of the forewings.

antipolo. S. antipolo Seun. (9f), a pretty small-sized species reminding us of certain Eressa. Forewing characterized by a black, oval discoidal spot, corresponding to the marks on the wings of Ichneumonidae and differing in its position from the hyaline spots of all other Syntomidae. Forewing with only 3 spots, a longitudinal one in the cell, a larger, wedge-shaped one below it, and a double spot between the medians. Hindwings transparent, costa, apex and apical half of outer margin black. Body black, only the forehead white and patagia yellow. From the Philippines. Figured from a ♀ in Semper's Collection at Francfort o. M., taken on June 8th near Manila. The antennae which in whasp-fashion are spirally curved, and the very long hindlegs, together with the characteristic mark on the wing render it beyond doubt that the living insect mimics an Ichneumonid.


This genus was based on a single species which was discovered some years ago in New-Guinea. As in nearly all Syntomidae, the tongue is strongly developed; antennae simple, the mid tibiae provided with one, hind tibiae with two pairs of spines. Rib 2 arises before the last quarter of the cell, 3 before and 4 at the angle, 5 above it, 2 and 3 are downcurved towards the margin, 5 upwards, 7, 8, 9, 10 and 11 are stalked. On the hindwing the cell is lengthened, rib 2 arising before the middle, 3 before its apex and 5 at the angle, 7 and 8 with short stem. Inner margin projected so as to form a long flap. Nothing is known of the earlier stages.

The two known species resemble somewhat the species of Heterogynnis, but are easily distinguished by the neuration. They also remind one superficially of certain Philippine Zygaenidae with which they are found together in the same localities. Antennae uncommonly long, hindwings likewise greatly lengthened, the inner margin passing imperceptibly into the termen. Their colouring is monotonous, the wings without any hyaline spots, but so thinly scaled that with the exception of the margins and a streak on the median vein of the forewings they are semi-transparent. The only two known species are found in the Philippines, where they appear to be rather scarce.

N. whiteheadi Roths., (12a) is much larger than N. sagada Semp. Forehead white, antennae black, whiteheadi, abdomen whitish with 6 dark fine rings. Wings monotonously dirty earth-brown, somewhat translucent, a dark, indistinct streak traversing the length of the cell. Hindwing faintly yellowish at costa. Northern Luzon.

N. sagada Semp. greatly resembles the preceding species, but is only half its size. The grey shading sagada, is more distinct and darker, the white hyaline patches clearer. From Mindoro.


Differs from Hyalaethea in shape and neuration. On the forewing vein 2 arises at the end of the cell, 3, 4 and 5 are long stalked; 6 arises at the apex of the cell, 7 and 8 long stalked, 9 is absent. So far only one minute species is known from New-Guinea, especially remarkable by the shape of its wings.

P. dohertyi Roths., (12c) has the forewing most curiously projected at the anal angle, in consequence dohertyi.

Forewing with an hyaline wedge-shaped spot in the cell, below which a slightly bent hyaline streak from base to near inner angle. In the outer half 3 very long, fine longitudinal spots. Hindwing with an hyaline spot near base. From Biak Island in Geelvink-Bay (Dutch New-Guinea).


This genus of which hitherto only one coloured illustration existed, is represented by figures of all the known species. It is intermediate between Syntomis and Eressa, connecting them at the same time with Euchromia. All the hitherto described Indo-Australian genera have, like the following Eressa, one feature of the neuration of the hindwing in common, viz that ribs 5 and 6 are united; or to use another expression that only one vein goes from the upper angle of the cell towards the outer margin, whereas in Euchromia there are two. Between these two extremes Hyalaethea is intermediate. Although the hindwing itself often forms only a very insignificant appendage to the unproportionately large forewing, it proffers some secondary changes, in as much as the inner margin is projected to a little lobe which is folded when at rest, and frequently brilliantly coloured. In all other respects the group is very near the Syntomis. 6 out of 8 known species have the forewings hyaline with black border, from which black streaks extend toward the apex and middle of the cell, a pattern most frequently seen in Syntomis and particularly in the species occurring in the same localities as Hyalaethea. Their geographical distribution is very limited, for all the known species come from the Papuan Archipelago.

H. metaphaea Druce (11k) from the Solomon Islands, particularly Guadalcanar, is one of the largest species, resembling somewhat Ceryx keiensis (10b) or Syntomis adjacent (11i), but has the abdomen brown-black, delicately banded with yellow, without the yellow lateral spots of the latter. — georgiensis Roths. georgiensis. (11k) from New-Georgia has the wings rather deeper black than normal metaphaea, and may be easily distinguished by having the abdomen broadly ringed with brilliant orange at the base, but for the rest unspotted jet-black.

H. alberti Roths. (11k) is deeper black, the borders of the wings are broader and more sharply defined, the hindwings orange at the base, the abdominal rings line, distinct, golden-yellow. Solomon Islands (Vella-Lavella), discovered in February by Meech.
**H. sublutea** Beth.-Bak. (9h). This extraordinary species has the forewings transparent, with black veins, the hindwings bright golden-yellow with narrow black border, a contrast almost giving the impression of the abdomen and hindwings of *wimberleyi* (Ilk) being joined to thorax and forewings of *georgiensis* (11k). But in addition the shoulders are provided with long-haired, golden-yellow patagia which alone would suffice to render the species easy to recognize. From the Angabunga River where it seems to be rather common.

**H. decipiens** Rothsch. (11k) is distinguished by the uncommonly long and narrow spot nearest the apex; moreover, the anal projection of the hindwings is more broadly black, and the abdomen black without any spots. New-Georgia, Solomon Archipelago.

**H. meeki** Rothsch. (12a), a small species, with slender body, head and thorax marked with orange, abdomen with orange rings. Hindwings orange at base, hyaline beyond. Guadalcanar (Solomon Archipelago), April.

**H. woodfordi** Btlr. (9h), is like the preceding, but larger, and the hyaline spots on the forewing are more encroached upon by black. Hindwing of ♂ almost throughout, of ♀ at base golden-yellow. Island of Aku (Solomon Archipelago). In its external appearance it reminds one of *H. sublutea*.

**H. dohertyi** Rothsch. (12a) has the basal half of the forewing hyaline, the outer half, inner margin and hindwing black. This peculiar colouring precludes the possibility of mistaking it for any other species. Humboldt-Bay (Dutch New-Guinea), September, October.

**H. kühni** Rothsch. (12a). Forewing brown with only 2 large hyaline spots, one below base of cell and a larger one within its apex. Hindwing orange at base, violet-brown in outer half. Larat Island, discovered in January by H. Kühn.

**H. bivitreata** Hmps. (9h) resembles the preceding form; brown, the entire palpi except the tips, frons, shoulders, pectus, lower part of abdomen and legs orange. On the forewing an hyaline wedge-shaped spot in the cell, and beneath it a triangular longitudinal spot from near base to inner margin. Hindwing brown, base and anal projection yellow. 22 mm. Tenimber, Larat.


Of this genus 43 forms are known, all of which live in the Indo-Australian Region, with the exception of one that is found on the Congo. They are for the most part small insects, of much more delicate build than most Syntomidae, but many with uncommonly big heads. Tongue mostly well developed, palpi short and porrect, middle and hind tibiae with small spines. On the forewing vein 3 arises far before the angle of the cell, 4 and 5 from the very angle, 6 below the upper corner; 7, 8, 9, 10 and 11 are stalked. On the rather small, oval hindwing rib 2 originates considerably before the end of the cell, 3 and 5 arise far apart, 4 and 7 are lacking. Thus the hindwings appear more rounded, proportionately broader than in *Syntomis*, and their flight is for that reason somewhat more clumsy. Many species are very scarce and, on account of their small size, easily overlooked. They have the same habits as the *Syntomis*, and frequent mostly the same localities.

**E. annosa** Wkr. (= marcescens Flbr.) (12b), the largest species of the genus, is represented by a number of slightly different forms: The typical form has the wings blackish (♂) or monotonously brown (♀) with a number of hyaline spots at the base and, separated from them by a broad streak of the ground-colour, several similar ones in the discus. The typical form is found in the Malay Peninsula. — The form from Sumatra named by Rotnschild *ericssoni* has on the abdomen several lateral rows of yellowish-white spots, — *lasara* Pagenst. (12b) is the form from Java, smaller and darker; on the hindwing the basal hyaline spots are separated from the discal ones by a very narrow line on the discocellular, which appears in our figure (made from the type) somewhat two heavy. Apparently not common.

**E. furva** Hmps. (9h), dull yellow-brown, forewings with but few brownish hyaline spots; easily recognized by the yellow-brown hindwings being devoid of all hyaline spots and having in ♀ the inner margin doubly folded. From Damma Island, North-Australia. Only the type (British Museum) seems to be known.

**E. dohertyi** Rothsch. (12b) closely resembles the preceding species, but is somewhat darker; forewings with a few hyaline basal spots, not found in *furva*. Frons dull ochreous, a feature not visible in our figure. From Adonara, one of the Lesser Sunda Islands.
E. ypleta Steinh. The hyaline spots on the forewing large and wedge-shaped, taking up almost the entire wing with the exception of the apex and two blackish streaks from end of cell to termen. Thorax and abdomen black, spotted with brilliant orange. Hindwings orange at inner margin, otherwise black-brown. Smaller than the preceding. Waigiu.

E. lutulenta Snell, has head and body dark brown, marked with orange-ochreous. Abdomen with broad rings. On the hindwings 4 rectangular, dull hyaline spots. From the Sunda Islands. The specimen figured on our plate (12a) as lutulenta is not typical, but represents rather the form strepsimeris Meyr. from strepsimeris, Queensland. This, probably identical with xanthesma Hmps. (appearing rather like a somewhat pale geographica), was by HAMsON (Catal. p. 117) referred to as synonymous with lutulenta, but differs from it in the white tips of the antennae; moreover on the hindwing the basal hyaline spot which in typical lutulenta frequently is absent, is of equal size as the other three. Rather common.

E. confinis Wkr. differs from the figured form malaccensis Rothsch. in having on the forewing the hyaline spots united into one large transparent patch. — musa Steinh. refers to ?? with shorter spots above and below rib 2 of forewing. — catoria Steinh. is the name given specimens with dark, unspotted hindwings. The species has a very wide range, extending from the northwestern Himalayas, where it approaches the Palearctic Region, throughout India to Ceylon and Burma, and as malaccensis to Malacca and Tonkin; catoria is found in Assam and Bhotan. — The South-Indian form intensa Rothsch. (12b) has on the forewing the spots farther separate, on the hindwing, however, united to one large transparent discal spot; the orange markings of abdomen very fine.

E. subaurata Wkr. (12b) resembles the preceding in colouring and markings, but is much smaller. subaurata. More so than Nautilia punctata. Ceylon, where I took several specimens on sunny mountain-roads near Kandy. They are very difficult to recognize, appearing like Diptera.

E. geographica Meyr. (= detola Steinh.) (12b). Size and forewings as in E. lutulenta strepsimeris, geographica, but hindwing with only one hyaline spot and an orange spot at the inner margin. Body less profusely marked with yellow. Eastern Australia, from Brisbane to the Richmond-River.

E. affinis Moore (= politula Steinh.) Dark fuscous; thorax spotted with orange behind. Abdomen on back and sides with rows of golden-yellow spots. On forewing below apex of cell an hyaline spot, reaching to the middle of the lower median; some spotlets at the apex of the cell and above base of rib 2; behind the middle, between ribs 3 and 7, a series of 4 spots, the second one from above small. Hindwing of c with 1, of ? with 3 transparent spots. Andamans.

E. megatorna Hmps. (9h) has the body spotted, and ringed with yellow as in the preceding species, but on the forewings 4 semi-transparent spots within and below the end of the cell and below the apical portion of the costa, and a double spot before the middle of the terminal margin. The forelegs of c with a heavy tuft of hair-scales. From Mackay (Queensland).

E. angustipenna Luc. is almost identical with the preceding, but the spots areas a rule slightly larger, more transparent; c lacks the heavy tuft of hair-scales adorning the forelegs of megatorna c. Queensland.

E. aperiens Wkr. (= moorei Btlr.). Typical specimens (from India proper, Ceylon and Sumatra) differ from the figured form khasiana Rothsch. in having the forewings less profusely shaded dark. On the hindwings there appear besides the small hyaline spots on the inner margin two further ones between ribs 2 and 5, and occasionally a fourth one at the lower angle of the cell. — Occasionally we find in India among typical aperiens ab. lydia Steinh., with still larger hyaline spots which unite to form one large patch. lydia.

E. siamica Wkr. approaches in the markings of the forewing aperiens, particularly the form lydia, but the body is orange, the abdomen with 7 yellow rings. May be at once recognized among other Eressa by the queer shape of the wings, the primaries being protracted to a sharp point, the hindwings, however, quite rudimentary, only about 1 mm wide and 2 mm long, whereas the forewings are just as large as those of the preceding species. Unknown to me in natura; the figure reminds one somewhat of Ceryx diptera. (9f). Siam.

E. semifusca Hmps. (12c), easy to recognize by the fine yellow markings of head and body; forewings hyaline in basal half, the remainder black. Hindwings with black costa. From Perak and Labuan (Berneo).
**nigra.**  
E. nigra Hamp. (12c). The black body most delicately marked with yellow; abdomen without any yellow rings, only faintly margined with yellow along edge of segments. Forewings hyaline throughout with yellow costa, only the apex and the end of the cell heavily black, likewise a streak connecting both; hindwing black in the apical third. Discovered by H. Harrowd at Simla in the Himalayas.

**lepcha.**  
E. lepcha Moore (12c) from Sikkim has the wings like the preceding species, but on the primaries the apex, end of cell and their connecting line as well as the apex of the hindwing less heavily black. Abdomen very gaily coloured with blue-black and yellow rings and tinged red behind; this does not appear very clearly in the figure. The type is in the Staudinger Collection in the Berlin Museum.

**quinquecincta.**  
E. quinquecincta Hamp. (12a, erroneously marked "quinquefasciata"). Considerably larger than the preceding forms. Thorax marked with yellowish, abdomen ringed and tipped with yellow. Wings transparent, on forewings the median vein distented at the end; a black cross-bar reaches from apex of cell to outer margin, where it widens into delta-shape. From Perak.

**erressoides.**  
E. erressoides Hamp. (12b) is smaller than quinquecincta; abdomen with orange bands and grey anal spot. Wings hyaline, primaries with black apex of cell and border, narrowing at end of rib 3. Burma.

**microchilus.**  
E. microchilus Hamp. (= plumalis Hamp.) (12c). Body black, abdomen with dull yellow spots crossing the black. Wings hyaline, apex of cell and the outer portion of the space between ribs 2 and 3 on forewing black. Burma.

**vespa.**  
E. vespa Hamp. (12c) has thorax and abdomen more profusely marked and ringed with yellow. Wings hyaline, costa heavily black-brown, outer and inner margins the same. From above the apex of the cell a blackish band drawn across the inner angle of the forewing to the outer margin. Burman.

**vespina.**  
E. vespina Rothsch. is distinguished from vespa Hamp. (12c) by its inferior size and the absence of the yellow collar and thoracic stripe, as well as by the narrower and paler abdominal rings which disappear towards the anal segment. The marginal border of the hindwing quite narrow and regular, not widening towards the apex. Taken in October at Kuching (Borneo).

**vespoidea.**  
E. vespoidea Rothsch. (12d), like vespa (12c), but the markings of thorax and the abdominal bands are broader and coloured deeper orange, and on the primaries the costa is not black, but whitish. Khasia Hills, September.

**erythrosoma.**  
E. erythrosoma Hamp. (12c) closely resembles the last mentioned species in the pale costa and black apex of cell; but has otherwise only the apex of the forewing and a spot on the outer margin between the terminals of veins 2 and 3 black. From Burma, like most representatives of this group.

**ichneumoniformis.**  
E. ichneumoniformis Rothsch. (12c) resembles the preceding forms, but has the body marked and ringed with lemon-yellow instead of orange, and the wings transparent throughout excepting the very narrow quite regular outer margin. Khasia Hills.

**discinota.**  
E. discinota Moore (9h) has, like the last named species, the wings hyaline throughout, with yellow costa and uniformly black, narrow outer border; but its size is twice that of ichneumoniformis, and the yellow abdominal bands are on the back interrupted as in E. multigutta (Vol. 2, pl. 9h). Khasia Hills (Burma).

**multigutta.**  
E. multigutta Wkr. The form figured under this name in Vol. 2, pl. 9h is blanchardi Pouj with which it was considered by Hampson synonymous. But among the many specimens before me (78 blanchardi and 10 multigutta) I find no transitions. The typical multigutta is found in Burma, blanchardi from Sikkim to Tibet, where it enters the Palearctic Region. Whereas multigutta has in the apex of the forewing only a minute dark pointed spot, — if indeed it is not altogether transparent —, blanchardi has the wing distinctly bordered with black. Both forms resemble somewhat the preceding species; abdomen always marked with 2 distinct rows of yellow spots, as it is seen in the figure.

**everetti.**  
E. everetti Rothsch. Head and thorax marked with pale yellow; abdomen pale yellow with brown rings. Wings clearly transparent, opalescent, bordered with black; on forewings apex, end of cell, and a spot between ribs 2 and 3, as well as ribs 3 and 5 black. Length of forewing 15 mm. Borneo (May) and Natuna Islands (July till October).
E. simplex Roths., described from a single ♀ taken in July near Sabathu, (India), is smaller than simplex. the preceding species; head black-brown, body likewise, with dorsal and lateral rows of yellow dots. Forewings black-brown, a hyaline wedge-shaped spot in the cell, another one, hand-shaped, below it along vein 1, and 3 smaller ones between 3 and 4, 4 and 5, 6 and 7. Hindwings hyaline in basal half, the remainder black-brown.

E. nacioides Fdlr. is said to have brown wings, ♀ forewings with 4, hindwings without any hyaline spots; ♂ forewings with 5, hindwings with 3 similar spots. Body with pale spots. The three last named species I do not know.

E. syntomoides Roths. is dark brown, forehead and shoulders white, abdomen brown, basal ring and macular rows white. Forewing smoky-brown, a large subbasal and a discal hyaline white spot below the median; a similar one in the cell and 5 beyond its middle. Hindwings smoky-brown, with subhyaline white spot near base and only 2 others beyond the cell. 21 mm. Borneo. — hosei Roths. is smaller and darker; ♀ with 2 spots in cell of forewing; abdomen ringed with white. Dulit, North-Borneo; perhaps a distinct species (Rothschild).

E. sexpuncta Roths. is smoky-black, the first and last but one abdominal segments dirty white. Forewing with 2 hyaline white spots before and 2 beyond the middle; hindwing with two similar ones, a subbasal and a larger median. ♀ 9 mm, ♂ 14 mm. Borneo, April and September.


Among the Old World Syntomidae this genus contains the most striking and beautiful forms. Not only are they generally much larger than Syntomis and Eurosia, but are often adorned with lovely metallic hues, especially and most gorgeously developed in the Ethiopian Region. Thus E. sperchia and amoenus display on their body a richness of colouring and such a wonderfully intense glitter that it is hardly equalled by any other butterfly of the Old World, but approaches the metallic lustre of its South-American and Mexican allies. All the species of Euchromia visit flowers; the tongue is well developed, palpi short, upturned, not reaching the vertex. Antennae long, thickened in the middle, doubly pectinate, the teeth widening at the end. Tibiae provided with short spurs. Forewing rather pointed, narrow at base, costa slightly curved in ♀, with white or yellow hyaline spots arranged in 3 groups, a basal, discal and preapical one. Hindwings fairly large, with basal and discal hyaline spots which are ordinarily always separate, and only in a few aberrative cases united. Base and space between the spots on forewing generally with metallic blue hues. On the forewing ribs 3—5 arise at the lower, 6 at the upper angle of the cell, 7—10 are stalked, 11 originates at the apex of the cell. About 50 forms are known, $\frac{1}{1}$ of which belong to Africa, the rest to the Indo-Australian Region. All are day-fliers, enjoying the bright sunshine and counting in certain localities among the most common butterflies.

E. polymena L. (12c). Wings with large, dull orange, somewhat translucent spots. Collar, segments 1, 4 and 5 dark blood-red, segments 2, 3, 6 and 7 steel-blue, segments 1 to 3 silvery at the sides. Frons and 2 dots on the shoulders with intense silvery lustre. Throughout India proper, as far as Ceylon and the Andamans, eastward to Burma.* — ab. laura Btlr. (12d) has also the 6th segment blood-red instead of steel-blue, and on the forewing the orange basal spot is either absent or only indicated by a faint dot. — orientalis Btlr. which is the form of Farther-India, has the abdominal segments 4, 5 and 6 red as in laura, but the orange spots complete as in typical polymena. — ab. hainana oh. nov. (12e) lacks the silvery dot on the shoulder, and the orange spots on the wings are more transparent, a feature which of course does not appear in the figure. From Hainan. — In formsana Btlr. from Burma and Formosa the two orange spots below the cell are united, but notched and constricted. — fraterna Btlr. (Type from Moutemain) has the 6th segment not red throughout, but only on the sides. — siamensis Btlr. has on the other hand not only the 6th but also the 7th segment red. Siam. — elegantissima Wallgr. which is the common form in the Philippines, resembles a large spotted orientalis, but has the first segment orange instead of red. An aberrative form is ab. diffusihelvolva Schlzte (Type in the Museum of the 'Bureau of Science' at Manila) in which the orange spots on the wings are shaded with brown, but at their margins pale yellow. Was taken at Manila in December. — ab. egestosa oh. nov. (12e) is a dark aberration with greatly reduced spots. On the hindwing the basal spot is altogether absent, the discal one reduced to a roundish dot. Philippines. Type in Seiwani's collection at Frankfurt a. M. — celebensis Btlr. (— butleri Roeb.) has only 2 abdominal segments red, and the upper portion of the last band reduced to a fine line. From Celebes. — Lava red-brown, $\frac{1}{4}$ inch in length when full grown, with reddish tubercles provided with tufts of brown bristles. On the 1st, 2nd and last segment is has blunt hair-brushes which have twice the length of the dorsal tuft on the remaining segments.

*) In the Macleay Museum in Sydney there is a specimen marked 'North Australia' which is undoubtedly an error.

X 12
Eucheromia. By Dr. A. Seitz.

It feeds on Convolvulaceae, probably also on other weeds, and makes its cocoon with the help of its hair. The imago flies in sunshine, resembling some gaudily-coloured, hornet-like wasp; its clumsy, straight forward flight resembles almost that of Zygaena. The native children in Ceylon to whom I showed them feared they would sting. They are met with singly all the year around, but only at certain times and localities in greater number.

**E. horsfieldi** Moore (12d) has the wings spotted almost exactly as *polygyna*, but the abdomen black, with some spots metallic blue, the 1st and 4th segments lemon-yellow. From Sumatra throughout the Sunda Islands to Flores; according to HAMSMAN also on Christmas Island. Not scarce in Java. — **ab. pallens** nov. (12d) refers to **ab. neglecta** occidentalis brillantina. The same appearance is also presented by normal specimens which have flown for any length of time, especially in rain. But in this case the spots, especially near the border are bleached irregularly, as is the case also in *polygyna*; larva reddish yellow-brown, in front and behind with long hair-brushes; the hair on the sides black, on the dorsal tubercles black and blue. Feeds on Dioscoreae.

**E. magna** Swinh. is the only Euchromia of Ceylon with hyaline, instead of orange spots. Abdomen characterized by its blackish steel-blue lustre, with 2 orange bands on the 1st and 4th segments. Forewings with one spot below the base of the cell, one in and another below the cell; one spot above rib 6 and 2 between 3 and 5; all of these spots transparent. The hindwing has only one at the base, one each within and below the cell, and another one band-shaped beyond the cell. The species is not often represented in collections sent from Ceylon which are mostly made near Colombo, Kandy or Galla; nor did I find it in the South of the island; but it occurs at Trincomali which has a very different Fauna from that of Southern Ceylon, and also in Southern India. In size it approaches a small *polygyna*. It seems rather scarce or very local.

**E. vitiensis** Hmps. from the Fidji Islands is black, with frons and coxae clear white, thorax partly with metallic lustre, abdominal segments 1 and 4 ringed with orange, 3 and 4 yellow beneath and adorned with lateral rows of metallic blue spots. Forewings with hyaline spots, one elongate before the middle and below the cell, a square one each within and below its apex, and some longitudinal spots above ribs 2, 3, 4 and 6. Hindwings with hyaline spots at base in and below the cell. Discocellulars marked with metallic blue; a band behind the cell between ribs 7 and 2. 40 mm.

**E. oenone** Blr. (12f), a most gaily coloured species, having the collar red, patagia yellow, segment 1 brass-yellow, 2 and 3 steel-blue, 4 and 5 dark red, 6 and 7 blackish-blue. Wings with hyaline and blue spots. Those at costa occasionally coloured yellowish (ab. 1 Hmps.) Solomon Islands.

**E. cincta** Montr. Likewise gaudily coloured; tegulae purplish-red, segments 1 white, 2 and 3 blue in front, with whitish glistening dorsal and lateral spots; 4 dark red, 5—7 with brass-yellow spots above and on the sides. Forewings with hyaline spots similar to the preceding form, hindwings with 4 yellow ones. From New Caledonia; unknown to me in natura.

**E. auranticincta** Hmps. (12f), easily recognized by the colouring of the abdomen; Segments 1—3 orange, the remaining ones blood-red; all segments dorsally margined with black, beneath unicolorous deep red. German New Guinea.

**E. neglecta** Rothsch. (12e). Wings with large hyaline spots and, embedded between them, some dots of metallic blue lustre. Abdomen most characteristic: Segments 1—3 silvery, margined with blue, 4—6 dark blood-red. Solomon Islands. Figured from a typical specimen from Bougainville of the Tring-Museum. — **ab. occidentalis** occidentalis Rothsch. (12i) from Vella-Lavella and Kulaumobura differs from typical *neglecta* in having the first abdominal segment pale brass-yellow above, the 2nd and 3rd metallic sky-blue.

**E. dubia** Roeb. (12h). Abdomen with dull blue lustre; the first abdominal segment dull orange, the 3rd—5th blood-red beneath; from Ceram. — **brillantina** Rothsch. (12i) is one of the loveliest Euchromia, having the wings by the hyaline portions gorgeously adorned with glittering blue spots. Abdomen with metallic blue bands, scarlet beneath; 1st segment white. From Buru. — **fulgens** Lathy stands midway between brillantina and dubia, differing from the latter in having all the abdominal segments excepting the first banded with blue above. Geelvink Bay, New Guinea; **bourica** Bsd. (= caelipennis Wkr., pagenstecheri Roeb.) (12h) lacks on the first segment the yellow band; the entire abdomen dark. From Buru, Ceram and Ambonina. — **amboinica** Hmps. (12h) appears closely allied to the preceding forms, but has the abdomen ventrally less red and above less intensely blue. Known only from Ambonina.
E. caelipunctata Lathy resembles the forms of the preceding species, having like this the red abdominal bands incomplete above; but the first segment has above a crimson spot, and there are no blue rings. Island of Buru.

E. ekeikei Beth.-Bak. has the forehead black margined with white, head, tegulae, shoulders and patagia rich metallic blue-green. Thorax black, abdominal segment 1 creamy-white, 2 and 3 black with broad metallic border; the 4 middle segments crimson beneath. Forewings rich metallic blue-green at base and at apex of cell. An hyaline longitudinal spot near the base, 2 large median spots in the cell, the lower one very large and irregular; 2 longitudinal spots between 3 and 5, another very long one between 6 and 7. On hindwing 3 large wedge-shaped spots separated by the ribs, beyond the cell an hyaline band composed of 4 spots, and a band of metallic blue-green at the apex of the cell. 54 mm. Ekeikei, March and April; Mafalu, August.

E. collaris Swinh. Fronds white, tegulae orange-red, 1st abdominal segment half white and half orange-red; 2nd and 3rd metallic blue banded with black, 4th black, the remainder crimson banded with black. Forewing with hyaline spots, one wedge-shaped in the centre of the cell, below it another large and heavy spot, and 4 longitudinal ones in the disc. On the hindwing the basal and discal bands are united, leaving nearly the entire wing transparent. Shortlands Islands.

E. paula Röh. (12h) is dull black above, the hyaline spots rather small, abdominal segments 4—7 narrowly bordered with pale grey-yellow. Metathorax covered with yellow hair behind. Abdomen ventrally with 4 red bands. Celebes.

E. irius Bsd. (= boisduvalii Montr., aruica Wkr.) (12f), widely distributed throughout New Guinea, very common also in Mysol, Arou and the Moluccas, resembles neglecta occidentalis Rothsch. to which it undoubtedly is closely related. Like this it has segment 1 brass-yellow, 2 and 3 sky-blue; but the following segments are above not dark red with fine black borders, but black with very fine red margins.

E. pratti Beth.-Bak., is not unlike irius Bsd. Shoulders creamy-white, 1st abdominal segment ochreous, the two subsequent ones black, broadly banded with metallic pale greenish-ochreous, the 2 or 3 next ones black with brilliant crimson border. Beneath the 3 or 4 middle segments banded with red; forewings jet-black, a small hyaline spot in the cell, 2 larger median spots, the lower one twice the size of the upper one, 2 elongate ones between ribs 3 and 5, another similar one between 6 and 7 and, beneath it, a short and narrow streak. Hindwing with milky-white longitudinal spot in cell, beneath which 1 or 2 spots, which may occasionally be absent; a broad hyaline band beyond the cell. — Both wings with metallic spot at apex of cell. 2 characterized by white patagia and the richer red abdomen, 51 mm. Ekeikei, March and April.

E. creusa L. (= thelebas Cr., irus Cr., ganynede Dbl.) (12i) is the oldest and largest species known. North Australia, Fiji Islands, New Guinea, Celebes, New Hebrides, Pelau and many of the smaller South-Sea Islands. The anterior 3 segments are deep blue, the remainder of the abdomen dark blood-red; all segments finely margined with black. Abdomen beneath from the 3rd segment on clear scarlet throughout. Specimens from Ceram and North-Australia have the first abdominal segment occasionally blackish. Looking at them from the side, the hyaline spots of the wings are distinctly blue-green. Seems to be very common in some places.

E. shortlantica Swinh. Black, frons and 1st abdominal segment greyish-yellow, the latter with a blue central spot; 2nd and 3rd segments metallic blue, banded with black, the remaining segments crimson with black rings. On forewing a few blue markings at base, both wings have the discocellulars blue, and are spotted as in creusa. Shortland Island, Solomon Archipelago.

E. salmonis Swinh. Body as in shortlantica, but the first abdominal segment with 2 brown spots and without the metallic blue central spot. On forewing the spots larger, below the upper discal dot a white stripe, the lower median spot reaching the subbasal streak and extending broadly to near the base. On the hindwing the basal band is generally divided by the ribs into 3 spots the upper one of which is much longer than the others. Ysabel, Solomon Islands.

E. walkeri Hmps. (12i) has head and thorax black, with metallic blue spots; forehead white, abdominal segment 1 dull greyish-white, occasionally with strong blue tinge, 2 and 3 pale blue, 4 and 5 dark purple, 6 and 7 blackish with dark blue gloss. Beneath segments 3—5 are red. The spots on wings smaller than in most species. Ternate, discovered by J. J. Walker.

E. cyanitis Meyr. (12g). Thorax with metallic reddish-violet lustre. 1st abdominal segment reddish-brown, the remainder orange, tipped with black; all segments margined with black, the 2nd and 3rd with
EUCHROMIA. By Dr. A. Seitz.

plagosa.

E. plagosa Swinh. Black, frons white, patagia grey-yellow; 1st abdominal segment grey-yellow, 2nd black, 3rd metallic blue with white central dot, 4th and 5th orange, separated by black lines, the last two ones black with blue rings. Wings spotted with white. Resembles cyanitis Meyr. New Pommern.

aemulina.

E. aemulina Btlr. (12g as aemulia), resembles in colouring auranticincta (12f); the first abdominal segments yellow, the remainder purple, but segments 2 and 3 clouded with whitish and all the abdominal segments broadly banded with black. Collar and 1st segment orange. New Guinea.

cpa.

E. cpa Beth.-Bak. is very close to aemulina Btlr. Metallic blue-green, frons white, tegulae, shoulders, abdominal segments cream-coloured, the latter from the 2nd onwards with black basal margins, increasing in width toward the anal segment, which is quite black. Forewing with small hyaline spot at base of cell, 2 more in the middle, the lower twice the size of the upper one, two oval spots between ribs 3 and 5, and another, suboval one between 6 and 7, below which a small hyaline dash. Hindwing with milky-white longitudinal spot at the base of the cell, 2 short, narrow spots below, and an hyaline discal band beyond it. Both wings with a metallic lunulate spot near the apex of the cell. 48 mm. Ekeikei, March and April. Type in the author's collection.

gemmata.

E. gemmata Btlr. (12f) has the collar red, shoulders bordered with yellow, 1st abdominal segment orange; the remainder of abdomen ventrally and laterally likewise orange, dorsally brilliant metallic blue. Solomon Islands, Halmahera.

isis.

E. isis Bsd. (12g). Collar, shoulders, 1st, 3rd and 4th abdominal segments orange; otherwise black with bright metallic blue lustre. Wings spotted as usually. Duke of York Island; Bismarck Archipelago, taken on the shore near Ralum in September. — mathewi Btlr. from New Georgia which is united by Pagenstecher with isis, has the collar and the last abdominal segments red.

lurlina.

E. lurlina Btlr. (12g). Collar brownish, shoulders margined with dull pale brownish. 1st segment pale yellow, 2nd and 3rd pale blue bordered with darker, 4th brownish-orange, 3rd laterally spotted with orange New Guinea, Louisiada Archipelago. It is not certain whether it also occurs on Thursday Island.

rubricollis.

E. rubricollis Wkr. (12g) has the collar red, shoulders bordered with pale red; 1st segment with 2 whitish-yellow lateral spots, the remainder of the abdomen with broad steel-blue and narrow whitish-yellow bands, in the middle dark red at the sides. Hindwing with very large hyaline basal spot. New Hebrides, Solomon Islands.

Additions and Corrections of the Syntomidae.

P. 63.

In Zerny's Catalogue of Syntomids (Lepidopt. Catal. Pars 7, p. 8) it is mentioned that another form than the one figured in Hampson's Cat. Lep. Phal. I, p. 35 has been described later under the name of Ceryx pleurosticta. For this he proposes the name laterimacula Zerny; habitat Canara, whereas that of pleurosticta limps, is Labuan (Borneo).

finitima.

C. finitima Wilen. is one of the many insects discovered within recent years in Formosa. 2 blackish, thorax and abdomen marked with yellow, the latter with yellow sides. Forewing with 7 spots, one each in and below the cell, 1 larger one in the intramedian space, and 4 others traversing the wing beyond the cell, the second one of which small. Hindwing with broadly black borders and pale central area intersected by the black ribs. Unknown to me in natura.

P. 64.

godarti.

C. godarti Bsd. (= libera Wkr., eupreipennis Btlr., fytchei Moore) (9f), which has repeatedly been described as a Syntomis, belongs rather to Ceryx. Wings somewhat like those of C. decorata (10c), but thorax less yellow, and the abdomen has only at the base and on segment 5 a yellow band. Common, but only locally, from the Himalayas south as far as Southern India and Ceylon, eastward to the southernmost provinces of China.

For Ceryx subformicina, described in 1904 by Bethune-Baker. Hampson later on established the Genus Paralaethia. The species is figured on pl. 9h.
Additions and Corrections of the Syntomidae.

C. catena Wilem. described from Formosa; blackish, prothorax with yellow spot, on the central abdominal segment a rudimentary yellow band; the pale spots on forewings similar to those of finitima, but smaller, those of the outer row more regular, like a chain. Hindwing with 3 pale spots, one below and 2 behind the cell, the latter separated by a vein. *Possibly the ? of finitima*. Unknown to me in natura.

P. 65.
C. sivinhoei Beth.-Bak. With this New Guinean species a small form from the Moluccas was lately united: minor Rothsch. from Manavolka.

For Cer. flavibasis Hmps. must, according to ZERNY (Lepid. Catal. 7, p. 7), the name hageni Snell, be substituted, for which reason the form described by me and figured on pl. 10c under the name of hageni must be changed to bernhardi, in honour of its discoverer.

C. albipuncta Hmps. (should follow clarenonti): ♂ black-brown, frons white, tegulae with white lateral spots, patagia with similar outer margin. Thorax striped with white above, metathorax and sides of breast spotted the same; abdomen with dorsal rows of small white spots excepting at the anal segment, banded with white beneath. On forewing an hyaline wedge-shaped spot in the cell, an elongate submedian spot from base to anal angle, with its lower edge notched in the middle by a dark spur; a spot above the base of rib 2; a postmedian stripe above 6, and an indistinct streak above 7. Some elongate spots above ribs 4 and 3. Hindwings black-fuscous, with a small hyaline spot at the lower apex of cell, and large spots in the intramedian space and above rib 2, continuing to the anal angle. 30 mm. Luzon.

P. 66.
To Ceryx hyalina Moore add: (9g).

P. 67.
Trichaeta albifrontalis Pag. Of this species, hitherto only known from Nias, lately another, somewhat similar form was reported from Borneo: = borealis Rothsch. Cf. Novit. Zoolog. 1912, p. 123.

T. biplagata Rothsch. was only recently described from Borneo (Sarawak). ♀ head, thorax and abdomen black, antennae black, tipped with brown-yellow. Forewings black, below the submedian vein a subbasal, angular, semi-transparent spot; another large spot at the end of the cell divided into 4 parts by the veins and extending from rib 2 to the subcostal. Hindwings black-blue. Length of forewing 13 mm. Taken in the Kiesin Mountains in Sarawak, on July 21st.

T. albiplagata. The name of the Malacca form is not albisignata, but albosignata Wkr.

T. proleuca Hmps. has forehead and shoulders white. Forewings with square antemedian hyaline spot below cell, and a smaller postmedian spot above rib 1, occasionally united with the former. A postmedian band between 7 and 3, widening distally below rib 5. 30 mm. Sumatra.

T. monolueca Hmps. ♀, frons, patagia and breast white. Abdomen greenish above, with white basal spot, and white segments beneath. Forewing with elongate hyaline spot below cell and base of vein 2, another, smaller wedge-shaped spot within it, a larger one above vein 6, and 4 roundish ones above and below vein 4. Hindwing with hyaline spot below cell and between 2 and 5. 30 mm. Singapore, discovered by RILEY.

Read T. quadriplagata Snell, instead of quadriplagiata (p. 67 and pl. 10f).

T. teuniformis Wkr. Wings spotted similarly as in divisura (10f), but the hyaline spot below the cell tenuiformis, mostly much longer. Abdomen with one pair of spots at the back of each segment. Himalaya (Sinda), Bhotan.
Alphabetical List

indicating the original descriptions of the forms of Indo-Australian Syntomides.

* shows that the form has been figured at the cited place.
Index of Original Descriptions of Indo-Australian Syntomidae.

quadrilagata Trich. Snell. Iris 8, p. 129.
quinquecineta Er. Hmps. Cat. Phal. 1, p. 119.*
ribbei Synt. Röbb. Iris 1, p. 29.*
sem fusca Er. Hmps. Cat. Phal. 1, p. 118.*
stellaris Synt. Snell. Iris 8, p. 130.
stenozona Synt. Hmps. Cat. Phal. 1, p. 69.*
teioupera Synt. Hmps. Cat. Phal. 1, p. 76.*
trizonata Trich. Hmps. Cat. Phal. 1, p. 56.*
vespera Er. Hmps. Cat. Phal. 1, p. 118.*
Family: Uraniidae.

Since the time when this family was introduced in Vol. II (p. 275), opinions have utterly changed as to its classification. It is evident now that at least 2 — if not more — families had been entirely confused, and it is to this mistake that the quite untenable classification in the other Heterocera-volumes is due. Above all, the insertion between the Sphingidae and Notodontidae is entirely unjustified, for which reason we have ranged the family here, at a neutral place, so as to remove it from its place between the Sphingidae and Notodontidae which, in fact, according to recent notions, are very closely allied to each other; it stands here quite isolated, too, showing neither relations to the Arctiidae nor to the Syntomidae, so that we insert it without a number.

The family has been differently divided up by the various authors. Hampson separates the Sematura and Coronidia from the family and places them beside the Saturniidae which, in their genus Copiopteryx, exhibit a habitus not dissimilar to that of the Sematura.

It is almost impossible to supply a general description of a family lacking every uniformity and being composed of quite heterogeneous elements; we therefore refer the readers to the words introductory to the different divisions. We can merely point out here the contrasts quite unparalleled in our system between both the genera and the groups of genera of the Uraniidae. There are lepidoptera with diurnal habits and exhibiting the most magnificent golden green colourings occurring in all the faunae: Chrysiridia in Africa, Urania in America, and Alcis in Indo-Australia, opposed by typical nocturnal insects with dull dark brown colours: Sematura in America and Nyctalemon in India. All of them are large insects, contrary to the Epiplema from all the warm zones, which are very small and resemble our smallest European Geometrids. Another peculiar group is formed by the Microniinae which have recently been separated from the family by Dalla Torre. Both their habits and their exterior are utterly unlike those of any of the other genera, whereas their habitus is somewhat similar to that of certain American Saturniidae (Aethesialia etc.) which, in their turn, are entirely unlike the other Saturnid genus Copiopteryx resembling the Sematura. We find doubles of this genus (Urapteroides) again among the palaeartic Geometrids, i.e., the Urapteryx-group which resembles most of the Microniinae not only externally but still much more in their habits. Like the Urapterygidae, the Microniinae sit among the green leaves of trees, from where they are chased up by the least alarming noise, dashing away in large bows and settling again superficially, with their slightly raised wings widely spread on leaves; only when dawn sets in they come forth in order to fly spontaneously.

This enormous difference of the components of the family is utterly contrasted by an extraordinary homogeneity of the species within the different genera. All the Chrysiridia and Urania are Papilio-shaped, black, white-fringed diurnal insects decorated with green bands. All the Nyctalemon are very large, broad-tailed, almost uniformly dark brown nocturnal insects. All the Sematura are brown-veined, wood-coloured nocturnal insects with spatulate tails. All the Micronia are white lepidoptera with pointed, dull dark-striped wings, flying in the dusk. All the Epiplema — more than 250 — are very small, light or pale, very delicate moths resembling tiny Geometrids and peculiarly rolling up their wings when at rest. All the Coronidia and the genera recently separated from this genus only contain insects with dark brown markings on the forewings and with a blue, red, yellow, white or other decorative band in the median area of the hindwing.
The connections with the Geometrids are quite undoubtless now, since the larvae of several genera have been discovered and found to have 16 feet. It is just the most Geometrid-like imagines — those of the genus *Epiplemia* — that are yielded from scantily haired small larvae with 8 prolegs and the claspers distinctly separated from the last prolegs; and the second group, the *Micronitinae* resembling the *Urafterygidae*, the larvae of which are apparently still unknown, prove to be anatomically quite dissimilar to the large Geometrids and more closely allied to the *Alcidis*.

The geographical range of the group of *Uraniiidae* is just as amazing as their systematic position. Very close relatives, such as *Chrysiridia* and *Urania*, are almost antipodes, the former being neotropical, the latter Eastern Ethiopians; whereas the utterly opposed *Alcidis* and *Nyctalemon* live together, just like the Papilionid-like *Urania* do with the bark-brown moths *Sematura*. Thus the faunistic conditions neither provide us with any hint for the phylogenetic classification of the various groups; it only appears in general that the more homogeneous and universally distributed *Epipleminae* represent an ancient group, whereas the magnificently glistening heliophile insects, the *Urania* and *Chrysiridia*, entirely make the impression of products of the latest period of creation.

Hence the insignificant general marks of the heterogeneous groups are confined to the following: antennae behind the middle distinctly though gradually thickened; the neuration of most of the genera must be called rather primitive than specialized, but it may also be reduced to the open cell of the wings (*Alcidis*). In nearly all the genera the hindwing is tailed, lobate or angular, often with several lobately projecting notches.

The total number of *Uraniiidae* known up to this day, according to the old scheme, amounts to about 750 forms. The Indo-Australian region and the American region partake of this number in about the same shares; the Ethiopian region, however, exhibiting the most beautiful forms, contains a much smaller number: from North America only 4 species have been reported, whilst in the palaearctic region they occur only at the south-eastern frontier and in Europe they are altogether absent. — The *Epipleminae* having been eliminated from the family and forming a family of their own, there remain hardly 100 species in the restricted family.

**Subfamily: Uraninae.**

This subfamily is composed of the large genera of the family not exhibiting the Geometrid type. They are divided into the blackish-green genera *Urania* (America), *Chrysiridia* (Africa), and *Alcidis* (Indo-Australia), being diurnal insects; from these the dark brown nocturnal insects: *Nyctalemon* (Indo-Australia), *Coronidia* and *Sematura* etc. (America), have been separated. The imagines have broad wings, the broad-tailed hindwings show long, entirely white fringes. — Little is known of the larvae; they are fat yellowish-brown insects with dark markings and 16 feet, on the dorsum there are soft bristles. Pupa of the less known forms on the ground in a cocoon which is inside moistened with saliva.

**1. Genus: Alcidis Hbn.**

Rather large lepidoptera with broad soft wings, the hindwings with long, mostly white, delicate fringes. The long antennae begin to swell up already in the middle, but decrease again towards the end which is mostly recurved in a bow. Head rather large, with a broad frons, palpi upright with a needle-shaped 3rd joint. Legs strong, but short. Wings with a very short cell which in the forewing is hardly more than \( \frac{1}{3} \) the length of the costa, but the delimitation of the cell is difficult to ascertain owing to the cross-vein always being nearly quite atrophous. Forewing above black with a deep dark bluish-green gloss and a median lustrous blue transverse band through the centre and often yet a narrower stripe before the apical portion; beneath the forewing is light blue, sometimes Avitli a somewhat greenish lustre, and with black bands; hindwing likewise black and light blue. — Larva pale yellowish-brown, marked black, stout and plump, with small feeble bristles on tiny tubercles. Pupa in a cocoon on the ground. The imagines fly by day in the sunshine in the beds of rivulets and around the tops of trees; they are mostly common at their habitat and are quite unmistakably copied in New Guinea and Ara by a *Papilio* (bayloizei, Vol. IX, p. 46). — Type of the genus: *A. orontes* Cl.

**A. orontes** Cl. (= argyrios Gmel., orontia Hbn.) (71 b). The best known and frequently figured species distributed on the Southern Moluccas across New Guinea to North Australia. The grey bands above are rather narrow, almost as in *liris* (71 c), but those in the forewing are more oblique, already beginning behind the basal third of the costa and extending close before the anal angle. The fringe forms narrow small white crescents between the ends of the veins on the hindwing. At some places rather common. — ab. *tristis* Pfeiff. (71 b). In contrast with *passavanti* the metallic green band is reduced here; the bands of the forewing are distinctly removed proximad, of the posterior band only traces are left. The band of the hindwing is strongly crossed...
black by the veins and in the interspaces interrupted by shadows, New Mecklenburg. — ab. ornata Pfeiff. ornata. (70 c). All the bands with an intense brass tint, traversed by the black veins and indented at the edges. In the hindwing the otherwise dark marginal portion is intermixed with numerous metallic spots and, on the contrary, there are small black spots in the green median band. In all the forms of orontes the black band of the hindwing beneath is not slightly rounded, but sharply flawed.

A. liris Flór. (71 c) is very similar to orontes, but on the forewing both the bands are more slantly arranged, the band before the apical portion much sharper and finer. Fringe of hindwing broader white, especially the broad dent in the centre of the margin almost quite bluish-white. Batjan. — sordidior Roth. sordidior, has a broader, darker median band of the forewing; the band of the hindwing is much broader, dull metallic green; in the lower part of the band the pale blue colour is absent, and the tail is pale blue with 2 black spots. Expanse: 112 mm. Base Camp, Dutch New Guinea.

A. metaurus Hppfr. (= orontes Gn. nec Cl.) (70 b). Mostly all the bands of a deep brass, sometimes metaurus. coppery golden tint. All the bands very much broader, especially those in the forewing; also that before the apical portion strongly expanded and curved. Northern Australia.

A. zodiaca Btlr. (= metaurus Wkr., orontes Wkr. nec Cl.). Similar to metaurus, but recognizable by zodiaca. the median band of the forewing being extraordinarily widened at the inner margin, about 3 times as wide as at its beginning below the costa, and with a very intense copper gloss. North Australia and New Guinea.

A. cydnus Flór. (71 c). In contrast with zodiaca, the fringe of the hindwing is very narrow white between the ends of the veins. The marginal lobe in the middle is above almost quite black. All the blue-green bands above are shortened, those of the hindwing only in and above the cell, whilst the whole inner-marginal portion remains black. Ambon. — moerens Pfeiff. is a very dark form from Waigeo.

A. agathyrsus Kirsch (70 b, 71 c). A very common species from New Guinea. The median bands are strongly widened, especially the band of the hindwing is diffuse at the inner-marginal part, mostly in both wings with an intense brass tint. Fringe of hindwing broad white, the tail of the hindwing almost invariably of a pure bluish white, at the base at most spotted. In the forewing the ground-colour in the basal half as a rule intensely covered with metallic blue; band of forewing slanting and rather straight; end of abdomen brass-coloured. — coerulae Pfeiff. (70 c), from Mysol, differs from the latter in the narrower and, in a certain light, very deep sky-blue band of the hindwing.

A. arius Flór. (= arius Flór. *) (70 c). Separated from agathyrsus by the very broadly flown band arius. of the hindwing, with an almost entirely white lustre, which is not very clear in the figure. The median band of the forewing is very much curved and at the inner margin twice as broad as below the costal margin. Aru Is. — In ab. pallida Pfeiff. (70 b) the hindwing is much broader, flown out at the inner margin pallida. and of a bright whitish-blue with a very slight yellowish tint in the anal part.

A. boops Wle. is said to differ from all the other Alcidas in the uncommonly large head and the thick, protruding eyes to which the name alludes. The light bluish green band of the hindwing is broadest in the middle. Likewise from the Aru Is. Unknown to me in nature.

A. passavanti Pfeiff. (71 b) is at once discernible by its small size and probably only a stunted form passavanti. of agathyrsus. Expanse hardly 7 cm; bands deep glossy dark blue and those in the forewing very flat. French Island **). — gracilis Pfeiff. is similarly small, but lighter. Mecklenburg.

A. ribbei Pag. Very similar to latona (69 c), in the the dent in the margin of the hindwing hardly projects beyond the others. Band of hindwing as in latona, not very broad, straight, and coppery before the anal portion. Beneath the forewing in the distal 7\(^\text{th}\) black, traversed by the light blue bands, hindwing with a broad black marginal band intermixed with a chain of light blue spots. Bougainville. Probably only a slightly different form of the following latona with which it is best united.

A. latona Drc. (69 c). Like ribbei, but the metallic bands are more sharply outlined; in the hardly latona. perceptible traces of the subapical stripe. Band of hindwing before the anal portion with a very bright purple reflection. Salomons Is.


2 Genus: **Nyctalemon** Dbn. (Lyssa Hbn., Lyssidia Wle.)

In this genus a number of very similar, very large, brown, tailed lepidoptera are combined. which according to the opinion of many authors represent but one total species, or at any rate only few, extremely similar though variable species. The very strong wings are always dark wood-brown, forewing broad and

*) In Fldr's text arius is quoted by mistake, but arius in the plate, which is also surely meant.

**) The patria quoted is probably not the island situate to the south of Melbourne in the Bass Straits. This question could not be cleared, because the author died shortly after having done the proof-reading.
pointed, hindwing with a long broad tail-appendage on veins 2 and 3, and a shorter dent on vein 6. In the structure they are very similar to the _Alcidis_, their shape is somewhat like that of the _Papilio_, with a very strong proboscis, strong legs and a slender abdomen. They are absolutely nocturnal, hiding in dark places by day, preferably under the roofs of huts or in dwellings, where they conceal themselves. They sit with their wings widely spread, closely appressed to the ground, but are easily roused, whereupon they mostly fly away only for a short distance of 8—10 m and conceal themselves again. In doing so they first settle down with their heads turned upwards, but then they turn round, until they sit with their heads down flapping their wings once more (Mell i. 1.) — According to _Rebel_ (i. 1.) they chiefly fly in the evening around blossoming trees. Neither _Mell_ nor _Riber_ took them often on the light or bait, but according to _Riber_ they are frequently found on sugared bananas. In the tropics they fly throughout the year, but are much more rarely met with in the dry season, and I myself found only at the beginning of winter evidently old specimens. According to _Mell_ (i. 1.) the genus does not proceed beyond the tropic in Kwantung. In the tropics _Riber_ found them especially often during the transition from the wet to the dry season; he believes in different generations and presumes (i. 1.) the very great variability of the different forms to be due to the change of the generations.

— The larva, according to _Kuehn_, is cylindrical, plump, dull yellowish-white, with red-brown head and feet. Upper surface with numerous irregular though symmetrical spots which are accumulated on the 5th, 6th, and 10th rings; some species are also of a light greennish colouring. In running it continually spins threads, and young larvae may also in cases of danger drop from a branch by means of a thread (_Riber_). Pupa on the ground in a cocoon mixed with saliva between leaves that have been tightly spun together. The imago appears, in the hot season, after about two weeks.

*patroclus.*

_N. patroclus_ _L._ (= _patroclaria_ _Hbn._) (69 a) is one of the smaller and lighter earth-brown forms, the band on the forewing quite straight, in the _♂_ more, in the _♀_ less intensely dusted with brown. From South China, where, however, the species is by far less common than in India proper, to the south through Indo-China to Malacka; also found in Java and reported from Amboina; most of the specimens from this island, however, are to be reckoned to _achillaria_ _Hbn._ (= _patroclus_ _Cr._ _nec_ _L._) (69 b) in which the stripe on the _♀_ forewing is much broader, but never purely white. On the whole also larger sized, but otherwise extremely similar to typical _patroclus_; the apical portion of the forewing is here likewise distinctly brightened up before the margin. — In the Papuan district the species is continued in a considerably darker form: _goldiei_ _Dor._

*achillaria.*

_N. achillaria._ (69 b) which may be synonymous with the somewhat more blackish-brown _macleayi_ _Montr._, reported from Woodlark. Here the ground of the wings above is deep dark brown, so that the stripe on the forewing brightly shines forth white. — _dilatus_ _Rob._ Light ground-colour. On the forewing the median band is narrow, dingy white, terminating at _♀_ inner margin. Behind it a diffuse brownish-grey band, 10 mm broad, posteriorly broader. Besides a submarginal parted band, somewhat darker. Eastern Celebes. — _velutinus_ _Rob._ Ground-colour chocolate brown. The white band 2 mm broad, brownish, ending near the inner angle. Submarginal band less conspicuous. Costal margin intensely spotted black. Band of hindwing 1 mm broad, almost extinct. _mutata._ Goram. — _mutata_ _Btlr._ (71 a), from the Salomons Is., is scarcely of a darker ground-colour than the typical _patroclus_, but the marginal area in both wings is less brightened, so that — especially in the _♂_ — the small dark splashes are less distinctly outlined. _Butler_ states the transverse stripe to be broader than in typical _patroclus_ and in _goldiei_, but this statement is wrong, since its width varies very much individually, particularly in typical _patroclus_, whilst in _mutata_ this stripe is more remote from the margin, especially in the hindwing; but this is neither quite constant. _mutata_ is very frequently taken to be a “distinct species”. — _kotzenbergi_ _Pfeiff._ (69 a), from Tenimmer, is the quite similarly darkened form of _achillaria_, the relation of which to _goldiei_ is like that of typical _patroclus_ to _achillaria_, though it is especially large and strong. The white stripe on the forewing is here very much broader, particularly in the _♀_ in which also the stripe on the hindwing is much lighter though not purely white as in _menocetus_ _♀_. As in _goldiei_, also in _kotzenbergi_ the white stripe on the forewing is somewhat distally remote towards the inner margin.

*ulysses.*

_N. ulysses_ _Pfeiff._ (71 a), from Key I. Here the band of the forewing begins, as in _mutata_, before the centre of the wing and is slightly bent towards the margin in the first two thirds, but shortly before the tornus it is reverted towards the base. The band of the hindwing begins nearer at the base of the wing, straight as far as the middle, then curved towards the anal angle, thus reversely compared with _patroclus_. — In the form _albiapicails_ _docile._ _Pfeiff._, from Manila, the apex of the forewing is white also above. — The name _docile_ _Btlr._ refers to particularly large specimens which, however, almost invariably exhibit a less speckled apical portion of the hindwing and, as the following species, slightly prolonged tails.

*menocetus.*

_N. menocetus_ _Hpljr._ (= _hector_ _Wkr._, _longicaudus_ _Schau._) (70 a) especially differs from the preceding species in the stripe of the forewing extending medially and almost parallel to the margin. In most of the forms belonging hereto the under surface is less densely speckled brown and generally also of a paler ground-colour. The range is similar to that of _patroclus_; from Southern China across India to the southernmost part of Malacca and to the east as far as the Philippines. — _zampa_ _Btlr._ (= _patroclus_ _Dury_ _nec_ _L._) (70 a) is a continental form from North India, on both sides rather purely dark brown, both the posterior and anterior tails of the hindwing relatively long; transverse stripe in both wings almost to the middle removed basad, in both
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sexes light (in the ♀ almost purely white) though narrow. It may be a distinct species. — In the Andamans a smaller paler brown Nyctalémon occurs with dull median stripes hardly contrasting with the ground-colour: — najabula Mr. (69 b), whilst crameri Bsd., from Continental India, is probably only a transition to it. — najabula, crameri.

As to the larvae and pupae we refer to the description of the genus.

N. curvata Skinner (71 a) is recognizable by the strongly curved transverse stripe in the forewing, curvata. that of the hindwing being likewise distally convex, though less so. New Hebrides.

Subfamily: Microniinae.

This subfamily being composed of mostly delicate white forms (cf. pl. 72) strongly contrasts with the preceding subfamily. There are no metal colours to be seen at all. The scheme of markings is distinctly similar to that of Nyctalémon, since the somewhat oblique median stripe is also to be found in many Urapteroides etc., but it is reversely dark here on a light ground. Thus the lepidopteron exhibits a colouring much rather like that of Urapteryx, which resemblance is expressed in the names of several Microniinae. This impression is still increased by a notch in the centre of the margin of the hindwing, exhibiting, as in Urapteryx, some blackish-brown stigmata which may serve the resting lepidopteron to copy a prolonged abdomen and thus to divert attacks from the real body of the insect, or which may also be serviceable in the copula. The Microniinae begin to swarm already soon after sunset, flying exactly like our Urapteryx. On being beaten out of the bushes, they fly off for a few seconds and then mostly settle on the upper side of leaves in a Geometrid-like position, the green colour of the surrounding leaves reflecting on the glossy white surface of their wings. Frequently they also sit on branchlets and leaf-stalks with erect wings, in the same way as the American Urania may assume a butterfly-like position, when settling temporarily. Another convergency with the American Saturniid genus Asthenidia is expressed in the exterior colouring, the structure being morphologically quite dissimilar. — The Microniinae inhabit the hot districts of Asia and Africa; but few reach the palaeartic south-eastern frontier. Nearly all the species are very common at their habitats. (Seitz.)

1. Genus: Urapteroides Mr.

Palpi delicate, porrect, antennae of ♀ thickened. Forewing broad. Veins 3 + 4, 6 + 7, 8 + 9 stalked. Hindwing with an obtuse dent at vein 4, 3 + 4 stalked. Type: astheniata Gn.

U. astheniata Gn. (72 a). Wings lacteum. On the forewing with an interior, median and exterior brown astheniata. transverse stripe, obliquely turned distally, between the two first a short cellular streak. On the hindwing only two transverse stripes nearing each other at the anal end. On both wings before the margin a band formed of striae. Marginal line dark brown. Expanse: 45—55 mm. India, Singapore, Sunda Is., Moluccas, Philippines.

U. diana Sch. Similar to astheniata, but in the forewing the median band is nearer to the cellular diana. streak, exterior band much broader. On the hindwing the exterior band is broader. Expanse: 60 mm. Perak.

U. urapterina Btlr. (72 a) also resembles astheniata, but it is smaller. The exterior marginal stripe is urapterina. almost obsolete. Chief difference on the hindwing the black margin extends to the point of the little tail. Expanse: 42—48 mm. New Mecklenburg, West Australia. — hermoea Dnc. is probably identical with this or the following species.

U. anerces Meyr. Similar to urapterina (72 a), but separated from all the other species by black spots anerces. on the head and thorax. Expanse: 50 mm. Fidji Is.

U. hyemalis Btlr. resembles a small urapterina (72 a). The brown bands are somewhat more oblique hyemalis. and narrower. No brown streak on the cross-vein of the forewing. Salomon Is.

U. equestraria Bsd. is insufficiently described by the author: “Forewing with 3 brown bands, costal equestraria. margin with black dots. Hindwing with a black spot at the base of the little tail.” New Guinea. According to Swinhoe it belongs to this place.

U. swinhoei Rothsch. Forewing white. Costal and distal margins broad earth-brown, the former swinhoei. somewhat grey. Hindwing white with an earth-brown margin. A broad submarginal band from near the apex to the inner angle, where it is paler. A large spot in the tail and a small one near the inner angle. Traces of a yellowish-brown median band extending from the inner margin. Expanse: 28—32 mm. Dutch New Guinea.

2. Genus: Cyphura Warr.

Separated from the preceding genus by a somewhat different shape of the hindwing, particularly of the small tail, and the quite different marking. Type: geminia Cr.

In the first species the small tail of the hindwing is especially long.
bifasciata.  
C. bifasciata Btlr. (72 a). On the forewing the costal and distal margins, as well as the submarginal band of the hindwing are dark brown. Forewing with 2 central parallel olive brown bands, the interior one of which is continued on the hindwing. 48–55 mm. Bismarck Archipelago, New Guinea.

costalis.  
C. costalis Btlr. This and the following species differ from all the others in the dark brown subcostal stripe of the forewing leaving the costal margin itself white. On the hindwing the submarginal band is somewhat more remote from the margin. The bands in the forewing are placed just as steep. Expanse: 46 mm. Salomons.

subsimilis.  
C. subsimilis Warr. (72 a) is very similar to costalis Btlr., but the 3 spots on the hindwing are different. The median spot is oval, the spot at the anal end flat, almost merged in the brown band, the exterior spot triangularly ending in the dent. Beneath a square spot at the apex of the forewing; discal streak absent. Expanse: 52 mm. Salomons Is.

catenulata.  
C. catenulata Warr. (72 b as geminia). Similar to bifasciata (72 a), but the dark costal and distal margins only half as broad, the discal margin lighter at the ends of the veins, towards the apex almost white. Fringe in front and behind dark. Expanse: 52–60 mm. Salomons Is. The figure denoted as catenulata on pl. 72 a likewise represents subsimilis.

urapteroides.  
C. urapteroides Joic. The dark margins still narrower. Costal margin of forewing narrow with blackish-brown spots not quite to the apex. Distal margin narrow dark from the inner margin to vein 6, then only the fringe dark. Two oblique pale brown, narrow, slightly bent median lines. On the hindwing the median band is narrow. The dark margin extends only to the base of the tail, from there onwards pale, thin. Expanse: 55–60 mm. New Guinea. Fergusson Is. The figure 72 b denoted as urapteroides is probably a slightly deviating geminia.

maxima.  
C. maxima Strd. (72 b). Similar to approximans (72 b). On the forewing the costal, distal, and median bands are narrow, linear, especially in the ∆. Tail of hindwing shorter. The black apical spot is round, in bifasciata long. Expanse: 50–60 mm. New Guinea.

gutturalis.  
C. gutturalis Sieh. Costal margin of forewing striated and spotted blackish-brown, the ground-colour between white. Bands darker than in bifasciata and narrower, but broader than in falca. Head white. New Guinea.

falka.  
C. falka Sieh. Similar to bifasciata (72 a). In the forewing the costal and distal margin narrow and rather sharply outlined blackish. At the apex white, with 2 parallel brown transverse stripes. On the tail of the hindwing 2 large black spots. Expanse: 55–65 mm. Toqal-Key, Ambon, New Guinea.

approxi-

maxima.  
C. approximans Sieh. Similar to geminia. Bands and margins darker. In the ∆ the costal margin of the forewing is broad chocolate brown, striated black. In the ∆ white with dark striæ. Submarginal band of hindwing brown broad brown, in the ∆ at the anal end faded. Expanse: 50–60 mm. Key Is.

approximans.  

approximans.  
C. swinhoei Joic. (72 b). Similar to approximans. The dark costal margin on the forewing broader, especially at the apex. On the hindwing the exterior band broader; its pale posterior end almost merges into the median band. Perhaps only a form of maxima. Expanse: 50–60 mm. Waigeu.

approximans.  
C. semiobsoleta Warr. Costal margin of forewing dark brown, in the middle spotted white. From the centre of the inner margin a straight ochreous-brown streak not quite to the median vein, on its outside a spot at the inner margin. In the ∆ the interior band extends to the costal margin, the exterior one to the centre. Expanse: 50–62 mm. Dutch New Guinea.

approximans.  
C. urapteroides Joic. (72 b). Costal margin of forewing almost to the apex spotted black. The space on the outside of a line from 1/4 costal margin to 3/4 inner margin grey with an oblique band in the ground-colour. The grey marginal band of the hindwing is narrowed towards the anal end, 2 black spots on the small rounded tail. Expanse: 40 mm. Dutch New Guinea.

approximans.  
C. pardata Warr. (72 c). Forewing creamy white. At the costal margin more or less intensely striated black. An olive brown very oblique interior and median band. The exterior band only at its inner edge distinct behind the centre of the costal margin to the anal end, distally faded. The broad black submarginal line does not quite reach to the apex and anal angle. Hindwing white, towards the anal angle brownish, with 5 black submarginal spots, a large one each before and behind vein 3, 2 small ones at the submedian fold, and one at vein 1. A broad submarginal stripe from vein 5 to vein 2, and a line one close at the margin from vein 6 to 4. Expanse: 52–62 mm. New Guinea.

approximans.  
C. semialba Warr. Forewing in the basal area white, outside greyish black. The separating straight line extends from before the centre of the costal margin to 1/2 inner margin. From 1/2 costal margin a tapering band runs to before the middle of the inner margin, where it is indistinct. Hindwing white with a straight black submarginal line to close before the anal angle. Above the tail a brown shadow, below it 2 black marginal spots. Expanse: 35–40 mm. New Guinea.

approximans.  
C. multistrigaria Warr. Forewing white. Distal area from 3/5 costal margin to 1/5 inner margin smoky brown, dusted with black, at the margin paler. Costal margin above the centre of the cell striated black. Two narrow pale brown lines from 3/4 and 1/2 costal margin to before and behind the centre of the inner margin, sometimes faded. Hindwing white. The blackish brown submarginal band curved at vein 4 and narrowed
to the anal angle. Marginal spots as in *semialba*. — In *dealbata* Warr. only the distal margin is smoke-brown, *dealbata.* the band on the hindwing pale. Expanse: 42—55 mm. New Guinea.

**C. albiscuta** Warr. Forewing greyish-black, in the distal area undulate black streaks. Costal margin white with black dots. An oblique white band from $\frac{2}{5}$ costal margin to $\frac{1}{5}$ inner margin; hindwing with a black submarginal band, in front broad; 2 black marginal spots.

**C. atraentaria** Warr. (72 c). Foerywing blackish-brown. At the base a small white triangle the exterior angle of which extends to behind the cross-vein and from there rectangularly curved to $\frac{2}{5}$ inner margin. Hindwing white with a broad black band. Its inner margin from the centre of the costal margin to the inner margin. — *extensa* Rothsch. shows the white places in the wing more extensive, the darker ones more grey and brown. Under surface more uniformly coloured. Dutch New Guinea.

**C. caudiferaria** Bsd. (72 c). The dark costal margin of the forewing tends towards the apex, distal margin still broader blackish-brown. In the hindwing the marginal band is considerably far away from the white distal margin. — In *pannata* Flbr. the apex of the forewing is much broader dark by the rounding of the white ground-colour. Expanse: 45—50 mm. Batjan, Halmahera, Waigen.

**C. latimarginata** Sveh. (72 c). Costal band of forewing broader than in *caudiferaria*. Marginal band of hindwing still farther distally removed, often reaching the margin, so that the black anal spots vanish in it. Expanse: 50—55 mm. New Guinea.

**C. phantasmah** Flbr. (72 c) is much larger than the two preceding species. Costal margin and distal margin in front and behind very narrow brown, often almost quite white. Expanse: 58—65 mm. New Guinea.


Palpi long, delicate, porrect. Antennae thin, dentate. Hind tibiae with terminal spurs, in the ♂ with a long hair-pencil. On the forewing the costal margin is curved, the distal margin straight. Veins 3 and 4 from the cell-angle, 6 + 7 and 8 + 9 stalked. In the hindwing veins 3 and 4 from the lower cell-angle, 6 and 7 from the upper one. Type: *fasciata* Cr.

**St. fasciata** Cr. (= *caudata* F.) (72 d). Foerywing with a few black dots at the costal margin. Three *fasciata.* double subbasal brown lines, behind them 2 median and 2 postmedian ones which are more or less forked towards the costal margin, 2 submarginal double lines. Marginal line black. Hindwing with fewer brown lines. Expanse: 50—65 mm. India, Sumatra, Borneo.

**St. directaria** Wkr. (72 d). Less profusely covered with brown almost single lines, especially the 3 *directaria.* subbasal ones not double. Expanse: 50—60 mm. Amboina, Ceram, Aru, New Guinea.


Palpi delicate, long. Antennae of ♀ thick, filiform. Neuration of forewing; veins 2 + 3 in the ♀ on a short stalk rising near the base, in the ♂ separated, and 3 rising with 4 from the same place. Besides $6 + 7$ and $8 + 9 + 10$ stalked. In the hindwing veins 3 and 4 rise from the lower angle, 6 and 7 from the upper angle. Sometimes vein 1 of forewing is strongly bent. Costal margin of forewing bent, apex mostly sharp, distal margin straight. Hindwing at the base of the costal margin with a projecting lobe. Distal margin tailed, angled or rounded. The white ground-colour of all the species is more or less intensely brown or greyish-brown. The typical species *striataria* shows quite an abnormal neuration, the cross-vein of the forewing showing a slanting position.

**A. ciferaria** Wkr. (= *obliquaria* Mr.) (72 c). Wings densely covered with fine brownish ochreous *ciferaria.* scales. Forewing with plain broad faded bands from $\frac{1}{5}$ inner margin straight and from $\frac{2}{5}$ inner margin slightly curved to the apex. Hindwing with a subbasal, a median, and an exterior slightly curved band. On the small tail a black spot, and mostly also before and behind it a few fine marginal dots. Beneath only at the costal margin of the forewing brownish, otherwise white. India, Java, Borneo, Dammer. — In *vagata* Mr. (72 e) *vagata.* the bands of the forewing are broken up into double lines, the bands of the hindwing are formed of striae, more distinctly contrasting with the ground-colour. The spot on the little tail is very small. From the same patriae. — In *lutepicta* Pouj., from Siam, the marking is quite indistinct. It probably belongs to this species. *lutepicta.* Expanse: 32—40 mm.

**A. inchoata** (72 e) Wkr. Forewing rather purely white with few black dots at the costal margin, 2 pale brown bands from $\frac{1}{3}$ and $\frac{2}{3}$ inner margin, nearing each other towards the apex. Marginal area sometimes finely striated brown. Hindwing with a subbasal, a median and a distal pale brown band being slightly curved. On the little tail a black spot. Before and behind it at the margin 1 or 2 fine dots. Mysol, Amboina, Batjan, New Guinea. — In *simpliciata* Rob. the ground-colour is of a purer white, at the apex of the forewing the bands are obsolete, on the hindwing only the median one is present. Goram. Expanse: 30—38 mm.

**A. reticulata** Warr. Forewing dingy white, costal margin with fine brown striae. The whole wing with partly reticulate transverse striae. An indistinct double grey line from the inner margin behind the middle
to the apex. Fringe white, with a dark basal line. Hindwing reticulately striated. On the little tail a black spot. Expanse: 30 mm. Tenimber.

**A. mund a** Warr. (72 g). Forewing white with a fine dense grey striation. Two oblique grey stripes from the inner margin at $\frac{1}{4}$ and behind the middle, nearing each other at the apex, 2 fine grey submarginal bands. On the hindwing the 3 distal lines are mostly faded. Tail with a small black spot. A dark marginal line only from the apex to the little tail. Beneath $\frac{3}{4}$ and $\frac{3}{4}$ white. Expanse: 30 mm. Larat.

**A. nanula** Warr. Forewing white with numerous fine brown transverse streaks. A fine smoke-brown band from $\frac{3}{4}$ of the inner margin parallel to the distal margin (thus like a *Micronia*) only extending to the centre of the wing. Hindwing with few striae, forming an angular band near the margin. Median band dentate with 2 sharp points in the middle. A round black spot in the little tail, at the apex a fine streak. Expanse: 28 mm. Queensland.

**A. teriadata** Gn. (= ceramata Wkr., defectaria Wkr., canescens Lucas) (72 g). Wings white with greyish-brown bands. On the forewing 2 bands of double lines from $\frac{1}{4}$ and $\frac{1}{4}$ inner margin almost straight to the apex, behind them 2 fine submarginal lines. On the hindwing the 3 bands are similar to *vagata*, but narrower, especially the median band. Tail with a black spot. Marginal line from there to the apex fine black. Expanse: 28—32 mm. Sumatra, Wetter, New Guinea.

The following species exhibit on the hindwing only an angle, not a little tail.

**A. striataria** Clerck (= grammearia Hbn.) (72 d). Forewing sharply pointed, distal margin of $\frac{3}{4}$ slightly incurved, white with a brown stripe in the cell, a brown double band from $\frac{1}{3}$ and $\frac{1}{3}$ inner margin and a feeble submarginal line united near the apex. At the apex a few black spots. Hindwing with 2 subbasal, 2 median, an exterior and a submarginal band. In the forewing vein 4 is strongly bent in the $\frac{3}{4}$. Expanse: 36—42 mm. Minahassa.

**A. rectinervata** Gn. (= leptalitata Gn.) (72 d). Extremely similar to *striataria*, but the $\frac{3}{4}$ easily separable by the straight course of vein 4 in the forewing. Bands somewhat greyer. The females of the two species are scarcely to be distinguished. Expanse: 35—40 mm. Borneo, Sumatra, Palawan, Mindanao.

**A. parvidentata** Warr. (72 e). Forewing white, costal margin with black striae. Subcostal vein finely spotted black. Bands pale brown, a double one from $\frac{1}{3}$ inner margin and one from behind the centre, united before the apex, a faded stripe in the cell, submarginal band double. Hindwing with 4 double bands. Marginal line brown, Lombok, Celebes. — **moluccana** Prout is distinguished by the absence of the spots at the costal margin, and by the feeble submarginal band. Ceram, Amboina. Expanse: 42—46 mm.

In the following species the hindwing is rounded.

**A. basiguttaria** Wkr. (= inquinata Warr.) (72 e). White. Costal margin of forewing with 4 or 5 black spots at the base, 3 larger ones at the apex. Four pale brown bands from the inner margin near the base, from $\frac{1}{3}$ inner margin and behind the centre, then a submarginal line, united at the apex. Below the latter 2 black spots. Hindwing with a basal, an interior, a double exterior, and a submarginal band. Waigeu, Borneo. — In *duplicata* form. wor. (72 e) the bands on both wings are double lines. The subapical spots on the forewing are reduced. Minahassa. Expanse: 40—45 mm.

**A. i phiata** Gn. (= pontiata Gn., convexaria Wkr.) (72 g). This species has been dealt with already in the palearctic part, Vol. II, p. 276. Small, white, with a rusty yellow subapical spot. Bands grey, distinctly defined. Expanse: 30—34 mm. India, Burma, China.


This genus does not differ in the neuration from the preceding genus, but only in the shape of the hindwing. The little tail is somewhat larger than in *Acropterus*, and the distal margin is undulate. Besides the scheme of marking is different. Type: *puellaria* Wkr.

**puellar ia** Wkr. (= titania Kirsch, nivea, unipuncta, obsolescens, multiguttata Warr., sphaeristis Meyr.) (72 e). Costal margin of forewing slightly curved, with some small black spots and 2 or 3 larger ones at the apex. On the little tail of the hindwings a large black spot, before and behind it several small ones. All of these spots may be altogether or partly absent. Expanse: 40—46 mm. Waigeu, Halmahera, Batjan.

**tristriata** Key, New Guinea. — A form of *puellar ia*, which may be identical with *tristriata* Pag. (72 f), exhibits on the forewing 3 stripes parallel to the distal margin, the median one of which is very broad, on the hindwing the interior one is absent. New Guinea.

**pieridaria**.

**St. pieridaria** Gn. (= notabilis Pag., quadristrigata Warr.) (72 f). Costal margin of forewing with fine black dots, often a larger one at the apex. From the inner margin 4 straight brown lines, the first from $\frac{1}{4}$ inner margin...
inwards, the second from before the centre, the third equally far away, somewhat broader, the fourth parallel to the distal margin as far as the centre of the wing. Hindwing with 3 pale brown bands from the costal margin and 2 submarginal lines which are united in a large spot at the anal end. Marginal spots as in *puellaris*. 

Expanse of wings: 38—44 mm. Waigeu, Bismarck Archipelago, Fergusson Is.

**St. angulifera** Warr. Forewing without the two interior lines. Hindwing with but 2 lines. Both angled and dentate in the middle. Some brown streaks before the distal margin, black marginal dots. Expanse: 36—40 mm. Dili-Timor, Wetter.

**St. quadrifascia** Warr. (72 g). Costal margin of forewing with fine black dots, a large apical spot. Hindwing with a small spot in the little tail and a fine dot analward. Beneath all white. Expanse: 28—32 mm. New Guinea, Fergusson Is.

**St. nigroapicata** Pag. (= bipunctata Warr. 2, combinata Warr. 3) (72 g). The *f* of this species by its marking frequently forms a transition to the genus *Acropteris*. White with pale brown bands. On the forewing from $\frac{1}{3}$ of the inner margin and behind the middle convergent to the apex, not reaching the latter. On the hindwing a basal, median and exterior band. In a *f* of Waigeu only the last of these bands is present in the hindwing. On the forewing a black apical spot, a small one below it, and one at the anal angle. — In *apicata*.

**Puncta** Warr. the latter spot is absent, and at the apex the 2 small ones are united, forming a large one which is also present beneath. In all the 2 *f* before me the brown bands are absent. In the forewing vein 2 + 3 on a longer stalk than usual, in the hindwing also 3 + 4 and 6 + 7 slightly stalked. Expanse: 28—34 mm. New Guinea, Waigeu. *Anteia acrosema* Meyr. is probably the same species.

6. Genus: **Pseudomiecrionia** Mr.

Palpi short, porrect. Antennae thickened, flattened. Hind tibiae with 2 pair of spurs. Forewing slightly bent at the costal margin, apex rounded, distal margin straight. Veins 2 and 3 arise from the same place. Veins 6 + 7 and 8 + 9 + 10 stalked. In the hindwing veins 3 and 4 from the lower, 6 and 7 from the upper angle. Type: *coelata* Mr.

**Ps. coelata** Mr. (= fratera Mr.) (72 d). Similar to *Strophidia fasciata*. White. Costal margin of forewing with fine black spots. Bands pale brown, parallel, bipartite, margin narrow blackish-brown; 2 black spots at the little tail of the hindwing. Expanse: 38—42 mm. India, Ceylon, Borneo, Ceram.

**Ps. unimacula** Warr. Similar to a small *coelata*. Recognizable by the only large black spot at the little tail of the hindwing. Dili-Timor.

**Ps. simplicifascia** Suh. Interior, median and exterior bands oblique, narrowly pale brown. Median band forked at the costal margin; 2 fine submarginal lines. The spot at the little tail is brown. Expanse: 40 mm. Andamans.

**Ps. advocate** Wkr. (= opposita Sn.) (72 f). White with pale brown lines from the costal margin obliquely outward to the inner margin. Subbasal line very indistinct, the four next ones are inclined to double. Submarginal line plain. In the hindwing the first line is absent, the second incomplete, the third and fourth broader. In the little tail an elongate spot and another one proximad to it. Borneo, Ceram, Flores, Ambon. — In *maculata* Warr. (72 f) the forewing lacks the subbasal line, the following 3 lines are forked. On the hindwing another third spot near the anal angle. Minahassa, Celebes. Expanse: 38—40 mm.

7. Genus: **Micronia** Gn.

Palpi porrect, delicate, long. Antennae thickened, flattened. Hind tibiae of *f* with a hair-pencil, a middle spur, a terminal pair. Forewing bent at the costal margin, apex pointed, distal margin straight. Veins 2 + 3 on a short stalk (*f*), or 3 and 4 from the same place (*f*), 6 and 7 from the same place, 8 + 9 + 10 stalked. Hindwing as in *Pseudomiecrionia*. Type: *aeuleata* Gn.

**M. aculeata** Gn. (= gannata Gn.) (72 f). This common species has already been dealt with in the palaearctic part, Vol. II, p. 276. It flies in the whole of South Asia: India, Philippines, Formosa. — f. *sondaicaetum* Gn. is somewhat more yellowish, otherwise hardly different. Sundas.

**M. obliterata** Warr. Forewing white with fine brown striae and 2 pale brown bands parallel to the distal margin. The first behind the centre, the second half way to the anal angle, no marginal line. On the hindwing the distal line is somewhat dentate, more remote from the first, nearing it at the inner margin. Fringe brownish. The spots in the little tail small. Beneath white. Expanse: 45 mm. Larat.

**M. pluviosa** Warr. (72 g). Similar to a large *aculeata* Gn. White. Forewing with dark grey transverse streaks and 3 smoke-grey bands, parallel to the distal margin, the two exterior ones somewhat forked at the margin.
MICRONIA. By M. Gaede.

costal margin. Fringe white, basal line grey. Distal margin in the ♀ more incurved. Hindwing with 3 grey bands nearing each other at the anal angle, the interior line straight, the others bent. A spot in the dent, one on vein 3. Beneath the apex and inner margin of the forewing are white. Expanse: 50—60 mm. Borneo.

sinuosa.  


discata.  

M. discata Warr. (= doddsiana Luc.). Similar to a small pale sinuosa (72 f). Recognizable by the brown discal spot on the forewing and hindwing. Expanse: 22—30 mm. Queensland. According to Turner it belongs to the genus Pseudomicronia.

fuscifimbria.  


strigifera.  

M. strigifera Warr. Forewing white with irregular pale brown striae, marginal line pale brown. Sometimes an interior, median and exterior greyish-brown line recognizable. — In crassistriga Warr. the lines are broad more distinct bands. On the hindwing only the margin with striae. Median and exterior lines distinct. Expanse: 48—52 mm. British New Guinea.

justaria.  

M. justaria Wkr. (= tristriata Pag. t9), ithygramma Meyr.) (72 d). Forewing white. At the costal margin with delicate brown dots, 3 pale brown bands parallel to the distal margin, not quite reaching the costal margin, from 1/2 behind the middle and 1/3 of the inner margin. Marginal line fine black. Hindwing with an indistinct interior band, the third bent and nearing the median band at the anal angle. Marginal line black, at the veins thickened. A round black spot before the dent, an oblong one in the dent. ♀ beneath brownish, ♂ white. Expanse: 42—50 mm. Batjan, Waigeu, New Guinea.

interrupta.  

M. interrupta Pag. according to the description resembles justaria above, but the ♀ is said to be brownish beneath, and it is much smaller. Expanse: 36 mm. Bismarek Archipelago. A questionable species.

dilatistriga.  

M. dilatistriga Warr. Also similar to justaria, but distinguished by the broad ochreous grey bands. The median one is strongest, sometimes curved. At the costal margin the dark spots are altogether absent, being so very distinct especially at the apex in justaria. In the hindwing the spot and streak at the little tail are but feebly developed. Beneath the ♀ is grey, only at the apex white. Expanse: 50—52 mm. Salomon Is.

punctatissima.  

M. punctatissima sp. nov. (72 g). Wings lacteian, densely dotted yellowish-brown. Costal margin of forewing spotted somewhat darker. Two very indistinctly outlined bands from behind the middle and 1/3 of the inner margin to the apex (thus similar to Acropteris). Both are continued on the hindwing as slightly curved interior and median bands. Exterior band strongly noted, behind it a submarginal band of streaks. Marginal line black, thickened at the veins. In the little tail a large black spot. Forewing beneath brownish, apex and inner margin white, hindwing white. Expanse: 45 mm. Mindanao. Type in the Berlin Museum.

zebrata.  

M. zebrata Warr. Forewing white, at the costal margin large black streaks. Separated from all the other species by 6 oblique thick brownish-grey stripes crossing the wing. Of these stripes the first, second and fourth are broader than the others. The sixth partly consists of streaks. Marginal line black. Hindwing with 4 stripes, the first 3 broad. All nearing each other near the anal angle and connected by a grey streak at vein 1. Below the tail 3 black marginal dots. Expanse: 50 mm. New Guinea.

a) Cf. p. 100, under puellaria
Alphabetical List of the Indo-Australian Uraniidae.

of the Indo-Australian forms of Uraniidae with references to the original descriptions.

* signifies that the form is also figured at the place quoted.

araus Aeg. Flâr. Reise Novara Taf. 121, Fig. 4. *
boops Aeg. Wkr. Trans. Soc. LOND. 10, p. 525. *
mecenas Aeg. Flâr. Neue Schmett. 2, Tab. 2. *
onores Aeg. Clerk Icon. Tab. 26. *
striata Aeg. Clerck Icon. Ins. 55, Fig. 4. *
5th Family: Arctiidae, Tiger moths.

In Vol. 2 I have on page 43 given a short Synopsis of this large family to which the reader may be referred. If we here unite the groups of Arctiinae s. s. with the Spilosominae and Micrarctiinae, all of which were in the Palaearctic Part separated, it is because such a division which was there only made for the sake of clearness, is here unnecessary, since nearly all the Indo-Australian forms belong to one and the same group, viz, the Spilosominae. On the other hand we unite with those mentioned in Vol. 2 p. 43, as a further Subgroup another, rather isolated, papuan genus containing but a few very closely allied forms, — namely the lovely, brilliantly golden-hued, glass-winged Coetjia; in their general appearance and habits resembling the Syntomids, they greatly differ in neuration; antennae long, distented close to the end, palpi peculiarly awl-shaped, far projecting.

Whereas in nearly all other groups of Lepidoptera we notice in the Indo-Australian Region a tendency toward greater richness of markings and lavishness of colouring than are encountered in the Palaearctic Fauna, the reverse is the case in the Arctiidae. For here the mostly very brilliant, gorgeous red or orange hues of the Palaearctic Tiger-moths are for the most part replaced by pale, dull, generally unicolorous whitish or yellowish colouring. The varied patterns of metallic green spots and bands have given way to simple dots, streaks or chains, and often it is only the abdomen which shows some brilliant colour such as red or orange which in the Northern species adorns the entire wings. I say intentionally 'Northern' and not 'Palaearctic species', for in America we observe the same phenomenon; the most gorgeously brilliant, numerous species of the North American Apantesis disappear entirely as we go south, where they are replaced by the monotonous, white or yellow genera of Epaphtheria, Halisidota etc. Still this disappearance of brilliant colours is not quite so sudden in America, on account of the greater number of species of Arctiidae found in the South of that Continent.

We have already previously laid stress upon the fact that the venation which in other lepidopterous families is a pretty good means of distinction, cannot be at all relied upon in the Arctiinae as a means of classification. In certain more difficult cases the peculiarities of neuration may prove to be some help, but as I have said, this method must be resorted to with great reserve, if one would avoid the most impossible results. Thus already v. Linstow has shown that f. i. the neuration of certain species of Spilosoma bears the greatest resemblance to that of Lymantria monacha, which proves that in the Arctiidae it is not sufficiently characteristic. Hampson, whose classical unsurpassable Work will for years to come be the indispensable guide for every Lepidopterologist, was for that same reason obliged to unite in one Genus Diacrisia not less than 30 genera until then in use. Also in the Indo-Australian Region where the Arctiinae play a more subordinate part than in the North, the same method may be adopted, since the greater part of species belong to the closely allied genera Spilosoma and Spilarctia. Thus wishing to avoid to unnecessarily diverge from the more prominent recent scientific Works, we have here adopted HAMPSON's Genus Diacrisia, whereas in the Palaearctic Part we could not agree to uniting into one genus f. i. Diacrisia sannio with Lacydes spectabilis, Rhiparia purpurea etc., keeping for that reason the old genera.

To-day one considers the Group of Arctiidae on the whole to be much more closely allied to the Noctuidae, especially the Acroicetinae, than had been formerly the case. To place them after the Noctuidae and Geometridae as is done in STAEDINGER-REBEL's Catalogue, seemed, however, impossible to us.
 Whereas then on the one hand it appeared advisable to give up many genera based upon a misleading system of neuration, and to unite more than 30 partly rather large Arctiid genera into one and the same genus *Dicerisia* which thus will comprise nearly 200 forms, it was shown on the other hand that in the subfamily of *Lithosiinae* there exist hundreds of forms the neuration of which only applies to one single species. In consequence we have an enormous number of monotypic genera, and indeed most genera of the *Lithosiinae* contain only 1–2 rigid, but slightly variable, known forms which, moreover, are so peculiarly characteristic that it hardly seems likely that any new species will be discovered which will deprive the genera of their mono- or di-typic character. The value of neuration for systematic classification must of necessity be but slight in all cases, where it does not represent a phylogenetically constant anatomical document, but where its abnormal differentiation is only brought about by sexual changes in the wings such as the introduction of scent-patches, tufts of hair-scales or chitinized plates etc. This is the case with a good many of the *Lithosiinae*, and we must therefore in this group not attribute the same value to the characteristics depending on neuration as we justly do wherever we know these to be old-established, constant and but slightly susceptible of external influences.

The foodplants of the *Arctiinae* are so much varied, that we find among them polyphagous species which practically refuse no leafy substance. Thus the exceedingly strong mandibles of f. i. *Rhyparia purpurea* render the use of wire-netting instead of ganze for the breeding cages obligatory, while on the other hand they enable the caterpillar to eat even the toughest leaves. *A. caja* may be observed in the open air not only to change from one species of plant to the other belonging to the same genus, but to choose also representatives of quite different genera, although there may be no lack of the former. Many species change even from Mono-to Dicotyletonic plants. Again others like *Oeonistis quadra* L. the larva of which normally lives on lichens, not infrequently have to abandon this food which on account of its increasing numbers would be insufficient, and wander along the trunks into the crowns of deciduous or coniferous trees where they not rarely do considerable damage.

Lichens which as a rule are not liked by other caterpillars, are, however, not the only uncommon food of the *Arctiidae*. For many species feed on aquatique plants and must therefore be able to swim, as f. i. the American *Palestra* which live on Potamogeton. Also the larvae of *Eupantheria* live in swamps. Many *Antarctica* seem to live on mosses which otherwise are universally refused. True Cannibalism does not seem to exist among them in nature, but a lack of water drives them frequently to it. Thus it has often been observed in breeding cages which are kept too dry, that the larvae attack freshly made pupae or half pupated larvae.

On the other hand some species of *Arctiidae* have decidedly gregarious habits. Thus it is reported that *Acippeona wouza* congregates in great numbers in certain clefts or cavities of rocks. *Callinomorpha quadripunctaria* may be often observed swarming in great numbers about *Eupatorium*, generally crowding upon the same blossoms where some of their associates have previously alighted. Also the larvae of *Euchelia hyalina* and *Eutane terminalis*, which during their feeding period must live apart in order to subsist on the rather widely dispersed lichens, assemble under certain rocks in order to pupate, and one may then find whole colonies of cocoons closely crowded together. The larvae of *Oxygyna* and *Utetheisa* are often found crowding together in great numbers in certain places, and especially of the latter genus the butterflies have been observed migrating over the sea in countless numbers.

In contradistinction to the Palaearctic, mostly gaudily coloured species which for the most part are true day-fliers and visit flowers, a good many Indo-Australian *Arctiidae* only fly in nighttime and never are found on flowers. Many species sit in the grass and may be easily frightened, but others are, like our own *Spilosoma*, so lazy that they hardly will open their wings if one throws them into the air. Whereas some species are very fond of sipping honey, others, lacking the necessary organs, never take in the form of the imago any nourishment.

Regarding their occurrence we find among the *Arctiidae* the greatest extremes. In the same way as in the Palaearctic Region certain species such as *Callinomorpha quadripunctaria* are found in certain favourable localities in astonishing numbers, whereas of others e. g. *Hyphoria festiva* hardly one specimen may be found in years, thus also we find certain Indo-Australian, especially Antarctic, *Arctiidae* to be enormously scarce, whilst others occur in such astonishing numbers as are probably never observed in other butterflies.

I saw in India a certain species of *Utetheisa* whirling about the passing carriage like snow-flakes; at Port-Adele in South Australia I observed whole swarms of *Nyctemera unica*; in Bass Street the wind carried such masses of this insect from the south coast of Australia upon our ship that the sails were simply covered and black with them. In the South of China I brought down hundreds of larvae of *Aganais* by kicking against the trunk of a tree, and the glistening pupae were literally filling all cracks between the bark and cavities in the trees.

Just as there are some species of *Arctiidae* which year after year occur in great numbers and only in exceptional cases may be scarce, thus there are others which are never found in any number, and again others having a periodical appearance which show only rarely a great increase in numbers. The greatest regularity seem to have the *Lysistominae*, of which I only know *Atolnais* (*Gnophria*) *rubricollis* and *Oeonistis*...
quadrata to occur occasionally in enormous numbers. The species of *Nolinae* are almost without exception quite rare, and I remember having observed in districts with a great number of species, even during weeks of industrious collecting, hardly one specimen of this subfamily.

The number of species of *Arctiidae* that have been observed in the Indo-Australian Region, is more than one thousand, of which the *Cocydiinae* are entirely, *Hypsiinae* almost quite limited to that Region. Also the *Nycetemereninae* are almost only found in Indo-Australia, although there exist a few forms in Africa, whereas the *Arctiinae, Lithosiinae* and *Nolinae* are pretty regularly distributed over all the countries of the globe which have not too severe a climate.

I. **Subfamily: Nolinae.**

While referring the reader to what has been said about this group in Vol. 2, p. 44, we may add that there are in the Indo-Australian Region almost twice the number of species as in the Palaearctic, about 100 being known which neither in size nor colouring greatly differ from their northern allies. Many of them are very scarce, and there are but few regions upon the earth where one or the other species may be sufficiently numerous to be met with every day. In the Indian Region Ceylon seems to contain the greatest number and in the Australian Subregion the South-East, at least as far as we know, for but few are so far known from North Australia and New Guinea. Hampson has in his Catalogue given an exact and systematic treatise of this group, and many of our figures were taken therefrom. Anumber of figures was made directly from the types in the British Museum.

The *Nolinae* are distinguished from their close allies, the subfamily of *Lithosiinae*, principally by the presence of velvety ridges and tufts of raised scales upon the forewings, for the most part in three places namely in the cell, at and before its apex. The larvae do not feed on lichens, as far as known, but on leaves which they often gnaw in such a characteristic manner that they are easily traced thereby. Most curious is the manner of moulting of many species; during this process the shell of the head is not completely cast off, but merely raised by the long hairbrushes above the vertex. As this happens during each moult, the full-grown larva presents a curious appearance carrying about 3—4 skulls one above the other, decreasing in size upwards, and each one connected with the next by a tuft of hair. After the last moult it forms a boat-shaped cocoon, from which the imago emerges after about 3—4 weeks. The caterpillars are pretty sensitive and not easy to rear; they sit mostly on the under surface of the leaves, eating the epidermis in such a way that only the stratum of the leaf remains.

Hardly anything was known of the Exotic *Nolinae* until the beginning of our century. In his short Revision Snellen counted in 1874 altogether 24 species, Palaearctic included. In Hampson's Catalogue in which over 30 new species were described, there appear 162 species; it forms the basis of the texte as well as of the illustrations of our present treatise. To-day we know in the Indo-Australian Region nearly 100 forms, and about the equal number in other Regions. It is to be expected, considering the great rarity of most species, that a number of new forms be still discovered, and above all a close examination of the larger collections of Exotic *Micros* will probably give good results, considering the deceptive appearance of most *Nolinae*.

It still remains to be stated, that the Indo-Australian *Nolinae* belong almost exclusively to the same genera as their Palaearctic and American allies.

It may easily be understood that Africa, with its comparative poverty in deciduous trees and lichens, harbours but few *Nolinae*.

1. **Genus: Nola Leach.**

Of the almost 50 forms of this genus which are to-day known, 34 species live in the Indo-Australian Region, comprising many of the larger species. A general diagnosis was given in Vol. 2, p. 44.
N. tenebrosa Hmps. (13c). Pale brown, the basal $\frac{2}{3}$ of forewings dark, suffused with chestnut-brown. The dark area projects, below the costa and again farther down, in spur-shape toward the margin, before which stands a series of black dots. Abdomen and hindwing pale brown, the fringes of the latter yellowish. Described from a single ? in the British Museum, found by Duplexox in Bhotan.

N. loxoscia Hmps. (13a), of equal size as the latter, but paler, more yellowish-grey, the basal $\frac{2}{3}$ of forewing more irregularly shaded, the outer portion paler. Before the margin no black dots, but a few irregularly undulate shades. Sikkim, 7000 ft. of altitude.

N. niphostena Low. (13b), as large as the preceding, colouring rather earthy-grey. The basal $\frac{2}{3}$ darker, shaded with dirty brown, but at the base a pale oval spot touching the costa. The outer area separated from the darker portion of the forewing by a nearly white, irregular line edged with black-brown distally and connected with the margin by some whitish rays. Hindwing more uniformly brown-grey than in the preceding; on the forewing a dark central dot. Reported from Port Victoria (South Australia). I found this species neither at the neighbouring Port Adelaide nor on Kangaroo Island, and only know it from HAMPSON'S Catalogue whence also the figure was taken after being reduced to its natural size.

N. tristicta Hmps. (13a) is pale yellow-grey, marked with dark brown in the middle of the costa and before the apex. In the marginal area a series of dark shades, and before these an oblique row of dots. Hindwings dirty white. Himalaya and Khasia Hills (Assam).

N. achromata Hmps. (13a). Whitish, forewing slightly tinged yellowish in discus and before margin, but without any distinct dark brown marks on costa. Basal half of costal area faintly shaded with grey. From the Solomon Islands.

N. distributa Wkr. (= major Hmps.) (13c) resembles the preceding species, but with two very distinct dark brown marks at base and middle of costa of forewing. ? larger than in the other species. Widely distributed from Africa to Madagascar and India, northward to the Himalayas, eastward to Christmas Island; I took a few specimens at a high altitude near Conoor in the Nilghirs, during February and March.

N. melanota Hmps. (13a) has the brown costal marks very heavy and distinct at base, in middle and before apex of forewings. A few similar, weaker spots at the inner margin, approaching the others, but not completely joining them. Before the outer $\frac{1}{3}$ a dark row of spots. Himalaya, Khasia Hills.

N. grisalis Hmps. (13c) is much smaller than the last ones, closely resembling Roeselia scripta Moore from Sikkim (cf. Vol. 2, pl. 104). Dirty grey, forewings covered with dark tufts and heavy punctate rows in the middle and before the margin; on the costa some heavier dots. From Pundaloga and Puttalam (Ceylon).

N. punctilineata Hmps. (13e) likewise resembles Roeselia scripta as well as the preceding form, but the forewings with more sharply distinct dots; at the base a short streak, the dots arranged in regular, discal and submarginal rows and running together at the middle of the inner margin into a feeble shade. Described from a ? from Bhotan.

N. brunella Hmps. (13c) resembles grisalis; but more brownish, on the forewing the dark shading finer, rather limited to the marginal area and an oblique median band. Hindwings paler. From India proper and Ceylon as far as Assam.

N. cygota Meyr. (13l). Pale slate-grey, forewing with dark central dot and dull, dark transverse bands near base, and in marginal area. New South Wales. — aenictis Meyr. from Queensland deviates only in having the transverse bands rather dentate than undulate, and the oblique shadow in the marginal area more obsolete. — anisogona Low. (13e) from South Australia is larger, with brownish hindwings, otherwise quite similar to the preceding.

N. microphasma Btlr. (= grisalis Swinh.) which has been treated in Vol. 2, p. 44, being found in Japan, is also known from Farther India (Assam) and the Malay Archipelago.

N. obliqua B. Bak. is grey, thorax and abdomen finely dotted with black. Forewing whitish, shaded with grey, antemedian line undulate, postmedian very oblique from costa to rib 4, whence it passes obliquely inwards. This line is brownish-grey, dotted on either side. A large species; 26 mm. Hindwings translucent white. Owgarra, New Guinea.
N. albescens B. Bok. is one of the largest species, 30 mm. White, forewings here and there finely sprinkled with pale grey; a black costal spot at the base, 2 others in the middle and 3 before the apex; the postmedian line with a short black dash. Hindwings translucent white, margined with greyish. Owgarra, New Guinea.

N. epicentra Meyr. (13c). Forewing nearly white with delicate marginal markings and punctate lines. Base shaded with grey-blue; hindwings faintly yellowish-brown. Larger than the preceding ones. Mentioned by Meyrick from Sydney, where it seems to be scarce since I did not encounter it there.

N. fuscibasalis Hmps. (13b) is much smaller than the preceding species. On forewings basal half and marginal area dull olive-brown, with a whitish transverse band between. The basal third separated by an outwardly convex band. Hindwing dark brown-grey with yellow marginal line. Ceylon and Burmah, undoubtedly also widely distributed in the other parts of India, where on account of its small size it may have been overlooked.

N. laticincta Hmps. (13b) resembles in size the preceding form. White, forewing with brown median band projecting outward at apex of cell. Hindwings dirty white. Bhutan.

N. latifascialis Wkr. (13m) resembles the former, but of duller colouring from which the median band stands out less clearly; this is paler and displays in the place of the projection a feebler band at apex of cell. Sarawak.

N. implens Wkr. (13m), likewise from Sarawak, resembling the preceding species, of about equal size, but ground-colour clearer white-grey, the median band not projecting toward the margin in the shape of a knee, but incurred in middle, having therefore its distal edge concave. May be only an aberrant of the latter species.

N. lauta Swinh. is said to resemble implens, but with distinct antemedian line. Discovered by Freustorfer in January in Siam at an altitude of about 1000 ft., 7/10 inches. Unknown to me, does not perhaps belong here.

N. melanogramma Hmps. (13b) resembles in its outward appearance a Tineid of which many similar species are found in Australia; but it may easily be recognized by the patches of raised scales on forewing characteristic of most Nola. Forewing with black base and black dentate lines bordering the basal and marginal areas, as well as a double line in the middle. Hindwings brownish-yellow, abdomen dark brown. New South Wales. — semograpta Meyr. (13m) is very much like the other, but with only a small dark spot at the base and the apical area shaded darker; also smaller. Victoria, Tasmania.

N. aulacota Meyr. (13l), superior in size to the preceding ones, with sharply, though irregularly marked, dirty white forewings traversed by oblique rows of dark tooth-shaped spots; below costa some blackish-brown longitudinal streaks; hindwings pale yellow. Melbourne and Tasmania, apparently scarce.

N. tornotis Meyr. (13l), much smaller than the preceding form, with even more irregular markings; beyond the cell a few dots arranged in a semi-circle, above the middle of the inner margin a grey dash. Hindwing dull white, apical area shaded greyish. Queensland.

N. monozona Low. (13a), grey-yellow, inner part of cell more white, outer half of hindwings shaded dark brown. From costa 3 indistinct blackish spots, the first starting before the middle and cutting obliquely through the cell; the other two short, one beyond the middle, the other before the apex of the costa. South-Australia.

N. melanchysis Hmps. (13a), coloured and marked very much like X. phaea (Vol. 2, pl. 10c), but melanocysis. Hindwings whitish with slight basal shading, not brown-grey as in phaea. An indistinct oblique streak separates the marginal from the inner half. Tonga.

N. diagona Hmps. has head and thorax white, thinly sprinkled with brown; abdomen ochreous, brown-grey beneath. Forewings white, sprinkled with fuscous, especially in the outer half of the median area; on the costa a minute dark spot near the base. Antemedian line blackish, with small costal spot, oblique, sinuous at submedian fold, then oblique inwards. A dark spot on costa above apex of cell and an oblique wavy line from lower angle to inner margin. Postmedian line blackish, oblique to vein 5, then oblique inwards and slightly turning outwards toward inner margin. Subterminal line indistinct, dark, angled below
vein 7, then outcurved, with dark spot before the middle; then oblique. Before the margin a row of faint spots. Hindwings white, termen shaded with brownish distally towards inner angle. Fak-Fak, Dutch New Guinea.

N. scabralis Wkr. (= parallacta Meyr., cerraunias True.) (13l), of very small size, outwardly resembling a Crambid, particularly in the long palpi. Forewings yellowish-grey with several darker costal spotlets and irregularly dentate oblique streaks before and beyond the middle and before the outer margin. Hindwings dull whitish-yellow, greyer at base. New South Wales, near Katoomba in the Blue Mountains, on Paramatta and Mount Kosciusko.

N. porrigens Wkr. (= arachneis Meyr. (13h), likewise from near Sydney, resembling the preceding form, but larger and more common; forewings grey, suffused with brown, with transverse bands more delicately dentate, and oblique costal bars extending farther towards the middle of wing. Hindwings tinged darker brown.

N. paroxynta Meyr. (13a) likewise resembles the hitherto described forms together with which it is found; but forewings still darker grey-fuscous, and the oblique stripes either very finely serrate or smooth. On the submedian a heavy basal stripe lined with white above. South-Eastern Australia.

N. nigrisparsa Hmps. (13f) is similarly marked as the preceding forms, but the ground-colour of the forewings is clearer, rather white, with the dark transverse markings more distinct. Forewings with sharply defined discal spot, preceded by a dentate transverse streak and followed by two similar ones, curved, strongly convex toward the margin beyond the apex of cell. Hindwings dark fuscous-grey. Bhotan.

N. argentalis Moore (13h) may be easily recognized, aside from its considerable size (36 mm), by the silvery lustre of the forewings which are otherwise suffused with brown. At the base of the costa a large blackish spot, the transverse lines unclear, irregularly feebly dentate; fringes alternating black and white. Larva feeds on Castanopsis indica; dark yellow, with short yellow hair and indistinct dark dorsal line. Behind the head a tuft of black hair, supporting the shells of the old heads cast off in previous moults. Sikkin.

2. Genus: Roeselia.

The representatives of this genus are mostly of somewhat more robust build than the true Nola; frons not quite so broad, but often adorned with a crest of hair; tongue variable; antennae of c? mostly pectinate, tapering towards the end. At base of antennae a tuft of hair. On forewing vein 3 arises before, 4 and 5 at angle of cell, 6 below the upper angle; 7, 8, 9 and 10 nearly always stalked. On hindwing vein 3 originates at angle of cell, 4 is absent or united with 3, 6 and 7 stalked, 8 arising at middle of cell. The patches of raised scales on forewing similar to those of Nola, palpi frequently greatly lengthened, tibiae with strong spines. About 50 species are known in all tropical countries excepting the Continent of Africa, 20 of which are found in the Indo-Australian Region.

R. argentescens Hmps. (13f). Forewing dirty silvery grey, marginal area yellow, with fine, irregular, dark transverse lines; from the middle of the costa a large dark brown bar, crossing the apex of the cell to the middle of the wing, before which a small costal spot. Hindwings grey-fuscous. From Sikkin; one of the larger species.

R. argyria Hmps. (13f), another large form, resembling the preceding. The large spot in the middle of the costa is greatly enlarged so as to be united with the second smaller spot distinguishing argentescens. On forewing the markings of the outer marginal half darker and richer; hindwings brown-grey. From Sikkin and the Khasia Hills.

R. triangulalis Leech (Vol. 2, pl. 10 d), described in Vol. 2, p. 46, differs from the 2 preceding forms principally in having the ground-colour brown-grey instead of silvery-white, with the dark spot in the middle of costa indistinct. Sikkin: also Japan.

N. nitida Hmps. (Vol. 2, pl. 10 d) has the forewings silvery white, the large triangular spot in the middle of costa only faintly outlined, inside silvery-grey like the ground-colour. Before this spot a narrow, 2—3 mm wide, pale brown, dark margined transverse band. Widely distributed throughout the Himalayas: Daulhousie, Manipur; enters in Cashmere the Palaearctic Region. Larva on Ilex; cf. Vol. 2, p. 48.
R. strigivena Hmps. (131), smaller than the preceding forms; forewing brownish-yellow, with rich, strigivena.
varied markings from which the brown costal spot stands forth rather indistinctly. Hindwing pale yellow-
brown, with dark suffusion on apex and margin. From Sikkim.

R. denticulata Moore (131), a good-sized species; forewings dull white, shaded with ochreous in denticulata.
places, traversed by an irregular, brown, dark spotted band, narrow at the middle of costa, broadest at the
inner margin, and on the median vein distally, on submedian proximally sharply dentate. From Sikkim.

R. metallopa Moqyr. (13 m) is one of the commonest species, distinguished by a broad, regular, coppery metallopa.
brown median band with dark central line traversing the middle of the silvery-grey forewings; larva covered
with large tubercles and with short rough hair; 3 pairs of prolegs; feeding on young rubber trees. When full-grown, the 4 head-shells appear like a shield slightly held downward behind. Everywhere in
Sydney, in the orange-groves on the Paramatta, in Queensland and Victoria.

R. semirufa Hmps. (13 e) has the silvery-white ground-colour almost completely obliterated by the semirufa.
varied, irregular markings, the outer third of forewing marked with crimson; base and discus traversed by
undulate bands of fuscous; fringes alternating yellow and brown. Hindwing yellow-fuscous. From Sikkim.

R. cuneiferar Wkr. (= ruficostata Hmps.) (13 f). Forewing, especially ot base, deep coppery brown: cuneiferar.
distal area paler, traversed by an irregular dark wavy line, and separated from the basal half by a dark
transverse streak bent over at apex of cell. From the Himalayas and from Sarawak in Borneo.

forewing the basal half along inner margin, in $ the entire basal area lighter. From Queensland.

R. ascripta Hmps. (13 f), pale yellow-fuscous, forewings without transverse band or lines, but with ascripta.
dark brown longitudinal streak along costa. Hindwings dirty yellowish-white in anal area. Head and collar
whitish, From the Naga Hills in Assam.

R. lignifera Wkr. (= ustipennis Hmps.) (13 h), somewhat smaller than ascripta, like this without lignifera.
transverse band on forewing which is brown with blackish costal band. Hindwings dark brown, those of $ paler at inner margin. India and Ceylon, also Java and Borneo. — Larva on Terminalia catapa, white with
white spines, between which a sort of white fluffy down. Above the head the old head-shells supported on
white hair. Pupa in brownish cocoon; imago emerges after 8 days.

outer third a dark punctate row in a brown oblique shade; before the margin a chain of shadowy spots.
Hindwings dark fuscous. Discovered near Colombo (Ceylon) by Mackwood.

R. indistincta Hmps. (13 m) is unknown to me, nor did I see it either in the Tring or British Museum. indistincta.
From the Naga Hills in Assam. In the figure the wings appear more dirty yellowish-brown than in the
preceding form, with indistinct shadowy streaks. Around the apex a curved row of distinct spots; rather
smaller than the allied forms.

R. folia Steinh. (13 b); dirty yellow-grey, forewing with brown transverse band, tapering from the folia.
middle of the inner margin to the apex, with its inner margin turning at a sharp angle on the median and
continuing to costa; from the point of intersection the costa is shaded with dark fuscous as far as the apex.
Farther India and Ceylon.

basal third and anal region brown; otherwise greyish-white. Antemedian line very ill-defined, dark grey,
deeply dentate, preceded by a violet-brown band; postmedian line serrate; a terminal line projecting outwards
below the apex. Hindwings whitish, shaded with grey near margin. Dinawa, September. A large form.
scripta.  
R. scripta Moore (Vol. 2, pl. 10 d), a small-sized species, slaty-grey, with dark spots. The typical form which is found in Cashmere was described in Vol. 2, p 45. The Indian form (from the Himalayas) inscripta. = inscripta Moore is very similar, with the dark spots traversing the wing in a double curved line.

aperta.  
R. aperta Wkr. (13 m) is hardly any larger than the last described form, but more brilliantly and gaily coloured. Forewings ochreous, suffused with olive-brown in places, with dark basal streak and white margined, curved transverse streak near base. Apex of cell white, succeeded by a dark circular spot. Hindwings white, distally faintly tinged yellow. Java, must be very scarce since Parsons did not find it.

lugens.  
R. lugens Wkr. (= viduella Wkr., australis Flkr., obscura Stief.) (13 c). Forewings sprinkled with grey-black, with distinct, black, proximally white-margined, dentate antemedian line. From costa to lower angle of cell a dark transverse streak; the postmedian line dark, margined with white distally; before the margin some indistinct dentate spots. Hindwings brown. Throughout Eastern Australia, where it seems fairly abundant.

discisignata.  
R. pallidiceps Hmps. (13 h), a very small form, grey-brown, shaded with darker; forewings densely sprinkled with brown, outer half lighter. In the discus a black transverse spot succeeded by an ill-defined subterminal line as far as vein 4. Hindwings grey, heavily scaled with dark brown. Fringes delicately lined with white at base. Ceylon.


Of the 4 known species, which differ from those of the preceding genus in having the antennae of the ♂ ciliated, one is found in California, the second is exclusively Palaearctic.

longiventris.  
M. longiventris Png. (Vol. 2 pl. 10 c) has, outside of Western China, been found also in Farther India (Assam) where it is scarce. Cf. also Vol. 2, p. 46.

discisignata.  
M. discisignata Hmps. (13 m), a minute species, resembling in colouring and markings so closely Roer. metallopa (13 m) that it appears like a dwarfed form of the same; but the colouring is less brilliant, without any metallic lustre, and on the forewing the bands are more straight. Moreover, the antennae are not bipectinate, but ciliated. Ceylon, apparently scarce.


This genus which has been already described on p. 46 and 47 of Vol. 2, contains only 2 species both of which are of Indian origin; one, however, (flexilineata Hmps.) is also found in China and was, for that reason, treated in the Palaearctic part.

flexilineata.  
M. flexilineata Hmps. (Vol. 2, p. 47) is found, besides in China, also in the Khasia Hills (Assam).

tympanistis.  
M. tympanistis Hmps. (13 f) has thorax and base of forewings white, the entire apical area of forewing as well as the hindwing and abdomen brown. Sikkim, scarce.

5. Genus: Zia Wkr.

Contains 6 partly brilliantly coloured species resembling small Noctuids, ranging from Ceylon all through India and the Sunda Islands as far as Australia. Tongue well developed, palpi porrect, antennae of ♂ with sessile fascicles of ciliae, tibiae with long spurs. On forewing vein 3 arises before, 5 above, 6 below lower angle of cell: 7, 8 and 9 are stalked, 10 and 11 arise at cell. On hindwing 3 is stalked with 4; 6 and 7 arise from the upper angle of the cell, 8 at its middle. One Australian species has on account of its elongate hindwings been separated as Aquita horidella.
Z. hemiphaea Hmps. (13 h). Head red-brown, vertex white; on forewing basal area white, the dividing line running from 1/3 of costa to middle of inner margin. Along costa a few grey striae. Marginal area silvery grey, delicately marked with reddish-brown; from apex to postmedian line a white bar. The white area bordered by a line of fulvous, slightly bent outwards on the submedian fold. The postmedian line indicated by small, black, pointed dots between veins 7 and 2. Subterminal line white, undulate, interrupted, preceded in the middle by a few black scales. Directly before the margin a row of silvery striae. Hindwing pale brown. Java, Arjuno. 10,000 ft., discovered by Doherty. 20 mm. The figure was taken from the type in the British Museum.

Z. acontioides Wkr. (13 f). As the name indicates, it resembles a small acontiana. Forewing white, acontioides, termen and basal half of inner margin vividly dark brown. Hindwings shaded with brownish distally. Ceylon and Borneo, also in Java near Buitenzorg.

Z. laminata Hmps. (♂ = refascens Hmps.) (13 f). Forewing has the basal half white, distal half of ♀ laminata, dark brown, of ♂ red-brown, marked grey and white. Hindwing of ♂ red-brown, of ♀ dark grey-brown. Discovered by Hampson in the Nilghiris; also from Burma.

Z. ectrocta Hmps. (13 h). ♂: Head and thorax white, abdomen shaded with brown; forewings clear ectrocta, white; towards the base a small black costal spot; in middle of costa a triangular black spot. Subterminal line whitish on a fulvous ground. Hindwing white, marginal area faintly brownish; occasionally the postmedian line on forewing more deeply angled inwards below vein 4. Ceylon.

Z. lunisigna Hmps. (13 f). Forewings dirty yellow-grey with ill-defined, partially double, dentate transverse stripes behind base, before and beyond middle and upon a row of faint marginal spots. Hindwings and abdomen dark brown-grey. From the Khasia-Hills in Assam.


This genus is largely founded on the absence of vein 10 in forewing. Only one minute species from Ceylon. Tongue well developed; on forewing veins 8 and 9 arise on a common stalk before the end of cell. On hindwing 6 and 7 very long-stalked, 8 arising at middle of cell. In colouring and markings they remind one, like several species of the preceding genus, of certain small Noctuids near the Accontinae.

M. obliquifasciata Hmps. (13 f), characterized, as the name indicates, by the oblique, slightly curved median band traversing the forewing, brown on a silvery-white ground; forewing with brownish terminal shading, and a fine, dot-like, black costal spot at the base. Ceylon, discovered by Green.


Based on certain anomalies in the neuration of the forewing (vein 7 arising from 8 before 10). The ♂ with a scent organ at the apex of the cell whose position without any doubt gives rise to the irregular neuration as well as the broadening of cell and whole forewing. Only one very small-sized species.

D. gemmata Hmps. (13 g). Yellow-grey, forewings shaded dark grey-brown at outer margin and basal gemmata, portion of costa, this dark shading extending through the cell to the middle of the wing. Beyond this a transverse line laved with silver-blue scales. Hindwings dark brown. From Sikkim.


On the hindwing vein 5 does not arise at the middle of the discocellular, but together with 4 at the lower end of the cell. The genus contains but one very small sized species, which seems, however, widely distributed throughout India.
N. *mesosticta* Hmps. (13i). Grey, suffused with white. Forewing with brownish spot at base of costa, a dark patch of raised scales in the middle of the cell, whence the antemedian line, angled below the cell, goes to the inner margin. In the middle of the costa a dark triangle, and at the inner margin dark line scales; terminal area shaded with brown-grey. Hindwings whitish, shaded dark brown distally. From Sikkim to Ceylon and the Sunda Islands.


This Genus which, with the exception of one species found also in Cashmere, is exclusively Indian, has been already described in Vol. 2, p. 49, (where it is erroneously named 'Poecinola').

P. *seminigra* Hmps. (13f) from Bhotan has head, thorax and base of hindwings delicately bluish silvery-white, the outer half of forewings, anal segment of abdomen and hindwings dark brown. Before the middle of the costa a brown triangle.

P. *plagiola* Hmps. has only head and thorax and hardly 1/3 of the forewing (at base) white, the rest of the forewing is shaded with red- and dark brown. Hindwings almost completely white, only at the margin faintly brown. From Ceylon.


Was based on a minute silvery-grey form from Farther India and Sarawak, in which on the forewing vein 3 arises together with 4 with a short common stalk from the lower angle of the cell.

P. *opalina* Wkr. (= canioralis Wkr., basimicans Hmps). Silver-grey, slightly opalescent; forewings delicately marked with glossy irregular transverse bands and ochreous tufts of scales. Hindwings grey, with faintly brown marginal area. 24 mm. From Burma and Borneo.


This, the most numerous genus of the subfamily, comprises about 70 forms, 20 of which have been enumerated in Vol. 2 as occurring within the Palearctic Region. Only a few are known from America, still fewer from Africa, while by far the greater majority are limited to Indo-Australia. About the general characteristics and further subdivisions of the genus cf. Vol. 2, p. 47.

a. Subgenus *Celama*.

Antennae of ♀ pectinate. Anal angle of hindwing normally rounded.

N. *tumulifera* Hmps. (13g), a small, dark slaty-grey butterfly, forewing at base scaled with brown, a curved postmedian band of dots, some indistinct spots at the costa and yellowish fringes. From Ceylon and the Island of Sangir.

C. *argenta* Loc. (13f). Silvery white with faint markings; the postmedian punctate band distinct, though delicate, otherwise plain. From Brisbane in Queensland.

C. *fasciata* Wkr. (=? nigrifascia Hmps., platygona Loc.) (13g) resembles the preceding, but the ♀ are much larger, the markings more distinct and slightly increased. The postmedian punctate row is enclosed within a dark shadowy band, along the costa are a few small spots. Ranges from the Himalayas to Ceylon and throughout the Malay Archipelago to Queensland. Larva on Lantana camara.

C. *rufomixta* Hmps. (13i). White, forewings thinly sprinkled with black at base and before the postmedian line. Some fulvous spots on costa, before and behind middle. Antemedian lines white, margined with fulvous proximally, with black distally. An indefinite wavy line from the lower angle of cell to the inner margin. Hindwings white, marginal area shaded brown; costal region scaled with brown underneath. 18 mm. Ceylon.

C. *duplicitina* Hmps. (13a) equals in size the preceding species, but has the wings rather dirty than silvery white, finely sprinkled with dark brown; before the margin a chain of strie; a double row of dots marking the limits of the outer third. Abdomen brown, hindwings ochreous. From Sikkim, at an altitude of 7000 ft.

C. *mesotherma* Hmps. (13i) is, like most Singhalese species, a small form, 14 mm. White; forewings sprinkled with brown; near the base a black costal spot; antemedian line brown, edged with white proximally, angled outwards below the costa, then oblique. Median area suffused with fulvous; tufts of scales with brownish
elliptical markings; postmedian line dotted with black. Subterminal line white, separated proximally from the fulvous ground by black scales. Hindwing white, shaded with ochreous, especially toward margin. Ceylon.

**C. streptographia** Hmps. (13b) resembles the preceding, but is smaller, with duller colouring; basal part of costa shaded dark brown, outer portion of forewing with heavy brown markings, fringes alternating white and brown-grey. Hindwing white, slightly shaded with yellowish-brown at apex. Ceylon.

**C. disticta** Hmps. (13l), even smaller than the last described species, but ♂ with large ochreous anal tuft. Wings dirty white; primaries traversed by a brown band outcurved in cell; between this and apex a broad and short, oblique costal spot. Outer third grey with pale undulate band. Ceylon and Bhotan.

**C. leucoscopula** Hmps. (13i); a dwarf species, measuring only 12 mm. White throughout, forewing shaded quite pale brown in places, antemedian line heavy, black, angled outward in cell, then oblique, preceded by a brownish suffusion. At and beyond the middle of the costa some indistinct elliptical spots; before the margin a rudimentary, sinuous line. Ceylon.

**C. bifascialis** Wkr. (= liparisalis Wkr. 13a). Forewing almost clear white, with two ochreous, brown-margined transverse bands, one before and another beyond the middle, and a faint undulate band of ochreous before the margin. Hindwings ochreous. From Borneo and the Richmond River in New South Wales.

**C. astigma** Hmps. (13a). Forewings dirty ochreous-brown with sharply defined, brown antemedian astigma band reaching only to the submedian; the outer half sprinkled with darker brown, marked at the limits of the marginal area by a grey-brown, curved, distally serrate band. Hindwings white. From Sikkim and the Naga Hills (Assam).

**C. ochropoda** Hmps. Body white, shaded with brown underneath. Forewings white, inner and ochropoda marginal areas suffused with brown, a small spot at base of costa. Costal margin black, antemedian line curved, widening at costa into a narrow spot. In middle and apex of cell patches of yellow scales, faintly edged with blackish. Postmedian line black, angled upwards below costa, preceded by a diffuse black band which on the veins develops into delicate stripes and is on vein 2 angled inwards. The line incurved below vein 4. Subterminal line black, angled outwards on vein 6, in the middle outcurved, on the discal fold and vein 2 angled inwards. Hindwings white, shaded with brown. 18 mm. Sikkim.

**C. encausta** Hmps. (= fasciatus Hmps.) (13l). Wings dirty ochreous-white; on forewings a heavy, encausta curved, dark brown median band; near the base a diffuse yellow transverse band. From Sikkim and Assam.

**C. tesselata** Hmps. (13a). Base of forewings clear white, succeeded by a very broad, brown, outwardly tesselata diffuse, proximally sharply defined band occupying nearly the entire median area. Before the apex some brown clouds. Hindwings shaded ochreous. Khasia Hills and Java. (Prejangan and Gedeh).

**C. dentilinea** Hmps. (13i). Forewing white, faintly shaded with ochreous and dusted with brown. dentilinea Antemedian line blackish, margined with white proximally, curved, angled outwards on the submedian fold. The tufts of scales dark: postmedian line dotted with black, oblique from costa to vein 6, then oblique inwards. Hindwing white, distally yellowish-brown. 18 mm. Ceylon.

**C. grisescens** B.-Bak. Grey, forewings paler, more or less suffused with darker. Before the middle grisescens an indistinct line, in the middle a diffuse waved, beyond it an irregular dark line: the wing beyond to the margin darker grey, traversed by a pale subterminal undulate line. Owgarra (New Guinea).

**C. lativittata** Moore (13g) has the forewing white, but shaded by an irregular brown cloud, sharply defined above, to such a degree that only the base of inner margin, the outer portion of costa and a triangular spot before the anal angle reveal the white ground-colour. Hindwing pale yellowish, shaded with grey at the apex. Sikkim.
rufa.  

*C. rufa* Hmps. (13i), like the preceding, but on the forewing the brown cloud not sharply defined, but spreading in every direction and obliterating practically all white except at base and in terminal area; forewing along costa and hindwing pale ochreous. Ceylon.

b. Subgenus: *Deltapterum.*

Like *Celama* s. s., but the hindwing of ♂ projected to a blunt short tail at anal angle.

**peguensis.**  

*C. peguensis* Hmps. Ochreous, marked with brown, easily recognized by the sharp-pointed lobe formed by the anal portion of the hindwing. Hindwing white, brownish at margin. Farther India and Java. It seems that only ♂ ♀ are known. Expanse: 20 mm.

e. Subgenus: *Epizeuctis.*

Antennae of ♂ with sessile fascicles of cilia, hindwings of ♂ underneath with tufts of scent-scales in anal area.

**internella.**

*C. internella* Wkr. (= pasca *Seinh.*, quadrimaculata *Heyk.*) (13b) approaches in its markings the species of the following groups. Forewing grey-white, shaded with ochreous distally, with heavy dark brown costal spots at base, and brownish at the middle, and with a few spots arranged in a row in marginal area. Hindwing dull dark brown. In its external appearance it recalls somewhat the Palaearctic *inocena* Btlr. (= *costimacula* Stgr.). Larva very gaudily coloured, yellow, red on back in front and behind, with black sides from 4th to 7th segments; from 2nd to 11th segment a violet lateral stripe. Lives in the stems of Rubus and on Durio zibethinus, and weaves a boat-shaped cocoon with the help of fragments of the foodplant. Not particularly scarce.

**fovifera.**

*C. fovifera* Hmps. (13i). Forewings with an elongate, transparent groove at the end of the cell; white, with a curved band from cell to median vein near base; a broken black antennal line oblique from costa to below cell, where it is angled, obsolete under submedian fold; in the cell dark patches of raised scales; from costa to vein 4 an interrupted, irregular, serrate postmedian line, first out-, then incurved. Hind-wing faintly shaded with dark brown-yellow at the margin. Queensland (Dodd). Our figure was taken from a specimen in the British Museum.

d. Subgenus: *Aradrapha.*

Antennae of ♂ with sessile fascicles of cilia, but hindwings of ♂ without any scent-scales in anal area underneath.

**taeniata.**

*C. taeniata* Snell. (= fragilis *Seinh.*, = mesozona *Luc.*) (13g). Milky-white, forewing along costa and terminal area shaded with greyish, traversed in the middle by a regular, brown band, before which a triangular costal spot. From Punjab over Ceylon and the Malay Archipelago as far as South Australia, and eastward to Southern China. Our figure was made from a specimen I took at Kauloong (opposite Hongkong) selected on account of its especially distinct median band. Javanese specimens have the band more delicate and less sharply defined. Larva on *'Ulingi' (Timbristylis milineaca); imago emerged after 4 days (Piersen).

**euryzonata.**

*C. euryzonata* Hmps. (13a) differs from *taeniata* principally in having the brown median band widening distally to twice its size, and the terminal area of the hindwing suffused with fuscous. Described from Sumatra.

**erythrostigmata.**

*C. erythrostigmata* Hmps. (= mediozonata Hmps.) (13m) is likewise allied to *taeniata*, having, however, in controdistinction to the preceding form, the brown median band widening inwards, encroaching upon the white basal area, ♀ has the median area of forewings more brown and the marginal area more deeply shaded with grey-brown. — From the Himalayas and the Naga Hills, also from Borneo.

**fuscibasis.**

*C. fuscibasis* R.-Bak. (13g). Forewings divided into two halves; the inner grey-brown all but a white basal spot; the outer half white, with an incomplete semi-band before the costa and an undulate submarginal band. Hindwings brownish in terminal area. New Guinea.

**lucidalis.**

*C. lucidalis* Wkr. (= dimidiata *Wkr.*) (13g) is the very reverse of the preceding form, having the outer half of forewing brown, the inner white with small costal spots. Ceylon and Sunda Islands.
C. mesomelana Hmps. (13 b), very much like taeniata, with similar median band of forewing which latter, however, in normal specimens has the ground-colour ochreous. Discovered by Pilcher in Sikkim. Waterstradt brought from Kina-Balu in North Borneo a form which was described by Hampson but received no name. Ground-colour white as in taeniata, but without the brown costal spot placed basad from the median band, which in taeniata is mostly distinct and always indicated. For the sake of clearness I name this form taeniatoides nov. nom. (= subsp. 1 Hmps.).

C. suffusa Hmps. (13 b). Ground-colour of forewings yellow-brown as in the preceding, but the basal third adjoining the dark brown median band likewise suffused with black-brown, differing but slightly from the broad median band which beyond the cell projects spur-like to the outer border. From Sikkim, found at an altitude of 7000 ft.

C. leucoma Meyr. (= microphila Trnr.) (13 b). Forewing pale ochreous-brown; the dark brown median leucoma band encroached upon by lighter markings, widest below costa whence it contracts to half the width and continues to the middle of the inner margin. Basal area spotted brown; terminal area with short brown undulate band. Eastern Australia, from Queensland to Sydney.

C. phaeochroa Hmps. (13 m) has the median band constricted in the middle, traversing in a straight phaeochroa line the yellow-brown forewing; in the outer half 3 parallel rows of dots. Hindwings dirty white. A smalleresized aberration shows a more regular dark suffusion on forewing. Sikkim and Java.

C. biguttalis Wkr. (= trigonota Meyr.) (13 m) is almost identical with the preceding in size and biguttalis colouring, but has instead of the constricted median band on the forewing a blackish-brown tear-shaped spot, succeeded by an oblique costal streak laved with whitish distally. Hindwings dark grey-brown with ochreous fringe. Also of this species we know some dark aberrations. Melbourne (Victoria), Australia.

C. paromoea Meyr. (13 b) is smaller than the preceding, forewings clear pale ochreous, only at margin shaded with brown, and marked with an oblique antennomarginal dash and a distal spot at the apex of cell. Queensland.

C. ochritincta Hmps. (13 i). White, apical half of forewing dark grey-brown, separated from the whitish, ochritincta faintly ochreous base by a line running from middle of costa to the anal angle. Hindwings white, shaded brown. 16 mm. Ceylon.

C. marginata Hmps. (13 b), very much like the preceding one, but less brown at margin, and the antennomarginal band bent in the middle in the shape of an outcurving arc. Sikkim.

C. polia Hmps. (13 b). Pale grey-yellow, without any markings on forewings excepting 2 dots in the polia centre and apex of cell, and faint traces of spots at apex and outer margin. Fringes yellow. Sikkim.

C. irenica Meyr. (13 b). Whitish, delicately shaded with ochreous; costal area at base, and terminal irenica area at apex brownish. Easy to recognize by a brownish oblique streak margined with white distally, leading in a straight line from the costa before the apex to the middle of the inner margin. Hindwings yellowish. New South Wales.

C. hesycha Meyr. (13 m) resembles the former, but is darker. Forewing with two parallel transverse hesycha streaks edged with white distally. Hindwings whitish. West-Australia.

C. albalis Wkr. (= vetustella Wkr., strictalis Zell.). Forewing pale yellowish-brown, with small albalis patches of raised scales near apex and upper angle of cell and another larger one in its centre. Below costa a white basal streak to the upper angle of the cell. Basal area laved with white; an irregular oblique streak similar to that characteristic of irenica, edged with white distally and angled below vein 2. Before the margin a broken white line. Fringe scaled with yellow. Hindwings pale brownish. South-Eastern Australia and Tasmanica.

C. angulata Moore (Vol. 2, pl. 10 g) was on account of its occurrence in Cashmere treated in the angulata Palaearctic Part (Vol. 2, p. 48), but is distributed throughout India proper as far as Ceylon, though scarce, and often, on account of its minute size and tortricid-like appearance, overlooked. Resembles a small candida (Vol. 2, pl. 10 g), but with heavier markings.
C. innocua Blr. (= costimacula Stgr) (Vol. 2, pl. 10g), largely Palaearctic and therefore described in Vol. 2, p. 48, is mentioned here only because it has also been found in Formosa whose Fauna belongs to the Indo-Australian Region.

C. cretacea Hmps. (13i). ♀ white, shaded with reddish-brown, costal margin rufous at base; a few costal spots and tufts of scales likewise rufous. Antemedian line thin, angled outwards to the patch of raised scales in the middle of the cell. Postmedian line punctate, curved outwards below the costa, sharply angled on 4, then making a sharp turn. Hindwing white, faintly shaded with brownish at margin. Bombay. A minute species, 14 mm.

C. pumila Snell. (= spreta Blr., tetrophthalmalna Meyr., minuta Hmps., hampsoni Ky.) (13g) is the smallest form of the entire genus and indeed of the whole Arctiid family. Pale grey, most delicately marked with a longitudinal streak in the middle of costa and some oblique rows of spots before and beyond the middle. Hindwings whitish, with faintly brownish termen. Widely distributed over the entire Indian Region, from India proper to China, and eastward to New Guinea; enters the limits of the Palaearctic Region at Shanghai, of the Ethiopian on the island of Sokotra. One of the more common species.

C. aroa B.-Bak. (13g) resembles in ♀ a large pumila; but the ♀ has on the forewing the dark median band very distinct, although irregular and but slightly differing in shade from the dark ground; a black-brown scalloped terminal line, very distinct in ♀. Forewing grey-fuscous, terminal half suffused with dark fuscous in ♀. New Guinea.

C. squalida Stgr. (= musculalis Saalm., fraterna Moore, vanhaesselti Heyl., ceylonica Hmps., desmotes Trnr.) (Vol. 2, pl. 10g). This widely distributed, minute species has been described in Vol. 2, p. 48. It is one of the commonest Indo-Australian species, occurring from Cashmere and Southern China to Australia and the South Sea Islands, and being also found in Madagascar.


Palpi hairy, upturned, terminal segment small, erect. Antennae ¾ pectinate, mid tibiae with 1, hind tibiae with 2 pairs of spines. On the forewing vein 2 arises at ¾ of the length of cell, 3 precisely at angle, 4 and 5 directly above, 6 and 7 immediately below the upper angle of the cell; 8, 9 and 10 stalked, with long stem from upper angle. On the hindwing 2 is given forth a short distance before the angle of cell, 3 and 4 are stalked, arising at angle, 5 below the discocellular, 6 and 7 stalked, 8 united with 7 basally.

Type A. basifusca B.-Bak. from New Guinea. Two species are described, both unknown to me; the types in the collection of the author.

A. basifusca B.-Bak. Head, antennae and thorax brownish, abdomen grey-brown. Forewing pale brown with dark median streak, behind which the pale ground-colour most distinct, towards anal angle slightly diffuse. Hindwings whitish, termen darker. ♀ darker than ♀; Dinawa (New Guinea).

A. ekeikei B.-Bak. Head and thorax pale, abdomen brown-grey. Much larger than the preceding species. The dark median band cut off very straight distally, the whole terminal third of forewing obscured, hindwing only at apex. Taken in March at Ekeikei (New Guinea).

II. Subfamily: Lithosiinae, Lichen-moths.

The Lithosiinae of which we illustrate here over 400 Indian species, are a far more homogeneous group than should be supposed from the great number of genera that have been established (about 250). As above mentioned, no less than 170 genera are monotypic or contain at the best 2 very closely allied forms. In the diagnosis of these monotypic genera we will content ourselves to give only the most indispensable characteristics, since nothing can be gained from a diagnosis which cannot point out any features common to several more or less closely allied genera. Of larger genera with say a dozen or more of Indo-Australian species we can only name 12, namely the gaudily spotted Castulo, the daintily marked Thalarche, the plain Philenora, the often delicately pink Miltochista, the Chionoeca with their plain colouring, beautifully.
set off by purple bands (generally found in collections under the old name *Bizone*), the delicately dotted *Siccia*, which have been already described in the Palaeartic Part, the tri-coloured *Scoeptryx*, the mimic *Caprimulium*, the genus *Heuma* (corresponding to the former name *Lithosia*), one of the most typical genera of the family, and finally *Lamboba* and *Scalacora*, which have recently furnished numerous new species. Thus this apparently so very complicated family is after all comparatively simple, the difficulties having only been created by a two rigid application of the scheme of neuration.

This simplicity in the structure of the *Lithosiidae* is also confirmed by the great resemblance of the larvae. I have been able to breed *Lithosiidae* from their larvae on all 5 Continents, and in no case have I ever been in doubt whether a certain caterpillar belonged to this family or not. The larvae of the South Australian *Entate terminalis* hardly differ in their general appearance from those of *Endrosa aurita* from the European Alps. On the contrary we find the same general resemblance as among the closely allied *Nolinae*, among which we notice f. i. that the Australian *Toeselia metallaopa* carries the cast-off empty headshells arranged one upon the other on a tuft of hair in the same curious manner as *Peters* has described it of *R. ustipennis* from Java.

Among the special characteristics of the *Lithosiinae* we remark the following: Head uncommonly broad, frons large, flat, on the sides small, eyes bulging, black. Antennae quite simple or short pectinate, frequently with two tufts of hair at base. Palpi nearly always short, slightly porrect or shortly upturned, never reaching the vertex. Thorax and abdomen delicate, the former globular, the latter smooth, with flattened scales, but without conspicuous crests, hardly ever reaching the anal angle. Forewings mostly very long, lanceolate; the hindwings are uncommonly large, and must therefore be laid in folds in order to find room under the narrow forewings, the latter generally overlapping. The larvae are long, sparsely covered with hair and tubercles; they feed on lichens, are very vivacious and move surprisingly quickly. When disturbed they descend by a thread and run away. Pupa glistening, often as if polished, embedded in a loose cocoon which often only consists of a few threads. The imagos flies for the most part at nighttime, but not exclusively; they generally sit in the grass or on the underside of leaves, or visit flowers. The many species are very evenly distributed, there being, with the exception of a few desolate, far remote islands, hardly any country on the globe with not too rigid a climate where the *Lithosiidae* are not represented.

It cannot be said that they show any particular adaptibility or tendency toward mimicry, although such have been observed in exceptional cases. Thus in the South-Australian species *Entate terminalis* and *Asura lydia* which show a most astonishing outward resemblance, we are justified to assume mimicry from the fact that they are not only occurring together in the same locality, but also at the same, rather uncommon season of early spring (October), and are both found under stones on the ground. When, during one of my first excursions in the vicinity of Sydney, I once turned over a rock, I found under it, side by side, the ♀ of *A. lydia* (figured on pi. 18 f), and the ♂ of *Ent. terminalis* (18 g) which I of course considered to belong to the same species. Also in some Museums I have seen *Asura lydia* peacefully arranged side by side with *Ent. terminalis*.

An adaptation of the imago to its surroundings has been rarely observed, of the larva hardly ever. Occasionally the colour of the wings reminds one of lichens, rarely it resembles grey bark, but is on the contrary very often adorned with striking bands. I have seen the pale yellow European species of *Lithosia* flying around the blossoms of *Echium* in full sunshine. *Stigmatophora* and *Philae* ♂♂ leave in open daylight on the least disturbance their grassy shelter, and *Endrosa* may be seen on the slopes of the Alps and on rocky ledges flying about in bright sunshine. *Millochresta* prefers visiting flowering plants in daytime, and of *Oeonistis quadra* one encounters not only the ♂♂ but also the ♀♀ in open woods during the hottest hours of sunshine in July.

All these facts render it evident that they possess some sort of invisible protection which probably depends upon the oily substance excreted from the dorsal glands of these butterflies as soon as they are touched. Also in their habits they remind us of those Lepidoptera which protect themselves by the juice of their body, like f. i. the *Zygaenids*. For although they fly in daytime, the *Lithosiinæ* are anything but shy, and may with some little care nearly always be captured with the glass. For some other reason many of them are not at all able to fly away rapidly, and have they finally succeeded, their flight is rarely enduring, generally only to the nearest branch. Many do not even rise when they are touched.

Most *Lithosiinae* hold their wings in a most characteristic manner, the hindwings being folded together many times in fan-shape, which alone enables them to be covered by the narrow lanceolate forewings; the more so since the latter as a rule overlap one another to such an extent that one is largely hidden under the other, and that when at rest the wings, although much longer, hardly appear any wider than the body.

This shape assumed when at rest by the *Lithosiidae*, which resembles that of small *Blattids*, offers them another means of protection than by flight, namely by hiding themselves in the grass. Being disturbed, they
nearly always drop to the ground, often projecting themselves with the help of their long, springy hindlegs with such force that they jump across the poison jar held underneath. On the ground they find then no difficulty to escape by hiding in moss or tufts of grass.

The Lithosiidae do not vary much; on the contrary they are very constant, the same pattern of spots and often very distinct bands recurring in the different specimens of the same species. Still, whether among the hereafter described forms a larger number may not be referred to one and the same species, can only be decided when we possess a more intimate knowledge of the earlier stages than we have to-day of the Indo-Australian species.

In the general arrangement we have followed largely Hampson’s Catalogue in which by far the greater number of Lithosiidae are found so well illustrated that we have merely copied them; those species which were not illustrated in colours, were mostly figured from the types in the London Museum. While it is obviously impossible to bring absolutely complete illustrations of all the Exotic species, we trust that we offer a sufficient number to enable the student to classify and determine his material without difficulty.

1. Genus: **Darantoides.**

This genus is placed at the head, because it is considered by Hampson in his excellent Catalogue to be the oldest of all the Lithosiidae. Tongue well developed; palpi not extending from beyond frons; antennae very long, more than 1/2 of length of costa, in ♀ rather long ciliated; tibiae with moderately long spines. Forewings long and narrow, widest in the middle, inner margin curved. Highly characteristic is the cell, its end projecting in two long lobes. The space between median and submedian veins extraordinarily widened, the, lower median arising, not as usual near the middle of the cell, but only before the end of its lower arm. All the veins are free, neither stalked nor confluescent. Hindwings large, with pointed apex.

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2. Genus: **Stigmatophora** Strau.

This largely Palaearctic genus contains 8 Asiatic species. Ground-colour yellow, rarely red, with dark transverse striae or punctate rows, or with hardly any markings. Antennae of ♀ delicately ciliated. Tibiae with long spines. On the forewing vein 2 arises almost exactly in the middle of the cell, 3 shortly before, 4 and 5 close together at the lower angle of the cell, 6 and 7 are long, 8 and 9 somewhat shorter stalked; 11 arises a trifle beyond the middle of the upper edge of the cell, 10 about midway between the upper angle and the starting point of 11. On the hindwing vein 2 is given forth immediately beyond the middle of the cell, 3 just before, 4 and 5 at the lower angle, with very short, common stalk; 6 and 7 with common stalk from the upper apex of the cell, 8 from its middle. The larvae feed on rock lichens, the imagines are among the larger, more strikingly coloured and mostly also more common representatives of the family.

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D. **rubroflava** Hmps. (13d). Body orange, hindwings brown. Forewings with broad oblique bar beyond cell, and yellow veins. Hindwings with yellow costal area and similar spot before anal portion of termen. 24 mm. From New Guinea; discovered by Meek.

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S. **flava** Brem. (= ochracea Led., sinensis Wkr.) (Vol. 2, pl. 11a). This species which I encountered at Hongkong locally, though not scarce, as f. i. on the race-course of Happy Valley and the shooting-places at Koowlong, advances far into the Palaearctic Region, being also mentioned from Penang in Farther India. Wings deep yellow, the primaries with 3 rows of fine black dots, giving it some resemblance to *Philca leucoides*. (Vol. 2, pl. 11l). Southern specimens mostly represent the form *leucoides* Seinh. (Vol. 2, pl. 11a), differing from the northern form in the absence of the sooty black iroration of the under surface of the forewings, and the larger size of the black dots. — From the similar, but larger *S. micans* Brem.-Gray (Vol. 2, pl. 11a) of the Amur Region and Northern China (Tsing Tan) it is distinguished by the yellow tinge of the forewings, which in the otherwise white *micans* only occasionally suffuses the terminal area. Not scarce.

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S. **palmata** Moore (Vol. 2, pl. 11b) differs from the preceding species especially in having on the forewing the punctate terminal rows replaced by rows of black striae drawing obliquely from costa to inner margin, the outer one continuing to the apical area of the hindwing. — *inanis* form. nov. (= ab. 1 Hmps.) from Murree has the northern streaks and basal dots, which otherwise are heavy and glossy steel-blue, finer, the terminal striae largely obsoletes the hindwing generally devoid of all markings. Widely distributed through Bengal and the Himalayas; enters the Palaearctic Region in Cashmere, whence it has already been described in Vol. 2, p. 51.

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S. **strigivenata** Hmps. (13d); not unlike *palmata*, pale yellow, forewing with rows of transverse striae also in basal area, only a narrow median band and the termen displaying the ground-colour free of striation. From Pegu in Burmah, where it was discovered by Doherty.
The genus, with about 30 forms, contains only small species, some of which have already been dealt with in Vol. II, p. 51, and figured there on t. 11 b. Except one species living on the Cape, all the forms are Indo-Australian, and 8 species of them live in the Island of Borneo which, like New-Guinea, seems to represent a kind of a central range for the genus. Characterization of the genus vid. Vol. II, p. 51.

E. dissozona Meyr. (18 m) is one of the largest species and so peculiarly marked that it cannot be mistaken for any other, two transverse bands approaching each other at the proximal margin traversing the almost purely yellowish-white forewing. Above the anal angle sometimes a small dark marginal spot. From New Guinea.

E. tricolora B.-Bak. (18 l). Forewings white, at the base a small, greyish-brown dot and a subbasal coastal spot, a large, greyish-brown, middle inner-marginal spot, and a small costal spot, extending through the cell; in the cell a dark dot; the whole postmedian area brownish-grey with an interrupted and very irregular white submarginal line; hindwings unicolorously pale ochreous-yellow. 24 mm. Dinawa, Aroa River; August. — Similar to aequalis, but easily discernible by the colouring of the postmedian area and by the pale ochreous-yellow hindwings. — conflua B.-Bak. (18 l) differs from tricolora merely by a different whitish marking of the forewings and a slight grey darkening of the hindwings. Dinawa (New Guinea), in August and September.

E. transfasciata Rothsch. $: antennae brick-red, head creamy-white; thorax purple chocolate-coloured, tegulae, base of patagia and the anterior part of the thorax creamy-white; abdomen buff. Forewings creamy-white; curved antemedian and postmedian bands and a marginal spot between veins 1 and 7 purple chocolate-brown. Hindwings buff, at the apex a dark spot. Length of forewings: 13 mm. Camusi River in British New Guinea, in July.

E. sordidata Rothsch. $: antennae brown; head and thorax dirty white with grey spots; abdomen sordidata. Forewings white, 2 spots near the base, a broad antemedian and postmedian, somewhat darkened transverse band and one at the margin, connected with the postmedian one by broad horizontal streaks, dull brown. Hindwings buff. Length of forewings: 15 mm. Setekwa River (Snow Mountains), Dutch New Guinea, September.

E. aureoplagiata Rothsch. The $ has iridescent golden yellow head, antennae and thorax, the abdomen being buff. Forewings slate-grey; base, costal-marginal area and apex broadly iridescent golden yellow, with a border being proximally lustrous violet; a spot connected with a purple spot towards the base at the proximal margin and bordered by it, is golden yellow. Hindwings buff. Length of forewings: 11 mm. Camusi River, July.

E. aequalis Wkr. (= imposita Wkr.) (18 l) is larger than the preceding, somewhat similar to the form tricolora, but the brown bands still more separated, so that the white becomes the predominant colour on the forewing and thorax. The postmedian brown band indented behind the cell from the direction of the margin. Hindwings yellowish-grey. — In ab. trifasciata Wkr. the two brownish basal dots in the forewing are replaced by a dark basal stripe at the costa; the antemedian band more uniform and the brownish marginal band scarcely dentate. From Borneo.

E. bipunctata Wkr. (= trifasciata Snell.) is much smaller than aequalis, dirty whitish-grey. On bipunctata, the forewing the dark antemedian band is much narrower in the cell, so that it is divided into a smaller spot at the costa and a larger one at the proximal margin; the postmedian band is coherent, but narrow and irregular; before the border only traces of small dark spots. Widely distributed and not rare, from India and Assam across the Sunda Islands and Malacca to the Moluccas. — In trifasciata Moore from Ceylon the colour of the forewings is clearer and lighter, and the antemedian band is widened at the costa and above the proximal margin. — ab. basipuncta Hmps. is almost like the typical form, but the forewings somewhat less strung with grey, basipuncta. the anterior band in the cell quite interrupted, and the hindwings more dark brownish-grey. India, Ceylon, Borneo. — heylaertsi nom. nov. (= bipunctata Heyl.) differs, according to Snellen, from Walker's bipunctata heylaertsi. by the second small dark band of the forewing being straight, not undulate, the form being smaller, too. Batavia, Buitenzorg, Tegal, Pangalengan.

E. similis Rothsch. The $ resembles bipunctata. Antennae light brown; head creamy-white; thorax similis. chocolate-violet, base of patagia and the anterior third of the thorax creamy-white; abdomen greyish buff. Forewings white, a spot at the base, an antemedian band, 2 large postmedian spots, connected by a very fine line on the middle fold, and a marginal band are chocolate-violet, in the marginal band a white spot; hindwing dirty buff, in the distal half very much suffused with grey. Length of forewings: 13 mm. Perak, at an altitude of 1800 ft.
bipuncta.  

E. bipuncta Heyr. (18 m). A small species. Forewing in the basal half creamy white, the basal part covered with brown and with a dark band, so that only the part directly before the middle remains as a yellowish-white band, showing in the cell a brown dot close at the distal border. It is not unlikely that bipuncta has emerged from bipunctata Wkr. by the distal half of the forewing being blackened, so that it would be only a form in it, in favour of this would be the fact that both have apparently been met in copula with each other.

mediopuncta.  

E. mediopuncta Rothsch. ♂: antennae reddish yellowish-brown; head whitish creamy; thorax whitish creamy with brown spots; abdomen greyish creamy. Forewing creamy; on the middle fold a median black spot, an antennal band and a postmedian one light chocolate-brown; in the distal third of the wing there are some small chocolate-coloured scales and dirty spots, some of which are connected with the postmedian band; marginal line brown. Hindwings buff, a brown marginal line and an indistinct, almost faded median band of small brown scales. Length of forewings: 11 mm. Isabel Island, in June and July. — subsp. sordidior Rothsch. is larger and greyer, the distal third of the ♂ forewing much more intensely suffused, over the hindwing a grey tinge. Length of forewings: 11 mm. From the Cumusi River in British New Guinea, in May.

fasciata.  

E. fasciata Rothsch. ♂: antennae brown, head white; thorax chocolate-coloured with white tegulae; abdomen brownish-buff. Forewings chocolate-brown; a subbasal band above vein 1, a median band and a semicircular antemedial band are white. Hindwing with a buff basal half, the distal half greyish-brown.

subfasciata.  

Length of forewings: 11 mm. Haidana, Collingwood Bay, British New Guinea, April. — subsp. subfasciata differs in the ♂ from the typical form by the semicircular subterminal band of the forewing almost fading away between vein 5 and the anal angle, so that there only remain some small white spots. Length of forewings 12.5 mm. Cumusi River in British New Guinea, in July.

primario.  

E. perfasciata Rothsch. ♂ very much like fasciata Rothsch., but the white bands broader and the basal one running straight through to the proximal margin. Length of forewings: 10 mm. Mount Goliath in New Guinea, at an altitude of 3000 ft., in March.

turbida.  

E. turbida Wkr. (= strigicosta Wkr.) (18 m). Smaller than crassa, which it greatly resembles in the colouring; the forewing with fine transverse striae, so that the slight brightening in the disc is entirely covered. Borneo.

vagigutta.  

E. vagigutta Wkr. (18 m) is lighter than turbida, more dull yellowish than brown, behind the middle of the forewing a curved dark line, before it 3 almost contiguous, small punctiform spots, and behind it some separate ones. Close at the bend of the curved line a dark discal dot. Borneo.

immunda.  

E. immunda Swinh. ♂: forewings dull whitish, with very fine grey striation on them; at the base a chocolate-coloured band, and a similar one at the border, occupying the distal third of the wing; hindwing with a very dull grey marginal band occupying half the wing. Under surface dull grey, unmarked. Head, thorax, under surface of body and legs ochreous-yellow. Muok-Lek in Siam, discovered by Fruhstorfer.

obscura.  

E. obscura Hamp. (13 e). Forewings light brownish-grey, densely strewn with brown; only one dark discal dot is visible. Hindwings light smoky brown. Borneo.

Here we may insert the palearctic F. grisea having been dealt with in Vol. II, p. 51 and 1. 11 b, of which a more intensely dusted and thereby darker form: ab. suffusa Wilco. has been described in the meantime.

sexpuncta.  

E. sexpuncta Hamp. ♂: forewings yellowish, slightly strewn with brown, the marginal area slightly suffused with brown; near the base a small oblique band and before the middle below the costa and in the submedian fold small black spots, a small spot above the base before vein 2 and a discoidal spot. From the costa behind the middle towards the discal fold behind the cell-end a shade at the proximal area with a black dot above and below vein 1; an indistinct, rather diffuse subterminal line proceeding from the apex, being distally angled on vein 7, below the middle and above the anal angle distally, and at the discal fold and vein 2 again proximally; hindwings yellow, the apex slightly brownish. ♂ 24 mm. Fak-Fak, Dutch New Guinea.

humerana.  

E. humerana Wkr. (18 l). This small species which I figure according to the type in the British Museum, is immediately recognizable by the peculiar, Tortricid-like shape of the forewings. The only marking on the pale yellowish-brown forewing is a diffuse, oblique antennal band and a slight darkening at the margin. Hindwings dark grey with light fringes, at the proximal margin in the ♂ a stripe of hair-fringes. From Borneo

tineoides.  

E. tineoides Wkr. (18 m). Forewings dark brown, before the distal third slightly yellowish; in the middle of the disc a black dot; before the margin a dark small band being proximally dentate. Hindwings greyish-brown. Still smaller than the preceding species, the forewing at the border somewhat narrower, so that the shape of the butterfly somewhat recalls a Tineid. Borneo.
E. bilineata Hmps. ♂: ochreous-yellow, head, thorax and abdomen strewn with brown; forewings bilineata, slightly strewn with brown; an antemedian strongly bent line is expanded at the costa to a spot; in the cell-end a longish, black dot; postmedian line turning outwards behind the cell and expanded to a spot at the costa; before the margin below the veins 10, 8 and 4 stripes, and an oblique streak from the postmedian line near vein 3 to the anal angle. 16 mm. Described according to a ♂ from Singapore.

E. crassa Wkr. (= indeclarata Wkr.) (18 m) has much broader wings than bilineata, but it is crassa, similarly coloured. Dark brown with yellow fringes, the disc of the forewing and the basal part of the hindwing yellowish. Before the apex begins at the costa a dark nebulous stripe extending to the proximal margin which it touches before its distal third. Before the proximal margin in the cell a black dot, sometimes another feebler one below it. — ab. inconspicua Wkr. has another blackish spot at the base of the costa. From Sarawak (Borneo).


E. irregularis Rothsch. antennae dark brown, head and thorax white, a spot on the thorax and the posterior margin of the tegulae dark brown; abdomen drab. Forewing white, an antemedian band, two interrupted, irregular postmedian bands and a marginal band are dark brownish-grey. Hindwings drab. Length of forewings: 10 mm. Mount Goliath, Dutch New Guinea, at an altitude of 500 ft., in March.


This genus having been established in 1894 so far comprises three Indian species mostly known long ago, looking somewhat like small Pyralidae. Two are known from Borneo, the Lithosiidae of which island have been the most thoroughly explored. Palpi short, ♂ antennae with very small teeth, tibiae with long spurs. Forewing with a very much bulged out proximal margin, an obtuse apex and sharp anal angle, of a yellow colour. The lower median vein rises behind the middle of the cell, the middle one before and the joint footstalk of the upper and lower radials from the lower cell-angle. The 3rd and 4th subcostal veins are also petioled, and the 4th with the upper radial a very long pedicle which was absent in the Strichophthalma being otherwise closely allied. The butterflies are widely distributed and common.

T. subaurana Wkr. (= metalligera Btlr.) (13 d). Yolk-coloured, on the forewings a purple brown subaurana, spiral beginning in the distal angle and terminating below the middle of the wing. Distributed from the Andamans across the Malayan Archipelago.

T. obsconditata Wkr. (13 d) is half the size of subaurana, of a paler yellow, of the spiral only the upper part is left as a dull greyish-brown arcuate shade. Borneo. — In flava Hmps. from Ceylon this shade is quite dull, scarcely noticeable, and in ab. abbreviata nom. nov. (= ab. 1 Hmps.) from the Naga Hills the arcuate shade is narrower and shorter.

T. iridescens Rothsch. In the ♂ the antennae and head are histrin golden yellow, the thorax iridescent coppery red, the tegulae and base of patagia lustrous golden yellow; abdomen golden buff. Forewings golden yellow, the base and the basal third of the costa aniline-coloured with a coppery reflection; an antemedian, semicircular band reflecting Magenta-blue, from which slate-coloured streaks extend distally; marginal band and apex with a broad coppery reflection. Hindwings buff. Length of forewings: 10 mm. Mount Goliath, New Guinea, at an altitude of 5000 ft., March. — subsp. orientalis Rothsch. differs from the ♂ of iridescens by orientalis, its smaller size and lighter and duller colouring. Length of forewings only 7.5 to 8 mm. New Guinea.


The small butterflies of this genus recall Tortricidae in their exterior, with brown or grey forewings the venation of which, obviously influenced by the Tortrix-like shape of the forewings, has a very peculiar course, since all the 5 subcostal veins extend from the posterior half of the cell almost parallel to the costa; particularly the first anastomoses with the costal; the cell itself is very long, its upper angle produced pointedly. Distributed from the Himalaya across the Malayan Archipelago as far as North Australia.
**H. schistacea** Roths. In the ♀ the antennae, head and thorax are bluish slate-coloured; abdomen dull buff. Forewing bluish slate-coloured; 3 antemedian spots and one median spot, a subapicod terminal curved line, extending from the costa \( \frac{3}{4} \) before the apex to vein 1, and the basal two thirds of the costa are black. Hindwings leather-coloured white. Length of forewings: 12 mm. Octakwa River, New Guinea, at an altitude of 3500 ft., October till November.

**H. murina** Roths. ♀ with light brown antennae, head and thorax drab, abdomen whitish-grey. Forewings drab, an apicod terminal band darker, median spot black; hindwings drab. Length of forewings: 10.5 to 12 mm. Cumusi River, New Guinea, June to August.

**H. schistaceoalba** Roths. Head, antennae and thorax of the ♀ brownish slate-coloured; abdomen creamy white, anal tuft and valves whitish-grey. Forewings milky-white; base, costal-marginal area, apex and marginal band as far as vein 1 slate-coloured, with a brownish hue over it. Hindwings milky-white. Length of forewings: 11.5 mm. Cumusi River, New Guinea.

**H. similima** Roths. The ♀ resembles *orbiferana* (13 d), but it is larger. Antennae brown, head and thorax violet slate-coloured; abdomen light creamy buff. Forewing violet slate-coloured, disc wood-coloured brown, with a violet slate-coloured hue, a spot on the transverse vein and a large one above vein 1 orange-yellow, 2 curved zig-zag lines black, extending from the costa as far as beyond the middle of the border above the anal angle. Hindwing light creamy buff. Length of forewings: 13 mm. Haidana, Collingwood Bay and Cumusi River in New Guinea, April and July.

**H. orbiferana** Wkr. (= rotundata Snell.) (13 d). Forewings sooty grey, at the border and proximal margin darker, at the base and in the disc lighter; behind the cell-end, often also above the proximal margin a minute dark spot in a light halo; hindwings whitish. Distributed from Sikkim and Bhutan to Ceylon and Borneo.

**H. micrommata** Trnr. from North Australia is smaller, the forewing more brown and at the costa darker; in the middle of the wing a dark line from the costa obliquely to the median, then straight, and on the submedian fold slightly angled inwardly; at the cell-end a small orange spot; a dark antemarginal line obliquely cuts off the apex; hindwings light ochreous. Port Darwin.

**H. dulcicula** Swinh. (13 d) is allied to this genus and to the preceding, but distinguished by the straighter course of the subcostal veins, the 4th of which is petioled with the 3rd, and the fifth with the upper radial, and according to Hampson, forming for this reason a separate genus: *Cyclosiella* Hmps. Forewings purple brown with a straw-coloured arcuate stripe at the costal and distal margins, the hindwings with a yellow margin. India as far as Ceylon and Indo-China.


This genus only contains one very small species from northern Indo-China; the body is very frail, antennae of the ♀ combed, forewings very broad, shield-shaped, with a very bulgy border, the apex bent over downwards; in the forewing all the veins are separate except 8 and 9, which are petioled, the rather long footstalk rising before the upper cell-angle. — The name is derived from the apical part of the forewing being peculiarly turned over upward. The cell of the forewing is much shorter and broader, the subcostal veins straight, the 3rd and 4th petioled. Indo-China.

**T. cupreimargo** Hmps., is as large as *Hemonia dulcicula*, ochreous-yellow, dusted with dark, forewing with an oblique band extending from the vertex of the costa to the proximal margin near the base. Behind this band the dark dusting is more intense, and 2 above convergent small stripes run from the proximal margin as far as below the cell-end. Immediately recognizable by the apex of the forewing being turned upward. Hindwings coloured like the forewings with yellow fringes.

### 7. Genus: Diduga Moore

About 8 species form this genus which might as well be divided into several. Some specious differences in the veins are attributable to the deviation in the shape of the wings so often occurring in the Lithosiids. Very much deviating is *asperea* which was therefore justly raised to a genus of its own (*Conosia*) by Hampson. This species has very long, strap-like wings, like a small Lithosia, as which it was therefore also described. The shape of the forewings of the other species is more oval; in *pectinifer* with a sharper anal angle, in the others more indistinct; the subcostal veins very straight, often petioled by twos, in *annulata* all parallel, and 4 forming with 5 a long-stalked fork. The antennae are sometimes rather long-combed (subg. *Diduga*), sometimes short-combed (subg. *Androstigma*). The latter name refers to a very conspicuous scent-organ near the transverse
band of the hindwing, in the shape of a pulvinate or velvety spot. This scent-spot, however, is of a different shape in every species, so that it would be very easy to establish a separate genus for each species, particularly where also the antennae deviate. Nothing is known of the life-history; the genus contains only small butterflies and is confined to the Indo-Australian district.

D. albicosta *Hmps.* (18 k). Forewings violetish-grey, costa and border irregularly whitish. The *albicosta.* brownish-grey forewing exhibits a circular scent-spot near the anal angle. South India and Ceylon. — In aurantii- *aurantii-picta* nom. nov. (= ab. 1 *Hmps.*) this light border of the wing is spotted orange-yellow; from Bali.

D. flavicosta Snell. (= costata Moore, flavicosta *Hmps.*) (18 k) is quite similar to *albicosta,* but *flavicosta.* without the scent-spot in the hindwing, and the $ antennae are almost plain; otherwise the marking and colouring is the same as in *albicosta.* Likewise from South India and Ceylon, but it is besides distributed across parts of Indo-China and the Malayan Archipelago.

D. trichophora *Hmps.* is coloured just like the preceding, but the light border of the forewing is some- *trichophora.* what broader; besides, however, there are long, stiff scent-hairs at the proximal margin of the forewing, and a scent-curl in the anal part of the hindwing. Pulo-Laut and Bali; found by DOHERTY.

D. pectinifer *Hmps.* Likewise coloured and marked exactly like *flavicosta,* but the antennal teeth of the $ longer and the scent-organ forms a fur-stripe along the proximal margin of the hindwing. Pulo-Laut.

D. rufidisca *Hmps.* (13 a). Costal and distal margins very broad and sinuate bone-white, so that *rufidisca.* the somewhat lighter violetish-grey ground-colour of the forewings appears very much confined. From the Khasia Mountains (Assam).

D. annulata *Hmps.* The wings are more unicolorous, the forewing without the light costal-marginal *annulata.* stripe, but with finely dentate transverse lines; recognizable by the somewhat longer pulpi and the rather long pinnated antennae. Ground-colour of the forewing brownish-grey; *annulata.* hindwing without a distinct scent-fur. Sumbawa.

D. fumipennis *Hmps.* (18 l). Violetish-grey, at the costa of the forewing only spot-like traces of the *fumipennis.* bone-coloured costal stripe; in the $ the light costal spot is more distinct, and the head and tegulae are whitish, Nilghiri Plateau; discovered by HAMPSON.

D. aspersa Wkr. (= xylinoides Wkr.). Shape of a *Lithosia*; greyish-brown, the forewings rather *aspersa.* longish, across the middle runs a dark stripe being angled behind the cell. In some specimens the forewing is so intensely dusted with dark that this line is little prominent (= ab. 1 *Hmps.*). Indo-China and Sunda Islands.

8. Genus: **Caprimimodes** Rothsch.

Differs from *Diduga* by the very long, filiform antennae and by the veins 6 and 7 on the hindwing not being petioled, but rising separately from the cell.

C. mimetica Rothsch. $: antennae, head and thorax black. Forewings black; a large golden spot *mimetica.* occupies the largest part of the basal half, and a large, light chestnut-coloured spot occupies the greatest part of the apical half; a white median spot on the fringes. Hindwing in the basal two fifths semi-diaphanous golden yellow, with a sooty slatecoloured hue over it, the distal three fifths black. Length of forewings: 14 mm. Oetakwa River, Dutch New Guinea, October, November. This very peculiar animal is an exact imitation of *Caprim. postvitrea.*


$ antennae finely ciliated, tibiae with long spurs, forewings strap-shaped, costal and proximal margins almost parallel. Apex and anal angle of the forewing entirely indistinct. Yellow, forewing in the distal third violetish-grey. 2 species in the Australian district.

H. araoa B.-Bak. (18 k). Forewing yolk-coloured with a large violetish-brown distal spot and a *araoa.* dark base, hindwing yellow with a broad, violetish-grey border. New Guinea.

H. euchrysa Meyr. is coloured like *araoa,* but the violetish-brown distal spot of the forewing is narrower *euchrysa.* band-shaped, and the hindwings are not so broadly margined with dark. Queensland.

Recognizable by the very long, pointed cell of the forewing, from which the 3rd subcostal vein as well as the joint footstalk of the 4th and 5th rise; the 1st subcostal vein runs close along the costal, but does not anastomose with it. Ground-colour whitish, little marked. Based upon a species from the Khasia Hills.

**G. fulvipicta** Hmps. (18 k). Forewing white, little marked dark, the apical half tinged ochreous; forewing with a slight grey hue, towards the base lighter. Khasia Hills. Type of the genus.

**G. plagia** Roths. (18 k). Head, antennae and thorax creamy-white; abdomen dirty-white. Forewing creamy-white; with irregular bands in the basal half and large irregular spots in the distal half of a yellowish brick-brown colour. Hindwings milky-white. Length of forewings: 9 mm. Mambare River, in June.

11. Genus: **Chlorogenia** Meyr.

Forewings broader, the costa not so humped as in the 3 of the Gymnochroma; cell shorter and broader, not pointed, but broadly truncated, the 3rd subcostal vein and the footstalk of the 4th and 5th rise separately.

**C. cholera** Meyr. Marking similar to that of *Psilopepla margaritacea* (18 k), but the butterfly is smaller and of a more yellowish colour; the dark dentate lines of the forewing are denser, so that 5 chains of spots or dentate lines are distinguishable (instead of 3 as in *margaritacea*). New Guinea.


As to this genus which may be considered as the Indian representative of the palaeartic *Nudaria mundana*, comp. Vol. II, p. 51. The cell of the forewing is very long, the 1st subcostal vein rises in the middle of the cell, the 3rd, 4th and 5th have a joint footstalk. Indo-Australia; 2 species have also been found in the palaeartic region.

**P. margaritacea** Wkr. (= margaritaria Wkr.) (18 k). Recognizable by the beautiful mother-of-pearl lustre. Comp. Vol. II, p. 51. — The figure is made according to the type in the British Museum.

**P. fasciata** Moore (Vol. II, t. 11 b). Larger, better coloured than the preceding; forewings blackish-brown, the distal third yellowish-grey, marked white. Further particulars vid. Vol. II, p. 51. — The form *promelaena* Hmps. does not occur in the palaeartic region and was therefore not described at large in Vol. II; it differs from typical *fasciata* by the yellow being reduced, the postmedian line bent backward towards the costa and not connected with the subapical spot; hindwings tinted dark brown. From the Khasia Hills. — Some specimens are remarkably pale so that they are without any dark tint. Before the border an irregularly dentate line which is inwardly turned round towards the costa to the submedian line. This light form may be denominated: ab. *sordida* nom. nov. (= ab. 2 Hmps.).

**P. suffusa** Hmps. (18 k). Marked still brighter white than *fasciata*, but the wings otherwise uniformly suffused with a sooty blackish-grey, not yellow in the marginal third. Sikkim and Assam.

**P. funidisa** Hmps. (18 k) is still much lighter, the forewings nearly white, little marked, only in the disc still more intense smoky-grey shading. Smaller than the preceding. Sikkim and Assam.

**P. mollis** Luc. (13 c) is still smaller than *funidisa*, the smoky-grey zig-zag marking in the discal area replaced by honey-coloured dentate lines. Brisbane in Queensland.

**P. discipuncta** Hmps. (18 k) is easily distinguishable from *mollis* by the marking of the forewing being in the costal half honey-coloured, in the proximal half smoky-grey. Bhutan, Assam, and Pulo Laut.


**P. simillima Rothsch.** The ♀ greatly resembles chamaitoides, but it differs by a median line of spots simillima and a postmedian dentate band. Angabunga River, a tributary of St. Joseph River in British New Guinea, at altitudes of 6000 ft. and higher, November and February.

...Nudaria barnardi Lec., from Queensland is probably wrongly inserted in this genus: it may be a Thallarcha.


The small, semi-transparent, white butterflies of this genus are sufficiently characterized by the ♂ antennae resting on a thick footstalk, which is more than twice the length of the antennae themselves. This is the transformed first antennal joint being enormously prolonged, very much thickened and round about covered with long ciliae. Another peculiarity of this genus are hair-combs along the costa of the forewing and besides a furry cover in the ♂ in the basal part of the cell of the forewing, but only in one species. Distributed from India as far as the Papuan District and Celebes.

**Ch. trichopteroides** Wkr. (= nudarioides Blü., neuropteroïdes Hmps.) (13 d). Whitish, the hindwing diaphanous, very faintly marked brown. Cell of forewing covered with a fur in the basal half. Assam, Sunda Islands as far as New Guinea.

**Ch. nympha** Moore (13 d). Forewing faintly tinged yellowish, without the furry cover in the cell. nympha. Scarcely half the size of the preceding. The peculiar antennal footstalk with shorter hair. Ceylon and Celebes.

**Ch. fascioterminata** Rothsch. ♂: head, antennae, thorax and abdomen creamy-white. Forewings semi-transparent white; three half faded, brick-coloured yellowish-brown oblique bands from the costa to the median are situated within the basal two thirds of the wing. Before the margin and on it rows of similarly coloured small spots. Length of forewings: 9.5 mm. Milne Bay, February.

**Ch. griseobasis** Rothsch. In the ♂ the head, antennae and thorax are brick-coloured buff-grey; abdomen grey-buff. Forewing opalescent diaphanous creamy-white; a spot in the cell, a basal band and a subbasal one are brownish-grey. Hindwings opalescent hyaline creamy-white. In the ♀ the head, antennae and thorax as well as the abdomen are brick-coloured light grey, the forewings opalescent transparent yellow; a transparent grey spot in the cell and a band near the base. Hindwings opalescent hyaline creamy-white. Length of forewings: ♂ 11, ♀ 13.5 mm. Mambare River in New Guinea, 5000 ft., in April.

**Ch. niveata** Rothsch. ♀: head, antennae, thorax and abdomen white. Forewings and hindwings semi-transparent snow-white, with a small, subtle, grey dot at the cell-end. Length of forewings: 11.5 mm. Mount Goliath, in March.


In both sexes the first antennal segment is very long, like in Chamaita Wkr. On the forewing the costal is connected with the costa by various small intermediate veins, like in Schistophlebs; 4 subcostal veins, the 1st anastomosing with the costal, the 2nd in the ♂ petioled with the 1st, in the ♀ rising separately from the cell. The 2nd and 3rd discocellulars of the same length and forming in the ♂ an obtuse angle directed distally. The 1st radial rises from this angle; in the ♀ the 2nd and 3rd discocellulars are likewise angled, but inwardly. The 2nd median vein rises in the ♀ from the middle of the cell, in the ♂ before the middle; the 1st and 2nd median veins, the 3rd and 2nd radials almost at the same distance from each other. The 2nd subcostal vein and the 1st radial of the hindwing in the ♀ on a long footstalk, in the ♂ on a very short one. The wings in the ♀ small with a broad scent-fold between the costa and cell. The latter is narrower, and the costal and the 2nd subcostal vein inwardly curved. In the ♂ the anterior tibiae are reduced, the anterior tarsus thin, long filiform, the middle femora densely haired, on the outside showing long, thin hairs, each of them at the end with an oviform vesicle, so that these knotted hairs resemble the ovated footstalks of a Hemerobius. Type: E. latus Rothsch. The genus differs from Schistophlebs by the prolonged 1st antennal joint, not counting the venation, from Caulocera by the long antennal joint and the presence of small intermediate veins in the costal area, from
Chamaita by the venation.

**E. latus** Rothsch. ♀: head and antennae buff; antennae, legs and abdomen cream-coloured, the thickened hair of the middle femora light brownish. Wings transparent; forewings only 1 1/2 as long as they are broad, costal margin very much curved, buff, the colour the most intense at the base and proximal margin; a subbasal line is behind the cell expanded to a large spot, another line runs from the costal margin right across the cell-end to the middle of the proximal margin, and a deeply dentate line across the disc purple, indistinct; a small dot in the middle of the cell and another one on the discocellular black. Hindwings lighter. Under surface unmarked. ♀ lighter than the ♀; with an almost white abdomen, of the purple lines of the forewing there are but traces. Length of forewing: 11 1/2 mm.

**E. goliathina** Rothsch. ♀: antennae light brick-yellow, densely ciliated; head and thorax buff; abdomen light earth-brown. Forewings opalescent hyaline buff, set with fine hair; 2 small dots, an antemedian and a dentate middle transverse band, as well as a postmedian one from the costa to vein 2 transparent grey. Hindwings opalescent diaphanous light yellow. Length of forewings: 12 1/2 mm. From Mount Goliath in New Guinea, in January.

15. Genus: **Palaeopsis** Hmps.

Of a Pyralidae-like shape; remarkable for its extremely long cell of the forewing, extending almost to the apex; from the costal-apex rise the 2nd, 3rd and 4th subcostal veins, which, however, are scarcely one mm long and have then already reached the apex. Only 3 species from Ceylon and New Guinea, the districts abounding in Lithosiids.

**P. diaphanella** Hmps. (18 h). Diaphanous white like the preceding, but the narrower forewing shows only two dark demi-bands in the basal half, and a chain of spots in the distal margin. Ceylon, discovered by Green.


**P. suffusus** Rothsch. ♀: head, antennae and thorax white, abdomen greyish-white. Forewings creamy-yellow, suffused with small reddish-yellow scales, which grow denser towards the apex and margin; at the proximal margin a brown spot, at the costa the same and two brown stripes on the discocellulars. Hindwings creamy-white. Length of forewings: 8 mm. Mambare River, 5000 ft., February.


Venation of forewings almost exactly like in **Diduga**, but the 3rd, 4th and 5th subcostal veins have a joint footstalk. Only one small, pale ochreous-yellow insect unknown to me in nature.

**A. electraula** Meyr. Size and shape of Gymnochroma fulvipicta (18 k); the light ochreous forewing exhibits an antemedian, postmedian and median irregular line, between the latter two a discal dot, and in the marginal area some small streak-spots. New Guinea.

17. Genus: **Hemipsilia** Hmps.

Venation of forewing very peculiar, the 1st subcostal vein at first runs towards the costal, then it turns, however, back and runs into the 2nd, so that an areola is created between the two veins; the 3rd and 4th subcostal veins are petioled, the 5th is entirely absent. Only 1 species.

**H. coa-vestis** Hmps. On the pale, yellowish-brown forewing a small hyaline band defines the basal third, a hyaline ring surrounds the discal dot and the distal third is likewise surrounded by hyaline. Hindwings diaphanous yellowish. Size of **Palaeopsis suffusus**. From Sikkim. Unknown to me in nature.

18. Genus: **Caulocera** Hmps.

Three or 4 small butterflies, the smallest Lithosiids in the Indo-Australian region, compose this genus. Here the upper cell-wall anastomoses with the costal by the 1st subcostal vein, the 3rd and 4th have a joint footstalk. The antennae have a small short footstalk (first antennal joint). Indian Archipelago.

**C. crassicornis** Wkr. (18 h). Bone-white, the forewing scantily marked ochreous. The cell of the forewing is pointed, from the apex proceeds the joint footstalk of the subcostal veins 3 and 4. Borneo, Timor-Laut. The figure according to a specimen in the British Museum.
C. xantholopha Hmps. (18 h). White, quite minutely marked yellowish-grey. Hindwing very small compared with the very broad forewing. Cell quite differently shaped from crassicornis, stunted, and the lower angle produced. At the costal margin of the forewing a fine hair-comb, at the distal margin long hair-fringes, and at the proximal margin a beard. The figure is produced according to the type in the British Museum, of course delicate forms are not delineated here. From Pulo Laut.

C. fasciolata Rothsch. In the ♂ the antennae, head and thorax are creamy-white; abdomen dull white. Forewings dirty creamy-white; an antemedian oblique band, 2 crossed, irregular median bands, a broad postmedian oblique band from the costa to the anal angle and a series of small marginal spots are brick-yellow; in the middle a brown stigma. Hindwings white. Length of forewings: 10,5 mm. Cumusi River, British New Guinea, in July. — subsp. punctistriata Rothsch. from the Oetakwa River (Snow Mountains) differs from pundisiria Rothsch.

Course delicate forms are not delineated here. From Pnlo Laut. in the middle a brown stigma. Hindwings milky white. Length of forewings: 10,5 mm. Cumusi River, British New Guinea, in July.


The 10 species of this genus have very broad forewings, in which the costal runs rather far away from the costal margin, so that the impending costa-stripe has to be supported by transverse veins extending from the costa to the costal margin. Otherwise the 2nd subcostal vein is petioled with the 3rd and the 4th with the 5th, the 1st being absent. The two radials and the 3 median veins run parallel. Cell long, napiform. India and Australia.

S. obducta Lac. (18 k) is the darkest species. Forewings greyish-brown, the basal area secluded obducta. by an ochreous-yellow dentate band; before the margin a yellow dentate band, in front of it a white one; hindwings somewhat transparent greyish-brown. Queensland.


S. bipuncta Hmps. (18 h). Ground-colour dull, somewhat diaphanous white, with scanty grey transverse bands of the forewings, before and behind the middle; between them a dark discal dot. India and Ceylon as far as Burma.

S. albida Wkr. (13 k). Almost entirely white, only very faint ochreous-yellow traces of the antemedian albida. and postmedian bands of the forewings. Eastern Australia.

S. costimacula Rothsch. ♂: antennae light brownish-yellow, head and thorax milky-white; abdomen costimacula. greyish-white. Forewings milky-white, an antemedian, postmedian and broad median spot at the costa greyish-brown, at the distal and proximal margins some very fine, small dusty spots. Hindwings white. The ♀ is larger, and its fore- and hindwings are hued dirty yellow. Length of forewings: ♂ 12, ♀ 14 mm. Mambara River, British New Guinea, 5000 ft., in March.

S. noloides Rothsch. In both sexes the head, antennae and thorax are light brick-grey; abdomen noloides. greyish-white. Forewings creamy white; in the basal half a brown oblique band from the costa to the median fold and a brown spot in the costal area, the distal half covered with confluent, dark brownish-grey spots almost covering the ground-colour. Length of forewings: 11,5 mm. Mambara River, British New Guinea, 5000 ft., in March.

S. aroa B.-Bak. (13 g) has greyish-white forewings with 2 dark dentate lines and a black dot at aroa. the cell-end; the marginal area is dusted with grey towards the apex. — From the Aroa River, taken in April.

S. hyalina B.-Bak. ♂ head and thorax quite light straw-coloured; abdomen whitish. Forewings hyalina. uniformly diaphanous faded straw-coloured, with minute traces of a greyish postmedian line; 20 mm. Owgarra.

S. punctata Semp. Dull bone-coloured; the forewing slightly tinged ochreous. From the costa through punctata. the upper costal part of the forewing extend small, faded nebulous bands, and similar nebulous diffuse spots are in the middle of the distal margin and above the proximal angle; hindwings whitish. Philippines.

S. bicolora B.-Bak. shows 3 large, greyish-brown costal spots on the white forewings, the most proximal one of which is connected with a similar spot in the middle of the proximal margin. Marginal area dusted dark. — Aroa River, March.


Hereto belong the most beautiful Lithosia; they are variegated animals with very bright markings and mostly transverse bands; they partly fly also in day-time, but I found also single specimens in day-time hidden in crevices of rocks. The hindwings are often Catocala-like, orange or bright yellow, with black margins.
Of the subcostal veins of the forewing 2 is always petioled with 3, and 4 with 5, the lower radial rises very near the upper median vein; the cell is posteriorly straightly cut off or slightly turned back. About a dozen forms are known, all of which are confined to Australia.

**congrua.**

*C. congrua* Wkr. (18 i). Both wings are yolk-coloured, hindwings with 1, forewings with 2 black bands and a black spot below the apex. New South Wales, rare; I only once found a specimen (the figured 2) near the Zigzag Railway Station.

**laeia.**

*C. laeia* Wkr. (18 k). In typical specimens the forewings are white with 2 black bands and a black spot below the apex, the hindwings are orange-yellow with a black apical margin and 2 black spots before it. Eastern and Southern Australia, more common than *congrua*. June and October. — The form *xanthomelas* Low. has a yolk-coloured ground of the forewing and thereby resembles *congrua*, but it is without the coherent band of the wing. Western Australia.

**zonophanes.**

*C. zonophanes* Meyr. (18 k). Forewings bone-white with 3 curved, partly anastomosing bands; hindwings yolk-coloured with a dark band growing broader analwards, but terminating far away from the distal margin into the costal margin. Victoria. Rare.

**discrepans.**

*C. discrepans* Wkr. (= *samula* Fldr.) (18 i). Forewings with an ensiform apex, white, with 2 black bands, hindwings yolk-coloured with a black, anally shortened marginal band. South East Australia. Rare.

**sheperdi.**

*C. sheperdi* Neum. (18 g) greatly resembles *laeia* (18 k), but on the hindwing only one yolk-coloured spot before the middle of the border. Melbourne and Tasmania. Rare.

**gratiosa.**

*C. gratiosa* Wkr. (18 i) is likewise entirely similar to *laeia*, smaller, more delicate, the bands mostly more slender. Eastern Australia. — In the form *diplographa* Trnr. (18 i) from Queensland the black median band is split into two small narrow bands and the space between is filled up with a light yellow. Rare, in October.

**nivosa.**

*C. nivosa* Wkr. White, forewing at the costa narrowly black, also at the border before the fringes; below the costa some small black spots and an orange costal stripe near the apex; hindwings white, before the middle of the margin a small dark spot of a variable size. South East Australia, in September.

**plagiata.**

*C. plagiata* Wkr. (= *struthias* Meyr.) (18 g). Forewings orange with a broad black border and a black spot behind the base as well as a black discal dot. Hindwings orange with a narrow black border. New South Wales, Tasmania, rare; unknown to me in nature.

**doubledayi.**

*C. doubledayi* Neum. (= *rubricosta* Wkr., *binotata* Wkr.) (18 g). Hindwings like in *plagiata*, orange with a narrow black border, but the forewings unicolorously dark chestnut-brown with reddish veins. Victoria and Tasmania. Rare.

**conographa.**

*C. conographa* Meyr. (18 i). The forewing with an ensiformly extended apex, dark chestnut-brown, the apex broad and the border narrow orange. Hindwing orange with a blackish-brown antemarginal band. Eastern Australia. Rare.

**catocalina.**

*C. catocalina* Wkr. (18 i). Forewings with light and dark grey clouds, with a bark-like marking, the hindwings yolk-coloured with a large black spot before the middle of the border and a smaller one in the apex. New South Wales; rare, in October.

21. **Genus: Parelictis Meyr.**

The only species forming this genus shows such peculiar formations, that it can be characterized with few words. The costa of the forewing is in the 2 very much curved and shows before its middle a knob-like boss or projection. Besides there is before the apex of the hindwing a kind of a sling-like fold of the wing. The 2 has scent-fur stripes: a long one in the submedian fold of the forewing and shorter ones at the same place of the hindwing and before its apex. The butterflies belong to the larger Lithosiids; the early stages are unknown, the butterflies rare. I only once took a 2 on a rock of the Botany Bay, near the "Heads" of Sydney.

**saleuta.**

22. Genus: **Cyclomilta** Hmps.

The only species of this genus was described as *Miltochrista*, from which, however, it differs by the stunted proboscis and by the subcostal veins 2, 3, 4 and 5 being jointly petioled.

*C. melanolepia* Dudg. (13 h). Size and shape somewhat like an *Asura frigida* Wkr. (18 a), yolk-coloured, *melanolepia* with a rosy hue, the basal third of the forewing light with a dark dot in the cell. The distal half of the forewing is occupied by a large dark shade extending from the subcostal to the proximal margin, growing lighter at the border, particularly at the apex. Described according to a single ♀; from Sikkim, taken at an altitude of 1800 m.

23. Genus: **Hectobrocha** Meyr.

The genus of which only 2 very closely allied species are known, closely approximates *Castula*; they live in Australia, resting below projecting rocks and in efts of rocks, and fly in day-time when they are chased up, and then somewhat recall the European *Endrosa* from which, however, they deviate by the complete proboscis. ♀ antennae ciliated, tibiae with long spurs. Cell of forewing long cuneiform, at the end smoothly cut off, that of the hindwing turned back by the upper discocellular being incurved. 3rd to 5th subcostal vein of the forewing petioled, this footstalk with the 2nd subcostal vein rising from the upper cell-angle. The butterflies are apparently rare.


*H. pentacyuma* Meyr. is quite similarly marked as the preceding species, but much smaller, and the thorax and forewings are whitish instead of yellow, whereby the resemblance with *Eugoa* is still increased. Probably from Queensland.


Very closely allied to the preceding genus, but the palpi shorter, scarcely projecting beyond the forehead. Tibiae with shorter spurs; the 2nd subcostal vein sometimes rises from the joint footstalk of the 3rd and 5th, whereas in *Hectobrocha* it is always separate, although it rises with the footstalk from the same place of the upper cell-angle.

*N. phaeocyma* Meyr. (18 f). According to HAMPSON's figure which is done according to MEYRICK's *phaeocyma* model and which we copy, the ♀ is van Dyke-brown, with lighter hindwings and black dentate lines, margin and discal dots of the forewings. From the Thursday Island in the Torres Straits.

*N. adoxa* Meyr. is much larger than the preceding species, distinguished by the whitish, instead *adoxa* of light brownish hindwings and by the absence of a longitudinal fold which in *phaeocyma* extends below the costa. New South Wales.


The genus consists of more than a dozen exclusively Australian small butterflies looking like small *Castula* by their variegated, mostly black-banded forewings and the hindwings often showing dark borders or spots. The most scantily marked species is *T. fusa* from West Australia, whereas other species form the transition to the *Eutane* by their intense yellowish-black colouring. The proboscis is strong, the forewings narrower, more pointed, in the shape more Tineid-like, the cell of both wings much longer, the 2nd subcostal vein rises very far before the upper cell-angle, at a great distance from the footstalk of the subcostal veins 3 to 5. The butterflies are frequently more common than the mostly rare species of the preceding genera.

*T. fusa* Hmps. (18 m). Forewing violetish-grey, in the costal half dotted, in the more monotonous *fusa* distal half there is only a dark uneiform spot at the end of the long cell. Hindwing pale orange with a dark apical area and blackish cell-end spot. Fremantle in West Australia.

*T. isophragma* Meyr. (18 l). From Tasmania; somewhat like *fusa*, but the forewing of a whitish *isophragma* ground-colour and also the distal half of it with rows of dark dots.
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**T. macillenta** Luc. (13 c) is much smaller than the preceding. Dirty white, the forewing with fewer and thinner, more interrupted dentate chains, only behind the middle of the proximal margin a more distinct spot; the hindwings all white, without an apical shade and a distinct spot in the cell. East Australia.

**T. sparsana** Wkr. (13 c) resembles *isophragma*, but the chains of dots on the white forewings are faded except a zigzag-line through the middle and a large, irregular subapical spot. Hindwing pale yellow with a dark apical part, extending to the cell-end spot. East and South Australia.

**T. fuscosgrisea** Roths. ♂ with combed antennae which are sooty brown with white tips; head white, thorax dark brown, tegulae whitish; abdomen orange buff. The basal 2/3 of the forewing are whitish-grey; costa and antemedian zigzag-band dull brown, the small basal dots and median stigma black; the distal third is whitish-grey, densely dusted with small brown scales; a broad, dark, dull brown postdiscal band and 3 brown antennal spots. Hindwings orange-yellow with a broad brownish sooty-black apex. Length of forewings: 11 mm. Parkside in South Australia.

**T. oblita** Fldr. (13 h). Almost like *sparsana*, the black dentate lines of the forewings more distinct; immediately recognizable by a honey-coloured demi-band broadly extending from the proximal margin of the forewing into the cell. Hindwings almost white, very faintly yellowish. New South Wales.

**T. albicollis** Fldr. (= chichonea Trnr.) (13 d). In the same way as *sparsana* seems to represent a faded *isophragma*, *albicollis* may be considered as the most strongly marked extreme. Forewings snow-white, with strong, thick, partly crossed, transverse zigzag-lines; hindwings of a bright yellow, with a black apex and cell-spot. East Australia.

**T. staurocola** Meyr. (13 ㎽) strongly recalls the following *leptographa*, but the discal shade is broadly flown out on the submedian fold and along the proximal margin; the marginal shade is confined to the apical part and encircles a large, round, white apical spot. Eastern coast of Australia.

**T. leptographa** Trnr. (13 c). Almost exactly like *macillenta*, but faintly lined rosy, and on the forewing a distinct median and marginal shade. Eastern coast of Australia.

**T. mochlina** Trnr. (18 ㎭). Whitish, faintly hued pink like *leptographa*, but the median shade is a broad oblique band, the broad marginal shade encloses 2 larger white spots, and also the hindwing shows a marginal shade in the apical half. Queensland.

**T. chrysochares** Meyr. (= cosmia Trnr.) (18 ㎭). Like *mochlina*, but the ground-colour is yellow, and the hindwing shows a very narrow marginal shade at the apex and anal angle. Queensland.

**T. loschaga** Meyr. (18 ㎭) resembles *chrysochares*, also dull honey-coloured, but it differs from those described before by another curved antemedian band being added to the dark median and marginal bands. From Sydney.

**T. partita** Wkr. (= tineoides Fldr.) (13 i). Of a more intense yolk-colour than *loschaga*, from which it differs besides by the apical part of the forewing being much broader and of a deeper black, and by a narrow black colouring at the base of the forewing, as if it were a 6th band. This may even expand to a real band, and the black at the apex of the hindwing may be widened at the same time to a large, jet-black spot extending to the cell-end. These very much blackened forms thereby superficially resemble the very common *Eutane terminalis* occurring in the same districts, and have been distinguished as *amanda* Fldr. South East Australia.

**T. jocularis** Rosenst. Thorax, forewing inside, and hindwing yellow, forewing outside whitish; the black markings of the forewings are: a basal streak at the costa, an antemedian line before the cell angled, interrupted on the submedian, a curved median line thickened to a costal spot, and a broad distal margin enclosing light anteterminal spots. On the hindwing a small black median spot and a black band sometimes extending through to the anal angle, sometimes broken off before the median veins. — In the form *chrysochroa* Meyr. also the distal part of the forewing as well as the proximal part of it is orange instead of white. South East Australia.

**T. phalarota** Meyr. (♀ = phaedropa Meyr.) (13 c). Whereas the (figured) ♀ resembles in its exterior entirely a *T. staurocola* and differs only by the black in the apex of the fore- and hindwing, the black on the ♀ wing has so much increased that on the forewing only a narrow postmedian band and a spot near the base remain white and a black band being broad at the apex surrounds the border of the hindwing. Sydney. More common than most of the other *Thallarche*. 


By this genus rather heterogeneous elements are now combined: a number of Australian species very closely allied to the preceding; a number of other forms being all confined to the Island of Madagascar (only one also in South Africa), and Indian species the ♀♀ of which show broad scent-pads on the under surface of the wings and which were formerly detached as separate genera (*Notata* etc.). Of the Indo-Australian members of this genus there are 9 species known living in Australia itself and Tasmania with the exception of two. They have a strong proboscis, short palpi, in the male sex ciliated palpi, moderately long tibial spurs; the forewings are lancelot-shaped, with a feeble apex and a long costal margin and proximal margin; the lower radial and upper median vein rise on the forewing rather close together from the lower cell-angle; the 2nd subcostal vein is petioled with the 3rd, the 4th with the 5th, and both the footstalks rise close together at the upper cell-angle, the first subcostal vein branches off far behind the middle of the very long cell from the chief vein; on the hindwing it rises about in the middle of the cell.

*P. aspectella* Wkr. (= oecophorella Wkr., aspectatella Frogg). One of the more frequent species, *aspectella*, very similar to *Thall. phalarota* (13 c), only differing by the dark bands on the forewing being somewhat differently distributed, as our figure shows. — *elegans* Blr. (= lunata Luc.) scarcely differs, except the dark colouring *elegans*, being somewhat broader and perhaps somewhat more intense. East Australia, from the Bass-Straits to Queensland in the North. On Mt. Kosiusko common in January.

*P. undulosa* Wkr. (= lyelliana Loiv.) (18 h) from Tasmania, is much larger; the white forewing shows *undulosa*, a distinct discal spot and blackish dentate lines, as well as a series of marginal dots, the yellow hindwing being only brownish at the apical margin.

*P. omophanes* Meyr. Thorax and forewings light reddish-brown; obliquely through the forewing, *omophanes*, from the first costal third to the middle of the proximal margin, runs a slightly curved line; at the cell-end a minute spot, behind it a postmedian line being angled in the middle, and the fringes speckled with lighter and darker brown. Hindwings thinly scaled, pale light yellow. Melbourne.

*P. chionastis* Meyr. (♀ = obliquata Luc.) (13 c) very much resembles the light forms of the preceding genus, e.g. *Thall. leptographa* Trnr. (13 c), but it is much smaller, only about half its size. On the dull white forewings are dull brown shades extending along the basal part of the costa, from before the apex to the middle of the proximal margin, and from the apex to the anal angle; hindwings white, faintly tinged yellow. In the ♀ the dark shading of the wings is much more considerable, so that it was described as a separate species. East Australia.

*P. nudaridia* Hmps. (18 g). Here the hindwings are quite purely white and the forewing has only in *nudaridia*, the median area a spider-like, ramulous spot, and blackish, small dots before the apex and middle of the border. Queensland.

*P. transfascia* Rothsch. ♀; antennae brown, palpi very long, basal and terminal joints brownish-*transfascia*, black, middle joint white; head white; thorax white with a brown spot behind, tegulae and anterior edge speckled with small brown scales. Forewings milky white; a subbasal and antemedian costal-marginal spot, two costal-marginal spots before the middle, a median band growing very much broader towards the proximal margin, a fine postmedian spot, and a similar one at the costa, as well as two small spots dotted white at the border are blackish-brown. Hindwings grey. Another ♀ from the Milne Bay has smaller dots and spots, and the median band is interrupted. Length of forewings: 8 to 9 mm. Upper Aroa River in British New Guinea, in February; Milne Bay, in February.

*P. placochrysa* Trnr. (18 h). Forewing with a yolk-coloured proximal half and similar spots at the costa and proximal margin behind the middle of the wing, the yellow hindwing with a broad blackish marginal band not being narrowed at the anal angle. Queensland.

*P. modica* Luc. (18 h). This small animal is quite unlike the genus in the colouring and marking. *modica*. The shape and colour of the wings recall a small *Lithosia*; wings and body almost bone-coloured; from behind the middle of the costa in the hindwing there extend two dark stripes, one behind the middle of the proximal margin, the other along the median, to the base of the wing; before the apex of the hindwing small dark spots; on the male fore- and hindwing beneath large, yellowish-red scent-pads. Queensland.

*P. parva* Hmps. (18 h). Only half the size of *modica*, the wings bone-coloured light yellow, the scent- spots beneath and the hindwing in the cell-part also above black. Nilghiri Mountains; discovered by HAMPSON.

Accidental resemblances in the venation have led to a combination of very heterogeneous elements in this genus. The typical form, *E. terminalis*, by the black-orange colouring somewhat recalls many species of the preceding family, but it greatly differs by the habits. The larvae live on sporadically growing stonerags and they are seen in day-time speedily running across the bare rocks in order to look for their scattered small food-plants. For the pupation, however, which takes place under stones, the animals prefer certain stones, underneath which are found together regular colonies of half-pupated larvae, cocoons, freshly developed imagines and such in copula. Proboscis long, but very delicate; palpi short, porrect, antennae ciliated; forewings triangular. The 1st subcostal vein branches off about 1 mm before the upper angle of the cell of the forewing, the 2nd to 5th subcostal veins rise with a joint footstalk at the cell-angle itself; a little below it the upper radial rises, whereas the lower one rises directly above the lower cell-angle. The *Eutane* have become known from Australia, only one species which is presumably incorrectly computed to it lives in Borneo.

*E. terminalis* Wkr. (18 g). Black, head and abdominal end orange, the forewings spotted orange and the hindwings quite orange-yellow with a broad black marginal band. The spots on the forewings may be whitish as in the figured; if they are besides larger, we have *ab. maculata* Blr. before us. Very common in the Botany Bay, where I found numbers of it in spring in rocky places close at the „Heads“; on the Blue Mountains etc; to the north as far as Queensland (Maryborough). The larva runs very swiftly across the rocks and pupates underneath stones, often gregariously; the imago I often met in the company of the very similar *Asura lydia* Don. (18 f).

*E. alba* Hmps. is known to me only from HAMPSON’s figure. Scarcely half as large; white with a brown forehead and a blackish cell-spot on the forewing; 1 dot before the apex, 2 at the border where the veins 4 and 1 terminate, the costa and border towards the apex tinted yellowish-brown. Hindwing with a very faint dark hue in the distal half. Apparently only the *alba* is known. Sandakan.

*E. semivitreus* Rothsch. antennae black, with strong combs; head with an orange-buff forehead and black vertex; thorax black, tegulae and base of patagia orange; abdomen black with a buff anal tuft and buff valvular appendages. Forewings black; a broad band near the base, an antennemedian one, 3 square median spots, a postmedian band and 3 antemarginal spots are yellow-orange. Hindwings semi-transparent orange-yellow; the distal third, costal and posterior margins are black. In the *ab.* the antennae are black and filiform; head orange-yellow; thorax black, tegulae, the basal two thirds of the patagia and a spot in the middle orange-buff; abdomen black, anal tuft orange-yellow; forewings black; a subbasal band, an antennemedian one, three longish, oval median ones, an interrupted postmedian band and three very large subterminal spots are orange-buff, hindwing in the basal half orange-buff, in the distal half black. Another *ab.* is larger and the markings more reddish-yellow. Length of forewings: *ab.* 11, *alba* 13 to 15 mm. Curanda (Queensland).


Hereto belongs a small butterfly of a very conspicuous nature, exhibiting among others the following peculiarities by which it cannot be mistaken for any other allied species. The much longer palpi are not porrect, but bent up, so that they project above beyond the forehead. The antennae rest on a frontal cone and their basal joints are thickened to oviform ampullae or knobs. The forewing has two cells instead of one by another transverse vein being inserted between the median and submedian, from the middle of which a branch, a third radial (presumably corresponding to the upper median vein) extends to the margin. On the hindwing the upper distal part of the cell exhibits a scent-spot.

*S. xylogramma* Tnr. The animal is sufficiently characterized by the marks of the genus. It has an expanse of 2 cm, the forewings are ochreous-yellow, suffused with bright and floating brown clouds and markings, particularly the basal part which is almost quite brown. Hindwings brownish-white with a dark shading in and round the cell, the scent-spot lustrous black. Brisbane in Queensland.


The numerous species of this genus mostly consisting of delicately rosy-red and wax-coloured species (more than 80 are known so far) number among the neatest appearances of the whole family. In Europe only one species occurs: *M. miniata*, being mostly known as *Caligenia rosea* and being distributed as far as Scandinavia
and St. Petersburg. In the warmer districts the butterflies are very common, but they never appear in numbers. Proboscis well developed. Palpi straightly prorect or very little rising and projecting just beyond the forehead, the body rather roughly haired. Characteristic for the genus is the subcostal of the hindwing, being on a long petiole with the upper radial; the costal rises near the upper cell-angle. The two lower radial veins either rise separately or together or also on a short pedicel. On the forewing the lower median vein comes from the middle of the cell, the upper from below the lower cell-angle; the middle radial rises above it and the upper with the 3 lower subcostal veins, which rise on a joint footstalk, from the upper cell-angle. Numerous subgenera have been established: the species with a median bent upward at the end and for this reason with a very short discocellular form the real Miltochrista; Cabarda exhibits at the costal margin of the forewing behind the middle a hairy projection; in Mahavira the ɔ has serrate antennae with long tufty cilia; in Gurna the posterior tibiae in the ɔ do not exhibit any middle spurs, whilst in Barsine, containing by far the most species, they are present. The compact, long-haired larvae live on lichens.

M. dentifascia Hmps. (18 a) looks like the palearctic miniata Forst, but it is easily recognizable by dentifascia, much more distinct black markings and two black antemedian and median transverse lines; in the basal part there are outside the cell some black dots. Assam and Burma; Java.

M. phaeodonta Hmps. has ochreous-yellow forewings with 4 black longitudinal streaks in the basal area; the anterior transverse line is bent very much outwards and does not reach the proximal margin; the feebly bent median advances below the costal margin very much to the proximal line; the posterior transverse line is very dentate above the proximal margin; behind it, towards the apex, there are some black stripes, and before the margin black dots. Hindwings pale ochreous-yellow, towards the margin spotted blackish, Sikkim.

M. strigivenata Hmps. (18 b) is greatly distinguished by the absence of the postmedian dentate line and by only one black median line. The veins in the marginal area are finely marked black. Anterior body and anal end carmine, the middle part of the abdomen black. From Assam.

M. javana nov. nov. (= rosacea Rothsch., nec Brem.), ɔ: head, antennae and thorax yellowish, javana, with a pink hue on it; abdomen greyish buff. Forewings pink, along the costa with a yellowish tint, below vein 1 and along the margin the same; an oblique median band, a stigma, an antemarginal row of streaks, and a row of small marginal dots sooty black. Hindwings semi-diaphanous light pink. Length of forewings: 12 mm. West Java.

M. sequens Wkr. (= molliculana Wkr.). For this peculiar species the subgenus Cabarda Wkr. was sequens. established. Body and wings are white, with yellowish-brown spots and bands; the abdominal end is black in the ɔ. The white forewing exhibits at the base two yellowish-brown spots, followed by a similar transverse line, then a median line being distally expanded like a tooth in the cell and above the proximal margin; behind the cell a transverse line proximally expanded above the said projections; an antemarginal row of yellowish-brown streaks. From Borneo. — In Sumatra there occurs a form in which the abdominal end remains white. This is sumatrana form. nov. (= ab. 1. Hmps.).

M. flavicollis Moore (18 a), owing to its male antenna, belongs to Mahavira Moore and is unmistakable flavicollis, by its purely white colour — only the collar being yellow, antennae and veins brownish. Sikkim.

M. indica Moore (18 a) is the type for the subgenus Gurna Swinh. The brown forewings exhibit indica, orange-yellow spots at the base, cell-end and middle of the proximal margin. The hindwings are orange with a broad, blackish-brown marginal band; forehead, shoulder-covers and abdominal end orange. India (Bombay; Belgaum).

M. complicata Btr. (18 b) in the scheme of markings somewhat resembles dentifascia, but it has complicata, short and round wings and is of a unicolorously ochreous-yellow ground-colour without any red. The antemarginal dentate line has extremely long teeth. Borneo.

M. ocellata Hmps. is easily recognizable by a large black ring-macula at the cell-end, otherwise ocellata, marked somewhat like the preceding, but very much larger (expanse 4 cm). Ground-colour orange-yellow; median line absent; the very long-serrated posterior transverse line turns proximally round below the radial veins and is connected with the anterior transverse line above and below the submedian fold. Hindwings yellow. Ceylon.

M. cardinalis Hmps. (18 b) cannot be confounded with any other species by the unicolorously scarlet cardinalis, forewings showing a black longitudinal stripe from the rise of the lower median vein to the border. Sikkim; Assam.
M. postnigra Hmps. (18 c) from Sikkim, has black forewings with orange-yellow spots in the basal half and red antemarginal streak-spots. Hindwings black, with an orange-red spot at the base of the costal margin.

M. flavoplagiata Roths. ♀: antennae golden; head and thorax gold-orange, densely spotted black; abdomen black, anal tuft and some lateral spots orange. Forewings purple-black, 4 large and 2 smaller spots in the basal half and some faint streaks, as well as 2 marginal spots and a small spot in the distal half gold-orange. Hindwings black. The ♀ is larger, the wings slate-coloured; spots, streaks and dots of the forewings much larger and of a lighter yellow; on the hindwing only few yellow marginal spots. Abdomen golden-yellow with some slate-coloured bands. Length of forewings: ♀ 15, ♂ 18 1/2 mm. Sula Mangoli, in October.

M. sanguitincta Hmps. (18 b) is a larger species recognizable by a black median line connected with the anterior transverse line in two places: in the cell and on the submedian fold; intense, distinct antemarginal rays, the longest on the upper and lower radials. The anal end of the orange-yellow abdomen is carmine, the ventral side black. Batjan.

M. punicea Moore (18 b) is much smaller than the preceding, and the median line is only in the cell connected with the anterior transverse line. The abdomen is distinct with an orange-yellow apex. Sikkim, Burma.

M. dohertyi Roths. ♀: antennae reddish-yellow; head and thorax orange-red with small slate-brown spots; abdomen salmon-coloured pink intermixed with greyish hair on the two first segments. Forewings scarlet, 3 basal dots, a zigzag-band near the base from the costa to vein 1, antemedian and median bands very irregular, connected below the subcostal, a postmedial serpentine band with broad streaks towards the margin, and the fringes slate-coloured wooden-brown. Hindwings semi-transparent buff, with an intense pink hue. The ♀ similar, but the bands and stripes of the forewings fainter. Length of forewings: ♀ 18, ♂ 19 1/2 mm. Tambora (Sumbawa), in June.

M. plumblinata Hmps. (18 b). Head, thorax, apex of abdomen, and forewings orange. The latter exhibit a blackish-brown, somewhat leaden-lustrous costal and distal margin, and 3 similar, somewhat undulate transverse lines, some dark antemarginal spots. Hindwings yellow, at the margin blackish-brown. The ♀ has no orange colour at the anal end, and the posterior transverse line is bent more distally. Celebes.

M. vetusta Snell. is very unlike all the species known hitherto, but according to Snellen it belongs here and looks somewhat like Paidia marina (Vol. II, t. 11 f); ground-colour earth-brown, with 4 finely dented, rather parallel transverse lines proceeding from somewhat larger costal spots; at the base of the costal margin a fifth small spot; a black discal dot. Hindwings dusty grey. West Javanese mountains.

M. calligenioides Snell. (= lineata Hmps.) has orange-red forewings with a black costal margin and 3 transverse lines which are more strongly dentate than in vetusta; before the margin on the veins indistinct black streaks, the longest and thickest on the lower radial. Hindwings orange with a black marginal band occasionally exhibiting small orange spots. Widely distributed in the Philippines, Borneo, Sumatra, Java, Celebes.

M. nigrocincta Snell. (18 b, as lineata) greatly resembles the preceding, but it is of a more yellow colour and much more indistinctly marked, without a black median line. — Philippines, Borneo.

M. obscura Semp. is easily recognizable by the dark brown ground-colour; the costal margin and the base of the median are scarlet, a spot at the proximal margin orange-yellow; a somewhat faded antemarginal transverse line and stripes in the cell-spaces before the margin are scarlet; at the proximal margin before the middle and in and below the cell-end there are orange-yellow spots bordered with red. Hindwings in the basal half orange, at the border black. Philippines (Mindanao).

M. rutila Wkr. (18 c) is recognizable by the median line being connected with the posterior transverse line below the costal margin, and once more on the submedian fold; besides the carmine forewing exhibits an incomplete anterior transverse line, and an antemarginal one strongly dentated on the upper and lower radials; the distal third of the costal margin and the fringes are black; hindwings pale carmine. From New Guinea.

M. cuneonotata Wkr. (= mindosana Semp.) is a little like the figure of pretiosa (18 b) from which it differs at once by blackish-brown fringes; besides the median line terminates with an angular proximal bend in the cell and on the submedian fold; it is twice connected with the anterior transverse line. Hindwings yellowish-white, towards the margin suffused with red. Widely distributed in India and Indo-China and in roseororatus. Sumatra. — roseororatus Blr., considered as a distinct species by Snellen, is inserted here by Hampson. It collivolans. has yellow wings uniformly tinted carmine, without the prominent red spots and stripes. — f. collivolans Butr.
has unicolorously orange-yellow, not carmine wings. — The other extreme: conchyiata form. nov. (= ab. conchyiata, 1 Hamps.) has quite deep carmine wings without any traces whatever of the spots and stripes. The latter forms are found more in the islands of: Sumatra, Nias, Borneo, Philippines, and Java.

M. tricolor Wil. head and thorax purple, the latter marked dark grey; abdomen ashy-grey, faintly tinted reddish; terminal joint light ochreous-brown; forewings purple with yellow spots on the central and distal area and 4 dark grey transverse bands; the subbasal band and antemedian band bent towards each other, touching each other above the middle line; postmedian line curved, scarcely separated from the curved and interrupted submedian band. Hindwings light ochreous, suffused with reddish. 28 mm. Formosa; allied to M. cuneonotata Wkr.

M. exclusa Btlr. (= trivittata Moore) (18 b) shows on the orange-red forewing an anterior transverse line strongly distally angled in the cell and united with the middle line which is bent inward, the latter line turning distally on the submedian fold; at the cell-end a black dot. The posterior transverse line is very dentate on the upper and lower radials; an antemarginal, somewhat spotted, faded line; fringes black. The wings beneath are orange with a red tone. From the Andamans, Borneo, Java.

M. convexa Wil. is allied to exclusa; forewings orange-red, costa and fringes black; basal dot and streak black, 3 black transverse lines, the 1st and 3rd bent outward, the 2nd bent inward touching the 3rd on both its ends or approaching it and united with the 1st above the middle; behind the 3rd line there is a series of 8 black vein-streaks, the 3rd and 5th longer than the others and touching the lines; in the cell a black dot. Hindwings lighter; fringes and a cloud at the distal margin towards the costa black. Beneath like above, but the markings blurred. 23, 28 mm. Formosa.

M. connexa Wil. is like convexa, differs, however, by the 1st and 3rd line being obtuse-angled below the costa, and the 3rd being once more sharply angled before its end at the proximal margin; the black streaks at the distal area proceed from the 3rd line, and the 3rd and 5th of them extend proximally to the black cell-spot. Beneath the black streaks on the forewings flow together towards the costa and form a blackish cloud. 24 mm. Perhaps only an aberration of convexa. Formosa.


M. intensa Rothsch. antennae scarlet; head and thorax reddish-scarlet, bordered and spotted with a slaty greyish-black; abdomen buff-brown, with a dull scarlet hue. Forewings scarlet, marginal fifth of a deep crimson colour. Costa, border and the distal fifth of the proximal margin black with a large scarlet median spot at the costa, the basal fourth and the middle part of the distal half between veins 2 and 7 with an intense greyish slate-brown tinge; the middle cross-band with different stripes of dark slate-blue. Hindwings salmon-coloured, with a purple hue. Another has the dark bands and the hue very intense, whereas a third is much lighter and shows them very much reduced. Length of forewings: 16 to 19 mm. Mount Goliath, in March.

M. cruciata Walk. (= gloriosa Moore) (18 c) is unmistakable by the two proximal transverse lines cruciata touching each other in the shape of an X; it is a rather large, bright orange-yellow species; in the marginal area there are black rays; fringes black. — Sikkim, Assam, Sumatra, Borneo.

M. subcruciata Rothsch. The differs from cruciata by its smaller size, pink ground-colour, with a subcruciata carmine hue on it, and very pale and indistinct bands in the disc of the forewing. Length of forewings: 11½ mm.

M. inflexa Moore (18 d) is much smaller, yellow, in the cell-spaces striped red; costal and proximal margins as well as fringes blackish-brown; the markings are somewhat similar as in subcruciata, but the two proximal transverse lines approach each other and are united in a black spot. — Sikkim and Assam.

M. euprepia Hmps. (18 c) is larger than inflexa; the middle line is not so much bent angularly below euprepia, the cell. Behind the postmedian transverse line runs another black line connected with the former on the veins by black streaks; the costal margin is black only as far as the anterior transverse line. Borneo.
**aurorosea.**

*M. aurorosea* **Rotsh.** ♀: head, antennae and thorax orange-golden, thorax and patagia spotted black; abdomen with a yellow basal half, the apical half golden-orange with a scarlet hue. The middle third of the forewing orange-golden, the distal half and the proximal margin scarlet; a spot at the base, an antemedian and a median zigzag-line, a very broad postmedian band with a series of faint red dots, and the border are brownish slate-grey. Hindwings pink, bordered with slate-tint. Length of forewings: 11 mm. Mount Goliath, New-Guinea. 5000 to 7000 ft., February.

**coccineotermen.**

*M. coccineotermen* **Rotsh.** In the ♀ the head, thorax and antennae are golden-yellow, on the patagia a small, dark brown dot; abdomen buff. Forewings golden yellow, at the border a broad scarlet band, 2 small dots at the base and 1 near it, an antemedian and median zigzag-line, a small postmedian dot, a double post-discal zigzag-line connected with the fringes by two streaks and the fringes themselves brownish slate-coloured. Hindwings light buff with dirty grey fringes. Length of forewings: 11 to 14 mm. Mount Goliath.

**tridens.**

*M. tridens* **Wil.** ♀ with orange-red forewings, markings black; median line almost straight, not reaching the costa; the lower half of the postmedian line almost parallel to the median line as far as the middle, where it is bent distally, from there broadly dentate as far as the costa; a dot at the base of the wing and one at the cell-end; from the latter a diffuse patch roughly resembling a trident with 3 teeth of the postmedian line; 3 small marginal dots towards the apex and one behind the middle. Hindwings light ochreous-brown, suffused with pink; at the border near the costa 3 dull dots; fringes pink. Beneath lighter than above, the small, black marginal dots distinct, but the other marking very faint. 32 mm. October, Formosa.

**delineata.**

*M. delineata* **Wkr.** (= rhodina **H.-Schäff.**, figuratus **Wkr.**.) resembles the following, but it is somewhat larger, of a uniformly orange-red ground-colour, the median line and distal transverse line proceed from the same place at the costal margin; at the cell-end a small black spot. Distributed in South East Asia as far as Borneo, and extending in the form fuscescens **Btlr.** (= chinensis **Fldr.**.) into the palearctic region up as far as the Yang-tse-kiang; the latter form is darkened blackish-brown in the basal part and marginal area. — fuscescens. In coalescens form. nov. (= ab. 1 **Hmps.**.) the streaks in the marginal area are flown together to a dark spot.

**mesortha.**

*M. mesortha* **Hmps.** (17 m) is smaller than the preceding, with a more scarlet ground-colour spotted yellow round the cell-end; the median line and distal transverse line are separated afar at the costal margin. The discal dot is absent. — Assam.

**delicia.**

*M. delicia* **Srnkh.** is, according to **Snellen**, perhaps only a form of the very variable gratiosa **Güér.** (Vol. II, t. 11c) with which it is connected by the likewise allied curtisi **Btlr.** and euprepia **Hmps.**. It is somewhat smaller and distinguished by the anterior transverse line and the median line being coalescent below the median. The posterior transverse line is finely dentate, on the middle radial projecting in a stronger tooth; behind it is a series of black dots which are extended to streaks on the two upper radials and thereby connected with the posterior transverse line. Hindwings carmine. — Assam, Sumatra, Java.

**scripta.**

*M. scripta* **Wkr.** (= meander **Snell.**). The yellow forewing exhibits black basal dots, then near the base a transverse line being doubly sharply angled outside; the anterior transverse line is rather oblique; the median line projects towards the base in the cell and on the submedian fold; the posterior transverse line rises at the costal margin near the latter and then forms a large bow round the cell-end; behind it are black vein-streaks not reaching, however, as far as the border. 38 mm. — From Celebes.

**multistriata.**

*M. multistriata* **Hmps.** (18 d) has white forewings with a yellowish tint at the base and border. The two proximal transverse lines are close together, before them a row of 3 black spots; at the cell-end a black spot; behind the dentate postmedian line black vein streaks extending as far as the border, the same on the hindwings. — Described from Assam, found also in Java.

**hypoprepioides.**

*M. hypoprepioides* **Wkr.** resembles multistriata, but the wings are yellow; the anterior transverse line is in the cell very much angled towards the margin; the posterior line, in contrast with the preceding, does not show a tooth on the upper radial; the hindwing shows a dark marginal band with ochreous-yellow spots between the veins. — Borneo.

**citrona.**

*M. citrona* **Hmps.** has pale orange-yellow forewings, at the base small black spots, and a series of 4 more are situate before the bent anterior transverse line consisting of black spots; through the middle extends a curved orange transverse line, at the cell-end a black dot: the black distal transverse line projects distally.
area is unicolorously yellow, without any red stripes. Between the two transverse bands the costal margin and striped red; an antemedian, blackish-brown transverse band encloses at the costal margin a yellow spot, and another broad anterior transverse line forking near the costal margin. Hindwings carmine-pink. — Sumatra.

M. lucibilis. Wkr. from Sikkim, is a very large form tinted carmine and very much marked. — Swinh. from Borneo is Swinh. from Japan, but with more coherent transverse lines. — Wkr. from Nepal has a pale yellow ground-colour. — dejecta.

M. dejecta. Btlr. 

M. pretiosa. Deless. has many forms and has already been commented upon for the greatest part in the palearctic part (Vol. II, p. 55, 56); the nomenclatural type figured there (Vol. II, 11 e) originates from India, as well as our figure (18 c) and is a rather large butterfly, with yellow wings spotted red in the cell-spaces, 3 transverse lines and behind them a more or less darkened or on the veins striped marginal area. The species is distributed as far as the Malayan Archipelago. — epixantha. M. elongata. Wkr. from Nepal has a pale yellow ground-colour. — Also striata. Brem. & Grey from China and pulchra. Bltlr. from Japan are similar, preponderantly yellow forms with transverse lines reduced to dots, the latter form being very much spotted red. — pretiosa. Moore (18 b) with a preponderantly yellow ground-colour, from the North West Himalaya, mactans. Bltlr. from Sikkim, with a more carmine ground-colour, have coherent transverse lines. — flammealis. M. duopunctata. Semp. (18 c) is pale ochreous-yellow, on the forewings striped red; the median line projects towards the base in the cell, whereas the posterior transverse line forms a large, distal bow round the cell-end. On the two lowest subcostal veins, as well as on the uppermost and lowest radials there are black vein-rays. — From the Philippines (Manila).

M. gratiosa. Deless. has many forms and has already been commented upon for the greatest part in the palearctic part (Vol. II, p. 55, 56); the nomenclatural type figured there (Vol. II, 11 e) originates from India, as well as our figure (18 c) and is a rather large butterfly, with yellow wings spotted red in the cell-spaces, 3 transverse lines and behind them a more or less darkened or on the veins striped marginal area. The species is distributed as far as the Malayan Archipelago. — epixantha. M. roseta. Wkr. (18 c) is one of the largest species and easily recognizable by the blackish-brown roseta. forewings showing orange-yellow spots and transverse stripes; hindwing carmine with a broad dark border. — Sikkim.

M. elongata. Roths. & Thorax with blackish-brown transverse lines and margins; abdomen black, faintly rusted with small yellowish scales. Forewings blackish-brown, the basal two thirds with somewhat faded orange stripes and spots. Hindwing orange, the distal third black. 9 similar, larger, forewings much lighter. Length of forewings: 9 19, 9 21 mm. Octakwa River in Dutch New-Guinea. October to November.

M. bilagiata. Roths. 9: antennae black, head and thorax black with yellowish bands and margins; abdomen black, faintly rusted with small yellowish scales. Forewings blackish-brown, the basal two thirds with somewhat faded orange stripes and spots. Hindwing orange, the distal third black. 9 similar, larger, forewings much lighter. Length of forewings: 9 19, 9 21 mm. Octakwa River in Dutch New-Guinea. October to November.

M. duopunctata. Semp. (18 c) is pale ochreous-yellow, on the forewings striped red; the median line projects towards the base in the cell, whereas the posterior transverse line forms a large, distal bow round the cell-end. On the two lowest subcostal veins, as well as on the uppermost and lowest radials there are black vein-rays. — From the Philippines (Manila).

M. gratiosa. Deless. has many forms and has already been commented upon for the greatest part in the palearctic part (Vol. II, p. 55, 56); the nomenclatural type figured there (Vol. II, 11 e) originates from India, as well as our figure (18 c) and is a rather large butterfly, with yellow wings spotted red in the cell-spaces, 3 transverse lines and behind them a more or less darkened or on the veins striped marginal area. The species is distributed as far as the Malayan Archipelago. — epixantha. M. elongata. Wkr. from Nepal has a pale yellow ground-colour. — Also striata. Brem. & Grey from China and pulchra. Bltlr. from Japan are similar, preponderantly yellow forms with transverse lines reduced to dots, the latter form being very much spotted red. — pretiosa. Moore (18 b) with a preponderantly yellow ground-colour, from the North West Himalaya, mactans. Bltlr. from Sikkim, with a more carmine ground-colour, have coherent transverse lines. — flammealis. M. pretiosa. Moore (18 b) with a preponderantly yellow ground-colour, from the North West Himalaya, mactans. Bltlr. from Sikkim, is a very large form tinted carmine and very much marked. — lucibilis. Sweinh. from Borneo is yellow with long carmine stripes in the median area and coherent transverse lines, and an almost straight median line.

M. curtisi. Bltlr. (18 d) perhaps also belongs yet to the forms of the preceding species and is distinguished curtisi, by a very broad brown band extending from the median line almost to the red-striped border; besides there is another broad anterior transverse line forking near the costal margin. Hindwings carmine-pink. — Sumatra.

M. rubricostata. H.-Schdjf. (= rubrigutta. Wkr.) from Borneo has yellow forewings; the base is spotted and striped red; an antemedian, blackish-brown transverse band encloses at the costal margin a yellow spot, below the cell a red spot. A second, postmedian, brown transverse band exhibits red vein-striipes. The marginal area is unicolorously yellow, without any red stripes. Between the two transverse bands the costal margin is red. Hindwings pale yellow. 30 to 40 mm.
M. coccinea Moore is very much distinguished by 3 brown transverse bands bordered with red on an orange ground; the proximal band is connected in the cell with the median band, being here angled towards the base, the median band is connected with the distal band below the median vein; an antemarginal row of carmine spots. Hindwings carmine-pink. Body orange, shoulder-covers spotted blackish-brown. 32 mm. — Assam.

M. eccentropis Meyr. (18 d). The white forewings exhibit an orange-yellow median band, in front of it two rows of black spots; at the cell-end a black spot, in the marginal area black vein-streaks. The yellowish-white hindwings also show small black streak-spots at the border. — Assam, Burma.

M. maculifasciata Hmps. (18 d) is twice as large as eccentropis, with much more extended wings and of a yellow brownish ground-colour, otherwise, however, similarly marked. — Burma.

M. parameia Rothsch. ♂: antennae black, head orange; thorax the same, on the patagia and posterior part of the thorax small black spots; abdomen orange. Forewing milky-white with an orange base; a small basal spot, three antemedian bands composed of three small black spots each, the distal two fifths of the wing black, with white internerval stripes. Hindwing semi-diaphanous white with a sooty margin. The ♂ is larger, all the wings creamy-white, two curved antemedian bands, a median band and a stigma on the forewing are brownish-black. The veins in the distal two fifths of the forewing black; on the veins in the distal fifth of the hindwing brownish-black stripes. Length of forewings: ♂ 16, ♀ 18 mm. Manson Hill in Tonkin (H. Fruhstorfer).

M. nigralba Hmps. (18 d) is also like eccentropis, the rows of black spots extend into the middle of the wing, behind them follows a dentate transverse line with particularly long teeth on the lowest subcostal vein, the lower radial vein and upper median vein: in the marginal area interrupted black streaks. — Burma.

M. radians Moore (18 d). The marking is similar as in the preceding, but the ground-colour light ochreous-yellow, the posterior transverse line only little dentate, and the black vein-streaks in the marginal area uninterrupted. — Occurring from Assam and Sikkim, Calcutta to Java (Batavia).

M. syntypica Swinh. greatly resembles radians; ground-colour purely white; two basal transverse lines and one median line, each composed of 3 parts, their distal bordering quite straight and not distally angled as in radians; distal dot and vein-streaks the same as there. — Sumatra.

M. zebrina Moore (18 d) is also similar, but the wings are narrower and longer, the median line rather coherent, the posterior transverse line almost straight, not dentate on the upper radial. — Bhutan, Calcutta.

M. prominens Moore (18 e) is larger than zebrina, of a darker yellow; the row of spots representing the anterior transverse line is angularly broken in the cell, the median line coherent, almost straight; the posterior transverse line is pointedly dentated on the lowest subcostal vein, the upper and lower radial veins. — Assam.

M. delicata Moore (18 f) differs from prominens by the almost extinct macular lines in the basal part and the posterior transverse line being dissolved into dots. — Sikkim.

M. linga Moore (= tripartita Wkr.) (Vol. II, 11 e), from the Himalaya and Sikkim, extending in Kashmir as far as into the palearctic region, is much larger than the preceding, in the scheme of marking similar, but only with a proximal and a median row of spots, the subbasal one being absent, the postmedian one only faintly indicated, from which black vein-streaks proceed, not quite reaching to the margin.

M. phaeoxanthia Hmps. (18 e) has ochreous-yellow forewings with somewhat faded, obliquely running, blackish-brown dentate lines; in a marginal direction from the posterior transverse line the cell-spaces are filled up by more or less confluent spots extending at the apex, at the proximal angle and on the lower radial as far as the margin. — Assam.

M. multidentata Hmps. (18 e) is orange-yellow, on the hindwings and abdomen suffused with pink. The forewings exhibit 4 black dentate lines, the one situate most closely to the margin is broken up. — Buru.

M. quadrifasciata Rothsch. In the ♂ the head, antennae, thorax, and abdomen are yellow, with a salmon-tint over it. Forewings yellow, with a scarlet tone; an antemedian band, a median one and two postmedian ones, more or less dentate, slate-coloured. Hindwings semi-transparent rosy-buff. Length of forewings: 13 mm. German New Guinea.
M. vagilinea Wkr. is one of the smallest, most insignificant species of an expanse of only 18 mm. vagilinea. The body is white, anteriorly spotted brownish, on the abdomen tinged brownish. The white forewings exhibit black dots at the base, besides 3 transverse lines, the middle one of which is connected in the cell with the proximal one; at the cell-end a black dot. The distal transverse line rises at the costal margin together with the median line, then it forms a large bow round the discocellular, and a sharp, proximal angle on the submedian fold; single antemarginal, black dots. — Borneo.

M. proleuca Hmps. (18 c) is distinguished by the white forewings, exhibiting only a black transverse proleuca.

M. germana Rothsch. very closely allied to spilosomoides Moore, but entirely orange-buff. It differs germana. on the forewing by the median band being very distinct and by a curved postmedian band of 16 small spots, from which long streaks run almost as far as the border. Khasia Hills, February.

M. dentata Wil. Head and thorax orange-red, abdomen blackish, anal tuft orange-red. Forewings dentata.

M. spilosomoides Moore (= indistincta Moore) (18 e) is a very large species with pale straw-coloured spilosomi-
wings exhibiting scanty black dots in the place of the transverse lines; also the base of the forewing and shoulder-covers are spotted black. — Sikkim, Assam.

M. magna Hmps. (18 c) greatly resembles the preceding, but it is of a lighter sulphury-yellow tone, magna. the dots are reduced to a postdiscal row, also the base and shoulder-covers are unsotted. — Manipur, Burma.

M. effasciata Fldr. (= cinnabarina Pag.) (18 e) is unicolorously orange, in the cell-spaces faintly effasciata.

M. perpallida Hmps. (= pallida Moore = Brem.) (18 f). Ochreous-yellowish white, palpi black; perpallida.
collar tinged orange; hindwings and abdomen white. — Sikkim.

M. hololeuca Hmps. (18 f) differs from perpallida by its purely white forewings; the forelegs are striped hololeuca. blackish-brown; palpi and apical third of the antennae black. — Bhutan.


Proboscis fully developed, palpi porrect, extending as far as the forehead; antennae ciliated, tibial spurs medium strong. Cell of forewing very long and narrow; vein 2 rises before the middle of the cell, 3 directly behind the middle, 5 considerably above the angle; 6, 7 petioled, 8, 9 and 10 being absent; 11 separate; above with a costal fold, which is covered with large scales, beneath with spatulate scales and hairs. Hindwing with a very long cell; vein 2 rises before the middle, 3 considerably before the angle, 5 from the angle of the discocellular; 6, 7 petioled, 8 from the middle of the cell; above at the middle of the costa with long hair. Type: C. barbicostata. — The beard on the hindwing recalls the genus Chamaita to which the only species known is allied.

C. barbicostata Hmps. Head golden-yellow, thorax reddish-yellow, with a purple hue, tegulae golden-
yellow; chest and abdomen ochreous, the latter above at the end yellowish-red. Forewings red-brown, with a purple hue, the central part of the hindwing golden yellow except the costal fold and fringes, the basal area defined by a black oblique line, the marginal area by a curved line. Hindwings light yellowish-red, the area below the costal fold whitish. 20 mm. New Guinea.


The only species is distinguished from Miltochrista by the absence of the proboscis, by still shorter palpi and shorter spurs. On the forewing the two lower radials are petioled, the upper radial comes from below the upper cell-angle. On the hindwing the upper median vein is petioled with the lower radial vein, the costal rises from the middle of the cell, all the rest like in the preceding genus.

This most multiform Lithosiid-genus, containing now about 150 species known from Indo-Australia, exhibits many resemblances with Miltochrista in its exterior, but there are also some deviating groups of forms, by which the genus appears not to be completely homogeneous. They mostly are rather small insects approaching Miltochrista also in their habits. The larvae, several of which were described by Piepers, are short and stout, much haired; they presumably without exception live on lichens, pupate in oviform cocoons interwoven with hairs, and yield the imago already after an extremely short pupal stage, 5 to 10 days.

Also in an anatomical respect, the genus is very closely allied to the Miltochrista; the chief characteristic mark is the uppermost subcostal vein of the forewing, which does not rise separately from the cell, but is jointly petaled with the costal. The palpi are shorter than there and they do not project beyond the hairy frons. Proboscis strongly developed. Spurs short. In the venation no difference from Miltochrista except that mentioned above. The antennae are either longer or shorter doubly-combed, or ciliated. In the latter group in single species the antennae exhibit secondary sexual marks in the shape of distorted veins, scent-hairs or turned up costal folds. For the other species with a normal structure of the wings, the name Lycene Moore has been established, which, however, can only be considered as a subgenus 3).


N. suffusa Hmps. (18 a) has flesh-tinted forewings with blackish, irregular transverse bands and an antemarginal row of spots. The reddish hindwing exhibits a blackish median line and a broad, blackish marginal band. — Nilgiris.

A. hemixantha Hmps. (17 l) has the narrowest wings of an orange-yellow colour, broadly bordered with black; the antennae are black, long-combed. — From Tenimber.

A. bicolora Pagenst. is very similar, the wings are much broader, so are the more uniformly curved, black distal margins, the yellow ground-colour does not project so far towards the margin near the apex; antennae yellowish. — From New Pomerania (Kinignang). The figure presumably is that of a ♀. Nothing having been mentioned in the description about the antenna, the insect may not belong hereto.

A. arenaria Rothsch. ♀ antennae light brown, strongly combed, the whole insect otherwise dark buff with lighter hindwings. Length of forewings: 9 mm. Cumusi River in the north-east of British New Guinea; August, September.

A. lydia Donov. (= mediastina Hb., gaudens Walk., pectinata Wallgr.) (18 b) from Australia is a very variable species of a black ground-colour with orange-yellow spots. In the nomenclatural type the hindwings are orange with a black median and marginal band; the forewing exhibits some antemedian, orange-yellow spots. — In incompleta form. nov. the latter are absent. Another form, in which the black median band of the hindwing has more or less vanished, so that there is a uniform orange basal area, may be denominated confinis form. nov. (= ab. 1 Hmps.).

A. ocerioides Rothsch. ♀ antennae blackish-brown, strongly combed; head and thorax sulphuryellow; abdomen, the basal two thirds greyish-white, the apical third dirty black. Forewings white; costal margin black, apex light grey, fringes grey. Hindwings white. ♀ similar, but larger, and only the last abdominal segment and the anal tuft black. Length of forewings: 11½. 12½ mm. Biagi on the Mambare River in British New Guinea, February. One ♀ has on the forewing a dark grey oblique band from the beginning of vein 7 to vein 1 (♀ ab. strigata Rothsch.).

A. liparidia Rothsch. ♀ head and antennae as well as the thorax orange-buff; abdomen somewhat lighter. Forewings of a bright orange-buff; near the base a large spot of an auline-greyish brown, a broad postmedian transverse band of the same colour. Hindwings buff; a postmedian, interrupted, grey transverse band. ♀ similar, but darker, antennae combed, the band of the hindwing darker, broader and more distinct. Length of forewings: 12.5 mm. Cumusi River, British New Guinea; August, September.

A. bipars Wkr. (17 d) has pale orange-yellowish wings with blackish-brown margins and veins, and ante- and postmedian transverse lines. The hindwings are yellowish with a black base and a similar border. habrodis. — habrodis Meyr. is of a deeper orange tinge and the black colour is increased; in the marginal area of the forewing there are only yet 3 orange spots. — From Queensland, New South Wales, and Tasmania.

*) Like in the preceding genera, very numerous species of this genus, mostly from the Tring Museum have quite recently been described; after our tables to the Tilloria had already been finished; a part of the types of these forms will presumably be figured yet later on in the supplementary.
A. pseudojosiodes Rothsch. The \( \zeta \) superficially resembles a Josiodes. Antennae black-combed; head orange, on the vertex a black spot; thorax orange with small black spots; abdomen sooty black, anal tuft mixed with orange hair. On the forewing the basal three fifths are golden orange, the costa, proximal margin and a transverse line, turning distally towards the anal angle below vein 1, are black; the distal two fifths are black. A badly marked, interrupted band and a large, oval spot before the margin golden orange. Hindwings black. Length of forewings: 20 mm. From the Oetakwa River, Snow Mountains, Dutch New Guinea.

A. cervicalis Wkr. (17 d) differs from habrotis by a still greater reduction of the orange colour, so that there only remain a small basal spot, two median spots and 3 marginal spots. The hindwings are blackish-brown, with an irregular, orange median spot. — In obliterans form. nov. (= ab. 1 Hmps.) the orange spotting recedes still more, the spot in the cell disappears altogether. — Australia.

A. flavopunctata Beth.-Bak. and subs. punctatissima Rothsch. \( \zeta \): antennae black, strongly combed; head orange, thorax black; tegulae, a spot at the base of the patagia and a middle spot on the thorax orange; abdomen black with some few scattered orange scales. Forewings in the subspecies black, entirely covered with a number of radiant, orange, very irregularly shaped spots; hindwings of a bright orange-yellow, border very broad black, growing narrower from the apex towards the posterior angle. Length of forewings: 11 mm. On the Oetakwa River in the Snow Mountains of Dutch New Guinea, October, November. — The \( \zeta \) of the typical flavopunctata Beth.-Bak. differs from punctatissima by the brown, not black ground-colour of the forewings and the lighter, more faded orange spots which flow together and are less sharply marked, whereby the marking of the wing appears more hazy. It is also smaller, only 9½ mm, and occurs on the Upper Aroa River in British New Guinea.

A. conferta Wkr. (= signata Wkr.) (17 d) is a very variable species, of a deep orange, with 4 undulate, black transverse bands and a black median spot on the forewing, orange hindwings with a black border and median spot. — In aegrota Bltr. the border of the hindwing is very broad and extends at the proximal margin to the base. — anila Moore has a narrow border of the hindwing. — ochracea Bltr. is like aegrota, but the bands of the forewings are very narrow. — limbata Bltr. is the corresponding form with a narrow border of the hindwing. — In fusca Hmps. the orange ground-colour is dusted brown. — The larva of this species being widely distributed in India and Ceylon is short and stout, of a blackish-brown colour, with long black hair-tufts; the first and 6th to last rings are spotted orange on the dorsum. It pupates in a thin web.

A. rhodina Rothsch. \( \zeta \) with a fiery-red body; abdomen, middle legs and hindlegs buff, antennae doubly combed; forewings above fiery-red, a subbasal band, the costa, veins distally, and the fringes are yellow, a large olive spot occupies more than half the wing, towards the costa twice indented, distally three times and posteriorly not at all. Hindwing light rosy-red with a yellowish or leather-coloured grey tone; the costa near the cell-apex, the 2nd and 3rd radials on a very short footstalk, the first median vein branching off before the cell-apex. Under surface rosy-red, the forewings with a scarlet hue. The \( \varphi \) is much larger, but lighter, the antennae plain with small bristles; the costa of the hindwing more proximal than in the \( \zeta \), the 2nd and 3rd radials on a long footstalk, the anal tuft blackish, the olive area of the forewing is extended to the costa, the two indentations in front deep, particularly the proximal one which extends as far as the 1st median vein. Length of forewings in the \( \zeta \) 7 to 8, in the \( \varphi \) 11 mm.

A. mimetica Rothsch. \( \zeta \): exactly copies As. avernalis, but with strongly combed, not filiform antennae; the basal third of the antennal shaft orange-red, the rest of the shaft sooty greyish-brown, the pinnae sooty greyish-brown; head and thorax orange-red, the latter with blackish slate-coloured stripes; abdomen blackish slate-coloured with a red-brown anal tuft. Forewings orange-red, 4 transverse bands, 3 subterminal spots and the fringes blackish slate-coloured. Hindwings blackish slate-coloured. Length of forewings: 13 mm. Tugela of the Salomon Islands.

A. amabilis Rothsch., owing to the strongly combed male antennae, is allied to mimetica; on both wings of the \( \zeta \) the two lower radial veins and the upper median vein are very closely together. The forewings are orange-yellow with 3 double, irregular scarlet transverse lines which are connected with each other on the median and subcostal; besides there is at the margin, before the base and at the base one line each, being more or less interrupted; 3 basal dots are black, the fringes brown. Hindwings orange, towards the margin tinged reddish. — From the Salomon Islands (Isabel).

A. synestranea Hmps. (171) is not to be mistaken, owing to the very peculiar discal marking forming synestranea, a complete sling. In the cell there is a black longitudinal streak which has a hook downward on the discocellular. Between the posterior transverse line and the margin there are black vein-streaks; the ground-colour is a pale brownish-yellow. — Borneo.
A. phaeobasis Hmps. (17 l) is a small species with rather narrow wings with an orange-yellow ground-colour and 2 blackish-brown transverse bands, the posterior one of which makes two distal projections on the upper and lower radial vein. The hindwing exhibits a darker, postmedian band. — Louisiads.

A. geminata Pagenst. is very much like phaeobasis; the basal transverse line is sharply angled towards the margin and more remote from the base, the distal one does not show the two strong teeth towards the margin; both the stripes are connected at the proximal margin by a brown stripe. Hindwings unmarked whitish-yellow. — From New Pomerania, Kinigunang.

A. confina Hmps. is likewise somewhat similar; the ground-colour is more orange-yellow; the two transverse stripes are considerably broader, irregularly defined, above the proximal margin broadly connected and both reach above only to the subcostal, so that the costal margin remains yellow. Hindwing with an irregularly spotted antemarginal transverse band. — New Guinea.

A. flavia Hmps. (17 l) from New Guinea and Queensland has a quite pale yellow ground-colour. The forewing exhibits 3 rather strongly dentate transverse stripes and between the posterior one and the margin another, faded macular stripe sending teeth towards the margin on the radial veins.

A. nubifascia Wkr. (= punctifascia Wkr.) (Vol. II, 11 l) which extends into the palearctic region, is of a pale yellow ground-colour. The forewing exhibits antemedian and median rows of black dots and a broad, dark postmedian band strongly dentate distally. The hindwings are yellowish-white. — In simplifascia Elwes, the median rows of dots are more separated and the postdiscal band entirely faded. — In homogena Seitz the marking on the forewings has almost entirely vanished. — Himalaya, Tibet, Sikkim.

A. melanoleuca Hmps. (17 d) has the marking very similar to nubifascia, but of a much stronger and more intense black, on an almost purely white ground-colour; also the hindwings exhibit blackish marginal and median markings. — From Sikkim.

A. lutara Moore (= dividata Snell.) is a small species of a yellow ground-colour, distributed from Burma to Borneo, from Sumatra to Java; the forewing shows some black dots in the basal part; a proximal transverse line strongly flawed distally and a median line flawed towards the base touch each other in the discocellular; at the cell-end there is a black spot and behind it, like in many *Miltochrista*, a very strongly dentate posterior transverse line, and behind it another irregular row of dots. The ? has a black apex of the abdomen, which is at the end strangulated and then again expanded to a sling and turns downward. 20 to 25 mm. The larva is according to PEEPERS very stout and short, entirely wrapped up in a very dense fur of black hair; the cocoon is just as plushy. The larva lives on lichens of different trees, is very common, and the imago emerges already after a six days' pupal stage.

A. metamelas Hmps. (17 d) has yellowish forewings with blackish, irregular transverse markings which are finer in the ? The hindwing shows blackish marginal streak-spots. — Ceylon. — The Indian form: postfusca. postfusca form. nov. shows extensive, blackish-brown, postdiscal dusting.

A. dasara Moore (= chromatica Swinh.) (Vol. II, 11 h), already commented upon in the palearctic part, is yellowish with two darker transverse bands, which are reduced to dentate lines in the ?, and a black median spot. — From India to Sumatra and Java; in Cashmir it crosses the palearctic frontier.

A. undulata Swinh. is ochreous-yellow on its head and thorax, on the abdomen more ochreous-yellowish grey with a blackish-brown anal tuft and under surface. The orange-yellow forewing exhibits a black dot near the base and in the disc a very large, blackish spot which is twice angularly sinuate towards the costa and twice towards the margin, so that there only remain yellow spots at the margins. Hindwings yellowish-white. — Khasia Hills in Assam.

A. phaeoplagia Hmps. (17 m). In this species and the following the costal margin of the forewing is anteriorly turned up and behind the middle covered with hair. The forewings are brown with yellow spots at the costal, distal and proximal margins; the hindwings are blackish-brown with yellow fringes. — Known from Java.

A. cuneifera Wkr. looks very much like lutara Moore from which it differs at once by the inverted and hairy costal margin. 20 mm. — Borneo.

A. chrysomela Hmps. The ? is distinguished by the costal margin being strongly sinuate behind the middle and by the very much produced upper cell-angle. The forewing is black, with a broad, orange-yellow median band projecting distally on the lower radial vein. Hindwing black with an orange spot in the middle
of the costal margin. In the ♀ the orange band of the forewing is broader and distally angled also on the upper radial, the spot of the hindwing larger, extending to the proximal angle. Salomons (Choiseul). — subsp. reducta reducta. Rothsch. The ♀ differs from the typical form by the reduction of the orange band of the forewing, which is reduced to a spot extending from the proximal margin to directly behind the median. On the hindwing the band is reduced to a small spot in the costal region. The ♀ has all the bands still narrower. New Georgia, Salomon Islands, March; Wela, Lawela, March. The type from New Georgia.

A. perihaeinia Hmps. (17 m) is one of the smallest species, whitish, with a pink costal margin perihaeinia, and border; the distally angled antemedian scarcely touches the straight median line below the cell; the posterior transverse line is very dentate, behind it runs a row of dots; the hindwings are pink. — Java.

A. pudibunda Snell. (17 e) greatly resembles perihaeinia, but it is somewhat larger and of a more pudibunda, yellowish, not white ground-colour, the median line is towards the base flawed as far as close to where it touches the antemedian line. — Assam, Sumatra, Java.

A. decussa B.-Baker has yellowish wings with a pink hue, towards the margin of a deeper red, with decussa, an X-shaped, brown border-line in the median area and a distally angled posterior transverse line touching the distal parts of the X at the costal and proximal margins. Hindwings diaphanous pale-yellow. New Guinea (Arfak Mountains).

A. subcruciata Rothsch. ♂: head, antennae, and thorax reddish-orange, the thorax with slate-coloured subcruciata, spots. Abdomen orange buff. Forewing orange, entirely suffused with scarlet, at the base a small black dot; near the base a spot, two antemedian crossed lines, a spot and two postmedian bands slate-coloured, indistinctly bordered with red; marginal line scarlet; hindwings buff. Length of forewings: 10½ mm. Mount Muil in North Borneo.

A. miltochristina Rothsch. Both sexes resembles Miltochrista cruciata, antennae brown, head and thorax of miltochristi-na, scarlet, abdomen salmon-coloured. Forewings scarlet; the doubly cross-shaped antemedian bands are dissolved towards the proximal margin into a number of rings; a semicircular postmedian band, a number of marginal streaks and the fringes slate-coloured. Hindwings salmon-pink. Length of forewings: 14½ mm. Mambara River (New Guinea), taken in March.

A. ecmelaena Hmps. (17 m). A small species from Sangir, with orange-yellow wings and irregularly ecmelaena, dentate transverse bands. The hindwings exhibit a black marginal band.

A. striata Wil. ♂ head and thorax light salmon-pink, the thorax dotted black. Forewing light salmon-pink; the antemedian band black, its distal margin almost straight, its proximal margin towards the costa diffuse and about in the middle projecting proximally; behind the middle a series of black streaks on the veins, the proximal ends of the upper ones connected by a short, irregular transverse line representing the postmedian; at the border small, black dots. Hindwings lighter. 21 mm. Formosa.

A. vivida Wkr. (17 m, as suavis) is somewhat larger than striata, and differs by the strongly dentate vivida, median line running very obliquely. Hindwings yellow with a black marginal band. — Celebes; Batjan.

A. xantherythra Hmps. Body sulphury-yellow, spotted red. Forewings sulphury-yellow and marked somewhat like in suavis, with carmine transverse markings often connected with each other; at the base a spot connected by a subcostal longitudinal stripe with the curved anterior transverse line which is in the cell, on the submedian fold and proximal margin connected with the median band distally angled in and below the cell and exhibits small dark spots; border rather broad carmine, at the costal and proximal margins spotted yellow, connected with the median band on the upper radial and lower median; besides postmedian and antemarginal, faded blackish-brown transverse lines. Hindwings yellow, towards the apex tinged carmine. — New Guinea.

A. cunei-gera Wkr. (17 m) differs from the similar species by the blackish-brown fringes of the forewings. cunei-gera. The wings are yellow with 3 strongly and irregularly dentated transverse lines and a black dot at the cell-end. Behind the postmedian dentate line a row of dots, the dots on the upper and lower radial veins are removed towards the margin. — Borneo, Sumatra.

A. obliquilinea Swinh. froms about the middle between cunei-gera Walk. and undulosa Moere, from obliquili-nea, both of which it is discernible by the oblique median line. Body and forewings orange-yellow; at the base of the forewing a small black spot, followed by 2 irregularly distally curved lines, behind them the median line running about as in inconspicua Moere; before the border follows a line composed of acute angles. Hindwings almost white, unmarked. — Assam.
undulosa. A. undulosa Wkr. (= straminea Wkr., excurrens Wkr., decurrens Wkr.) is one of the very smallest species. The forewings are yellowish-white with black dots in the basal part; the anterior transverse line is on the median flawed distally, on the submedian fold proximally. The median line almost straight; at the cell-end we notice a black dot; the postmedian line is very dentate, behind it are yet 2 rows of dots. Hindwings yellowish-white. 20 to 25 mm. — The species is widely distributed in India and proceeds to the palearctic region in Kashmir.

obsoletea. A. obsoletea Moore (= assamica Moore) (17 c) is yellow with irregular dentate lines and rows of dots. — Sikkim.

avernalis. A. avernalis Btlr. (17 c) is distinguished by deep red forewings with 4 broad black transverse bands, the median band is below the cell connected with the posterior transverse line, and the most distal one sends in the middle 2 black teeth to the margin. — Salomon Islands. — subsp. bougainvillei Rothsch. differs from avernalis by the slate-coloured bands on the forewings, being much broader and nearly flown together, so that the scarlet ground-colour is noticeable only in the shape of spots and dots on the proximal two thirds of the wing, not in the shape of bands, the distal scarlet band and the three marginal spots being very much reduced; the scarlet is also very much mixed with yellow. The blackish slate-coloured distal half of the hindwing is reduced to half the width. The 3 so differ somewhat by the forewings and the hindwings are lighter slate-coloured. Bougainville, in May. — subsp. isabelina Rothsch. differs from typical avernalis by the entirely salmon-coloured abdomen, and the forewing is nearly entirely blackish slate-coloured, with two minute orange-red spots. Base and abdominal part of the hindwing yellowish-pink. On the small islands near Isabel of the Salomon Islands. — subsp. floridensis Rothsch. differs in the female from typical avernalis by the narrower slate-coloured bands of the forewing, so that the ground-colour is prominent in the shape of 5 broad orange-red bands. The slate-colour in the distal half of the hindwing is absent, there only remain 3 slate-coloured subterminal spots and the dark fringes. Florida (Salomon Islands), in June.

coccineoflammeus. A. coccineoflammeus Rothsch. Antennae in the female light brown, the first 8 joints crimson-coloured; head and thorax of a magnificent fiery scarlet; abdomen buff. Forewings of a magnificent fiery scarlet, traversed by 4 rather indistinct, dentate, angled, slate-coloured bands. Hindwings buff, suffused with a salmon-tint, 3 larger and brighter. Length of forewings: 14, 17 mm. From Mt. Goliath in the interior of Dutch New Guinea, at an altitude of 5 to 7000 ft., in January; discovered by A. S. Meek.

suavis. A. suavis Pag. (17 e, as vivida) is yellow and easily recognizable by the red transverse markings; a broad median band in which there are black spots is on the submedian fold connected with the very broad red marginal band likewise spotted black. The hindwings are yellow, with a red tint towards the margin. — Aru Islands and New Guinea.

reticulata. A. reticulata Flhrt. (= placens Wkr., cyclota Meyr., intrita Stn.) resembles somewhat the following, the forewings are more blackish-brown, only in some places tinted carmine, and with yellow, not white spots at the base, at the costal margin before and behind the middle, and at the cell-end. Hindwings yellow, towards the margin tinted red. — Widely distributed: Ambon, Ceram, Batjan, Aru, Trobriand Islands, Louisiads, Queensland.

phyctopa. A. phyctopa Meyr. (17 f) resembles reticulata, but it is much more intensely carmine, with 2 large, round, white spots at the base and cell-end of the forewing. — New Guinea.

haemachroa. A. haemachroa Hmps. Body carmine, on the vertex, collar, shoulder-covers and metathorax spotted blackish-brown. Forewings carmine; at the base there are 3 black dots; the transverse lines are rather broad, blackish-brown, on each side bordered with an ochreous-yellow; the anterior one is distally angled in the cell, so is the middle line on the median; the posterior transverse line is sharply flawed distally on the lower radial, on the submedian fold proximally; an antemarginal row of blackish spots in an ochreous-yellow ground, removed towards the margin on the upper and lower radial veins; hindwings of a lighter pink. — From Bougainville.

cancellata. A. cancellata Pagenst. has reddish-yellow forewings with 4 brownish, undulate, distally convex, nearly parallel and equally distant transverse lines; the posterior one and the antemarginal one are in some specimens connected in the middle; hindwings of a somewhat lighter yellow, at the margins darker. Body yellow. — From New Pomerania and New Lauenburg (the latter specimens smaller and of a lighter yellow).

area. A. area Beth.-Bak. is similar, head and thorax vermilion, abdomen yellow, somewhat smaller with narrower wings, the ground-colour is more vermilion, the veins light yellow; the 4 dark grey transverse lines are dentate, the two distal ones close together. Hindwings of a pale pink. — From the Areia River in New Guinea.

effulgens. A. effulgens Pagenst. from New Pomerania greatly resembles area; the ground-colour is deep carmine; the two median lines run rather rectilinearly, the distal, dentate line is incomplete; fringes blackish-brown. Hindwing likewise pale carmine, at the border darker. Head, thorax and abdomen carmine.
A. sexualis Flbr. (17 f) has scarlet forewings with 4 partly incomplete, strongly flawed transverse sexualis.
lines. Hindwings yellow with a red hue. — From Amboina, Aru and the Louisiads.

A. metascota Hmps. is orange-scarlet on its head and thorax with small brownish spots, the abdomen blackish-brown, at the end scarlet. The forewings are scarlet with blackish dots and small spots in the basal area; the anterior transverse line is strongly angled outwards in the cell, inwards on the submedian fold, and connected with the slightly undulate median line by brownish dusting; the posterior transverse line, being angled inwards on the submedian fold, is connected with a somewhat faded antemarginal line by brown dusting, the latter line sending teeth outwards on the upper and lower radial veins. Hindwing blackish-brown. — Solomon, Choisne. Expanse of wings: 30 to 36 mm. — subsp. analogous Roths. bears the same relationship to metascota as floridensis to typical australis. It differs from it by the lighter yellowish-red forewings and by the black being replaced by slate-colour and reduced to a pair of confluent antemedian bands and a similar pair of postmedian bands. Hindwings reddish-buff with a broad slate-coloured margin, not quite sooty black. The $ is likewise more yellowish on the forewings and shows the same differences on the hindwings. Isabel Island, in June. — subsp. feminina Roths. has in the $ the black of the forewing very much reduced and an orange-red ground-colour, whilst in the $ the black markings are widened, so that both sexes look very differently. Wela-Lawela, in February. — In contrast with it is sufusa form. nov. from Bougainville (ab. 1 Hmps.) sufusa, where the brown dusting is so preponderant, that there only remain some red spots of the ground-colour.

A. septemmaculata Heyl. (= agraphia Hmps.) (17 f) has brown forewings with 5 yellowish-white, small spots in the basal part and two larger ones at the cell-end. Hindwings yellowish-white, at the base of the proximal margin tinged orange. Head, collar, and shoulder-covers are yellow like the abdomen; thorax red-brown. — Java.

A. anaemica Hmps. is somewhat like the preceding, but only half its size. Head and thorax are yellowish mixed with red-brown; abdomen yellowish-white. Forewings light red-brown with small, pale yellowish spots at the base of the proximal margin, before the middle at the costal margin and below the cell; an irregular yellowish spot is in the proximal half of the median area, another below and behind the cell-end; before the margin and at the end of the lower median vein there are small, blurred, yellowish spots. Hindwings yellowish-white, at the apex dusted brownish. — From Dutch New Guinea (Fak-Fak).

A. miltochristaemorpha Roths. $: antennae, head and thorax golden yellow, and on the patagia a dark brown spot; abdomen light carmine with yellowish hair at the base and anal tuft. Forewing: the basal three fifths golden yellow, the two apical fifths orange-red; two antemedian, dentate, interrupted, aniline-brown bands and between them behind the middle; the proximal postmedian line and the distal antemedian line are connected below the median fold by a horizontal line; the distal postmedian line is very much clouded and terminates in stripes into the border; fringes aniline-brown. Hindwings rosy-red. $ larger. Length of forewings: $ 12½, $ 18 mm. Setekwa River, Snow Mountains, Dutch New Guinea, at an altitude of 2 to 3000 ft., in August.

A. pyrauloides Roths. $: antennae brownish-scarlet; head scarlet with a brownish-grey median pyraulotodes.
band; thorax scarlet with small brownish-grey spots; basal half of abdomen above dark buff, apical half pink. Forewing: basal half orange-yellow, everywhere watered and striated scarlet; basal fifth occupied by a slate-grey reticulation, in the middle a broad, slate-coloured oblique band and a similar postmedian one which is flawed and from which a number of half confluent, slate-coloured stripes run; Fringes blackish. Hindwings light salmon-coloured. Length of forewings: 17 mm. Setekwa River in Dutch New Guinea, September.

A. pyraula Meyr. (17 f) from New Guinea and Queensland is orange-yellow, at the costal margin pyraula.
and border of the forewing tinged carmine. The three middle transverse lines are subcostally connected by a blackish-brown longitudinal stripe; antemarginal black streaks.

A. insularis Roths. $ similar to pyraula Meyr. Antennae in the basal fourth scarlet, otherwise insularis.
dark brown; head and thorax scarlet, not orange-yellow. Abdomen salmon-coloured. Forewings orange-scarlet, not golden yellow, with scarlet stripes in the distal third, 2 small dots at the base, 2 antemedian bands, a curved postmedian oblique band being connected with the preceding below the costa, some antemarginal, small clouds and the fringes slate-coloured. Hindwings salmon-coloured pink, not buff. $ larger, 18 mm: $ 15 mm. Louisiads, in October; Entercasteaux, in December.

A. hieroglyphica Roths. $: antennae light brown, basal third golden yellow; head golden yellow, hieroglyphi-
thorax golden yellow with small black spots on the patagia and the posterior thorax; abdomen buff. Forewing golden yellow, a black spot at the base and two black, curved and angular, antemedian transverse bands being
A. quadrilineata Rothsch. In both sexes the head, antennae, and thorax are orange-buff, the abdomen faintly lighter. Forewings bright orange-buff; two antemedian zigzag-lines, connected by a transverse spot below the subcostal, are aniline-brown, which creates a checkered appearance. A very broad, irregular, postmedian, aniline-brown band encloses a series of small, orange-buff spots. Hindwings buff. Length of forewings: 17 mm. Kumasi-River in British New Guinea; August, September.

A. basitesselata Rothsch. In both sexes the head, antennae, and thorax are orange-buff, the abdomen faintly lighter. Forewings bright orange-buff; two antemedian zigzag-lines, connected by a transverse spot below the subcostal, are aniline-brown, which creates a checkered appearance. A very broad, irregular, postmedian, aniline-brown band encloses a series of small, orange-buff spots. Hindwings buff. Length of forewings: 17 mm. Kumasi-River in British New Guinea; August, September.

A. quadrilineata Pag. (= melitana Meyr., simulans Butler.) (14 e). The synonymy of this species has not yet been sufficiently cleared up; Pagenstecher styles it with place., thus with our reticulata Butler. mentioned above. According to Hampson, we have reproduced the figure given there, which is presumably made according to Butler's type of simulans. Pagenstecher describes his species: forewings with red spots and macular bands, as well as larger, yellowish spots between which there are blackish-brown bands. Hindwings yellow, distal margin reddish, at the apex narrowly margined with dark. — From the Bismarck Archipelago and Australia.

A. euprepioides Wkr. (= inclusa Snell.) (17 f) has black forewings with numerous yellow spots and a postmedian row of dots. — Sumatra, Borneo, Java, Philippines. — In subsp. interserta Moore (17 e) from Sikkim and Burma the yellow colour is so much increased that there remain only narrow black transverse and longitudinal lines.

A. trizonata Rothsch. In the antennae are light brown, strongly combed; head and thorax dark buff. Abdomen greyish buff with a buff anal tuft. Forewings dark buff, before and in the middle a transverse band, connected by a transverse spot above vein 1 of a chocolate-colour like the small discocellular spot. A postmedian transverse band with three lateral continuations towards the border and apex, enclosing a median row of small buff spots and connected with the median band at the proximal margin, is dull chocolate-brown. Hindwings buff with two small, greyish marginal spots; length of forewings: 12 mm. — New South Wales.

A. structa Wkr. (17 g). Orange-yellow, tinted scarlet, with 3 fine, dentate transverse lines and a faded antemarginal band, behind which there are black vein-streaks. Hindwing orange with a broad, black marginal band. — New South Wales.

A. punctata Rothsch. ♀ antennae yellowish-red, head light orange, thorax light orange, on the patagia a small black dot; abdomen light orange. Forewing light orange; basal half with a number of small black spots, the distal half with a dense, serpentine zigzag-line on the band, and an antemarginal series of small black spots. On the hindwing the two basal thirds are light orange, the distal third is black. Length of forewings: 11 % mm. Khasi-Hills in Asam, April.

A. ruenca Swinh. Forewing yellow; the anterior transverse line is distally angled in the cell and is here connected with the proximally flawed median line; the posterior transverse line rises at the costal margin from the same place as the median line, forms a large bow distally and is united again with the median line at the proximal margin; behind it there are dark vein-streaks which are longer on the upper and lower radial veins; fringes black. Hindwings pale yellow. — Sula. — Smaller than distributa Wkr. (17 m) to which it is otherwise allied.

A. toxodes Hmps. is larger than ruenca which it otherwise resembles very much. Forewings pale ochreous-yellow; costal margin at the base and apex blackish; in the cell there is a black basal dot; the anterior transverse line is strongly curved; the median line is proximally angled in the cell; the posterior transverse line forms a large bow, rising at the costal and proximal margins in the same places as the median line; an antemarginal, irregular, dentate line. Hindwings diaphanous ochreous-yellow. — Andamans.

A. conjunctana Wkr. (= tesselata Butler, eschara Swinh.) somewhat resembles toxodes, but it differs by the median line being united with the posterior transverse line at the lower cell-end. 20 mm. — Sikkim, Assam.
A. distributa Wkr. (17 i) differs from the somewhat larger ruenca Swinh. by its pale ochreous-yellow distributa. ground-colour and quite yellow, not black fringes. The hindwing exhibits a dark median and marginal band. — Borneo.

A. flavivenosa Moore (17 g) has yellow forewings with carmine striped veins. The median line dies flavivenosa. away towards the proximal margin after having touched the anterior transverse line; the posterior transverse line and short, antemarginal streak-spots are not very distinct. Hindwings with a pink hue. — Sikkim, Bhutan.

A. chypsilon Semper. Forewings orange, suffused with scarlet; the anterior transverse line is very much flawed distally in the cell and is here connected with the proximally bent median line; the posterior transverse line rises at the costal margin from the same place as the median line and is united again with it at the proximal margin; on the upper radial it makes a distally bent knee, and has here a dark spot behind it; in the marginal area there are scarlet vein-stripes. Hindwings yellow, tinted carmine, in the ♀ pale pink. 24 to 28 mm. — Philippines.

A. fasciolata Rothsch. ♀ antennae brown, head and thorax scarlet, abdomen light yellowish-pink. fasciolata. Forewings yellowish with scarlet stripes and spots; a basal spot, a curved row of dots near the base, a curved median band, a curved postmedian line, a very broad subterminal band and a row of small marginal dots are blackish slate-coloured. Hindwings yellowish pink. Length of forewings: 13½ mm. Biagi on the Mambara River, at an altitude of 5000 ft., taken in February.

A. senara Moore (= posphyrea Suell.) is distinguished by blackish-brown markings bordered with senara. carmine on the orange-yellow forewings; at the base there are some dark dots. The anterior transverse line, being in the middle strongly flawed towards the margin, is united on the median with the broad median line which in its turn is connected on the median by a stripe with the posterior transverse line; at the proximal margin both are once more united; at the cell-end there is a black dot; an antemarginal macular line projects towards the margin on the upper and lower radial veins; on the border a series of carmine spots. Hindwing yellow, towards the margin with a red hue. — Borneo, Sumatra, Java. — The larva, according to Piegers, greatly resembles that of lutara and makes the same web.

A. eldola Swinh. is allied to the preceding and flavida Btlr., with light ochreous-yellow forewings eldola. with 5 brown, sinuate transverse bands, the second and third in the middle joined with each other; a brown discal spot, round which the following line describes a large bow; the 5th transverse line with 2 sharp teeth extending to the border. Hindwings unmarked whitish. — Queensland (Coomoo).

A. perpusilla Wkr. (17 i), one of the very smallest species, is yellow with a scarlet tint, 3 fine transverse lines and a black discal dot. — Borneo.

A. semifascia Wkr. has yellowish-brownish forewings; the anterior transverse line is composed of semifascia. dots. Through the middle extends a faintly undulate line, behind it a dark dot; the posterior transverse line is extended to long teeth on the lowest subcostal, the upper and lower radial vein; behind it is an irregular row of dots. Hindwing at the border blackish-brownish, with a darker, postmedian transverse line. The ♀ is of a deeper yellow colour. — In obsolescens form. nov. (= ab. 1 Hups.) the antemarginal row of dots is absent. — From Ceylon and Borneo. — The larva is drab darkening into black, very densely haired, and lives on mosses.

A. flaveola Beth.-Bak. has canary-coloured forewings; the anterior transverse line is distally flawed flaveola. in the cell and is here united with the proximally flawed median line; the latter bends distally, thereby uniting itself with the posterior transverse line on the lower median vein, then it turns again proximad and is once more united with the basal line on the submedian fold; in the marginal area there are some blackish streak-spots; those on the upper and lower radial veins and on the lowest subcostal vein extend as far as the margin. Hindwings pale sulphureous-yellow like the body. Expanse of wings: 24 mm. — This species, originating from New Guinea (Dinawa), very much resembles the African A. sagenaria Walkr.

A. brunneofasciata Beth.-Bak. Forewing pale yellow with a strongly curved anterior transverse line, below the cell flowing together with a broad, blackish-brown longitudinal streak with the very broad postmedian line; the latter is composed of two such lines which are connected on the veins. Hindwings pale yellow. — From New Guinea (Dinawa and Aroa River, in August, September).

A. sagittaria Beth.-Bak. resembles the following species from which it differs by a sagittiform spot sagittaria. in the cell. Forewings ochreous-yellow with a dentate anterior and posterior, grey transverse line and a rather slightly curved median line connected with the basal transverse line on the submedian fold by a longitudinal streak; in the marginal area there is yet a strongly dentate line partly fused with the posterior transverse line. Hindwings yellowish-white. — Described from New Guinea (Dinawa, taken in August).
flavida. A. flavida Btlr. (17 f). The anterior transverse line is connected with the base on the submedian fold by a blackish-brown longitudinal stripe, on the median with the median line which in its turn is united with the posterior transverse line at the proximal margin: behind it an irregularly dentate line. — Australia, Salomons.

dentifera. A. dentifera Hmps. is smaller, with narrower wings than flavida; the anterior transverse line and the median line are much closer together; the ground-colour is more orange-yellow. — From New Guinea (Milne Bay).

quadrisfasciata. A. quadrisfasciata Rothsch. In the ♀ the head, antennae and thorax are buff-orange, on the tegulae a small black spot; abdomen in the basal half buff-grey, its posterior half light sooty black with an orange-buff anal tuft. Forewings buff-orange; 2 spots at the base, 4 curved and angled transverse bands connected by transverse spots with each other and with the border, border and apical third of the costa black, hindwing in the basal half orange-buff, otherwise black. Length of forewings: 13 mm. Tolitoli in North Celebes; November, December.

crocota. A. crocota Hmps. (= melitaula Meyr. 1889, nec 1886) (17 f), is similar to quadrisfasciata, but of a deeper orange-yellow, and the transverse lines are not connected with each other. — New Guinea, Louisiads.

fulguritis. A. fulguritis Hmps. (17 f) is smaller than crocota, of a paler yellow, the median line is connected at the proximal margin with the posterior transverse line behind which there is a row of short marginal streaks. — Pulo Laut, Bali.

birivula. A. birivula Hmps. (17 f) is easily recognizable by the double, dentate, posterior transverse line, behind which there are strong vein-streaks; the median line is absent and the anterior transverse line projects very much towards the margin on the submedian fold. — Borneo.

asaphes. A. asaphes Hmps. (17 m) is a very small species with orange-yellow forewings, on which there are pale brownish transverse lines, at the cell-end a black dot. — Borneo-Java.

dentata. A. dentata Hmps. nov. (= ab. 1) is strongly dentate; the marginal area is dusted blackish-brown and exhibits traces of an irregular transverse line. The hindwing is dusted dark at the border. — reducta form. nov. (= ab. 1 Hmps.) has the transverse markings quite extinct, and the dark marginal dusting is scarcely noticeable, and on the hindwings it is absent altogether. — North Australia.

varians. A. varians Hmps. (17 g) is an uncommonly variable animal. The forewings are either quite blackish-brown, or they exhibit orange-red spots only at the costal margin or also at the proximal margin; in the lightest specimens also the border is orange-red, and there appear orange antemedian spots. The ♀ is usually of a somewhat lighter brown ground-colour and still more extensively spotted orange, also in the discal area, so that the wing at last turns preponderantly orange-yellow with black markings. — Ceylon.

bicolor. A. bicolor Rothsch. ♀ quite sooty orange black. A large, oval, orange-red spot occupies the central third of the forewing below the subcostal, and a similar spot on the hindwing extends from the costa to the median fold. The ♂ is similar, but the spot on the forewing is larger. Length of forewings: ♀ 12 mm, ♂ 11 mm. Setekwa River in Dutch New Guinea, at altitudes of 3000 ft; in August.

umbrosa. A. umbrosa Hmps. (17 g) somewhat resembles melapoleuca Hmps., but it has no combed antennae, but only ciliated ones, and it is smaller and of a duller colouring. At the base of the costal margin there is a large, triangular, brown spot. — Assam.

nebulosa. A. nebulosa Moore (17 g). The forewings are yellow; the anterior transverse line is united with the median line at the proximal margin to a large brown spot flowing together with a broad postdiscal band. — Sikkim.

inconspicua. A. inconspicua Moore (17 h) has orange-red forewings, a somewhat faded anterior transverse line, obliqua. a similar rather oblique median line, a black disanal dot and dark vein-streaks before the margin. — In f. obliqua fuscalis. Hmps. the ground-colour is more ochreous-yellowish. — f. fuscalis Hmps. (17 g) is entirely suffused with blackish-brown except two orange spots at the costal margin and a similar spot at the proximal margin behind the middle. — India.

ochromaculata. A. ochromaculata Beth.-Bak. Head, abdomen, and stripes on the thorax and shoulder-covers are orange-yellow. The grey forewings exhibit, before and behind the middle as well as at the base, feebly curved pink macular stripes; between the two middle ones there is at the costal and proximal margins one pale ochreous-yellow spot each, the upper one being smaller; at the margin a series of small reddish spots. Hindwings ochreous-yellow, with a broad, grey marginal band. — This animal entirely deviating from all the species known originates from New Guinea (Dinawa, August).
A. dinawa Beth.-Bak. likewise deviates very much. Head and thorax are grey, mixed with pink; the abdomen is reddish ochreous-yellow, legs pink, tibiae banded grey. Forewings ochreous-yellow with a pink hue; the basal half, being dusted grey, exhibits in the median area 3 spots of the ground-colour, one at the costal margin, one in the cell, which is more or less flown together with the one at the proximal margin; the distal half of the costal margin and the distal margin are carmine; fringes dark grey. Hindwings yellowish-pink, at the distal margin of a purer pink; fringes darker. — Likewise from New Guinea (Dinawa), taken in August.

A. rubricosa Moore (= curvifascia Hmps.) (17 i) is orange-red with 3 usually connected transverse rubricosa. lines; the posterior line forms pointed teeth towards the margin on the upper and lower radials. — In f. ochracea ochracea. Hmps. (17 i) the ground-colour is more orange-yellowish. — The species is distributed over India and Ceylon, and goes into Kashmir as far as the palearctic region.

A. roseogrisea Roths. ♂ allied to rubricosa Moore. Antennae, head and thorax yellow, suffused roseogrisea. with pink, a black spot at the posterior thorax; abdomen buff, the anal half darker. Forewings pink, suffused with yellow. A black dot at the base, a subbasal transverse band and a postmedian band, which is parted and becomes Y-shaped from vein 3 to the costa, are slate-coloured. Hindwings yellowish, with a light pink hue. The ♂ is lighter and more yellow. Length of forewings: 13 mm. Lower Burma.

A. conglomerens Flbr. (= artocarpi Moore) (Vol. II, 11 h) is a small, yellowish-red species with 3 dark conglomerens. transverse bands across the forewing; the posterior one flows together with the median band below the cell. The ♂ is more yellow. — From Calcutta through Sikkim as far as the palearctic region.

A. creatina Snell. (17 i) has yellowish forewings hued carmine; the anterior transverse line consists creatina. of small spots; the median line is rather straight, behind it a black discal dot; behind it on the veins short black streaks; on the border a black line. Hindwings yellow, tinted carmine. — Celebes, Java.

A. floccosa Wkr. (= subcervina Wkr.) (17 h). The wings are diaphanous greyish-yellowish and are floccosa. similarly marked as in creatina; the median line is broad and faded. — From Sikkim through the whole of India as far as Ceylon.

A. pallida Roths. ♂: antennae light yellowish-brown, combed; head and thorax light whitish cream-coloured; abdomen whitish-grey, tinted buff. Forewings light cream-coloured; a small spot, a costal dot at the base, and near the base and before the middle bands, two of which send continuations to the margin, of a dull brown. Hindwings milky-white. Length of forewings: 10 mm. — Doray in Dutch New Guinea, in June.

A. ruptifascia Hmps. (17 h) has pale-yellowish forewings, on which there are two black, broad transverse ruptifascia. lines connected on the submedian fold by a longitudinal streak; in the marginal area there is a row of black dots. The hindwing shows a dark median line. — Calcutta, Ceylon.

A. ila Moore. The forewings are pale yellow; instead of the anterior transverse line a row of black ila. dots; a broad median band is slightly curved, behind it is a black discal dot; the posterior transverse line is ila. likewise replaced by a row of dots; on the margin another row of black dots. The hindwings are paler, with ila. an indistinct median line. 22—24 mm. — India, Ceylon.

A. paralleлина Hmps. (17 h) is much smaller than the preceding, more orange-red in the ground-colour, paralleлина. more feebly marked, particularly the median line is quite narrow. — Burma.

A. atritermina Hmps. (17 h). The orange-yellow forewing shows rows of black dots in the basal and atritermina. marginal areas; the black, rather oblique median line forms an acute angle towards the margin on the proximal-marginal vein. — Sangir.

A. andamana Moore (17 h) is similar to atritermina, but much paler, yellowish-white; anterior body andamana. spotted black; the median line is not so oblique and does not form a flaw on the proximal-marginal vein, but above it bends distally. — Andamans.

A. phantasma Hmps. Likewise allied to the preceding. Yellowish-white, anterior body unspotted; phantasma. base of costal margin black; at the base in the cell a black dot; an indistinct anterior transverse row of dots is strongly sinuate distally in the cell and often flown together into a line; the median line as in andamana, but indistinct; at the cell-end a black dot; behind it a transverse row of black, often extinct dots, which project farther towards the margin on the upper and lower radial veins; on the margin one or two black dots which may also be absent. Hindwings pale ochreous-yellow, at the margin somewhat darkened. — Andamans.
A. strigipennis H.-Schäff. (= circumdata Wkr., sinica Moore, discistriga Moore, terminata Moore, scripta Heyl., fruhstorferi Aurie.) is a very variable animal, with yellow forewings more or less tinted red, the marking very much like in the preceding, but the median line not at all bent below the median. The number and distinctness of the basal and marginal dots varies a great deal, as well as the extent of the red tint, but the different forms are so much alike that it is useless to denominate them singly. 15 to 35 mm. — Very widely distributed: China, Formosa, Sikkim, Assam, Sumatra, Borneo, and Java.

A. unifascia Rothsch. In the ♀ the antennae, head and thorax are orange-buff. Abdomen greyish buff with a very large anal tuft. Forewings orange-buff; a median transverse band is aniline greyish-brown; in the basal half and along the veins in the marginal area a number of small aniline greyish-brown dots. Hindwing buff with a grey nubulalis Rothsch. (17 i). On the yellow forewing a broad basal area and a very broad postdiscal band are united at the proximal margin to a large blackish-brown spot. Hindwing with a dark marginal band. — Ganjam, Java.

A. arcuata Moore (17 h), likewise allied to the preceding and just as variable. Ground-colour pink or more yellowish-red; the dots in the basal and marginal areas are all very fine, the median line is almost straight, but oblique than in unifascia. — In f. rosea Hmps. there appears a dark median line on the hindwing. — f. aurora Hmps. (17 h) is a form with almost vanished marking. — India, Ceylon, Java.

A. humilis Wkr. (17 h) is orange-yellow with an anterior transverse line formed of oblong spots and a broad, blackish-brown postdiscal band showing the usual dental projections on the upper and lower radial veins. — semicirculata Heyl. shows in the middle of the wing a connection of the two transverse bands by a blackish-brown longitudinal band. — From Sikkim and Burm as far as Java. — The larva is short and stout, blackish-brown, very densely haired like a fur, on the dorsum of the 7th and 8th rings white; it lives on lichens and is very nimble. It pupates in a dense, blackish-brown cocoon. The imago is yielded after 12 days.

A. biseriata Hmps. (17 h) is ochreous-yellow, the transverse lines have disappeared altogether, being replaced by transverse rows of black longitudinal streaks; at the cell-end a black dot. — Borneo.

B. orsova Swinh. is very much like acteola; the ground-colour is more orange, tinted red in the cell-spaces, with an antemedian and a postmedian transverse band of longitudinal streaks, both not extending to the costa; the median band is absent. Hindwings ochreous-yellowish grey. — Siam.

A. disticha Meyr. (17 i) is much larger than biseriata and of an orange-red ground-colour; the streak-spots are reduced to small dots. — Burma.
A. postbicolor Roths. ♀ very closely allied to mediofascia, but at once discernible by the hindwings and abdomen. Antennae light brown; head and thorax dirty rosy-red; abdomen black, the basal segments and the anal tuft rosy. Forewings rosy-red; a subbasal spot, some small spots on the base, a transverse band in the middle, a spot behind it, a zigzag-band in the posterior discal part, and the border sooty black. Hindwing sooty black with a rosy-red base. Length of forewings: 10 mm. Dili in Timor, May.

A. mediofascia Roths. ♀ with light brown antennae, head and thorax light pink watered with yellow; abdomen buff. Forewing light pink, towards the margins watered with yellow; near the base some small spots, a band in the middle, a stigma behind it, an oblique antemarginal zigzag-line from the costa to the margin at vein 2 and a dotted marginal line slate-coloured black. Hindwings semi-transparent light pink. The ♀ differs by being more intensely suffused with a light yellow, the subterminal line being replaced by small dots. Length of forewings: 9 mm. Tambora in Sumbawa, June; Bali in March and April. — The form intensa Roths. is in the ♀ much larger and of a deeper and purer pink, all the markings much broader; the marginal row of small dots is replaced by a transverse line. Length of forewings: 11½ mm. From Sabit in Lombok, 2000 m, in April; discovered by Fruhstorfer.

A. eos Hmps. (17 i) has orange-red forewings tinted carmine, with a broad, oblique, blackish-brown eos. median band; before it and before the margin some dots; the posterior transverse line is absent. — Java. — The larva is yellowish with dense hair-tufts, which are black on the 4th and 5th segments; laterally there are long white hairs; it pupates in a yellow cocoon; the imago is yielded after 6 days.

A. leopardina Roths. ♀: antennae black, head and thorax orange, spotted black; abdomen dull leopardina. orange with black transverse spots. Forewings deep orange; fringes, the apical two thirds of the costa, the proximal half of the basal third of the costa black; two small spots near the base, an antemedian band being interrupted on the median, a median band, a spot behind this band, a postmedian zigzag-band and an antemarginal row of spots are black. Hindwings light orange-crimson, bordered with black. ♀ similar, but smaller. Length of forewings: ♀ 8, ♂ 10 mm. Toli-Toli in North Celebes, November till December, discovered by Fruhstorfer. — subsp. postvitrea Rodr. differs from the typical form by the forewings being of a much brighter and browner orange, the abdomen being above black like the anal tuft, whilst the hyaline forewing exhibits a sooty black marginal band and an orange-yellow costa. Bonthain Peak in South Celebes (H. Fruhstorfer).

A. peloa Swinh. is somewhat larger than eos and distinguished by a very oblique, sharply dentated peloa. median line rising near the apex and extending to the middle of the proximal margin; besides, the ochreous-yellow forewing, the first costal-marginal third of which is black, exhibits a distally bent, anterior transverse line with some small black spots on its proximal side, and some black submarginal spots; proximally to the median line, below the costal margin two black dots. Hindwings pale yellow. — Sumatra.

A. cylettona Swinh. (= geodetis Meyr.) (17 i) is recognizable by the deep orange forewing, the costal cylettona. margin of which is towards the apex black like the distal margin; besides there is one black punctiform spot each before the middle and at the cell-end. — Burma.

A. marginata Roths. ♀: antennae black, combed; head orange, vertex with a large, black spot. marginata. Thorax black, tegulae broadly bordered with orange; abdomen black, the sides mixed with orange scales. The forewing has the basal three fourths orange-red, the apical fourth black, the apical half of the costa, 4 spots near the base and a zigzag-band in the middle black. The ♀ is larger with filiform antennae, the whole costa black, the median band broader. Length of forewings: ♀ 10,5, ♂ 13 mm. — Suer-Mefor in New Guinea, June and July.

A. infumata Fldr. (= pallida Moore) (Vol. II, 11 g) is a small species distributed in the Himalaya infumata. and extending as far as Kashmir. The forewings are orange, distally bordered with a brownish tint, with 2 similar dots as in the preceding species, and another, antemarginal row of dots. Hindwings blackish-brown, at the proximal margin and fringes orange. — In f. postica Moore the hindwings are orange with a black median postica. dot. — subsp. rufoflava differs from the typical form by the yellowish-red orange forewings and the much rufoflava. blacker hindwings. The ♀ has darker orange forewings. — Khasia Hills, in July.

A. discisigna Moore (= aurantiaca Moore, fuscitensa Hmps., fuscinera Swinh.) (17 k) is larger than discisigna. infumata, of a deeper orange; the antemarginal row of dots is incomplete, only 4 being present. Hindwing orange with an irregular black border. — In depuncta form. nov. (= ab. 1 Hmps.) the punctiform spots are more depuncta, or less obsolete. — Assam, Labuan, Borneo.

A. solita Wkr. is of a paler orange-yellow than the preceding, with three complete transverse rows solita. of dots on the forewing and a discal dot; the middle row is flawed on the median; on the border there are likewise black dots. — In f. punctilinea Moore the rows of dots are more or less extinct. — Known from Ceylon. punctilinea.
A. *sullia* Swinh. somewhat resembles *Asura chrysipylon* Semp. and has an orange-yellow body and forewings; thorax spotted red like the base of the costal margin; on the forewing a purple-brown transverse line bordered with carmine on both sides extends from the middle of the costal margin to the first third of the proximal margin, another from near the apex to the distal third, both are connected in the middle, behind them at the border there are red vein-streaks; on the middle of the proximal margin there is a red angular streak. Hindwings pale yellow. — Borneo (Sarawak).

A. *sexpuncta* Hmps. is a little larger than *sullia*, ochreous yellow, with a black dot near the base, one above the middle of the cell, a discal dot and below it one at the proximal margin; at the border there are only 2 dots. — Burma.

A. *dharma* Moore (= *butleri* Leech) (Vol. II, 11 g) belongs more into the palearctic region, but to the south it extends as far as Simla. Larger, pale ochreous-yellow with two rather complete rows of black dots and a discal dot; it differs from the preceding by the absence of marginal dots.

A. *calamaria* Moore (= *punctata* Elwes, *celidopa* Meyr.) has no antemarginal row of dots and only one dot near the base and a black discal dot, may belong to *dharma*. — Distributed from the Himalaya, Sikkim, Burma to Borneo, Sumatra and Java. — subsp. *mediopuncta* Rothsch. 3 antennae light brown, head orange-buff, thorax orange-yellow with small black dots; abdomen dirty grey, mostly hidden in long hair, the anal tuft orange-buff. Forewings the same; a small black basal spot at the costa and subcostal, and a round black spot at the cell-end. Hindwings lighter. ♀ much lighter, forewings lemon-coloured, hindwings cream-coloured, abdomen silvery grey. Length of forewings: ♀ 14, ♂ 13 mm. Khasia Hills, April. It is distinguished by the much darker yellow colour and the larger spots. Allied to *dharma*.

A. *anomala* Elwes is easily recognizable by quite carmine forewings; a black longitudinal stripe extends from the base through the cell on the middle radial to the border, in the middle below it a pale stripe; the upper radial and lowest subcostal are striped black; fringes yellowish. Hindwings brownish-black. — Sikkim.

A. *rubrimargo* Hmps. (17 i) has greyish-brown forewings which are carmine at the base, costal margin and proximal margin. Before the middle are two black transverse lines bordered with grey; a black discal dot. Fringes red, at the tips yellow. Hindwings greyish-brown, tinged carmine. — Sikkim.

A. *esmia* Swinh. (= *callinoma* Meyr.) (18 a) has white forewings with black veins and the borders of the cell striped red. Hindwings pink. — Burma.

A. *uniformis* Hmps. (18 a) is unicolorously dull brownish, the last 4 abdominal segments are thickly covered with woolly, yellowish white hair. — Ceylon.

A. *limbata* Wil. Antennae above whitish, beneath reddish, head and thorax white, the latter spotted brownish; forewings brownish with a black dot at the cell-end, from which a black streak runs to the base of the wing; a subbasal line as far as the white streak at the proximal margin, from there it turns upwards and forms a white hook, the margin with a white band enclosing 3 brownish spots in its upper part. Hindwings lighter, with an interrupted white band at the distal margin. ♀ lighter, but perhaps much flown. ♀ 22, ♂ 24 mm. Formosa, captured in April and May.

A. *picta* Wil. ♀ forewing blackish, with a white hook as in *limbata*, of which it might be a seasonal form, but the streak is more oblique to the proximal margin and near the costa twice interrupted, the white border of *limbata* is here indicated by 4 small white spots, one at the costal margin before the apex, one at the apex, one in the middle, and one at the proximal angle; all 4 connected by a thin, submarginal, white, undulate line. Hindwings blackish. 18 mm. Formosa, taken in September.

A. *atrifusa* Trnr. (18 a). The orange-yellow forewing tinged blackish in the disc exhibits an antemarginal row of black dots. The hindwings are dusted blackish in the cell-spaces. The ♀ is without the blackish dusting and the row of black dots. — Queensland.

A. *fulvimarginata* Hmps. is larger than *atrifusa*. Forewing unicolorously reddish-brown, at the costal and proximal margins orange-yellow. Hindwing diaphanous reddish-brown. Head, collar, and shoulder-covers orange-yellow, the rest of the body reddish-brown. — Madras.

A. *rosacea* Beth.-Bak. is smaller than the preceding, unicolorously rosy-red, hindwings somewhat paler pink; in the marginal area of the forewing some indistinct, grey shading. — Dinawa and Aroa River in New Guinea.
A. unicolora Beth.-Bak. is very much like the following, quite pale ochreous-yellow at the proximal margin below the cell somewhat darker; the first three fourths of the costal margin are bordered with grey. Hindwings diaphanous, yellowish-white. — Dinawa and Aroa River (New Guinea).

A. uniformeola Hmps. (17 k) is unicolorously pale straw-coloured. — From Borneo and Java, Talant, uniformeola, Sangir, and the Salomons. — The plush-like and black haired larva lives on mosses growing on wet walls and yields the imago after a 10 days' pupal stage.

A. frigida Wkr. (= diffusa Wkr.) (18 a) has brown forewings with ante- and postmedian rows of frigida, white dots and white spots at the costal, proximal and distal margins. — Widely distributed from Sikkim, Assam and Burma to Borneo, Sumatra and Java.

A. griseotincta Rothsch. ♀: antennae brown, head, thorax and abdomen whitish creamy-grey, towards griseotincta, the anus more whitish. Forewings light yellowish-brown, some large spots at the costa and margin creamy-white, a subterminal row of 5 spots dirty creamy-white. Hindwings white with a greyish border. Length of forewings: 14 mm. Pontianak in South West Borneo.

A. citronopuncta Rothsch. Both sexes with dark brown antennae; head dark golden-yellow; thorax citrono- aniline-brown, tegulae and two lines dark golden yellow. Forewings aniline-brown, along the costa, proximal and distal margins rows of large, golden yellow spots and of small, irregular, golden yellow spots dispersed across the disc, forming three badly marked rows. Hindwings buff with brown fringes. Length of forewings: ♂ 10, ♀ 12 mm. From the Kumusi River in British New Guinea.

A. hilaris Wkr. is somewhat like the following. The markings are more blackish; the anterior trans- hilaris, verse line is proximally angled on the median and inner-marginal vein, distally angled on the submedian fold and touches here a feebly broken median line; the discal spot is round, blackish. Ceylon, Java.

A. bizonoides Wkr. (= tabida Snell.) (18 a) differs from hilaris by its more brownish markings, bizonoides, plainly curved anterior transverse line, the absence of the median line, and by a longish median spot. From Perak, Sumatra and Borneo.

A. simplex Pagenst. has yellowish-grey or dark grey forewings without any further marking; chest simplex, and abdomen are grey, anal tuft yellowish. The hindwings are whitish, at the distal margin somewhat darker. On the under surface the margins of the forewings are somewhat lighter than the ground. New Pomerania (Kiningan).


Proboscis fully developed, palpi extending somewhat beyond the forehead; ♀ antennae ciliated, posterior tibiae with 2 pair of spurs, abdomen roughly haired. Forewing rather short and broad, covered with hairy scales; veins 3 and 5 rise near the cellangle, 6 below the upper angle; 7, 8, 9 petioled, 10 separate, 11 anastomosing with 12. On the hindwing 3 and 5 rise from the cell-angle. 4 is absent; 6, 7 petioled. 8 rises from the middle of the cell. Type: P. pyrrhopsamma.

P. pyrrhopsamma Hmps. ♂ orange-yellow; antennae and legs above blackish; forewings with black hair mixed with orange; a diffuse, dentate, antemedian, median and postmedian line black, obtusely angled on the median; antemarginal traces of a line, at the margin black dots. Hindwing with a dark marginal band, beginning at the costa and narrowing towards the anal angle. Sydney.

34. Genus: Gymnasura Hmps.

Closely allied to Asura, from which it deviates by the 5th subcostal rising much farther towards the margin; the 3rd rises much farther towards the cell. The correct, short palpi do not extend beyond the somewhat anteriorly convex forehead. The posterior tibiae are without the median spurs. The wings are thinly scaled and in the ♂ with an androconium below the costa behind the middle.

G. saginatae Trnr. (17 d) has pale yellow wings with brownish markings, an anterior transverse line saginatae, being somewhat proximally angled on the submedian fold and connected with the base by two longitudinal stripes at the costa and below the cell, whilst in the middle it is connected with the proximally flawed median line; a discal dot, behind it a very oblique line joining the median line at the proximal margin; before the margin a subterminal line strongly dentate on the 1st and 3rd radials. Hindwings yellowish-white. Queensland (Cairns).
G. taprobana Hmps. is much smaller, of a darker ochreous yellow; the markings somewhat similar; the discal dot is double; the lines behind it are broken up into rows of dots. The thinly scaled hindwing shows a discal spot and traces of a transverse line, somewhat darkened at the margin. Ceylon.

35. Genus: Tricholepis Hmps.

Distinguished from the closely allied following genus merely by the petioted course of the 2nd subcostal and 1st radial on the hindwing, which are coalescent in Zygaenosia; the 2nd radial rises somewhat above the lower cell-angle. The genus contains small species with rather extended wings.

T. xanthomelas Hmps. (17 c) has orange-yellow wings broadly bordered with black, also the costal margin of the forewing being black; the antennae are long-combed. From Tenimber. — subsp. nigrita Roths. from the Island of Koer is much more extensively black, on the hindwing the black at the proximal margin extends as far as the base. Specimens from Key are intermediate, rather nearer to the type of xanthomelas.

T. melanoxantha Hmps. has the basal half of the forewing distally straightly cut off orange, the distal half being blackish-brown; at the base below the costa a short, black stripe. The hindwings are black, the costal margin towards the apex and the cell are orange. Head and thorax are orange, the abdomen above brown, beneath orange. Moluccas.

T. ochracea Roths. Antennae shorter combed than in the preceding. Forewing ochreous-yellow, in the ♀ with a fine black costal and distal margin, in the ♂ it is merely indicated; hindwing with a broader black border and proximal margin. Dutch New Guinea, Humboldt Bay.

T. unicolor Roths. has still shorter combed antennae; the shape of the wings somewhat like in xanthomelas. The wings are unicolorously olive-brown. This small species from Ambon is very much like Zygaenosia flavosa Roths.

T. rhodia Roths. Forewing diaphanous brown, and with a large, irregularly rounded, orange-red spot in and below the cell-end. Head, thorax and under surface orange, abdomen above black. Ternate; Halmahera.

T. erubescens Hmps. (17 c, d) has in the ♀ shortly serrated antennae; the black wings are thinly covered with hairy scales, at the base obliquely cut off scarlet; the marginal area is faintly tinted scarlet; hindwings black, in the basal half of the costal margin red. In the ♂ the scarlet is much more intense outside the oblique black border-line of the basal spot, and the fringes of both pair of wings are red; it exhibits besides an ochreous-yellow anal tuft. — Nilgiris. — The larva is thickly covered with short, brown hair.

T. xanthopera Hmps. has pale brown forewings; the base, costa and marginal area are pale yellow; hindwings brownish, at the margin pale yellow. — Singapore.


This genus, of which Hampson in his Catalogue of 1900 was only able to enumerate 2 species, has in the meantime increased to more than 20 species, beside a lot of local forms. They are almost throughout small, delicate animals with comparatively thin scaling and a rather extended shape of the wings. In the venation the species entirely resemble the genus Gymnasura, only distinguished by SC2 and R1 being coalescent on the hindwing. Hampson’s statement that on the forewing SC6 rises nearer to the margin than SC5, is not correct, since quite the contrary is the case in most of the species; moreover the behaviour is different even within one and the same species. The proboscis is well developed, the palpi are extremely short; forehead and abdomen are roughly haired; antennae doubly combed; the posterior tibiae are without the middle spurs. Single species are very much alike and therefore not easy to distinguish.

Z. fuscimarginalis Swinh. (17 c is the South American Illice xanthospila Hmps.). Blackish-brown, with a large, round hyaline spot in the middle, not reaching the costa and proximal margin. Hindwing hyaline with a blackish-brown border. Dorey.

Z. subhyalinifascia Roths. ♀ monotonously sooty black, a broad, almost hyaline, greyish-white band of 5 mm width crosses the forewing about a quarter away from the base. The costal area of the hindwing is greyish-white. Length of forewings: $14^{1/2}$ mm. Snow Mountains in Dutch New Guinea, up to altitudes of 3500 ft., October to December.
Z. fuliginosa Rothsch.  ♂ quite light sooty black; the disc of the forewing semi-diaphanous sooty grey. Length of forewings: 14 mm. Snow Mountains, New Guinea, October till December.


Z. divisa Rothsch.  ♂ antennae dark grey, head and thorax creamy white; abdomen greyish white with a yellowish anal tuft. Forewing with an oblique, creamy white basal half, a blackish-brown spot at the proximal margin near the base, and a body marked, larger rusty spot, somewhat like a cloud between the subcostal and the proximal margin; distal half dark violet chocolate-brown with lighter streaks and a white zig-zag streak through the centre. Hindwings creamy white. Length of forewings: 7 mm. Biagi, Mambara River, British New Guinea; at an altitude of 5000 ft.

Z. albigrisea Rothsch.  ♂: head, antennae and thorax as well as abdomen slate-coloured; forewings creamy white; the distal two fifths brownish drab. Hindwings creamy-white with drab fringes. Length of forewings 10 mm. Biagi on the Mambara River, British New Guinea; at an altitude of 5000 ft., taken in March.

Z. truncata Rothsch.  ♂: head, antennae and thorax black; on the tegulae an orange-red spot; abdomen orange-red with a black anal tuft. Forewing with orange-red three basal fifths of the basal, a black stigma, and some small black spots at the costa; the two distal fifths black, apex and border as far as vein 3 sharply cut off. On the hindwing the basal two thirds are orange-red, the distal third blacker. Length of forewings: 12 mm. Astrolabe Bay in German New Guinea.

Z. nigrorufa Rothsch. Both sexes quite black, the two basal fifths of the forewings and the three basal fifths of the hindwings orange-red. Length of forewings 12,5 mm in the ♂, 14 mm in the ♀. Kumusi River in the north-eastern part of British New Guinea, July till August.

Z. variabilis Rothsch. The ♂ appears in 3 principal forms, either of which occurs with or without an antemedian black line. The typical form is quite black, the basal half of the forewing except the basal third of the costa orange-red, the basal three quarters of the hindwing likewise orange-red. — A second form has an orange-red head and thorax, and a third is quite red, only the abdomen being black, a broader or narrower postmedian zigzag line on the forewing black, as well as a series of antemarginal black spots; the margins of both wings black. In all the three forms a black, antemedian zigzag line may be present or absent. Length of forewings: 8 to 10 mm. Mysol, New Guinea. January till February.

Z. fumosa Rothsch. Body above black, beneath more or less mixed with yellow. Wings unicolorous fumosa, olive-brownish black, diaphanous; the nomenclatural type, originating from the Geelvink Bay, is beneath sooty black. — subsp. flaviventris Rothsch. from Biak has an ochreous-yellow under surface of the abdomen. — flaviventris. subsp. inferna Rothsch. has besides ochreous-yellow legs, forehead and first antennal joint, only the tibiae are inferna. above partly blackish. From Obi.

Z. salomonis Rothsch. has semi-diaphanous, blackish wings more densely scaled at the margins; the forewing is yellow at the extreme base and at the basal part of the costal margin; hindwings more densely scaled, sooty black. Body yellow, in the typical form above on the abdominal rings scaled black. From Guadalcanar. — In subsp. isabella Rothsch. from Isabel and the Shortland Islands this black scaling is absent. isabella.

Z. fumigata Pagenst. is blackish-brown on its body and wings, the wings are diaphanous with darker veins and an indistinct yellowish subbasal spot on the forewing, which may also disappear. New Pomerania.

Z. basalis Rothsch. Wings diaphanous sooty-black, veins and margins more densely scaled; at the base of the forewing a large, yellow spot occupying the first third of the proximal margin and reaching upward the median. Head, underside of the first antennal joint, abdomen and the whole under surface inclusive of the palpi and legs are black; a spot on the hindhead, the thorax, on each side of the first abdominal segment one spot and the greatest part of the 7th abdominal tergit black. — D’Entrecasteaux Archipelago and from the Milne Bay (Brit. New Guinea).

Z. assimilis Rothsch. differs from basalis by a ray of the yellow colour at the base of the forewing assimilis. extending also into the discocellular and also above the median for a short distance; besides the first abdominal ring is above almost quite black. — Salawatti.
rubiana. 

Z. rubiana Rothsch. looks like salomonis on the wings; the forewings are a little longer and the wings more intensely black. The body is black, the underside and abdomen ochreous; legs black, or parts of the underside of the hindlegs ochreous. — From Culambanga, New Georgia, Salomons, in March.

flavibasis. 

Z. flavibasis Swinh. is a variable species with rather long wings. In the form flavibasis head and thorax are black, abdomen above black, beneath like the legs orange, tibiae above more or less blackish-brown. Forewings hyaline with intensely black veins, at the margins scaled blackish; at the proximal margin there is a narrow, orange-yellow spot of variable size. Hindwings black, at the costal margin semi-diaphanous. From the Key Islands. — subsp. abdominalis Rothsch. has a yellow face, palpi, legs and abdomen, only the first and seventh ring being above black. From Brit. New Guinea (Milne Bay) and the Entrecasteaux Archipelago. — immaculata Rothsch. is like the preceding form on its body, on the forewing, however, the yellow spots are absent, the veins are less intensely black, the margins broader sooty; on the hindwing beneath the costal margin is yellow. Perhaps a distinct species. — From Dutch New Guinea (Humboldt Bay).

papae. 

Z. papua Oberth. (17 e, as flavibasis) has the same body as flavibasis abdominalis. On the forewings the veins are less prominent and at the proximal margin there are two orange-yellow spots, separated by a small blackish-brown spot. — Dorey.

medioplaga. 

Z. medioplaga Rothsch. differs from all the species by the yellow spot of the forewing being situated in the middle of the proximal margin. Body for the greatest part yellow, one spot each on the forehead and hindhead, the middle of the collar, palpal end and tibiae black. — From Batjan and Halmahera, taken in March and August.

flaviceps. 

C. flaviceps Rothsch. is intensely chrome-yellow on its head, first joint of the antennae, prothorax and the whole underside, inclusive of the palpi and legs; the posterior part of the thorax and the abdomen is above black. The wings are coloured like in the preceding and exhibit a large chrome-yellow spot at the base along the proximal margin; beneath the base of the costal margin is yellow. Batjan. — subsp. cingulata Rothsch. from Ternate is black above on the whole thorax and from the 2nd to 4th abdominal rings.

lata. 

Z. lata Rothsch. is coloured like papae, but it has considerably broader forewings with a strongly curved costal margin and the two yellow inner-marginal spots are much larger, the basal one extending to the subcosta, the distal one to the anal angle. Body and first antennal joint intensely chrome-yellow, only a part of the mesonotum is blackish-brown. — Ferguson Island.

meeki. 

Z. meeki Rothsch. Wings similar as in flavibasis; the veins are less prominent, the margins are narrower black, the subcostal spaces are quite hyaline; a discocellular spot; at the proximal margin there are two yellow spots, the basal one larger than in flavibasis, the distal one separated far from it. The body is intensely chrome-yellow; hindhead, palpal terminal joint, thorax above, as well as the 1st and 7th abdominal rings are black. — Brit. New Guinea (Milne Bay).


Proboscis well developed. The porrect palpi do not quite reach as far as the coarsely haired forehead; 5 antennae serrate, ciliated in long tufts; abdomen coarsely haired. The genus is distinguished by the two lower radial veins on the forewing being combined into one; the upper radial vein rises far below the upper cell-angle. The uppermost subcostal vein anastomoses with the costal. On the hindwing the 2nd subcostal vein and the 1st radial are on 2 very long footstalks.

apicalis. 

N. apicalis Wkr. (17 e) (= bipunctata Wkr.) has orange-yellow forewings with one black dot each at the base of the cell and at its end. The hindwings are somewhat lighter. China, Burma, Singapore.

hypophaeola. 

N. hypophaeola Hmps. (17 e) differs from apicalis by quite unicolorously ochreous-yellow wings without any black dots; on the forewing the 4th subcostal vein rises nearer to the margin than the 3rd; quite the contrary compared with apicalis. From Sangir.

taprobana. 

N. taprobana Hmps. is considerably larger (24 mm), likewise orange-yellow, at the base of the cell there is a black dot; in front of the black discocellular dot on a somewhat brownish cloudy ground extends a curved, faded, anterior transverse line; behind it a very indistinct, undulate transverse line, from which nerval stripes proceed towards the basc and towards the margin on SC5, R1 and R2. Hindwing below the apex clouded brownish. Ceylon.
38. Genus: **Ctenane** Swinh.

Proboscis fully developed, palpi porrect, extending as long as the head, 2nd joint thickly scaled; ♀ antennae doubly combed, the apical third ciliated. Hindleg with 2 pairs of spurs; forewings short and broad, vein 2 strongly curved from the cell-angle, 3 from before the angle, 4 and 5 from the angle; 6 rises below the upper angle, 7, 8, 9 and 10 petioled, 10 branching off behind 7; 11 from the cell, oblique. On the hindwing 3 is petioled with 4, 5 rises far above the angle, 6 petioled with 7, 8 from the middle of the cell.

*C. labuana* Swinh. ♀ greyish-white, tinted brown, palpi black except the apices. Forewings greyish-white, strewed with brown and blackish, below the costa black dots near the base and before the middle and above vein 1. Through the middle of the wing runs a diffuse, dark brown band narrowed in the middle, but broader at the costa and proximal margin; a postmedian, badly defined line runs obliquely from the costa to vein 4, then it is in-curved, with black dots below the costa and above vein 2; distal area washed over with brown except at the apex, with traces of a curved marginal line. Hindwings quite pale brown. Half an inch. Labuan, Borneo.


Differs from the genus *Asura* by the 2nd subcostal and 1st radial anastomosing on the hindwing; it thereby also approximates very much the genus *Zygaenosia* from which it differs by the middle radial vein rising from above the cell-angle. The other mark of distinction from *Zygaenosia* stated by Hampson: the 3rd subcostal vein rising nearer to the margin than to the 5th, does not stand the test, since the conditions are variable in the latter genus.

*G. bifincta* Rothsch. ♀ antennae brown, thorax golden maize-coloured; abdomen greyish or yellow. *bifincta.* Forewings golden maize-coloured. Hindwings buff. Length of forewings: 8½ mm. Little Key.

*G. mediofascia* Rothsch. ♀ antennae brown, head and thorax orange, abdomen buff. Forewing *mediofascia.* maize-coloured, at the basal three fifths of vein 1 orange; a postmedian, badly defined band from the costa along the median incurred, a bow-shaped stripe above vein 1 and the fringes are very light aniline-coloured reddish-brown. Hindwing creamy yellow. The ♀ has semi-diaphanous buff forewings.

*G. polygrapha* Fldr. (27 ...) has orange-yellow forewings with very complicated black markings; *polygrapha.* costal margin towards the base black; in the basal area there is an irregular series of small black spots, behind it is a strongly curved, double, anterior transverse line turning at the proximal margin almost to the base; in the middle it is connected with a rather straight, double median line; a black discal dot followed by a curved, double posterior transverse line; the distal one of the two lines sends teeth on the 1st and 3rd radial towards the margin; in the marginal area a dentate line; the apex of the costal margin with fringes black, with small carmine spots. Hindwing orange with a broad black marginal band and blackish dusting in the cell and at the proximal margin. Celebes.

40. Genus: **Thumata** Wkr.

Only one Indo-Australian, small species occurring also in Africa with a stunted proboscis. Palpi porrect, short, not reaching beyond the coarsely haired forehead. ♀ antennae doubly combed. On the forewing the venation does not exhibit any peculiarities, on the hindwing R^2^ and M^1^ are petioled, as well as SC^2^ and R^1^.

*T. fuscescens* Wkr. (17 c) has greyish-brown wings with very feebly indicated, blackish markings, *fuscescens.* an anterior transverse line which is distally angled on the submedian fold, a black discal dot, before the apex a brownish spot and before the margin short black vein-streaks, that on the middle radial vein being placed farther towards the margin. Assam, Ceylon, Borneo, Java, Queensland.

41. Genus: **Xantheitis** Hamp.

The only Indo-Australian species has rather long-stretched wings, a well developed proboscis, erect, though short palpi, and in the ♀ shortly serrated antennae. On the forewing the two lower subcostal veins are petioled, whereas the 3rd subcostal vein is absent; the two upper ones rise separately from the cell; the hindwing shows the same venation as the preceding genus.
X. luzonica Fldr. (= naringa Swinh.) (17 c) has orange-yellow forewings with a basal, anterior and posterior black transverse line, a black longitudinal streak on the median turning upwards on the transverse vein. Margins black. Hindwings black, in the basal area orange. Philippines (Manila). — subsp. obiensis Rothsch. differs from the typical form by much blacker forewings and the orange spotting in the disc, it is much smaller and the subterminal line is almost entirely absent. The ♂ has on the forewing much more orange and a very broad, subterminal orange band. On the hindwing the whole basal half is orange. Laiwui-Obi, taken in September.

42. Genus: Nudaridia Hmps.

This genus is presumably exclusively palaeartic and especially East Asiatic; it was dealt with in Vol. II, p. 57, and the two Amur-species known at that time were figured in Vol. II, t. 11 h. In the meantime, Wileman has placed here a Formosa-species with a „?“, which he describes as follows:

N. semilutea Wil. Forewings white, basal area orange-yellow, except immediately at the base, interrupted by a partly curved line of the ground-colour; the distal area with dark brown clouds. Hindwings whitish, feebly tinged yellow, at the costal margin near the costa a dark cloud. 16 mm. Formosa.

43. Genus: Melanaema Btlr.

Prettily coloured butterflies resembling Miltochrista-species in their exterior, with a well developed proboscis. The porrect palpi project above beyond the forehead. On the forewing the 1st and 2nd radials rise from one place at the lower cell-angle, the former from below the upper one; the two uppermost subcostal veins are a joint footstalk. On the hindwing the 3rd radial and 1st median are separated, the 2nd subcostal vein and 1st radial are petioled like in the neighbouring genera.

M. sanguinea Hmps. Body scarlet; ♂ forewing scarlet, dusted with a blackish brown, so that of the ground-colour there remain only stripes on the veins and in the basal area, as well as a broad, anterior, slightly curved, transverse band and traces of a posterior transverse band. Hindwing scarlet, towards the margin tinged brownish-black, but the veins remain red. The ♀ is of a duller red, with black fringes and costal margin, 3 blackish brown transverse lines and some dark antemarginal spots. New Guinea.

M. ni Heyl. (17 c) has yellow forewings with irregularly connected longitudinal and transverse bands of a blackish brown tint, which are on both sides bordered with carmine. Hindwings pale yellow. Java.

M. asuroides Rothsch. The ♂ resembles an Asura; antennae dark brown; head carmine-pink, at the vertex a brown spot; thorax deep brown, bordered with carmine-pink; abdomen dull carmine-pink. Forewing purple-brown, in the costal area a medium, large spot, a similar one on and above the proximal angle, and a dot on the lower discocellular carmine-pink. Hindwings semi-diaphanous, buff-grey, with a rosy hue, the fringes purple-brown. Length of forewings: 12 mm. From the Upper Setekwa River, Snow Mountains in Dutch New Guinea; taken at altitudes of 2 to 3000 ft. in September.

M. apiciplagia Rothsch. ♀ antennae light brown; head, thorax and abdomen maize-coloured. Forewing maize-coloured buff, the distal two thirds from the costa to vein 4 purple blackish-brown, turning much lighter towards the margin. Hindwing of a lighter maize-colour. Length of forewings: 12 mm. On the Oetekwa River, Snow Mountains, Dutch New Guinea; up to altitudes of 3000 ft., taken from October to December.

M. ochraceorufa Rothsch. ♂ antennae in the basal half orange-red, the apical half reddish-grey; head and thorax orange-red; abdomen buff. Forewing obliquely parted, the basocentral half red-yellowish-grey with a bright yellowish-red costa, the apical anal-angular half orange-red, turning darker towards the margin. Hindwing buff. Length of forewings: 14 mm. On the Oetekwa River, Snow Mountains, Dutch New Guinea; up to altitudes of 3000 ft., taken from October to December.

44. Genus: Asuridia Hmps.

In its exterior also very much like Asura or Miltochrista, but the proboscis is quite stunted. The straighly porrect palpi are short and do not project beyond the forehead. Costal margin of the forewing very convex; the two lower radial veins rise from the same place of the lower cell-angle, 1st and 2nd subcostal vein are on a joint footstalk, the first anastomoses besides with the costal vein. On the hindwing the middle radial rises above the lower cell-angle, the 2nd subcostal vein is petioled with the 1st radial.
A. nigriradiata Hmps. (13 i) is pink on its body and wings with 3 black transverse lines, black dots nigriradia-
in the basal area and on the transverse vein, and black antennal vein-streaks. Bhutan.

A. ridibunda Snell. is easily distinguished from the preceding, similar, somewhat larger species by ridibunda.
the complete transverse row of black vein-streaks before the anterior transverse line occurring also in the basal area;
the vein-streaks in the marginal area are much shorter, more punctiform; the ground-colour is paler,
very slightly tinted orange. From Batavia. — The larva was found on young leaves of Durio zibethinus L.,
it has a light body which, however, appears dark owing to its dark grey or black hairing; on the 4th and 5th
rings there are 2 brown hair-brushes, laterally on the 5th some more hair-appendages; head black. The pupation
place takes on a leaf in a cocoon surrounded by a crest of hair. The imago is yielded after eight days.

A. metaphaea Hmps. (17 b) has ochreous-yellow forewings mixed with blackish; in the basal area metaphaea.
some black streaks; a rudimentary median line is on the median united with the anterior transverse line;
a black cell-spot; the posterior transverse line forms a very sharp distal tooth on the middle radial vein, behind it
there are long black vein-streaks. Hindwing blackish-brown with ochreous-yellow fringes. Sikkim.

A. miltochristoides Rothsch. ♀ resembles a large Miltochrista niveata. Antennae light brown, head
light yellow, thorax light pinkish carmine; abdomen light yellowish wood-coloured; forewings light pinkish-
carmine, a basal spot on the subcostal vein, an antemedian zig-zag line, an oblique, broad median line, one
macula, and a postmedian line being twice sharply angled, running from the black line, from the black veins
edged by yellow to the margin. Hindwings pink. Length of forewings: 13½ mm. Khasia Hills, taken in June.

45. Genus: Machaerophora Hmps.

The only small species known has a stunted proboscis, short, porrect palpi, in the ♀ doubly combed
antennae; the posterior tibiae are without the middle spurs; the abdomen is coarsely haired. On the rather
long forewings the 1st and 2nd subcostal veins are on a joint footstalk, but the uppermost subcostal vein after
a short distance passes over into the costal vein and anastomoses with it. On the hindwing the 1st median
vein and 3rd radial, as well as the 2nd subcostal vein and 1st radial are petioled.

M. fulvipuncta Hmps. (17 b) is blackish-brown; the abdomen beneath orange-yellow; the forewing
hdvipuncta. shows in the middle of the proximal margin an orange-yellow spot varying in size, often also traces of spots
at the base and in the marginal area. The ♀ is said to be without wings. Ceylon.

46. Genus: Ovipennis Hmps.

Distinguished by a very convex costal margin and round apex of the forewing, also the distal margin
being very round. Proboscis well developed; the porrect palpi project somewhat beyond the forehead. On the
forewing the two lower radial veins rise separately; the 1st and 2nd subcostal veins proceed almost from the
same place, the 1st being strongly curved. On the hindwing the 1st median rises from below the lower cell-
angle, the middle radial vein from above it; the 2nd subcostal vein and 1st radial are petioled.

O. dudgeoni Elw. (27) has yellowish-white forewings with 2 large, longitudinal blackish-brown dudgeoni.
spots extending almost to the margin, above and below the median; fringes towards the apex back. Hindwing
pale yellow, in the disc with a large, blackish-brown spot. Sikkim.

O. binghami Hmps. Forewing in the basal area orange, distally light reddish-brown, towards the binghami.
margin darkened; margins white. Hindwings blackish-brown, at the proximal margin light reddish-brown,
fringes white. Thorax white. Abdomen ochreous-yellow, towards the end grey; venter white. Burma.

47. Genus: Idopterum Hmps.

The shape of the wings is round as in Ovipennis, but the ascending palpi project beyond the forehead.
The 3 last abdominal rings are strongly widened, so that the abdomen appears to be strangulated. The venation
is likewise similar, but on the forewing R1 proceeds from the upper cell-angle; on the hindwing M1 and R2 from
one and the same place of the lower cell-angle.
**I. ovale** Hmps. the light brown forewing is yellowish-white at the base, costal margin and proximal margin, of the same colour is an oblique, anterior transverse line; the costal margin is blackish towards the base. Hindwings brownish, at the proximal margin whitish. Head, shoulder-covers and abdominal end reddish-yellow; 28 mm. Burma.


This genus contains 15 Indo-Australian representatives, part of which extend yet into the palaeartic region. Mostly small, whitish or brownish species with darker transverse markings. Proboscis fully developed; palpi erect, but not reaching the vertex. The antennae sometimes exhibit antennae with short combs and mostly ciliated. The forewings are rather narrow, frequently somewhat tapering. On the forewing the two lower radial veins rise from the same place. On the hindwing M₁ and R₃ are united, SC₂ and R₁ are petaled.

**taprobanis.**

*S. taprobanis* Wkr. (= cingalesa Wkr., grammophora Flhr., simata Moore) (Vol. II, t. 11 b). Forewings white with black zigzag lines and black dots in the cell; hindwings blackish-brown. The Ceylon form is of a more grey ground-colour. Widely distributed from the Himalaya over Bombay and Ceylon to Malacca and Java.

**guttulosana.**

*S. guttulosana* Wkr., likewise distributed from North India to Java, though not touching the palaeartic region, is smaller than the preceding; the dentate lines are broken up into rows of spots; the ground-colour is brownish-white; the hindwings are of a purer white with an indistinct median spot, and brownish dusting towards the margin.

**sagittifera.**

*S. sagittifera* Moore (Vol. II, t. 11 c) is still somewhat smaller, of a purer white ground-colour, with very irregularly dispersed, black dots and spots. Hindwings dusted with a blackish-brown. Sikkim, from there to the north, extending into the palaeartic region.

**interspersa.**

*S. interspersa* Luc. (17 m) has yellowish-grey forewings with black, dentate transverse lines. Base blackish, and the space between the antemedian and middle is dusted with a blackish brown. Hindwings brownish. Queensland.

**tau.**

*S. tau* Heyl. (17 b). Forewings pale greyish-brown, with 4 very strongly dentate, fine transverse lines and a dark discal dot of mostly triangular or Y-shape. Hindwings whitish, dusted with brownish. The figure is not very distinct. Madras; Ceylon; Java.

**minima.**

*S. minima* Hmps. (17 m). A very small species of an expanse of only 12 mm. Forewing greyish-brown with very indistinct, spotted transverse markings; a spot in the middle of the cell and a V-shaped discal spot are somewhat more prominent. Hindwings pale brownish. Ceylon.

**nilgirica.**

*S. nilgirica* Hmps. (17 k) is grey, mixed with blackish; an anterior transverse row of 4 black, small spots with one behind them in the cell and one at the cell-end; behind them another transverse row of small spots. Hindwings pale brownish. Nilgiris, Java. — The form *cinereicolor* Hmps. from the same habitats in China, extending into the palaeartic region (Vol. II, t. 11 c), is very much dusted with brown; the transverse markings are more prominent.

**stigmatias.**

*S. stigmatias* Hmps. (17 l). Forewing white with rather large black spots at the base, in the middle and at the cell-end, with spots above them at the costal margin, two spots each at the proximal margin and at the margin towards the apex. Hindwings blackish-brown. Sangir.

**seriata.**

*S. seriata* Hmps. (17 k) is considerably larger, the forewings are more grey and exhibit some more spots. Assam.

**sordida.**

*S. sordida* Bttr. (Vol. II, t. 11 c) is very variable, changing from whitish to greyish-brown, with small black spots and dentate median and postmedian lines. Hindwings in the white, towards the apex brownish, in the blackish-brown. Distributed from China through India to Ceylon. — The more whitish form from Singapore and Bali may be denominated *albescens* form. nov. (= ab. 1 Hmps.). — *subcinerea* Moore (= modesta Moore) denotes male specimens with blackish-brown hindwings and white fringes, which form was also found in Formosa. — *quinquefascia* Hmps. from the Nilgiris Plateau has the forewings very much dusted black.

**taiwana.**

*S. taiwana* Wil. Head and thorax white, feebly tinged brown. Forewing white, particularly in the costal area dusted light brownish; near the base of the costa a black dot with a small black spot below it.
HYPOSICCIA; PARASICCIA. By Dr. M. Draudt.

At the costa 3 black spots, from the first of which traces of an antemedian line proceed, whilst from the third a row of dull dots proceed (the 2nd from the proximal margin in the shape of a streak); at the cell-end a small black spot and above the middle of the cell a black dot; submarginal line hazy, thin, on it there are small blackish dots; a blackish dot on the whitish fringes near the apex and a similar one about in the middle. Hindwings light brown. Under surface whitish, forewings clouded dark; hindwings with a blackish discal dot and a dark band behind it. 22 mm. Formosa, at an altitude of 1000 ft., in August.

S. albisparsa Hmps. (17 k) has dark brown forewings speckled whitish; in the middle of the cell albisparsa, a black dot, a white one before the black discal luna; the posterior transverse line is distally dotted white. Assam.

S. tenebrosa Moore (17 k) is smaller, more brownish-grey, the white dots are absent; otherwise the tenebrosa. species is marked very much like the preceding. Hindwing in the ♀ whithish, in the ♀ pale blackish-brown. India.

S. fulvocincta Hmps. (17 k) is the largest species. Forewings greyish-brown with basal, anterior, fulvocincta. middle and posterior, double, black transverse stripes, which are filled up with a reddish olive colour; at the cell-end a black luna, fringes brown speckled with white. Hindwings brownish-grey with lighter fringes. Nilgiris, Madura.


Also with erect palpi though not reaching the vertex; the tibial spurs are shorter. The middle radial vein of the forewing rises from the same spot with the lower.

H. annae Swinh. (17 k) looks somewhat like Parasiccia maculifascia (17 k), but it is smaller. The annae forewings are white, with 2 small black spots in the basal area, behind them is an undulate, partly interrupted anterior transverse line, in the middle of the cell and at the cell-end black maculae; behind them a double transverse line filled up with black dusting, the dusting being absent between the 1st median vein and the submedian fold; before and on the margin there is besides one transverse row of dots each. Hindwing blackish-brown with a dark discal dot and postmedian line. Assam.

H. abraxina Rothsch. ♀ like a small, dull Abraxas grossulariata in which all the yellow has disappeared. abraxina. Antennae dark grey, head dirty white, thorax dirty white, with anteriorly two black spots, and one at the extreme posterior end of the thorax; abdomen drab with a very large anal tuft. Forewing greyish-white, along the costa a row of small black spots, a dot at the base and two small subbasal spots, an antemedian black zigzag line, with a black cell-spot, a double, postmedian, undulate line of small, black, almost confluent spots, between there is a drab band. Antemarginal and marginal rows of small black spots. Hindwings drab, cell-spot and margin darker. Length of forewings: 15 mm. Khasia Hills; taken in April.

H. mesozonata Hmps. (17 i) is considerably smaller. Forewings grey, basal area, the space between mesozonata. the middle and posterior transverse lines and before the margin is filled up with an olive-brown colour. Hind¬wings blackish-brown, in the ♀ darker. Fringes light grey. Assam.

H. dentata Wil. is allied to mesozonata; head and thorax dark brown, abdomen lighter; forewings dentata. whitish, with a light brown tint over it; basal third dark brown, hardly to be separated from a dark brown, dentate antemedian line; median, and postmedian line dark brown, dentate, the space between both covered with a dark tint, at the cell-end a black, curved spot, the median line there distally flawed; in the cell a dot; submarginal line dark brown, interrupted, the broadest towards the costa; fringes whitish, in front of them a row of dark brown dots. Hindwings dark with lighter fringes. Under surface dark, costal and distal margins of the forewing as well as the fringes of all the wings lighter. 18 mm. One ♀ taken in May near Tainan. Formosa.


Distinguished from the two following genera of a very similar structure by the longer palpi being bent up and reaching to the vertex, and by the much longer tibial spurs. On the forewing the middle radial vein rises above the lower cell-angle. 4 species belong to the palearctic region, purely Indo-Australian are only 2.

P. maculifascia Moore (17 k) shows several transverse rows of black dots on the white forewings; maculifas- cia. the middle and posterior rows are connected by blackish-brown dusting. Hindwings whitish, towards the margin darkened brownish with a middle spot and an indistinct postmedian line which becomes more prominent beneath. Sikkim.

Proboscis well developed; palpi rather long, ascending; forehead with a conical projection; male antennae doubly combed. Tibial spurs shorter than in the preceding. On the forewing the two lower radial veins are on a short pedicle; the 4th and 5th subcostal veins are petioled, the third is absent; the first anastomoses with the costal. On the hindwing the 1st median vein and the 3rd radial are fused.

P. nocturna Hmps. has dark grey forewings; in the basal area there is a faded transverse line; an anterior transverse line being angled on the median is finely dentated; in the cell a spot, at the cell-end a crescent besides there is a middle, a postdiscal and an anteterminal transverse line, all of which are irregularly dentate. On the margin a row of dots. Hindwings brownish-grey. Assam.

P. multistrigata Hmps. (17e). The white forewings are on the veins marked with numerous black dots flowing together in the discal area to a transverse band of longer streaks. Hindwings brownish-black. Assam.

A. multipunctata Hmps. (17c) is very similar to Pareugoa multistrigata (17e); white with transverse rows of black dots and longitudinal streaks. Hindwings also white.

A. atropunctata Pag. was originally described as Cidaria; it is rather variable, also in its size (17 to 32 mm), for the rest like the preceding; it differs by only 3 transverse rows of black dots, and by the absence of longitudinal stripes. The ground-colour varies from a light grey to a pure white; the latter form was denominated: f. alba Snell. — Widely distributed in Java.

A. aroa Beth.-Bah. has white forewings, with a dark costal-marginal spot near the base; an irregular median line proceeds from a larger costal spot, is distally angled in the cell and flows together below the cell with a fine dark transverse line which rises farther towards the apex; an antemarginal, interrupted, dark line; fringes speckled white and brown. Hindwings whitish with a postmedian indistinct line and a darker margin. Anterior body white, abdomen brownish. Expanse of wings: 25 mm. New Guinea (Dinawa), in September.

52. Genus: Aeolosia Hmps.

Proboscis well developed; palpi rather long, ascending; forehead with a conical projection; male antennae ciliated; no projection on the forehead. On the forewing the two lower radial veins rise separately; the 4 lower subcostal veins on a joint footstalk, only the uppermost being separate; on the hindwing the 1st median is petiolated with the 3rd radial.

A. multipunctata Hmps. (17c) is very similar to Pareugoa multistrigata (17e); white with transverse rows of black dots and longitudinal streaks. Hindwings also white.


Proboscis well developed; palpi porrect, not projecting beyond the roughly haired forehead. Forewings long and narrow. The 1st radial rises from the upper cell-angle, the 1st subcostal vein anastomoses with the costal. On the hindwing the 2nd and 3rd radials and the 1st median vein are all separated a far. The 2nd subcostal vein and the 1st radial rise on a long footstalk.

X. marginata Wkr. has reddish-brown wings; the costal margin and proximal margin are in the distal half orange-yellow like the ends of the fringes and the proximal margin of the hindwing. Body ochreous-yellow. South India.

54. Genus: Xanthodule Bhr.

Differs from the preceding by the absence of the proboscis and the combed antennae of the ♀. On the forewing the 1st radial comes from below the upper cell-angle; of the 4 lower subcostal veins two each are on a joint pedicle.

X. ombrophanes Meyr. (17b) has greyish-white forewings with 2 dark brown transverse lines and a round median spot; the space behind the posterior transverse line is shaded with brown. Hindwing orange
with a black border. Thorax brownish, abdomen orange. ♀ without wings. — f. inquinata Luc. has the forewings inquinata. almost entirely dusted with red-brown, grey are only a spot at the proximal margin, one at the costal margin behind the middle, and a small curved spot before the apex. Victoria.

X. semiochrea Btlr. has unicolorously red-brown forewings and orange-yellow hindwings with a semiochrea, brown apical spot and a fine brown marginal line. Queensland.

55. Genus: Poliodulate Hmps.

Proboscis stunted; the palpi project yet a little beyond the forehead and are directed straight forward; ♀ antennae doubly combed; the posterior tibiae are without the middle spurs. The narrow forewings are roughly haired; the 2nd and 3rd radials are on a joint footstalk, like the 1st radial and 5th subcostal veins; the 3rd and 4th are absent.

P. xanthodelta Lower. The yellowish-grey forewing is thickly dusted with a blackish brown; the xanthodelta. base is at the proximal and costal margins of a light orange-yellow like a large, triangular spot in the costal centre. Hindwing orange-yellow with a broad, blackish-brown marginal band. The ♀ is presumably without wings. New South Wales.


The only species known exteriorly resembles certain Asura-species. Proboscis well developed; the erect palpi are rather long and project beyond the forehead. On the wings the subcostal veins are like in Xanthodule, the 2nd radial rises above the lower cell-angle.

H. nigripuncta Hmps. (17 b) shows on its yellowish-white forewings 2 flawed, black transverse lines, nigripuncta. 2 dots in the cell, and irregular, connected, antemarginal streak-spots. Fringes ochreous-yellow. Hindwing of a somewhat darker yellow. Ceylon. The cocoon being formed of a network is suspended on a thread.

57. Genus: Meteugoia Hmps.

Distinguished from the preceding by a conical projection of the forehead and a longer, more slender abdomen. Forewings not different, but on the hindwing the upper cell-end in the ♀ is very much produced, the transverse vein strongly angled, the 2nd subcostal vein is fused with the 1st radial.

M. ochrivena Hmps. (17 b). Forewing greyish-brown with brownish-black transverse markings and ochrivena. a broad, dark median band of the ♀; the ♀ is ochreous, dusted dark brown with black dots in the middle of the cell and at its end, the brown median band is absent, only an antemarginal, irregular, undulate, darker line is expanded at the costal margin into a spot. Assam; Borneo.

M. obliquiata Hmps. (17 b) shows on the dull ochreous-yellow forewing two oblique blackish transverse obliquiata. lines and small, irregular, longitudinal stripes in the cell and before the margin. Hindwing tinged brownish-black towards the margin. Singapore.

M. melanoleuca Hmps. has quite black forewings with a white antemedian transverse band being melanoleuca. very broad at the proximal margin and growing narrower towards the costa, and a white subapical spot. Hindwing black with a white band from near the base as far as beyond the middle, not reaching the proximal margin. — New Guinea (Milne Bay).

M. fasciosa Rothsch. (17 a) is much larger than the preceding. The forewing is white with grey bands fasciosa. from the costa to the submedian; near the base one band, then two almost straight to the proximal margin, between them a cell-dot; behind the cell a broad band flowing together with the marginal band on the 3rd radial; the costal margin is finely bordered with grey. Hindwings drab, in the discal area lighter. From the Salomon-Island of Isabel.


Only one small species with a well developed proboscis, porrect palpi just reaching the forehead, with short and broad forewings and a curved costal margin. On the forewing the 3 lower subcostal veins are petioled, the two upper ones separate. On the hindwing the 1st median vein anastomoses with the 3rd radial, the 2nd subcostal vein and 1st radial rise on an extremely long footstalk.
B. castaneola Hmps. has chestnut-brown forewings with a blackish-purple transverse band before the distal margin, which is much broader at the costal margin, but neither reaches it nor the proximal margin. Hindwing light chestnut-brown, at the base, proximal margin and border blackish-brown. Sangir.


Diffeers from the very similar preceding genus by the fused two lower radial veins of the forewing. On the hindwing the 3rd radial and 1st median vein are fused.

C. aureorubra Hmps. Forewings golden-yellow; base and marginal area coppery-brown, suffused with purple; the marginal area is proximally bordered by a darker, undulate line. Hindwings pale reddish-brown. Head, collar and mesothorax golden yellow, shoulder-covers and metathorax purple-brown. Abdomen blackish-brown, the large anal tuft grey. Louisiads.

C. bipartita Rothscl. antennae chocolate-brown, head golden-yellow, thorax and abdomen dark chocolate-brown. Anal tuft leather-coloured. Forewing golden yellow, base and distal quarter reddish-yellow chocolate-coloured; a blackish line separates the reddish-yellow, chocolate-coloured, distal quarter from the yellow principal part of the wing. Hindwing semi-diaphanous, greyish wood- or leather-coloured, distal third darker. Length of forewings: 12 mm. Biagi, Mambara River, British New Guinea; taken in February at an altitude of 5000 ft.

C. apiciplaga Rothscl. antennae brown, head golden yellow, thorax chestnut-brown suffused with an opalescent purple shade. Tegulae and prothorax golden yellow. Abdomen leather-coloured. Forewing: the basal 3/5 golden yellow with a chestnut-brown base, narrow black transverse lines enclosing yellow; the two distal fifths of the wing opalescent blue with two cinnamon-coloured spots and a large golden yellow subapical spot, a border of 1 mm width being dark brown. Hindwing abruptly truncated, of a light yellowish wood-grey colour, hued in a leather-colour. Length of forewings: 9 mm. On the Oetakwa River on the Snow Mountains, Dutch New Guinea; up to altitudes of 3500 ft., from October till December.

C. niveiceps Rothscl. antennae yellowish-red, head snow-white, thorax chestnut-brown, tegulae snow-white, abdomen cinnamon-coloured wood-brown, the three basal joints hued light grey. The basal 3/4 of the forewing golden yellow, the base itself chestnut-brown, distally margined by a double transverse line, proximally white, distally black; distal third chestnut-brown; hindwings yellowish-grey. Length of forewings: 8,5 mm. Haidana in the Collingwood Bay, British New Guinea; taken in April.

60. Genus: Licnoptera Meyr.

Comprises 2 small Australian species with rather narrow wings. Proboscis fully developed; the thin palpi are ascending, but do not project beyond the vertex; the tibial spurs are rather long. On the forewing the lowest radial vein is petioled with the upper median vein; the middle radial vein is absent, so is the 3rd subcostal vein. The 2nd, 4th and 5th subcostal veins are petioled. On the hindwing the 3rd radial and the 1st median vein are either on a long pedicle or entirely fused; the 2nd subcostal vein and the 1st radial rise on a very short footstalk.

L. crocodora Meyr. is very well distinguished by the peculiar shape of the hindwing: the costal margin is very convex, between the subcostal and the 1st radial the distal margin is somewhat concave; also the proximal margin is very broad and exhibits in a fold a tuft of long reddish-yellow hair. The forewing is golden yellow, at the base and in the marginal third purple brown; in the latter there is before the apex at the costal margin a large, triangular, yellow spot; at the margin a white, interrupted line. Hindwing white, towards the margin brownish. Head and collar yellowish yellow, thorax purple brown. New Guinea.

L. anguliscripta Lue. (17 b) has a normal shape of the wings; in the 3 the antennae are combed. Forewing yellowish-white with black, torn transverse lines and 2 large costal-marginal spots; hindwings blackish-brown. Queensland.


The butterflies composing this genus belong to the smallest Lithosiids of an insignificant colouring. Discernible from the preceding genus by the straitly porrect, not ascending short palpi. On the forewing the 3rd radial and the 1st median rise separately, the 2st radial is present; the 3 lower subcostal veins are on
a joint footstalk. Hindwing, like in the preceding, but the subcostal is on a longer footstalk with the 1st median vein.

E. trimaculata Hmps. (17 a) has in the ♀ dark brown, in the ♀ yellowish forewings with 2 black trimaculata dots, and blackish-brown hindwings with lighter fringes. Ceylon.

E. acanthocera Hmps. (17 a as accepta). Forewings orange-yellow, hindwings lighter. This small acanthocera species is very well distinguished by the ♀ antennae, exhibiting a horn-like tooth behind the base, and behind it a rather great curve. Sangir.

E. punctitermia Hmps. (17 l) has white forewings faintly tinted pink, with an irregular antemarginal punctitermia row of black dots and single dots at the margin itself. Hindwings more purely white. — Bali.

E. melanopera Hmps. (17 m) differs from the preceding by its purely white forewings and a more melanopera strongly curved antemarginal row of dots, the marginal dots themselves being absent. Borneo.

E. grisea Hmps. (17 a) has silvery-grey forewings, with a brownish hue towards the base and a black grisea discal spot and two black transverse lines being partly broken up into dots. Ceylon.

E. annulata Hmps. (17 l) is still smaller than grisea and easily recognizable by not showing a discal annulata spot, but a ring-shaped macula at the cell-end; in the cell itself there is another much smaller one. An antemarginal dentate transverse line. Calcutta.

E. puncticosta Hmps. Forewing reddish-brown, the costal margin blackish towards the base; in the puncticosta middle of the costal margin a blackish-brown dot, behind it a stripe-shaped spot. Hindwing lighter reddish-brown and distinguished by a very convex costal margin. Batjan.

E. albida Rothsch. ♀: antennae yellowish; head and thorax greyish-white like the abdomen. Forewing albida. milky white, with greyish-brown scales scattered on it; a dark grey postcellular dot at the costa; apex sharply cut off; hindwings creamy yellowish grey. Length of forewings: 7 mm. British New Guinea (Milne Bay), taken in February.

E. accepta Btlr. looks entirely like acanthocera, but the ♀ antennae are normal and plainly ciliated. accepta. The forewings are beneath dusted with brownish. Borneo.

E. metaphaeola Hmps. (17 a) is somewhat larger than accepta and has blackish-brown hindwings metaphaeo and abdomen. Borneo, Celebes.


This genus is based upon a single, rather large, dark species from New Guinea, with orange spots on the thorax and hyaline spots in the forewings. It is described as follows.

P. grandis Rothsch. ♀ with black antennae, head deep orange, a frontal spot and one on the posterior grandis half of the vertex black; thorax black with one deep orange spot in front and behind; the tegulae deep orange, bordered with black; patagia with a deep orange basal part, otherwise black; abdomen deep orange, the anal segment and the borders of the basal segment black. Forewing black with a purple reflection, the internerval spaces of a lighter sooty grey; cell and a spot below the median transparent and similar spots on veins 4, 5 and 6. Hindwings black, with a strong purple reflection; the two basal thirds of the costal area of a woody-grey colour, below the median a hyaline streak. Length of forewings: 22 mm. From Mt. Goliath, in July; Dutch New Guinea, at altitudes of 5000 to 7000 ft., taken in March.

63. Genus: Chionaema H.-Schäff.

One of the most multiform groups distributed far beyond Indo-Australia, extending partly also into the palearctic region and occurring also in Tropical Africa. By far most of the characteristic representatives are exteriorly easy to distinguish by their white ground-colour with red transverse stripes often bordered with black; only a comparatively small part shows different characters of the colouring. They are mostly comparatively large, very conspicuous animals. The proboscis is well developed, the palpi usually straightly
porrect, but they may also be crect; they are short or extending just beyond the forehead. The forehead is broad and projecting round; the \( \delta \) antennae are eliited in tufts; tibial spurs of middle length; abdomen above rather roughly haired. The forewings are long and narrow, in the \( \delta \) strong, with secondary sexual marks either in the shape of scent-scale spots, hairlocks or stunted veins, whereas the \( \varphi \) show a normal venation. A characteristic mark of the genus is the discocellular being angled in the middle on both wings, the middle radial rising close below this angle and being rudimentarily developed on the hindwing. The 3rd and 4th subcostal veins are usually absent in the \( \delta \), whilst in the \( \varphi \) they are petioled with the 5th; the two upper subcostal veins rise separately from the cell. On the hindwing the 3rd radial and 1st median vein rise on a long footstalk or are entirely fused, and the subcostal is also petioled with the 1st radial.

The larvae live on lichens like most of the Lithosiids; they are, as far as we know, cylindrical, with a small head and provided with hair-tufts on elevated warts. The pupation takes place in a network with extremely wide meshes. The pupa is immobile.

The imagines are occasionally met with on flowers, they are more frequently scared up from bushes, as they generally fly at night. They are met with all the year round. As to the palearctic forms vide Vol. II, p. 61 and 62.

\( \text{peregrina.} \)

\( C. \text{peregrina Wkr. (}=\text{puella Moore)} \). Forewings white. Red are the palpi, forehead, borders of the collar, bands on the thorax and shoulder-covers, legs and 4 transverse stripes on the forewing: one at the base, one each before and behind the middle, and one at the margin; the two middle ones are bordered with black on the averted sides; at the cell-end there are 3 black dots in the \( \delta \), the \( \varphi \) has only one. Hindwings and abdomen tinted red, in the \( \varphi \) more intensely so. The \( \delta \), like the following species, shows above on the hindwing at the costal margin a brown androconium, another one at the cell-end of the forewing at the costal margin. —

\( \text{arguta. arguta form. nov. from Pirmád shows much broader red transverse stripes with much more prominent black borders. From India as far as Ceylon.} \)

\( \text{catarhoda.} \)

\( C. \text{catarhoda Hmps. (16 f)} \) is very similar, but easily distinguishable by the absence of the black borders of the two red median lines. Assam, Burma.

\( \text{rubrifasciata.} \)

\( C. \text{rubrifasciata Druce from North Celebes numbers among the largest species (expanse of wings: } 52 \text{ mm). Thorax brick-red, abdomen blackish-brown, beneath yellowish-white. The white forewing is brick-red at the base, bordered with black; there are ante- and postmedian, broad, brick-red transverse bands bordered with black; at the cell-end a black spot; at the margin there is a large, red spot bordered with black. Hindwings brownish with white fringes.} \)

\( \text{puella.} \)

\( C. \text{puella Drury (Vol. II, t. 12 a) looks a little like peregrina, the red transverse stripes are finer, and the hindwing shows no androconium. Distributed in India as far as Ceylon, and in Cashmir it extends into the palearctic region.} \)

\( \text{alborosea.} \)

\( C. \text{alborosea Wkr. (}=\text{pallens Btlr., Dudgeoni Hmps.) (16 g)} \) is very much like puella, but the two middle transverse stripes are not bordered with black; palpi brown; behind the posterior transverse stripe towards the costal margin a yellowish spot which is black in f. \( \text{quadrinota Wkr.} \) — In \( \text{javanica form. nov. the hindwings are not pink, but of a pure white. Hongkong, Sikkim, Assam, Java.} \)

\( \text{subalba.} \)

\( C. \text{subalba Wil. } \delta \) head and thorax white, the latter with 3 reddish bands the posterior one of which is short; abdomen whitish, with a reddish tint before the white anal ring. Forewing white with 4 reddish bands; the subbasal band does not reach the proximal margin; the antemedian one is almost straight, but at the costa it slightly turns inwards; the postmedian band is distally curved below the cell; the submedian one curved and almost parallel to the margin. The costal pad with a black spot at its distal margin and 2 black spots below it, the distal one of them linear. Hindwing white with a reddish hue on it except in the costal area; at the cell-end a feebly dark, small luna; fringes white. Beneath white, costa of forewing with a reddish streak from the base to the sexual spot; the reddish band only feebly shows through; the small luna at the cell-end of the hindwing is more distinct than above. \( \varphi \) similar, but with 3 black spots; the bands are considerably narrower, and the antemedian one is above the middle feebly angled proximally. \( \delta \) 42, \( \varphi \) 52 mm. Taken in May, in Formosa.

\( \text{saulia.} \)

\( C. \text{saulia Swinh. from Paitan is very similar, according to the description; it differs by yellow antennae, a black terminal joint of the red palpi, a larger black cell-spot, and fine red transverse lines.} \)

\( \text{distincta.} \)

\( C. \text{distincta Roths}. \) which was described according to a \( \varphi \) of a length of forewings of 25 mm, has pale brown antennae; thorax and head are white, collar and shoulder-covers with red bands; abdomen salmon-coloured pink. The white forewing exhibits the usual 4 red transverse stripes; that next to the margin is of a much paler red; at the cell-end 3 small black spots. Hindwings pink, costal margin, apex and fringes white. Burma.
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C. obliquilineata **Hmps.** (16 g) is distinguished by the very oblique middle transverse lines. Antennae obliquilineata, terminal joint of the palp brown. At the costal margin there is before the apex a faded, blackish-brown spot. Sikkim.

C. ridleyi **Hmps.** (16 g) has a red costal margin as far as the anterior transverse stripe and is very ridleyi, well distinguished by the 3 black spots at the cell-end being bordered with red; the red marginal band is inwardly dentate. The distal margin of the hindwing is almost straight and the proximal angle somewhat produced. Singapore.

C. amabilis **Moore** is somewhat smaller than the preceding which it otherwise resembles very much; amabilis. the 3 cell-spots are quite red without any traces of a black pupil, and the two distal ones almost united; Ψ exhibits only one red disecal spot. Andamans and Nicobars.

C. effracta **Wkr.** (16 g). The forewing is of a yellowish tint, the transverse lines are partly interrupted effracta. and of an orange-yellow colour; in the middle of the cell there is one small orange spot, at the cell-end there are one. — Nepal, Sikkim, Burma.

C. unipunctata **Elwes** differs from the similar species by the lower median vein of the Ψ forewing beneath unipunctata, showing a long-haired scent-scale stripe. The wings are white with 4 red transverse stripes; the antemedian stripe exhibits in the Ψ a continuation extending to the cell-end; at the cell-end a red dot, in the Ψ a black dot; the posterior transverse line runs very obliquely to the anal angle. Loochoo (Japan).

C. pusilla **Wil.** whitish, thinly scaled with a reddish marking; forewing with 4 transverse lines, pusilla. the first not reaching the proximal margin; a submarginal line is indicated by 3 spots, at the margin there is a narrow and interrupted line; in the cell a spot and two at the cell-end: the sexual mark is above and beneath well developed, hindwing with a small spot at the cell-end. The Ψ is marked lighter. Ψ 18, Ψ 22 mm. Very closely allied to effracta **Wkr.** of which it may be a local form. Kanshirai in Formosa, taken in April and May.

C. obscura **Hmps.** (16 g) differs from all the other species by the dull brown ground-colour; the forewing obscura. exhibits 4 dentate, purple-black transverse lines, the two proximal ones of which are very close together; at the cell-end there are 3 black dots. In the Ψ the distal one of the two anterior transverse lines is stronger and flows together with the cell-spot. Queensland.

C. rufistigma **Rothsch.** from British North Borneo, described according to a Ψ, has a white head and rufistigma. thorax, the collar and shoulder-covers being banded with brick-red; abdomen rusty-coloured. The white forewing shows 4 brick-red transverse stripes, in the cell a brick-red spot and a darker discal dot. Hindwings yellowish salmon-coloured.

C. flavalba **Rothsch.** has brown antennae, a white head and thorax, the collar and shoulder-covers flavalba. banded yellow; the abdomen is of a light grey. The forewing exhibits the usual 4 transverse lines yellow, and at the cell-end black dots. The hindwings are white. Penang.

C. pudens **Wkr.** (= perversa **Blt.**) (16 g) is one of the smallest species, white with the 4 usual red pudens. transverse lines; palpi, antennae, and a dot on the vertex are scarlet, at the cell-end 3 red dots. Sarawak.

C. formosana **Hmps.** is considerably larger, the outside of the palpi, the inside of the anterior tibiae formosana. and tarsi red-brown. Forewing white with 4 red transverse lines; characteristic is the course of the broad posterior transverse line being strongly bent outwards between the cell-fold and submedian fold; at the cell-end there are also in the Ψ 3 black dots. Hindwings carmine. Formosa.

C. signa **Wkr.** (fasciculata **Wkr.**) (16 g) somewhat resembles the palearctic adelina **Stgr.** (Vol. II, t. 12 a), the forewing likewise shows only three red transverse stripes, the margin remains white. Hindwings purely white. In the Ψ the two black spots on the transverse vein are united. in the Ψ the posterior transverse line is towards the costal margin not bent outwards. Assam, Burma.

C. adita **Moore** (= bifasciata **Pouf.**, walkeri **Elwes**) (Vol. II, t. 12 b). This species widely distributed adita. in Kashmir, Tibet and the Himalaya has only 2 red transverse lines, the basal one is indicated only by a small red costal-marginal spot; it is otherwise very much like signa; in the Ψ the black disecal spots are separated. in the Ψ the posterior transverse line is bent out towards the costal margin.

C. guttifera **Wkr.** (= triguttata **Wkr.**) (Vol. II, t. 12 c) is well distinguished by the orange-yellow hind- guttifera. wings; also the 4 transverse lines of the forewing are orange-yellow. Distributed from India to the Andamans, and extending across the Himalaya as far as Kashmir in the palearctic region.
molleri.  

C. molleri Elvres (= watsoni Hmps.) (16 h) is easily recognizable by the partly interrupted, thick, orange-yellow transverse lines and the very strong black discal and postdiscal spots. In the $ the transverse bands are uninterrupted and narrower. Sikkim, Assam, Burma.

khasiana.  

C. khasiana Hmps. (16 h) is somewhat like signa, but the transverse lines are broader and of an orange colour. Assam.

flavicincta.  

C. flavicincta Hmps. The $ exhibits beneath below the cell a thick hair-tuft; head and thorax are white, palpi black, antennae red. Forewing white, with a yellow costal margin and 4 red transverse lines, the two middle ones bordered with black on the averted sides; at the cell-end 3 black dots; the posterior transverse line runs straight from the costa to the submedian fold, then it bends distally; before it there is at the costal margin a yellow and red spot; the marginal transverse line very much discoloured into yellow. Hindwing pink, fringes and costal margin yellow. Assam.

quadripartita Wil. This species is rather similar to flavicincta Hmps., but it differs by the sexual spots. $ head and thorax white. Collar, 2 transverse spots on the thorax and the patagial apex crimson; abdomen whitish, forewings white, with 3 faintly oblique, almost parallel purple bands, the antemedian band being much nearer to the basal one than the postmedian one. 3 small black spots; distal margin bordered with purple. Hindwings reddish, towards the base turning whitish; fringes tinted yellowish. Under surface reddish, proximal margin of the forewing and fringes of all the wings whitish. $ the same, except that there are here only 2 small black spots on the forewing and that the inner margin of the antemedian band is marked with black. $ 34, $ 40 mm; taken in May and August in Formosa.

costifimbria.  

C. costifimbria Wkr. cannot be mistaken for any other species owing to the costal margin of the $ forewing being also above greatly covered with hair-locks. Forewing white, with 4 very broad orange transverse bands; the posterior transverse band bifurcates towards the costal margin and is distally bordered with black towards the proximal margin. Hindwings yellow. Borneo.

impunctata.  

C. impunctata Fldr. (16 h) is distinguished by the entire absence of black discal dots. Amboina.

sumatrensis.  

C. sumatrensis Druce (16 h) is a large species, white, with 4 orange-yellow, in the $ scarlet transverse lines on the forewing and in the $ with 2, in the $ with one black cell-spot. In the $ the anterior transverse line is continued to the cell-end, in the $ not. It is presumed that the $ is usually also marked red, not yellow. Sumatra.

selangorica.  

C. selangorica Hmps. is very much like sumatrensis and differs besides its smaller size by the posterior transverse band being forked towards the costal margin. Selangor.

conclusa.  

C. conclusa Wkr. (16 h) is quite similar, the orange transverse bands are broader and the two middle ones bordered with black on the averted sides. Borneo.

 Fasciatella.  

C. fasciatella Rothsch. Antennae reddish-brown; head and thorax white; collar and apical half of the shoulder-covers brick-coloured red; abdomen at the base grey, at the apex rufous. Both the middle bands on the averted sides bordered with black; at the cell-end there is a black dot and at the costal margin behind the median band there is a large scent-scale-spot. Hindwings salmon-coloured pink. Described from Celebes.

 javanica.  

C. javanica Btlr. (= puella Moore) is white with the usual orange-red transverse lines; the middle ones are bordered with black on the averted sides; the posterior one bends round towards the base on the submedian fold. In the cell-end there is an orange-red spot, on the transverse vein there are two black spots. Hindwings white, towards the margin yellow. The $ has only one black discal spot, hindwings yellow with a carmine tint, fringes white. — The principal form is known from Burma, Singapore, Java and Bali. — The larva is black, on the middle rings with fine small yellowish dots and longitudinal lines, on the foremost and hindmost wings there are large, pale yellow transverse spots; hairing black. It lives on moss. The cocoon consists of a very widely meshed web of single threads regularly crossing one another, in which the pupa is suspended with few threads, with its head upward, yielding the imago after about 10 days.

 rhadota.  

C. rhadota Steinh., described according to a $ from Nias, looks very much like javanica, but the transverse lines are coloured scarlet, the middle ones much broader, the fringes of the hindwings yellow.

 plateni.  

C. plateni Elvres (16 i) is a very imposing species. distinguished by the intensely brownish-red hindwings with yellow fringes; the proximal transverse line consists in the $ of three pointed spots bordered outside with black; in the $ these spots are contiguous, all the red transverse lines are much finer, at the cell-end there is only one black spot. Celebes, Sangir.
C. axiologa Seinh. resembles the preceding species, but the proximal red transverse band is contiguous axiologa.
and straight, the postmedian band is somewhat forked towards the costa, and the distal arm is at the costal
margin united with the terminal band; in the cell-end there is in both sexes only one black dot. Nias.

C. perornata Wkr. (16 i) is likewise somewhat similar, but the hindwings are white, only towards perornata.
the margin faintly tinted red; at the cell-end a large, round, black spot. Sikkim. Borneo, Java.

C. latipes Hmps. (16 i) is much smaller, the hindwings are light yellow, at the costal margin white; latipes.
the middle transverse lines are separated afar, at the cell-end there are 3 black dots. Philippines.

C. nigrilineata Hmps. (16 i) is entirely without the two red middle transverse lines; before the margin nigrilineta-
there is a red transverse band with a dentate proximal border. Hindwings pink with white fringes. Sumatra.

C. amelaena Hmps. Forewings white, costal margin at the base red, 4 red transverse lines, the two amelaena.
middle ones broad, the posterior one forked towards the costal margin; at the cell-end 3 red spots, the two
distal ones on the transverse vein are pupilled black. Hindwings yellow, with a red tinge towards the margin.
Abdomen likewise above yellow with a red tinge. — Singapore.

C. affinis Suell. is very much like nigrilineata, distinguished by its pure white ground-colour and the affinis.
entire absence of the red marginal band, as well as by the more strongly broken anterior, black transverse line.
— Java.

C. arama Moore has white forewings with 4 orange transverse bands, in the cell-end two black dots; arama.
the curved posterior transverse band is strongly angled on the lower radial vein, behind it there is below the
costa a black dot. Hindwing in the proximal half. and abdomen pink. Sikkim. Assam.

C. divakara Moore has a white body; collar, thorax and shoulder-covers spotted orange. The orange divakara.
transverse bands grow so broad that they have almost entirely removed the white ground-colour, of which
there only remain spots at the base and at the base of the proximal margin and at the cell-end, as well as a
posterior, irregularly dentate, white transverse line; in the white discal spot there are black spots; hindwings
and fringes white. Sikkim.

C. dohertyi Elwes is allied to arama and is very similarly marked, but much smaller and has a dohertyi.
quite white abdomen and hindwings, the latter are faintly tinged yellowish at most towards the margin; at
the cell-end 3 small black spots; the orange marginal line is feebly developed and reaches neither the costal
nor the proximal margin. Himalaya, Sikkim. Assam.

C. yunnanensis Hmps. is still a little smaller than the preceding and likewise similar; the red marginal
eyunnanen-
line is entirely absent; thorax and abdomen all white, only the collar narrowly bordered with orange; costal
margin at the base orange. Yunnan.

C. sikkimensis Elwes (Vol. II, t. 12 a), distributed from Sikkim to Tibet, is easily recognizable by sikkimens-
The posterior transverse band is on both sides spotted black towards the costal margin. The ♀ has only one
discal spot, the ♂ exhibiting two.

C. candida Flbr. is entirely white without any transverse lines; base of costal margin red; in the candida.
cell-end 3 black dots and one behind them at the costal margin, which is absent in the ♀. Himalaya, Sikkim.

C. puer Elwes. Head and thorax white, spotted orange, palpi black, abdomen white, anal hairing puer.
yellow. Forewings white with a short orange-yellow transverse line behind the base; broad ante- and postmedian
scarlet transverse bands, the posterior one growing narrower towards the costa and more orange-yellow, towards
the proximal margin outside bordered with black; at the cell-end there is a large black spot and on the transverse
vein two contiguous ones. Both marginal area and hindwings yellow. In the ♀ there is on the transverse vein
only one black spot and the posterior red transverse band is broad as far as the costa and is, as far as there,
bordered outside with black. Sikkim, Assam.

C. detrita Wkr. (suffundens Wkr.) (Vol. II, t. 12 a) belongs to the quite differently coloured species: detrita.
forewings white with irregular brown spots; in the cell-end and at the lower cell-angles there is one broad ring-
macula each, at the upper cell-angles a brown spot. Hindwings white. From India, Sikkim and Assam into
the palearctic region.

C. miles Btlr. (16 i) initiates a small group of species marked quite black and red, in which the upper miles.
median and lower radial vein are petroled in all the ♀ wings and for which the genus Clerckia Auriv. was esta-
blished. The present species has black forewings with a broad scarlet median band and more orange hindwings
with a broad marginal band and flies in the Salomons. — In subsp. isabella R. & J. from the Island of Isabel isabella.
the red median band is reduced to a square spot; the hindwings are quite black.
C. securizonis Btlr. is similar to the preceding, but the black basal spot is more expanded at the proximal margin as far as the middle and does not extend beyond the median towards the costal margin; all the black parts are of an intense blue lustre. Hindwing orange with a black basal spot and marginal band.

bicolor. C. bicolor Rothsch. ♀: head and antennae black, thorax dark orange, basal half of tegulae black; abdomen black, anal tuft orange-red. On the forewing the basal three fifths are orange, the other two fifths black; on the hindwing the proximal three fifths are orange, the distal two black; in the abdominal fold a long black stripe. Length of forewings: 19 mm. Dutch New Guinea.

tricolor. C. tricolor Druce (= tegyra Druce) (16 k). On the red forewing only the extreme base is black, and the narrow black marginal band forms a large black spot at the proximal angle. Hindwing orange with a black marginal band. New Guinea. — retracta nom. nov. (= subsp. 1 Hmps.) has a much less extensive black inner-angular spot. New Britain.

postdivisa. C. postdivisa Rothsch. ♀: head and antennae black, thorax black, tegulae and patagia orange; abdomen black. Forewings orange, costal margin and distal margin and the anal-angular part of the wing below the median fold black. Hindwing: basal half orange, apical half black, at the abdominal margin narrowed into a dot. Length of forewings: 19 mm. Lower Mambara River, British New Guinea, March.

fulvia. C. fulvia L. (liboria Stoll) (16 k, ♀). ♀ differs by the much narrower inner-angular spot extending towards the base as far as in the middle of the proximal margin. Hindwing orange with a black marginal band being much narrower in the ♀. Ambon. — In subsp. tricolora Btlr. from Aru and New Guinea the scarlet colour is replaced by orange and more extended towards the margin, — subsp. trigona Rothsch. Forewing only with an extremely narrow black margin, growing somewhat broader only near the anal angle; the black border of the hindwing extends at the proximal margin towards the base. New Guinea (Arca River).

omissa. C. omissa R. & J. (17 b) is likewise somewhat like the preceding; forewing orange, turning more red towards the costal margin. Distal margin broadly black, like a spot behind the base of the forewing. Collar orange. Salomons (Guadalcanar).

thoracica. C. thoracica R. & J. (17 a) has quite orange wings bordered with black only at the distal margins; collar, thorax and apex of abdomen chrome-yellow. From Dutch New Guinea (Humboldt Bay).

meyricki. C. meyricki R. & J. (liboria Meyr.) is allied to fulvia, from which it is easily discernible by its red head and thorax, reddish costal margins of the abdominal rings, black collar and black hindwings with a yellowish median spot. Queensland.

dinawa. C. dinawa Beth.-Bak. Head and thorax black, mesothorax and shoulder-covers red; abdomen above black, beneath red. Forewing scarlet with fine black margins, only at the proximal angle broader. Hindwing chrome-yellow with a large black apical spot and a black proximal margin. New Guinea (Dinawa).

haemacta. C. haemacta Snell. (16 k) has black forewings, with a cuneiform red spot at the cell-end. Hindwing whitish diaphanous, at the margin bluish-black. Borneo, Sumatra.

flaviplaga. C. flaviplaga Heygl. (16 k) is quite similar, but the discal spot is much larger and orange, at the base of the costal margin there is another small orange spot, and the hindwings are quite black, only faintly diaphanous towards the base. Java, Bali.

charybdis. C. charybdis Beth.-Bak. is of quite different colours: head and thorax bronze-black, abdomen light grey, forewing bronze-black with a black, dentate, basal transverse line, a faded black median band, an irregularly dentate posterior transverse line, behind it a broad band of confluent black spots; at the margin a strongly dentate black line. Hindwing grey with a darker border and a distinct discal spot. The ♀ exhibits instead of the median band a dentate transverse line, in the cell before and behind it one black spot each. New Guinea (Dinawa).

pyralina. C. pyralina Rothsch. ♀: antennae brown, head and thorax reddish-buff; abdomen dirty brown, anal tuft orange-buff. Forewing reddish buff with a purple tint, the two fifths at the base completely varnished with a blackish purple chocolate-colour, 2 bands through the cell, an anchor-shaped discal spot and a post-discal band of the colour of the base; the distal fifth of the costa and the margin speckled with small dark spots. Hindwings dark grey. Length of forewings: 12 mm. Upper Setekwa River, Snow Mountains in Dutch New Guinea; taken in August at altitudes of 2 to 3000 ft. — subsp. fasciata Rothsch. differs in the male sex from typical pyralina by a white angled stigma on the discocellulars and 3 complete, undulate, blackish purple
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chocolate transverse bands through the disc of the forewing. Biagi, Mambara River, British New Guinea; 5000 ft., taken in January.

C. melanoplagia Hamps. is very peculiar for its thick scent-scale fur filling up the whole cell and costal margin, and very much curved venation. The olive-grey forewing has a black costal margin expanded in the middle into a triangular spot; behind the middle there is an oblique dentate line and behind it a large black spot at the proximal angle extending to the middle radial vein upward; at the margin a series of black spots. South West New Guinea (Kapur).

C. lignaria Rothsch. ♂: head, antennae, thorax and abdomen greyish creamy buff strewn with small brown scales; forewing the same, partly clouded with small brown scales, for which reason it looks like wood. In the cell a small, stigma-like dot. Hindwing greyish-white, towards the apex washed over with a pinkish grey. Length of forewings: 12½ mm. Biagi on the Mambara River in British New Guinea; at an altitude of 5000 ft.

C. basialba Rothsch. ♂: head, antennae and thorax buff, the posterior part of the thorax and the basialba, ends of the patagia white; the 3 basal abdominal rings grey, the rest buff, anal tuft white. Forewing buff, the basal quarter white with a brown basal spot. From the costa as far as almost through the cell extends a middle white spot, a white spot behind it at the costa, a large white apical spot and a white subterminal spot from the anal angle to vein 3, at the margin a series of small blackish-brown spots, connected by a fine line. Hindwing dark drab with a brown margin and grey fringes. Length of forewings: 13½ mm. Biagi, Mambara River, British New Guinea; taken by Meek in February at an altitude of 5000 ft.

C. albomaculata B.-Bak. is one of the smallest species (expanse of wings: 20 mm) and has light brown forewings with 5 white spots, at the costal margin there is a small one above the middle of the cell, a larger one behind it and a large one at the apex; at the proximal margin there is a large spot below the middle of the cell, another one at the proximal angle. Head and fringes are white, the shoulder-covers with a large white spot. Body otherwise light brown. The cell of the forewing is entirely covered by a scent-scale spot of long, light brown hair. Hindwing diaphanous ochreous-brownish. In January and March on the Aroa River.

C. fumea Hamps. is somewhat like charybdis Bak; forewing of a sooty black with indistinct, oblique, fumea, darker ante- and postmedian transverse lines. Hindwing whitish with a blackish-brown discal spot and similarly tinted costal and distal margins. Proximal margin with long brownish hair. Anal tuft ochreous-yellow. From South West New Guinea (Kapur).

C. aroa B.-Bak. resembles fumea, but it is more blackish-grey, with a bronze lustre; the dark transverse bands broad and indistinct; the scent-scale spot like in melanoplagia Hamps. The dark grey hindwings are lighter towards the base. April, on the Aroa River.

C. brunnea B.-Bak. Forewing brown, irregularly dusted grey; at the costal margin there is at the brunnea, end of the scent-scale spot a light spot; below the cell and at the proximal margin light stripes; behind the middle there is an almost straight, dentate, light line; margin lighter. Hindwings brownish-grey, towards the base darker. February, Aroa River.


C. plagosus Rothsch. ♂: antennae brown; head, thorax and abdomen light ash-grey, densely dusted with small sooty scales. Forewing: the basal third ash-grey, slightly dusted with small sooty scales, an almost extinct, sooty-brown, subbasal transverse band; the middle third of the wing sooty blackish-brown, scantily strewn with small whitish-grey scales and with a whitish stigma; the distal third light ash-grey, scantily strewn with small dark scales; a partly interrupted and obliterated dark antemarginal band and at the margin itself a series of small dark spots from the apex to vein 3. ♂ larger, the forewing dull buff, a large subbasal spot, a costocellular medium-sized spot and a small one at the proximal margin, as well as a broad marginal band are grey. Hindwings brownish-grey. Length of forewings: ♂ 13, ♀ 16 mm. Biagi on the Mambara River in British New Guinea; taken in March at an altitude of 5000 ft.

C. nigrescens Rothsch. ♂: antennae, head and thorax sooty blackish-grey; abdomen slate-coloured nigrescens, grey, anal tuft orange buff. Forewing sooty slate-coloured grey, marbled and spotted sooty black; a large hairy scent-spot at the costa, being white when turned up. Hindwing with a wooden-grey basal half tinted yellowish and a sooty grey distal half, with a dark stigma. ♂ larger, the hindwing darker. Length of forewings: ♂ 19, ♀ 21 mm. Biagi on the Mambara River in British New Guinea; taken in March at an altitude of 5000 ft.
C. punctistrigosa Rothsh. In the $ the antennae are of a light brown, head and thorax brick-coloured yellowish-grey, thorax and base of patagia spotted black; abdomen greyish-brown, the two basal joints densely clad with golden buff hair, the anal tuft golden buff. Forewings brick-coloured yellowish-grey. The basal two thirds with a series of small black spots, the largest of which extends from the middle of the proximal margin to the median fold; the distal third coalescing with sooty grey, and with sooty grey curved and dentate lines. Hindwing: the basal two thirds orange-buff, the distal third sooty blackish-grey. Length of forewings: $\approx 15\frac{1}{2}$ mm. Mount Goliath, New Guinea, taken in March at an altitude of 5000 ft.

bellissima.

C. bellissima Moore (Vol. II, t. 12 b). This common, beautiful species widely distributed in the Himalaya and extending into the palearctic region exhibits on its white forewing ante- and postmedian red transverse bands, an antemarginal broad orange band and at the cell-end in both sexes 3 black dots. Hindwing carmine with yellow. in the $ white fringes. — rubromarginata form. nov. may be called the form in which the marginal band is carmine instead of orange.

propinqua.

C. propinqua Wil. is a little like interpolationis Ponji, but easily discernible by the following marks: in the $ the head and thorax are white, the latter spotted reddish; abdomen whitish, the anal segment intermixed with reddish hair. Forewing with the three reddish bands and a narrow marginal band; sexual mark of a moderate size, below it 3 black spots; the 1st band is broad, below the costa angled, the 2nd below the middle proximally angled, and the 3rd above the middle distally angled. Hindwings reddish. Under surface reddish, on the forewing a whitish streak along the proximal margin and a small blackish spot in the cell. Fringes of all the wings whitish, those of the hindwings on both sides tinted yellow. $ like the $, except the postmedian band of both wings being rather very undulate. $ taken in May, $ in August. Formosa.

dudgeoni.

C. dudgeoni Hmps. (161) looks very much like the alborosea-group, but with the species following upon bellissima the scent-scales are entirely absent. White with the usual 4 red transverse lines and 3 black discal dots. Sikkim, Assam.

rubromarginata.

C. subornata Wkr. is very much like dudgeoni and distinguishable by the posterior transverse line being proximally angled below the costal margin. — In f. linatula Swinh., the middle transverse lines are on the averted sides bordered with black. Distributed from India through Ceylon to Borneo.

punctistrigosa.

C. punctistrigosa. White. The $ has 3, the $ 2 black discal spots. Sikkim, Assam, Burma, Penang. — insularis form. nov. (= ab. 1 Hmps.) from Borneo and Java has more or less white hindwings with only a red border; on the forewing the red marginal band turns round the apex as far as the fusion with the posterior transverse stripe. This form is somewhat smaller than the type. The larva is black, intensively watered with green, with red subdorsal tubercles on the middle segments and orange-yellow knob-shaped warts on the 3rd and penultimate segments and a narrow yellow lateral line; the tubercles exhibit very long black hair. It lives on moss on trunks and in a loose reticular web it changes into a pupa marked golden-yellow and brown, yielding the imago after 10 days.
C. harterti Elwes (17 a) is one of the smallest species, white with quite pale orange-yellow transverse harterti lines and a similar costal margin as far as the posterior transverse line and 2 black discal dots; in the ♀ the costal margin is entirely white. Hongkong, Assam, Singapore.

C. infantula Hmps. (16 l) has white forewings with 2 small, black discal spots, entirely absent transverse lines and a yellowish costal margin in the basal half. From Borneo and the Louisiads. In the latter islands (St. Aignan) a form occurs without any black discal dots: impuncta form. nov. (= ab. 1 Hmps.).

C. sanguinea Motsch. with the form cruenta Leech have been dealt with in Vol. II, on p. 61 (fig. t. 12 a) sanguinea. formosana. and belong to the palearctic region. Another form; formosana. form. nov. (= ab. 2 Hmps.) occurs in Formosa. It is much smaller (expanse of wings: 24 mm) with quite carmine hindwings and under surface, except some blackish-brown dusting in the cell.

C. hamata Wkr. (= emergens Wkr.) (Vol. II, t. 12 a) also essentially belongs to the palearctic region, hamata. but it occurs in Hongkong also on the Indo-Australian soil. It resembles the following, but the transverse bands are scarlet, not orange.

C. inconclusa Wkr. (16 l) has white forewings with 4 orange-yellow transverse bands and 2 fine black inconclusa. discal dots. Hindwings pale yellow, in the ♀ orange. The latter exhibits only one discal dot on the forewing. From Borneo. In ab. nov. nexilis (= ab. 1 Hmps.) the two middle transverse stripes are closer together and below the cell connected by an orange band.

C. gelida Wkr. (Vol. II, t. 12 c), from the North West Himalaya, Assam, Sikkim, is easily recognizable by the olive-yellow transverse markings and 3 black rings in the discal area.


S. pallidimaculata Roths. Head yellowish-white; antennae brownish-yellow; thorax and abdomen reddish-yellow with a very large, somewhat darker anal tuft. Forewings wood-brown, the base, 2 cuneiform spots at the costal margin and an oblique, more or less interrupted discal band reddish-yellowish-white. Hindwing reddish-grey with a broad wood-brown marginal band. Length of forewings: 9½ mm. Biagi, Mambara River, British New Guinea, in January.

S. variegata Roths. Head, antennae and thorax yellow, the tips of the shoulder-covers and the metathorax reddish-grey; abdomen greyish Isabel-coloured. Forewing golden yellow; an oblong basal spot below the median, an irregular, broad, oblique discal band and a broad postmedian macular stripe reddish-grey, scantily strewn with yellow scales. Hindwings reddish yellowish-white. Length of forewings: 9 mm. Biagi on the Mambara River, British New Guinea, in March.

64. Genus: Stictosia Hmps.

Proboscis well developed, the palpi are straightly porrect and project beyond the forehead; male antennae ciliated, tibiae with long spurs. The costal margin of the rather broad forewing is strongly curved. The 1st median vein rises close below, the 2nd radial close above the lower cell-angle; the 1st radial from below the upper cell-angle; the 1st and 2nd subcostal veins rise separately from the cell. On the hindwing the 1st median and 3rd radial rise on a joint footstalk; the subcostal and 1st radial anastomose in the ♀, in the ♀ they are on a long petiole. The costal vein shows in the ♀ a small scent-scale spot and the subcostal exhibits a concave indentation just before the cell-angle.


S. pallidimaculata Roths. Head yellowish-white; antennae brownish-yellow; thorax and abdomen reddish-yellow with a very large, somewhat darker anal tuft. Forewings wood-brown, the base, 2 cuneiform spots at the costal margin and an oblique, more or less interrupted discal band reddish-yellowish-white. Hindwing reddish-grey with a broad wood-brown marginal band. Length of forewings: 9½ mm. Biagi, Mambara River, British New Guinea, in January.

S. variegata Roths. Head, antennae and thorax yellow, the tips of the shoulder-covers and the metathorax reddish-grey; abdomen greyish Isabel-coloured. Forewing golden yellow; an oblong basal spot below the median, an irregular, broad, oblique discal band and a broad postmedian macular stripe reddish-grey, scantily strewn with yellow scales. Hindwings reddish yellowish-white. Length of forewings: 9 mm. Biagi on the Mambara River, British New Guinea, in March.

65. Genus: Costarcha Hmps.

Very closely allied to the preceding genus and distinguished by erect palpi, in the ♀ doubly combed antennae. On the forewing the venation is like in the preceding; on the hindwing the 1st median anastomoses with the 3rd radial. Subcostal and 1st radial rise on a joint footstalk. Only one species:
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C. indistincta Hmps. (16 f). The very thinly scaled forewings are light brownish-grey, intermixed with darker scales and darker transverse markings which are particularly distinct at the costal margin; oblique postmedian and antennal margins of darker dots. Hindwings lighter. Nilgiris.


Distinguished from all the others by the very peculiar shape of the wings: the costal margin of the forewing shows before the apex a deep notch, and the distal margin is above and below the middle deeply excised and between extended to tips. Proboscis well developed; the straightly porrect palp do not project beyond the forehead; tibiae with long spurs. The venation is almost exactly like in the preceding genus.

O. marginata Hmps. (16 f) has white forewings dusted with whitish; at the transverse vein there is a black dot, behind it traces of a curved row of dots; at the costal margin there is towards the apex a black streak-like spot, and at the margin, above and below the middle, black streaks. Hindwings white, at the margin brownish. Assam, Burma.

O. dissimilis Hmps. (16 f) is larger and darker, greyish-brown with a faded, blackish-brown discal band, behind it a curved row of dark dots. Wings lighter grey with a dark discal dot. Sikkim.


Allied to the preceding genus, distinguished by the forewing in which the costal margin is very convex near the base, then follows a deep indentation and behind it again an almost lobular projection before a deep notch before the apex; below the latter the distal margin is deeply excised. The venation chiefly differs by the petiolation of the 1st and 2nd radials. On the hindwing the middle radial vein is absent, the 1st median and 3rd radial are petioled, so are the subcostal and 1st radial.

T. excisa Hmps. (16 f) has greyish-white forewings intermixed with red-brown scales, at the costal margin 5 small black spots; indistinct ante- and postmedian punctiform transverse lines; in the apex there is a faded red-brown spot. Hindwing blackish-brown. Burma, Perak.

68. Genus: Siculifer Hmps.

By the costal margin, being very convex at the base and the ensiformly produced apex of the forewing, it also resembles the two preceding genera in the exterior. Proboscis well developed, the obliquely erected palp somewhat project beyond the forehead; male antennae ciliated, tibiae with long spurs. On the wings the middle radial vein is absent; the upper one rises on a joint footstalk with the 4 lower subcostal veins and only the 1st subcostal vein rises separately from the cell. On the hindwing the middle radial is likewise absent; the 3rd and 1st median, as well as the subcostal and 1st radial rise on long footstalks. At the proximal margin of the hindwing a fold contains long, rough hair.

S. bilineatus Hmps. (16 f) has red-brown wings with a yellowish discal area and 2 darker fine transverse lines, the anterior one of which separates the brown area from the yellow area. Hindwings yellowish, in the darker. Khasia Hills.

69. Genus: Utriculifera Hmps.

Proboscis well developed, palp straightly porrect, just projecting beyond a hair-tuft of the forehead. Tibiae with shorter spurs than in the preceding genera. On the forewing the two lower radial veins and the 1st median vein rise close together; the 1st radial from below the upper cell-angle. On the hindwing the 3rd radial anastomoses with the 1st median, the subcostal and 1st radial are petioled.

M. fuscapex Hmps. (16 f, a, b). The greyish-brown forewing, with a blackish apex, shows traces of a curved anterior transverse line and two black discal dots in the 2. The latter shows a large, vesicular swelling at the end of the basal antennal joint. The 2 is more unicolorously dark brown. India, Ceylon.

M. aplaga Hmps. differs from the preceding by the apex not being darkened and a finely undulate posterior transverse line. — New Guinea (Milne Bay) and Louisiads (Rossel Island).
M. variegata Rothsch. Head wooden-grey; antennae red-brown, serrate, the vesicle at the base black, variegata. flattened and excavated with serrate margins; thorax pale yellowish wooden-brown; abdomen ashy grey, the two last rings and the anal tuft wooden brown. Forewing in the basal third obliquely cut off yellowish Isabel-coloured, at the proximal margin a small brown luna and above the median fold an orange spot; the distal two thirds pale reddish wooden-brown, tinted darker brown, behind the middle with a whits zigzag line, at the costal and distal margins spotted blackish-brown. Hindwing in the basal third greyish-white, distally two thirds reddish wooden-brown, tinted darker brown, behind the middle with a whitish zigzag line, at the two last rings and the anal tuft wooden brown. Forewing in the basal third obliquely cut off yellowish Isabel-coloured, at the proximal margin a small brown luna and above the median fold an orange spot; the distal two thirds pale reddish wooden-brown, tinted darker brown, behind the middle with a whitish zigzag line, at the two last rings and the anal tuft wooden brown. Forewing in the basal third obliquely cut off yellowish Isabel-coloured, at the proximal margin a small brown luna and above the median fold an orange spot; the distal two thirds reddish wooden-brown, behind the middle with a whitish zigzag line, at the two last rings and the anal tuft wooden brown. Forewing in the basal third obliquely cut off yellowish Isabel-coloured, at the proximal margin a small brown luna and above the median fold an orange spot; the distal two thirds reddish wooden-brown, tinted darker brown, behind the middle with a whitish zigzag line, at the two last rings and the anal tuft wooden brown.

M. utricularia Rothsch. Head pale wooden-brown. Antennae much more feebly serrate than in variegata, utricularia. but the vesicle with much more strongly dentate margins, so that it looks like a series of lamels. Abdomen ashy-grey, anal tuft reddish-yellow. Forewing in the basal half obliquely cut off reddish wooden-brown with inner-marginal spot and some small black costal-marginal dots. Hindwings blackish-brown. The antennae are short-combed; the tibial spurs somewhat longer than in Tricholepis. It differs besides by the 1st radial of the forewing rising from the upper cell-angle and by the absence of the 3rd subcostal vein.

T. atrifulva Hmps. (26 b). Head, thorax and abdomen black; spots on the shoulder-covers and the atrifulva. two first tarsal joints orange. On the black forewing there is an orange spot extending from near the base as far as behind the middle and above rounded off almost as far as the costal margin. Hindwing orange with a black marginal band being broad towards the costa and narrow towards the proximal angle. Expanse of wings: 26 mm. — New Guinea (Milne Bay).

T. elongata R. & J. from the Louisiads (St. Aignan) has the yellow of the tarsi not so extensive: elongata. on the forewing the orange spot does not extend to the proximal margin and not beyond the middle of the cell. The hindwing is quite black from the base to the middle of the wing except an orange spot at the costal margin; besides the wings are narrower than in atrifulva. 81/2 to 91/2 mm.

T. woodlarkiana R. & J. has still narrower wings, but it is otherwise like elongata; the orange spot of the forewing extends beyond the cell-end and includes yet the costal margin which is black in the preceding species. The orange spot of the hindwing is at the base expanded. Woodlark Island.

T. signata R. & J. ♀ blackish-brown, tegulae with small orange spots. The orange spot of the black signata. forewing is rounded off towards the margin, it does not reach the costa nor the proximal margin. Towards the apex there is another, roundish-triangular spot of a deeper colour. On the forewing the orange is preponderant, only the base and proximal margin being narrowly black. Louisiads, south-eastern island, taken in April. — Size of the preceding.

70. Genus: Trichocerosia Hmps.

On the whole very closely allied to the genus Tricholepis near which it ought also to be placed, and distinguished above all by the long, rough hairing of the whole body extending even to the legs and antennal shaft. The ♀ antennae are short-combed; the tibial spurs somewhat longer than in Tricholepis. It differs besides by the 1st radial of the forewing rising from the upper cell-angle and by the absence of the 3rd subcostal vein.

T. atrifulva Hmps. (26 b). Head, thorax and abdomen black; spots on the shoulder-covers and the atrifulva. two first tarsal joints orange. On the black forewing there is an orange spot extending from near the base as far as behind the middle and above rounded off almost as far as the costal margin. Hindwing orange with a black marginal band being broad towards the costa and narrow towards the proximal angle. Expanse of wings: 26 mm. — New Guinea (Milne Bay).

T. elongata R. & J. from the Louisiads (St. Aignan) has the yellow of the tarsi not so extensive: elongata. on the forewing the orange spot does not extend to the proximal margin and not beyond the middle of the cell. The hindwing is quite black from the base to the middle of the wing except an orange spot at the costal margin; besides the wings are narrower than in atrifulva. 81/2 to 91/2 mm.

T. woodlarkiana R. & J. has still narrower wings, but it is otherwise like elongata; the orange spot of the forewing extends beyond the cell-end and includes yet the costal margin which is black in the preceding species. The orange spot of the hindwing is at the base expanded. Woodlark Island.

T. signata R. & J. ♀ blackish-brown, tegulae with small orange spots. The orange spot of the black signata. forewing is rounded off towards the margin, it does not reach the costa nor the proximal margin. Towards the apex there is another, roundish-triangular spot of a deeper colour. On the forewing the orange is preponderant, only the base and proximal margin being narrowly black. Louisiads, south-eastern island, taken in April. — Size of the preceding.

71. Genus: Caprimima Hmps.

This genus to which very many species have been added during the last years, partly very much recalls Scoptesyle in its exterior, partly also some Halone. Probosces well developed, palpi erect, not reaching the vertex; ♀ antennae eliptated, in everulescens combed; tibiae with moderately long spurs. On the forewing the 1st median rises below the lower cell-angle, the 2nd radial above it. The 1st radial comes from below the upper cell-angle. The 3 lower subcostal veins rise on a joint footstalk, the two upper ones rise separated afar in both sexes. On the hindwing the 1st median and 3rd radial, as well as the subcostal and 1st radial rise petioled. Of most of the species that were recently described only the English types, at present not available for illustrative purposes, are known.

C. albicollis Pag. (= gelida Hmps, pro parte) has bluish-black forewings; a broad white median albicollis. band extends from the subcosta to the proximal margin and is somewhat strangulated above the latter; a broad, rounded antemarginal band is copper-red. Hindwing black, with a broad wide median band growing some-

\textit{mendax}. Specimens from the Humboldt Bay were denominated subsp. \textit{mendax} by Rothschild; they are distinguished by the collar being bluish-black, not white, and the white area of the hindwing growing posteriorly broader. The species strikingly copies the Zygaenid \textit{Caprima gelida} Wkr. (7 h).

\textit{pseudogelida} Roths. looks very much like the preceding, but it is at once discernible by much shorter and rounder wings; the collar is steel-blue with only a small white dot; the white band of the forewing extends as far as above the subcostal, and the white band of the hindwing is narrower and does not extend to the inner-marginal fold. Length of forewings: 14½ mm. From Biagi, Mambare River in British New Guinea (April).

\textit{obliqua} Roths. Body black, anal tuft white; base of shoulder-covers, forships and parts of legs chalky white. The forewings are black; 2 mm behind the base commence a white band of about 4 mm width, extending from the costal margin to the proximal margin — the costal margin itself being also white — and being outside somewhat indented; in the distal half of the wing there is a very large copper-red spot. On the hindwing the black base is continued along the proximal margin and round the distal margin; the rest is white, at the costal margin as broad as the white band of the forewing. Length of forewings: 12 mm. Area River in British New Guinea.

\textit{aenea} Roths. ♀. Head and upper side of the thorax blackish metallic green, the abdomen blackish-blue, of a faint lustre; the legs somewhat whiter than in \textit{metallica}, the abdominal tuft white. Forewing above like the thorax, 3 white spots, the 1st transverse, somewhat nearer at the base than the 2nd median vein, reaching neither to the costal nor proximal margin, the 2nd rounder, at the upper cell-angle, the 3rd before the apex, small, almost parted by the first radial; between the 2nd and 3rd white spot an orange-purple spot. Hindwing bluish-black, from the costal margin to the 2nd submedian vein a large white spot, oblique, the black distal area more than twice as broad as at the costal margin than at the submedian, but here broader than the abdominal area. Beneath bluish-black, without a metallic lustre, the white spots somewhat larger than above, particularly the subbasal spot of the forewing. Length of forewings: 10 mm. New Guinea.

\textit{biguttata}.

\textit{biguttata} Roths. ♂. Black. Pronotum anteriorly narrowly bordered with white; legs white, partly brown; anal tuft reddish-white. Forewing black, somewhat shorter than in \textit{albicollis}; behind the base there is a white spot extending from the proximal margin not so far as the costa; in the marginal area a large, copper-red spot, on the inside of it a subcostal round white spot, and on the outside of it a smaller, strangled spot. Hindwing with a white median band not reaching the proximal margin. In the ♀ the wings are still shorter. Length of forewings: 11 to 14 mm. Distributed in New Guinea (Milne Bay, Kapaur, Woodlark). — subsp. \textit{reducta} Roths. from New Hanover has narrower white bands, that on the hindwing is at the same time shorter, the subapical white spot on the forewing is larger; on the hindwing beneath the white band is much broader than above.

\textit{occidentalis} Roths. is very much like \textit{biguttata}, with the following distinctions: antennae distally scaled white, forships black. The proximal margin of the forewing is longer, therefore the distal margin less oblique; the white band is costally narrower and reaches almost the costal margin; on the inside of the coppery spot the white spot is absent. The white spot on the hindwing extends to the base and proximal margin. Length of forewings: 10 to 12 mm. From Nias and Engano (September).

\textit{bipuncta} Roths. Head and thorax of a deep oily steel-green, antennae blackish-brown; abdomen black, anal tuft drab. The steel-green forewing exhibits a large, square, snow-white discol spot extending from below the median to the proximal margin, only the proximal upper corner entering level into the discoceullar; in the distal third of the wing there is a large, chestnut-red spot, on either side accompanied by a large white spot. Hindwing black, 3/4 of the basal half are occupied by an oval, semi-diaphanous, white spot. Length of forewings: 14 mm. Biagi, Mambare River, British New Guinea, in February.

\textit{germana}. is very closely allied to the preceding, distinguished by longer, narrower, more tapering forewings and less round hindwings with a more extended anal angle. Head, antennae, the basal sixth of the forewing, abdomen and anal tuft jet-black with a steel-green reflection. On the forewing, except the base, the basal two fifths are snow-white, the distal three fifths being black, but almost entirely filled up by a large, chestnut-red spot; at the cell-end and before the margin on the 2nd radial there is one small white spot each. Hindwing in the 2 basal thirds snow-white, distal and proximal margins black. Length of forewings: 13½ m. Biagi, Mambare River, British New Guinea, in February.

\textit{coeruleomarginata} Roths. Head, antennae, thorax and abdomen black. Forewing in the basal third steel-green, distally more with a blue reflection and traversed by a broad white band; the distal two thirds chestnut-red, bordered with a deep metallic blue. Hindwing black, near the base a large oval white spot. Length of forewings: 12 mm. From the Snow Mountains (Oetakwa River) in Dutch New Guinea, October till December.
**C. imitatrix** Roths. most closely approximates the preceding and differs by its white collar, a green *imitatrix* lustre on the head and thorax, the red spot in the apex of the forewing being bordered with black, not with blue. Likewise from the Snow Mountains in Dutch New Guinea.

**C. unipunctata** Roths. differs from *germana* and *bipuncta* by its white collar, being otherwise very *unipunctata* similar, though the forewing exhibits only one white subapical spot, whilst that at the proximal border of the red marginal area is absent. Length of forewings: 11 mm. Biagi, Mambara River, British New Guinea, in February.

**C. peraffinis** Roths. is very much like *unipunctata*, but larger and also here the subapical white spot is entirely absent; collar black, but the base of the shoulder-covers is white. The forewing is more extensively white in the whole proximal half. On the hindwing the middle two thirds are cuneiformly white; fringes in the inner-marginal area as far as the 2nd median grey. Length of forewings: 13 mm. Biagi, Mambara River, British New Guinea, in February.

**C. postexpansa** Roths. is coloured like *peraffinis*, but quite uncommon by the extraordinarily large hindwings which are larger than the forewings; the peculiar sight is still more intensified by the fact that the hindwings are completely rounded off. The hindwing exhibits a broader white transverse band placed more towards the margin. Length of forewings: 11 3/4 mm. Likewise from British New Guinea, Biagi on the Mambara River, taken in February.

**C. fuliginosa** Roths. Head, antennae, thorax and abdomen are black, the anal tuft reddish-greyish-white. The black forewing exhibits an antemedian, faded white band and a postmedian, chestnut-red band of 3/4 mm width; the margins of both the bands are powdered with black scales imparting to them a sooty appearance. Hindwings black; a white cuneiform spot in the basal half extends from the costal margin to the anal angle; at the apex there is a chestnut-red spot very much powdered with black. Length of forewings: 15 mm. Octakwa River, Snow Mountains in Dutch New Guinea (October till December).

**C. marginipuncta** Roths. Head, antennae, thorax and abdomen sooty blackish-brown, forewing in the basal two fifths brownish-black, almost entirely covered by a semidiaphanous, large, white spot extending from the costal margin to the inner-marginal vein; at the cell-end there is a chestnut-red, cuneiform spot bordered with black extending into the white spot; the distal three fifths are chestnut-red bordered with a blackish brown; at the margin there is on the 1st median a white spot. The hindwing is in the basal half obliquely cut off semidiaphanous white, in the distal half and at the proximal margin black; at the anal angle a chestnut-red spot. Length of forewings: 18 mm. Octakwa River, Snow Mountains in Dutch New Guinea (October till December).

**C. metallica** Roths. ♀: body bluish-black, head and thorax with an intense lustre, abdomen less lustrous. Forehip, anterior tibia, first segment of the anterior tarsus except at the base, the apex of the middle femur and of the middle tibia and of the first tarsal joint, a great part of the posterior femora and posterior tibiae, a pointed spot on the first segment of the posterior tarsus, the apex of the middle and posterior hip, a small spot at the base of the tegulae, and a tuft before the abdominal anus are white. Forewing above lustrous blue, at the apex a purple-orange spot. Hindwing white with a broad, bluish-black band outside and at the proximal margin, one and a half times as broad as the apex as at the anal angle, but here as broad as at the proximal margin. The under surface is blackish blue, with a faint lustre on the head and thorax, the red spot in the apex of the forewing being bordered with black, not with blue. Likewise from the Snow Mountains in Dutch New Guinea.

**C. calida** Wkr. (16 e) has black forewings, the proximal half being golden yellow, only the extreme *calida* base black, in the marginal area a large, copper-red spot. Hindwing in the basal half golden yellow, distally and at the proximal margin black. The species differs from the similar ones by its golden yellow collar. Celebes, Ambonina, Ceram. The typical *calida* is distinguished from the other forms by a much broader black proximal margin and originates from New Guinea and the Moluccas. — subsp. *flavicollis* Snell, from Celebes. In this *flavicollis* form the black proximal margin of the hindwing is narrower than the basal area of the forewing, less broad than 1 mm. The black marginal band is in the ♀ narrower than in the ♂. — subsp. *tenus* Roths. from Sumatra *tenus* and the Kina-balu in North Borneo in its colouring exactly resembles the ♀ of *Scaptostyle tricolor* (16 d); the yellow area on the forewing extends almost to the lower cell-angle, the discal black being therefore very narrow. On the hindwing the whole proximal margin is yellow, the black marginal band extremely narrow. — *reducta* *reducta*. form. nov. (= ab. 1 Hmps.) from New Guinea (Milne Bay) has the yellow of the basal half very much reduced, owing to the much broader black base on both wings.

**C. mixta** Swinh. (16 e) is similar, somewhat smaller, the basal yellow colouring is more intense, more *mixta* orange, nor does it extend to the costal margin, whilst on the hindwing it is much more extensive. Collar bluish-black. Mysol and New Guinea (Milne Bay and Kapaur).
**C. postvitrea** Rothsch. resembles calida (16 e) by its yellow collar, the body being otherwise black. On the black forewing the basal two fifths are orange golden yellow, only the base remaining black; the distal three fifths are black, almost entirely covered by a large, chestnut-red spot. Hindwing in the basal half hyaline yellow, distal half and proximal margin black. Length of forewings: 12 mm. Mount Goliath, Dutch New Guinea, in February.

**C. postnigra** Rothsch. Body black, collar golden yellow, anal tuft dark grey; forewing in the basal half golden yellow, at the base black; distal half black, almost filled up by a large, chestnut-red spot. Hindwing sooty black with traces of a chestnut-red apical spot. The somewhat larger ♂ has a black collar with a golden yellow spot, and in the cell of the hindwing a golden yellow spot. Length of forewings: ♂ 11 mm, ♀ 15 mm. Mount Goliath, Dutch New Guinea, taken in February.

**C. coerulescens** Bltr. (26 b) is a very variable species with combed antennae. The body is black with a blue reflection; anterior tibiae and tarsi and posterior femora partly white. Forewing at the base blackish-blue, a yellow median band is costally narrowed; in the marginal area there is a large, orange-red spot leaving only narrow black margins. Hindwing black with a large, triangular, yellow discal spot from the costal margin to the anal angle. In the nomenclatural type the yellow band is not or only a little broader than the black basal area; it originates from Guadalcanar. — subsp. **occidentalis** Rothsch. from Rendova (Salomons) has much broader gold yellow bands on both wings. — subsp. **insignis** Rothsch. from Wella-Lavella (Salomons) is larger and of a brighter colouring; the yellow colour is still more extensive, on the hindwing it occupies three quarters of the wing; the whole apical quarter of the forewing is black. — subsp. **isabella** Rothsch., from Isabel (Salomons); on the forewing the basal black is reduced; the yellow area is extensive, reaching as far as the lower cell-angle and posteriorly almost to the proximal margin, but at the costal margin very much narrowed, the red marginal spot much more lustrous; the border of the hindwing has a width of 2½ to 3 mm. — In **mononis** Jord. from the Treasury Island the black bands at the distal and proximal margins of the hindwing are much broader.

**C. choiseuli** Jord. resembles the preceding, but it is somewhat smaller, the head and thorax of a more metallic lustre, the metallic lustrous basal part of the forewing is broader than in **isabella**, but narrower than in typical **coerulescens**, the chrome-yellow area is triangular. Hindwings narrower. otherwise like in **isabella**. Choiseul Island.

**C. procrena** Meyr. (16 e) has reddish-brown forewings with a whitish, oblique basal area and an irregular dentate postmedian line; in the white basal part there is at the costal margin in the middle a triangular black spot. Hindwings orange-yellow, with a red-brown marginal band. Victoria, Tasmania.

**C. catarrhoa** Meyr. is rather similar to **procrena**, but easily discernible by its unicolorously red-brown hindwings. Head grey, body brown, mixed with grey. Anal tuft ochreous-yellow. Forewing dark brown, dusted with grey; an antennal, white transverse band is faded towards the base, distally sharply dentated; a postmedian, irregular, white dentate line; marginal area more powdered with grey; fringes speckled brown and white. — West Australia.

**C. scripta** Lower. Head, palpi, thorax and abdomen whitish, antennae and legs dark brown. Forewings dull white with blackish-brown markings; at the costal base a minute spot, a larger costal spot behind it is connected by a fine streak; below and between them a minute spot; from the costa to the proximal margin an antennal, irregular row of spots, forked in the lower half; a similar postmedian row, behind it a fine parallel line. Hindwing of a bright yellowish brown, towards the margin lighter. — Expanse of wings: 16 mm. Queensland (Duaringa).

**C. bipars** Hmps. (16 f) is a small species, the forewing in the basal half yellowish-white, in the distal part blackish-brown; costal margin, distal margin and fringes orange-yellow. Hindwing yellowish-white, towards the margin blackish-brown, fringes at the apex orange. Salomons.

**C. aurantiomarginata** Rothsch. Head, forehead and antennae brownish-orange. Vertex and thorax tan-coloured, with an intense purple lustre; abdomen brown with a large anal tuft being grey in the middle. Forewing with a strongly curved costal margin, tan-coloured with an intense purple lustre; costal margin and distal margin broadly reddish orange. Hindwings brownish wooden-grey. Length of forewings: 9½ mm. Bougainville, Isabel, Salomons.

**C. rotunda** Hmps. (17 l) is still smaller than the preceding, forewing with a strongly curved costal margin, dull reddish-brown, towards the costa yellowish; through the middle a broad blackish-brown band extends; fringes yellowish. Hindwings blackish-brown. Louisiads (Rossel-Island).
SCAPTESYLE. By Dr. M. Draudt.


Closely allied to the preceding genus, from which it chiefly differs by the two lower radial veins of the forewing being petioled. In the venation of the hindwing no difference.

S. dichotoma Meyr. (16 d) has white forewings with brown transverse markings being several times dichotoma connected; hindwings and body red-brown; vertex, collar and mesothorax purely white. Queensland, New South Wales, Victoria.

S. aroa B.-Bak. (26 b) is somewhat like the preceding, but larger, with narrower wings and more aroa abundantly marked; head white, palpi brown, thorax white with a brown median stripe and the shoulder-covers bordered inside with brown; abdomen whitish. The white forewings exhibit brown, broad basal, antemedian, median and postmedian and subterminal transverse lines; the 3 former lines are connected by a brown streak on the median; the two distal lines are almost confluent and separated only by a row of white spots: the median line is connected with the postmedian line near the upper cell-angle, the subterminal line sends forth a pointed tooth to the margin, on the 3rd radial the latter being brown with speckled white fringes. The white hindwing shows a brown marginal band being narrowed towards the anal angle. Expanse of wings: 34 mm. From the Aroa River.

S. fovealis Hmps. is in the distinguished by a large, ditch-like depression below the cell of the forewing, containing accumulations of flaky scales. The cell itself is long, narrow and curved, the veins strongly curved, both the median veins anastomosing, the upper radial vein rising below the upper cell-angle. The costa of the hindwing is very convex, and exhibits below its middle a large, glandular swelling; the veins are likewise very much curved, the upper median vein anastomoses with the lower radial, and the upper radial with the subcostal vein. Head and collar are golden yellow, thorax and abdomen red-brown, with a purple lustre, like the forewings which exhibit a bluish-green lustre at the margins of the yellow areas; an antemedian, golden yellow band widened towards the costa; a golden yellow marginal band is broad at the costa, but growing much narrower towards the proximal angle; the bordering of the brown area is distally angled on the upper radial vein. Hindwing in the basal area light yellowish, in the marginal half pale purple-brown, in the apical half and at the fringes mixed with yellow. Expanse of wings: 16 mm. New Guinea (Port Moresby).

S. tricolor Wkr. (16 d) has golden yellow wings, the base and costal margin of the forewing being tricolor black, like the marginal third which, however, is filled up by a large, copper-red spot. Hindwing with a black apical spot continued to the anal angle as a fine border. Assam, Burma, Philippines, Borneo, Sumatra, Java, Celebes.

S. plumosus Rothsch. Head, antennae, thorax and abdomen black; collar and basal half of the shoulder-plumosus covers golden yellow, anal tuft yellowish-grey. Forewing: base black, the basal two thirds golden yellow, behind followed by a dentate black transverse band, the distal third chestnut-red, bordered with black. Hindwing golden yellow, apex as far as down to the 1st median black. In the ♀ the black is much more extensive, the chestnut-red colour darker and duller. Length of forewings: ♀ 13¾ mm, ♂ 14½ mm. Kina-balu (North Borneo).

S. ixias Hmps. (16 d) resembles the preceding, the yellow colour is deeper, the marginal spot orange-ixias red. Nias, Java.

S. thestias Snell. is likewise similar, but easily discernible by the deep, tooth-like weiging of the yellow colour into the black distal-marginal third on both wings. Head, thorax and abdomen black, collar and shoulders yellow, anal tuft grey.

S. mirabilis Hmps. (16 d) differs from the preceding by the much more extensive and bright sulphureous mirabilis colour and the reduced black marginal area which is here filled up with vermillion. Borneo.

S. bicolor Wkr. (= nieteri Flkhr.) (16 e) has in the basal half orange-yellow forewings, distally bluish-bicolor black. Body black, collar and shoulder-covers orange-yellow. Ceylon. — subsp. integra Swinh. is lighter yellow, integra, and the black distal halves are much narrower. From Assam, Borneo, and Pulo Laut.

S. rothschildi nov. nov. (= bicolor Rothsch. nec Wkr.). Head and antennae black; thorax orange-rothschildi, tan-coloured; abdomen dull black. The basal three fifths of the forewing orange-tan-coloured, the distal two fifths black. Hindwings orange-tan-coloured, broadly bordered with black. Length of forewings: 11¾ mm. Malayan Peninsula (Padang Rengas).

S. aurigena Wkr. (= biplaga Flkhr.) (16 e) is easily recognized by the broadly blue-margined purple aurigena spots on a golden yellow ground. The whitish hindwings are tinted brownish towards the margin, particularly at the apex. Borneo.
NEOSCAPTIA. By Dr. M. Draudt.

bifasciata. S. bifasciata Snell, has combed antennae and is distinguished by narrower forewings. Head and collar orange-yellow; antennae black with a yellow dot at the base; thorax and abdomen above black, with a faint greenish reflection; anal tuft yellow; under-surface greyish-brown. Forewings black with a green reflection, two broad transverse bands and an apical spot are orange-yellow. Hindwings of a paler orange and somewhat diaphanous with a black marginal band. Java.

eaequidistans. S. aequidistans Luc. (16 e) has orange-yellow forewings with 5 black transverse bands. Hindwing orange with a blackish-brown border. Queensland.

dictyota. S. dictyota Meyr. (16 e) is much smaller than the preceding, more yellowish-white and with more strongly dentated black transverse lines, the two median ones of which are united at the costal margin. Hindwings blackish-brown. Queensland.

monogrammaria. S. monogrammaria Wkr. (16 e) is also a very small species. The wings are red-brown, the forewing exhibits a postmedian, straight, whitish band. Ends of fringes white. From New South Wales.

septemmacula. S. septemmacula Heyl. has remained unknown to me.

73. Genus: Neoscaptia Hmps.

Distinguished from the preceding genus by straightly porrect palpi, the tibiae with shorter spurs, the wings rather narrow. On the forewing the two lower radial veins are coalescent, the upper radial rises below the upper cell-angle. Hindwings as in Scaptesyle. In the colouring most of the species resemble those of the genus Caprimima, but they are smaller. Almost all exclusively inhabit New Guinea. Except one, all the species have been discovered of late, only the types are known and for the present unavailable.

fascionitens. N. fascionitens Rothsch. Antennae sooty blackish-brown. Body of a deep steel bluish green, anal tuft sooty brown. Forewing in the basal fifth of a deep steel bluish-green, the rest of the basal half snow-white, without a black border; a broad, postmedian, bluish-green transverse band is bordered with black, behind it a large, chestnut-red spot, distally bordered with steel-blue; distal margin and fringes black. Hindwing in the basal half diaphanous white, distally and at the proximal margin dull black. Length of forewings: 10 mm. Biagi on the Manbarara River, British New Guinea, in February.

affinis. N. affinis Rothsch. very much resembles the preceding and differs by its snow-white collar and much more extensive, chestnut-brown apical spot which is but very narrowly bordered with bluish-green and black. Biagi on the Manbarara River, British New Guinea, in February.

apicipuncta. N. apicipuncta Rothsch. Head and thorax steel-lustrous bluish-green, antennae and abdomen sooty black, anal tuft yellowish-grey. Forewing deep steel-green, an antemedian, wedge-shaped, snow-white transverse band, the apex of the wedge at the costal margin; a large, postmedian, chestnut-red spot behind which there is a round white spot. Hindwing in the basal half snow-white, at the distal margin and proximal margin dull black. Length of forewings: 12 mm. Biagi on the Manbarara River, British New Guinea, in March.

bimaculata. N. bimaculata Rothsch. is like the preceding, but with another white spot behind the cell. Hindwing black, at the base semi-diaphanous white. Length of forewings: 13 mm. Mount Goliath, Dutch New Guinea, in February.

androconia. N. androconia Rothsch. This most peculiar species exhibits at the costal margin an extraordinarily large scent-organ with black and sand-coloured yellow scent-scales and bristles, another one on the hindwing. Antennae dark brown; head and thorax dull steel-green; abdomen lustrous black, anal tuft brownish-grey. The forewing is at the base sooty black with dispersed, steel-green scales; at the median there is a large, snow-white spot; the distal three fifths are chestnut-red with a coppery reflection, the costal and distal margins coppery purple. Proximal margin sooty black. Hindwing in the basal half white, distally black, in the middle with a spot of coppery purple scales. Length of forewings: 12 1/2 mm. Octakwa River, Snow Mountains in Dutch New Guinea (October till December).

cupreonitens. N. cupreonitens Rothsch. Head and thorax steel-green; antennae brown; base of shoulder-covers white, abdomen black, anal tuft white. Forewing in the basal third of a deep metallic steel-green, in it a white spot on the subcosta and a smaller one on the inner-marginal vein; the distal two thirds are metallic copper-red, towards the base suffused with blue; the costal and distal margins black. Hindwing in the basal half snow-white, distally and at the proximal margin jet-black. Length of forewings: 13 1/2 mm. Mount Goliath, Dutch New Guinea (February).
**N. albicollis** Roths. — Head and thorax steel-green, collar snow-white; abdomen black with a yellowish-albicollis, white anal tuft. Forewing at the base deep steel-blue with a concave distal bordering; behind it a broad white transverse band, distally bordered by a lustrous metallic blue median band; the distal half of the wing is coppery carmine, bordered with black. Forewing at the base diaphanous white, distally black. The larger $\varphi$ is coloured darker, the white more cream-coloured, the blue colour replaced by black, the distal half chestnut-brown. Length of forewings: $\varphi$ 11 mm, $\varphi$ 12 mm. Mount Goliath, Dutch New Guinea, in February.

**N. albata** Roths. — Body black, in the $\varphi$ above lustrous blue; palpi and legs yellowish, the scales of albata, the latter partly blue, particularly on the forelegs. Basal half of the posterior tibiae, apex of the posterior femur, 1st tarsal joint partly white, while a large spot behind at the mesosternum is totally white, anal valve cream-coloured. In the $\varphi$ the venation is curved by the scent-organ, the costal margin of the forewing being bent up. Fringes with long scales placed backwards. The width of the cell strongly reduced. On the fore-and hindwing there is a large hollow near the base. Base of forewing blue, near the base a broad, white band continued into a broad, purple-blue band stragulated in the middle; disc purple-orange, apex and distal margin, as well as the costal margin black, metallic purple, in a lateral light with an intense lustre, near the apex a minute white dot. Hindwing white, distally and at the proximal margin bordered with an olive-black, the band at the apex broadest, at the anal angle very narrow. Beneath like above, but without a metallic blue lustre. The blue bands of the forewing in some parts replaced by olive-black. $\varphi$ similar, the anal tuft above smoky grey, beneath white: the white bands of the forewings broader than in the $\varphi$ with a thin blue distal margin. The black distal margin and the costal margin are thin, at the apex scarcely broader than at the anal angle. Length of forewings: 9 to 10 mm. New Guinea.

**N. aequalis** Roths. — $\varphi$ similar to albata, head and upper side of thorax dark metallic greenish-blue; aequalis, forewing above the same, the costal fold as in albata, so is the hollow on the fore- and hindwing; behind the costal fold a small white spot with some small white scales in front and at the margin, a badly marked discal band from the costal margin to the anal angle purple-orange, very much scaled metallic greenish-blue, particularly in the middle. Hindwing purple-black with a broad, whitish proximal part of the marginal area, almost triangular, narrower than in albata. Under-surface purple olive-black, on the forewing a small, white basai streak, the white subapical dot as above. Proximally to it a conical, orange-brown longitudinal spot. $\varphi$ like the $\varphi$, forewing with the white spot near the base like above, of a very variable size and with a large white basal spot beneath. Length of forewings: 9 mm. New Guinea.

**N. leucodera** Roths. — $\varphi$: head and thorax above metallic greenish-blue, the rest of the body olive-leucodera, black, faintly purple; collar with two small white dots. On the chest laterally a spot and the basal half of the first tarsal joint white, anal valve fawn-coloured. Forewing above with the costal fold as albata, but smaller. On the fore- and hindwing no hollow, both metallic greenish-blue like the thorax, a subbasal band from the costal fold straight to the proximal margin, in front of it a small dot on the costal fold and a round, subapical, white spot; proximad to this subapical spot a purple-orange spot, obliquely oviform, from the 3rd subcostal vein to the 2nd median vein. Hindwing olive-black with a bluish reflection. A large, white, triangular area from the costal margin to the 2nd submedian, the black distal band on the submedian being one and a half times as broad. $\varphi$ like the $\varphi$, the white spot of the wing some hat variable, the subbasal spot on the forewing smaller than in the $\varphi$, the purple-orange spot also lighter. Length of forewings: 9 mm. In the colouring it resembles aequalis, but it is easily distinguishable by the white collar and the $\varphi$ by the different scent-organ. New Guinea.

**N. poecila** Roths. — $\varphi$: head and thorax above metallic blue, rest of the body olive-black with a poecila, purple reflection; collar with two contiguous white spots as in leucodera. Legs without any white. Forewing narrow, the 3rd radial petioled with the 1st median vein, metallic purple blue from the base to the middle of the wing. This area is distally curved, behind it a large, brown-orange distal spot not quite reaching the costal or proximal margin and margined with a metallic purple-blue; this border is dentate; the distal margin, costal margin and fringes are black. A central spot near the base white. Hindwing of a more triangular shape than in other species owing to the less rounded apex, olive-black, faintly purple, from the costal margin to the 2nd submedian a large, white basal spot, its distal margin cuts the median at the base of the 2nd median vein; the posterior margin black, from the middle to the base narrow. Under surface purple olive-black. Forewing with a white subbasal spot which is shaded by olive; an orange-brown, subapical, longitudinal spot. The white spot on the forewing as above. Length of the forewings: 9 mm. New Guinea.

**N. basinitens** Roths. — Head and thorax black, suffused with a dull steel-green, antennae black, collar basinitens, white, abdomen black with a reddish-grey anal tuft. On the forewing the basal two fifths are steel-lustrous bluish-green, the distal three fifths copper-red, bordered with black. Hindwing in the basal half white, distally black. Length of hindwings, $11\frac{1}{2}$ mm. Mount Goliath, Dutch New Guinea, in February.
N. flavicaput Rothsch. Antennae red-brown; head and collar sulphurous, thorax and abdomen dark brown. The forewings are chestnut-brown, with a purple and blue reflection; the basal three fifths exhibit a large, sulphurous spot extending from the subcosta to the proximal margin; in the middle of the costal margin a large, long-haired scent-organ. The hairy hindwings are sooty brown, with a large, yellow, wedge-shaped spot at the costal margin near the base. Length of forewings: 8 mm. Kumusi River in North East British New Guinea (May).

N. collateralis Hmps. (16 d). In the basal half of the forewing deep golden-yellow, distally copper-red, base and margins black. Hindwing yellow with a broad black border. Kapaur in South West New Guinea.

74. Genus: Parascaptia B.-Bak.

Palpi very small; proboscis absent; antennae very fine and small, doubly combed; wings of a uniform width; costa very convex; border as far as the anal angle decreasing. On the forewing vein 2 rises a little behind the middle of the cell and is curved at the base, 3 petioled with 4 from the cell-angle, 6 rises below the upper angle, 7, 8, 9 petioled, 7 and 8 from near the margin, 9 from a good distance behind the cell, 10 and 11 separate, the latter curved; on the hindwing 2 rises far before the angle, 3, 4, 5 and 6 with a long foot-stalk. 8 separately from the base, then flawed to a short anastomosis with 7. Type: biplagata.

P. biplagata B.-Bak. ♂ head and collar light yellow, thorax yellow with a purple stripe, abdomen light grey. Forewing light yellow, basal half purple-red, towards the base decreasing in the direction of the costa, at the costa a yellow costal spot. Straight through the wing a large, purple-red postmedian spot leaving the border light yellow. 16 mm. Babooni. 3000 ft. September.

75. Genus: Byrsia Wkr.

Proboscis well developed; the short palpi erect; ♂ antennae with ciliary pencils. The narrow forewing differs in the venation from the preceding genera by the 1st median and 3rd radial rising on a joint footstall, whereas the 2nd radial is absent; the 1st subcostal vein comes from below the upper cell-angle; the 3rd is absent, the 2nd, 4th and 5th rise on a joint footstall, only the 1st rising separately from the cell. On the hindwing the 1st median and 3rd radial rise on a joint footstall; the middle radial comes from the lower cell-angle and is strongly curved; subcostal and 1st radial rise in the ♂ from the same place in the upper cell-angle, whilst in the ♀ they are petioled. In the ♂ the costal margin is excised before the apex.

B. aurantica Snell. is very much like the following species and differs above all by the yellow spot being extended to the costal margin. The body is black, the shoulder-covers are spotted orange, the anal tuft and venter whitish. The basal two thirds of the forewing are yellow, only the base somewhat black; the distal bordering of the yellow colour runs obliquely and is dentate at the lower cell-end and on the submedian fold; an antennal marginal, orange-red spot is narrowed towards the proximal margin. Hindwing yellow, distal and proximal margins black. Malacca, Borneo, Sumatra. In Javanese specimens, subsp. javana Rothsch., the orange-red marginal spot is much more extensive than in the Sumatran type. — The larva, according to PIEPERS, lives in Batavia on Mango, in July and August; it is orange on its head and the two first and last segments, on the others above greenish, on the 3rd and 10th segment above black. Hairing white.

B. dotata Wkr. (= princeps Fldr.) (16 d) is very much like aurantica and easily discernible by the black costal margin; the body is also quite black and the shoulder-covers unicolorous. Hindwing in the ♂ blackish-brown with a light costal margin and an orange spot below it; the ♀ exhibits a much larger, triangular, orange spot in the disc. Celebes, Amboina, Batjan. In the name-type the basal area is as broad as the thorax, the black costal margin broader than in the Celebes-race, the orange-red submarginal band posteriorly narrowed.

B. ornata Rothsch. Pronotum and a spot on the shoulder-covers yellow. Very much like dotata (16 d), the yellow colour is paler, as broad as in aurantica; the costal margin bordered with black; the orange-red marginal band reaches the proximal margin and is here somewhat narrowed, but not pointed, above about 2 mm broad. Hindwings as in dotata papuana, the proximal margin broadly black, but not distinctly defined. Length of forewings: 10 mm. Humboldt Bay in Dutch New Guinea, in September and October.
B. latiplaga Rothsch. Head, antennae, thorax and abdomen are black. Forewings black; a large, orange spot occupies the whole basal half of the wing except the base and costal margin; in the distal half there is a large, wedge-shaped, orange-red spot with the apex at the proximal angle. Hindwing orange with a broad, sooty-black border and a blackish-brown proximal margin. In the orange spot is much smaller and the distal margin of the hindwing is deeply excised between the proximal angle and the upper median vein. — Specimens with a still more reduced orange-yellow and a very much darkened red cuneiform spot were denominated ab. reducta by Rothschild. Length of forewings: ∞ 12 mm, ∞ 14 mm. — Octokwa River, Snow Mountains in Dutch New Guinea and from Biagi, British New Guinea. — subsp. pallidor Rothsch., from the Arfak Mountains (Ninay Valley) in Dutch New Guinea, differs by its lighter yellow, not orange colour, and by the Isabel-coloured costal margin of the hindwing.

B. amoena Rothsch. Body black, beneath lustrous blue; the distal two thirds of the antennae and the tarsal joints are yellowish; head, pro- and mesonotum deep chrome-yellow; anal tuft beneath dirty Isabel-coloured. Wings above deep chrome-yellow; on the forewing the yellow area is extended to beyond the cell-end (base and costal margin are not black); the lustrous bluish-black marginal area encircles an oblong, pear-shaped, orange-red spot not reaching the proximal margin. The hindwing has a narrow, slate-black border, of the same colour is the proximal margin. Length of forewings: 9 to 11 mm. Isabel (Salomons), taken in June and July.

76. Genus: Stenoseaptia Hmps.

Differs from the preceding genus by straightly porrect palpi. On the long, narrow forewing the middle radial vein is absent, the lower radial and 1st median rise separately; the three lower subcostal veins are petioled, the two upper ones rise separately from the cell. On the hindwing the 1st median vein anastomoses with the 3rd radial, and the subcostal with the 1st radial. In the costa the costal margin of the hindwing is very convex, and near the rise of the costal there is a scent-scale spot. For a long time only one species was known; in 1904 another species not lying before us was described: phlogozona Trnr., from Australia.

S. venusta Lucas (16 d) has orange-yellow wings; the base, a postmedian transverse band, and the marginal part enclosing a yellow spot are black. Hindwing orange with a black marginal band. Head, collar and shoulders orange, thorax and abdomen black, anal tuft yellow. Queensland.

77. Genus: Garudinistis Hmps.

Proboscis well developed; palpi erect, slender, not reaching as far as the vertex; male antennae ciliated; spurs rather long. On the narrow forewing the cell is very narrow, the submedian fold shows a tuft of very long hair. The 1st median and 3rd radial rise on a long footstalk; the middle radial vein is absent with the transverse vein, the upper radial rises with the lower from the same place. On the hindwing the 1st median and 3rd radial are petioled; subcostal and 1st radial are not petioled.

G. eburneana Wr. (26 a) has yellowish-white forewings; the base, an oblique median band somewhat expanded below the cell, and an antemarginal spot are purple-brown. Hindwings yellowish-white. Borneo.

G. aroa B.-Bak. (18 k). Head lemon-coloured; shoulder-covers and metathorax chestnut-brown; abdomen lemon-yellowish-brown. Forewing lemon-coloured with a chestnut-brown spot, with a darker border, at the base and a large, similar postmedian spot occupying almost a third of the wing. Hindwing straw-coloured with a darker border. Expanse of wings: 20 mm. From the Aroa River.

78. Genus: Blabioides Hmps.

The porrect palpi do not extend beyond the forehead; proboscis well developed; male antennae finely serrated and tuftily ciliated; the 3rd is distinguished besides by a short, thick, hairy scent-scale spot at the upper cell-end and a tuft of longer hair on the under surface at the median; the veins like in the preceding genus, but the transverse vein well developed and the first radial from below the upper cell-angle. The hindwing exhibits a deep excision below the apex and a scent-scale spot in the middle of the costa; the middle radial is present.

B. snelleni Rits. (16 d) has dark brown forewings with an orange median band. Hindwings semi-diaphanous orange, at the margin purple-brown. Java.

This genus contains a small number of little animals with brownish forewings marked white, the hindwings being mostly orange or yellowish. The proboscis is well developed, the erect palpi do not reach the vertex; tibiae with long spurs. The veins on the forewing do not offer any peculiarity; the 1st radial comes from below the upper cell-angle. On the hindwing the 1st median anastomoses with the 3rd radial, the subcostal and 1st radial rise on a joint foot-stalk. The male antennae are either doubly combed or singly ciliated in tufts.

- **flavescens.**
  
  **H. flavescens** Hmps. (16 b) has ochreous-yellowish forewings dusted with brown; the dusting is irregular, so that there remain large yellowish spots at the base and in the middle. Hindwings pale brownish with yellowish fringes. Khasia Hills.

- **sejuncta.**
  
  **H. sejuncta** Fldr. (16 c). The forewings are white with three broad, brownish-grey transverse bands; behind the middle band there is a black discal dot; the ochreous-yellow fringes are speckled with brown at the apex, in the middle, and at the proximal angle. Hindwing yellowish with a darker postmedian and marginal line. New South Wales, Victoria.

- **ophiodes.**
  
  **H. ophiodes** Meyr. (16 c) is a pretty species with dark dentate lines and partly brownish dusting; behind the cell there is a spot in the shape of an 8. The ochreous-yellow hindwing shows an undulate, black postmedian line united at the apex with a black apical spot. Victoria.

- **sinuata.**
  
  **H. sinuata** Whgr. (= anartoides Wkr.) resembles the following species; it has a black body, the basal joint of the palpus is whitish like a scaly protuberance at the antennal base; anterior body dusted whitish, the anal tuft and ventral side orange. Forewing dark reddish brown, mixed with whitish, with irregularly dentate, black, grey-tinted subbasal, anterior and posterior transverse lines; a white discal spot; at the margin there are four whitish lunar spots. Hindwing orange with a black marginal band, which is expanded to two large black spots at the apex and at the anal angle. Size of sobria. New South Wales. — The larva lives on stonerags.

- **sobria.**
  
  **H. sobria** Wkr. (= consolatrix Rosenst., hemichroa Trnr.) (16 d) is very much like sinuata and differs by a much narrower black marginal band almost disappearing at the proximal angle. Palpi quite black. —

- **farinosa.**
  
  **farinosa ab. nov.** (= ab. 1 Hmps.) is more dusted white, and on the anterior body abundantly spotted white. Australia, Queensland, New South Wales, Victoria.

- **flavopunctata.**
  
  **H. flavopunctata** B.-Bak. Body brown, spotted yellow on the head and thorax. The red-brown forewing exhibits three yellow spots at the costal margin and three at the distal margin; also in the discal area there is yellow dusting; a black discal spot. Hindwing deep yellow with a broad black marginal band. Expanse of wings: 21 to 23 mm. — Dinawa (August); Aroa River.

- **servilis.**
  
  **H. servilis** Meyr. (14 1) has greyish-brown forewings with blackish, dentate transverse lines, a white discal spot, the fringes speckled black and white. Hindwing greyish-brownish, towards the base paler. New South Wales.

- **diffusifascia.**
  
  **H. diffusifascia** Swinh. (14 1). The grey forewings are very much dusted brown and marked black. Hindwings brownish. Khasia Hills in Assam.

- **flavinigra.**
  
  **H. flavinigra** Hmps. Head, thorax and abdomen are blackish-brown, vertex, antennal shaft and collar are yellow. Forewing orange-yellow with an irregular oblique distal bordering; a black, postmedian, somewhat dentate band is inwardly flawed below the cell; before the margin faded, blackish-brownish dusting. Hindwings pale blackish-brown. Expanse of wings: 20 mm. — South India (Palni Hills).

80. Genus: **Heliosia** Hmps.

Differs from the preceding genus by its tibiae with shorter spurs and the 1st median being petioled with the 3rd radial on the forewing. Male antennae ciliated.

- **jucunda.**
  
  **H. jucunda** Wkr. (= transitana Wkr.) (16 c) has orange-yellow forewings, with a black base and a black, slightly dentate median and submedian transverse band. Hindwing orange with a black marginal band, fringes orange. Queensland and New South Wales.

- **monosticta.**
  
  **H. monosticta** Hmps. (14 1) is a small species with straw-coloured forewings, a darker costal margin and a black discal spot; at the margin there are single black dots. Hindwings brownish with yellowish-white fringes. Borneo (Pulo Laut).
**DARANTASIA. By Dr. M. Draudt.**

**H. crocopera Hmps.** (141). Head and thorax orange-yellow, the rest of the body brownish. The crocopera. pale brown forewing is lighter ochreous-yellow in the disc and exhibits a large, yellowish-white apical spot. Hindwings pale brown. New Guinea (Kapaur).

**H. micra Hmps.** Head, thorax and abdomen are pale yellow; forewings orange-yellow, with indistinct, micra. undulate, ante- and postmedian, as well as antemarginal lines formed of dark scales. Hindwings pale yellow. Expanse of wings: 12 mm. Queensland.

Another Australian species (charope) established by Turner is unknown to us.

### 81. Genus: Darantasia Wkr.

Some rather characteristic and similar species with black and orange-yellow wings; the long abdomen projects considerably beyond the anal angle. In the male the inner-marginal area of the hindwing is expanded and shows beneath a rough scent-scale stripe, besides at the upper cell-end an elliptical swelling and above at the base of the median a hair-tuft. Proboscis strong; the straightly extended palpi just project yet beyond the forehead; tibiae with long spurs. On the forewing the 1st median and 3rd radial are petioled. The 1st radial comes from below the upper cell-angle; the 4th and 5th subcostal veins are petioled, the 3rd subcostal vein is absent, the 2nd comes separately from the cell, and the 1st anastomoses with the costal vein. On the hindwing the 1st median and 3rd radial are petioled in the ♂, anastomosing in the ♀; the middle radial vein is absent; the subcostal vein and 1st radial rise on a joint footstalk.

**D. pardalina Flldr.** (16 c). On the black forewing there are numerous orange spots, the hindwing pardalina. of the ♀ exhibits a wedge-shaped, orange spot extending from the middle of the median to the margin where it is united with a spot at the proximal angle; the ♀ shows a larger spot extending from the costal margin to the anal angle. Sula. — celebensis subsp. nov. (= subsp. 1 Hmps.) has quite black hindwings with but one minute orange spot below the 2nd median vein near the margin. Celebes.

**D. cuneiplena Wkr.** (= hieroglyphica Btlr.) (16 b as cuneilinea) is quite similar, smaller. The hindwings cuneiplena. are black, in the ♀ with 2, in the ♂ with but one small, orange spot. Borneo, Sumatra, Java.

**D. semiclusa Wkr.** (= ochropyga Flldr.) (16 b as cuneilinea) is quite similar, smaller. The hindwings semiclusa. are black, in the ♀ with 2, in the ♂ with but one small, orange spot. Borneo, Sumatra, Java.

**D. goldei Druce** (16 c) is somewhat larger than the following which it otherwise resembles very much; goldei. it is discernible by two yellow longitudinal streaks above the proximal margin of the forewing and the large, round, yellow discal spot of the hindwing. New Guinea (Port Moresby).

**D. xenodora Meyr.** (16 c) is very much like goldei, smaller; the ground-colour is a deeper black xenodora. with a purple reflection; the yellow spots are more orange; above the proximal margin of the forewing there is only an orange longitudinal streak and the orange discal spot on the hindwing is irregularly quadrangular, on the proximal side the black ground-colour projects into it like a tooth. New Guinea.

**D. triplagiata Holl.** (16 c) is easily recognized by the quite unicolorously blackish-brown hindwings; triplagiata. also on the forewing the 3 orange spots are rather reduced. Buru.

**D. obliqua Hmps.** differs from triplagiata by its deeper black forewings with a purple reflection, and obliqua. by the presence of a yellow stripe above the inner-marginal vein; the oblique yellow spot extends from the middle of the costal margin to the distal margin, where it is somewhat expanded. Hindwings as in xenodora. New Guinea (Milne Bay).

**D. caerulescens Druce (16 c)** has black forewings with an intense bluish-purple reflection; the base, a caerules-
feeble stripe on the submedian fold, and an oblique postmedian spot are orange, like a discal spot on the hindwing. Anterior body and the 4 last abdominal rings orange. New Guinea (Fergusson Island).

**D. pervittata Hmps.** Head and thorax orange-yellow with brownish antennae; abdomen black, the pervittata. last rings orange. Forewings brown, suffused with purple, at the base orange-yellow; this colouring is continued as a stripe at the costa and on the submedian fold. A postmedian, very oblique, curved band extends from the costal margin to vein 2 and is narrowed at both its ends. Hindwing brown with a large, orange spot from the middle of the costa to the submedian fold. Expanse of wings: 24 mm. South West New Guinea (Kapaur).
D. punctata  Hmps. The brown forewing shows a faint blue reflection towards the base; the base, antemedian spots in and below the cell, median spots at the costal and proximal margins, a small spot at the cell-end, and behind it a spot at the costal margin connected with a postmedian transverse line, are orange; on the hindwing the basal half of the costal margin and the inner-angular border are orange. New Guinea (Milne Bay).

82. Genus: Teratopora  Meyer.

Distinguished by a very uncommon venation, the forewings apparently having 2 discocellulars. The inner-marginal vein despatches in its middle a branch upward, extending to the margin and in its turn sending from its middle a transverse vein to the other median vein, so that below the real discocellular there is another entirely closed cell; the 1st median and 3rd radial are petioled, so are the 5th subcostal vein and the 1st radial, whereas the 3rd and 4th subcostal veins are absent. The 2nd is on a short footstalk with the 1st median and the 3rd radial, the 1st subcostal vein comes freely below the apex, so that an obtuse corner is created on the upper median vein. The 1st median vein and the 3rd radial are petioled, the 2nd radial is absent, the subcostal anastomoses with the 1st radial. Proboscis well developed; the short palpi stretched forward, male antennae with bristles and ciliated; the abdomen is above roughly haired. Hitherto 2 forms are known, not lying before us.

irregularis.

T. irregularis Hmps. is dull straw-coloured, the abdomen above with brownish-black hair. The forewing exhibits an indistinct, oblique, faded band from the lower cell-angle to the proximal margin; the marginal area is faintly dusted with brownish. Hindwings of a purer yellow. Expanse of wings: 28 mm. Queensland, Victoria.

haploides.

T. haplodes  Meyr. is yellowish-brown, the abdomen at the base grey. The forewing exhibits an indistinct, blackish-brown postmedian line from the upper cell-angle to the proximal margin, flawed inwards below the cell. Hindwings white, with a yellowish tint towards the margin. Expanse of wings: 30 mm. New Guinea (Port Moresby).

83. Genus: Tospitis  Wkr.

The only, small species is very well distinguished by the very convex costa with rough-haired fringes on the forewing. Proboscis well developed; the short palpi are erect, the male antennae ciliated, tibiae with long spurs. On the forewing the 1st median and 3rd radial rise separately, on the hindwing petioled, like the subcostal and 1st radial; the middle radial vein is absent. T. nulliferana  Wkr. Body yellowish-white; forewing pale brown; base, costal margin and distal margin pale yellow; the costal base is orange, as well as an oblique short line from the costal margin to the subcosta; in the middle of the costal margin and at the cell-end one spot each. Hindwings brownish with pale yellow fringes. Expanse of wings: 12 mm. Borneo (Sarawak).

84. Genus: Pachycerosia  Hmps.

Separated from the preceding genus by longer palpi and serrate male antennae; the costal margin is without the fringes. On the forewing the 1st median and 3rd radial rise separately, on the hindwing petioled, like the subcostal and 1st radial; the middle radial vein is absent. P. bipuncta  Hmps. is a small, greyish-brown animal with small dark dots near the base, in the middle of the cell and at the transverse vein. Expanse of wings: 18 mm. From the Andamans.

85. Genus: Omiosia  Hmps.

Similar to the preceding, but the proximal margin is lobularly expanded. On the forewing the two lower radial veins are petioled, also the two lowest subcostal veins; the 3rd is absent; the 1st subcostal anastomoses with the costal. Hindwings like in the preceding; the ♀ shows a scent-scale spot in and behind the cell. O. fuscipennana  Wkr. (16 b) is light ochreous-yellow with a large, elliptical, blackish-brown spot in the discal area. Borneo (Sarawak).
86. Genus: **Holochrea Hmps.**

Proboscis strong, the short, slender palpi are erect; male antennae ciliated; tibiae with long spurs; the ♀ exhibits long lateral hair-tufts on the 3rd abdominal ring, and on the forewing beneath in the cell a white scent-scale spot covered by the very much expanded costal margin of the hindwing; the latter shows a deep excision near the apex. On the forewing all the veins from the 2nd subcostal vein to the 1st radial rise on one footstalk, only the 1st subcostal vein rising separately from the cell. On the hindwing the 1st median anastomoses with the 3rd radial, and the subcostal with the 1st radial.

**H. xanthogramma Hmps.** (16 b). The only little species is orange-yellow; at the costal margin behind the middle a black dot from which a curved line extends obliquely to the margin above the proximal angle. Sangir.

87. Genus: **Tampea Snell.**

Proboscis strong; the slender, porrect palpi just project yet beyond the forehead; male antennae with bristly ciliae. The shape of the wings is very much like in the preceding, the scent-scale spot on the forewing beneath in the cell is present, too, as well as the lobe of the costa on the hindwing, the costa itself being fringed with long hairs. The venation of the forewing is also rather similar, but the two lower radial veins rise on a long footstalk; on the hindwing the venation is like in the preceding genus.

**T. lithosioides Snell.** nec Hmps. (= Ocrosia reversa Hmps.) (16 b as reversa). The ♀ is unicolorously reddish-orange, the ♂ of a deeper orange, abdomen blackish-brownish with an orange anal tuft. Hindwing blackish-brown with a yellow border and fringes. Borneo, Java.

88. Genus: **Macaduma Wkr.**

About 20 small species of dim colours with a well developed proboscis, slender, short, erect palpi and in the ♀ ciliated antennae; tibiae with long spurs. The abdominal end of the ♀ shows lateral hair-tufts and a strongly developed anal tuft. The short and broad forewing has a very convex costal margin exhibiting before the apex a faint or also deep excision; the distal margin is very much produced above the middle. On the forewing the 1st radial comes from below the upper cell-angle; the three lower subcostal veins either rise on a joint footstalk, in which case the costal margin shows in the middle an angular projection with a hair-tuft, on which Turner founded his subgenus Psapharacis; or the 4th subcostal is absent (Macaduma sens. strict.). On the hindwing the 1st median and 3rd radial as well as the subcostal and 1st radial are petioled. Nearly all the species have an expanse of about 20 mm, the length of the wings being about 8 to 9 mm. Most of the species have come to England by recent captures from New Guinea, and their types are at present not available for us.

**M. tortricella Wkr.** Head and thorax chestnut-brown with a purple reflection; abdomen brownish, tortricella. anal tuft yellow. Forewings chestnut-brown, at the costal and proximal margins with a purple reflection. Hindwings yellowish-white, towards the margin of a deeper ochreous-yellow. In the ♀ the head, thorax and forewings are of a darker reddish-brown. Hindwings and anal tuft brownish. Assam, Java, New Guinea.

**M. foliacea Rothsch.** Antennae brown; head and thorax chestnut-brown; abdomen scotty grey, anal foliacea. tuft yellowish. Forewing yellowish-brown, a broad postmedian transverse band and a cuneiform marginal band are darker; between these bands the ground-colour is more yellowish. Forewing at the apex very much excised and in the middle of the border very lobate. Hindwing in the basal half cinnamon-grey, distally more dusty-grey. The ♀ has almost unicolorously chestnut-brown forewings. Length of forewings: 9½ mm. Mount Goliath and Kumusi River (New Guinea).


**M. bipunctata B.-Bak.** is a somewhat larger species with an expanse of 28 mm. Head and thorax reddish-brown, abdomen more greyish-brown. Forewings dark red-brown, in the discal area still darker, at the cell-end 2 small white dots situate behind one another. Hindwings yellowish grey, at the margin brownish. Dinawa, Are River, Ekeikei.

**M. tortricoides Rothsch.** Body chestnut-brown. Forewings coloured the same, strown with metallic tortricoides. light blue and pearl-coloured scales; apex more reddish; a large Isabel-yellow discal spot from the costal margin to the lower radial vein. Hindwing golden orange with a blackish-brown margin. Length of forewings: 12 mm. Upper Setekwa River, Snow Mountains, in Dutch New Guinea.
M. *micans* Hmps. (16 b) is somewhat like *tortricoides*, but more blackish-brown and with a but very small orange-yellow discal spot. Hindwings blackish-brown. Mysol.

M. *fuliginosa* Rothsch. is quite unicolorously sooty blackish-brown with traces of a reddish line round the apex of the forewing. Kumusi River (New Guinea).

M. *corvina* Flatr. (16 b) is of a deep purple, abdomen and hindwings more blackish-brown. Fiji Islands.

M. *pallicosta* Rothsch. Head and antennae cinnamon-brown, thorax chocolate-brown, abdomen wood-brown. The forewing is in the two basal thirds chocolate-brown, the apical third more cinnamon-brown; costal part cinnamon-coloured, towards the apex lighter. Hindwings drab, costal and proximal margins whitish. Length of forewings: 11 mm. Queensland.

M. *rufocostalis* Rothsch. Head, antennae, and thorax cinnamon-red, abdomen brownish drab. Forewing cinnamon-brown with a dark red costal margin; in the middle of the wing there is a small grey-spot. Hindwing drab, costal margin yellowish-grey. Length of forewings: 9 mm. The nomenclatural type comes from Biagi on the Mambare River (Brit. New Guinea). — subsp. *reducta* Rothsch. from the Entrecasteaux Archipelago, Ferguson Island, has more greyish forewings; the red costal margin is distinct only in the apical third; thorax and abdomen are monotonously brown.

M. *fusca* Hmps. is unicolorously blackish-brown with a slight purple reflection; legs, venter and anal tuft in the ♀ ochreous-yellowish, in the ♂ more brownish-black. The costa of the forewing is somewhat reddish. Kapaur in South West New Guinea.

M. *quercifolia* Rothsch. Head and antennae yellowish cinnamon-red, thorax more purple, abdomen yellow-brown. The forewing, the costal margin of which is hairy lobed behind the cell, is cinnamon-brown with two darker, oblique transverse lines united at the said lobe. Hindwings yellowish-grey, at the margin darker. Expanse of wings: 10 mm. Biagi (British New Guinea).

M. *aroa* B.-Bak. Head and thorax red-brown, abdomen yellowish-brown. Forewing reddish-brown with a darker basal spot occupying the basal third; at the cell-end a dark spot followed by a fine, dentate line. Hindwing yellowish-grey, at the margin darker. Expanse of wings: 29 to 30 mm. Aroa River.

M. *rothschildi* nom. nov. (= *castanea* Rothsch. nec Hmps.). Head and thorax chestnut-brown, abdomen wood-grey, anal tuft chestnut-brown. Forewing chestnut-red, in the basal half dusted grey with an oblique, dark zigzag line from the median to the proximal margin. Hindwings yellowish grey. Length of forewings: 12 mm. Queensland (Cairns).

M. *castanea* Hmps nec Rothsch. Head, thorax and abdomen chestnut-brown, beneath like the anal tuft yellow. Forewing chestnut-brown, in the marginal half dusted grey, and with a curved, extinct, chestnut-brown postmedian band. Hindwing yellow, at the margin reddish-brown. On the under surface the costal margin is yellow towards the apex. Expanse of wings: 28 mm. Dutch New Guinea (Fak-Fak).


M. *rufoumbrata* Rothsch. ♀: antennae yellowish-brown, head and thorax chocolate-brown, abdomen wood-brown. Forewing violettish-brown, an antemedian, oblique, brown transverse streak; in the cell a white spot, behind the middle a dark, curved zigzag line, behind it an indistinct, transversely curved line and a marginal line from the apex to the lower radial vein. Hindwings reddish yellowish-grey. The variable ♀ occurs in 3 forms: one being unicolorously chocolate-brown with dark drab hindwings; another cinnamon-brown form with traces of a postmedian transverse line and yellowish-grey hindwings; a third form is reddish-grey, the proximal margin and distal third of the wing being chocolate-brown, markings like in the ♀, but fainter and more indistinct, with 2 grey and 1 black spot in the cell, the distal third of the wing being very much scaled silvery grey. Hindwings reddish yellowish-grey. Length of forewings: ♀ 14 mm, ♂ 17 mm. Mount Goliath, Dutch New Guinea. — subsp. *indistincta* Rothsch. from the Angabunga River (British New Guinea) is smaller, with more faded and more indistinct markings; the ♀ is much more dusted grey.

M. *toxophora* Trnr. (16 b) shows on its greyish-brown forewing a postmedian, dentate, black transverse line; the costal margin is whitish with single black spots; at the transverse vein a white spot. Hindwings blackish-brown. Queensland (Brisbane).
M. nigripuncta Hmps. Forewing dark brown with a small, wedge-shaped black spot at the upper nigripuncta, cell-end and above it two dots at the costal margin; a postmedian, dark, oblique transverse line. Hindwings blackish-brown. New Guinea (Milne Bay).

M. albata Hmps. The white forewing is slightly strewn with brown, the costal margin brown as far albata, as behind the middle; an antemedian row of black dots begins from a larger costal spot and is distally angled on the median and inner-marginal vein, a postmedian dentate line of dots begins from a larger, triangular costal spot and extends obliquely to the lower radial near the margin, it is proximally angled on the submedian fold and terminates near the proximal angle; the apical costal-marginal excision is bordered with black; fringes brown. Hindwings yellowish-white, 2 undulate transverse lines and the apex brownish. New Guinea (Milne Bay).

M. lichenia Rothsch. sex: antennae brown; head white; thorax deep chestnut-brown, mixed with lichenia. white, collar and shoulder-covers white, densely speckled with black scales. The forewing is excised below the apex, the costal margin is concave in the basal two thirds; the colour resembles the bark of trees grown over with lichens: reddish cinnamon-brown, mixed with greyish-white and dark brown, with more or less distinct ante- and postmedian transverse bands, the basal quarter almost entirely white. Hindwing in the basal half greyish Isabel-coloured, distally more reddish-brown. The sex is larger and differs by its very convex costal margin in the basal two thirds, whilst the distal third is deeply excised; basal half wood-brown, speckled with light and dark markings; the distal half is brownish-white with a light and a dark transverse zigzag line; in the apex there is a large, dark spot; hindwings dark drab; thorax dark brown; abdomen drab. Length of forewings sex 9½ mm, sex 11 mm. Biagi on the Mambare River in British New Guinea, in February.

89. Genus: Narasodes Moore.

Allied to Tampea Snell. (Ocrosia Hmps.), distinguished by longer palpi, shorter spurs, and singly ciliated male antennae. On the forewing the two lower radial veins are not petioled, the upper radial comes from below the upper cell-angle; the 3rd subcostal vein is absent, the 1st and 2nd rise separately from the cell; on the hindwing only the subcostal and 1st radial are petioled.

N. punctana Wkr. Head, thorax and abdomen are light ochreous-yellow, palpi and anterior tibiae punctana, above blackish. Forewing light ochreous-yellowish, in the disc more or less dusted red-brown; on the submedian fold often some black scales; an antemedian, indistinct, oblique, undulate line; another one extends from the middle of the costa to the lower cell-angle, where there is a small heap of black scales; from there straight to the proximal margin; a similar, indistinct postmedian line rises near the middle one at the costal margin, extending very obliquely towards the margin as far as the 2nd radial, then near the margin and parallel to the proximal margin. Hindwings yellowish-white, dusted brownish, at the margin ochreous-yellow. Expanse of wings: 12 to 16 mm. Calcutta; Ceylon.

N. hampsoni nom. nov. (= lithosioides Hmps. nec Snell.). Head and thorax ochreous-brown, hampsoni. abdomen brownish, anal tuft and venter yellowish. Forewing red-brown; the apex is crossed by a dark line. Hindwings blackish-brown. Borneo, Java.


90. Genus: Stenarcha Hmps.

Distinguished from the preceding by shorter, erect palpi, the lower radial veins on the forewing petioled, whilst on the hindwing the 1st median is petioled with the two lower radial veins, the subcostal and 1st radial rising on a long footstalk.

S. stenopa Meyr. (16 b) has blackish-brown forewings with irregular, white ante- and postmedian stenopa. bands bordered with dark; fringes whitish. West Australia.
91. Genus: **Padenia** Moore.

Proboscis well developed; the correct palpi project somewhat yet beyond the forehead, male antennae ciliated. Forewing with a curved costal margin; in the ♀ the median veins rise close together, in the ♂ separately in the former the two lower radial veins are coalescent, in the ♀ they rise on a long footstalk; the 1st radial is petioled with the two lower subcostal veins, the 3rd subcostal vein is absent; the ♂ shows beneath a very broad costal fold. Very peculiar are the ♂ hindwings: the costal margin is very concave and provided with long hair, the apex very much and deeply excised; the 1st median and 3rd radial are petioled, the subcostal and 1st radial in the ♀ likewise; in the ♂ the latter are coalescent. Several small species, nearly all recently discovered in New Guinea, with white, brown-banded forewings.

*bifasciata.*

**P. bifasciata** Flbr. (= transversa Wkr.) (16 a as transversa) has a more yellowish-white ground-colour, the costal margin is purple-black as far as the first transverse line, like the transverse lines themselves; the anterior line is slightly angled in the cell. Ceylon, Andamans. — **latifasciata** subsp. nov. (= subsp. 1 Hmps.) from the Nilgiris has much broader, more distinctly angled transverse bands. — **duplicana** Wkr. (16 a) differs from the preceding by its purely white ground-colour, coppery transverse bands, the anterior one of which runs more obliquely and is not angled. Burma, Borneo, Sumatra, Java. *Hampson* took this animal to be a distinct species, but according to *Snellen* it is merely a variety, since there occur transitions.

*sordida.*

**P. sordida** Rothsch. Head and antennae dirty brownish-white; thorax and abdomen slate-coloured, the large anal tuft is brownish-white. Forewing dirty brownish-white, a curved, narrow antemedian transverse line and a flawed postmedian line are dull buff. Hindwings light drab. Length of forewings: 12 1/2 mm. Malayan Peninsula.

*bizone.*

**P. bizone** Rothsch. Antennae brown, head and thorax snow-white; apex of shoulder-covers and a large spot on the thorax are light buff, the abdomen wood-brown. Forewing snow-white, a median and a subapical oblique transverse band are golden bronze, the median one being very broad at the proximal margin and growing abruptly narrow at the median fold. Hindwing snow-white, distal margin brownish-drab. Length of forewings: 8 1/2 to 9 1/2 mm. Collingwood Bay (Brit. New. Guinea).

*violinitens.*

**P. violinitens** Rothsch. Antennae brown, head and thorax snow-white, middle of shoulder-covers and metathorax coppery brown, abdomen blackish-brown. The basal two thirds of the forewing are snow-white; an oblique median band and the apical third are metallic coppery, the latter is traversed by a subapical white line. Hindwing at the base white, somewhat transparent, at the margin dirty grey. Length of forewings: 8 mm. Kumusi River (North East British New Guinea).

*unifascia.*

**P. unifascia** Rothsch. Antennae brown, head snow-white; thorax light chestnut-brown; collar, base of shoulder-covers, and prothorax white. Abdomen reddish-yellow. The costal margin of the white forewing is yellow; an oblique median band, a spot below the cell and the distal margin are chestnut-brown. Hindwings Isabel-coloured. Length of forewings: 10 1/2 to 11 1/2 mm. Biagi (British New Guinea).

*plagosus.*

**P. plagosus** Rothsch. Antennae dark brown, forehead reddish-yellow, vertex white. Thorax olive-grey, collar and base of shoulder-covers white, abdomen Isabel-coloured. Forewing yellowish-white with a yellow costal margin blackened at the base; 2 antemedian spots and one at the margin are olive-grey; a clouded postmedian band is brownish-grey. Hindwings reddish-yellow. Length of forewings: 10 mm. Biagi on the Mambere River (British New Guinea).

*bifasciatus.*

**P. bifasciatus** Rothsch. Antennae light brown, head and thorax snow-white; basal half of the shoulder-covers and mesothorax bronze-golden; abdomen greyish-white. The white forewing shows an oblique, antemedian transverse band and an undulate postmedian band of a golden bronze colour. Hindwings yellowish-white. Length of forewings: 12 1/2 mm. Aroa River, British New Guinea.

92. Genus: **Cyclosodes** Hmps.

Proboscis fully developed, palpi delicate, oblique, projecting yet a little beyond the forehead; ♀ antennae ciliated, tibiae with long spurs, ♂ with a large anal tuft. Forewing short, broad, the costa very convex, apex rounded; vein 2 at its rise curved; 3 rises before the angle, 4 and 5 on a strong footstalk; 6 and 7 the same; 8 and 9 are absent; 10 and 11 separately from the cell. On the hindwing 2 rises towards the cell-angle; 3 anastomoses with 4, 5 rises somewhat above the angle, 6 and 7 on a long footstalk, 8 from the middle of the cell.

*C. flavicosiata* Hmps. ♀ head dark brown, tegulae and patagia ochreous-yellow, thorax brown, abdomen dark brown with a light anal tuft. Forewing silky red-brown, costa and tibiae ochreous yellow. Hindwings dark brown. 20 mm. Described according to a ♂. Borneo.
93. Genus: Eucyclopera Hmps.

Proboscis well developed, palpi straightly porrect, projecting beyond the forehead. Forewing with a curved costal margin and a round apex; 1st median petioled with the two lower radial veins; the upper radial vein comes from below the upper cell-angle; 3rd and 4th subcostals are absent, 1st, 2nd and 5th rise separately from the cell. On the hindwing the 1st median anastomoses with the 3rd radial, the subcostal and 1st radial are petioled.

E. plagidisca Hmps. (16 b) is a minute animal with whitish forewings, with brownish, somewhat plagidisca, leaden lustrous markings. Bhutan.

94. Genus: Garudinia Moore.

Proboscis well developed; the slender, short palpi are erect, the male antennae ciliated, tibiae with long spurs. The forewing is narrow with a curved costal margin and a round apex; the middle radial vein is absent, so is the 3rd subcostal. The forewing is narrow with a curved costal margin and round apex; the middle radial vein is absent, so is the 3rd subcostal; the ♀ exhibits a costal fold. On the hindwing of the ♀ the costal margin is very convex, the apex deeply excised; subcostal and 1st radial are coalescent; in the ♀ they rise on a joint footstalk. The ♀ exhibits several scent-scale spots in the cells of both wings.

G. bimaculata Roths. Antennae light brown; head and thorax yellowish-white, abdomen slate bimaculata. coloured, with a yellowish anal tuft. Forewing yellowish-white, with a large, oval, brownish slate-coloured spot in and below the cell as far as the proximal margin, and with a broad postmedian band of the same colour. Hindwing in the costal half light grey, otherwise drab. In the ♀ the oval spot is smaller. Length of forewings: ♀ 8, ♀ 7 mm. Labuan.

G. biguttata Roths. is very similar, the abdomen more drab; forewing yellowish-white with 2 large, biguttata. blackish-olive spots. The excision at the apex of the hindwing is very deep, below it the margin is extended into a long lobe; basal half diaphanous light grey, margin darker. Length of forewings: 10 mm. Assam, Khasia Hills.

G. biplagiata Hmps. (16 a) is very much like biguttata. Anal tuft ochreous yellow, the spots are purple biplagiata. black. Bhutan.

G. simulana Wkr. (16 a) differs from biplagiata by the distal spot being more like a band and extending simulana. to the costal margin; hindwings blackish-brown with white fringes. Java, Borneo (Sarawak).

G. aureopurpurata Roths. Head, antennae and thorax golden yellow, abdomen yellowish-reddish. aureopurpurata. Forewing golden yellow with 2 large, purple spots, the proximal one occupying almost the whole basal half. Hindwings yellowish-white, fringes and apex darker. Collingwood Bay (British New Guinea).


G. bizonata Roths. is very much like the preceding, the bands more bronze-coloured, the distal bizonata. one undulate. Hindwings darker. Length of forewings: 11 mm. Reported from Parana, but probably this is a mistake.


G. latana Wkr. (16 a). The anterior transverse band ends round above at the median and is somewhat latana. strangled on the submedian fold, the distal one is dentate. Hindwing whitish, at the margin brownish. Ceylon, Borneo.

G. successana Wkr. (16 b). Base of forewing purple, distally bordered with white; discal area yellow; successana. a broad, purple postmedian band; marginal area white with a golden yellow apical spot. Hindwings light yellow, towards the margin brownish. Ceram.
95. Genus: **Garudinodes** B.-Bak.

Palpi very small, probosces developed; ♀ antennae doubly combed with long and short, very fine ciliae; middle tibiae with 1 pair of spurs, posterior tibiae with 2 pair of thick spurs. Forewing at the costa very convex, margin uniformly curved; 1st median and 3rd radial rise from the same place at the lower cell-angle, the middle radial vein is absent, the 3rd subcostal to the 1st radial petioled; 1st subcostal vein absent. On the hindwing the 1st median rises with the 3rd radial, and the subcostal with the 1st radial on a long petiole. All the species of this genus have become known only of late. Mostly only the types are known; they are in English Collections and at present not available for being figured; they all originate from New Guinea.

**G. excisa** Rothsch. Head, antennae and thorax light purple-red; abdomen pale wood-brown, anal tuft yellow. Forewing in and behind the middle of the costa deeply excised, light purple; a large discal spot, at the proximal margin very broad, at the median the narrowest, is dark olive-yellow; in the costal excision there is an oblong, yellow spot. Hindwings yellowish greyish-brown. Length of forewings: 9 mm. Oetakwa River, Dutch New Guinea.


96. Genus: **Pseudoblabes** Zell.

Proboscis strong; the porrect palpi do not project beyond the forehead; male antennae ciliated, tibiae with moderately long spurs. The short and broad forewing has a curved costal margin and rounded apex. The middle radial vein is absent, the upper one comes from below the upper cell-angle; the 3rd subcostal vein is absent, the other subcostal veins are petioled except the uppermost. On the hindwing the 1st median anastomoses with the 3rd radial; 1st radial and subcostal rise on a joint footstalk. The ♀ hindwing is deeply excised below the apex and shows an elliptic scent-scale spot below the costal margin on the upper surface.
P. oophora Zell (= flaviecostana Wkr.) (16 a) has deep purple-brown forewings which are yellowish-white at the base, costal margin and distal margin. Hindwings light ochreous-yellow, in the ♀ brownish-black. Widely distributed from Assam through the whole of India, Ceylon, Burma, Singapore, to Java. The larva, according to PIETERS, is black, watered with a lighter or darker green, with short black hair. It lives on mosses and lichens. It pupates in the moss or in a wide-meshed web, yielding the imago after 10 days.

P. dona Swinh. is somewhat like the preceding. Head and thorax ochreous. Abdomen more ochreous-grey. Forewing purple-brown with a yellow basal area, a yellow, angular costal spot and a similar apical margin. Hindwing in the basal half whitish, distally purple-brownish. Expanse of wings: 20 mm. Queensland (Coomoo).


Very closely allied to the preceding, differing by somewhat longer palpi and long tibia! spurs. On the forewing the 3rd subcostal vein is present, and the ♀ exhibits beneath in the anterior cell-half and subcostally above it a black scent-scale cover. On the hindwing the upper median and the middle radial are absent, so is the scent-scale spot.

M. nigrisquamata Swinh. Head and thorax ochreous. Wings above unmarked, monotonously ochreous-grey. Under surface lighter with broad, grey marginal bands on both wings, occupying almost the whole distal half; at the base of the costal margin of the forewing a black diffuse spot. Legs and body beneath dull yellow. Expanse of wings: 20 mm. Queensland (Coomoo).

98. Genus: Lobobasis Hmps.

Distinguished from the preceding by erect palpi, the petioled rise of the 1st median and 3rd radial on the forewing, the 2nd subcostal vein rising separately, in the ♀ a rough-haired, round scent-scale spot below the base of the costa and behind it a curved row of rough hairs as far as the proximal margin. Hindwings similar as in the preceding, but without an excision.

L. niveimaculata Hmps. (16 a). The red-brown forewing shows white spots below the base of the costa, and near the proximal margin, costal margin and distal margin yellow spots. Hindwings yellowish-white. The ♀ shows a triangular yellow spot in the middle of the costal margin, the apex of which is situate at the median. Hindwings darker. Sikkim, Bhutan, Perak, Sumatra, Java.


Like the preceding, but the ♀ has serrate antennae with tufted ciliae, and no scent-scale spots, the 1st median and 3rd radial are unpetioled on the fore-and hindwings. Small, mostly insignificantly coloured species, formerly denominated Stictane Hmps. Nearly all the species have been recently discovered from New Guinea, their types being in England.

M. rufotincta Rothsch. Head white, antennae and thorax greyish-brownish, collar and shoulder-covers rufotincta, at the base white; abdomen yellowish-reddish. Forewings cinnamon-grey, the basal two fifths of the costal margin greyish-white, the distal three fifths chestnut-red; between the median and proximal margin there is an indistinct, irregular, blackish-red spot; in the marginal quarter a transverse row of black dots and at the margin small reddish spots. Hindwing reddish yellowish-grey, at the margin darker. Length of forewings: 10½ mm. Mount Goliath and Biagi (New Guinea).

M. lactogrisea Rothsch. Head and thorax yellowish-white, abdomen drab. Forewings yellowish-lactogrisea, white, a postmedian, wedge-shaped, grey spot, at its apex 2 yellow spots close behind it, and between the yellow spots extends an indistinct transverse line; at the apex two dark spots, at the proximal angle one. Hindwings light drab. Length of forewings: 10 mm. Upper Setekwa River, Dutch New Guinea.

M. albina Rothsch. Antennae, head and thorax snow-white, abdomen more grey. Forewing snow-albina, white with a number of indistinct, dirty brown, diffuse spots; at the costal margin behind the base an angled line and behind it 3 brown spots; hindwings snow-white. Length of forewings 7½ mm. Angabunaga River, British New Guinea.
**MICROTANE.** By Dr. M. Draudt.

**M. terminalis Rothsch.** Head and collar white, antennae and rest of the body silvery grey. Forewings white; 2 basal thirds of the costal margin and a large spot in the basal third between the median fold and proximal margin dark grey, a broad, grey antemarginal band; apex and margin chestnut-brown, spotted grey. Length of forewings: 8 mm. Kumusi River and Upper Setekwa River in New Guinea.

**M. grisescens Rothsch.** has a drab body and whitish-grey forewings with transverse, band-shaped, greyish-brown diffuse spots and a darker grey marginal band. Hindwings light drab. Length of forewings: 6½ mm. Milne Bay in British New Guinea.

**M. albiplagia Rothsch.** Head and thorax white, abdomen more grey. Forewing iridescent yellowish-grey with indistinct, greyish-brown markings; in the basal half below the median fold and in the apical half there are large, snow-white spots. Length of forewings: 7 mm. Biagi on the Mambara River in British New Guinea (March).

**M. obliquilinea Hmps.** (16 a) is white with a very oblique, blackish-brown median band and small black dots. Hindwings pale brown. China, Singapore, Celebes, Java.

**M. rectilinea Snell.** (16 a) has grey forewings dotted black and a stretched, oblique median line with blackish-brown shading behind it at the costal margin; in the lower cell end there is a black dot, behind it runs a curved row of black dots. Hindwings dark brown. Expanse of wings: 18 to 20 mm. Singapore to Borneo.

**M. fractilinea Snell.** (= multipuncta Hmps.) (16 a) shows black dots on its whitish forewings densely dusted with brown and a dark median band interrupted in the cell. Hindwings light brown, at the margin darker. Sikkim, Ceylon, Sumatra, Java.

**M. implens Wkr.** (= junctilinea Hmps.) (13 m). This little species has been already mentioned on p. 109 in the genus *Nola*, but it belongs here and is no Nolid. The small insect is white on its body and wings, dusted and watered greyish-brown; at the base of the costa on the forewing a dark stripe, in the cell near the base a black dot; a dark median line is between the lower median vein and the proximal margin connected with a postmedian line by dark dusting. Single antemarginal dark dots. Hindwings dusted brownish. Expanse of wings: 18 to 20 mm. Singapore to Borneo.

**M. rufofasciata Rothsch.** ♀ quite silvery ash-grey, the basal two thirds of the costa on the forewing strongly curved and black, an intermediate, yellowish-red chestnut-coloured oblique band bends round towards the anal angle below vein 1. Behind this band there are some spots and small, black, scattered scales. Besides there are some spots and scattered black spots on the hindwing. Length of forewings: 6 mm. Milne Bay, New Guinea, in December.

**M. postpuncta Rothsch.** In the ♀ the antennae, head and thorax are snow-white, the abdomen greyish-white; forewings white, one basal, two discal and terminal dirty bands of a dull brownish yellow; hindwings white, with various yellowish, dirty spots and one large, brown, disco cellular spot. Length of forewings: 8½ mm. Milne Bay (New Guinea) in December.

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**100. Genus: Microtane Hmps.**

Proboscis absent. Palpi porrect, delicate, not reaching beyond the forehead. ♀ antennae ciliated; tibiae with long spurs. Forewing with a rounded apex. Vein 3 rises before the cell-angle, 4 and 5 petioled, 6 from the upper angle, 7, 8 and 9 petioled, 7 rises after 9, 10 and 11 from the cell. Hindwing with 2 veins towards the cell-angle; 3 and 4 petioled, 5 absent, 6 and 7 petioled, 8 from the middle of the cell.

**M. fusca Hmps.** ♀ dark brown, abdomen blackish with an ochreous anal tuft. Forewing strewn with black, the costal area towards the base blackish; in, before and behind the cell-end very small black dots; behind the middle and before the apex blackish spots; a marginal row of small black dots. Hindwing dark brown with more indistinct, small discoidal spots. 12 mm. Ceylon.

The only species shows a similar structure as the *Manola*, but the short palpi are porrect, and on the forewing the 1st subcostal vein anastomoses with the costal vein. Hindwings as they are there.

*S. sciocosma* Meyr. (= nitens Meyr.) (16 h) is unicolarously light ochreous-yellow with a more or less indistinct, feebly dentate, postmedian transverse line; sometimes also traces of an anterior one are visible; in some specimens the marginal half is dusted grey. Hindwings yellowish-white, more or less dusted grey. Queensland.


Of the two species known only one occurs in the real Indo-Australian region; the other, *fuliginosus* Moore, having been dealt with in the palearctic region (p. 63) and figured in Vol. II, t. 12 d, is mentioned as doubtful from India without the habitat being stated. Proboscis well developed, palpi long, slender, somewhat erect; male antennae with ciliary tufts. On the forewing the 2nd and 3rd subcostal veins are petioled and by anastomosing with the 4th they form an accessory cell. On the hindwing all the veins are unpetioled.

*A. guttivitta* Wkr. (15 k) is a large species; the white forewing is dotted black in the basal half, in *guttivitta*, the distal half the veins are striped black. From Sikkim.


Is very closely allied to the preceding in the venation. Different by its longer palpi, singly ciliated ♂ antennae and the tibiae with shorter spurs; the abdomen projects beyond the anal angle of the hindwing, which is extended into a point; the proximal margin shows a tuft of long white hair in a fold; the accessory cell of the forewing is larger than in *Agrisius*.

*S. caerulescens* Hamp. (15 k) is black with an intense blue reflection; neck and border of the collar caerulescens orange. Celebes.


Proboscis well developed; palpi porrect, not projecting beyond the forehead provided with a tuft of scales; male antennae serrate and tuftily ciliated; abdomen roughly haired. Veins in general as in *Agrisius*, but on the hindwing the two lower radial veins as well as the subcostal with the radial rise on short footstalks.

*P. splendens* Btlr. (15 i) has a deep metallic green body; collar, palpi beneath, chest and transverse bands across the ventral side are golden yellow. The wings are dark copper-brown, on the veins striped green; on the submedian fold there is an orange-yellow longitudinal band. India (Bombay, Belgaum).


Differs from the preceding by its longer, narrower wings and roughly haired forehead; on the forewing the 1st subcostal anastomoses with the costal; the accessory cell is rather long. Hindwings as in *Paraona*.

*P. bicosta* Wkr. (= fraterna Btlr.) (15 k) in its exterior resembles palearctic Lithosia; forewing brownish-grey with an orange costal-marginal stripe and a whitish stripe below it; hindwings yellow. Palpi orange with a black terminal joint, also the vertex orange. New South Wales, Tasmania.

*P. longistriga* B.-Bak. ♂ head light ochreous, thorax light red-brown, patagia ochreous; abdomen longistriga creamy white. Cell on the forewing filled up with brownish speckling extending almost to the margin; below it a broad straw-coloured stripe. Proximal margin in its basal half broad dark. Hindwings creamy-white. Expanse: 43 mm. — *grandis* B.-Bak. is perhaps the ♂ of it, somewhat larger, lighter, the head whitish, smoothly ochreous, thorax greyish-brown, the longitudinal stripe on the forewing shorter and lighter, above its end a large grey spot. Hindwings duller. ♂ in Biagi, New Guinea, taken in April at an altitude of 5000 ft. ♀ from the Kebea-District.
106. Genus: **Apistosia** Hbn.

Several species in the American fauna, one in China and one in Queensland. The palpi are shorter than in the preceding, erect; the abdomen shows lateral tubercles on the first segment. The veins are as in the preceding, but on the hindwing the middle radial vein is absent; ɔ antennae show bristly ciliae.

A. **chionora** Meyr. (lok). The thorax is white, head, collar and abdomen light yellow, the abdomen above with greyish-brown hair. Forewing silvery-white, at the costal margin narrowly yellow; hindwings light yellow. Queensland; New South Wales.


Probosces strong; the very short palpi do not project beyond the rounded forehead. Forewing with a somewhat produced apex, the 1st median and the lower radial veins rise separately from the cell, the 1st radial from below the upper cell-angle; the 2nd to 5th subcostal veins are petioled, without an accessory cell; the 1st subcostal vein separately from the cell. On the hindwing the 1st median and 3rd radial, the subcostal and 1st radial are petioled, the middle radial vein is absent.

A. **stilboides** Moore (26 b). Head and thorax blackish-brown, intermixed with white scales, abdomen orange-yellow. Forewing purple-brown, one antemedian and one postmedian row of black dots, also in the middle of the cell and at the transverse vein one small black spot each; an antennal margin of indistinct white dots, behind them black marginal dots. Hindwings golden yellow, at the costal margin dusted blackish-brown. Assam.

108. Genus: **Dohertya** Hmps.

Very much like **Adrepsa**, distinguished by the stunted probosces; male antennae serrate, tibiae with long spurs; forewing narrow with a very much curved costal margin and rounded apex; the two lower radial veins rise from the same place in the lower cell-angle, the veins being otherwise as in **Adrepsa**.

D. **cymatophoroides** Hmps. has greyish-brown forewings, the discal area suffused with purple-brown, with 3 indistinct, lighter, ante- and postmedian and antennal transverse lines; in the middle of the cell a grey dot, at the transverse vein a grey crescent; at the margin dark brown vein-streaks; body greyish-brown, neck and metathorax dark red-brown. Burma.


Similar to the preceding. Head smooth, antennae finely ciliated. Middle tibiae with 1, posterior tibiae with 2 pair of moderately long spurs. On the forewing the two lower radial veins rise on a long footstalk, the upper one is absent. The other veins as in the preceding genus. New Guinea.

P. **trifascia** B.-Bak. Head white, forehead mixed with chestnut-brown; thorax chestnut-brown, shoulder-covers with white apices; abdomen greyish-brown; legs chestnut-brown, tibiae curled white. Forewing silvery white with 3 broad chestnut-brown transverse bands, the two distal ones in the middle flaved towards the base. Hindwing light reddish-brown, near the base somewhat diaphanous. Expanse of wings: 22 mm. From the Aroa River.

Proboscis well developed; the short, slender palpi are somewhat erect, not extending to the vertex. Abdomen roughly haired. Forewing narrow with a curved costal margin; the two lower radial veins rise on a short footstalk, the upper one rises from the upper cell-angle; the 1st subcostal anastomoses with the costal. Veins on the hindwings as in the preceding genera. 2 African and 2 Indo-Australian species.

P. albescens Rothsch. Antennae brown; head white; thorax and abdomen whitish-grey; forewings albescens. greyish-white, dusted ash-grey; at the base of the cell one small dark spot, at the cell-end two; in the marginal area 3 indistinct, grey transverse lines. Hindwings light yellowish-grey. Angabunga River.

P. orientalis Hmps. Head and thorax pale ochreous-yellow, base of palpi blackish. Abdomen above orientalis. greyish-white, beneath ochreous-yellow. Forewing ochreous-yellow, watered with a blackish brown; in the middle of the cell there is a small black streak and at the end 2 discal dots. A postmedian, curved, faded brownish line and towards the proximal angle antemarginal, small, dark spots; at the margin there are brown dots; the fringes are whitish. Hindwings grey, tinted blackish-brown with white fringes. Expanse of wings: 22 mm. Singapore.

111. Genus: PARASHADA Hmps.

Proboscis developed, palpi porrect, not extending beyond the round projection of the forehead, below which there is a horny plate. $\varphi$ antennae with ciliae and bristles; tibial spurs medium strong. In the $\varphi$ the forewing beneath shows a long, hairy costal fold. Veins extremely disarranged. Vein 2 rises from the middle of the cell; behind vein 3 the median bends upwards and backwards to the lower angle of the very long areola before its end, from which the veins 4 and 5 branch off; 6 from the areola; 7, 8, 9 petioled, 10 and 11 from the areola. Hindwing broad, costal area very convex, cell very narrow; vein 2 rises before its middle, 3 with 4 on a short footstalk; 5 is absent, 6 anastomoses with 7, 8 is strongly curved.

P. truncata Hmps. $\varphi$: head and thorax orange, abdomen dark brown, beneath orange; forewings truncata dull red-brown. Costal half of the hindwing light yellow, the proximal half dull brown. 24 mm. Sula Mongoli.


A large number of species from the Indo-Australian and American regions, of a rather characteristic exterior: rather slender, mostly narrow-winged animals distinguished by the abdomen being particularly strongly haired and mostly provided with hairtufts. Proboscis well developed, the erect palpi do not reach the vertex. On the forewing the two lower radial veins rise petioled or from the cell; an accessory cell is present. On the hindwing the two lower radial veins are likewise petioled or rise from the cell; the same is the case with the subcostal and 1st radial. The antennae are longer or shorter doubly combed or ciliated. Many species exhibit long-haired scent-scale-spots.

M. apicalis Moore (15 g) has blackish-brown wings with a purple reflection and white apex: collar apicalis. orange. Sikkim.

A. albifinis Wkr. (Vol. II, t. 12 f) is lighter greyish-brown, the white apical spot is larger and also albifinis. the hindwing shows a white border at the apex. In the North West Himalaya, extending into the palearctic region.

A. divisa Moore (15 g). Head and thorax blackish-brown, abdomen grey. Forewing yellowish, the divisa. costa and a broad inner-marginal stripe blackish-brown with a purple reflection. Hindwings dull yellow. Sikkim, Borneo.

A. bisecta Rothsch. Antennae brown, palpi red-brown, head yellowish-red; thorax and abdomen bisecta. slate-coloured, on the last segment an orange-reddish ring. Forewing pale yellow-reddish from the base to the margin at the lower median vein, the rest slate-coloured. Hindwings yellowish-red. Length of forewings: 22 mm. Kina-balu (North Borneo).

A. beema Moore (15 g) is easily recognizable by the red-brown forewings and orange-yellow hindwings beema. with a large brown inner-marginal spot. Sikkim.

A. metastaxantha Hmps. (15 h) has likewise brown and orange hindwings, the latter, however, exhibit metastaxantha. a brown distal margin. Bhutan.
A. *gigas* Heyl. (15 c). The hindwings are unicolorously orange-yellow; the brown forewing has a yellowish-white inner-marginal stripe. Java.

A. *rufifrons* Moore (15 g) has an orange-yellow head and collar. The costal margin of the brown forewing is light yellow like the proximal margin; hindwing orange-yellow; the ♀ has much narrower costal-marginal and inner-marginal bands. Sikkim. — subsp. *virago* Rothsch. ♀ differs from typical *rufifrons* by the sooty-black, not greyish wood-coloured forewings and the orange hindwings. The ♀ differs by an orange-buff longitudinal band below vein 1, which is present like in the ♀. Horisha in Formosa.

A. *semirufa* Hmps. (15 h) differs from *rufifrons* by quite dark brown forewings, only the proximal margin being narrowly orange. Assam.

A. *albocinerea* Moore (15 i). Forewing-white with a silky lustre; the extreme costal margin, proximal margin and fringes, as well as the hindwings brownish-grey. Abdomen greyish-brown with a yellowish anal tuft. In the ♀ the hindwings are white. The head of the type is light yellow. — ab. *sericeipennis* Moore has a blackish-brown head, and the ♀ hindwing is white with a brown apical spot, whilst in the ♀ it is all white. Sikkim; Java.

A. *prasena* Moore (26 b). Head and thorax metallic bluish-black, collar, chest and hips orange. Abdomen blackish-blue, towards the base grey, anal tuft and ventral side orange. The forewing is white, the veins striped metallic blue; the basal half of the cell and the costal margin as far as the cell-end dark; at the transverse vein and at the apex blackish-blue spots. Hindwing white with a black border, towards the apex expanded into a black spot with vein-strips. Himalaya, Sikkim, Assam.

A. *voltzi* Weym. This large species, described as *Tripara*, is on its head and thorax lustrous blackish-blue, of which colour is also the abdomen above, only the 3 first rings being above covered with dark brown hair. The 1st palpal joint, proboscis and collar are orange, so are the chest, femora, and the underside of the abdomen. The forewing is unmarked dark bluish-grey with a blue reflection. Hindwing white, at the costal margin broadly, towards the proximal angle taperingly bordered by bluish-grey, with an indistinct proximal bordering. Expanse of wings: 57 mm. Sumatra.

A. *alboluteola* Rothsch. Forehead and antennae black; head and thorax yellowish-white; abdomen yellowish-red. Forewing creamy-white; a broad, distally irregular, postmedian transverse band is steel-green with a purple reflection; costal-margin and fringes blackish-brown. Hindwing reddish-yellow with a sooty black postmedian spot. Length of forewings: 24 mm. Assam (Khasia Hills).

A. *ramelana* Moore (= quadrimaculata Moschl.) (15 i) deviates from the preceding by its purely white forewings and a more purple-brown transverse band which is reduced to a small spot in the ♀. Distributed and not rare from Sikkim and Assam to Borneo and Java. — ab. *restricta* ab. nov. (= ab. 1 Hmps.) from Borneo and Java has a narrower and almost straight postdiscal band. — In ab. *obsoleta* nov. (= ab. 2 Hmps.) all the black is entirely absent. Java.

A. *virilis* Rothsch. The ♀ resembles the ♀ of *ramelana* Moore, but it has a postdiscal oblique band of the same width at the costa and proximal margin and quite black. Spots on the hindwings smaller. Length of forewings: 27 mm. Horisha in Formosa.

A. *bipars* Moore (15 h). The broad, quite blackish-brown marginal part of the forewing and the abdomen being orange-yellow towards the end separates the species from *visilis*. Sikkim.

A. *maculata* Moore (15 h) has unicolorously light yellow forewings, and orange-yellow hindwings with a white margin and large black marginal spots. The ♀ is paler, with reduced black markings, the apical spot on the hindwing being quite absent. Sikkim.


Chiefly deviating from the preceding genus by the absence of the accessory cell on the forewing; the 1st and 2nd subcostal veins come separately from the cell. Most of the forms were recently discovered in New Guinea.

O. *entella* Cr. (= convoluta F.) (15 f). Forewing orange-yellow with a metallic green costal margin and 2 similar transverse bands; the middle one is expanded to a large quadrangular spot below the cell, the distal one runs obliquely to the distal margin and grows gradually much broader. Head and collar orange, *delia* thorax and shoulder-covers metallic green. Formosa, Bombay, Ceylon. — subsp. *delia* F. (= splendens Lucas)
shows a narrower discal spot, the anterior part of the thorax orange. Borneo; New Hebrids; Salomons, Australia; Queensland. — subsp. ceramensis Voll. from Ceram is of a more fiery orange; the green discal spot extends till nearer to the base; the green at the thorax like in the type. The larva is ochrous-yellow, on the dorsum brown, laterally watered brown with brown and grey hair-tufts resting on orange-yellow and carmine tubercles; it lives on lichens, according to Piepers also on Flacourtia and Ficus heterophylla and pupates in a leaf spun together.

0. lifuensis Roths. Antennae brown; head and thorax yellowish-red; apices of shoulder-covers lifuensis. and a large spot on the metathorax steel-green; abdomen orange-reddish. Forewing yellowish-red with a satiny lustre; three quarters of the costal margin, a median transverse band, below the median twice as broad as above, and a spot in the middle of the border are metallic greenish-blue. Hindwings paler orange-yellowish. Length of forewings: 16½ mm, ♀ 21 mm. Lifu. Loyalty Islands.

0. aurifera Roths. Antennae sooty brown, forehead black; vertex and thorax orange-reddish aurifera. with a metallic lustre; abdomen Isabel-coloured. Forewings metallic reddish-golden; a spot near the base of the proximal margin, a large discal spot and the basal two thirds of the costal margin metallic blue. Hindwings maize-coloured. Length of forewings: 21 mm. Octakwa River, Snow Mountains in Dutch New Guinea.

0. metallescens Roths. Antennae brown, forehead black; vertex and thorax reddish golden, the thorax with a purple-brown median spot; abdomen light Isabel-coloured, the last two segments and the anal tuft maize-coloured. Forewing silvery-white; the basal half below the median reddish golden, on 3 sides surrounded by a broad, purple-brown band enclosing the costal margin in its basal third and extending in the middle in a broad wedge to the margin. Hindwings Isabel-coloured yellow. The ♀ is larger and paler. Length of forewings: 19 mm, ♀ 24 mm. Mount Goliath, Dutch New Guinea (February).

0. bistrigata Roths. Palpi scarlet; head grey with a reddish-yellow median band; thorax slate-coloured with a greenish metallic lustre; collar reddish-yellow with scarlet margins and a slate-coloured median band, shoulder-covers Isabel-coloured; legs scarlet, abdomen reddish-yellow. Forewing reddish golden, dusted brownish; a broad band along the basal two thirds of the costal margin and a hook-shaped discal band from the basal third of the proximal margin to two thirds of the length of the lowest radial vein metallic green with a purple reflection. Hindwings orange-yellowish. Length of forewings: 26 mm. Mount Goliath, Dutch New Guinea.

0. bicolora B.-Bak. resembles bistrigata. Head and antennae black, also the terminal joint of the carmine palpi; body like in bistrigata. Forewing straw-coloured with a carmine costa; a broad, hook-shaped, dark bronze-coloured band is situated below the cell, bends a little upward at the cell-end and turns at the proximal end rectangularly to the proximal margin. Hindwings of a deeper yellow. Expanse of wings: 42 to 44 mm. Dinawa. (New Guinea.)

114. Genus: Chrysaeglia Btlr.

Very closely allied to the preceding; distinguished by the ciliated antennae of the ♀; the veins on the forewings like there; there may occasionally also occur an accessory cell; on the hindwing the middle radial vein is absent. The only species known for a long time is Indian; another species was described from New Guinea.

C. magnifica Wkr. (15 f) has golden yellow forewings with a broad metallic green costal margin and distal margin, exhibiting a purple reflection, a similar inner-marginal spot near the base and a discal band expanded below the cell. Nepal, Sikkim, Borneo. — fa. ferrifasciata Moore from India shows a still greater expansion of the discal band below the cell. — taiwana Wil. is of a paler ground-colour with more intensely metallic blue markings. The inner-marginal spot on the forewing is connected with the costal margin. From Formosa; taken in August.

C. bipunctata B.-Bak. Head and neck yellow, shoulder-covers yellow with white tips and a large, metallic green spot; thorax white, spotted metallic green; abdomen white with a yellow anal tuft; forelegs blackish, middle and hindlegs yellowish-white. Forewing pearl-coloured white with a large, metallic green spot below the cell and a smaller one behind the cell. Hindwings pure white, diaphanous. Expanse of wings: 38 mm. Kebea Mountain, Dinawa and Aroa River.


Distinguished from the preceding by the 1st median rising together with the 3rd radial from the lower cell-angle of the forewing, whereas the middle radial vein is absent; the subcostal veins form an accessory cell, only the 1st subcostal vein rising separately from the cell. On the hindwing the 1st median and 3rd radial rise petioloed or unpetioled, the middle radial vein is here also absent; the transverse vein is almost entirely absent and the discocellular is open; subcostal and 1st radial are on a short footstalk. There are altogether 5 species known, two of which are met with in the palearctic region, the others being Indian.
C. viridata Wkr. (= strigata Mosch.) (on t. 15 f the palearctic alpina Hmps. has been figured by mistake as viridata) is smaller than the figure, with an entirely metallic green costal margin and a broader yellow proximal margin; besides it exhibits, like the following, scent-scale stripes on the forewing, which are absent in alpina. Thorax black. Sikkim, Assam.

C. bivitta Wkr. (= disjuncta Moore) (Vol. II, t. 12 f) has been dealt with in the palearctic part, and differs from the preceding essentially by its yellow thorax and much larger size. North West Himalaya, Assam and Sikkim.

C. aurantiaca Hmps. (15 f) is still larger than the preceding and has no scent-scale stripes on the forewings; thorax yellow, shoulder-covers blackish-green, bordered with orange. Assam, Khasia Hills.

C. wilemani Hmps. (= taiwana Wil. $, nec $). By the name of taiwana Wileman has combined 2 different species. Of the present species only the $ has become known so far. The body is yellow, the palpal ends, sides of the forehead, and antennae black. Collar metallic green on a black ground with a yellow margin. Legs black and green. Forewing yellow with an equally broad, black costal-marginal streak suffused with green; a similar oblique band extends from the base of the proximal margin to the distal margin on the middle radial vein. Fringes in the apical half black. Hindwings yellow. Expanse of wings: 54 mm. Formosa.

H. taiwana Wil. $ Head and thorax light buff, the latter with a bluish-black dorsal spot, abdomen buff. Forewing light buff, the costal margin bordered with bluish-black, in the basal two thirds narrowly and in the apical third broadly, above the proximal margin a broad, bluish-black stripe; its proximal end pointed and bent upwards, but not reaching the base of the wing, the other end rounded before the posterior margin. Hindwings light buff, beneath similar to above, but the marking of the forewing without the blue tint. 44 mm. Formosa.

M. trimaculata Hmps. (15 e) has a bluish-black head and thorax, palpi, forehead, collar, and base of shoulder-covers orange like the abdomen, the latter above as far as almost to its end dull bluish-black. The bluish-black forewing exhibits 3 oblong, orange spots below the costal margin. Hindwings orange-yellow. Borneo (Kina-balu), Java.

M. affinis Rothsch. is closely allied to the preceding. Head orange, antennae black; thorax steel-green, collar and the distal two thirds of the shoulder-covers orange; abdomen dark slate-coloured, the sides of the 3 last rings orange-yellow. Forewing above the median orange; the basal 2 thirds of the costal margin and the wing below the median purple-brown with a steel-green reflection. Hindwings reddish-orange. Length of forewings: 22 mm. Malayan Peninsula.

M. persimilis Rothsch. is very much like Chryseaeglia (?) bipunctata B.-Bak. flying together with it; at first sight recognizable by its combed antennae; forehead black, vertex, collar and shoulder-covers Isabel-coloured; the thorax exhibits small, indistinct, dirty grey spots. Abdomen yellowish-white. Wings larger and the hindwings rounder. The forewing exhibits two dark brown spots, the proximal one being narrow crescentiform. Length of forewings: 21 mm. Mount Goliath, Dutch New Guinea.
CALAMIDIA; BITECTA. By Dr. M. Draudt.

M. montanus Schultze. Head, collar, thorax beneath and abdomen beneath ochreous-yellow, thorax montanus. above as well as a narrow border of the collar metallic bluish-green; abdomen above dark brown. Forewing ochreous-yellow, the basal two thirds of the costal margin metallic bluish-green; a band from the base along the proximal margin is expanded below the cell to a large spot, and another wedge-shaped, postmedian spot is coloured the same. Hindwing light ochreous-yellow, an apical spot dark brown. Length of forewings: 18 mm. Luzon (Prov. of Benguet, 1000 m).

118. Genus: Calamidia Btlr.

Proboscis well developed; male palpi much longer and more slender than in the ♀; abdomen roughly haired. Forewing long and narrow, with a curved costal margin; the middle radial vein is absent; accessory cell present, only the 1st subcostal comes separately from the cell; on the hindwing the middle radial is likewise absent, the others rise unpetoled. In addition to the only species formerly known from Australia, 5 more have been recently described from New Guinea.

C. hirta Wkr. (≡ salpinctis Meyr.) (15 e). The light ochreous-yellow forewing is densely dusted with hirta. a brownish grey, only a longish spot below the cell remains free of it. Hindwings ochreous-yellow. In the ♀ the body is darker, the forewing is yellowish-white with brown veins; inner-marginal area dusted with a light brown, continued towards the middle of the border. New South Wales, Victoria.

C. irrorata Roths. Antennae red-brown; head and thorax yellowish-grey, speckled with brown; irrorata. abdomen light grey, the 2 last rings yellow. Forewing yellow-reddish grey, speckled with brown; a postmedian, undulate, brown transverse line. Hindwing diaphanous yellowish-grey, in the distal half of the costal margin speckled brownish. The ♀ is larger and lighter. Length of forewings: ♀ 13 mm, ♀ 15 mm. Mount Goliath, Dutch New Guinea.

C. warringsonella B.-Bak. Antennae brown, head orange; thorax brownish-grey, collar and base of shoulder-covers orange; abdomen grey with a yellow-reddish anal tuft. Forewing yellowish-white with a satiny lustre, the inner-marginal part below the median greyish-brown, towards the margin narrowed and terminating between the 1st median and 2nd radial; hindwing drab, proximal margin and fringes greyish-white. The ♀ is larger, the forewing white, the dark inner-marginal part narrower. Length of forewings: ♀ 15 mm, ♀ 21 mm. Stanley Mountains in British New Guinea. — subsp. goliathina Roths., is larger, forewings in the ♀ of a deeper yellow, in the ♀ cream-coloured. Length of forewings: ♀ 19 mm, ♀ 19½ mm. Mount Goliath, Dutch New Guinea.

C. castanea Roths. Antennae brown; head and collar yellowish-brown; thorax chocolate-brown; castanea. abdomen drab. Forewing chocolate-brown, clouded chestnut-brown and with a purple reflection; a stripe on the submedian fold to the proximal angle black, speckled white. Hindwings diaphanous grey. Length of forewings: 18 mm. Mount Goliath.

C. reticulata Roths. is an uncommonly variable insect; in the typical form the head is reddish reticulata. yellowish-white, palpi black, antennae brown; thorax light yellowish-brown; abdomen Isabel-coloured with a yellow anal tuft. Forewings chestnut-brown, strewn with Isabel-colour, a broad, whitish diffuse spot, between the inner-marginal vein and median, from the base to ⅔ of the length; at the end of it is a dark brown spot. Hindwings Isabel-coloured. The ♀ is larger and lighter. The dusting may be much more intense and cover more or less the light diffuse spots, whilst the whitish strewing may also increase very much, particularly in the ♀. The hindwings may turn somewhat salmon-coloured in the ♀. Length of forewings: ♀ 20 mm, ♀ 23 to 25 mm. From Biagi and the Angabunga River in British New Guinea.


Separated from the preceding by longer, straightly porrect palpi with a long slender terminal joint; the last abdominal ring and the valves are long-haired. The middle part of the costal margin of the forewing is long-haired beneath and turned over upwards, in the base of the cell there is a hairy spot; the cell itself very narrow; the 1st median and 3rd radial are on a short footstalk, the 2nd radial is absent; the 1st rises near the lower cell-angle, the 5th subcostal vein from the upper one; the 3rd and 4th are petioled. On the hindwing the 1st median and 3rd radial are likewise petioled, the 2nd radial is absent; the subcostal rises before the upper cell-angle.

B. murina Heyl. (15 d) has greyish-brown forewings with darker veins, the basal half of the costal murina. margin is light yellowish. Hindwing yellow with a light brown distal third. Borneo, Java.

120. Genus: Mantala Wkr.

Proboscis well developed; palpi porrect, with a long terminal joint. Male antennae in the basal half broad, flattened and serrate, with long bristly ciliae; abdomen roughly-haired. Forewing short and broad with a very convex costal margin, particularly in the 5 exhibiting hairy spots on the under surface at the cell-end and in the distal half of the proximal margin. The 1st median and 3rd radial rise on a long footstalk, the 2nd radial is absent; the 1st comes from below the upper cell-angle; the 4 lower subcostal veins are petioled, only the uppermost rises separately from the cell. On the hindwing the 1st median and 3rd radial as well as the subcostal with the 1st radial are petioled, the middle radial is absent. Only one species is known.

**M. tineoides** Wkr. (15 d) has reddish yellowish-brown forewings with a black spot in the middle of the costal margin, from where an indistinct dark line runs to the proximal margin; besides an indistinct, dark antemarginal line. Hindwing light brownish-yellow, at the margin darker. Borneo.

121. Genus: Lithosia F. (*Eilema, Ilema etc.*)

This genus having of late mostly been denominated „Ilema“ in conformity with the whole of the older literature, as has already been stated in the II. Volume (p. 65) of the Macrolepidoptera and in contrast with some modern works using partly the name *Eilema* partly *Ilema*, has been maintained, since also by far most of the species have (according to Hubner) been noted as „Lithosia“*. It contains, however, also numerous genera of Walker, such as *Corcura*, *Cossa*, *Hyca*, *Manuela*, *Teelisa* etc.; those of Moore such as *Capissa*, *Dolgoea*, *Collita*, *Gandhara*, *Katha*, etc.; moreover also genera of Felder, Hampson and others. The clearness of arrangement will be facilitated, if we adhere to the old denomination without substantiating the alterations of the names. For further particulars see Vol. II, p. 65.

Proboscis strong, palpi short, porrect, the middle joint beneath hairy; forehead rounded; antennae with bristly ciliae; tibiae with short spurs; abdomen roughly-haired. Forewing long and narrow, costal margin bent towards the apex, distal margin short; the 1st median and 3rd radial usually rise on a long footstalk, more rarely on a short one or from the cell; the middle radial vein is absent; the rise of the upper radial changes from below the upper cell-angle to the petiolation with the lowest subcostal vein; an accessory cell is present or absent. On the hindwing the 1st median and 3rd radial, and usually also the subcostal and 1st radial are petioled, the latter may also coalesce. The middle radial vein is absent. — The genus contains a great number of exteriorly rather similar animals with long, narrow forewings and broad, round hindwings of mostly whitish, yellow, or brownish-grey colouring. During day-time they rest, with their wings rolled together, on trunks or in the bushes, out of which they may be beaten. The larvae are partly mottled, with mostly short hair-tufts resting on knob-shaped tubercles; they live on lichens and pupate in loose webs on the soil, between leaves etc.

**L. barbata** Hmps. is in the 5 distinguished by serrate antennae with long ciliary tufts. The narrow forewing shows an accessory cell and is above in the cell covered with thick scales. The transverse vein runs very obliquely and the lower radial and upper median vein are very much curved downward. Head and thorax are orange, the abdomen more yellowish-grey. Forewings orange-yellow, the scaly brush of a deeper orange. Above the cell-end at the costal margin a small brownish spot. Hindwings light yellow. Expanse of wings: 20 mm. Philippines (Luzon).

**L. fasciculosa** Wkr. is on its head and thorax brownish-orange, forehead, palpi, antennae and legs are blackish, the abdomen orange. Forewing brownish-orange, beneath with dense hair on the median and on the submedian fold. Hindwings light yellow, at the proximal margin very thickly haired orange. Borneo, Java.

**L. tortricoides** Wkr. (= *biplagrella* Btlr.) (14 e). Forewing brownish-grey with a yellowish costal margin and black-striped veins; a triangular black costal spot. 1st median is strongly curved downward and is near the margin fused with the 2nd; the discocellular is extremely narrow. Hindwings yellowish, at the borders brownish. Nilgiris; Borneo; Java; Bali.

**L. tumida** Wkr. (= *basistriga* Moore) (14 g) has, like the two following species, a protuberance in the middle of the costal margin; the forewings are greyish-brown, at the base of the costal-margin whitish, before the protuberance with a small black spot, at the cell-end a round, black spot; postmedian traces of a brownish transverse line. Hindwings light yellow, towards the margin darkened. The 5 has at the lower cell-end only a fine black dot, the proximal margin being blackened as far as beyond the middle; the hindwings are darker. Sikkim; Ceylon; Malacca; Borneo, Java. The larva is quite black, with short hair, and lives on mosses.
L. protuberans Moore (14 h) is larger than tumida, the spot at the cell-end is crescentiform, the protuberans. hindwings more orange-yellow, particularly in the ♀. Sikkim, Bhutan.

L. obliquistria Hmps. (14 g) is likewise very similar; the cell-spot is united with an oblique costal- obliquistria. marginal stripe. Hindwings brownish-ochreous-yellow. Burma.

L. plagiata Wkr. (14 h). Head, collar, and base of shoulder-covers brownish-white, the rest of the plagiata. thorax black; abdomen grey, in the ♀ at the end black. Forewing yellowish-white, basal area in the inner- marginal part dusted greyish-brown; in the middle is a large, square, black spot extending from the proximal margin almost to the costa; a postmedian row of confluent black spots. Borneo, Java. — In subsp. atratella atratella. Wkr. (= bertha Btlr.) from Java the postmedian row of black spots is absent and replaced by a pale brownish grey.

L. uniplaga Hmps. (14 h) is very much like plagiata, distinguished by a black spot at the costal uniplaga. margin behind the middle; the black discal spot is distally bent and shows an excision upwards. Hindwings darker. Burma.

L. aurantiotestacea Roths. Head and collar orange; thorax black, abdomen grey with a black apex. aurantiotestacea. Forewings reddish yellowish-grey, fringes orange; in the middle there is a large, square, velvety black spot. Hindwings reddish-orange. Length of forewings: 12 mm. Amboina in August.


L. pyralina Roths. Antennae, thorax and abdomen sooty brown, head and collar orange. Forewing pyralina. dark wooden-brown, the costal margin in the basal 2/3 reddish-yellow. Hindwing in the basal half reddish-yellow, distally dark wood coloured-brown. Length of forewings: 10 mm. Tambora, Sumbawa.

L. semibrunnea Heyl. (14 h). The yellowish-white forewing densely dusted with a brownish grey, semibrunnea. with a whitish costal margin, exhibits in the proximal half a large black spot extending almost to the base; before the middle at the costal margin a small, short, black stripe; behind the middle in the cell-spaces black longitudinal streaks. Hindwings brownish-grey with ochreous-yellow fringes. Java.

L. chiloides Wkr. (=torta Wkr., humeralis Wkr., dasypyga Fldr.) (14 i) differs from the preceding chiloides. by the absence of the large black spot; in the middle of the costal margin there is another black stripe and post- median traces of a transverse band. Hindwings orange-yellow. The ♀ has instead of the middle costal-marginal spot a black dot at the lower cell-end and dark dusting in the basal half of the proximal margin; hindwing more brownish-grey, at the proximal margin yellowish. Malacca, Borneo, Java, Celebes, Queensland.

L. violitincta Roths. Head yellow reddish-brown, thorax violetish-brown, abdomen dirty reddish- violitincta. yellow, at the apex black. Forewing violetish-brown, in the distal third lighter; from the base to the cell-end extends a scent-organ of rough, erect scales, at the end of which there is a chocolate-coloured spot; in the middle of the costa a brown stripe; hindwings reddish-orange. In the ♀ the basal half below the median is chocolate- coloured; in the cell and obliquely above it at the costal margin one small dark spot each; the body is darker, the hindwing more greyish-brown. Length of forewings: ♀ 12 to 14 mm, ♀ 15 mm. Tambora, Sumbawa.

L. bipunctata Wkr. (= mysolica Swinh.) (15 k) is very much like chiloides, but the costal-marginal bipunctata. spot in the base is absent. Mysol, New Guinea, Louisiads, Queensland.

L. dinawa B.-Bak. approaches bipunctata. Head and abdomen grey, thorax and legs brown, tarsal dinawa. ends black. Forewing light fawn-coloured, below the cell darker with a small, black costal spot in the first quarter; at the cell-end a black dot; marginal area darker. Hindwings ochreous-yellow. Expanse of wings: 32 to 34 mm. Dinawa, New Guinea.
inducta. L. inducta Wkr. (14 f). Forewings brownish-grey; the basal half of the costal margin broadly white with a basal, black stripe in it; in the middle and before the margin faded blackish bands. Hindwing light yellow with a brownish-grey spot near the proximal angle. The ♀️ has an orange-yellow anal tuft and instead of the median band a black dot at the lower cell-end. Nilgiris.

distorta. L. distorta Moore (14 i). The ♀️ is distinguished by a large scent-scale spot in the middle of the costa on the hindwing, covered by the very convex proximal margin of the forewing. The forewing is brownish-grey, at the costal margin reddish-orange-yellow with a black spot behind the middle, from which a dark band runs to the proximal margin. Hindwing light yellow, towards the apex darker, the scent-scale spot blackish-brown. The ♀️ is striped ochreous-yellow in the cell-spaces of the marginal area, the costal margin is more yellowish-white and the costal-marginal spot more triangular. — In ab. impuncta nom. nov. ♀️ (= ab. 1 Hmps.) from Nepal the black costal-marginal spot is absent. — ab. destriata ♀️ (ab. 2 Hmps.) is without the ochreous-yellow marginal stripe. Nepal; Sikkim; Assam; Pulo Laut.

impuncta. destriata. tetragona. L. tetragona Wkr. (= tenuisigna Moore) (Vol. II, t. 13 d) has a yellowish-white forewing with a very large, longish-quadrangular, black spot in the middle, from the subcosta to the proximal margin, and a small, triangular black spot behind the middle of the costa. Hindwings light yellow. — In ab. sordida Btlr. the upper part of the discal spot is more rounded and the ♀️ exhibits a short black stripe on the inner-marginal vein near the base. Widely distributed in India, Sikkim and Assam, and in China extending into the palaearctic region. — subsp. oblonga Btlr. has a shorter black discal spot not extending so far towards the base. Borneo (Sarawak).

sordida. flavicosta. L. flavicosta Moore (14 i) has a dark brown forewing with a yellowish-white costal area and behind the middle a black spot in it; postmedian traces of a dark, oblique transverse line and in the cell-spaces of the marginal area yellowish stripes. Hindwings greyish-brown with yellowish fringes. Assam (Khasia Hills); Pulo Laut.

venosa. L. venosa Moore (14 i) is very much like flavicosta, of a paler greyish-brown, the costal part only indistinctly lighter, the postmedian transverse line more distinct. Hindwings greyish-brown, in the ♀️ light yellowish-brown. Sikkim; Assam; Burma.

sordida. plumeomicans. L. plumeomicans Hmps. (14 h) likewise approximates the preceding, but the costal-marginal spot is removed more towards the apex, the transverse line being quite indistinct and the hindwings yellowish-white, towards the apex brownish. In the ♀️ the costal spot is larger, the transverse line is more distinct and the cell-spaces towards the margin striped ochreous, hindwings darker. Sikkim, Assam.

costalis. L. costalis Moore (= nubecula Moore, fimbriata Hmps.) (Vol. II, t. 13 d) differs from the preceding by the subcostally situate light longitudinal stripe; the proximal margin and the cell-spaces in the marginal area are striped darker; the costal spot is large and round. From Assam, Burma, the Andamans, Pulo Laut; in North China the species touches the palaearctic region.

fuscistriga. L. fuscistriga Hmps. (14 h). Forewing greyish-brown with a leaden-lustrous, blackish-brown stripe in the cell below the end of the scent-scale stripe; basal half tinted reddish. Hindwing grey, towards the base yellowish. Assam, Burma.

cana. L. cana Hmps. (14 k) is unicolorously greyish-white, with a slight ochreous-yellowish tint. Hindwings yellowish-white. Assam (Khasis).

brunnea. L. brunnea Moore (14 i) has a blackish-brown forewing with a purple reflection and strewn with single black scales. Hindwings brownish-grey. Sikkim.

hades. L. hades B.-Bak. Head and thorax orange-red; metathorax and abdomen blackish-brown, the latter laterally and beneath reddish; legs brown, anterior femora orange. Wings unicolorously blackish-brown, the forewing with a small red basal spot. Dinawa (New Guinea).

uniformis. L. uniformis Hmps. (14 k) is unicolorously pale straw-coloured, on the forewing strewn with light brownish scales. Burma.

simplex. L. simplex Wkr. (= microxantha Hmps.) (14 k) deviates from uniformis by its smaller size, more orange-yellow ground-colour, and shorter and broader wings. Burma, Borneo.

L. testacea Rothsch. Antennae sooty brown; head and thorax blackish-grey, collar dirty reddish-yellow; abdomen dirty greyish-reddish. Forewings buff, hindwings orange-reddish. Length of forewings: 17 mm. Treasury Islands, Salomons. — subsp. lousiadensis Rothsch. is larger and of a duller colouring, the hindwings very much powdered with grey. Length of forewings: 19 mm. Louisiades (St. Aignan).

L. testaceoflava Rothsch. The ♀ is quite unicolorously orange-reddish, abdomen and hindlegs a little testaceoflava-lighter; the ♂ is more reddish-yellow, on the forewing on and below the inner-marginal vein darker. Length of forewings: ♀ 13½ mm, ♂ 15 mm. Kumusi River, North East British New Guinea (June).

L. nivea B.-Bak. has a white body and wings; costal margin fine dark; beneath the costal-marginal nivea. area is dark grey, and all the veins are marked dark. Expanse of wings: 23 mm. Dinawa, in September.


L. costistrigata B.-Bak. Head and collar ochreous-yellow, thorax grey; abdomen above grey, laterally costistriga-and beneath ochreous-yellow. Forewing unicolorously grey, costa fine pale ochreous-yellow; hindwings dia-pha-phantous light ochreous-yellow; the ♀ has more intense colours. Expanse of wings: 31 to 34 mm. Ekeikei and on the Aroa River, August and September.

L. nebulosa Wkr. Body and wings orange-yellow, abdomen towards the base more grey. Forewing nebulosa.with a faded, dark postmedian line distally flawed in an acute angle between the 1st median and 3rd radial; the veins in the marginal area are striped dark; hindwings light yellow. Borneo.

L. repleta Lucas (14 k) is orange-yellow, antennae brownish; abdomen towards the base lighter. repleta. Hindwings very thickly scaled, the costal margin of the hindwing is paler. Queensland.

L. auriflava Moore (= dorsalis Moore, sthenoptera Hmps.) (14 k) differs from the preceding by its auriflava.paler straw-coloured, more thinly scaled wings; antennae blackish-brown, except the base. Bengal, Assam, Sikkim.

L. arizana Wil. is allied to depellana Esp. (Vol. II, t. 12 g). ♀ forewing light whitish-brown with arizana.a faint grey tint on being exposed to a certain light; costa towards the apex tinted ochreous. Hindwing lighter and tinted faintly yellow. Under surface suffused with brown, at the costa narrowly ochreous. ♀ coloured lighter, the hindwings whiter. ♀ 38 mm, ♂ 40 mm. September, Formosa.

L. vagesa Moore. Ends of palpi blackish, antennae and legs black. Wings orange-yellow; the following vagesa.. exhibits, below the median from the base to the cell-end, a furrow, below and above which there are reddish yellowish-grey scent-scale stripes. In the disc of the hindwing we notice a very large, reddish-yellow scent-scale spot. Sikkim and Assam. — subsp. innotata Btlr. (= flavens Moore) (14 k) from Cashmir, Nepal and innotata.Burma has orange-yellow legs curled black, and the form of it: — auriflava Moore is of a deeper orange-brownish auriflava.colouring.

L. oblitterans Fltr. (= angulifera Fltr., undulata HeyeL, brevipennis Hmps.) (15 a) is yellowish-oblitterans.brown with a grey abdomen, being yellow at its end; forewing with a faded, curved, dark postmedian transverse line; hindwings light yellow. From India to Sikkim; Ceylon; Java. In the Ceylon form the ♀ has darker, more purple grey forewings. The species is also found in East Africa. The larva is light grey with a dark yellow dorsal line, with long black hair, behind the head on each side with a long hair-pencil.

L. conformis Wkr. (= nigrifrons Moore, laevis Btlr.) (Vol. II, t. 13 c). This species reaching the conformis.. palearctic region in Japan and in the North West Himalaya occurs also in Sikkim and Bhutan. The forewing is reddish-white, in the marginal area orange-yellow. Hindwing whitish, at the margin yellow. The ♀ has broader and more yellow wings, a black ventral side.
perdentata. **L. perdentata** Drue (14 k) is easily recognized by the median line being flawed in an acute angle below the cell; in the basal and marginal areas there are black stripes on the ochreous-brown forewings. Perak.

divisa. **L. divisa** Wkr. (15 a) is very much like the preceding and discernible by the median line being only feebly bent, and a black discal dot. Borneo, Java.

setiniformis. **L. setiniformis** Hmps. (15 a) placed by Snellen to *divisa*, has an entirely straight median line. Java.

reticulata. **L. reticulata** Moore (Vol. II, t. 13 c) has brownish forewings watered darker, with a postmedian line broken in an acute angle. North West Himalaya, Sikkim.


tricolor. **L. tricolor** Wkr. Forewing light cinnamon-coloured on the basal two thirds, in the distal third blackish. Hindwing creamy white, at the margin a blackish band; the latter towards the costa broadest, below the middle slightly notched and at the anal angle oblique. Beneath like above, but the basal two thirds of the forewing creamy white and the costal margin of all the wings streaked yellowish, 28 mm. From Kantaitsan (Formosa), one ♀ taken in May.

pentaspila. **L. pentaspila** Hmps. Head, thorax, and abdomen ochreous-yellow; anterior tibiae and tarsi blackish. Forewings ochreous-yellow, with a postmedian oblique row of 5 black, small spots: below the costal margin, in the cell-end, below the 3rd radial vein a somewhat distally flawed spot, a more strigiform one on the submedian fold, and at the proximal margin. Hindwings light ochreous-yellow. Expanse of wings: 26 to 30 mm. Singapore; Borneo.

atrifrons. **L. atrifrons** Hmps. Head, collar, shoulder-covers, chest and legs reddish-yellow; palpi, forehead and forelegs blackish. Mesothorax and base of abdomen greyish-white, the rest of the abdomen yellow. Forewings dusted whitish, hindwings yellowish-white. Expanse of wings: 26 mm. Nicobars.

pallida. **L. pallida** Moore (Vol. II, t. 13 c), likewise reaching into the palearctic region, from the North West Himalaya, shows on its brownish-grey forewing antemedian and postmedian black costal spots, besides at the lower cell-angle and in the middle of the submedian fold. The ♀ is without the anterior costal spot.

quadrisignata. **L. quadrisignata** Moore (15 a). The forewing is light brown, thickly dusted purple-blackish; the basal two thirds of the costal margin remain light with 2 dark spots before and behind the middle. Hindwings light brownish. Expanse of wings: 18 mm. Oetakwa River, Snow Mountains in Dutch New Guinea.

transfasciata. **L. transfasciata** Rothsch. Antennae light brown; head and thorax orange-reddish, abdomen dirty buff. The forewing is yellowish-white, in the distal quarter maize-coloured, and at the base a narrow black transverse band, before the middle one, behind the middle two similar ones; the most distal one is broken up on the upper radial, where the scent-organ of the under surface ends. Hindwings reddish-yellow. The ♀ is larger and exhibits another antemedian transverse band. Length of forewings: ♀ 13 mm, ♀ 18 mm. Oetakwa River, Snow Mountains in Dutch New Guinea.


basigera. **L. basigera** Wkr. (= ruma Swinh.) (15 a) is a large species with dark brown forewings and a purely white basal half of the costal margin and a black spot in it near the base, from which an oblique, dark band runs to the middle of the proximal margin, broken pointedly on the submedian fold; postmedian traces of a dark transverse band, hindwings orange-yellow. Beneath the costal margin is orange-red; in the ♀ yellow. Nilgiris.

apicalis. **L. apicalis** Wkr. (15 b). In the ♀ the forewing is yellowish grey with a broad, brownish-black marginal band being absent in the ♀, in which it is replaced by black spots at the costal margin behind the middle, in the cell-end and on the submedian fold before the middle. Borneo, Pulo Laut, Java. The larva is brown with black lines across the dorsum and on the sides, with long grey and black hair; the head is orange-yellow; it lives on moss and lichens, also on the leaves of Tamarindus and Engenia, and changes into a cocoon yielding the imago after a fortnight.
L. dorsalis Wkr. (15 b) differs from the preceding by the marginal band of the wing reaching neither dorsalis. to the distal nor proximal margin. Fringes and collar orange; hindwing grey with an orange-yellow marginal band. Sula: North Australia; Louisiads.

L. terminalis Moore (15 a) differs from dorsalis by its grey collar and fringes. Hindwings pale yellow. terminalis. — ab. semifusca Elwes with a marginal band expanded proximally as far as the cell is found amongst the typical semifusca, form flying in Sikkim.

L. cucullata Moore (15 b, in the table misprinted into cucullatella). The whitish-grey forewing with cucullata, a lighter costal margin shows a faded brownish-grey border, no defined marginal band as the preceding do. — ab. infuscata ob. nor. (= ab. 1 Hmps.) has the forewings thickly dusted with a brownish grey. Assam (Khasia infuscata, Hills); Andamans.


L. cuprea Rothsch. Head and thorax orange, antennae blackish-brown; abdomen dark grey. The cuprea, sides of the last rings and the anal tuft orange. Forewing purple brown with a coppery lustre; median fold and a spot in the cell orange. Hindwing in the larger basal half orange-reddish, distally sooty brown. Length of forewings: 13 mm. Kumasi River, British New Guinea.

L. nebulifera Hmps. (15 b). The light yellow forewing exhibits in the distal half of the proximal margin nebulifera, an irregular, brownish-grey spot. Singapore.

L. fasciata Moore (15 b). On the orange-yellow forewing there is an oblique, dark band extending fasciola, from below the apex to the middle of the proximal margin almost as far as the base. The wing is without this oblique band. Ceylon.

L. replana Lewin. (= dispar Leach) (15 b). Forewing greyish-black with a broad, yellow subcostal replana, stripe and in the wing a faded yellow spot below the cell-end, extending to the proximal margin; fringes orange. Hindwings light orange, at the margin brownish. Queensland, New South Wales.

L. chrysophleps Hmps. Head black, vertex orange, like the collar and the base of the shoulder-covers: chryso- pleps, chest and legs black; abdomen blackish-brown, base and anal tuft orange, ventral side black. Forewing blackish-brown, with orange-striped veins; costal margin and hindwings orange. Bhutan.

L. prabana Moore (= nigricans Wkr., lurida Snell.) (15 e). Blackish-brown, costal margin and fringes prabana, yellow or yellowish-white. Sula, Borneo, Java, Bali, Celebes.

L. fumidisca Hmps. (Vol. II, t. 13 e) deviates from the preceding by its lighter yellow hindwings: fumidisca, on the forewing not only the fringes, but also the border is yellow. Sikkim. Burma; in China on palearetic soil L. natara Moore (= vicaria Wkr., antica Wkr., sarawaka Bilr., imitans Mah.) (15 e as vicaria) is natara, larger than the preceding, the forewing more leaden-grey, the costal margin more orange-yellow. The range is enormous, in Africa from the Congo to Natal, in Asia in the Amur District and China palearetic, and besides in Sikkim, Assam, India, Ceylon, Andamans, Borneo, and Java. The larva is brownish-grey, with a black dorsal line and at the sides of it watered red or ochreous-yellow, or with black or grey hair. It lives on white lichens on Citrus and changes in a dense web into a red-brown pupa yielding the imago after 10 days.

L. harpophora Meyr. (= xanthopleura Trnr.) (15 e). Forewing brownish-grey, base of proximal harpophora, margin, costal margin, head, collar and shoulder-covers orange-yellow; fringes, hindwing and marginal area on the forewing beneath yellow. Queensland.


L. cretacea Hmps. Head and thorax chalky-white, faintly tinted yellowish; chest yellowish; palpi cretacea, and legs faintly blackish. Abdomen yellowish, towards the base more whitish. Forewing chalky white, strenn X
with some brown scales, the costal margin is reddish-yellow. Hindwing chalky white, at the proximal margin and border yellow. The under surface of the wings is yellow, in the disc of the forewing a brown tint. Expanse of wings: 28 mm. Sikkim.

L. taiwana Wil. Head and collar orange. Thorax blackish-grey; abdomen grey, the end tinted yellowish-orange. Forewing narrow, blackish-grey, costal stripe orange, at the apex tapering into a dot; fringes tinted orange. Hindwing light whitish-brown, costal area suffused with dark, 34 mm. Formosa. In some respect it resembles *ipponica* Leech (Vol. II, t. 12 h), but it has narrower wings, the costal stripe being darker and extending to the apex.

L. perplexa Rothsch. Antennae brown. Forehead dark grey, vertex orange like the collar and the distal half of the shoulder-covers, the thorax otherwise violet-grey; abdomen drab with a yellow anal tuft. Forewing violet-grey, at the base and costal margin reddish-yellow, the latter colour extending also round the apex and very narrowly at the distal margin, dying away at the proximal angle. Hindwings reddish-yellow. Length of forewings: 18 mm. Astrolabe Bay.

L. germana Rothsch. is allied to *perplexa*, but easily discernible by its black antennae, quite orange-yellow head, orange-reddish abdomen, and slate-coloured forewing with an equally broad, orange-yellow costal margin and distal margin. Length of forewings: 20 mm. Oetakwa River, Snow Mountains in Dutch New Guinea.

L. ekeikei B.-Bak. Head and collar straw-coloured, thorax grey; abdomen yellowish-grey, legs yellow. Forewing grey with a broad, straw-coloured costal margin and distal margin growing much narrower towards the proximal angle, like in *perplexa*; also at the base of the proximal margin there is a short, yellow diffuse spot. Hindwings unicolorously straw-coloured. Expanse of wings: 39 to 40 mm. Ekeikei, January and February.

L. xanthocraspsis Hmps. (= nigripers Hmps.) (15 c) has yellowish-white forewings intermixed with dark scales; costal margin and base of fringes orange-yellow, abdomen brownish-grey, white-haired, anal tuft yellow. Sikkim.

L. basinota Moore (Vol. II, t. 12 g). The forewings are unicolorously dark brownish-grey intermixed with grey scales, and a grey spot at the base of the proximal margin. Hindwing whitish, towards the costal margin brownish. Sikkim. The smaller, paler subsb. lurida Bhr. is found in the North West Himalaya on the palearctic region.

L. pulvereola Hmps. (15 c) has greyish-brown forewings intermixed with darker brown scales. Hindwings lighter, South East Borneo.

L. punctifera Hmps. (15 c) is unicolorously red-brown, in the ♂ with a black discal dot. Ceylon.

L. owgarra B.-Bak., described from New Guinea, is somewhat smaller than *nigripes* (15 d), somewhat larger than *xanthocraspsis* (15 c), of a deep sepia-brown with a chocolate tint, the forewing speckled ochreous-yellow, particularly along the fold, and somewhat more narrowly along the costa. Hindwing in both sexes greyish, towards the apex darker.

L. fraterna Bhr. (15 d) is larger than the preceding, unicolorously orange, without a black discal dot, at the costal margin dusted somewhat purple-grey. Guadalcanar (Salomons).

L. brevipennis Wkr. (= punctifera-♂ Hmps.). The ♂ has yellowish-brown-grey, the ♀ ochreous-yellow wings, the hindwings are yellow. India, Ceylon, Borneo, Sumbawa. — f. intermixta Wkr. (15 d), with the type from Coimbatore, is somewhat larger, darker brownish-grey; — f. fusiceps Hmps. (15 d) from Ceylon is smaller, more straw-coloured, hindwing in the disc dusted grey, somewhat diaphanous. — sandakana subsb. nov. (= ab. Hmps.) from Borneo (Sandakalan) exhibits beneath a stripe of reddish-yellow scales below the inner-marginal vein.

L. nigripes Hmps. (15 d) is a large, intensely orange species; 3rd palpal joint, antennae and legs are black, ventral side banded black. In the ♂ also the base of the costa is black. Sikkim, Assam.

L. decreta Bhr. (= monochroa Trav.) (141) is much smaller and paler orange, without the black base of the costal margin of the ♂. Borneo: Queensland.

L. pulverea Wil. is allied to *moevei* Leech (Vol. II, t. 121) from Central and West China. ♂ head, thorax and forewing rusty-yellow, dusted light grey; hindwings and abdomen light greyish-brown. Beneath as above, but the forewings not dusted grey. 40 mm. One ♂ from Rantaitzan, Formosa, taken in May.
**L. nigripars** Wkr. (= pallens Moore) (15 e). Head and thorax orange-yellow; forewing yellowish-*nigripars*, white, towards the margin deeper yellow; base of costal margin black; the ♀ is quite unicolorously whitish, also on its head and thorax, without any black at the costa, the legs curled black. Himilaya, Sikkim.

**L. varana** Moore (= nivea Moore) (15 e). The ♀ is dull white, the palpal terminal joint and antennae varana, blackish; chest, legs, apex of abdomen and under surface orange. The ♂ is of a purer white, on its head, collar and under surface lighter yellow, on the forewing with an orange costal margin. Sikkim.

**L. tecta** Wil. is allied to varana. Head and thorax light ochreous-grey, abdomen whitish-grey, the tegula, posterior ring and anal tuft ochreous. Forewing whitish, rather silk-like, costa tinted yellowish, proximal margin dull coloured. Hindwing whitish, faintly tinted ochreous-grey. Under surface of forewings dark grey, almost black; above the cell from near the base to behind the middle of the costa a light streak, from there along the costa as far as the apex. 35 mm. Captured in Formosa in May.

A Formosan form, described by Myiake as *conspisa* and only imperfectly known to us, may be allied to a form of one of the palearctic species having been dealt with on p. 65 to 69 of Vol. II.


Chiefly differing from the preceding genus by the deviating wing-contours: in the ♀ the costal margin exhibits a knob-shaped projection at the cell-end, behind which there is a concave excision, the proximal margin being in the distal half excised, too; on the hindwing the apex is deeply excised, so that the costal margin looks as if it were lobate. The veins of the forewings as described in *Lithosia tortricoides*: on the hindwing the two lower radial veins are absent. Below the cell both wings exhibit hair-tufts, the hindwing also in the cell. In the ♀ the contours of the forewings are normal, and the veins are rather normal, too, the cell broad; an accessory cell is present. On the almost four-cornered hindwing the lower median vein is absent, the 1st median vein and 3rd radial are petioled, subcostal and 1st radial coalescent; the costal vein turns down to the rise of the subcostal, then abruptly upwards to the costa.

**P. dinawa** B.-Bak. (26 b). Head, thorax and abdomen in both sexes light brown like the forewings, *dinawa*. Hindwings lighter yellowish-brown, towards the costa diaphanous. Expanse of wings: ♀ 24, ♂ 32 mm. Dinawa, August and September; Aroa River.

123. Genus: **Aeco** B.-Bak.

Proboscis well developed, the very short palpi erect, male antennae ciliated. Cell of the forewing extremely short, 1st median and 3rd radial petioled, the two upper radial veins absent. The 1st subcostal is petioled with the 3 lower subcostal veins, the 2nd being absent. The proximal margin exhibits a small, long-haired lobe near the base. Costal margin of the hindwing at the base lobate; the two median veins on a short footstalk rising near the base; the two lower radial veins are absent. Subcostal and 1st radial in the ♀ fused, in the ♂ petioled.

**A. bicolora** B.-Bak. (26 b). Head, palpi and posterior half of the thorax blackish, the anterior half *bicolora* white. Abdomen grey. Forewing dark grey, the darkest below the cell; costal margin, apex and marginal area white. Hindwings dark grey. In the ♀ the grey is more extensive and is traversed by a white transverse stripe. Expanse of wings: ♀ 18, ♂ 20 mm. Dinawa, Aroa River.

124. Genus: **Ctenosia** Huw.

Proboscis well developed; the short palpi are porrect, male antennae with short combs; abdomen with rough hair. On the forewing the 1st median and 3rd radial rise on a long footstalk; 3rd subcostal vein absent, the other subcostal veins except the first are petioled. On the hindwing the middle radial vein is absent, the subcostal and 1st radial, as well as the 3rd radial and 1st median are petioled.

**C. infuscata** Lower. Head, palpi, antennae and legs dull greyish ochreous-yellow; abdomen dark brown, densely clad with fine, ochreous-grey hair. Forewing long with a convex, oblique border, dull ochreous-grey, costal margin in its basal half narrowly dark brown; an indistinct transverse band extends from two thirds of the costa to two thirds of the proximal margin; fringes greyish-ochreous. Costal-marginal border moderately defined, the posterior border indistinct and inclined to continuations along the veins. Border of the hindwing rounded; bright yellowish-brown, along the proximal margin narrowly ochreous. Expanse of wings: 20 to 25 mm. New South Wales (Broken Hill).
C. albiceps

The species is of a deep red-brown. The upper half of the forehead and the vertex are purely white. Forelegs distally curled white. The forewing shows a straight, white, antemedian transverse line and an angled postmedian line. Hindwings of a brighter red-brown. Expanse of wings: 20 mm. Batjan.


A species from New Guinea has been recently described to belong to this genus otherwise containing only American species. It is distinguished by its stunted proboscis, very short palpi, in the $ the antennae with bristly cilia and a rough-haired abdomen. On the forewing the 1st median and 3rd radial are fused, the middle radial is absent, the upper one comes from below the upper cell-angle; accessory cell present. Hindwings as in Ctenosia.

C. bifasciata Rothscl.

The antennae brownish; head yellowish-grey; thorax and abdomen wood-coloured grey. Forewing wood-coloured grey, speckled somewhat darker; antec- and postmedian purple-brown transverse lines. Hindwings yellowish drab. The $ is somewhat darker than the $, the transverse lines more indistinct. From Biagi on the Mambare River, British New Guinea.


Distinguished from the preceding by its fully developed proboscis and the 1st radial vein of the forewing rising from the upper cell-angle. The cell-fold exhibits a cover of rough scales; the proximal margin is very convex.

P. orientalis Hmps., has a reddish-yellow body, the abdomen is more grey towards the base. Forewing orange-yellow, below the cell flesh-coloured, above the cell-end a longish, blackish spot. Hindwing orange, towards the margin paler. Expanse of wings: 26 mm. Borneo.

P. brunnea Steinh.

Body dark brown with a yellow anal tuft. Tarsi curled white. Forewings rosy-grey, spottedly dusted brown, and with some brown longitudinal stripes most prominent at the costal margin towards the apex. Hindwing brown, towards the apex yellowish. Expanse of wings: 22 to 26 mm. Sumatra, Borneo.


Proboscis developed, palpi very short. $ antennae ciliated: the last rings of the rough-haired abdomen are expanded. Forewing long and narrow with a curved costa. In the $ the discal cell is very narrow, the discocellular short: below the cell an excavation into which long hair extend, near the lower cell-end a hair-tuft. The middle radial vein is absent, the upper one is petioled with the 3 lower subcostal veins and very strongly curved; the two upper subcostal veins come from the same place near the upper cell-angle. On the hindwing the 1st median and 3rd radial are fused, the subcostal and 1st radial petioled, the 2nd radial absent.

S. discalis Wkr. Head, thorax and forewings light red-brown, the hair-tuft at the lower cell-end darker; hindwing and abdomen orange-yellow. Borneo (Sarawak). Expanse of wings: 20 mm.


Distinguished from the preceding by the straighter veins; on the forewing the 2nd subcostal vein is petioled with the two lowest and the upper radial, the 3rd being absent, and the 1st comes separately from the cell: beneath in the disc thick pads of scent-scales. Hindwing with a strongly curved costal margin and an excised apex; almost the whole under surface is occupied by a thick pad of black scent-scales; the 1st, median anastomoses with the 3rd radial, the subcostal with the 1st radial, 2nd radial absent.

M. cervina Lucas is ochreous-brown with a silky lustre; hindwings lighter, more yellow. Queensland. Expanse of wings: 24 mm.

Only one most peculiar species with a well developed proboscis, erect, rather short palpi, in the ciliated antennae and hairy abdomen with a long anal tuft. Forewing broad. The shows beneath in the basal area rough scales and a thick pad of short hair in an indentation near the rise of the lower median vein with a tuft of short hair above it at the costal fold being broadly turned over downward; the discal cell is very narrow; 1st median and 3rd radial are petioled, the 2nd is absent; the subcostal veins and the upper radial as in *Meteura*. The hindwing has a costal fold covered with large, long scales and at the end of it a very large, thick pad of hair; the cell is absent altogether, and the median sends only one single branch to the apex.


Palpi short, rising obliquely, anteriorly haired, proboscis developed; abdomen hairy; antennae combed or ciliated. Forewing short and broad with a bent costal margin. 1st median and 3rd radial petioled, the 2nd absent, the 4 lower subcostal veins petioled, the uppermost anastomoses with the costal vein. In the hindwing the 1st median is petioled with the 3rd radial, the subcostal with the 1st radial the 2nd radial being absent.

*M. fuscivena* Hmps. (14 g) is a very small, insignificant, brownish-grey species with darker striped *fuscivena* veins; hindwing dull ochreous-yellow, towards the costal margin darker. Ceylon, Borneo, Java.

*M. quadrplaga* Moore (14 h 3, 15 d 3). Head and collar orange-yellow; thorax greyish-brown, quadrplaga abdomen lighter. Forewing brown, at the costal base dusted brownish-grey; in the middle and before the margin indistinct, darker transverse lines; hindwing light brown. The 2 has a dark brown head and collar. Sikkim, Bhutan.

*M. quadrilineata* Roths. Antennae brown, head and thorax dark orange, abdomen reddish-grey, quadrilineata Forewing deep orange brownish with 4 irregular black transverse lines, the most distal one broken up into spots; the two posterior ones are in the middle connected by a longitudinal streak. Hindwings reddish-yellow. Length of forewings: 13 mm. Mount Goliath, Dutch New Guinea. — subsp. *dilutior* Roths., is coloured much dilutior, lighter, the transverse lines are grey. Octakwa River.

*M. strigifera* Hmps. (14 h) has light grey forewings dusted red-brown towards the proximal margin; strigifera at the costal margin behind the middle a black spot from which an acute-angulary broken line runs obliquely to the proximal margin; in the cell a dark streak; towards the apex some indistinct streak-spots. Hindwings brownish-grey. Sikkim.

*M. arizana* Wil. 3: antennae with tufts of ciliae. Head and thorax light brown, abdomen lighter. arizana Forewing light brown, speckled dark; median line dark brown, somewhat oblique, above the middle interrupted. Submarginal line dark brown, rather broad, strongly interrupted. Hindwing dark, border and fringes yellowish. similar, but the median line of the forewing not interrupted; hindwing lighter than in the 3. 24 mm. Arizan (Formosa); taken in autumn.


Forehead long-haired, palpi very short, proboscis developed; the hairy abdomen exhibits at the end laterally long hair-tufts. Forewing rather broad, costal margin convex as far as the middle, then straight, the two median veins are petioled with the lower radial, 2nd radial absent; the upper radial petioled with the 4 lower subcostal veins; 1st subcostal vein anastomoses after a short course with the costal. The hindwing is in the 3 split in the middle as far as the cell, the proximal margin inverted and long-haired, the venation similar as in the preceding, but the subcostal and radial 1 fused.

*R. tortriciformis* Zell. (14 g). Forewing light brown, dusted blackish; at the costal margin before tortriciformis the middle a black spot, another one in the middle of the inner-marginal vein, and a short, oblique streak-spot below the 2nd median, near its rise, at the apex black marginal dots; hindwings more yellowish. Java.
R. aurantia Roths. Antennae brownish, head and thorax orange like the forewings; before and in the middle one zigzag band each of an iron-grey colour; intermixed with white scales; behind the middle a number of grey, white-speckled spots. Hindwings reddish-yellow. Length of forewings: 8 mm. Biagi on the Mambare River in British New Guinea.


Proboscis well developed, palpi short, porrect, abdomen hairy. Forewing long and very narrow. Veins as in the preceding, but the 1st subcostal anastomoses only with the costal, being separated again behind it. On the hindwing the 1st median anastomoses with the 3rd radial, the 2nd radial is absent, the subcostal petioled with the 1st radial.

P. nana Wlk. (14 g) has brownish-grey forewings with a white costal stripe ending taperingly before the apex. Hindwings orange-yellow. Queensland: New South Wales.

133. Genus: Tigrioides Btlr.

Proboscis well developed, palpi short, porrect. Male antennae mostly ciliated, but also combed; tibiae with short spurs; abdomen hairy. Forewing long and narrow with a bent costal margin: veins as in Pusiola, but the 2nd median running straight there is here bent. On the hindwing the 1st median is petioled with the 3rd radial. The genus is also denominated: Lexis Wlkgr. Very many species recently discovered in New Guinea.


T. leucanioides Wlk. (14 f). On the yellowish forewings the veins, except the costal vein and subcostal veins, are striped black. Hindwings light yellow. Head and collar are dull orange-yellow. Tenasserim, Penang, Singapore, Borneo.

T. pucticollis Btlr. (14 f) is a very large species with yellowish-white forewings and a blackish-brown spot at the proximal margin behind the middle. The 3rd is darker yellow with a larger spot. Borneo (Sarawak), Java. The larva is short and stout, dark brownish-grey and densely haired, it lives on mosses; it pupates in a cocoon yielding the imago after 12 days.

T. cuchana Strink. (= tetrascena Meyr.) (14 f) differs from pucticollis by 2 blackish-brown spots behind the middle. The hindwings are of a deeper orange-yellow. Burm, Formosa, Cinsam, Singapore, Bali.

T. alterna Wlk. (= histrionica H.-Schäf.). Forewing changing from yellowish-white to orange-yellow, with a black basal half of the costal margin and with irregularly dentate, black ante- and postmedian transverse lines, an antennal, faded black band is the broadest in the middle. Hindwing orange with a black marginal band. Body orange, thorax black, collar striped black. — In ab, transversa Wlk. the black marginal band of the hindwing is absent except some dark apical dusting. Expanse of wings: 30 to 36 mm. Formosa, Cinsam, Singapore, Bali.

T. immaculata Btlr. (14 g) is brownish-grey on its thorax and forewings, the head, collar and base of shoulder-covers being orange. Base of proximal margin and costal margin orange. Hindwings lighter yellow. Formosa, Cinsam, Singapore, Bali.

T. nitens Wlk. (= remota Wlk., unicolor Lucas) (14 g) is unicolorously orange-yellow; palpi laterally, anterior tibiae and tarsi blackish-brown. Queensland.

T. fulveola Hmps. (14 g). Forewings brownish-red orange, hindwings light yellow. Sikkim, Calcutta.

T. minima Hmps. is unicolorously straw-coloured with a silk lustre, hindwings somewhat paler. Expanse of wings: 16 mm. New Guinea.

T. phaeola Hmps. (14 g) is unicolorously brownish-grey, hindwings lighter. Bombay, Ceylon.
T. margaritacea *Rothsch.* Head greyish-white, teeth of antennae orange-brownish. Thorax and abdomen reddish-pearl-coloured. Anal tuft yellowish. The costal margin of the forewing is very convex, before the apex excised, and very much ruffled from the proximal angle to the middle of the proximal margin: inner-marginal vein and lower median vein strongly bent, and fused towards the margin: the colour is reddish pearl-grey. Hindwing in the costal half diaphanous silvery grey, otherwise brownish-grey: the whole wing very broad and very much ruffled. Length of forewings: 11 mm. Oetakwa River.

T. approximans *Rothsch.* In its colour and general exterior similar to the preceding, but larger, the forewing longer and narrower: both wings only little ruffled, and the silvery grey at the costal margin of the hindwing very much reduced. Length of forewings: 15 mm. Mount Goliath, Dutch New Guinea.

T. lactea *Rothsch.* is also very much like *margaritacea* in the shape of the wing, but with less ruffled *lactea* wings. Head, thorax and the first two abdominal rings yellowish-white. Abdomen for the rest grey: antennae white with brownish serrated teeth. Forewing yellowish-white, on and below the inner-marginal vein more leather-coloured. Hindwing in the costal half greyish silvery white, for the rest light yellowish-grey. Length of forewings: 9 1/2 mm. Oetakwa River, Snow Mountains in Dutch New Guinea.


T. albecens *Rothsch.* Antennae light brown; head, thorax and abdomen white. Forewings chalky-white, hindwing the same, in the costal half brown; hindwing semi-transparent buff. Kumusi River in North East British New Guinea.

T. fuscescens *Rothsch.* Body greyish leather-coloured; forewing the same, basal half below the sub-costal hued brown; hindwing semi-transparent buff. Kumusi River in North East British New Guinea.


T. rufescens *Rothsch.* Antennae dark brownish-grey; head and thorax orange brownish-red; abdomen orange; anal tuft sooty black. Forewing reddish-orange, suffused with brown. Hindwing sooty grey, towards the base lighter, and at the proximal margin ochreous-yellow. Length of forewings: 10 1/2 mm. Kumusi River.


Only one, duskily coloured species, with a developed proboscis, short, feebly erect palpi beneath haired; antennae with ciliary bristles, shoulder-covers long-haired. Forewing in the ♂ short and broad, in the ♀ longer. The cell of the ♂ is narrow, the discocellular short: the middle radial vein is absent, the upper one rises from below the upper cell-angle: the 3 lower subcostal veins petioled, the 2nd separate, the 1st anastomoses with the costal vein: the proximal vein is bent near the anal angle and haired, the apex of the wing turned over downward. In the ♀ the cell is broader, the transverse vein longer, the 1st median and 3rd radial on a long footstalk. On the hindwing of the ♂ the 1st median rises before the lower cell-angle, the 3rd radial is very much bent, the upper cell-angle, from which the very short subcostal and 1st radial rise, is extended to a point: in the ♀ the 1 median anastomoses with the 3rd radial, the subcostal is petioled with the 1st radial.

G. fasciata *Moore* (14 c). Forewing greyish-brown with a faded, darker longitudinal shade: above *fasciata*, the proximal angle at the margin a dark dot, hindwing lighter. The ♀ shows a dark discal spot and another one on the submedian fold. Ceylon.


Probosces well developed; the palpi, the 2nd joint of which is hairy beneath, project somewhat beyond the convex forehead; antennae with long ciliary bristles, the shaft behind the base usually a little thickened and scaled; tibiae with short spurs. The 2nd abdominal segment in the ♂ above unscaled. Forewing short and broad, with a very much curved costa: 1st median and 3rd radial petioled, 2nd radial absent, 1st rising variably: the 3 lower subcostal veins petioled, the two upper ones from the cell, 1st subcostal vein anastomosing...
with the costal. The 3 exhibits a bare, ribbed membrane in the inner-marginal area, the proximal margin being hairy. The costal part of the 3 hindwing forms an inverted, thickly scaled fold; 1st median fused with the 3rd radial, 2nd radial absent. Subcostal and 1st radial likewise fused and bent downward. In the 9 the 1st median and 3rd radial, as well as the subcostal and 1st radial rise on long footstalks. Of many species recently described only the types are known, which were not available for us for illustrative purposes.

N. niveola Hamps. (141) is quite purely white. Kapaur in South West New Guinea.

N. syntomoides Wkr. (= brevis Swinh.) (14 d) has blackish-brown wings with orange-yellow spots, Sumatra, Borneo, Pulo Laut.

N. impervia Wkr. (= phaeocephala Meyr.) (14 d) has one-coloured ochreous-yellow wings, the hindwings lighter. In the 3 the head and collar are black, in the 9 orange. Ceram, New Guinea.

N. marginalis Fldr. (14 d) is easily recognizable by the broad, black marginal band of the forewing. The hindwing, except the yellow inner-marginal area, is diaphanous brownish-grey. Celebes.

N. tula Swinh. (14 c) differs from marginalis by a narrower black border and unicolorously light yellow hindwings. Sula.

N. brunnea Rothsch. Head and thorax orange; apices of shoulder-covers and abdomen purple-brown, anal tuft white; antennae brown. Forewing dark purple brown. Hindwing in the costal half grey, otherwise purple-brown. The 9 has unicolorously sooty brownish-grey wings. Length of forewings: 15, 9 17 mm. Kumusi River, British New Guinea.

N. nodicornis Wkr. (= chilornorpha Saell.) (14 e) has yellowish-brown forewings transversely watered with dark brown, and light yellow hindwings, the latter at the proximal margin with orange hair; in the 9 the head is blackish, in the 9 yellow. Borneo, Java.


N. louisialensis Rothsch. 9 quite brick-coloured buff, hindwings lighter. Forewing dusted with small violet-tish-brown scales, more densely so behind the middle, where they form a faded band; a ring-shaped brown stigma on the discocellular. Length of forewings: 13 mm. South eastern island of the Louisiads, in April.

N. aurantiaca Rothsch. 9: antennae orange; head, forehead orange, vertex chocolate-violet; thorax chocolate-violet, the borders of the tegulae orange; abdomen above chocolate-violet with an orange anal tuft. On the sides of the 2nd ring tufts of long orange-yellow hair reaching almost to the end of the abdomen. Forewing chocolate-violet, the basal two thirds of the costal area orange; hindwing orange with a chocolate-violet marginal band. Length of forewings: 19 mm. Tolioli in North Celebes, November and December (discovered by Frithstorfer.)

N. rotundipennis Wkr. (14 c). Forewing orange-yellow, beneath towards the margin blackened.

N. flavens Rothsch. Antennae reddish-yellow; body maize-coloured like the forewings, hindwings reddish-buff. Length of forewings: 17 mm. Java.

N. testacea Rothsch. Antennae brown; body yellowish wood-coloured brown like the forewings, the hindwing diaphanous greyish reddish-yellow, at the proximal margin orange-haired. Length of forewings: 18 mm. Padang Rengas, Malayan Peninsula.


N. melanopa R. & Bof. Head sooty black, thorax chrome-yellow, abdomen lighter yellow; chest roughly haired. Legs sooty brown. Forewing unicolorously chrome-yellow, hindwing lighter; the inverted costal fold is deep, covered with several layers of broad, spatulate scales. Expanse of wings: 28 mm. Dinawa, Aroa River, June and July.

N. flabifera Moore (14 c). Head blackish; thorax yellowish-brown, abdomen grey, at the end orange; the 2nd segment in the 9 dark. Forewing brownish-yellow, in the basal half of the proximal margin with a purple-brownish reflection; hindwing light yellow. The 9 is more orange, the head orange. Calcutta, Nilgiris, Travancore, Ceylon, Tenasserim, Java. The larva is, according to Prieper, black on the dorsum, light grey
beneath; each segment shows one brown tubercle on each side; it is densely haired black and exhibits on each side of the 1st segment a hair-tuft. In a thin web it changes into a brown pupa yielding the imago after 10 days.

N. sambara **Moore** (＝ intacta **Wkr.**, chryseola **Snell.**) (14 d) is a large, bright orange-yellow species, *sambara*. with somewhat lighter hindwings. Borneo, Java, Sangir, Bali.

N. xantholoma **Snell.** (14 e) is easily recognizable by the blackish-brown ground-colour with a spotted *xantholoma*. orange costal margin; fringes of both wings orange-yellow. Celebes.

N. melanistis **Swinh.** has, except the ochreous-yellow head, a chocolate-brown body, the abdomen *melanistis*, being laterally haired ochreous-yellow. Forewing dark chocolate-brown, costa and fringes ochreous-yellow. Hindwing of a bright ochreous-yellow, on the distal margin a brown tint of a very variable width. Expanse of wings: 29 mm. Kina-balu.

N. brunneipennis **Hmps.** is somewhat smaller than *melanistis*, and differs by the forewing being quite brown, only at the base of the costa ochreous-yellow, by unicolorously brown hindwings with a whitish costa in the ♂, and by an ochreous-yellow collar spotted brown. Expanse of wings: 22 to 26 mm. Moluccas (Batjan).

136. Genus: **Chrysoscota** **Hmps.**

Proboscis well developed, the erect palpi projecting but little beyond the round forehead, the 2nd joint hairy, the 3rd bare. Antennae with ciliary bristles; anterior femora very much expanded. Forewing long and narrow; 1st median and 3rd radial fused, 2nd radial absent, the 1st rising from below the upper cell-angle; the 3 lower subcostal veins petioled, the two upper ones separate, the 1st anastomosing with the costal. Hindwings as in the allies.

**C. vagivitta** **Wkr.** (14 c) is blackish-brown with 3 orange spots; head, collar and base of shoulder-covers orange. Mysol; Ceram; South West New Guinea (Kapaur).

**C. auranticeps** **Hmps.** (14 d) is unicolorously blackish-brown, only the head, collar and base of shoulder-covers orange. New Guinea, Fergusson Island.

**C. flavostrigata** **B.-Balc.** Head yellow, with a small black spot in the middle, palpi yellowish with a black terminal joint; thorax dark brown, collar and shoulder-covers yellow; abdomen dark brown, beneath at the end yellowish. Forewing dark greyish-brown with a narrow, yellow median longitudinal stripe somewhat expanded behind the cell and then turning obliquely up to the costa; margin dark yellowish. Hindwings blackish-grey. Expanse of wings: 26 mm. Aroa River (March, April).


**C. lacteiplaga** **Rothsch.** Head, margins of the collar and of the shoulder-covers yellowish-white, the rest of the thorax and abdomen greyish-black, anal tuft creamy, antennae brown. Forewing creamy-white, a large spot below the cell, a spot in the cell and a large spot in the apical third wood-coloured brown. Hindwing blackish-grey. The brown spots on the forewing may flow together forming two longitudinal bands. — ab. **conjuncta** **Rothsch.** In the ♂ the head, margins of the collar and shoulder-covers are golden, the anal tuft black, **conjuncta**, the whole forewing brown with a bronze reflection, at the cell-end a yellowish-white spot and another, subcostal spot behind it. Length of forewings: ♂ 12, ♀ 14 mm. Oetakwa River.

137. Genus: **Phaeophlebosia** **Hmps.**

Distinguished from the preceding on the forewing by the upper radial being petioled with the lower subcostal veins. On the hindwing the subcostal is fused with the 1st radial.

**P. furcifera** **Wkr.** (＝ trifurcata **Wkr.**) (14 d) is orange-yellow with black-striped veins; palpal terminal *furcifera*. joint, antennae, vertex, and stripes on the collar and thorax black. Tasmania.
138. Genus: Poliosia Hmp

With longer and narrower forewings than the preceding. On the forewing the 1st radial rises from below the upper cell-angle; on the hindwing the 1st median and 3rd radial are fused, 2nd radial absent, and the subcostal petioled with the 1st radial.

*marginata.*

P. marginata Hmps. (14 c). The whitish-grey forewing exhibits a broad, brownish-grey marginal band. Hindwing whitish, at the margin brownish, with a large, brownish-grey scent-scale spot beneath. Borneo; Pulo Laut.

*pulverea.*

P. pulverea Hmps. (14 1) is brownish-grey, on the forewing dusted light brown, in the inner-marginal area browner. Hindwing of a purer brown; scent-scale spot greyish-brown. Borneo (Sarawak); Pulo Laut.

*muricolor.*

P. muricolor Wkr. (14 c) is greyish-brown with a yellowish-white costal-marginal streak and fringes. Borneo. — subsp. *parva* Moore is larger than the type, costal margin, fringes and vertex of a purer and deeper yellow, also the fringes of the hindwings yellow. Sikkim, Assam.

*punctivena.*

P. punctivena Hmps. (14 1) shows on the greyish-brown forewing on the submedian fold below the cell-end a black dot. Head and collar yellow. Fringes yellowish. Sikkim.

*binotata.*

P. binotata Hmps. (14 c) differs by its greyish-brown head and collar, and by two black dots in and below the cell-end. Ceylon.

*brunnea.*

P. brunnea Moore (= normalis Hmps.) (14 c) is unicolorously dark greyish-brown without black dots. Hindwings in the ♀ lighter, in the ♂ darker greyish-brown. Sikkim, Assam.

*flavogrisea.*


*cubitifera.*


*fragilis.*

P. fragilis Lucas (14 1) is light ochreous-yellow, on the hindwing lighter; fore- and hindlegs brownish. Queensland.

139. Genus: Rhangana Moore.

Distinguished from the preceding by shorter tibial spurs, a produced apex of the forewing, much shorter discocells, from the upper angle of which all the subcostal veins proceed on a joint footstalk with the 1st radial; the 1st subcostal vein anastomoses with the costal. On the hindwing both the median veins are petioled and the two lower radial veins absent, the subcostal being petioled with the 1st radial.

*R. punctata* Moore (14 c) is a small, unicolorously ochreous-brown insect with fine black dots extending round the apex and distal margin. Calcutta.

140. Genus: Blavia Wkr.

Forehead smoothly scaled, palpi beneath hairy, abdomen smoothly scaled. Forewing long and narrow with a straight costal margin; 1st median and 3rd radial fused, 2nd radial absent; the 1st rising from below the upper cell-angle; the 2nd subcostal vein separately from the cell, the 1st rising rectangularly and being fused with the costal. On the hindwing the 1st median and 3rd radial are fused, the 2nd radial is absent, and the subcostal and 1st radial rise on a long footstalk. The ♀ shows above in the disc a large scent-scale spot.

*B. caliginosa* Wkr. has a blackish-brown body and somewhat lighter wings with a more reddish tint towards the margins; fringes yellowish. Expanse of wings: 20 mm. Borneo (Sarawak).

Proboscis developed, palpi straightly prorect, extending as far as the forehead; male antennae with ciliary bristles. Forewings narrow. Median veins petioled, the two lower radial veins absent; 1st radial petioled with the 3 lower subcostal veins, the two upper ones as in Blavia; the $ with a large scent-scale spot in the cell; veins of the hindwings as in the preceding genus.

N. scoteola Hmps. (14 e) is blackish-brown; in the scent-scale spot of the forewing some interspersed scoteola, grey scales, the hindwing being more reddish-brown. Fringes yellowish. Sikkim.


Proboscis developed; the very short palpi do not extend beyond the smoothly scaled forehead. Abdomen roughly haired. Forewing narrow with a straight costal margin and an obliquely rounded border. 1st median and 3rd radial either parallel or petioled; 2nd radial absent; the 1st mostly petioled with the 3 lower subcostal veins. On the hindwing the 1st median is fused with the 3rd radial, 2nd radial absent, the 1st petioled or fused with the subcostal.


S. nephelozena Mayr. (14 a) is a larger, ochreous-yellow species with an orange-yellow head and thorax, nephelozona, and a faded, dark postmedian band; hindwing lighter yellow. New Guinea.

S. bicolora Bsd. (= rubrata Tepp.) (14 b) is easily recognizable by the carmine, marginally black bicolora, wings. Costal margin and fringes red. New South Wales, Victoria, South Australia, Tasmania.

S. spilarcha Mayr. (14 b) has greyish-brown forewings with a white costal-marginal streak and dark spilarcha, postmedian dots. Fringes and hindwings ochreous-yellow. New South Wales (Sydney).

S. orthotoma Mayr. Head creamy-white, antennae light brown; body drab, collar whitish. Forewings khasiana, creamy, dusted drab, with a dark, grey, median transverse line and a postcellular spot of the same colour; a roughly haired fold below the basal two thirds of the subcostal. Hindwings drab with lighter fringes. Length of forewings: 14½ mm. Assam (Khasia Hills).


S. brunnescens Rothsch. Head, antennae, and thorax brown; abdomen wood-coloured grey with a brunnescens reddish-yellow anal tuft. Forewing reddish-brown; beneath in the middle a large, black scent-scale spot, towards the base of it a roughly scaled fold. Hindwing yellowish reddish-grey. The $ has light, brownish wings with a darker transverse line through the middle, composed of small crossed striae. Length of forewings: $ 13, ♀ 12½ mm. Angabunga River (British New Guinea).


S. brunnea Druce (14 b) is unicolorously purple brown; head, collar and base of shoulder-covers brunnea, orange-yellow. Hindwings darker brown. New Guinea.

S. pactolias Mayr. (= acosna Trnr.) (14 b) differs by more ochreous-yellow forewings dusted with pactolias, brown, and ochreous-yellow hindwings. Queensland, Victoria.

S. hampsoni B.-Bak. Head and thorax white, antennae light brown, abdomen grey. Wings in the $ hampsoni, white, a fold at the proximal margin yellow; beneath it shows a pencil of creamy hair below the cell. Antennae combed. The ♀ is more greyish-white, with a finely dark costa. Expanse of wings: 24 mm. Dinawa, Aroa River.
143. Genus: **Hyposhada** Hmps.

This special genus was founded for the only species (described as *Scoliacaena*). It deviates from the preceding by the subcostal and median veins being arranged much more closely together on the very narrow forewing; the lower median vein is connected with the submedian vein by a transverse vein, the upper median vein rises with the two lower radials from the cell-angle; the bases of the costal margin and of the proximal margin are beneath hairy. Hindwing uncommonly large with a long cell; the two median veins are fused in their course with the lower radial vein which proceeds with the middle one from the lower cell-angle; the subcostal vein rises on a long footstalk with the 1st radial and is very much curved.

**S. aroa** B.-Bak. Head, thorax and abdomen light straw-coloured, the wing somewhat lighter yellow, the inner-marginal area is of a somewhat deeper colour, and an indistinct dark spot behind the cell. Expanse of wings: 23 mm. Aroa River.

**S. virginea** B.-Bak. ♀ and ♂ snow-white, the ♀ forewing slightly excised between the middle of the proximal margin and the anal angle, whilst the hindwing is tinted creamy yellow towards the margin; beneath on the ♀ hindwing an androconial spot, above it a creamy scent-pencil. New Guinea, at an altitude of 5000 ft., in April.

**H. pellipris** B.-Bak. Light greyish-brown, abdomen ochreous-grey, forewing unicolorous, greyish-brown, unmarked, hindwing whitish-ochreous with a faint lustre. Size of *Scoliacaena bicolora* (14 b). New Guinea. The ♀ is smaller than the ♂.

144. Genus: **Lambula** Wkr.

Contains a large number of small, mostly yellow or brown, very variable species exhibiting very few common marks particularly in the veins and secondary sexual marks. Proboscis well developed; the porrect palpi being haired beneath at the 2nd joint project beyond the forehead. Male antennae covered with ciliae and bristles; abdomen roughly haired. Forewing rather narrow, with a curved costal margin; the inner-marginal vein mostly approaches the lower median vein with which it is often connected by a transverse vein; the 1st median and 3rd radial on a long footstalk, the middle radial vein absent; 1st radial from close above the middle of the transverse vein; the 3 lower subcostal veins petioled, the 2nd subcostal vein rises strongly curved upward from the upper cell-angle, the 1st anastomoses with the costal vein. On the hindwing the 1st median is fused with the 3rd radial and petiolated with the 2nd median; the 2nd radial is absent, the subcostal and 1st radial fused or petiolated. Quite a number of species were recently discovered in New Guinea.


**L. brunneo-marginata** Rothsch. Body wood-coloured brown, anal tuft yellow; forewing with an inverted costal fold, creamy with a wood-coloured brown base, costal and distal margins with a satiny lustre; hindwings yellowish-white. The ♀, without a costal fold, has satiny lustrous white forewings; a broad antennal band, a large, round discal spot, and a distally flawed antennal band are bronze-green; hindwings drab. Length of forewings: ♀ 12, ♂ 10 mm. Oetakwa River; Milne Bay (New Guinea).

**L. sericeoides** Rothsch. Body lightly reddish-yellowish grey, abdomen darker, anal tuft yellowish-grey, antennae brown. Forewing leather-coloured brown, anal tuft yellow; forewing with an inverted costal fold; the base, a large spot at the inner-marginal vein, a broad antennal band and a narrow marginal band are bronze-brown. Hindwings light buff. The ♀, without the costal fold, has a very convex costal margin and a deep excision before the apex; head, thorax and antennae chocolate-brown, vertex and collar snow-white; abdomen orange-brownish, the 2 first segments grey. Forewings snow-white; a large antennal spot, a postmedian band and an antennal band are chocolate-coloured; the two bands are more or less confluent, and the antennal spot is connected with them by a narrow longitudinal streak. Hindwing yellowish wood-coloured. Length of forewings: ♀ 12, ♂ 10½ mm. Mount Goliath; Oetakwa River (Dutch New Guinea).

**L. bincuculata** Rothsch. Forewing yellowish-white with an inverted costal fold; the base, a large spot at the inner-marginal vein, an irregular spot behind it, a broad antennal band and a marginal line are bronze-brown. Hindwings yellowish-white. In the ♀ the head, thorax and antennae are bronze-brown,
the abdomen brownish drab. Forewing white, the base, a broad antemedian band, a large discal spot, a bent postmedian band and a narrow marginal line greenish brown-bronze. Hindwings drab. Length of forewings: \(\varphi 11\), \(\ddot{\varphi} 13\) mm. Biagi on the Mambare River, British New Guinea. (January).

**L. plicata** Hmps. (14 a). The \(\varphi\) shows a small fold at the costal margin before the middle; the hindwing *plicata* showing one at the proximal margin; the antennae are thickened and scaled towards the base. Head and thorax yellowish-brown, the abdomen more brownish-grey. Forewing yellow, dusted with red-brown. Hindwings yellow, towards the margin brownish, at the proximal margin orange. Kapaur (New Guinea).

**L. laniafera** Hmps. (14 a). The shows a costal fold inverted downward, the hindwing large scent-scale pads in and above the cell. Body brownish-grey, anal tuft yellowish. The forewings are yellow, dusted red-brown, with a black, dark median line expanded at the proximal margin into a lustrous purple spot. Hindwing brownish-grey. Kapaur.

**L. iridescens** Lucas (14 a). The \(\ddot{\varphi}\) exhibits only narrow scent-scale stripes on the hindwing. Forewing *iridescens*, ochreous-yellow, hindwing lighter. Queensland.

**L. phyllodes** Meyr. Hindwing beneath with a small heap of scales at the cell-end, above with a large scent-scale spot in and below the cell. Head and thorax red-brown; abdomen ochreous-yellow. Forewing red-brown, in the marginal area ochreous-yellow, dusted red-brown. Hindwing ochreous-yellow, towards the margin brownish, scent-scales orange. New South Wales (Sydney).

**L. albofasciata** Roths. \(\varphi\) head snow-white; antennae in the basal quarter white, the rest brown; thorax and abdomen blackish chocolate-coloured; forewing the same, a spot near the base, a median and a postmedian transverse band, and an apical spot are snow-white. Hindwing in the two basal thirds diaphanous white, in the distal third sooty brown. Length of forewings: 12 mm. Biagi, Mambare River, British New Guinea.

**L. albiceps** Roths. \(\ddot{\varphi}\) head snow-white; antennae, thorax, abdomen and forewing chocolate-brown. Hindwing in the two basal thirds diaphanous white, in the distal third sooty brown. On the forewing a scent-organ with a long hair-tuft, and on the hindwing a scent-scale spot on a costal lobe. The \(\varphi\) is larger. Perhaps a form of *albofasciata*. Length of forewings: \(\varphi 10\), \(\ddot{\varphi} 12\) mm. Biagi, Mambare River, British New Guinea.

**L. aroa** B.-Bak. \(\varphi\) head and thorax brown, abdomen brownish-grey, forewing greyish-brown with a very broad darker band occupying the whole middle of the wing. Margin dark, fringes with lighter ends. Hindwings brown darkish-grey. The forewing shows beneath at the costal margin a swelling; the costal margin of the hindwing is expanded into a hairy lobe, below it a scent-scale spot and in the cell a tuft of long light hair. Expanse of wings: 22 mm. Aroa River, in April.

**L. fuliginosa** Skr. (14 a). The \(\varphi\) is unicolorously blackish-brown with a reddish-brown anal tuft, *fuliginosa*, the hindwing without a scent-scale spot; the \(\ddot{\varphi}\) is lighter with traces of an oblique median line. Borneo, Sarawak.

**L. pallida** Hmps. (14 1). The \(\ddot{\varphi}\) has much narrower, light yellowish-brown wings with an indistinct, *pallida*, curved, postmedian line. Hindwings yellowish-white. Borneo.

**L. melaleuca** Skr. (14 a) has deep blackish-brown forewings; abdomen and hindwings are white, *melaleuca*, very slightly tinted yellowish. Sula.


**L. aurantiaca** Roths. Head, antennae and thorax brownish-orange; abdomen sooty-black, the first ring and anal tuft yellowish. Forewing brownish-orange, a narrow transverse line before the middle and a postmedian one are greyish-brown. In some specimens the space between is filled up with dark. Length of forewings: 13 mm. Mount Goliath (Dutch New Guinea).

**L. caprimimoides** Roths. Antennae tawny-brown; head and thorax reddish chocolate-brown; abdomen sooty brown, anal tuft Isabel-coloured. Forewing with a curved costa and a slight excision before the apex, reddish chocolate-brown; a transverse zigzag line before the middle and a postmedian one are line black, at the proximal angle a black spot. Hindwings drab. The species looks like *Caprimima rotundula* Hmps. (17 1). Length of forewings: 10\(1/2\) mm. Biagi.
L. punctifer **Hmps.** (14 l). Hindwing without costal folds and scent-scales. Head and thorax yellowish-brown; abdomen brownish-grey with a yellowish anal tuft. Forewing brownish-yellow, the inner-marginal area dusted red-brown, in it small brownish spots near the base and behind the middle. Hindwings brownish-grey. Kapaur (New Guinea).

L. pristina **Wkr.** (14 b) differs from punctifer by its paler colour, particularly the hindwings being quite light yellow. Queensland (Moreton Bay).

L. bicolor **Rothsch.** ♀. Head, antennae and thorax yellowish-white; abdomen drab with a yellowish-white anal tuft. Forewing yellowish-white, a stripe on the median and the area below it obliquely cut off sooty-grey. Hindwings greyish-yellowish-white. Length of forewings: 9 mm. Mount Goliath (Dutch New Guinea).


L. minuta **Rothsch.** ♀. Antennae yellowish-brown, the first 3 joints white; head white; thorax dark grey, collar and base of shoulder-covers white; abdomen tawny-yellowish, tinted with grey. Forewing white, in the basal half from the middle of the cell to the proximal margin brownish-grey, a broad antemedian band and a marginal line light grey. Hindwing greyish-white. Length of forewings: 7 mm. Oetakwa River, Snow Mountains (Dutch New Guinea).

L. transcripta **Lucas** (14 b). In the ♀ neither the forewing shows a costal fold. Ochreous-brown, forewing dusted with a brownish grey, with a dark median line flawed in an acute angle, and a dark faded spot at the costal margin behind it. Hindwing greyish-brown with yellowish fringes. Queensland.

L. bilineata **B.-Bak.** ♀ head, thorax and abdomen grey. Both wings grey; forewing with a broad, irregular, dark grey antemedian line and a similar one behind the middle. Hindwing very thinly scaled. Expanse of wings: 20 mm. Aroa River, March.


145. Genus: **Graphosia** **Hmps.**

The discal cell of the forewing is much narrower than in *Lambula* and only towards the end somewhat expanded. The 1st radial is petioled with the lower subcostal veins. On the hindwing the 2nd median rises near the lower cell-angle, the 1st median is fused with the 3rd radial, the middle radial is absent as usually, the subcostal and 1st radial are on a long footstalk; in a ♀ an inverted costal fold contains fluffy hair; all the rest similar as in *Lambula*.

G. bilineata **Hmps.** (14 a) is ochreous-yellowish with 2 repeatedly angled, dark transverse lines; the veins towards the margin dusted dark. Kapaur (New Guinea).

G. reticulata **Rothsch.** Head and thorax tawny-yellowish; antennae brown; abdomen greyish-yellowish, the last 2 rings more purely yellow. Forewing reddish-yellowish-white, an antemedian, bent, oblique, wood-coloured brown band, one more each behind the middle and at the margin, all being connected with each other by longitudinal lines. Hindwing reddish yellowish-white. The ♀ is similar, but it is without the anterior transverse band. Length of forewings: 13 mm. Kumusi River (British New Guinea).

G. ochracea **B.-Bak.** (26 d). Head, thorax and legs ochreous-yellow, abdomen greyish. Forewing ochreous-yellow, dusted grey, an indistinct dark grey spot at the proximal margin, and a dark marginal stripe; hindwing diaphanous light yellowish. Expanse of wings: 26 mm. Area River, in March.

G. phaeocraspis **B.-Bak.** (26 d) has dull white forewings with a dark costa and a faintly shaded distal area, and grey hindwings being somewhat lighter in the costal area. Dinawa (New Guinea), taken in September.
146. Genus: **Threnosia** Hmps.

Distinguished from the preceding genus by the 1st radial of the forewing rising from the upper cell-angle; on the hindwing the 1st median and 3rd radial are petioled, the costal fold is absent.

*T. heminephes* Meyr. is a larger species, described from New South Wales. Orange-yellow; sides heminephes.

147. Genus: **Thermeola** Hmps.

Differs from the preceding by its shorter spurs and hairy scaled forewings. The 1st radial rises from below the upper cell-angle; the two lower subcostal veins are petioled, the third is absent, the two upper ones from the cell, the 1st subcostal vein anastomoses with the costal vein. On the hindwing the 1st median and 3rd radial, as well as the subcostal and 1st radial rise on long footstalks, the 2nd radial being absent.


Proboscis stunted; palpi extremely small; antennae doubly combed; thorax and abdomen roughly haired. Forewing narrow; the 2nd median rises near the lower cell-angle, the 1st median and 3rd radial on a footstalk, the middle radial vein is absent. The 1st radial is petioled with the two lower subcostal veins, whilst the 3rd subcostal vein is absent, the 1st and 2nd as in *Thermeola*. On the hindwing the transverse vein is absent, the 1st median and 3rd radial rise on a footstalk, the 2nd median, the 3rd subcostal and 1st radial fused from the costal vein.

*H. pyrrhopa* Meyr. (14 a) has dark brown forewings and orange-red hindwings with a broad, blackish-pyrrhopa.

149. Genus: **Parapelosia** B.-Bak.

Proboscis well developed; palpi very small; antennae with very long and fine ciliae. Forewings long and narrow; vein 2, at the base strongly curved and proceeding from the cell, 3 and 4 on a long footstalk, 5 absent, 6 rising near the cell, 7 and 8 on a long footstalk, 9 rising directly behind 6, 10 from the cell, 11 anastomosing with 12. Hindwing with a straight costa and pointed apex; margin uniformly bent; vein 2 rises behind the middle of the cell, 3 and 4 fused, 5 absent, 6 petioled with 7, as far as the middle of the cell anastomosing with 8. Only 1 species from New Guinea.

*P. grisescens* B.-Bak. Head and thorax greyish-chocolate; abdomen lighter. Forewing light greyish-grisescens.

150. Genus: **Stenosia** Hmps.

Proboscis well developed, the short palpi porrect; male antennae with ciliary bristles; abdomen roughly haired. Forewing long and narrow with a rounded apex; the proximal margin near the base very convex; the cell is very narrow and exhibits in the 3 a scent-scale stripe. The 1st median rises before the lower cell-angle, the 2nd radial is absent, the 1st rises from the upper cell-angle; the 3rd and 4th subcostal veins are absent, hindwings as in the preceding genus.

*S. rufeola* Hmps. is of a bright red-brown; abdomen more greyish with a yellow anal tuft. Forewing rufeola. with traces of a postmedian transverse line. Hindwing lighter red-brown. Expanse of wings: 20 mm. Bali.
III. Subfamily Hypsinae.

This group of rather closely allied butterflies has been variously viewed by the different authors. P. C. T. Snellen was the first who, in 1886, issued a monography of the subfamily by the name of Agamaidea, which he reckoned among the family of the „Lithosiina“, although it has additional eyes which are absent in the genuine Lithosiinae. Of the 10 genera distinguished by Snellen, some have in the meantime been subordinated as subgenera to others, so that there remain altogether 8 genera. Rothschild and Jordan, in 1886 and 1897 issued a careful synopsis with the description of numerous new forms, which we substantially follow here.

Among the prominent peculiarities of the Hypsinae are a large proboscis and the long palpi with a strange, subuliform terminal joint, the stout head, the extraordinarily large, protruding eyes, the broad, mostly regular wings, sometimes, however, varied by an extremely complicated and mostly very conspicuous scent-organ, the bright colouring, the rather sapless body, and the lazy, sluggish larva. On the hindwing veins 7 and 8 are united near the middle of the cell. In most of these marks the Hypsinae deviate from the Callimorpha, so that we thought it to be unjustified to combine them or to place the Callimorphae among the Hypsinae. Above all, the larvae are quite different. Those of Callimorpha are bright, variegated, small-headed larvae living on the soil on herbs and bushes; they almost entirely belong to the temperate zone and exhibit unni-takable affinities to the Arctiinae. The Hypsinae have very scantily haired tree-larvae, almost exclusively living in the tropics and exhibiting entirely different habits.

With the exception perhaps of Agape, the Hypsinae form a very well defined group which may most naturally be placed between the Callimorpha and Lithosia.

Head very large with extraordinarily thick, protruding eyes, a broad forehead, hair-pencils at the bases of the antennae and distinct additional eyes. The antennae very long, thin, in the ♂ often strongly combed or pinnate. Proboscis long and strong, rolled between the large palpi showing a mostly densely haired, brightly coloured 2nd joint and a subuliform, long, usually bare 3rd joint. Body always brightly coloured, often with variegated spots and markings; the thorax not tenacious, on the contrary very brittle, with projecting shoulder-covers. Middle tibiae with terminal spurs, hind tibiae with 2 pair of spurs, the anterior ones of which are usually longer than the terminal spurs; wings of a normal shape, the neuration often distorted by scent-organs. Cell of the forewing very broad, the discocellulars inwardly angled or curved, behind or above the cell-end frequently an areola caused by the anastomosing subcostal veins. All the butterflies belonging here are of almost the same size and partly very similar colouring, yellow, brownish-grey and black. The larvae are cylindrical, of medium length, frequently motted or with transverse stripes; the pupae are extraordinarily smoothly polished, without appendages, in a web composed of few threads. Larvae mostly gregarious, so that often hundreds may be shaken down from one tree; they often pupate gregariously in the slits of the bark or in hollows beneath roots, sometimes also in leaves loosely rolled together, in which the pupa is freely to be seen from outside, very much like those of the American Pericopinae. The butterflies seem to fly at night, but they are often met with in day-time, owing to their habit of flying up from the leaf, beneath which they rest, when only slightly touched. They are mostly very common and to be met with in the tropics all the year round. They are distributed over the whole world, but they seem scarcely to reach the temperate zone, except at the frontier of Cashmir and perhaps in the Interior of China. The genus Eligma stated in Vol. II of the „Macrolepidoptera“ as belonging to the Hypsinae, has of late been recognized to belong to the Noctuids and therefore mentioned again in Vol. III. We consequently do not enumerate it here and refer the readers to Vol. XI with respect to this genus.

Whilst in the preceding subfamily, composed of very insignificant, often faintly coloured forms, less stress was laid on figures not showing distinctly the deviating neuration, the figures of the variegated Hypsinae are mostly a good aid for the distinction, for which reason the illustrations of this group are, like in our Arctiinae, almost without a gap.


This genus is at once discernible from the other genera of this subfamily by the absence of the scent- or sound-organ in the ♂ forewing. Snellen who at first more precisely described the genus established by Felder, did not know the ♂♂ and his statements about the absence of the secondary organ were therefore merely presumptions which, however, were verified. The 3rd joint of the palpi is shorter than the 2nd; on the forewing vein 7 comes from the cell-apex and is on a short footstalk with 8 and 9. The genus contains only 2 very similar species and is exclusively Indo-Australian.

A. chloropyga Wkr. (= cyanopyga Feldr.) (27 a). Yolk-coloured, the forewing with six dark, punctiform spots above not showing through beneath, in contrast with the somewhat similar Asota egens in which the black spots beneath are absent above. Both abdomen and wings yolk-coloured, the last 3 abdominal rings, however,
above magnificently metallic blackish-blue, which is unfortunately by mistake quite absent in our figure, so that the only essential difference from the following species is not expressed. From the Philippines through the Malayan Archipelago to North Australia. Specimens from Celebes are particularly large. Common; it flies more rarely in day-time than the Asota species. In ab. analis Whr., the two distal spots of the forewing are smaller. In ab. snelleni Gaede the punctiform spots are partly connected.

A. leonina Bltr. (27 a) entirely resembles chloropyga, also with the dark spots on the thorax and leonina, forewing, but the abdominal end is likewise yolk-coloured, with no markings or only above with faint, blackish-blue ones. New Pomerania. — arcoïdes Bltr. (= simoniminta Gaede) from the Salomon Islands have brownish transverse bands across the forewings. In specimens from the Shortlands Islands these transverse bands are often broken up into spots. — liuensis Rothsch. (= jordani Gaede) from the Friendly Islands is smaller, without distinct spots on the thorax, but with some bluish-black on the anal rings.

A. stapialis Gaede, described according to a ♀ from New Pomerania, has another black basal spot stapialis close at the costal margin and 4 dark ring-margins on the abdomen.


This genus probably also has only two species, one of which is confined to Africa. The Indian species resembles certain Asota and belongs to the more common species of the Indian fauna. The genus is characterized by the short discal cell not reaching half the length of the wing. The 3rd palpal joint is longer than half the 2nd; vein 7 of the forewing from the apex of the posterior end of the accessory cell.

A. ficus F. (26 c). Head and body pale orange-yellow, only the 3rd palpal joint grey with a black ficus, apex, the base of the shoulder yellow with a black spot; the abdomen most with very faint dorsal spots. Forewing greyish-brown, the basal part from the costa to the lower cell-margin orange, with black and white markings. Hindwings orange-yellow with large, black, central and a series of submarginal spots. Larva velvety-brown with small, fine, white hairs on small reddish tubercles, from the 4th to the 11th ring lateral, yellow spots, head black, lustrous, the secondaries of a bright red, the sham feet red-brown. Distributed over the whole of India and Ceylon and in some places common.


Only one species with very deviating sexes. The very broad-winged ♀ has the median and particularly costal parts of the forewing clad with a densely hircured fur, the hair of which grow shorter towards the margin. In the middle of the costal area of the hindwing a black scent-spot. The ♀ is immediately recognizable by its conspicuous marking and colouring.

E. orbicularis Whr. (= subquadrata H.-Schäfi, longipes H.-Schäfi.) (27 a). ♀: body and bases of orbicularis, wings orange-yellow, spotted black; wings greyish-brown, towards the margin lighter, with a dense fur in the costal part of the discal area. The under surface of the forewing is whitish, with an oblong, black scent-spot; the hindwing is orange, spotted black, in the distal part brown. The ♀ is quite different, body and proximal halves of the wings orange, spotted black, costa and distal parts of the wings dark greyish-brown, radiated white. — Larva black, dark-hairied, across the ring-indentations greyish-yellow belts terminating in a similar lateral stripe. Head, first joint of the thorax, and feet yellowish-brown. The pupa is lustrous red-brown with an obtuse posterior end. Distributed through the whole of Northern India, Sikkim, Assam, Burma as far as the Philippines, and to the south as far as Sumbawa, also in the Andamans; I received specimens directly from Hainan and Java, but the latter habitat may be a mistake. The butterfly is apparently not common.


The ♀ of the only species belonging hereto shows a similar fur in the discal area of the forewing as the Peridrome, but there is also at the cell-end of the hindwing a dense, furry pad. The wings are of a peculiar shape, the anal angle of the forewing being obliquely cut off.

A. subfascia Whr. (27 b). The ♀ differs from P. orbicularis at once by the shape of the wings mentioned above, and by the peculiar pad on the hindwing. The ♀ resembles that of P. orbicularis, but the orange on the forewing is not extended so far along the proximal margin. Indo-China. not common.

5. Genus: Euplocia Hbn.

Likewise only one species, the ♀, of which are at once discernable by the basal part of the costa in the forewing being turned over like a pocket; in this fold there is a hair-brush. Colouring of the wings dusty grey, the body orange. The species is distributed from the Philippines to the Sunda Islands.

No costal fold, the swelling above the middle of the proximal margin on the forewing in the ♀ mostly very feeble. In its shape it is partly very much like the *Euphloeon*. In the veins it approximates the *Asota*. but the genitals are quite different. The apical part of the accessory cell shorter than the basal part, which is the contrary in *Asota*. Vein 11 is more remote from the cell-end than in *Asota*. The genus has often been divided into two (*Philona* and *Neochna*), but Jordan combined both. It contains but few species divided into a great number of local races.

**N. inops.** Body yolk-coloured, thorax and abdomen sometimes scantily spotted black. Forewing light dust-grey, traversed by white veins, the hindwings margined black; the black border in the apical part very broad, towards the middle of the margin very thin and terminating pointedly there. In typical *inops* Wkr. (27 b) the hindwings are yolk-coloured; in the form *private* Wkr. (= *einarasen* Moore) (27 c), which in some places flies together with yellow-winged specimens, the ground-colour of the hindwings is white. India as far as Burma, Nias, Hainan, Philippines. — *tenuimargo* Rothsch. from Timor, Alor and Adoula, is very much like *inops*, but the head and thorax are white, and the black spots in the anal part of the hindwing extend as long stripes to the base of the wing. Southern India. — *proxinia* Rothsch. (27 c) from North Australia (Cape York), besides from Timor, Alor, Callau etc. resembles *inops*, but before the margin of the hindwing there is a complete, black band reflecting most magnificently violetish-blue in the sunshine, the forewing is more brightened before the apex. The orange-yellow thorax shows white markings.

**N. dominia.** The forewings are lighter or darker lead-grey, often with a violet reflection, with white veins. Hindwing with a broader or narrower marginal band sometimes broken up into single spots, and with a large discal spot at the cell-end. — *butleri* Swinh. (27 c) has whitish-grey forewings; the hindwing with a chain of uniformly oval antemarginal spots. Head, thorax and abdomen orange. From Northern India, to the south over Burma to Malaca, and according to *Swinhoe* also in Cambodia. — *dominia* Cr. (= *chinon* F.) is very much like *butleri*, but the head and thorax are white, and the black spots in the anal part of the hindwing extend as long stripes to the base of the wing. Southern India. — *proxinia* Rothsch. (27 c) from North Australia (Cape York), besides from Timor, Alor, Callau etc. resembles *butleri*, but before the margin of the hindwing there is a complete, black band reflecting most magnificently violetish-blue in the sunshine, the forewing is more brightened before the apex. The orange-yellow thorax shows white markings.

**N. eugenia.** Cr. (27 c) has much darker forewings, the white veins of which are very distinctly prominent, the marginal band of the hindwing radiates a little towards the base and is proximad irregularly defined, the marginal band violetish-blue in the sunshine, the forewing more with a steel-blue reflection. Various islands of the Malayan Archipelago. — *stibostethia* Bilr. is similar, but the head, thorax and abdomen towards the base like in the form *dominia*, known only from Burna. — *affinis* Rothsch. (= *eugenia* Swinh., nec. Cr.) differs from typical *eugenia* Cr. by the narrower marginal band of the hindwing which is better defined, but it radiates behind slightly proximad. Thorax orange. North Moluccas. It forms a transition to *herpa*. — *herpa* Swinh. from Celebes and Sangir resembles the form *javana*, but the white stripe above the submedian fold of the forewing is in the disc much more expanded white, sometimes in the shape of spots; the abdomen is ringed black. — *javana* Rothsch. (= *dominia* Moore, bhawana Bilr., nec. Moore) resembles a dark *butleri*, but the white lines on the veins of the forewing are narrower, the marginal spots on the hindwing form an unbroken band, and the fringes of the hindwings are white between the veins. — *fuscipennis* Rothsch. (27 c) from the Bismarck Archipelago has very dark forewings traversed only by few white, shortened vein-streaks. The band on the hindwing extends proximad almost across the whole disc, so that only the basal part of the hindwing and a slight fog behind the cell-end spot remain light. — *papuan* Rothsch. (27 d) from New Guinea, Waigam, Aru and Mysol has similar forewings as *fuscipennis*, but the marginal band of the hindwing is only about 5 mm broad, and the disc of the hindwing is of a pure and bright white. — *fumosa* heliconides. Rothsch. has almost quite black hindwings, only at the base yet traces of white. Sumbawa; Borneo. — *heliconides* Swinh., from the Philippines entirely resembles *fumosa*, but the veins on the forewings are broader white. A very peculiar form is *basilissa* Meyr. (27 d) from Queensland with an almost entirely snow-white upper surface; also on the thorax which is only scantily spotted orange and black, coloured white: the band of the hindwing narrow, the discal spot not black, but dirty brown. — The butterflies are in some places extremely common and fly all the year round.
N. marmorea Wkr. is very much like the dark forms of the preceding species, particularly fusca-marmorea. pennis, the body is orange, the wings above with a bright blue reflection. Typical marmorea originate from Northern India, Tenasserim and Malacca, and exhibit a brightly white basal part of the hindwing. — The form bhawana Moore (27 d) represents the species in the Sunda Islands, but it occurs also in the northern bhawana, parts of Indo-China; here also the basal part of the hindwing is of a deep steel-grey colour with a blue reflection.

7. Genus: Asota Hbn. (Hypsa Hbn.).

This genus contains by far the greatest number of the Hypsinae. The head is very stout, the forehead is broad, posteriorly somewhat broader, rather flat; eyes very large, hemispherical, only towards the antennae the periphery is slightly flattened. ♀ antennae always very much combed, in the different species to a variable extent, the ♀ antennae mostly plain. The palpi, with a thin 2nd joint haired like a brush, the 3rd very fine, towards the apex thickened. Thorax mostly with rather appressed hair, the shoulder-covers usually spotted; the abdomen cylindrical, very uniform, in the ♀ not very stout, the 7th joint in the ♀ conical, the dorsal plate longer than the ventral plate and covered with long, hair-shaped scales which seem to be prolonged at the end of the joint (in caricae the ♀ has somewhat tuftily prolonged hair at the anal end). The forewing is almost invariably dust-grey with a light discal spot being often extended like a wedge towards the base; hindwing orange or white with or without a marginal band; behind the costal an oblong scent-spot covered with a fur of thick scales. About 100 forms are known, all of which are confined to the Indian region.

A. caricae Bd. (= alciphron Hmps., alciphron Sivinh.) (27 d, e). This widely distributed animal occurs caricae, only in two forms hardly to be separated geographically, the typical, more northern form found in the collections chiefly from Ceylon and Darjeeling, but in fact distributed over the whole of India and a great part of Indo-China, occurring also very frequently in the Andamans, Formosa, the Sunda Islands, and the Philippines. Forewing greyish-brown, at the base orange-yellow with black dots, at the cell-end a white spot. The hindwing is orange with a submarginal chain of black spots and similar ones in and behind the cell. — The other form, euroa Rothsch. (= caricae Don. nec F., alciphron Bd.), from the Papuan district euroa, and North Australia, the Moluccas and Celebes, has a somewhat lighter ground-colour, whereby the light lines on the veins are less prominent. — ab. purimargo ab. nec. (27 c) from Sumbawa (where also normal euroa occur) is much lighter, so that the fore- and hindwing are more similarly coloured, the central dot of the forewing being scarcely prominent and the antemarginal chain of dots on the hindwing absent. — Larva black, across the dorsum broadly bone-coloured or straw-coloured with a fine dark dorsal line expanded to a knob on the 3rd ring; head red-brown, under surface light brown; on the last ring a pyramidal elevation. Pupa blackish-brown, of a very bright lustre. On various trees, mostly gregarious. The imago is extremely common and may be beaten out from the bushes, in which it rests on the underside of the leaves.

The variation of the caricae is very extensive, and if we were to denominate all the aberrations as in Arctia caenis in Europe, the number of names would scarcely be inferior to that of the caenis-forms. Two principal marks are conspicuous: the inconstancy of the base of the forewing and the spotting of the hindwing. In specimens from Sikkim the orange-colouring of the base of the forewing is mostly very scanty, in specimens from Hainan remarkably extensive, but there often occur exceptions to it. The spotting on the hindwing varies even in specimens I beat from a bush with one blow of my stick. It may be developed to an entirely closed chain of spots before the distal margin, but there may also be only the ends of this chain to be noticed, isolated or connected by small dots. A specimen I received from SEMPER in exchange, even has the whole apex of the hindwing darkened. We have denominated only the aberration exhibiting a very much altered exterior, owing to the entire absence of all the distal spots on the hindwing.

A. plaginota Bd. (caricae Wkr. nec F.) (27 c). Larger than the preceding, the forewings very plaginota, much more pointed, yellowish-grey, traversed by bright, white lines on the veins, the orange-yellow basal spot larger, as well as the discal spot of the forewing, which dies away towards the base, indistinctly defined. Hindwing spotted as in caricae, but the ground-colour lighter yolk-coloured. Assam, Sikkim, Bhutan and Tenasserim, to the north as far as South China. — kuluenis Rothsch. differs from typical plaginota by kuluenis, its light cream-coloured instead of yellow head and thorax; from Cashmir, touching the palaearctic frontier, but probably not entering into the palaearctic region. — strigosa Bd., represents the species in Waigen, Aru, strigosa, and New Guinea. The forewings are more brick-coloured with a purple lustre, the veins brightly striped, the discal spot of the forewing towards the base prolonged. Hindwings almost or entirely unspotted. — producata Bd. (= strigivenata Sivinh., nec Bd.) (27 c) has the forewings almost without the white veins except the median at most; the basal spot is very light, at the costa more extensive than in plaginota: a small black spot is situated still further towards the margin at the costa than that on the median. The costa mostly shows a distinct, bone-white longitudinal stripe. Ceylon and Southern India as far as Hainan. — strigivenata Bd., nec Sivinh. (27 f, as strigivena) has a lighter yellow thorax and base of the forewing; from Sikkim to the Malayan islands. — stigmatica Rothsch. (27 f) differs from strigivenata by its still paler thorax and stigmatica.
base of the forewing; the veins of the forewing are not white, except the submedian, the spot at the cell-end is very small. From Java. The butterfly is common; it flies all the year round and is scared up from the bushes at the skirts of forests, into which it settles down again after having flown some metres. In the port of Hongkong it frequently resorts to ships, settling down on ropes and sails.

*egens.*

A. *egens* Wkr. Unicolorously yellow, the veins lighter, the base of the forewing mostly dotted black, under surface in the basal half spotted brightly black. Java and Bali, as well as Palawan as far as the Sunda Islands, shows above a brownish distal part of the wings and brown colouring along the margin, vein 5 and the submedian fold; the fold itself is whitish-yellow, the hindwing one-coloured. The ♀ has no dark brown scaling, the black dots at the base of the forewing are very small, sometimes reduced in number; the veins are just a little lighter than the ground-colour. — *sumbana* Rothsch. (= *pag* Pag, nec Wkr.) differs in the ♀ from *intermissa* by the veins of the forewings not being striped whitish-yellow, by the broader, dark postcellular stripe and the broader, brownish apical part of the cell; the ♀ like that of *discolor* with traces of dark streaks. Sumba. — *inversa* Rothsch. from Timor, Wetter and Letti, is extremely similar to the preceding form, the forewings also striped dark, the yellow areas more tan-coloured, often dusted with dark, beneath the two black spots of the forewing like in *intermissa* and *sumbana*, the hindwing with 1 to 3 very small black spots. The ♀ more unicolorous. — *onusta* Weym. (= *nebulosa* Snell.) has the forewing dusted in the basal half spotted brightly black. Java and Bali, as well as Palawan as far as the Sunda Islands, has the veins of the forewings above less brightly streaked white than *indica*, but between the veins there appear distinct dark stripes, and the black spots on the hindwings beneath are large; the cell-apex of the forewing often appears above a light spot. The ♀ has less small spots beneath than that of *nebulosa*, the two posterior ones on the hindwing are quite absent, as well as the dark stripes on the hindwing. — *discolor* Rothsch., likewise from Celebes and sometimes flying together with the preceding, has a darkened margin of the wings above and on the forewing no distinct white lines on the veins. — *intermissa* Rothsch., from the Lesser Sunda Islands, shows above a brownish distal part of the wings and brown colouring along the margin, vein 5 and the submedian fold; the fold itself is whitish-yellow, the hindwing one-coloured. The ♀ has no dark brown scaling, the black dots at the base of the forewing are very small, sometimes reduced in number; the veins are just a little lighter than the ground-colour. — *sumbana* Rothsch. (= *pag* Pag, nec Wkr.) differs in the ♀ from *intermissa* by the veins of the forewings not being striped whitish-yellow, by the broader, dark postcellular stripe and the broader, brownish apical part of the cell; the ♀ like that of *discolor* with traces of dark streaks. Sumba. — *inversa* Rothsch. from Timor, Wetter and Letti, is extremely similar to the preceding form, the forewings also striped dark, the yellow areas more tan-coloured, often dusted with dark, beneath the two black spots of the forewing like in *intermissa* and *sumbana*, the hindwing with 1 to 3 very small black spots. The ♀ more unicolorous. — *onusta* Weym. (= *nebulosa* Snell.) has the forewing dusted quite dark, in the ♀ this brown tint is somewhat less extensive than in the ♀ of the other forms. Nias. — *andamana* Moore has the black dot in the middle of the cell of the forewing above always indicated and besides a dark spot at the cell-end; the black spots on the hindwings beneath are much darker than in the ♀ of the other forms. Nias. — *macrosticta* Rothsch. (27 g) may be regarded as the transition to the following, being also of a monotonous yellow, with slight dark shades; but the black basal spots are larger than in all the other forms. Engano. — The species is somewhat less common than most of the *Asota.*

*avacta.*

A. *avacta* Swinh. (= *semipars* Snell.) (27 g). Above unicolorously yolk-coloured, at the base of the forewing 5 very large black dots. Under surface with a very dark brown apical half of the forewing and a similar, large spot in the middle of the costa of the hindwing. Batjan.

*darsania.*

A. *darsania* Druce (27 f, misprinted in *darsiana*), described from Celebes, according to Rothschild also from Batjan and Halmaheira, in my collection from Obi, has unicolorously greyish-brown forewings with a sharply defined, orange base dotted black, and a yellow hindwing with a greyish-brown marginal band.

*orbona.*

A. *orbona* Voll. (= *significans* Kirby) is likewise yolk-coloured; but on the forewing there are beside the black basal dots 2 ovals surrounded by small dark nebulous spots distinctly prominent below and behind the cell. Typical *orbona* come from the Moluccas. The ovals below and behind the cell are ochreous, the dark streaks bordering on them and situate between them are very bright, sometimes also very much reduced in number, the hindwing, as a rule quite unicolorous, but it also occurs with a broad, black marginal band. — *ochrealis* Swinh. (= *egens* Ribbe) (27 g) the oval spots are almost of the ground-colour, but the secondary sexual swelling above the middle of the proximal margin of the forewing is lighter. From the Key Islands; enormously variable, sometimes with thick, brown internerval streaks, a darkened apical part on both wings etc. — *discoidalis* Rothsch. (= *orbona* Pag, nec Voll.) (27 g) from Ceram and Amboina shows whitish discal ovals, between which brown colouring is distinctly prominent. — *significans* Wkr. (= *orbona* Ribbe, *orbonis* Swinh.), deviates from typical *orbona* by the two spots of the forewings being ochreous and the black spots of the hindwing beneath not being
the costa is black as far as the base, the marginal band narrow, from the costa to the 2nd radial, distally to this band often again yellow. Islands of Isabel and Rubiana.

A. tigrina Btlr. somewhat resembles orbona, it is of a bright yellow colour, but the black spots at the base of the costa are mostly entirely absent, the antennae, blanket spot on the forewing is likewise absent and the palp is quite black. Between the veins there run blackish, radiate longitudinal stripes. The costal margin of the forewing beneath is black, the insect otherwise yellow-coloured with black interneural stripes at the distal margin. New Britain.

A. australis Bsl. nec Meyr. Forewing brownish-grey with two large ante- and postmedian white spots, an orange base spotted black, and a yellow hindwing bordered with a greyish brown. The typical australis is described from New Guinea (probably a mistake). The form lineata Rothsch. (= australis Pag.) lineata. (28 a) from the Key Islands differs in the form by fine, distinctly yellow veins traversing the ground-colour of the forewings. — aequalis Wkr. from New Guinea and the Bismarck Archipelago has whitish veins on the forewing, but in the basal part and on the whole less distinct than in lineata. — sinuosa Bsl. sinuosa. (28 a) shows the marginal band of the hindwing sinuous and extended on the lower median vein towards the base in the shape of a tooth. — septentrionalis Rothsch. (27 g), in my possession from Obi, but described from Halmahera, Terrate and Batjan, has also a slightly sinuous marginal band of the hindwing, which, however, is proximally uniformly defined and does not form a real tooth on the lower median vein. We are no more able to-day to ascertain which of the races mentioned here really corresponds to the typical form of Boisduval; as the patria of New Guinea is presumably a mistake, the form assimilis Rothsch. assimilis, might be identical with it. Here the Q has the head, thorax, and the base of the forewing of a brighter ochreous-yellow than the other forms. The forewing is tinted yellowish, the veins are almost as distinct as in lineata. The hindwing has dark fringes between the apex and the submedian fold, but no broad marginal band. Port Darwin in Queensland, probably common.

A. diana Btlr. resembles the preceding species, but it is larger and more brightly coloured. The white spot behind the cell-end is large and crescentiform, the anterior one reduced, broken up into minute white spots, the hindwing with a very broad black marginal band. Salomons Islands.

A. nervosa. B. & J. is very much like diana, but with broader wings, the margin of the forewing nervosa. less oblique, the discal spot irregularly rounded, broader and shorter, not crescentiform; on the hindwing the costa is black as far as the base, the marginal band narrow, from the costa to the 2nd radial, distally to this band often again yellow. Islands of Obi and Rubiana.

A. alienata Wkr. (= agerista Snell.) (28 a) is like nervosa, but the thorax and head which are of alienata, a bright orange red in nervosa, are blackish-brown like the abdominal end. The marginal band of the hindwing still broader black, occupying almost half the wing; the forewing with traces of white spots behind the base and the cell-end. New Britain and New Hebrids. — In shortlandica Pag. the thorax is yellow instead of dark brown, on the forewing a large white reniform spot. Shortlands Islands.

A. javana Cr. (= jakensis Hbn.) (28 a). Wings dark brown, the forewing slightly tinted reddish-brown, with 2 white spots in and behind the cell and an irregular yellow margin. Thorax and base of the forewing yolk-coloured, like the abdominal end, the abdomen otherwise black. In typical javana the hindwing is narrowly bordered with yellow, and on the forewing the yellow colouring of the disc sends a ray almost to the border below the apex. Java. — deliana form. nov. from Sumatra shows a still narrower yellow border of the hindwing and a darker brown of the disc. Discovered by B. Hagen in Sumatra, mentioned also from Burma. — flaviventris Rothsch. (28 b) from the Philippines has a broader yellow margin of the hindwing, the abdominal segments are narrowly bordered with yellow. — celebensis Hptfr. (28 b) from Celebes is quite similar, but the dark brown colour of the disc on the forewing does not send a ray towards the margin. The species is apparently not common.

A. iodamia H.-Schäfj. (= borbonica Q H.-Schäfj. [in tabula], sphacera Lbr., neophora Meyr.) iodamia. (26 i). Size of australis, head and thorax ochreous-white, abdomen orange. Rings 2 to 4 above with a black dot, 5 to 7 banded black; forewing brown, very finely speckled yellowish-white; veins and folds thinly yellowish-white. A whitish-ochreous basal spot extends at the costal margin to one third and at the proximal margin to one fourth, its distal margin is very badly defined, containing 6 round, black dots, 3 of which are subcostal, 2 on the submedian fold and one at the distal margin above the middle; transverse vein indis-
distinctly suffused with whitish-ochreous, fringes brown. Hindwings orange; 2 moderate, suboval blackish spots, the first below the middle, the second behind the middle, sometimes with few small, uniting, blackish scales; below the first a small, clouded, black spot almost touching the anal angle; fringes orange. Eastern Australia (Newcastle and Sydney), common.

**spadix.**

A. *spadix* Swinh., from the Salomons, is not before me in nature; it is reported not to resemble any other form known. $^5$ palpi, head and body dull ochreous; both wings dull violetish-brown; forewing with a light spot at the cell-end and some dull ochreous colouring at the base. Hindwing likewise with a light spot at the cell-end, and the costal space above it from the base as far as somewhat behind the cell-end light ochreous-yellow, almost white. Beneath the legs and body are unmarked, the basal halves of both wings dull ochreous-yellow, the distal halves violetish brown. Salomons.

**plagiata.**

A. *plagiata* Wkr. (= discreta Wkr.). Likewise from Eastern Australia. The base of the forewing similar as in *paphos* (28 c, d), the black spots similarly situate, and the yellow markings corresponding to the white ones in *paphos* similarly arranged, but larger. The spot behind the cell-apex of variable size and shape, sometimes connected with the undulate transverse band by a streak in the cell, a similar longitudinal stripe being sometimes present behind vein 2, the two dark macular bands of the hindwing very variable, the spots of the distal band sometimes confluent. The proximal band consists of 3 spots which may be separate, but also confluent, and some small intermediate spots.

**woodfordi.**

A. *woodfordi* Drue (26 c). The yellow of the base of the wing very extensive, occupying almost the whole basal half of the forewing; brightly marked black; at the middle of the margin of the forewing a light spot. The hindwing yellow with a black apex and some larger spots before the middle of the margin. From the Fiji Islands.

**fulvia.**

A. *fulvia* Don. is unknown to me in nature. DONOVAN who describes and figures it (t. 39, fig. 4) mentions New Holland as its patria. JORDAN presumes this to be erroneous, and he had before him specimens corresponding with DONOVAN’s figure, originating, however, from New Britain and New Ireland. Thorax unpotted, abdomen either likewise unpotted or only with traces of spots. Palpi black, beneath and outside the two first joints are tawny. Forewing yellow, the veins dark, except at the base; the submedian fold more or less extensively dark brown; at the base of the cell sometimes a small, black dot. Hindwing coloured like the forewing, but at the ends sometimes conspicuously blackened. Under surface yellow, in the apical regions of both wings dusted brownish, in the forewing more than in the hindwing.

**versicolor.**

A. *versicolor* F. (= eusemioides Fldr.) (28 b). Blackish-brown, forewing with whitish veins and a white oblique band through the middle of the wing; body orange-yellow, marked black. This butterfly being distributed over New Guinea and numerous, neighbouring islands, though not extending as far as Australia, varies exceedingly. The white band may be broad and narrow, straight and curved, shortened and broken up. JORDAN even mentions a specimen showing on one side a broad band of the forewing, on the other a narrow one. — *subrupta* Rothsch. has very narrow bands; the band of the $^5$ is interrupted or strangled on vein 2. Duke of York Island. — *novohibernica* Pag. from New Mecklenburg shows the white band of the forewing shortened to such an extent that it only reaches from below the costa to about the middle. *versicolor* is rather common.

**albiluna.**

A. *albiluna* Rothsch. resembles *versicolor*, but the wings above with a white costal spot at the base, separated from a white band (of 1½ mm width) by a jet-black spot which is replaced in *versicolor* by a white crescent.

**paphos.**

A. *paphos* F. (= heliconia Moore) (28 b, c). Forewing brownish-grey, with whitish veins and a broad, white proximal margin. Hindwing white with a broad, black margin and dark markings in the disc. Under surface blackish-brown and speckled white. The under surface varies exceedingly, and there occur specimens with an almost quite black forewing; also above the distribution of the black on the hindwing varies so much that hardly two entirely alike specimens are to be discovered. North India and Malacca to Borneo and Sumatra. — *leucinota* Snell (28 c) from Java and Sumatra has unicolorously white hindwings with black margins, and the body is (instead of a bright orange) coloured like the forewing. Not rare.

**heliconioides.**

A. *heliconioides* Moore (28 c). Forewing similar as in *paphos*, but without the broad, white proximal margin: on the dull white hindwing with dark margins, the marking is inclined to transverse bands. Philippines to Jolo and Balabak. Not rare.

**sericea.**

A. *sericea* Moore (= concana Moore) is only known from South India. $^5$ with grey, yellow-veined forewings. $^3$ with more yellow ones. $^5$ hindwing with a broad black band in and behind the cell from the base to the dark postmedian spots, the marginal band not interrupted. $^3$ forewing with a white antemedian,
A. paliura Swinh. (28 e) flies farther to the north. Forewing dark dust-grey, suffused with grey, with paliura, a large, wedge-shaped, white proximal macula extending from the base to behind the cell-end and in rays almost to the margin. Hindwing white with a rather narrow distal band and dark spots in the disc. In the interior of China and West China as far as Mupin, thus to the border of the palearctic region; from May till July apparently very common. A specimen before me from the Collection Bang-Haas is labelled from „Japan‟, but I noxheres find the occurrence in this country corroborated, at least not for the large islands.

A. canaraica Moore greatly resembles paliura, but it mainly differs by the forewing showing at the lower cell-angle an oblong, white spot instead of the large, wedge-shaped spot of paliura extending to the base. South India.

A. heliconia. Of this very common butterfly distributed over a great part of the Indian region more than 30 forms have been described. As the typical heliconia L. (= sylvandra Stoll., sylvandra and heliconia heliconia. Hbn., doryea Btlr., monyca Poj.), I consider the form occurring in the Moluccas, Salomons Islands and the Bismareck Archipelago, where LINNÉ found a specimen from Amboina. Such specimens, considering the great variability of this form, correspond the best to the original description and to STOLL’s figure of sylvandra in CRAMER’s „Papillons exotiques‟. A characteristic mark in all the heliconia-forms is the broad, white, wedge-shaped spot from the base of the forewing and the white hindwing with more or less dark greyish-brown margins. The white, wedge-shaped spot of the forewing is often slightly bent round like a hook, as for instance in the continental specimens extending to the south as far as Tenasserim and to the east as far as Hongkong, where I very often met with the butterfly. This form is clavata (= heliconia E?? clavata., = sylvandra Wkr. nec Cr., monyca Moore nec Cr., venala Swinh. nec Moore) (28 d). The uuneiform bend of the wedge-shaped stripe on the forewing is created by a rather constant indentation of its lower margin shortly before the end. The dorsal spots of the abdomen are almost invariably rather small and do not form any real transverse bands as in many other forms with which clavata might otherwise be confounded. The blackish-brown marginal band on the hindwing is mostly indented on the veins, sometimes the median and submedian are all white. On the under surface the black, postmedian spots of the hindwings are sometimes combined to a black band, and the white area on the forewing is sometimes much larger than above, as for instance according to JORDAN in specimens from Hongkong. — dicta Blr. (= monyca Hmps. nec Cr.) dicta. (28 d) from Borneo is very similar to baccobata (28 e), but it differs by the orange-yellow, black-spotted basal spot of the forewing; besides the white ueneiform streak of the forewing is narrower, and the hindwings have narrower margins. — extensa Rothsch., is a dicta-form brought from the Kina-balu by WATERSTRADT, similar to clavata., with a broader spot of the forewing and a narrow band of the hindwing. — nicobarica Swinh. nicobarica. from the Nicobars differs from the typical dicta by the two distal black dots in the orange-yellow basal area of the forewing, which flow together and thus terminate the yellow basal spot with a black band. JORDAN mentions a specimen with a white-striped basal half of the forewing. — venala Moore nec Swinh. venala. (= monyca Hmps. p. p.). The median stripe of the forewing is triangular with a sinuous distal margin, the veins in the costal part as well as the submedian white; the width of the submedian white line varies considerably. The distal band of the hindwing extends almost to the anal angle and is crossed by white veins; vein 2 is particularly broad white; beside the two black spots in the cell many a specimen shows faint traces of two more, postmedian black spots on the veins 2 and 5. Andamans. JORDAN takes this form to be a species of its own, owing to structural differences in the antennae. — antennalis Rothsch. likewise exhibits structural differences in the antennae, but otherwise it most exactly resembles the two following species. From dohertyi Rothsch. (28 e) it differs by the middle spots on the abdominal rings being very faintly transverse-oval or quite roundish, whereas in dohertyi in the ? they are much more broadly diffused and sometimes extend to the stigma. Celebes. — dohertyi Rothsch. (28 e) differs from venala as mentioned just above, and from the very similar albivena Wkr., it is distinguished by the costal margin being quite straight from the base as far as behind the middle. Forewing with white lines, the white lines between the median and submedian broader than in albivena. The black band of the hindwing shaped as in venala., but somewhat narrower. It occurs together with antennalis and albivena in Celebes. and in spite of certain structural differences in the antennae it is scarcely of a different species. — enganensis Rothsch. resembles dicta enganensis. (28 d), but the basal half of the costa is jet-black, the 3 black basal dots at the costa scarcely recognizable, the veins of the forewing not with white lines, the white longitudinal stripe of the forewing wedge-shaped as in dicta., and between the veins 2 and 3 indented as in clavata., the marginal band of the hindwing as broad as in dicta. Engano. — natunensis Rothsch. has its head, thorax, abdomen, and base of the forewing as in clavata., but the black, small dots on the thorax much smaller. The white median stripe of the forewing above reduced to a small, oblong spot at the lower cell-end; the marginal band of the hindwing as in dicta.
at the cell-end a small, black dot. Similar, the white spot of the forewing not so much reduced, allied to

perinele. *perinele* Weym., but on the hindwing more extensively white. Natuna Islands. — *perinele* Weym., (= *sylvandra* Swell.) (28 d, e) is in the $G$ without the light spot on the forewing, which is in the $G$ only beneath indicated by some small, white scales. The white basal part of the hindwing mostly also darkened and often so much strangled by the widened marginal band that scarcely half the wing remains for it. The under

intacta, surface is quite blackish-brown, only the hindwing has a light median spot of variable extent. — *intacta* Wkr. ( = *sylvandra* Moore nec Swell., monyeha Piep. & Swell., nec Hmps., dama Swell.) (28 e) is the form from Java and Bali. Very much like *perinele*. The abdomen mostly yellowish, sometimes more whitish with black bands, the spot of the forewing is either absent altogether above or it is more or less indistinctly marked, beneath it is in the $G$ likewise often entirely absent, whilst in the $G$ it is present, the black dot at the

lara, cell-end of the hindwing sometimes in both sexes distinct on both sides. — The form *lara* Swinh., has a still more whitish abdomen which is either curled black as in the typical *intacta*, or which may also have only black dorsal dots: the forewing in both sexes with a white triangular spot, the marginal band of the hindwing posteriorly narrower than in typical *intacta*: above as a rule no cell-end spot on the hindwing, sometimes the latter is absent also beneath, where the forewings are in both sexes more extensively white than in typical *intacta*. It flies together with the preceding. — *murina* Roths., occurs in two forms like *intacta*, from which invariably differs by its lighter yellow head and abdomen, the small black spots of the patagia are as a rule larger and the black marginal band of the hindwing along the proximal margin more or less flown out. The two forms of *murina* correspond to the two *intacta*-forms. In the typical *murina* the white marking of the forewing consists of a line below the median, a spot between veins 2 and 3, and an indistinct spot in the cell-apex. In the form *diluta* Roths., in the $G$ the white spot of the forewing is extended along vein 2, the black band of the hindwing rather deeply and broadly notched on vein 2, the abdomen

with rather small, black dorsal spots. *murina* occurs in different small Sunda Islands. — timorana Roths., differs in its typical form from typical *murina* which it resembles very much by an almost brown head and thorax, almost of the colour of the forewings: also the orange place at the base of the forewing replaced by greyish-brown, the white stripe of the forewing very much reduced, in typical *timorana* only one small

brevipennis, spot between veins 2 and 3, one at the cell-apex. In the subform *brevipennis* Roths., the forewings are in both sexes darker than in *intacta*, of the yellow colouring at the base of the wing there is no more trace whatever, but the basal part of the forewing is crossed by white lines on and between the veins; of the spot on the forewing only a small white dot is left at the lower cell-angle. It flies together with typical *timorana* in Timor. — *kalaonica* Roths., of which only the $G$ is known, resembles typical *murina* in the size and shape of the white stripe of the forewing, but it differs from it and from *intacta* by the base of the forewing not being yellow and the black basal dots being almost obliterated. Below the base of the median there is a very distinct, small, whitish angular spot and a similar small dot; the marginal band of the hindwing

*riukiuana* is as broad in *murina* and continued along the proximal margin. Kalao in South Celebes. — *riukiuana* Roths., is the form from the Lincbots, very much allied to that from the Philippines, but the thorax is of a much lighter orange, and the white discal spot of the forewing is mostly larger, along vein 3 always produced. Hindwing as in *philippina* (28 d), but the black spot at the cell-end above more frequently present.

*zebrina*. — *zebrina* Btlr. (= *monyeha* Hmps. p. $p.$) (28 d) has the thorax almost as brown as the forewings, and the narrow part of the white median stripe of the forewing is also often strewn with small brown scales and therefore less brightly white. Hindwings almost as in *riukiuana*, *philippina* and *dicta*, but the base slightly tinted blackish, the abdomen of a brighter ochreous-yellow than the thorax, curled black. Formosa. — *philippina* Btlr. (= *dicta* Swell, nec Btlr., dama Pag. nec F.) (28 d), from the Philippines, in the typical form approaches very much *riukiuana*; the basal area of the forewing has only traces of yellow, and is otherwise whiter, the white spot of the forewing being shaped as in *dicta*, but distinctly extended along vein 3. The

*zebrina*. — *zebrina* Btlr. (= *monyeha* Hmps. p. $p.$) (28 d) has the thorax almost as brown as the forewings, and the narrow part of the white median stripe of the forewing is also often strewn with small brown scales and therefore less brightly white. Hindwings almost as in *riukiuana*, *philippina* and *dicta*, but the base slightly tinted blackish, the abdomen of a brighter ochreous-yellow than the thorax, curled black. Formosa. — *philippina* Btlr. (= *dicta* Swell, nec Btlr., dama Pag. nec F.) (28 d), from the Philippines, in the typical form approaches very much *riukiuana*; the basal area of the forewing has only traces of yellow, and is otherwise whiter, the white spot of the forewing being shaped as in *dicta*, but distinctly extended along vein 3. The

*zebrina*. — *zebrina* Btlr. (= *monyeha* Hmps. p. $p.$) (28 d) has the thorax almost as brown as the forewings, and the narrow part of the white median stripe of the forewing is also often strewn with small brown scales and therefore less brightly white. Hindwings almost as in *riukiuana*, *philippina* and *dicta*, but the base slightly tinted blackish, the abdomen of a brighter ochreous-yellow than the thorax, curled black. Formosa. — *philippina* Btlr. (= *dicta* Swell, nec Btlr., dama Pag. nec F.) (28 d), from the Philippines, in the typical form approaches very much *riukiuana*; the basal area of the forewing has only traces of yellow, and is otherwise whiter, the white spot of the forewing being shaped as in *dicta*, but distinctly extended along vein 3. The

*zebrina*. — *zebrina* Btlr. (= *monyeha* Hmps. p. $p.$) (28 d) has the thorax almost as brown as the forewings, and the narrow part of the white median stripe of the forewing is also often strewn with small brown scales and therefore less brightly white. Hindwings almost as in *riukiuana*, *philippina* and *dicta*, but the base slightly tinted blackish, the abdomen of a brighter ochreous-yellow than the thorax, curled black. Formosa. — *philippina* Btlr. (= *dicta* Swell, nec Btlr., dama Pag. nec F.) (28 d), from the Philippines, in the typical form approaches very much *riukiuana*; the basal area of the forewing has only traces of yellow, and is otherwise whiter, the white spot of the forewing being shaped as in *dicta*, but distinctly extended along vein 3. The

*zebrina*. — *zebrina* Btlr. (= *monyeha* Hmps. p. $p.$) (28 d) has the thorax almost as brown as the forewings, and the narrow part of the white median stripe of the forewing is also often strewn with small brown scales and therefore less brightly white. Hindwings almost as in *riukiuana*, *philippina* and *dicta*, but the base slightly tinted blackish, the abdomen of a brighter ochreous-yellow than the thorax, curled black. Formosa. — *philippina* Btlr. (= *dicta* Swell, nec Btlr., dama Pag. nec F.) (28 d), from the Philippines, in the typical form approaches very much *riukiuana*; the basal area of the forewing has only traces of yellow, and is otherwise whiter, the white spot of the forewing being shaped as in *dicta*, but distinctly extended along vein 3. The

*zebrina*. — *zebrina* Btlr. (= *monyeha* Hmps. p. $p.$) (28 d) has the thorax almost as brown as the forewings, and the narrow part of the white median stripe of the forewing is also often strewn with small brown scales and therefore less brightly white. Hindwings almost as in *riukiuana*, *philippina* and *dicta*, but the base slightly tinted blackish, the abdomen of a brighter ochreous-yellow than the thorax, curled black. Formosa. — *philippina* Btlr. (= *dicta* Swell, nec Btlr., dama Pag. nec F.) (28 d), from the Philippines, in the typical form approaches very much *riukiuana*; the basal area of the forewing has only traces of yellow, and is otherwise whiter, the white spot of the forewing being shaped as in *dicta*, but distinctly extended along vein 3. The
All the specimens before me from Bang-Haas and my collection deviate from each other. Most of the specimens are distinctly veined white on the forewing, the white median spot being reduced or entirely absent. The body is of a bright orange, the abdomen banded black. — doryca Bsd. (= lanceolata Kirsch, nec Wkr., leuconeura Ribbe) (28 f) from New Guinea, the Aru Islands, Entrecasteaux, Ferguson Island, shows the white median spot of the forewing mostly connected with the base of the wing by the broad white median, the veins of the forewing being not always and often only in the basal part white; thorax brown, abdomen orange, banded black. — albivena Wkr. (= vitessoides Snell, nec Pag.) in the colouring so exactly resembles certain heliconia-forms, that it was often regarded as identical (e.g. with the form ghara), but Jordan called our attention to anatomical differences. The harpe is much broader, at the apex flatter, much less bent upwards etc. Celebes — dama F. (28 f) from North East Australia is most similar to albivena and in fact only differs by its bright yellow thorax. — kiriwinae Rothsch. resembles dama, the veins of the forewing are extremely fine white and visible only in the basal half, except the median being more distinct; at the lower end the black spot is extraordinarily small as in ghara from the Key Islands (where it may sometimes be absent altogether); the small spots at the base of the forewing are scarcely noticeable. Hindwing above black with a rather small, white discal brightening behind the cell, which may vary in extent, though it never attains that of the preceding form. — leuconeura Btlr. nec Ribbe from the Bismarek Archipelago, has a bright ochreous-yellow head and thorax, the sheaths without small, black spots and those on the mesothorax quite small; the small, black spots at the base of the forewing are not confluent, the white markings between them not nearly so bright as in doryca or dama. At the cell-apex a round, white spot, not or scarcely extended on vein 3; the marginal band of the hindwing is mostly broader than in the preceding forms, the distal margin not dentate on the veins and usually convex at vein 2. — semifusca Btlr. from the Salomons Islands exhibits the white spot of the forewing extended on vein 3, the sheaths mostly with black spots, otherwise as leuconeura; the median often white.

A. subsimilis Wkr. (28 f). Forewing similar as in dicta, but the ground-colour of the hindwing yolk-coloured. Malay Peninsula.

A. plana differs from the preceding group by its mostly larger size and preponderantly white forewings, — persecta Btlr. (= plana Wkr., complana Hmps. p. p.) (28 g) from Ceylon and the southern part of India, has the small black spots at the base of the forewing mostly separated, only the two distal ones being sometimes connected; the white area of the forewing is rather deeply notched on the veins 3 and 4, and the submedian fold in most of the specimens more or less conspicuously marked with small, brown scales; the white spot behind the upper angle of the cell is separated from the white discal area; on the hindwing the black spot in the middle of the cell is sometimes quite small, sometimes as large as the spot at the cell-end. — lacteata Btlr. (= persecta Btlr. p. p.) (28 g) is the North Indian form distributed across Assam and Tonkin to Formosa and the Lichrots, though it no more proceeds into the palearctic region. The upper surface is almost quite white, the small spots at the base of the wing several times flamed together, the dark margin of the hindwing narrow. — intermedia Rothsch. resembles persecta, but it differs by the distal basal dots of the forewing being combined to a transverse band and also the two proximal ones behind the median being combined to one, the submedian fold being shaded brown, the black spots of the thorax larger. In the $ the black band defining the yellow base of the wing is intersected on the median and submedian, the hindwing less distinctly spotted black than in the $, the spot in the middle of the cell absent. Nias. — albivena Btlr. (28 h) from Borneo and the Philippines shows the white macula behind the upper angle smaller than lacteata does, and the white hindwings less spotted, but more broadly margined with dark. — transiens Rothsch. from Engano has on the forewing only a minute and narrow spot at the cell-end, otherwise only some faint dark traces in the cell, thus forming a transition to the forms with unspotted hindwings. — centralis Rothsch. on its forewings exactly resembles albivena, but the distal ones of the black, small basal dots flow together as in transiens. Hindwing above with a small spot at the cell-end, beneath another, large, variable one in the middle of the cell. Celebes. — plana Wkr. (= complana Wkr., albivena Pieg. & Snell.) is the form extending from Java across the Lesser Sunda Islands and Pulo Laut to the south of Borneo. It is recognizable by the hindwing being above unspotted, beneath provided with very minute spots at the cell-apex; only very rarely there is beneath another minute spot in the middle of the cell. The white spot behind the upper cell-angle on the forewing is mostly not separated from the large white area of the wing. The harpe is much broader, at the apex flatter, much less bent upwards etc. Celebes — dama F. (28 f) from North East Australia is most similar to albivena and in fact only differs by its bright yellow thorax. — kiriwinae Rothsch. resembles dama, the veins of the forewing are extremely fine white and visible only in the basal half, except the median being more distinct; at the lower cell-end the white spot is extraordinarily small as in ghara from the Key Islands (where it may sometimes be absent altogether); the small spots at the base of the forewing are scarcely noticeable. Hindwing above black with a rather small, white discal brightening behind the cell, which may vary in extent, though it never attains that of the preceding form. — leuconeura Btlr. nec Ribbe from the Bismarek Archipelago, has a bright ochreous-yellow head and thorax, the sheaths without small, black spots and those on the mesothorax quite small; the small, black spots at the base of the forewing are not confluent, the white markings between them not nearly so bright as in doryca or dama. At the cell-apex a round, white spot, not or scarcely extended on vein 3; the marginal band of the hindwing is mostly broader than in the preceding forms, the distal margin not dentate on the veins and usually convex at vein 2. — semifusca Btlr. from the Salomons Islands exhibits the white spot of the forewing extended on vein 3, the sheaths mostly with black spots, otherwise as leuconeura; the median often white.
apex. The black thoracal spots are smaller than in typical *plana*, particularly those of the patagia. In the ♀
the basal spots in the cell are not united and the thoracal spots still smaller; the hindwing has no postmedian
spot, but only a very small one at the cell-end. — *fergussonis* Rothschr., from the Islands of Fergusson and
d’Entrecasteaux, is entirely like the preceding form, but the submedian fold of the forewing only very faintly
shaded with brown or entirely white. The basal spots separated, the hindwing above and beneath with 2
indistinct, small postmedian spots on vein 6 and below vein 2, the thoracal spots scarcely larger than in *abifera*
donatana. but the middle streak on the mesothorax strong. — *donatana* Swinh. from Tenasserim is probably also allied
to this group, particularly to *persecta*, but on the forewing the 2 black punctiform spots are absent at the inner
border of the costal band, and the apical white spot disappears in the white of the disc; on the hindwing the
band is narrower and is parted by the ends of the veins, the three discal dots of *persecta* being absent here.

*albiformis*.  
A. *albiformis* Swinh. (28 g) from Borneo and the Philippines. The white spot behind the upper cell-
angle broadly flows together with the discal area, the white hindwing in the disc unspotted, but with a rather
broad, dark distal band. — *ternatensis* Rothschr. from Ternate exhibits a less pointed, lower, distal angle of
the white area of the forewing, being more rounded off; the black colouring extends at the costal margin to
the base, so that scarcely a trace of the small, black basal spot is noticeable there.

*clara*.  
A. *clara* Bltr. (28 h). The only specimen before me shows very extensive, white areas, the hindwing
without a dark margin, the brown of the forewing paler, the thorax white, the abdomen light ochreous-yellow.
Java. Apparently rare and flying only at considerable altitudes; captured by FRUHSTORFER on Mount Gede
at an altitude of 4000 ft.

*suffusa*.  
A. *suffusa* Snell. (28 h). Forewing preponderantly shaded with dark, the white reduced to a small
area behind and above the upper cell-angle, behind the cell and above the proximal margin. The hindwing
with a broad, brown marginal band strongly narrowed towards the proximal angle. Flores, Alor. The animal
is known to me only from the figure (in the Novitates Zoologicae) which I copy.

*isthmia*.  
A. *isthmia* Wkr. The forewing is likewise very extensively dark brown, the white spotting reduced,
in specimens from Negros less so than in ♀♀ from Mindoro; beneath the white band behind the cell is broader.
The hindwing with a dark marginal band, otherwise unspotted. Philippines.

*tortuosa*.  
A. *tortuosa* Moore (28 h). Forewing rather irregularly spotted, the white area oblique and at both
its margins strongly dentate and sinuous. The hindwing with an irregular, dark marginal band divided into
spots by the veins and several dark discal spots; the base of the forewing like the body of a light ochreous
yellow, brightly spotted black. North India to China, where it proceeds in the Omei-shan to the palearctic region.
The species undoubtedly shows a mimetic resemblance to certain Geometrids of the Abraxas-group, such as
*Metabraxas rufonotaria* (Vol. 4, t. 14 d), *Percnia luridaria* (Vol. 4, t. 14 e), and *P. giraffata* (Vol. 4, t. 14 f) all
of which also fly in the Omei-shan.

*contorta*.  
A. *contorta* Aur. entirely resembles *tortuosa* by the colouring of the hindwing and abdomen, but it
differs otherwise very much. The posterior margin of the forewing is longer than in other *Asota* and the distal
margin is short; by this shape of the wings the species is quite isolated in the genus and approximates only
*kinabaluensis*. From Sukabumi, at an altitude of 2000 ft., taken by FRUHSTORFER in Java.

*kinabaluensis*.  
A. *kinabaluensis* Rothschr. (28 h), from the Kina-balu in North Borneo, is in the distal half of the forewing
blackish-brown, in the proximal half white, spotted brown. Between the radialis a square, white spot. Hindwing
white with an irregular dark margin and blackish discal spots; the body is orange; thorax spotted dark, abdomen
banded dark.


In this genus in which now also Indian *Sommeria* and sometimes the African *Homaeognatha* resembling
the *Asota* or certain *Spilosoma* are included, there are about 15 forms mostly confined to India and Ceylon,
one species, however, being also distributed over Celebes to Australia. Also here the 3rd palpal joint is very
long, the forewing being of the shape of some *Lithosia*, often also with a marking resembling *Chionaena*. The
subcostal veins anastomose on the forewing, forming an areola, the lower radial comes from the lower cell-angle,
the lower median vein rises before the last third of the cell. On the hindwing the last subcostal vein is petioled
with the 1st radial; the uppermost median vein comes from the lower angle of the very short cell. The larvae
are not known to me, the imagines seem to occur less frequently than most of the *Asota*-species.

*D. hearseyana* Moore (26 c). This species distributed through the whole of India to Ceylon has the
forewing clouded light and dark, the basal part decorated with numerous, small black spots and the distal part
with an irregular, dark marginal and submarginal band. Hindwing yolk-coloured, beneath with a black spot
at the cell-end. — *similis* Moore, described from Smula, in ♀ exhibits a dark brown marginal stripe near
the anal angle of the hindwing, and in both sexes another dark spot before the apex of the hindwing. The latter
form is smaller, too.

*D. insulana* Fldr. (26 c) differs from *hearseyana* by the unsotted collar and the absence of the dark
bands of the forewings; it also occurs in Ceylon, and in South India.

*D. burmana* Hmps. is the size of the form *similis*; the head, thorax and abdomen are marked as in
the latter form, but the basal part of the forewing, beside the black punctiform spots, exhibits internerval streaks
resembling the colour of wine, the submarginal band is deeply dentate, and at the margin of the forewing there are dark spots. Hindwing orange with spots in the apical part and at the costal margin, the apex shaded dark. Burma.

D. fasciata Btlr. (26 e). Head and body as in *heuresgana*, but the collar without dots and the patagia *fasciata*, with a black streak. Forewing dark greyish-brown, at the costa 3 black strigae; in the cell 2 small spots; at the cell-end a black spot, the basal part of the forewing being spotted black, too. Ceylon.

D. marchali Guér. (26 c). Head and thorax whitish-grey, abdomen orange, all three spotted black. *marchali*. Forewing with dark, arcuate, antec- and postmedian bands, at the base and in the cell blackish punctiform spots. Hindwings orange. Southern India. — In the form *intermedia* *Hmps.* from Southern India there are some more dark bands before and at the margin. — In *figurata* Moore from Burma almost the whole forewing is suffused with dark; in ab. *nebulosa* Wkr. it is clouded dark and light.

D. marmorea Btlr. (≡ *piepersiana* Snell.) (26 d). This species is the only one occurring out of Cont- inental Asia (resp. Ceylon). Its range extends across the Sunda Islands (Celebes) and Northern Australia.

D. obelis Leech (26 d). This species, not lying before me, probably also deviating more from the other *obelis* species, is described from Kiukiang, being the frontier of the palearctic region. As most of the *Dipana*, it is apparently rarer than most of the Hypsids of other genera are in their patriae.

IV. Subfamily: Cocytinae.

This most peculiar lepidopteran species forming several species we place here with all restriction. All that we can say about it is that it is not particularly allied to any lepidopteran group known hitherto. A clumsy body almost like that of a rose-chafier exhibits black-veined hyaline wings. The uncommonly long antennae are shaped just as conspicuously as the greenish-golden palpi. The insect entirely justifies the establishment of a separate family, but in our work it ought to have been inserted either before or behind the *Arctiidae* being that group of lepidoptera with which it shows the most analogies; but then it would have been either ranged among the *Syntomidae* or the *Lymantridae*. The latter position, between the *Lymantridae* and *Xyctemerinae*, is probably scarcely to be taken into consideration; by its position behind the *Syntomidae* it would have disturbed the transition to the *Nolidae* with which it has nothing in common. The *Cocytiidae* are confined to the Indo-Chinese Archipelago. The name is a little bold owing to its aptness of being mistaken for Hübner’s genus *Cocyia*, an American genus of Geometrids. Above all, the name of *Cocytiidae* would have then to be replaced by another in order to avoid mistakes.

I. Genus: Cocytia Bed.

The forms having been distinguished in this genus, are so closely allied that they can scarcely be separated as good species; they seem to be regarded as local races the more so, since in spite of the confined range of the whole genus nowhere more than one form seems to occur. The structure is clumsy: on the very strong thorax we notice a head with a broad forehead and large diurnal eyes; the first palpal joint is moderately long.

*durvillei* Bed. (= *chlorosoma* Mob. & V.) (26 g), the form described first, occurring in New Guinea, *durvillei*. shows transparent wings with broad black margins and thick intermediate veins, the reddish-orange subbasal spots on the forewings large. — In *veitschi* Btlr. (26 g) the wings are not as of white, but as of yellowish glass, *veitschi*. but just as transparent as those of *durvillei*, and the black margins of the wings are narrow; from Batjan. — *ribbei* Draes (26 g) has white, rather slightly lustrous bluish hyaline wings, the internerval stripes are shorter than in *durvillei*, the forewing without the yellowish-red basal spot; from Aru Islands. — *chlorosoma* Btlr. likewise originates from Aru (*chlorosoma* Mob. & V. refers to varying *durvillei*), has light not yellowish hyaline wings with narrow black margins; the internerval stripes are shorter, finer, and proceed more abruptly from the margins. The most remarkable deviation is a form originating from the Timor Laut group, which was separated
aurantiaca. as aurantiaca Rothsch, (26 g). It has a still narrower black margin than veitschi, and instead of the miniate basal spot of this species the forewing except the apical third, is partly coloured dull orange-yellow, partly veined so. In New Guinea duveillei occurs singly, though not rarely. As it flies in bright sunshine, the metallic golden green lustre of the body is very conspicuous, and together with the rose-chafers visiting the same blossoms, Cocytia belongs to the most characteristic phases of its patria.

V. Subfamily: Arctiinae.

The division of the exotic butterflies of this group deviates from that in the Palearctic' Part by the fact that here the sense of the name Arctiinae is kept separate and comprises more than 500 forms, which in the first part were distinguished as Micrarctiinae, Spilosominae and Arctiinae s. s. In the Palearctic Part this separation has been done in the same way as stated on page 45 of Vol. II, for the sake of an easier survey and not in order to attribute the significance of scientifically established subfamilies to groups only artificially brought together. Thus, whilst in the palearctic region the three groups of Micrarctiinae, Spilosominae and Arctiinae s. s. form 3 almost equally numerous divisions of about a hundred forms, the Indo-Australian forms belonging hereto, would almost unexceptionally be inserted in the group of the Spilosominae, so that such a separation would be here of no importance to the review.


Proboscis fully developed; palpi directed forward and extended just beyond the anterior head; $ antennae doubly combed with short branches, the anterior part serrately dentated, those of the $ serrate-dentate; the middle spurs of the posterior tibiae are absent; the base of the abdomen is clad with shaggy hair. Vein 3 of the forewing rises close before the lower cell-angle, 4 and 5 from the angle, 6 from the upper angle, 7, 8, 9, 10 are petioled, 11 separate. In the hindwing vein 3 and 5 rise from the cell-angle, 6 and 7 from the upper angle; 8 from the middle of the cell. One species.

H. longipennis Wkr. (Vol. II, t. 18 d). Head and thorax black, tegulae and patagia margined with yellow; abdomen yellow, with one dorsal and two lateral rows of black spots. Forewings black, 3 white dots in the basal third of the costa and 3 oblique transverse bands of white spots, in the distal two thirds of the wing. The basal two thirds of the hindwing bright yellow, the base and 5 large spots black; the apical third black, with a white spot. Length of forewing: 26 to 34 mm. West China, West and East Himalaya, Assam.


Different, from Heliozona by the ciliated antennae and the smooth scaling, as well as by vein 5 of the forewing, rising above the lower cell-angle and 6 proceeding either from the angle or being petioled with 7, 8, 9, 10; 10 rises after 7; vein 5 of the hindwing rises above the lower cell-angle and 8 from the middle of the cell. One species.

N. longipennis Wkr. (Vol. II, t. 18 d). Head and thorax black, tegulae and patagia margined with yellow; abdomen yellow, with one dorsal and two lateral rows of black spots. Forewings black, 3 white dots in the basal third of the costa and 3 oblique transverse bands of white spots, in the distal two thirds of the wing. The basal two thirds of the hindwing bright yellow, the base and 5 large spots black; the apical third black, with a white spot. Length of forewing: 26 to 34 mm. West China, West and East Himalaya, Assam.


Diffsers from Heliozona by the longer palpi and the presence of the middle spurs at the posterior tibiae. 3 species, only one occurring in the Indo-Australian region; the two others, being palearctic, have been dealt with in Vol. II (p. 97) and figured there on t. 17 h and i.

P. hannyngtoni Hmps. (19 a). Head and antennae black; tegulae milky-white; thorax black, shoulder-covers with a broad, milky-white distal margin; abdomen above bright red, beneath black; a middle dorsal row of black transverse streaks and 2 lateral, black hair-tufts on the first ring. Forewing black, with a number of curved and tortuous white transverse lines and markings. Hindwing bright red, with 4 very tortuous black transverse bands and an extremely fine black distal margin, fringes yellow. Length of forewing: 38 mm. North West India.


Glossa stunted; palpi porrect, extending to the anterior head and, like the head, thorax and abdomen; with very long hairing. Antennae doubly combed, in the $ with long, in the $ with short teeth; the anterior tibiae at the end with a long thorn, outside with a short one. The middle spurs of the posterior tibiae are absent. Vein 3 of the forewing rises near the lower cell-angle, 5 above the angle; 7, 8, 9, 10 are petioled, 11 is separate. Vein 3 and 4 of the hindwing rise from the lower cell-angle, 5 above the angle; 6, 7 from the upper angle...
and 8 from the middle of the cell. ♀ with more or less stunted wings. About 20 to 25 forms, only one occurring in our district. — As to the numerous palearctic species vide Vol. II, p. 76 to 78 and t. 14 a to e and t. 16 a.

O. postflavida Hmps. (19 a). ♂ blackish-brown; antennae whitish; head and thorax mixed with greyish; abdomen with yellowish rings. The forewings exhibit curved whitish lines and dots. Hindwing yellow, speckled with fine black scales, a discal dot and the broad distal margin black. Length of forewing: 12 to 14 mm. Skoro La, Cashmir.

5. Genus: Ardices Wkr.

Proboscis stunted; palpi porrect, extending just beyond the top of the head, and with long-haired fringes beneath; ♀ antennae with strong double combs, those of the ♂ feebly dentate; head, thorax and abdomen covered with long hair; eyes thinly haired. In the forewing veins 3 and 5 rise close before the lower cell-angle, 6 from the upper cell-angle, 7, 8, 9, 10 are petioled, 11 is separate. In the hindwing the veins 3 and 5 rise close at the lower cell-angle, 6 and 7 from the upper angle or they are faintly petioled, 8 from the middle of the cell. 2 Australian species, one with two local forms.

A. curvata Don. (= fuscinula Dbl., vittata Mosch., brisanensis Luc., quinquefasciata Luc.) is very curvata. variable. Pale ochreous-yellow, hued brownish; antennae, palpi and sides of the head black; thorax with black stripes; legs black and ochreous-yellow, upper femora dark red; abdomen above red with short black transverse bands, beneath ochreous-yellow. Forewings ochreous-yellow with black longitudinal stripes and spots. Hindwing orange-yellow, with a crimson hue on it, a large discal spot and a broad, submarginal band black; this band is frequently broken up into spots. — In ab. nigriceps Bltr. the black stripes and spots are flown together into strong bands, so that the ochreous-yellow colour of the forewing is confined to the margin and some narrow discal bands and lines. — ab. notatum Bltr. is still more darkened and has an entirely black head and thorax. — ab. nea Bltr. (20 a) is like the preceding form, but the head, collar and fringes as well as a much broader submarginal band are ochreous-yellow. — ab. lacteatum Bltr. (20 a) has the black markings very much reduced and a much lighter ground-colour. It inhabits most parts of the northern half of Australia. — vigens Bltr. (20 a) is much smaller and has a black thorax, the forewing black with a yellowish, curved, black transverse line, a yellow basal streak, a yellow, small cell-spot and yellow fringes. The hindwing with a broad, black submarginal band occupying two fifths of the wing; length of forewing in curvata curvata 18 to 20 mm, in c. vigens 14 to 16 mm. Tasmania.

A. glatignyi Le Guill. (= fulvohirta Wkr., subocellatum Wkr., conferta Wkr., queenslandi Luc.) glatignyi. (20 b). White; antennae black, head and thorax white, shoulder-covers black, margined with white. Abdomen yellowish; a median and lateral row of black spots. The forewings are white with black bronze transverse rows and streaks. The hindwing is white with a discal spot and has a postdiscal, interrupted band of spots and a blackish-brown marginal line. — ab. pallida Dbl. (20 b) has a red abdomen, and ab. suffusa ab. nov. (20 a) has such extensive blackish-brown streaks and bands, that the white only appears yet as spots. Length of forewing: ♂ 24 mm, ♀ 28 mm. Australia and Tasmania.


Proboscis stunted, tiny; palpi porrect, scarcely reaching the forehead; antennae doubly combed, those of the ♀ with long, those of the ♂ with short branches; head, thorax and abdomen covered with shaggy hair; tibiae roughly haired, spurs short, middle spurs of the posterior tibiae absent; abdomen of the ♀ with a thick, woolly anal tuft. Vein 3 of the forewing rises near the lower cell-angle; 5 above the angle; 6 from the upper angle; 7, 8, 9, 10 petioled; 11 separate. Vein 3 of the hindwing rises from the lower cell-angle; 5 close above the angle; 6, 7 from the upper angle and 8 from the middle of the cell. About a dozen species, 4 of which originate from Africa; the American species brought into this genus by Hampson form a distinctly defined group and are dealt with as Borseba Wkr. in Vol. VI.

M. extensa Wkr. (20 d). Head, thorax and abdomen orange-coloured yellow with black dots; antennae extensa. black. Forewing orange-yellow, costa black; a black, curved transverse band from the middle of the wing, connected with the base by longitudinal stripes at the veins and in the fold; a median, curved, black transverse band runs from the subcostal across the discocellular to the proximal margin and is connected with the distal margin by longitudinal streaks at vein 3 and 4; apex and distal margin broadly black. Hindwing orange-coloured yellow, the discoidal dot and margins smoky black. Length of forewing: 20 mm. Celebes.

M. maculifascia Wkr. (= conspurcatum Wkr., parva Wkr.) (20 b). ♂: head and thorax yellowish maculifascia. creamy, tegulae and shoulder-covers with one black median dot each; antennae brown; abdomen yellow. Fore-
wing cream-coloured, a broad, brown transverse band extends from the middle of the proximal margin, where it is broadest, right before the apex to the costa; two similar bands extend from the costa, one at the discoidal veins, the other covering the basal half of the cell; they are fused with the principal band, forming two forks; a brown spot in the cell, one on the costa, one below the median, one on vein 1 and 6 at the veins near the distal margin. Hindwing cream-coloured, 2 brown dots on each side of vein 3 and a similar band extending from the anal angle to beyond vein 2. Q larger, the principal transverse band of the forewing double from the proximal margin to vein 4. Length of forewing: Q 18 mm, Q 25 mm. Philippines and the Large Sunda Islands.

— Larva violettish-grey with a red-brown head and darker striae, long and thin, black-haired; dorsal tubercules dark, at the sides of the dorsum, small, white spots; spiracles and subspiracular tubercles red; above and below the spiracles light stripes; pectoral and ventral feet yellow. Found in December and January on Convolvulus, Dioscorea and Erythoina. — malayensis Hmps. (20 c) is distinguished by the red, black-spotted abdomen and the narrow bands of the forewings, the yellow abdominal margin of the Q hindwing, the rosy abdomen and the bands of the Q wings being reduced to small spots. Bali and Lombok. — arcoscopa Trnr. (20 c) differs in the Q by the stronger bands of the forewings, the light rosy hindwings, and in the Q by the bands of the forewings being broken up into rows of dots and the principal band being double in its whole length. From North Australia.


M. simplex Wkr. (20 d). Head and thorax ochreous-yellow; antennae black; abdomen golden yellow with black dots. Forewings ochreous-yellow, hindwings yellowish-white. Length of forewing: Q 14 mm, Q 16 mm. South India.

M. punctistrigata B.-Bak. (20 c). Q: chest golden yellow; antennae black; head and thorax cream-coloured, tegulae margined with golden yellow; abdomen golden yellow, anal tuft white. Forewing cream-white, at the costa 4 black spots, from the second of which a liver-coloured brown transverse band extends across the middle of the cell to the proximal margin, a similar band being double from vein 4, extends from the apex to the proximal margin, some brown dots in the cell and at the veins. Hindwings white. Q much larger, the transverse band not double, but forked beginning from vein 5. Length of forewing: Q 18 mm, Q 28 mm. South East New Guinea.

M. avola B.-Bak. (20 d) differs from punctistrigata B.-Bak. by the straight first transverse band and the single, not partly double second oblique transverse band of the Q; in the Q the first transverse band is straight and the second oblique band broadly interrupted and very much reduced. South New Guinea.


Differs from Maenas by the abdomen being more smoothly scaled; the tibiae only plainly fringed with hair. Vein 3 of the forewing rises nearer at the lower cell-angle; 5 and 6 branch off either from or a little above the two cell-angles; 7, 8, 9, 10 are petioled; 11 from the cell. Vein 3 of the hindwing rises close at the lower cell-angle; 8 from the angle or above it; 6, 7 from the upper angle or on a short footstalk; 8 about from the middle of the cell. Herefore belong most of the species enumerated among the „Spilosominae“ in Vol. II, which are distributed there among the previously used names of genera: Spilosoma, Spilarctia etc. About 180 to 200 forms, of which about 136 belong to our fauna; comp. Vol. II, p. 84 to 92 and t. 15 and 17.

D. nigirifrons Wkr. (20 d). Q: palpi black; head white; antennae whitish, the male ones with dark grey comb-teeths; tegulae golden yellow; thorax white; abdomen yellow with a median row and one lateral row each of minute black dots. Forewing white with an oblique row of light greyish-yellow, almost faded dots between the veins 1 and 5. Hindwings white. In the Q the lateral rows of the abdomen consist of much larger, confluent black spots, and the last segment exhibits a large anal tuft. Length of forewing: Q 18 mm, Q 22 mm. India.

D. neglecta Rothsch. (20 g). Q: head and thorax white; antennae dark grey; abdomen yellow, except the 3 basal segments and the last segment being white, with lateral rows of half hidden, black dots. Wings white. Q similar, though larger, abdominal spots and anal tuft very large, and on the abdomen a dorsal row of black spots. In the hindwing a faint, dark stigma. Length of forewing: Q 19 mm, Q 22 mm. India.

D. rhodophila Wkr. (= rubridorsa Moore, dorsalis Moore) (20 h and Vol. I, p. 86, t. 15 c). Palpi and chest red; head creamy-white; antennae black; thorax creamy-white; abdomen rosy-red with lateral rows
of black dots and a white anal tuft. Forewing white cream-coloured, at the costal margin a transverse row of yellowish-grey dots and streaks from the middle of the posterior margin to the apex, 2 similar spots in the cell. Hindwing white cream-coloured at the abdominal margin, a small dark discoidal spot. Length of forewing: ♂ 21, ♀ 26 mm. India. — *rhodophilides* Hmps. (20 d) has a double transverse band, darker spots on the forewing and a submarginal row of smoky black spots on the hindwing. Formosa. — *unilinea* Roths. differs by the much more distinct, broader, darker transverse band of the forewing, and the 4 spots at the anal angle of the hindwing. West China. — *japonensis* subsp. nov. (21 e) is distinguished from *unilinea* by its smaller, rounder shape and the interrupted second transverse band of the forewing. Japan.

D. *ypsilon* Roths. ♂ head milky-white; antennae black; thorax yellowish-white, tegulae margined *ypsilon*. with red. Abdomen dirty light pink with rows of tiny black dots. Forewing milky-white, a subbasal, thin transverse band and a broad, median transverse band forked towards the costa and composed of spots, brown. Hindwings milky-white. Length of forewing: 15 mm. West Java.

D. *burmanica* Roths. Head and thorax yellowish-white, tegulae red; antennae black; abdomen *burmanica*, light red with a row of black dots. Forewing creamy-white, with two transverse bands of liver-coloured brown spots. Hindwing white with a liver-coloured brown spot at the anal angle. Length of forewing: 18 mm. Burma.

D. *multivittata* Moore (20 e as *multivittata*). Palpi and antennae black; head and thorax white; abdomen *multivittata*, yellow with three rows of black dots. Forewing light creamy-white, with three angled, brown transverse bands composed of fused spots (the distal band being forked), and with a brown discoidal spot. Hindwing creamy-yellow, the discoidal spot and an interrupted transverse band brown. Length of forewing: ♂ 16, ♀ 22 mm. Sikkim. — *assama* Roths. (20 e) differs by the much more intense and broader brown markings and the presence *assama*, of only 2 transverse bands on the forewings. Khasia Hills.

D. *indica* Guér. (= subjecta Wkr.) (20 e). Antennae black; head white with black sides; thorax yellowish-white, *indica* with yellow shoulder-covers; abdomen orange-yellow, the base haired white, on the dorsum and sides rows of black dots. Forewing yellowish-white, basal half of the costa black, the apical half yellow, a curved antemedian row of spots, a similar postmedian row and a submarginal row are dark greyish-brown. Hindwing yellowish-white with a dark discoidal spot and 5 submarginal spots. — *ab. spilosomata* Wkr. (20 e) without *spilosomata* dark spots on the forewings. Length of forewing: ♂ 13, ♀ 19 mm. South India.

D. *lifuense* Roths. (20 f) is all white; antennae brown; abdomen red with a middle row of black *lifuense*, dots. Length of forewing: ♂ 18, ♀ 24 mm. Loyalty Islands.

D. *melanosoma* Hmps. (20 f ♀; Vol. II, p. 88, t. 15 g). ♀ head and thorax white; antennae smoky-grey; abdomen black with white rings, with long hair and a large yellow anal tuft. Wings white. Length of forewing: 22 to 34 mm. Sikkim.

D. *robusta* Leech from West China is confined to the palearctic region and therefore dealt with in Vol. II, p. 86, and figured on t. 15 c. In the Indian region, however, there occurs a southern form: *hainana* Roths. *hainana*. (20 f) being smaller than *robusta* and not so purely white. Island of Hainan.

D. *erythrohoa* Koll. (= cognata Wkr.) (Vol. II, t. 15 g) is all white; antennae above white, beneath *erythrohoa*, brown; abdomen black with rosy-red rings. North West India. Comp. Vol. II, p. 88.

D. *erythrastis* Meyr. (= *frenchii* Luc.) (20 g). ♂: palpi and forehead blackish-brown, hindhead creamy-*erythrastis*, white; tegulae creamy-white, narrowly margined with red, and with a black discal dot; thorax creamy-white, with a broad blackish-brown median band, shoulder-covers with a similar median spot; abdomen scarlet with median and lateral rows of black dots. Forewings creamy-white, suffused with a brownish pink; a basal dot, two subbasal spots, two undulate transverse bands composed of confluent spots, a submarginal row of paired vein-strokes, some more paired streaks on the proximal margin and between the veins 5, 6, 7, 8, as well as a distal-marginal row of spots blackish-brown. Hindwing scarlet; a median, curved, narrow transverse band and 3 submarginal spots smoky-black, fringes whitish-yellow. ♀ much larger, the bands and spots of the forewing much stronger and broader; hindwing of a bright crimson with very broad, black, median and submarginal transverse bands and a black distal margin from the apex to vein 2. — *ab. diluta* ab. nov. (20 f). ♂: on the forewing all the dark markings are absent except the two transverse bands which, however, are quite incomplete and reduced to transverse rows of small dots. The hindwing is quite unmarked except a small discoidal spot and two small anal-angular spots. Length of forewing: ♂ 22, ♀ 29 mm. Queensland.
felderi.

**D. felder**i *Roths.* Antennae greyish-brown; head and thorax white; abdomen scarlet with a dorsal band of large, black spots, anal brush white. Forewing white, a subbasal spot, an antemedian spot and a postmedian one on the median, and a spot at the end of the proximal margin black. Hindwing white, the discoidal spot brown. Length of forewing: 19 mm. North India.

sangaica.

**D. lubricipeda sangaica** *Wkr.* (20 g) differs from *lubricipeda lubricipeda* not occurring in the Indo-Australian region by the smaller and mostly less numerous black dots of the forewing and the submarginal spots of the hindwing, which are often very prominent in the ♀. China and Japan. — As to further particulars and the typical form, comp. Vol. II, t. 15 f, p. 87, under ,,menthastri".

irregularis.

**D. irregularis** *Roths.* Palpi brownish-grey; head white; thorax white with pale brownish-grey longitudinal bands and spots; abdomen dull scarlet with black transverse bands. Forewing white with very broad, large, pale brownish-grey, irregular transverse bands and spots. Hindwing white, a discoidal spot and the broad, irregular submarginal band pale brownish-grey. Length of forewing: ♀ 24 mm, ♀ 32 mm. West China.

unifascia.

**D. unifascia** *Moore (= varia Wkr.)* (20 h). Rather variable; forehead smoky-grey, hindhead white; antenae brown; thorax white; abdomen dirty yellow with 3 rows of black spots or sometimes transverse bands Forewing creamy-white or purely white with a very broad, median and 4 other ash-gay-grey transverse bands. Broken up into dots and spots. Hindwing either ash-grey, with darker discoidal and submarginal spots or white with a dark, interrupted submarginal band. Length of forewing: ♀ 15, ♀ 20 mm. India.

subfascia.

**D. subfascia** *Wkr.* (20 h). ♀: palpi and antennae black; head and thorax creamy-white, shoulder-covers with black basal spots; abdomen yellow with a median and two lateral rows of black dots. Forewing creamy-white, 3 black spots within the basal three quarters of the costa, 2 similar ones in the cell, a broad, brown oblique band of confiant spots from the middle of the proximal margin towards the apex, a brown spot below the median and paired brown spots on the veins 1, 4 and 5. Hindwing creamy-white, in the anal third covered with yellow hair; a discoidal dot, a band from the anal angle to vein 3, and a number of spots near the apex smoky-brown. ♀ much larger, the wings almost purely white and the dark markings reduced to small dots. — Larva whiteish with a black head, striped olive or ochreous, particularly on the dorsum. Tubercles blackish-blue, with light tufts of long black and white hairs. Length of forewing: ♀ 20, ♀ 26 mm. Ceylon.

procedra.

**D. procedra** *Swinh.* ♀: head maize-coloured with black sides; antennae and palpi black; thorax maize-coloured; abdomen with rows of black dots. Forewing maize-coloured with a black discoidal spot, 2 black costal spots, 1 basal spot and a double spot on the proximal margin, two more on veins 2 and 3 likewise black. Hindwing maize-coloured with a large, discoidal spot and a black median band. Length of forewings: 19 mm. Sumatra.

punctata.

**D. punctata** *Moore* (20 i). ♀: antennae black; head whitish maize-coloured with black sides; thorax whitish maize-coloured; abdomen orange-yellow with a maize-coloured base and last segment, and with dorsal and lateral rows of black spots. Forewing whitish maize-coloured, a basal dot, a dot on the costa and one on each side of vein 1 before the middle, a discoidal dot and one above it at the costa, an oblique row of dots on both sides of the veins 1 to 3, an oblique row of black dots on both sides of the veins from the apex to vein 6 and another submarginal row on both sides of the veins from the apex to vein 6, and another submarginal row on both sides of the veins 3 to 5 black. Hindwing whitish maize-coloured, with a golden-yellow abdominal region, a discoidal spot and a submarginal spot below vein 2 black. ♀ mostly without black spots on the forewing or with a submarginal row of 5 spots. Length of forewing: ♀ 14, ♀ 18 to 21 mm. Java.

uniformis. — **uniformis** *Moore* has fewer spots and is more unicolorous; from North India. — ummera *Swinh.* (19 a) is darker, has more distinct markings and orange-yellow hindwings; from Burma.

fuscitincta.

**D. fuscitincta** *Hmps.* (20 i). ♀: head and thorax whitish maize-coloured, forehead with black sides; antennae black; abdomen orange-yellow, with dorsal and lateral lines of black spots. Forewing maize-coloured, the internerval spaces, except towards the apex, costa and base, hued dirty greyish-brown, spots on the costa and on each side of vein 1 before the middle, an upper discoidal spot, a bent and oblique row of spots, somewhat extinct behind the middle, between the subcostal and vein 3, and a submarginal row of faint streaks on both sides of the veins black. Hindwing maize-coloured, washed over somewhat brown, the abdominal region suffused with orange-yellow, a discoidal spot and a submarginal row of spots on each side of the veins 1, 2 and 5 black. ♀: forewing quite brown, except the veins; the ante- and postmedian rows of spots more complete and more distinct, the submarginal row faded. Hindwing orange-yellow. Length of forewing: ♀ 15, ♀ 17 mm. Java.
D. vandepolli Rothsch. (21 b). ♀: Head dark maize-coloured; antennae whitish-brown; thorax dark 
vandepolli, maize-coloured with a black centre; abdomen golden yellow with rows of black dots. Forewing dark brown, veins and base maize-coloured, a basal dot, an antemedian curved transverse band of spots and a similar post- median one black. Hindwing golden yellow, a discoidal dot and one dot each on the veins 1, 2 and 6 black. The ♂ is larger and the forewings are yellowish greyish-brown. Length of forewing: ♂ 21 mm, ♀ 28 mm. Sumatra, Java.

D. mona Swinh. (20 i). Antennae black; head and thorax whitish maize-coloured, sides of forehead mona. black; abdomen orange-yellow with dorsal and lateral rows of black dots. Forewing whitish maize-coloured, a basal dot, a curved antemedian transverse row of spots, an upper discoidal dot, an oblique transverse row of dots strongly curved distally on both sides of the veins and a submarginal row of, dots on both sides of the veins 3 to 7 black. Hindwing maize-coloured, the cell more or less black, a curved antemedian row of spots and a submarginal row of large black spots. Length of forewing: 23 mm. South India.

D. obliquivittata Moore (= jucunda Blkr.) (20 i). Antennae black; head and thorax whitish maize-coloured, sides of head black; abdomen orange-yellow, long-haired, base and anal segment maize-coloured, dorsal and lateral rows of black dots. Forewing maize-coloured, thinly scaled, a feebly curved oblique band from vein 5 to the proximal margin, as well as dots on both sides of the veins between the apex and this band black. Hindwing purely white. Length of forewing: 15 to 18 mm. Sikkim.

D. venosa Moore (= pseudomaenas Rothsch.) (20 g). Head and thorax golden yellow; antennae venosa. black; abdomen brown with golden yellow rings and long, golden yellow hairing. Forewing cream-coloured yellow with broad, brownish-grey bands between the veins. Hindwing creamy with 2 or 3 smoky-grey dots. Length of forewing: ♀ 16 mm, ♂ 18 mm. India.


D. kannegieteri Rothsch. (19 b). Head and thorax pale maize-coloured; abdomen black with orange- yellow bands. Forewing pale orange-yellow, a broad antemedian transverse band and a sinuous postmedian transverse band brownish-grey with a similarly coloured spot between. Hindwing pale orange-yellow, the very small cell-spot and a short band between the veins 2 and 5 brown. Length of forewing: 20 mm. Island of Nias.

D. punctilinea Wileman. ♀: head and thorax orange-red; abdomen light red, dotted black. Forewing reddish orange-yellow, at the base of the costa a black dot; three transverse bands of black spots: the first curved, the second proximally oblique and the distal one sinuous. Hindwing lighter, with a black dot before the anal angle. Length of forewing: 15 mm. A specimen in the Tring Museum is of a much deeper red. Formosa.

D. biseriata Moore (19 b, 22 b). Antennae black; head and thorax orange-red; abdomen orange-red biseriata. with dorsal and lateral rows of black dots. Forewing orange-red, some small subbasal spots, a median, angular transverse row of spots and a curved, postmedian transverse row of spots black. Hindwing orange-red with two spots at the proximal margin and a discoidal dot black. Length of forewing: 14 to 16 mm. Assam; (type according to Moore from the Andamans!).

D. flavens Moore (21 a). Antennae blackish; head and thorax ochreous-yellow; abdomen orange- yellow with dorsal and lateral rows of black spots. Forewing ochreous-yellow, a basal spot, some subbasal spots, a middle, curved transverse row of spots, an incomplete, curved, postmedian transverse row of spots or a complete submarginal row of spots light dirty greyish-brown. Hindwing ochreous-yellow with a dark discoidal spot and submarginal spots and sometimes yet with an angled postmedian row of spots. Length of forewing: 18 mm. India and Assam.

D. flavalis Moore (= lativitta Moore) (21 a). ♀: head and thorax orange-yellow; antennae brown. flavalis. Forewing dark creamy with rows of black dots. Forewing orange-yellow, a subbasal costal spot and a spot below it violettish-brown; a violettish-brown oblique band extends from the apex to the middle of the proximal margin; a similarly coloured spot at the costal margin above vein 6 and similar dots near the distal margin. Hindwing creamy-yellow with a short, smoky-grey anal-angular band and 2 similar dots. ♀: head, thorax and forewing purely yellow; antennae brown; abdomen whitish-brown; hindwing dirty white. Length of forewing: ♀ 20, ♂ 25 mm. India.

D. rubilincta Moore (21 a). ♀: antennae black; head yellow; thorax orange-yellow with a reddish rubilincta, hue; abdomen carmine, with very long hair, base and anal segment yellow mixed with white, with dorsal and lateral lines of black dots. Forewing orange-yellow with a reddish hue; an oblique postmedian transverse band from vein 5 to the proximal margin yellowish-white with a series of greyish-brownish spots on it. Hindwing white with a greyish-brownish discoidal spot and sometimes 5 submarginal spots. — ab. punctilinea Moore punctilinea. (21 b) is much lighter. Forewing: 20 mm. Sikkim.

X

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**D. erythrophleps** Hmps. (21 b). Head and thorax reddish, orange-yellow, tegulae and shoulder-covers dotted black; antennae black; abdomen reddish orange with black transverse bands. Forewing reddish, orange, all the veins broadly fiery red, and the wing studded with confluent, smoky blackish-grey spots. Hindwing creamy-white, with large, smoky blackish-grey spots and bands. Length of forewing: 27 mm. Naga Hills in Assam.

**D. everetti** Rothsh. (19 b). $\varphi$: antennae black, strongly combed; head, thorax and abdomen dark pale orange. Forewing dark pale orange, 2 spots two fifths from the base on each side of the subcostal vein, another above vein 1 and a postmedian transverse row of spots from the costa to the proximal margin brown. Hindwing pale orange. Length of forewing: 15 mm. South Flores.

**D. comma** Wkr. (= abdominalis Moore) (Vol. II, t. 15 d). Antennae black; head and thorax ochreous flesh-coloured, sides of forehead black, abdomen carmine with black dorsal and lateral rows of dots. Forewing ochreous flesh-coloured, a small, triangular, antemedian spot on the costa, a postmedian costal spot, a band-shaped spot on the middle of the proximal margin, a spot above it and sometimes some spots between the proximal margin and vein 3 black. Hindwing whitish-yellow or creamy-white, with a faint, dark discoidal spot, the proximal margin with a pink hue. Length of forewing: $\varphi$ 22, $\sigma$ 27 mm. North West India. (Further particulars see Vol. II, p. 86 under *Spilarctia comma*).

**D. sparsalis** Wkr. (21 b). $\sigma$: antennae black, head lactean, sides of head black; thorax creamy-white, median line brown, on the tegulae and shoulder-covers black dots; abdomen scarlet, with dorsal and lateral rows of black dots. Forewing ochreous-white, 4 large, square spots on the costa black, 2 oblique, brown, antemedian spots below the cell, a similar spot on the discocellulars and one on vein 6, an angled postmedian, oblique transverse row of brown spots between the veins, terminating into a very large spot at the proximal margin, and an irregular, transverse row between the postmedian row and the distal margin black, fringes dotted brown. Hindwing scarlet, the discoidal spot and 7 submarginal dots black. Length of forewing: 33 mm. Celebes.

**D. canescens** Wkr. (= obliqua Wkr.) (21 c). Antennae black; head creamy-white, the sides of the forehead black; sides of neck scarlet; thorax creamy-white, a blackish-brown stripe on the shoulders is above margined with red; abdomen scarlet, with dorsal and lateral rows of black dots. Forewing creamy-white, a dot at the base, a sharply angled, oblique, antemedian transverse band from the costa to the median, spots on both sides of vein 2 and above vein 1, a postmedian transverse row of spots flowing together at vein 3 with a row of spots proceeding from the apex, and an interrupted submarginal row of dots blackish-brown. Hindwing white, a discoidal spot and six, often very much veiled submarginal spots blackish-brown.

**D. stigmata** Moore (21 c). Antennae and the lower part of the forehead black; head and thorax very light, maize-coloured, a median streak on the thorax black; abdomen carmine, covered with long, white hairs and with dorsal and lateral rows of black spots. Forewing light maize-coloured, a subbasal cell-streak, a median transverse row of spots and an interrupted, irregular submarginal row of short streaks black. Hindwing white with 5 black submarginal spots. In the $\sigma$ the black spots are reduced in size. — In ab. aurantiaca ab. nov. the abdomen is orange-yellow. — ab. lacteata Bhr. is coloured much lighter. — Length of forewing: $\sigma$ 21, $\varphi$ 27 mm.

**D. meridionalis** Rothsh. (21 c). Forehead and tegulae creamy-white; antennae black; thorax black, marginal by creamy-white; abdomen bright red with rows of black spots. Forewing creamy-white, strewn with square, large, smoky-black spots. Hindwing creamy-white with a smoky-black discoidal dot, transverse band and distal margin. Length of forewing: 23 mm. South Australia.

**D. cymbalophoroides** Rothsh. (19 c). $\sigma$: head creamy-white; antennae dark brown with a white end; thorax black, margined with a creamy white. Abdomen dull pink with a median row of black spots. Forewing lactean, with irregular, large, black spots and bands. Hindwing light whitish-pink with several greyish-black spots. The $\sigma$ has black forewings with creamy-white spots, a creamy-white distal margin and with a creamy-white longitudinal band from the base to the distal margin above vein 1. The dark spots on the hindwing are very much enlarged. Length of forewing: $\sigma$ 25, $\varphi$ 31 mm. Lesser Sunda Islands (Flores, Lombok).

**D. pseudolutea** Rothsh. (19 b and 21 c). In the text of Vol. II it is omitted, and I should place it near *D. stigmata*, p. 86. Comp. Vol. II, Additions, p. 436. $\sigma$: antennae black; head and thorax pale orange-yellow; abdomen orange-yellow, a basal spot, the lateral rows of spots and the two penultimate segments black...
Forewing pale orange-yellow; a bent, antemedian transverse row of spots from the proximal margin to the subcostal, an oblique band from the apex to the middle of the proximal margin, composed of spots of different size, as well as 3 pair of streaks at the veins 4, 5, 6, beside a spot on each side of vein 1 brown. Hindwing pale orange-yellow, a cell-spot, a double spot at vein 5 and an oblique band of spots from the anal angle to vein 3 brownish. Length of forewing: 17 mm. Japan.

**D. leopardina** Koll. (= divisa Wkr., liturata Wkr.) (21 d). Antennae and sides of forehead black; leopardina. head and thorax yellowish-white, tegulae, shoulder-covers and mesothorax with black dots and streaks; abdomen orange-yellow, with a carmine hue and with dorsal and lateral rows of black dots. Forewing yellowish-white, various antemedian streaks and band-shaped streaks, a curved postmedian transverse band of spots at vein 3, connected with a row of spots proceeding from the apex, and a submarginal and marginal band of spots black. Hindwing yellowish-white, the spaces between the veins more or less filled up with black. — In **ab. suifusa** suifusa. ab. nov. the forewing beneath and the proximal part of the hindwing beneath is suffused with carmine, which shows through above. Length of forewing: ♂ 20 mm, ♀ 26 mm. North West Himalaya. — For further particulars see Vol. II, p. 87.

**D. dentilinea** Moore (26 c). Antennae whitish; head and thorax whitish maize-coloured, the lower dentilinea. half of the forehead and a median line on the thorax black; abdomen orange, with dorsal and lateral rows of small, black spots. Forewing whitish maize-coloured, a basal dot, 3 antemedian dots, 4 dots on and round the discocellulars, a postmedian row of dots on both sides of veins 4 to 7, and a dentate submarginal line from the costa to vein 2 blackish. Hindwing light maize-coloured with a pinkish hue, the discoidal dot and the submarginal row of spots between the veins 2 and 6 black. Length of forewing: 19 mm. Sikkim.

**D. obliqua** Wkr. (= nydia Btlr., mollicula Btlr., howqua Moore, howra Moore, bifascia Hmps., bisecta obliqua. Leech) (21 g). ♂: antennae black; head and thorax light maize-coloured, sometimes a black median streak on the thorax; abdomen, except the base and anal segment, carmine with dorsal and lateral rows of black dots. Forewing light maize-coloured, an oblique, postmedian transverse row formed of streaks on both sides of the veins and a similar, more or less interrupted submarginal row black. Hindwing lighter, the discoidal spot and 8 submarginal spots black. In the ♀ all the spots have wellnigh entirely disappeared except the discoidal spot on the hindwing. — ab. dahbergiae Moore (Vol. II, t. 15 b) has a yellow abdomen. Length of forewing: dahbergiae. ♂ 19 to 27, ♀ 23 to 31 mm. — Larva black, very long-haired. — **confusa** Btlr. (21 f) has the forewing hued confusa. carmine, the hindwing quite carmine. South India. — In **todara** Moore (21 f) the rows of spots are more con- todara. plete and much intenser; from the Nilgiris. — **mandarina** Moore from South China has the forewing at the basal and proximal parts hued rosy-red; forewing beneath carmine. — **occidentalis** subesp. nov. (21 e) is intensely occidentalis. suffused with a yellowish brown. West China, Tibet. — In **ione** Btlr. (21 e) the ♀ hindwing is rosy-red; from ione. Japan.

**D. hampsoni** spec. nov. (21 d) resembles obliqua, but the ♀ is reddish-brown with carmine hindwings, hampsoni. and all the markings very prominent. ♀ light ochreous, markings blurred; abdomen bright yellow. Nilgiri Hills.

**D. casigneta** Koll. (= sanguinalis Moore, sagittifera Moore) (21 f). Antennae and a part of the forehead black; head and thorax brownish maize-coloured, sometimes a black stripe on the thorax; abdomen except the base and the anal segment carmine with dorsal and lateral rows of black dots. Forewing brownish maize-coloured, a dot on the median and an antemedian dot on vein 1 within traces of a brown transverse line, double postmedian dots on the veins within traces of a brown transverse line, and paired submarginal spots on the veins black. Hindwing lighter, the proximal part often coloured rosy-red, the discoidal spot and a more or less interrupted postmedian band black. — ab. melanocephala ab. nov. has a black head and thorax. — ab. xanthogaster ab. nov. (21 f) has a yellow abdomen. West China, North West India, Tibet. For further particulars see Vol. II, p. 85, t. 15 b).

**D. gopara** Moore (21 g, h). ♀: antennae black with white tips; head and thorax brownish maize- coloured, forehead black; abdomen orange-yellow with dorsal and lateral rows of black dots. Forewing brownish maize-coloured, 3 or 4 antemedian dots, a postmedian, incomplete row of dots and a submarginal row of double dots on the veins black. Hindwing orange-yellow, the spaces between the veins nearly from the base almost to the distal margin black. The ♀ has the black of the hindwing reduced to streaks and spots. Length of forewing: ♀ 16, ♀ 26 mm. Sikkim, Assam.

**D. hypogopa** Hmps. (19 b). ♀: forehead black, hindhead light ochreous-yellow; thorax light ochreous- yellow, anteriorly with a black band, abdomen orange with rows of black spots. Forewing ochreous-yellow, a black dot at the base, an antemedian oblique band of small, black, oblong spots from the costa to the median, and 2 such spots on each side of vein 1; two discoidal spots, traces of a postmedian transverse band of spots
and an interrupted submarginal band of dots black, hindwing light yellow with a black discoidal spot and a
submarginal row of 7 black spots, fringes white. Length of forewing: 26 mm. Singapore.

D. procera Swinh. ♀: antennae light brown; head and thorax brownish straw-coloured; abdomen
dirty orange with black dots on the 4 middle segments. Forewing dirty cinnamon-coloured, an uninterrupted
oblique line of small streaks from the apex to vein 1 and a similar submarginal line black. Hindwing light
greyish maize-coloured, the discoidal spot and 2 submarginal spots smoky black. Length of forewing:
21 mm. Java.

D. aurapsa Swinh. (19 b). Head and thorax dark brown; antennae ochreous-yellow; abdomen dull
carmine with black transverse spots. Forewing dark brown, with an indistinct discoidal spot and two oblique
transverse lines. Hindwing of a lighter brown. Length of forewing: 21 mm. Island of Saparua.

D. assamensis Roths. ♀: head and thorax yellowish clay-coloured greyish-brown; antennae black;
abdomen red with rows of black dots. Forewing yellowish clay-coloured greyish-brown with 2 curved, oblique
longitudinal bands of small black streaks, extending from the apex below the median to beyond the middle
of the proximal margin. Hindwings yellowish greyish-brown, with a pink shade on it, and black discoidal and
submarginal spots. The ♀ has a brownish maize-coloured forewing, head and thorax, and a creamy white hind-
wing. Length of forewing: ♀ 20, ♂ 24 mm. Assam.

D. multiguttata Wr. (= spilosomoides Wrkr.) (22 a). Head and thorax white; antennae and sides
of the head black; tegulae, shoulders and shoulder-covers dotted black; abdomen dark yellow with dorsal and
lateral rows of black spots. Forewing white, a basal spot and two subbasal ones, 4 regular, curved transverse
rows of spots, a row of double streaks at the veins and a row of distal-marginal dots black. Hindwing yellow
with black dots and similar discoidal spots. ♀ with larger and more numerous black spots on the hindwing.
Length of forewing: ♀ 17, ♂ 21 mm. North West Himalaya. — pardalina Wrkr. differs by its lighter hindwings
denser spotting; from Cambodia. — major Roths. (22 a) is distinguished by its much larger size, bright
orange head and tegulae, larger black spots on the forewing, bright orange hindwing and large black anal spot
of the abdomen. Length of forewing: ♀ 25, ♂ 30 mm. Khasia Hills and Silhet. — pallidior Roths. (22 a)
resembles major, but it has not the anal spot at the abdomen, the head and tegulac being white, the hindwings light
yellow. Sikkim and Bhutan.

D. bimaculata Moore. Antennae black, head and thorax orange; abdomen dark orange with dorsal and
lateral rows of black dots. Wings orange, forewing with an upper, black discoidal spot. — ab. quadrirama-
culata Moore (19 b as quadrirama) has another discoidal spot on the hindwing. — ab. discalis Moore exhibits on
the forewing, beside the discoidal spot, another subdorsal spot below the costa, 3 spots in and below the cell
and 4 oblique spots behind the discocellulars, extending down to vein 2. Length of forewing: 13 to 16 mm.
North West Himalaya.

D. metaxantha Hmps. (19 c). ♀: antennae black; head and thorax whitish-yellow; abdomen orange
with black spots on the 3 middle rings. Forewing ochreous-white, an upper discoidal dot, postmedian dots
above the veins 4 and 6, and below vein 3, two discoidal dots as well as 2 middle distal-marginal dots black.
Hindwing orange, a discoidal dot and a subcostal dot black. Length of forewing: 22 mm. Burma.

D. costata Bsld. (22 a). Antennae black, head and thorax dark yellow with dorsal and lateral rows
of black dots, except on the basal and anal segments. Forewing dark yellow, the veins blackish-brown. Hind-
wings dark yellow. Length of forewing: ♀ 21, ♂ 27 mm. Bismarck Archipelago. — vivida Roths. (22 a) is
of a much more intense and darker orange, the veins of the forewing are much more prominently blackish-
brown, and it is also larger. Length of forewing: ♀ 25, ♂ 31 mm. South East New Guinea and d’Entrecasteaux
Islands.
D. bretaudiaui Oberth. (Vol. II, p. 97, t. 17 h). ♂: head and thorax olive-yellow, on the head, tegulæ, bretaudiaui. patagia and mesothorax black streaks; neck-ring carmine; abdomen carmine with a black dorsal line and rows of black spots on the sides and beneath. Forewing olive-yellow with very much curved black transverse lines and spots; fringes whitish. Hindwing carmine, a discoidal moon-spot, a curved median band from the costa to vein 1, an angled, curved postmedian band and a submarginal band as far as the submedian fold, as well as an anal-angular spot black. The ♀ is dimorphous, one form being exactly like the ♂, the other having stunted wings which are quite small. Length of forewing: 23 to 25 mm. Tibet. This species has been dealt with in Vol. II, p. 97, and figured there.

D. perornata Moore (Vol. II, t. 17 h) is very much like the preceding, but the head is black, the light ground-colour of the forewing very much reduced by the much broader, black transverse bands. The transverse bands are not so much bent and more angled, and now and then more distinctly interrupted. Forewing: 18 to 21 mm. North West India and Cashmir. As to the figure and further particulars see Vol. II, p. 97.

D. eximia Swinh. (19 c). Antennæ black; head orange-red; thorax orange-red; tegulæ and shoulder-covers with black spots; abdomen orange-red. Forewing orange-red, a basal spot, a subbasal streak on the costa, a curved, antemedian transverse band of spots, a similar median band, and a submarginal row of spots black. Hindwing orange-red, a submarginal row of spots and discoidal dots black. Length of forewing: 13 mm. South India.

D. nigrescens Roths. (22 b) differs from eximia Swinh. by its black wings only sometimes showing nigrescens. some red at the base. This form may only be an extreme subspecies of eximia, but it differs too much for being inserted in it, although it was thus treated in the original description. Khasia Hills and Native Sikkim.

D. longiramia Hmps. (22 c). ♂: antennæ yellowish-brown, with very long pinnae; head and thorax brownish-yellow; abdomen carmine, except at the anal segment and at the base, with dorsal and lateral rows of black dots. Forewing brownish-yellow, a spot in the cell, a serpentine line from the beginning of vein 2 to the proximal margin, a discoidal spot and a bent postmedian transverse line brownish-red. Hindwing carmine with a black discoidal luna and submarginal spots from vein 5 to the anal angle. Length of forewing: 23 mm. Sumatra.

D. montana Guér. (= suffusa Wkr.) (22 c). Antennæ blackish; head and thorax reddish-brown; montana. abdomen carmine with brown hair at the base and dorsal and lateral rows of black dots. Forewing reddish-brown, on the disc of the wing, as well as at the costal margin washed over with carmine, a basal dot, a dot above vein 1 before the middle, and a discoidal dot black, 2 very much bent, darker, postmedian transverse bands of spots, and a submarginal row of striae. Hindwing ochreous-brown, with a darker discoidal spot and dots at the veins 1, 2 and 5. Length of forewing: ♀ 22, ♂ 24 mm. South India. — heylaertsi Roths., (=brunnea heylaertsi. Rothsch. nec Heyl., nec Moore) (22 c) is much larger and much lighter. Sikkim and Bhutan.

D. albicornis Hmps. (22 c). ♂: antennæ long-combed, shaft white, teeth black, head chestnut-red, albicornis. thorax chestnut-brown, abdomen carmine with black transverse bands and lateral spots. Forewing deep chestnut-brown, an upper discoidal spot, a bent postmedian transverse line and dots on both sides of the veins 1 and 2 black. Hindwing carmine, a discoidal spot and submarginal spots on both sides of the veins 1, 2 and 5 black. ♀ smaller, distinguished by the chestnut-brown being replaced by a dull brown and the brown hindwing being only suffused with red. Length of forewing: ♂ 26, ♀ 23 mm. Ceylon.

D. rubilinea Moore (22 d). Antennæ black; head and thorax suffused with an ochreous yellowish-red, rubilinea. forehead and stripes on the shoulders black; abdomen, except the base and anal segment, carmine, with dorsal and lateral rows of black spots. Forewing ochreous-yellow, intensely hued reddish-brown, with an antemedian and a postmedian, bent, scarlet transverse line, in which there are small black dots; there are traces of a submarginal, bent line, also scarlet with black dots. Hindwings more yellow, the inner-marginal area hued rosy-red, a discoidal spot and an interrupted submarginal band black. — ab. discinigra Moore has the basal part of the hindwing suffused with black. — ab. fuscescens ab. nov. (22 c) has the whole hindwing coloured greyish-brown. Length of forewing: ♂ 25, ♀ 30 mm. West China, India, Burma.

D. coccinea Hmps. (19 d). ♂: head white, antennæ black; thorax scarlet with 2 white longitudinal coccinea. streaks, tegulæ and shoulder-covers white, margined with scarlet; abdomen scarlet with rows of black dots on the middle segments. Forewing scarlet, the discal spaces between the veins semi-hyaline, costa and veins striped white, speckled black, small black spots below the costa as well as on vein 1 before and behind the
middle of the wing; fringes white. Hindwing semi-hyaline white, the costal- and distal-marginal parts suffused with scarlet. The ♀ has the forewing densely scaled and the hindwing quite scarlet. Length of forewing: ♀ 18, ♂ 25 mm. Philippines.

eurographa

D. neurographa Hmps. (22 d). The abdomen is very much haired. ♀: forehead and antennae black; hindhead and thorax whitish-yellow; abdomen red. Forewing brownish maize-coloured, the basal third of the costa, 3 longitudinal streaks extending from the base, and 3 transverse bands of oblong spots in the distal half black. Hindwing brownish maize-coloured, with a pink tint, with a smoky-black discoidal spot and similar submarginal spots. Length of forewing: 24 mm. Formosa.

accensa

D. accensa Swinh. (23 f). ♀: head white; antennae dark brown with a white, subapical band. Thorax flesh-coloured; abdomen bright red with some black dots. Forewing flesh-coloured, the basal four fifths of the costal margin fiery red, the rest and the distal margin golden yellow; a basal dot, 2 larger spots between the costal and subcostal, a dot at the base of the cell, a larger one at the apex, 2 large antemedian ones on each side of vein 1, and an oblique band of spots from the proximal margin to vein 5 black. Hindwing bright red with yellow margins, a discoidal spot and two similar ones between the veins 1 and 2 black. The ♂ is much smaller and has almost transparent hindwings. Length of forewing: ♀ 27, ♂ 37 mm.

dinava

D. dinava B.-Bak. (22 g). Forehead and antennae black; hindhead and thorax creamy-yellow, shoulder-covers with a black middle dot; abdomen yellowish-carmine with blackish-transverse spots and a yellow anal segment. Forewing creamy-yellow, four long, black spots at the costa and four similar ones at the subcostal, the median, and the basal halves of veins 2 and 5 on both sides broadly black and then broadly buff, the spaces between the veins 1 to 7 suffused with a light brown, an oblique band of black spots from the apex to the proximal margin. Hindwing yellowish-red with 5 blackish spots, fringes light yellow. Length of forewing: 27 to 30 mm. New Guinea.

kebeae

D. kebeae B.-Bak. (22 f). is a most variable animal. The ♂ differs at once from dinava by the black bands on the thorax, the black, dorsal median line of the abdomen and the brown transverse bands of the forewings. The ground-colour varies between light ochreous, loam-colour and dark brown, and the transverse bands from a golden brown to blackish-brown. The ♀ has the ground-colour of the forewing, and the thorax is always dark brown. Length of forewing: ♂ 28, ♀ 37 mm. New Guinea.

alberti

D. alberti nom. nov. (= meeki Rothsch., nec Druce) (22 e) is allied to kebeae, but at once discernible by the narrow transverse lines of the forewings, which lines are mostly of a fiery orange reddish-yellow. New Guinea.

persimilis

D. persimilis spec. nov. (22 f, g) is very much like alberti, but smaller, and the transverse line broader. The forewing is mostly brownish-grey, and the hindwing dull brownish-pink, but there also occur specimens with yellowish forewings. The transverse bands are brownish-black, sometimes hued yellowish. The ♀ has the transverse bands on the forewings almost extinct. Length of forewing: ♂ 22, ♀ 28 mm. New Guinea. (It flies together with alberti).

pratti

D. pratti B.-Bak. (22 d, f). Forehead and antennae black; hindhead, tegulae and shoulder-covers dirty loam-coloured; thorax black; abdomen scarlet with rows of black spots. Forewing dirty loam-coloured, with a half faded, dark yellow, middle transverse band and 9 very small and 2 larger black dots scattered on the wing. Hindwing dull golden yellow, the basal third covered with pink hairs, a larger discoidal spot and an interrupted submarginal band black. The ♀ has loam-coloured brown forewings with 3 irregularly interrupted transverse rows of black spots and rosy-red hindwings with a very broad submarginal band. South East New Guinea.

fraterna

D. fraterna Rothsch. (22 e) resembles pratti, but all the wings are of a pure loam-colour, the forewing darker and with 3 transverse rows of minute, black dots. East New Guinea.

biagi

D. biagi B.-Bak. (23 b). Forehead and palpi black; antennae, hindhead, tegulae and shoulder-covers loam-coloured grey; thorax velvety-black. Abdomen golden yellow with a black median and lateral longitudinal band. Forewing darker loam-coloured grey, the costa and some discal spots orange-yellow, the veins light yellow, several transverse bands of velvety-black spots. Hindwing saffron-coloured with a black discoidal spot and black bands. Length of forewing: 23 mm. South East New Guinea. — elongata subsp. nov. (23 b) differs by the longer, narrower wings, the very much extended black spots of the forewings, the maize-coloured thorax and the more golden yellow hindwings. Arfak.

hypsoides

D. hypsoides spec. nov. (23 g). Head golden-yellow; antennae black; thorax black, margined with maize-colour, shoulder-covers maize-coloured, tegulae maize-coloured with a black median dot, margined with a golden yellow; abdomen golden yellow with rows of black dots. Forewing maize-coloured with light brownish longitudinal stripes between the veins, a band of 5 velvety-black spots from the proximal margin to vein 4, and 2 black dots on vein 6. Hindwing golden yellow, a discoidal dot and one dot each below the veins 1 and 2 black. Length of forewing: 28 mm. Arfak.
**D. turbida Btlr.** (22 g, 23 a). ♀: forehead black; hindhead creamy-white; antennae brown; thorax turbida. Forewing creamy-white with black spots and bands, tegulae with a red margin; abdomen rosy-red with black dotted lines. Forewing with black spots on veins 1 and 5, and with 5 smaller and larger, band-shaped, dark brown spots; a similar band extends from the apex to vein 4. Hindwing rosy-red with a broad, creamy-yellow distal margin, as well as 3 blackish spots. ♀ has a brown thorax and brown forewings with black markings. The hindwings are dark rosy-red with large, black spots. Both sexes exhibit a white, wedge-shaped spot in the cell of the forewing. Length of forewing: ♀ 22 mm, ♀ 27 mm. Bismarck Archipelago. — **meeki** Druce (23 a). ♀: head light maize-coloured; antennae Whitish-brown; tegulae brownish maize-coloured, margined with red and with a black median dot; thorax and shoulder-covers black, margined with a reddish maize-colour; abdomen brick-coloured red with rows of black dots. Forewing light maize-coloured, the middle of the wing intensely suffused with a brownish orange-yellow tint, and the whole wing covered with large, band-like, black spots. Hindwing brick-coloured red with blackish spots. In the ♀ all the colours are much more prominent. Trobriand Islands. — **woodlarkiana** Rothsch. (23 c) differs from meeki by the brown wood-colour of the thorax and of the forewing, as well as the much more intense and larger black spots. Island of Woodlark. — **alpina** nom. nov. (= montana Rothsch.) (23 a, b) has a dark brown thorax and the forewing with almost extinct black spots. In the ♀ the costal- and proximal margins are very broad and intensely white. Alpine district of South East New Guinea. — **sordidior** Rothsch. (23 b). Thorax and forewing dirty earth-coloured brown, the costa and proximal margin broadly white. Spots dark blackish-brown. German New Guinea and northern coast of the English territory.

**D. ougarra B.-Bak.** (23 d). Forehead and antennae black; hindhead and tegulae creamy yellow; ougarra. Thorax and shoulder-covers black, margined with a creamy yellow; abdomen light scarlet with rows of black dots. Forewing creamy-white, the spaces between the veins almost entirely filled up with a buff tint, the basal third and 3 large spots on the distal half of the costa black, 17 large and small, mostly square, black spots scattered over the wings. Hindwing scarlet with an intense pink hue, a large discoidal spot and a submarginal band as well as irregular, larger spots black. Length of forewing: 25 mm. South East New Guinea. — **germanica** germanica. Rothsch. (23 b, as germanica) differs from the type by the more greyish-brown, lighter colour of the forewing, smaller and less black spots, as well as by the light yellowish-pink hindwings. North East New Guinea.

**D. arctichroa** Druce (23 d). Forehead and antennae black; hindhead and tegulae creamy white arctichroa. Thorax and shoulder-covers black, margined with a creamy-white; abdomen yellowish-carmine with rows of black dots. Forewing creamy-white, a basal dot and a subbasal spot black, an antemedian band composed of three large spots, an oblique band of 9 spots between the apex and proximal margin, a large discoidal-costal spot, a spot on each side of vein 7, as well as some submarginal dots black. Hindwing yellowish-carmine, a row of submarginal spots as well as a discoidal spot smoky black; fringes yellow. Length of forewing: ♀ 23, ♀ 28 to 31 mm. West New Guinea.

**D. sordidescens** Hmps. (19 d). Antennae black; head and thorax light dull reddish-brown, sides of sordidescens. the head black, abdomen, except the base and anal segment, carmine with dorsal and lateral rows of black dots. Forewing light dull reddish-brown, an almost extinct, dark, bent, antemedian transverse line, a complete, dark, postmedian transverse line, and traces of submarginal vein-streaks. Hindwing lighter, with a darker discoidal dot and 2 dark submarginal spots, one near the anal angle, the other above vein 5. Length of forewing: 15 mm. Sikkim.

**D. castanea** Hmps. (19 e). Antennae brown, head and thorax dark reddish-brown; abdomen carmine castanea. with dorsal and lateral rows of black dots. Forewing dark reddish-brown with a sometimes black basal dot and similar ones on vein 1 and between this and the costa, on and behind the cell-angle. A bent, postmedian transverse row of black spots, and some scarlet tint towards the distal margin. Hindwing blackish-brown, with a black discoidal spot and some red at the distal margin. Length of forewing: ♀ 17, ♀ 21 mm. Ceylon.

**D. brunnea** Heyl. (19 d). Head light brown; antennae and sides of forehead black; thorax dark brown; brunnea. Abdomen carmine, with a broad, black median stripe not reaching to the last segment. Anal segment with a black transverse spot, on the sides rows of black dots. Forewing dark brown, spots on both sides of vein 1 before the middle, a bent transverse row of dots behind the middle, an oblique row of dots from the apex to vein 4, small spots on both sides of vein 1 and below vein 2, as well as submarginal dots on both sides the veins 3, 4 and 5 black. Hindwing blackish-brown, the veins lighter. Length of forewing: 19 mm. Sumatra.

**D. tigrina** Moore (26 i). Antennae black; head reddish ochreous-yellow with black sides; thorax tigrina. Brownish ochreous-yellow with a black median band; abdomen brownish ochreous-yellow with more or less prominent, broad, irregular, black dashes on the costa, median and the veins as far as the submarginal row.
of dots; a submarginal row of dots of almost connected vein-spots. Hindwing brownish ochreous-yellow, a large discoidal spot, the veins behind the cell, a submarginal band interrupted in the middle and some marginal spots black. Length of forewing: 20 mm. South India.

**D. moorei** Swell. Head, antennae and thorax whitish maize-coloured, forehead black, on the thorax a black median stripe; abdomen carmine with dorsal and lateral rows of black dots. Forewing brownish maize-coloured, the veins lighter, a spot at the base of the costa, a similar one before the middle of the costa and one below it, a costal spot behind the middle, 2 oblique dots on both sides of vein 1, a bent band of almost confluent spots from vein 5 to the proximal margin, an oblique row of dots from the apex to below vein 6 and on each side of the veins 1, 3, 4 and 5 black. Hindwing maize-coloured with a carmine hue on it, and with black submarginal dots on the veins 1, 2 and 5. Length of forewing: 20 mm. Celebes.

**D. strigatula** Wkr. (= rubescens Wkr., cervina Wallgr.) (22 b). ♀: antennae brown with very long pinnæ; head and thorax brownish maize-coloured, forehead and dorsal band of thorax brown; abdomen, except the base and anal segment carmine with dorsal and lateral rows of black dots. Forewing brownish maize-coloured, a basal dot, a curved antemedian transverse row of dots, discoidal and postdiscoidal spots, 2 curved postmedian transverse rows, a submarginal row of dots and one on the fringes black. Hindwing orange-scarlet. The discoidal spot and an irregular, submarginal row of spots black. ♀: on the forewing the spots and dots die away or they are entirely absent. — In ab. **apuncta** ob. nov. the hindwing and abdomen are without black spots. Length of forewing: ♀ 19, ♂ 26 mm. — Larva black with scarlet tubercles set with tufts of hairs being above brown, beneath red; on Dioscorea oppositifolia and other plants. Burma, Malayan Peninsula and Large Sunda Islands.

**D. landaca** Moore (19 d, not landoca). Antennae whitish with a black spot behind the middle; head and thorax dark greyish-brown or yellowish-brown, forehead black. Abdomen dark brown, sides and anal segment carmine. Forewing yellow or yellowish-grey, thickly strewn and suffused with dark brown, a black costal spot before the middle, 3 extinct, dark, curved transverse lines before, on and behind the middle. Hindwing yellow or yellowish-grey, a discoidal spot, an indistinctly bent postmedian transverse line and a more distinct submarginal macular band dark. Length of forewing: 19 mm. Java.


**D. melaena** Hmps. (23 d). ♀: head and thorax smoky black, forehead creamy-yellow; antennae yellowish-brown; abdomen yellow, dotted black. Forewing smoky black, a longitudinal band above vein 1 and a fine distal-marginal line white. Hindwing dark smoky-grey, an irregularly interrupted median band and a distal-marginal line dirty-white. Fringes of both wings smoky grey. The ♀ has a narrow, curved, median, white transverse band on the forewing and more white on the hindwing. Length of forewing: ♀ 24, ♂ 27 mm. Java.

**D. styx** B.-Bak. (19 h, 24 i). Head and thorax bright orange-yellow; antennae black; abdomen black, anal brush yellow. Forewing black, veins, a spot above vein 1 and a large crescent between the veins 5 and 8 creamy-white. Hindwing black, at the apex of vein 2 a white dot. Length of forewing: 22 mm. Arfak.

**D. garida** Swinh. Antennae and anterior part of the head brown; head white; thorax reddish-brown, on the sides whithish; abdomen black with orange-yellow transverse bands, the anal segment orange-yellow with a white apex. Forewing red-brown with faint white markings at the base, a white spot on vein 7 and another one at the costa near the apex. Hindwing white, the proximal basal region suffused with brown and with some greyish-brown, large and small spots. Length of forewing: 24 mm. Australia.

**D. phaea** Hmps. (19 e). ♀: antennae and lower portion of the head black; head and thorax greyish-brown; abdomen yellow with dorsal and lateral rows of black dots. Forewing greyish-brown, black dots before the middle on the costa and on both sides of vein 1, as well as an upper discoidal dot; a postmedian, strongly bent, indistinct, dark transverse line, as well as black dots on the costa and vein 1, an oblique, interrupted, dark, submarginal line of spots. Hindwing light greyish-brown, the proximal region huecd yellowish, faint traces of a black discoidal spot and black dots at vein 1 and 2. Length of forewing: 16 mm. Island of Bali.

**D. fuscipennis** Hmps. (19 e). ♀: antennae black, teeth of the comb very short; head and thorax dark red-brown. Sides of forehead black; abdomen dark red-brown with dorsal and lateral rows of blackish dots. Forewing
dark dirty greyish-brown, an indistinct discoidal dot, an indistinctly bent, antemedian transverse line and a strongly bent, angled, postmedian transverse line dark. Hindwing light greyish-brown, with a faint discoidal dot. Length of forewing: 21 mm. North West Himalaya.

**D. sikkimensis** Moore (19 e). Antennae black, head and thorax greyish-brown, neck with large red *sikkimensis* spots; abdomen carmine, except the base and the anal segment, with dorsal and lateral rows of black dots. Forewing greyish-brown, the veins lighter, and with a light transverse band from the base of vein 2 to the proximal margin. Hindwing dirty greyish-black. ♀ more grey, a curved, indistinct, dark postmedian transverse band and an indistinct, submarginal row of streaks in the spaces between the veins. Length of forewing: ♂ 15, ♀ 18 mm. Sikkim, Assam.

**D. fulvohirta** Wkr. (Vol. II, t. 15 h). Antennae blackish-brown with white tips; head white, *fulvohirta*. the lower half of the forehead blackish-brown; thorax white, tegulae striped dark brown and margined with a bright yellow, shoulder-covers as well as mesothorax striped dark brown; abdomen claid with long, orange-yellow hairs, and with dorsal and lateral rows of black dots. Forewing dark brown, costa and disc of the wing with many small and large white spots, as well as a regular marginal band of white spots. Hindwing white, in the region of the proximal margin yellow, the discoidal crescent, some spots at the costa, streaks at the distal margin, and an interrupted postmedian band black. Length of forewing: 25 to 27 mm. Sikkim, West China. For further particulars see Vol. II, p. 88.

**D. impleta** Wkr. (= abdominalis Moore) (23 d, e). ♂: head creamy white; antennae black; thorax *impleta*. creamy yellow, with a black, median longitudinal band, tegulae creamy white, with a black median band, shoulder-covers creamy-white, with a black middle dot. Abdomen golden yellow, anal segment and rows of spots black. Forewing black, strewn with large, laecan spots. Hindwing yellow with several black spots. ♀ larger, the hindwing creamy white, a basal third covered with yellow. Length of forewing: ♂ 24, ♀ 34 mm. India.

**D. khasiana** Rothsch. (23 e as phasiana). Head creamy yellow; antennae black; thorax black, margined *khasiana*. with a creamy yellow; abdomen bluish-black with golden yellow rings. Forewing black, strewn with large, creamy yellow spots. Hindwing dark creamy yellow, the distal margin, the abdominal margin, a submarginal transverse band and the veins black. Length of forewing: ♂ 26, ♀ 32 mm. Khasia Hills.

**D. metarhoda** Wkr. (19 e) resembles *subcarnea* (Vol. II, t. 15 d), but it is larger. ♂ forewing creamy *metarhoda*. yellow; hindwing red. ♀: wings all white. Philippines.

**D. contaminata** Wilem. (19 e). ♂: head and thorax creamy yellow; abdomen scarlet with rows of black *contaminata*. dots. Forewing creamy-yellow with brownish-grey streaks between the veins, except at the costal and proximal margins. Hindwing creamy white, suffused with scarlet and with a black discoidal dot. Length of forewing: 22 to 24 mm. Formosa.

**D. wilemani** nom. nov. (= vivida Wileman) (19 f). Head and thorax brownish maize-coloured; abdomen scarlet with rows of black dots. Forewing brownish maize-coloured with a red hue, a black dot on vein 1, a blackish, nebulous streak from the proximal margin almost to the apex, at which there are black dots at each end; discoidal spots and some faint submarginal dots black, fringes light maize-coloured. Hindwing bright scarlet, fringes yellowish. ♀ larger with some more spots in the forewing; the discoidal spots and two anal-angular spots in the hindwing black. Length of forewing: ♂ 21, ♀ 29 mm. Formosa.

**D. postrubida** Wileman (19 f). ♀: head light maize-coloured; thorax light maize-coloured, with a velvety *postrubida*. black median spot; abdomen yellow with rows of black dots. Forewing light maize-coloured, with a faint pink hue; a basal dot, two oblique dots on the proximal margin, a discoidal dot and a postmedian row of 5 spots black. Hindwing pink, base, abdominal margin, apices of wings and veins maize-coloured. Length of forewing: 23 mm. Formosa.

**D. solitaria** Wilem. (19 f). Head greyish-brown; the basal three quarters of the antennae black, the *solitaria*. rest greyish-brown; thorax greyish-brown with a black median line; tegulae and shoulder-covers margined with yellow; abdomen yellow, with black transverse bands and spots, except the first and last segments. Forewing light greyish-brown with a faint pink hue, a dot at the base, 2 on the costa, 2 below it, 4 towards the proximal margin black. Hindwing lighter, suffused with a blackish-brown, a dark diffuse spot in the cell, the discoidal spot and a row of submarginal spots black. Length of forewing: 24 mm. Formosa.

**D. fumida** Wilem. (19 f). ♂: forehead black, hindhead brownish maize-coloured; thorax brownish *fumida*. maize-coloured. Abdomen red with an interrupted black median line and black lateral spots. Anal tuft maize-coloured. Forewing brownish maize-coloured, with a smoky-grey tint on it, discoidal spots and an oblique postmedian transverse line dark greyish-brown, somewhat faded, and near the apex and proximal margin.
black. Hindwing lighter, with some red hairs near the base, a large discoidal spot, two anal spots, one above them as well as one between the veins $5$ and $6$ smoky black. $\varphi$ similar, but the markings on the hindwing are larger, and there are 4 spots before the anal angle and one spot on each of the abdominal segments. Length of forewing: $\varphi$ 20, $\delta$ 24 mm. Formosa.

**D. clava** Wilem. (19 f). Head and thorax brownish maize-coloured, shoulder-covers with one black dot each; abdomen red, hued black and with black transverse bands. Forewing brownish maize-coloured, in the basal two thirds with a faint pink hue and a reddish-yellow hue in the distal third; the basal third of the costa, a spot with a dot below it in the middle of the costa, a large spot in the middle, a dot at the base of the proximal margin, black; 5 black dots extend in one row from the apex towards the proximal margin and pass over into a dark nebulous band. Hindwing light maize-coloured, in the basal region suffused with red, a discoidal spot, 2 at the anal angle and one before the middle of the distal margin black. Length of forewing: 25 mm. Formosa.

**D. ericsoni** Semp. is similar to the **metarhoda** Wkr. (19 e), but it is much larger and, beside the spots mentioned in *clava*, it has two more black spots at the costa, as well as a band of 8 black spots in the distal third of the forewing and 3 distal-marginal spots on the hindwing. Length of forewing: 33 mm. Kina Balu (Borneo).

**D. semperi** Roths. (19 g). $\delta$: antennae black; head and thorax maize-coloured; abdomen carmine, in the $\varphi$ the valves yellow; forewing maize-coloured, 2 dots above vein 1 and 1 below it black. Hindwing maize-coloured, the discoidal spots black. The $\varphi$ is larger and on the forewing it has yet black dots on both sides of the veins 2 and 7; in the hindwing the discoidal spot is very large and there is a row of six smoky-black submarginal spots. Length of forewing: $\varphi$ 22 mm, $\delta$ 29 mm. West Sumatra. — In **roseata** Roths. (19 g) the $\delta$ has a more brown ground-colour, and the dots are more numerous and larger. The proximal half of the hindwing is orange-red, and there are 7 large submarginal spots. Java. — The form **borneensis** Roths. (23 e) is darker brown-yellow, and all the spots are very large. Kina Balu (Borneo).

**D. dohertyi** Roths. $\delta$: antennae light creamy cinnamon-coloured; forehead black, hindhead and thorax light creamy cinnamon-coloured; abdomen carmine with a median row of black dots. Forewing light creamy cinnamon-coloured; 2 small dots above and below the subcostal near its base, 2 above and below vein 1, a curved row of 5 spots from the cell-end to the middle of the proximal margin and a submarginal row from the apex to vein 4 black. Hindwing salmon-coloured, suffused with yellow. Length of forewing: 2 mm. Central Celebes.

**D. cajetani** Roths. (19 g). $\varphi$: head and thorax brownish cinnamon-coloured; abdomen carmine, with a dorsal line of black spots. Forewing light reddish cinnamon-coloured, an upper discocellular dot, 2 dots at a distance of about a third from the costa, as well as a small one below vein 5 black. Hindwing carmine, suffused with a cinnamon-colour, a large cell-spot and 5 submarginal spots black. Length of forewing: 26 mm. Ceram.

**D. eldorado** Roths. (19 g). Head and thorax dark yellow; antennae black; abdomen carmine, with rows of black dots and yellow anal valves. Forewing dark yellow, veins lighter, 2 antemedian spots between vein 1 and the median, and an oblique row of 5 spots between the proximal margin and the base of vein 3 Hindwing light carmine, suffused with yellow, a discoidal dot and a submarginal row of spots encircled by yellow are smoky black. In the $\varphi$ the wings, head and thorax are golden yellow, the forewing with only one black dot on vein 1. Length of forewing: $\varphi$ 21, $\delta$ 28 mm. India.

**D. niceta** Stoll (23 c). $\delta$: head reddish-yellow; antennae black; thorax light maize-coloured; abdomen cadmium-red with rows of black dots. Forewing light maize-coloured, a subbasal dot, 2 discoidal dots and 3 dots between the base of vein 3 and the proximal margin black. Hindwing yellowish rosy-red with a black discoidal dot. $\varphi$ larger, distinguished by the presence of only 3 black dots of the forewing: one discoidal dot and one at each side of vein 1, as well as by the hindwing being scarlet with yellow fringes. Length of forewing: $\varphi$ 22, $\delta$ 30 mm. South Moluccas. — **eugene** Wkr. differs by the golden yellow colour of the thorax and forewing, the two subbasal black dots on the forewing and the complete transverse row of 7 black spots in the middle of the forewing. North Moluccas. — **hyper Soda** Btlr. differs from **niceta** only by the somewhat darker yellow colour of the forewings. Bismarck Archipelago. — **papuan** Roths. (23 f) is distinguished by the spaces between the veins being filled up with a pale brown. North East and West New Guinea. — **saturata** Roths. In the $\varphi$ the wings are light maize-coloured and in the $\delta$ intensely tinged red. Key Islands. — **intermedia** Roths. In the $\delta$ the forewing is light maize-coloured, but in the $\varphi$ golden yellow. South East New Guinea and Entecasteaux, Louisiads and Trobriand Islands. — **semirosea** Btlr. (23 e, f) in both sexes has a dark golden yellow thorax and forewing. Salomons Islands.
**D. oberthuri Semp.** ♀: head, thorax and forewing milky white, hindwing pink. Abdomen red. In *oberthuri*, the ♀ the milky white is replaced by a reddish-brown. Bonthain Mountain (Celebes).

**D. whiteheadi Rothsch.** Antennae very long, strongly combed, brown; head white, collar bright carmine; thorax creamy or maize-coloured, tegulae and shoulder-covers broadly margined with black, the latter with a black middle dot; abdomen deep carmine. Forewing creamy or white-yellow, suffused with orange at the proximal margin and vein 1, a black dot above and below the middle of vein 1. Hindwing maize-coloured, the costal part orange-yellow, the abdominal part with pink hairs. Length of forewing: about 30 mm. Island of Luzon (Philippines).


Distinguished from *Diacrisia* by the palpi being long-haired beneath, the long and short double claw of the anterior tibiae, and by the posterior tibiae mostly only exhibiting one pair of spurs or by the presence of middle spurs, though quite minute ones; besides by the veins 4, 5 of the forewing and 3, 4 of the hindwing rising from the lower cell-angle. Here belong about 25 species, of which there are 13 from Indo-Australia.

**A. dulla Pagenst.** (25 b). ♀: head and antennae black; thorax and tegulae orange-yellow; abdomen dulla, black, the anal segment yellow. Forewing brownish-black, a broad, oblique, median transverse band is dark orange-yellow. Hindwing brownish-black with a yellow spot at the anal angle extending almost to vein 3. Length of forewing: 29 mm. Key Islands. — *aurantiaca Rothsch.* differs by the much darker yellow median band of the forewing, and a larger anal spot at the hindwing. Kapaur, West New Guinea. — *orientalis subsp. orientalis* nov. (25 b) is distinguished by its smaller size and the broader light yellow median band of the forewing as well as a smaller, narrow anal spot of the hindwing. Humboldt Bay (North New Guinea). — *borealis Rothsch. borealis* (19 g). ♀: head orange-yellow; antennae black; thorax and tegulae orange-yellow with black dots; abdomen black with a touch of yellow at the sides of the anal segment. Forewing orange-yellow, the apical third and the distal two thirds of the costa black, a long, broad, black wedge-shaped spot runs along vein 1 to three quarters of its length, a small black spot at the proximal margin as far as near the proximal angle. Hindwing black, with a broad orange-yellow distal margin growing narrower towards the anal angle. The ♀ (25 b) differs from *A. dulla* by the narrower, lighter transverse band of the forewing and the large, band-shaped anal spot of the hindwing extending to vein 4. Dorey, Arfak.

**A. albistriga Wkr.** (24 b). Palpi black; head white; antennae black; thorax white; shoulder-covers albistriga, white with a black middle dot. Abdomen golden yellow with median and lateral rows of black dots. Forewing white, costa dark-golden yellow, a brown longitudinal diffuse spot at vein 1 and below the median 2 black discoidal spots, a curved, postmedian transverse band of brown dots and some brown spots between this band and the distal margin. Hindwing white, the discoidal spot and four submarginal spots black. — *ab. confluen*s confluen*s. *ab. nov.* has the forewing almost entirely suffused with brown. Length of forewing: ♀ 18, ♂ 22 mm. Central India.

**A. marginata Don.** (24 b). ♀: head white; antennae black; collar carmine; thorax white. Abdomen marginata, with a median row of black dots. Forewing silky white, costa carmine; the median near the discocellulars black. Hindwing white, two submarginal dots and the discoidal spot black. ♀ much larger; the costal margin of the forewing black, margined with red; the median of the forewing quite black, 3 black dots at the veins 1, 2 and 6. On the hindwing there are 4 large, black submarginal spots. Length of forewing: ♀ 19, ♂ 28 mm. West Australia. — *punctipennis Blttr.* (24 b) in the ♀ always exhibits larger black submarginal spots of the hindwing and white, unsplotched forewings. The ♀ mostly has unsplotched forewings, or it has the vein 1 and the median black. — In *ab. flavola ob. nov.* all the parts, being otherwise carmine, are yellow. North Australia and New Guinea, Louisiads and d’Entrecasteaux Islands.

**A. roseicostis Blttr.** is like *marginata*, but without black markings on the wings and with a red costal region of the hindwing. Queensland. It might be an extreme aberration of *marginata*.

**A. moorei Blttr.** (24 b) is very much like *roseicostis*, but the forewing more or less covered with small black dots, and at the veins there are brown diffuse spots. India.

**A. lactifonia Cr. (= sanguinolenta F., *marginata* Moore, frederici Ky.).** (Vol. II, t. 15 i). ♀: forehead lactifonia, white, hindhead fiery carmine; antennae black; tegulae white with fiery carmine margins; thorax white, shoulder-covers with one black basal dot each. Abdomen golden yellow, with narrow black indentations, the first segment white. Forewing silky white, the costal margin fiery carmine, and a dot at the apex of the cell black; hindwing white, with a black discoidal spot and 2 or more black subcostal spots. ♀ larger, on the hindwing 2 discoidal dots and 2 likewise black dots on vein 1. Abdomen black with broad, yellow trans-
verse bands. Length of forewing: 26, 32 mm. India, Ceylon, Malacca, Sunda Islands, Philippines, China, Japan. — negrita Swinh. (24 b) differs by its almost black wings and very much reduced yellow colour on the abdomen in both sexes. Khasia Hills (Assam).

flavimargo. A. flavimargo Hmps. (19 i). Forehead white, hindhead carmine; antennae black; tegulae white, bordered with carmine; thorax white with carmine shoulder-stripe; abdomen carmine with a median row and two lateral rows of black dots. Forewing white, costal margin carmine, at the upper cell-end a black dot. Hindwing white, with a golden yellow distal margin and a black dot above veins 1 and 5. Length of forewing: 22 mm. Burma.

collaris. A. collaris Hmps. (24 a). Forehead white; antennae black, with a carmine base; hindhead and collar carmine; tegulae white, margined with carmine; thorax white, with carmine shoulder-stripe. Abdomen carmine, with black transverse bands. Forewing white, with black basal and discoidal dots, and two black dots on vein 1. Hindwing white, with a black discoidal dot and 4 black submarginal dots. Length of forewing: 20 to 22 mm. South India.

cardinalis. A. cardinalis Btlr. (24 a). ♂: head white, antennae black; collar carmine; tegulae white, margined with carmine; thorax white, shoulder-covers with one black basal dot each; abdomen carmine, with a median row of black dots margined with yellow. Forewing white, costa carmine, 2 black dots at the cell-end and 2 on vein 1. Hindwing creamy-white. The ♀ has white hindwings, with a large black discoidal spot and a broad, interrupted, black marginal band. Length of forewing: 31, 39 mm. Philippines, Celebes. — reducta Roths. (24 a) are ♂♀ differing from typical cardinalis by a lighter carmine colour, larger black spots on the forewing, and by the black marginal band on the hindwing being reduced to 3 or 4 small spots; Saleyer and Tokan-Besi Islands. — In luteomarginata Roths. (24 a) the collar, the margins of the tegulae, and the costal margin of the forewing are golden yellow, the hindwing purely white, with a black discoidal spot. Timor, Damar, Letti Moa, and Tenimber Islands.

costalis. A. costalis Wkr. (19 i) is like the following subspecies, but the ground-colour of all the wings is a pure white. Length of forewing: 24 mm. North Australia. — corsina Swinh. (24 b). ♂: head yellow; antennae black; collar reddish orange-yellow; tegulae creamy white, margined with a reddish orange-yellow; thorax creamy white, with black spots; abdomen yellowish pink, with black median spots. Forewing creamy white, costal margin reddish orange-yellow, a basal dot, a transverse row of 3 spots before the middle of the cell, 2 discoidal spots, a curved transverse row of half-fused spots behind the cell, 3 spots behind this row, and the distal margin brownish-black. Hindwing yellow, with a black distal margin and discoidal spot. North West Australia.

gangara. A. gangara Swinh. (24 a). ♀: head yellow; antennae black; collar yellowish-red; tegulae creamy-white, margined with yellow; thorax creamy-white, with a black median line and black spots on the shoulder-covers; abdomen vermilion, with black transverse spots, the first segment and anal tuft creamy-yellow, costa yellowish-red, suffused with black, the veins broadly black. Hindwing almost smoky black with creamy-yellow diffuse patches and spots. Length of forewing in both sexes: 24 mm. Single specimens have the middle of the hindwing white. Queensland.

lincola. A. lineola F. (= emittens Wkr., punctistriga Wkr., candidula Wkr., diminuta Wkr., strigata Wkr., rubicosta Moore, flora Swinh.) (23 g) is a most variable insect. Head and thorax light pink, creamy-yellow or white; antennae in the ♀ white or yellowish pink, in the ♂ light brown; abdomen light carmine or yellowish vermilion, with black transverse spots and a whitish anal segment. Forewing white, creamy-white, creamy-yellow, light pink or brownish-pink, either without any markings or with a more or less broad, black, median longitudinal band and some small, dark dots. Hindwing white or creamy-white. Length of forewing: 15 to 20 mm. India. Comp. Vol. II, p. 90, t. 17 a.

insolata. A. insolata Swinh. (23 g). Head and thorax creamy-white with minute black dots. Abdomen vermilion with a median row of black dots and a white anal segment. Wings creamy-white, with black dots scattered here and there. Length of forewing: 19 mm. North West India.


Distinguished from Amsacta by the shorter palpi, the head and thorax being smoothly scaled, and by the veins 3, 4 and 5 on the forewing rising from the lower cell-angle. 8 to 12 forms, 6 of which are Indo-Australian. As to the palearctic species of this genus and its larva vid. Vol. II, p. 90 to 91.

of the colouring; mostly as follows: head and thorax of the creamy-white; antennae black; abdomen orange-yellow with median and lateral rows of black dots. Costal margin of the forewing as far as the subcostal creamy-white, the rest of the wing brownish ashy-grey, 2 small black dots at each end of the discoidal veins. Hindwing ashy-grey, faintly showing through. The @ differs by the creamy-white forewing and the semi-hyaline, white hindwing with 3 black submarginal dots. Length of forewing: @ 19 to 25 mm, 20 to 27 mm. India to the Moluccas and Philippines. As to this species and the next one vid. Vol. II, p. 90 (under Phisama transiens).

C. gangis L. (= interrupta L., francisca F., continuatus Moore) (Vol. II, t. 17 a). Forehead black, gangis. hindhead light flesh-coloured; antennae black; thorax and proximal half of tegulae black, distal half of tegulae and shoulder-covers flesh-coloured. Abdomen above carmine with a median row of black transverse dots, beneath black. Forewing flesh-coloured with a broad, black longitudinal band below the median extending from the base to half of vein 3, another shorter black oblique band runs from the origin of vein 4 almost to the apex of vein 5; 2 small discoidal dots. Hindwing semi-hyaline, greyish-white, with a drab margin. — ab. @ pallida ab. nov. has yellowish forewings and whitish, semi-hyaline hindwings; frequently found among pallida the typical forms. — ab. nigrescens ab. nov. Forewing almost entirely suffused with black. — Length of forewing: @ 16 to 22 mm, 22 to 25 mm. From India and Ceylon to China and Australia.

C. arabica Hmps. (19 h). Head brownish-grey; antennae black with a red base; collar and tegulae arabica. red; thorax brownish-grey, shoulder-covers with one black dot each; abdomen red with a median row and 2 lateral rows of black dots. Forewing brownish-grey with black dots and mostly a black costa. Hindwing grey, with a black discoidal dot. Length of forewing: @ 16, 20 mm. South Arabia.


Distinguished from Creatonotus by the roughly haired thorax and by the veins 3, 4 and 5 of the hindwing rising from the lower cell-angle. — About 28 species, 10 of which are Indo-Australian.

E. cingulata Rothsch. Forehead blackish-brown, hindhead white; antennae black; tegulae black, with cingulata. a white costal margin; thorax black; shoulder-covers white, with a black longitudinal band; abdomen light pink, with broad black transverse bands. Forewing black, a median, curved, white longitudinal band runs from the base to the apex of the wing. Hindwing light pink, a greyish-black spot at the cell-end and a similarly coloured, twice interrupted submarginal band. Length of forewing: 20 mm. Ooty (India).

E. quadriramosa Koll. (24 d). Head and antennae white; tegulae white, margined with yellow, with quadrira- mosa. a black median dot; shoulder-covers black, margined with white; thorax white with a black longitudinal band; abdomen yellow, with dorsal and lateral rows of black dots. Forewing white, costal margin blackish-brown, a blackish-brown band runs along the subcostal, and a broader, similar one along the median. Blackish-brown longitudinal bands and stripes are also on the veins 1, 2, 3, 4, 6 and 7. Hindwing white, with 2 submarginal black dots and one discoidal black dot. Length of forewing: @ 20, 25 mm. North West India. Vid. Vol. II, p. 88.

E. perrotteti Guér. (= biguttata Wkr., lativitta Moore) (24 d). Forehead black, hindhead white; anten- nae black; tegulae half white and black, shoulder-covers white, with a black median dot; thorax black; abdomens above pink, with black transverse spots, beneath black. Forewing black, with a white, median longitudinal band. Hindwing pink, with 3 black, yellow-margined submarginal spots, costa black, fringes yellow. — ab. nigricans Moore (24 d) has quite black forewings. Length of forewing: @ 19, 24 mm. India. nigricans.

E. irregularis Moore (24 d) differs from E. perrotteti by the strongly angled and irregular, white irregularis. longitudinal band of the forewing and the black fringes, as well as the black, submarginal transverse band of the hindwing. Ceylon.

E. ceylonensis Hmps. (24 d). @: forehead black, hindhead white; antennae black; tegulae and shoulder- covers white, with one black median dot each; thorax dark brown; abdomen light carmine, with black transverse spots. Forewing leather-coloured brown, with an irregular, white longitudinal band of confluent spots, a white apical macula and 2 white dots at the costa, as well as with a very small one in the cell. Hindwing pink, with a smoky black, interrupted transverse band and a smoky black discoidal spot. The @ differs by the much broader white longitudinal band and a larger number of the white costal spots on the forewing. Length of forewing: @ 17, 21 mm. Ceylon.

E. vittata Moore (24 d, e). Forehead black, hindhead whitish pink; antennae greyish-white; tegulae vittata. outside whitish pink, inside black; shoulder-covers whitish pink with a median black dot; thorax black; ab-
domen above pink with black transverse bands, beneath black. Forewing brownish-black, with a median, whitish-pink longitudinal band from the base to the apex. Hindwing light pink, with a blackish-grey dot at the cell-end and 3 submarginal, equally coloured spots margined by a light yellow. The ♀ has a darker carmine hindwing with a black margin and a submarginal black transverse band extending from the anal angle to the distal margin at vein 6; costal region black, connected with the discoidal spot. — ab. *flava* *ab. nov.* has all the light parts yellow. — ab. *continens* *ab. nov.* has the submarginal transverse band much broader and fused with the black margin, a long black stripe runs from this band along the anal fold; the median band of the forewing is likewise narrowed. Length of forewing: ♀ 20 to 23 mm, ♂ 25 mm. South Central India.

### E. imbuta

E. *imbuta* Wkr. (24 c). Antennae and forehead smoky brown, hindhead white; tegulae and shoulder-covers smoky-brown, narrowly margined with yellow; abdomen carmine. Forewing smoky-brown with yellow veins and irregular white spots of various size between the veins. Hindwing smoky-black, the distal margin and a narrow median transverse band golden yellow. ♀ with much larger, white spots of the forewing. Length of forewing: ♀ 20 to 23, ♂ 27 to 37 mm. North West India. — *sikkimensis* *Rothsch.* (24 c) is distinguished from the type by the almost absent or very small white spots of the forewing, the yellow transverse band and the yellow margin of the hindwing being much broader, too. Sikkim.

### E. florescens

E. *florescens* *Moore* (24 c). ♀: palpi and forehead black; antennae black; upper head white; tegulae smoky brown, broadly margined with white and narrowly with red; abdomen carmine. Forewing smoky-brown with golden yellow veins and large and small white spots between the veins, in the cell and at the costa. Hindwing white, a submarginal row of spots and a discoidal spot being smoky-grey. The ♀ has a median row of black dots on the abdomen. Length of forewing: ♀ 23, ♂ 30 mm. Sikkim.

### E. khasiana

E. *khasiana* *Rothsch.* (24 c) has quite brownish-black wings with golden veins, and only on the forewing small, white dots. — ab. *normalis* *ab. nov.* ♀: palpi smoky brown; head white; antennae black; collar carmine; tegulae and shoulder-covers smoky-brown, broadly margined with white; thorax smoky-brown; abdomen carmine, tinged yellowish. Forewing smoky-brown, with orange-yellow veins; 2 irregular, long, white spots above vein 1, and 3 smaller ones, as well as a basal longitudinal streak at the proximal margin, several white spots between the veins near the distal margin, one in the cell and 3 at the costal margin. Hindwing smoky-grey, with yellow veins and a white distal margin and several white spots at the costal margin and in the disc of the wing. The ♀ differs by the red margining of the tegulae and the black median row of dots of the abdomen, the white longitudinal band along vein 1 and the larger white spots of the forewing; the hindwings are white, the basal third, a very large discoidal spot and a broad submarginal transverse band smoky-grey; the veins yellowish. — In ab. *femina* *ab. nov.* the ♀ has the same hindwings as the ♀. Khasia Hills.

### E. interfixa

E. *interfixa* *Wkr.* (24 c). Palpi white; head and antennae black; tegulae and thorax black, margined with white and set with white hairs; abdomen yellow, with black transverse bands. Forewing whitish yellow, with 3 black discal transverse bands, most of the veins with black longitudinal streaks, the distal margin as well as the apical three fourths of the costa black, the basal quarter of the costa and a large spot behind the black discoidal spot golden yellow. Hindwing golden yellow, a large discoidal spot and the broad submarginal band black. — ab. *rufa* *ab. nov.* has the abdomen and the basal quarter of the costa on the forewing red instead of golden yellow. Length of forewing: ♀ 16 mm. Tasmania.


Distinguished from *Estigmene* by the palpi mostly extending beyond the head, the smoothly scaled head and thorax and by vein 3 of the forewing rising rather far from the lower cell-angle, 5 above the angle, and 6 from the upper angle, 11 from the cell. Veins 3 and 5 of the hindwing rise close at the lower cell-angle, 6 and 7 from the upper angle. About 40 forms, 36 of which are found in the Indo-Australian region.

#### P. everetti

P. *everetti* *Rothsch.* (19 h). ♀: head blackish-grey; antennae black, strongly combed; tegulae dark brown, margined with orange-yellow; thorax dark blackish-brown; abdomen above blackish-brown, sides and margins of the 6th, 7th and 8th rings dark yellow, at each side one row of black dots. Forewing blackish-brown with light veins, a creamy-white transverse spot at the cell-apex. Hindwing orange-yellow with a broad black distal margin and an irregular black median band. Length of forewing: 22 mm. ♂ unknown. Indruloman, Bonthain Mountain (South Celebes).

#### P. magna

P. *magna* *Willem.* (19 i). ♀: head creamy-white; antennae black; thorax creamy-white, striped and spotted dark brown, tegulae margined with red; abdomen above carmine with a dorsal row of black spots. Forewing creamy-white, a brown, triangular costal spot near the apex, a brown longitudinal stripe from the base to the cell-end, where it is expanded into a large macula with a small, whitish median spot, a large,
PERICALLIA. By Dr. W. v. Rothschild.

broad macula along the proximal margin. Hindwing pale yellowish and near the base covered with reddish hairs. A discoidal spot and 2 large and one small anal spot as well as two distal-marginal spots black. Length of forewing: 34 mm. Formosa.

P. dentata Wkr. (= khandalla Moore) (24 e). ♀: head white, forehead and antennae black; tegulae dentata.
white with blackish-brown proximal margins; thorax blackish-brown, shoulder-covers white with a black median dot; abdomen red with median and lateral rows of black transverse streaks. Forewing dark-brown with 2 white distal marginal spots and a median, white, irregularly dentate longitudinal band extending from the base somewhat beyond the middle of the wing, where it bends angularly upward and reaches the costa at the base of vein 7. Hindwing white, a series of submarginal spots and the costal space smoky-grey and the abdominal margin pink. The ♀, more intensely marked, has rosy-red hindwings. Length of forewing: 18 to 21 mm. West and South India.

P. sipahi Moore (24 d). Head whitish pink; antennae white with a black tip and median band; tegulae sipahi.
whitish pink with a brown median dot; thorax brown, shoulder-covers with broad, whitish margins. Abdomen light carmine or dark pink with median and lateral bands of black spots. Forewing brown with 5 or 6 irregularly curved transverse bands of large and small light pink spots. Hindwing of a bright pink, a spot in the cell, a discoidal spot and two large submarginal spots being smoky-black. Length of forewing: 16 to 19 mm. Bombay (India).

P. pannosa Moore. Head and tegulae creamy-white, spotted black; thorax brown, sheaths of wings pannosa.
creamy-white with a broad, brown interior margin and apical spot; abdomen light pink with median and lateral rows of black dots. Forewing brown with a broad, creamy-white longitudinal band extending from the base below the median to two thirds of the length of vein 3, between the veins 3 and 5 at the distal margin 2 white spots and 2 similar spots at the costa. Hindwing dirty light pink with a sooty-grey discoidal spot and a similarly coloured, large, subapical spot. Length of forewing: 19 mm. North West India.

P. picta Wkr. (24 e). ♀: head scarlet; antennae black; thorax white, dotted black, tegulae and picta.
shoulder-covers margined with scarlet; abdomen yellow, faintly hue red, with median and lateral rows of black dots. Forewing bright scarlet with 6 creamy-white transverse bands. In each of them there is a row of steel-coloured grey spots. Hindwing yellow, somewhat hue red. The ♀ differs by the pink abdomen, carmine hindwings and by the grey spots in the bands of the forewings being fused into regular bands. — In ab. lutea ab. nov. all the red has turned yellow. — In ab. formosa Btlr. all the bands of the forewing are much broader. Length of forewing: 19 mm. North West India.

P. imperialis Koll. (25 e). Head creamy-white; forehead, palpi and antennae black; tegulae black and white; thorax black, shoulder-covers white with a black median dot; abdomen above bright carmine with black transverse bands, beneath black with red transverse lines. Forewing black, a white longitudinal band runs from the base through the cell to vein 6, where it is forked, one branch extending to the origin of vein 8, the other along vein 6 to the distal margin; another white longitudinal band rises at the origin of vein 1 and extends to the distal angle above vein 1; the distal margin white; an oblique, shorter, white band runs from the base of vein 3 to the distal margin at the end of vein 2. Hindwing light yellow, a discoidal spot and a submarginal band of three large spots smoky black. Length of forewing: ♀ 20, ♂ 28 mm. South China, Shan States.

P. distinguenda Wkr. (24 h). Head and tegulae dark chocolate-brown, margined with pink; antennae distinguenda.
reddish-brown; thorax dark chocolate-brown with a white median line, shoulder-covers with a white spot; abdomen dark chocolate-brown with pink lateral spots; forewing chocolate-brown with a small, basal, white spot in the cell. Hindwing chocolate-brown with a broad, white longitudinal band between the cell and the costal margin, in and below the cell hyaline. — In ab. reducta ab. nov. the white spot in the cell of the reduta. forewing is absent, and the white band of the hindwing is much smaller. North Celebes. — tricolor Pag. tricolor.
differs from the type by the yellow antennae, the red collar, the yellow shoulder-covers with a brown median spot, the quite blackish sides of the abdomen, the yellow spot at the apex of the forewing, and the 3 red margins of the hindwing. Ambon. — burica Holt. (21 h) differs from the type by the black antennae, the burica.
creamy-white tegulae and shoulder-covers, the creamy-white, black-dotted thorax, the carmine abdomen with a black median band, the two white subcostal spots of the forewing, the absence of the white discal spot in the forewing, the red base and the broad, red costal band of the hindwing. Island of Buru. — plutonica nica Btlr. Antennae brown; head and tegulae black, margined with a bright red; shoulder-covers black, feebly marked with whitish; thorax black with a red median streak on the metathorax; abdomen above black with reddish sides and a red anal tuft. Forewing dark chocolate-brown, a whitish spot near the base and
a larger, yellowish-white one in the cell. Hindwing dark chocolate-brown, the cell and cellular region hyaline.

**dohertyi**. North Moluccas. — **dohertyi** Hmps. (19 i) differs from the other forms of *distinguenda* by its larger size, red abdominal sides, much larger basal and apical spots and pink costal band of the hindwing. Island of Sangir.

**dora**. P. *dora* Semp. (26 d). Head orange-yellow, spotted black; thorax whitish with black spots, tegulae margined with yellow; abdomen orange-yellow with median and lateral rows of black dots. Forewing reddish-brown with whitish markings near the base and 7 yellowish-white spots of various size scattered over the wings. Hindwing red-brown, the costal region and cell yellow. The abdominal-marginal region and 2 small submarginal spots likewise yellow. Length of forewing: 22 mm. Mindanao (Philippines).

**whiteheadii**. P. *whiteheadii* Rothsh. (19 i). Antennae light brown; head yellow with a black median dot; tegulae creamy-white, dotted black and margined with yellow; thorax and shoulder-covers creamy-white, dotted black; abdomen yellow with a median row of black dots. Forewing light leather-coloured brown, 2 large roundish, creamy-white spots in the basal half, a similar spot at the apex, and a broad, oblique, creamy-white, median transverse band being forked behind the middle, the tip of one fork resting on vein 1 ½ before the distal margin, and that of the other near the distal margin between veins 2 and 3. Hindwing yellow, fringes light buff; 2 large, irregular, leather-coloured brown spots, one at the distal margin and one at the anal angle. Length of forewing: 27 to 28 mm. Island of Luzon (Philippines).

**pasinuntia**. P. *pasinuntia* Stoll (24 i). Antennae whitish-brown; head cream-yellow; tegulae blackish-brown with white margins; thorax and shoulder-covers creamy-white, dotted blackish-brown; abdomen scarlet. Forewing creamy-white with 3 broad, irregularly interrupted buff transverse bands which impart to the wing a speckled appearance. Hindwing scarlet. Length of forewing: 30 mm. South Moluccas, Island of Buru, Sula Islands.

**obliquifascia**. P. *pasinuntia* Wkr. (24 i $, 25 a $) differs from the type by the deep chocolate-brown of the forewing having increased so much that the creamy-white ground-colour is reduced to a few large spots or to three transverse bands. Celebes. — **conflictalis** Wkr. differs from the type by the light yellow colour of the head and thorax, as well as by the light yellow ground-colour of the forewing being reduced to 3 large macular rows or transverse bands. North Moluccas.

**distorta**. P. *distorta* Moore (25 a). Palpi black; head creamy-white; antennae brown; tegulae and shoulder-covers blackish-brown, broadly margined with white; thorax creamy-white with two large, blackish-brown spots behind each other; abdomen carmine, with a median row of black transverse bands and lateral rows of black dots. Forewing chocolate-brown with white veins, 3 white spots in the cell and a large spot below the basal third of the median, a white median transverse band more or less irregularly dentate, and a series of large and small, white marginal spots. Hindwing carmine with a median band of black spots and a sub-marginal band of large, black spots. — ab. **flaveola** ab. nov. has reddish-yellow, instead of carmine hindwings and abdomen. Length of forewing: $^2 27$, $^2 32$ mm. North West Himalaya, Simla, Mussoorie.

**matherana**. P. *matherana* Moore (19 i). Head, collar and thorax white, dotted black; antennae black; abdomen yellow, with dorsal and lateral rows of brown spots. Forewing buff, basal third white, with brown dots, a broad, white median line with slit margins, large white distal-marginal spots between the veins 2 and 3, 3 and 4, 5 and 6, and 7 and 8. Hindwing yellow, a discoidal band and a very broad, brown distal-marginal band occupying the distal third of the wing and enclosing several yellow spots. Length of forewing: $^2 23$, $^2 29$ mm. Bombay (India). — **rubeliana** Swinh. (25 a) differs from the type by the narrower white bands of the forewing, and the red instead of yellow colour of the abdomen and of the hindwing. South India.

**recta**. P. *integra* Wkr. (19 h). Head and shoulder-covers lacteae; tegulae grey; thorax blackish-brown; abdomen yellow with blackish-brown transverse bands. Forewing blackish-brown with a broad, angled, white longitudinal stripe from the base to the apex of the wing. Hindwing yellowish-white, the costal margin and a dot above the cell brown. Length of forewing: 16 mm. Philippines.

**williami**. P. *williami* Rothsh. (24 f). $^2$: head black, between the black antennae white; thorax black; tegulae and shoulder-covers white, inside margined with black. Abdomen above yellow, broadly curled black, beneath yellow. Forewing blackish-brown, a white, feebly bent longitudinal band extends from the base to the apex of the wing. 1 to 3 white dots between the veins 3 and 5. Hindwing yellowish-white with a brown discoidal and anal-angular dot. The $^2$ differs from the $^2$ by the yellow hindwing, with brown spots and fringes and by only one spot being in the forewing between the veins 3 and 4. Length of forewing: 19 mm. Island of Bali.

**obliquifascia**. P. *obliquifascia* Hmps. (24 f). $^2$: head light yellow, with a black dot; antennae and thorax black; tegulae and shoulder-covers, with a light yellow distal-marginal band; abdomen light yellow with black rings.
Forewing blackish-brown with a broad, white, angled longitudinal band composed of 9 single spots, extending from the base to the apex of the wing. Hindwing yellowish-white, the costal margin and 1 to 3 distal-marginal spots blackish-brown. ♀ larger, on the forewing a round, white spot between veins 3 and 4; the abdomen and the hindwing are of a bright yellow. Length of forewing: ♂ 19, ♀ 22 mm. India, Malacca, and Java.

**P. tripartita** Wkr. (24 e) differs from *obliquifascia* by the median longitudinal band on the forewing *triapartita*, only extending to the base of vein 3 and by a broad, white transverse band extending between the cell-end and the apex of the wing from the costa to the proximal margin. Burma.

**P. conjuncta** Hmps. (24 e). ♂: head light yellow; thorax blackish-brown; tegulae and shoulder-covers *conjuncta*, with a broad, yellowish-white distal-marginal band; abdomen yellow with thin, black transverse streaks, forewing white with brown veins, the costal and proximal margins brown, this colour now and then extending far into the white of the wing in the shape of a wedge; a thin, brown distal-marginal line. Hindwing white, with a brown costal margin and discoidal spot; the abdominal margin, and beyond it, yellowish. Length of forewing: 15 mm. Lombok.

**P. melanopsis** Wkr. (= callisoma Fldr.) (25 b). ♂: antennae black with lighter tips; forehead black; *melanopsis*, hindhead and thorax loam-coloured yellowish-brown, the shoulder-covers with one black dot each; abdomen above carmine, beneath white, with a median row and one lateral row each of black dots. Forewing light reddish, cinnamon-coloured, the distal half suffused with brown, a blackish-grey, narrow, median transverse band margined with yellow. Base of hindwing and the anal third light carmine, the costal 2/3 yellowish, cinnamon-coloured. ♀ larger and lighter. Length of forewing: ♂ 27, ♀ 35 to 39 mm. Ceylon.

**P. galactina** Hoev. (25 c). Antennae dark brown; head orange-yellow, forehead black; tegulae white *galactina*, with black spots and a yellowish-red posterior margin; shoulder-covers white with a black median spot; thorax black, at the sides white; abdomen bright carmine, with black median dots on the rings 2 to 7, the anal valves are strongly indented in the middle, turned upward, and project far beyond the anus. Forewing white, with chocolate veins; the proximal margin far beyond vein 1 of the same colour, two oblique, brown lines connect the base and the cell like a V with these broad inner-marginal areas, two much broader, large, oblique, brown bands extend from the apex and the costa of the wing and are united in the shape of a V with the inner-marginal area at the tip of vein 2, a branch of one of these bands runs from the base of vein 6 to the costa. Hindwing yellow, the base and anal fold are hairied pink with some blackish spots. Length of forewing: ♂ 35, ♀ 45 mm. Island of Java. — **orientalis** Wkr. differs from the type by its white head and carmine margining of the head *orientalis*, and tegulae and its larger size, and by larger blackish-grey spots on the hindwings. Length of forewing: ♂ 40, ♀ 50 mm. Sikkim and the Indian alpine districts. — The Khasia Hill specimens of this subspecies partly have red heads, and this being nowhere else the case in India, I denominate these specimens ab. (loc.) khasiana ab, khasiana nov. As to further particulars on **orientalis** vid. Vol. II, p. 91. — **trigonalis** Voll. (= cana Druce) (25 e) differs from *trigonalis* from the type by its yellowish-red head, black antennae with a white terminal third, almost black markings on the forewings and carmine hindwings with a yellow touch towards the distal margin. Malacca and Sumatra.

**P. erosa** Wkr. (25 a). Forehead brown, upperhead, tegulae and shoulder-covers white with 5 liver-*erosa*, coloured brown spots, antennae blackish-brown; thorax liver-coloured brown with white sides; abdomen carmine, suffused with yellow, with a median row of black spots. Forewing dark liver-brown; 3 white distal-marginal spots and a white, median transverse band connected with the base by an irregular, white longitudinal area almost covering the whole basal half. Hindwing carmine, with a broad, brownish-black submarginal band and sometimes a discoidal spot of the same colour. — ab. *confluens* ab. nov. has quite brown forewings exhibiting *confluens* at the base a small white spot, and a median, narrow, white transverse band. The hindwing is in the distal half one-coloured dark brown and shows a brown, median transverse band. Length of forewing: ♂ 26, ♀ 32 mm. Ceylon.

**P. aequata** Wkr. (24 h). ♂: head and palpi brownish-black, the basal two thirds of the antennae *aequata*, black, the rest at first white, then black; tegulae orange-yellow; thorax black; upperside of the abdomen black, sides yellow, with one row of black spots. Wings short and narrow; forewing black, the veins greyish-brown, a narrow orange-yellow, median transverse band extends from the costa to vein 1 and is at the inside straight, outside angled; hindwing black with a broad, orange-yellow, median transverse band. ♀ much larger, distinguished by the two last rings of the abdomen, exhibiting a black median spot, and by the long, broad wings showing a broadly bent, orange-yellow, median transverse band. Length of forewing: ♂ 29, ♀ 29 mm. South Celebes. — **lorquini** Fldr. (24 h). The yellow ♂ hindwing only margined with black and the much broader, orange-yellow *lorquini*, median bands of the ♀ immediately separate this form from the type. North Celebes.

Distinguished from Euarestia by the double combed antennae of the ♀ and serrate-dentate antennae of the ♂; only the base of the abdomen clad with long hair. Vein 5 of the forewing rises directly above the lower cell-angle; 4 and 5 from the angle; 6 from the upper angle; 9 and 10 are fused with 8 and form the areola and rise together from the latter; 11 from the cell. Veins 3 and 5 of the hindwing rise close at the lower cell-angle; 6, 7 from the upper angle; 8 from the middle of the cell. — Larva brown with lateral rows of large, white spots. Hair short, yellowish, in small, far-strewn tufts, each tuft on a tubercle. Each abdominal ring with 2 rows of such tubercles. Two species, of which E. proserpina (Vol. II, p. 97, t. 17 h) is purely palaeartic, whilst E. lichenigera extends into the Indian region.


A. thibetica Flchr. This species comprises several forms. ab. suttadra Moore (Vol. II, 18 a, as thibetica). Palpi whitish; antennae dark brown, with a white spot somewhat before the tip. Head and thorax pale liver-coloured, tegulae and shoulder-covers margined with white; abdomen red, with a dorsal longitudinal row of black transverse stripes. Forewing light liver-coloured, with four white maculae in the basal third, a white, submarginal dots and a similar discoidal spot. Hindwing greyish-white, with some black submarginal dots and a similar discoidal spot. Length of forewing: ♀ 22 to 35 mm, ♂ 18 to 28 mm. North West Himalaya and Ladak.

Tongue stunted; palpi minute, entirely hidden in the dense, long hair with which the head, thorax and abdomen are covered; antennae doubly combed; anterior tibiae with a slightly curved claw inside at the end; posterior tibiae only with a pair of spurs. Vein 3 of the forewing rises before the lower cell-angle, 5 above the angle, 6 from the upper angle; 9 and 10 are fused with 8 and form an areola; 11 separate; the costa near the base somewhat lobately bent outward. Veins 3 and 5 of the hindwing rise near the lower cell-angle; 6, 7 from the upper angle; 8 from the middle of the cell. 4 forms, all from New Zealand.

**M. strategica** Hudson. (26 d). ♀: head, tegulae and shoulder-covers yellow with black spots; thorax strategica. black; antennae strongly double-combed, blackish-brown; abdomen above black, at the sides yellow. Forewing black with two strong, light yellow longitudinal streaks extending to the distal margin; at the veins, from the direction of the distal margin, short lines as broad as hairs, of 2 mm length, extend into the wing. Hindwing yellow, with a broad, black submarginal band interrupted near the anal angle; on both sides of this band the yellow is replaced by red. Length of forewing: 18 mm. In the south-west rings yellow, forewing black, the basal quarter of the costa fiery red, the rest of the wing with longer and shorter light yellow longitudinal stripes. Hindwing darker yellow with a broad, black marginal band interrupted near the anal angle, and a large, black discoidal spot. ♀ wingless. Length of forewing: 15 mm. Invercargill, to the south of the middle island of New Zealand. — *hudsoni* subsp. nov. (24 g) differs from *strategica strategica* by its smaller size and the absence of the red on the hindwing. Length of forewing: 13 mm. Invercargill, to the south of the middle island of New Zealand.

**M. huttoni** Bttr. ♀: head, thorax and abdomen black, with some grey hairs, sides of the last abdominal huttoni. rings yellow, forewing black, the basal quarter of the costa fiery red, the rest of the wing with longer and shorter light yellow longitudinal stripes. Hindwing darker yellow with a broad, black marginal band interrupted near the anal angle, and a large, black discoidal spot. ♀ wingless. Length of forewing: 15 mm. In the south-west of the middle island of New Zealand. — *erichrysa* Meyr. (24 g). In this form the red at the costa is absent, *erichrysa*. and the size is larger. The wingless ♀ has very strong legs and is one-coloured, ochreous-white. — The larva is black, strongly haired. The hairs resting on the segmental indentations, are brownish ochreous. It lives in January on *Senecio bellidioides*. Web thin and feeble.

15. Genus: **Atolmis** Hbn.

Tongue fully developed; palpi turned upward, only extending to the forehead; tibiae with spurs of medium length; abdomen roughly haired, the anal valves of the ♀ large. Forewing narrow; vein 3 close in front of the lower cell-angle; 4 and 5 on a footstalk; 9 and 10 fused with 8 and form an areola; 6 rises before the areola, 11 separate. Vein 3 on the hindwing from the lower cell-angle; 4, 5 on a very long footstalk; 6, 7 from the upper angle and 8 from the middle of the cell. Two species, only one of which is Indo-Australian.

**A. unifascia** Hmps. (13 k). ♀: head and thorax black; palpi and head orange-yellow; tegulae and unifascia. shoulder-covers orange-yellow, spotted white; abdomen orange-yellow. Forewing silver white, speckled pale brownish-grey, costa orange-yellow, a broad, median black streak extending from the base barely to the distal margin. Hindwing yellowish-white. Length of forewing: 16 mm. Island of Sumbawa.


Distinguished from *Atolmis* by the palpi reaching the upperhead, the 2nd joint being roughly scaled and the 3rd joint bare; ♀ antennae bristly; tibiae roughly scaled, spurs long; retinaculum of the ♀ rising below the median. The veins 3 and 5 of the forewing rise close at the lower cell-angle; 6 below the upper angle; 9 and 10 are fused with 8 and form a moderately long areola; 7 rises before the areola; 11 before the cell. Veins 3 and 4 of the hindwing rise from the lower cell-angle; 5 above the angle; 6 and 7 from the upper angle; 8 from the middle of the cell. Retinaculum in both sexes the same. — 4 forms.

**B. punctivaga** Wkr. (24 f). Palpi orange-yellow, with a black terminal joint; head and thorax ashy *punctivaga. with black dots*. Abdomen ashy with an orange-yellow anal segment. The forewing is in the basal half drab with 7 subbasal black dots and 2 similar ones in the cell, a median, curved transverse row of black spots from the costa to the proximal margin, the distal half darker, more ashy, with light grey veins. Hindwing blackish, base, costal margin and fringes ashy. — *ab. nigra* ab. nov. is quite black with ashy veins on the *nigra. forewings*, just as common as the typical form. — Length of forewing: 20 mm. India and Java.

**B. vatala** Swinh. (24 f). Antennae, palpi, head, and thorax light yellowish-grey; abdomen yellowish- *vatala. grey with an orange-yellow anal segment*. Forewing light yellowish-grey, with greyish-white veins, 6 subbasal dots and 2 in the cell black, a curved, postdiscal transverse row of black dots. Hindwing light grey with a median transverse row of blackish-grey dots. Length of forewing: 16 mm. India and South China.

**B. soricina** Snell. (24 e). ♀: palpi black; antennae brown; head and thorax yellow with black spots; soricina. abdomen blackish-brown. Forewing brownish-black with an intense, purple lustre, veins yellow, fringes at
the apex white. Hindwing black with a very intense violet lustre. The ♀ differs from the ♂ chiefly by the blackish-brown, lustreless colouring of the forewing, the veins of which are grey, and by the greyish-brown hindwing. Length of forewing: ♂ 20, ♀ 16 mm. Celebes. — *siamica* Hmps. (26 i) is lighter with greyish-brown forewings and abdomen. Siam.


Distinguished from *Baroa* by the shorter palpi, mostly ciliated ♀ antennae, the shorter spurs and longer, narrow forewing. Vein 2 rises above beyond the middle of the cell and is oblique; 5 far before the lower cell-angle; 7, 8, 9 and 10 on a footstalk; an areola is frequently present; 11 separate. Vein 2 of the hindwing rises before the middle of the cell; 3 distinctly before the lower cell-angle; 5 distinctly above the angle; 7 right before the upper angle; 8 before the middle of the cell. About 22 forms, 10 of which occur in Indo-Australia.

*U. pulchella* L. (= *pulchra* W. V.) (Vol. II, t. 13 k). ♀: antennae blackish-brown, finely ciliated; head, collar and thorax creamy-white with black and yellow spots; abdomen white. Forewing creamy-white, strewn with black and larger red dots. Hindwing faintly transparent, purely white, with a broad, irregular, black distal-marginal band and a large, black discoidal spot. ♀ the same. Length of forewing: 18 to 23 mm. It is found in the north, west and central parts of India and Eastern Australia. — In ab. *thyetea* Btr. the black dots are almost entirely absent. For further particulars vid. Vol. II, p. 73.

*U. antennata* Swinh. (13 k) differs from *pulchella* by the bicombed antennae and the narrow, regular, black margin of the hindwing, from which a black streak extends along vein 5 to the cell-angle. Nicobars.

*U. lotrix* Cr. (= *pulchelloides* Hmps.) (24 g) differs from *pulchella* chiefly by the serrate-dentate antennae and the presence of a fold in the ♀ with a scent-organ at the abdominal margin. On an average, the imago is smaller than *pulchella*, and the black and red spots (particularly in the east of its range) are much smaller. In the typical locality (the eastern coast of India) the red spots are large and mostly flown together. In the Indo-Australian range, in India, Ceylon, Malacca, the Malay Archipelago, Moluccas, New Guinea, and in North Australia. In the African region this species occurs in the Seychells, Cargados Islands, Amirants, and the Chagos Archipelago. — *salomonis* Roths. (24 g) differs from the type by the prominent black spots on the forewing and the very broad, black margin of the hindwing, enclosing a round white spot. Salomons Islands.

*U. stigmata* Roths. (13 k) differs from the type by the still broader black margin of the hindwing not enclosing *rubra*, a white spot, and by the large black discoidal spot. — In ab. *rubra* ab. noe. is almost without black dots on the forewing, and the red spots are merged to such an extent that the whole wings are almost red. New Caledonia and Friendship Islands. — *marshallarum* Roths. (24 g) differs from the other forms of *lotrix* by its larger size, like that of a large *pulchella*, by the very much reduced black spots, and by the narrow margin of the ♀ hindwing. Marshall Islands.

*U. pectinata* Hmps. (13 k) differs from *pulchella* by the bicombed antennae and the anal fold of the hindwing with a scent-organ. North Australia. — *ruberrima* Roths. (13 k) differs from *pectinata* except by the large extent of the red colouring on the forewing and the very broad, black distal-marginal band of the hindwing, enclosing a round, white spot. Friendship Islands.

*U. semara* Moore (24 g). Head and thorax whitish with black dots; upper-surface of abdomen grey, with lateral rows of black dots. Forewing ashy with black dots. Costal margin carmine, an interrupted carmine band along vein 1, a red spot on vein 2, and a submarginal carmine band along the distal margin. Hindwing almost hyaline white, with a regular, broad, blackish-grey distal-marginal band. Length of forewing: 22 mm. Java.

*U. sumatrana* Roths. (24 g). ♀: head and thorax orange-yellow; abdomen white. Forewing orange-red, a median white stripe runs from the base to 3/4 of the cell, a roundish, creamy spot encircled by black is above it, and a similar one at the cell-end, vein 1 beginning from the base broadly creamy, fringes white, hindwing semi-hyaline, white. Length of forewing: 19 mm. North East Sumatra. One of the 3 ♀♂ has some creamy and black roundish spots more on the wings.


Tongue fully developed; palpi turned upward, reaching the upperhead, the joints smoothly scaled; antennae of the ♀ feebly ciliated; the inner spurs of the tibiae long; abdomen smoothly scaled. Costa of the forewing towards the apex very convex; vein 3 rises almost at the cell-end; 5 above the lower cell-angle; 6 below the upper angle; 9 before 10 which is fused with 8 forming a long areola; 11 separate. Vein 3 of the
hindwing rises close at the lower cell-angle; 5 above the angle; 6, 7 from the upper angle; 8 from the middle of the cell. About 30 forms, 28 of which are Indo-Australian.

**Rh. albivitrea** Hmps. (25 f). Antennae reddish-yellow; head, neck and thorax lacteal with black albivitrea. dots; abdomen above carmine, the two first rings and the anus lacteal; beneath lacteal. Fore- and hindwings semi-transparent white. Length of forewing: 21 to 25 mm. Lifu (Friendship Islands).

**Rh. alberti** Roths. (25 f). Antennae yellowish-brown, with a pink tip. Head, neck and thorax white, alberti. with black spots, hindhead and tegulae margined with carmine. Forewing white, with 2 black basal dots, a large, hyaline spot between the distal margin and the cell-end extending from vein 3 to 7. Hindwing white. Length of forewing: 33 mm. Queensland, Australia.

**Rh. rubripes** Wkr. (25 f). Antennae yellowish-brown, the basal eighth carmine; palpi carmine; head, rubripes. neck and thorax white, with black spots, hindhead and tegulae margined with carmine; abdomen yellow, the first ring white, sides and the two anal segments creamy, with black lateral spots. Forewing white, with a black basal dot, in the 3 the abdominal margin of the hindwing (otherwise in both sexes) mostly long-haired and yellow. Length of forewing: $\varnothing 26$, $\varnothing 30$ mm. North Queensland, Australia. Larva brownish carmine, feebly haired and indistinctly dotted black (2 larvae in the Tring Museum from Townsville (Queensland) Coll. Dodd.).

**Rh. kuehni** Roths. (25 f). Antennae orange-yellow; head white; neck and thorax yellow, shoulder- kuehni. covers white, all covered with black dots; abdomen orange-yellow. Forewing faintly diaphanous white, the costal region of a brownish grey. Hindwing faintly diaphanous white. Length of forewing: 29 mm. Island of Dammer.

**Rh. arthus-bertrand** Guér. (25 e). Legs red, anterior and middle tibiae above dark brown; antennae arthus- blackish-brown, base red; head, neck and thorax yellowish-grey with black spots; abdomen greyish-yellow, the first two segments with long hairs of a pink mixed with yellow, the last two rings dark pink. The forewing is in the basal half greyish-yellow-brown and shows a large, blackish-brown discoidal spot, the apical half being earth-coloured brown; between the veins 2 and 7 there is a large, hyaline spot. Hindwing semi-hyaline whitish yellowish-grey, the distal margin yellowish-grey-brown, the proximal third of the wing light yellowish-grey with long, dense pink and grey hair. $\varnothing$ like the 3, but the long hair of the hindwing are absent. In both sexes the hindwing is at the anal angle extended into a sharp apex. Length of forewing: $\varnothing 32$ to $\varnothing 38$, $\varnothing 32$ mm. New Guinea and in the neighbouring islands, the Moluccas and New Holland. Southern specimens usually show the abdomen more uniformly carmine, but this is not invariably so. — **communis** Wkr. differs communis. from the type by lighter colours and the much more extensive hyaline area of all the wings. Island of Buru.

— **roseibarba** Druce is distinguished by the much darker, purer pink colouring of the long hairs in the large abdo- re of the male hindwing. Sula Islands.

**Rh. omissa** Roths. (25 e) differs from **arthus-bertrand** by the drab colouring, the hindhead and **omissa. tegulae being distinctly encircled by red, the lacteal abdomen, the two first rings of which are feebly haired pink, the 2 anal segments being carmine, and by the absence of the long hairs on the hindwing above. The $\varnothing$ is at once discernible by the carmine abdomen. In both sexes the anal angle of the hindwing is tapering into a tail. Length of forewing: $\varnothing 36$, $\varnothing 34$ mm. Assam and Sikkim.

**Rh. eugenia** F. (= fraterna Moore) (25 e). Palpi red; antennae reddish-brown; head, neck and thorax eugenia. white with black dots; abdomen carmine, forewing greyish-white, the whole middle hyaline, a nebulous transverse band from the costal to the proximal margin at the cell-end. Hindwing hyaline white with whitish-grey margins. Length of forewing: 24 mm. Central and South India. — **moorei** subsp. nov. is larger and whitish in the middle moorei. of the wings, the apices of the forewings being darker. Ceylon. — Larva green, feebly haired, with subdorsal and lateral rows of black dots, head yellow, spiracles brown. Pupa violettish-brown. According to Moore (Lep. Ceyl.) it lives on Beaumontia.

**Rh. astreus** Drury (25 f). Head, collar and thorax silvery-grey, spotted black; antennae blackish- astreus. brown with a red base; abdomen yellowish carmine. Forewing light grey, the discoidal spot and apical quarter brownish-grey, a large discal spot between the veins 3 and 7 hyaline. Hindwing semi-hyaline, whitish-grey, apex darker. Length of forewing: $\varnothing 26$, $\varnothing 32$ mm. India, Ceylon, Burma and Shan States. — **druryi** subsp. druryi. nov. differs from the type by the darker, drab head and thorax, the reddish-yellow abdomen of the 3, the darker forewings and yellowish-grey hindwings. Moluccas and Malayian Islands. — **novaeguineae** subsp. nov. is larger, novaeguineae. the grey much darker and purer. New Guinea. — **hainana** Roths. has a rather small 3, being smaller than in all the other **astreus-forms**, darker and dirty grey, and the discoidal spot of the forewing is less hyaline. The $\varnothing$ is large and much more yellowish. Island of Hainan. — **curtisi** Roths. (25 e) from the Malayan Peninsula curtisi. is at once discernible by both sexes being equally small and throughout darker. — **dohertyi** subsp. nov. differs dohertyi. by its greyish-white head and thorax, dark reddish-yellow abdomen and whitish, semi-hyaline wings with yellowish greyish-brown apices. Island of Bali.

**Rh. rhodopa** Wkr. Legs red, beneath striped white; antennae yellowish-brown, at the base red; head, rhodopa. thorax whitish pale brown, dotted black; abdomen red with black lateral spots. Wings pale yellowish-brown, in the middle semi-diaphanous white. South India.
MIGOPLASTIS. By Dr. W. v. Rothschild.

**Rh. timolis Trnr.** (25d, e) is at once discernible from the *aestrus*-forms in the ♀ by the short, round hindwing and the large discoidal spot on it. Head, neck and thorax yellowish-whitish-grey; the first 3 rings of the abdomen are yellowish mixed with pink, the last 4 rings carmine. Forewing whitish greyish-brown with a darker, large discoidal spot and a hyaline spot between the veins 3 and 7. Hindwing greyish-brown, at the costal margin lighter. ♀: abdomen quite carmine, wings lighter and faintly hyaline. Length of forewing: ♂ 27, ♀ 32 mm. Queensland (Australia). — **papuana** subsp. nov. (25d) is much darker earth-coloured brown, and the ♀ has not such hyaline wings. New Guinea.

**Rh. crokeri Macleay (= Amerila brachyleuca Meyr.).** Anterior and middle legs chocolate-brown, tarsi carmine; posterior legs carmine; palpi carmine with 2 black rings; antennae blackish-brown with a red base; head, neck and thorax white, with 14 black spots; hindhead and tegulae margined with carmine; abdomen reddish-yellow, in the ♀ slightly, in the ♀ very intensely suffused with carmine. Forewing brown, the basal fifth white with 3 black dots, the disc of the wing between the veins 3 and 7, and a large spot in the cell-apex are hyaline. Hindwing brownish-grey, within and above the cell semi-hyaline, greyish-white. ♀ larger, hindwing less hyaline and more unicolorously brownish-grey. Length of forewing: ♂ 31, ♀ 35 mm. Queensland. — **bakeri** subsp. nov. differs from the type by the unicolorously carmine abdomen in both sexes and the blackish greyish-brown colour of the wings. New Guinea. — **novobrittanica** Rothsch. differs from the type by the very much larger black spots of the head and thorax. Bismarck Archipelago. — **salomonis** Rothsch. (25d) differs from the typical race by the extremely large black spots of the head and thorax, by the broad, black interior margins of the shoulder-covers, and the blackish-brown forewings. Salomons Islands.

**Rh. nigropunctata** B.-Bak. (25d) differs from *crokeri* by the carmine, not white underside of the body, by the black, shaggy haired legs, the tarsi of which are only dotted red, the posterior ones being only red on the inside, by the absence of the red margining of the tegulae and by the forewing being densely scaled brownish-black. The hindwing is unicolorously sooty blackish-grey with some white at the base. ♀ lighter, more blackish-grey. South East New Guinea.

**Rh. piepersi** Snell. (25e, f). Head whitish-grey; thorax brownish-grey, with one black spot each on the tegule and shoulder-covers; abdomen yellow, the two first and the two last segments light carmine. Forewing hyaline greyish-white, the apical quarter, margins and discoidal spot drab. Hindwing hyaline greyish-white, with narrow drab margins, the anal angle prolonged to a lobe. ♀ with narrower, more pointed wings. Length of forewing: ♂ 27, ♀ 29 mm. Celebes and Sula Islands.

**Rh. caudipennis** Wkr. (25d). Head, neck and thorax whitish pale greyish-brown with 8 black spots, the hindhead and inside of the tegulae margined with red; abdomen white with a carmine apex. Forewing drab, the terminal third and the discoidal spot darker, the disc between the veins 3 and 7 hyaline. Hindwing white, the apex drab, abdominal margin pale yellowish-grey. In the groove of the abdominal margin there is a very large pad of long, creamy-white hair almost covering the hindwing like a screen. The anal angle is extended into a large, pointed tail. ♀ larger, the abdomen carmine; the hindwing is drab as the forewing. Length of forewing: ♂ 20, ♀ 29 mm. New Guinea.


**Rh. fumida** Swinh. (26f). Head and tegulae reddish brownish-grey, with 3 black spots, thorax darker greyish-brown, with one black spot each on the shoulder-covers; abdomen carmine. Forewing sooty blackish-brown, with a whitish spot in the cell and a large, semi-hyaline discal spot between the veins 4 and 7; hindwing sooty blackish-grey. Length of forewing: ♂ 24 mm. Island of Halmahera (Moluccas).

**Rh. sericea** Meyr. (25g). Legs carmine; antennae red-brown; head, neck and thorax pale yellowish greyish-brown with black dots; abdomen reddish-pale brown with 2 light pink anal rings; wings light pale greyish-brown, the abdominal margin of the hindwing covered with long, dark brown hair, all the wings broad and obtusely rounded off. Length of forewing: ♂ 27 mm. North Queensland (Australia).

**Rh. pallida** Rothsch. (25g) differs from *piepersi* (25e, f) by the yellowish greyish-white, instead of a drab tint of the wings, the purely carmine abdomen, the narrower, more extended wings and the greyish-white thorax. Length of forewing: ♂ 25, ♀ 27 mm. Island of Timor.

19. Genus: **Migoplastis** Fldr.
PARAPLASTIS. By Dr. W. v. Rothschild. — ORONCUS; CAMPTOLOMA; LEUCOPARDUS. By Dr. A. Seitz.

M. alba Moore (25 g). White. Antennae brown, bicombed. The pinnae from the middle to the tip alba. regularly and distinctly shortened; head and neck whitish-yellow with black dots; shoulder-covers and thorax white, dotted black; abdomen light ochreous-yellow with broad black rings. Forewing white. Hindwing lacteean, from vein 4 to the abdominal margin at the distal margin indented. The ♂ differs by the broader wings, the hindwing being more of a grey hue and with an unindented distal margin. Length of forewing: ♂ 23, ♂ 27 mm. Ceylon.

M. correcta Wkr. (= ceylonica Fldr.) (25 g). Antennae, head and thorax yellowish greyish-brown, thorax correcta. with minute, black dots. Abdomen yellow with a median row of black spots. Forewing yellowish greyish-brown with a somewhat lighter, broad, median transverse band. Hindwing in the basal half yellow, faintly shaded with greyish. ♂ the same. Length of forewing: 30 mm. Ceylon.


Distinguished from Migoplastis by the less porrect 3rd palpal joint, the hair-tufts of the forehead, and by the veins 7, 8, 9 and 10 of the forewing rising on a footstalk, the veins 6 and 7 of the hindwing also on a footstalk; the abdominal margin upward strongly bent round; the upper surface between the veins 1 and 6 densely covered with coarse, rough scales.

P. hampsoni Swinh. (25 g). Yellowish greyish-brown. Antennae long, bicombed and greyish-brown; head and thorax yellowish greyish-brown; upperhead, collar, thorax and shoulder-covers with small, black dots; abdomen ochreous-yellow with a median row of black spots. Forewing yellowish greyish-brown, with a broad, lighter, median transverse band. Hindwing brownish greyish-yellow, at the distal margin between vein 3 and the anal angle very much indented, so that the latter ends into a distinct lobe. The ♂ differs from the ♂ by the band of the forewing not being so distinctly brightened up, the hindwing being of the same colouring as the forewing, and the distal margin of the hindwing scarcely distinctly indented. Length of forewing: ♂ 25, ♂ 24 to 20 mm. Nilgiri Mountains (South India).

Appendix.


Comp. Vol. II, p. 82, to which we must add:

O. biati Oberth. resembles urania (Vol. II, t. 16 h), but the costal stripe and hindwing are yolk-coloured, biati. the former extends from the middle of the costa to the anal angle. West China.

2. Genus: Camptoloma Fldr.

This genus has been dealt with on p. 75 of Vol. II. In the whole more ancient literature the only species belonging hereto was inserted as an Arctiid, and Hampson in his „Fauna of India“ places it beside the following genus and with it between Nicaea and Moorea, both of which are allied to the Callimorphinae. Later on it has been tried to separate the whole Callimorphinae altogether from the Arctiids, by assuming the numerous marks common to both to be the effects of convergency. The opinions current with respect to this have for the present not been so firmly established as to allow us to put ourselves at variance with the entire literature existing on that point, for many other modern works have not adopted this innovation.

The only species occurring in the Indian region seems to me to be nothing else but a form of the East Asiatic C. interiorata described in the Palearctic Part (Vol. II, p. 75) and figured there on t. 13 1. The latter figure is so very true and at the same time so characteristic of the species, that nothing needs to be added but that the Indian form C. binotatum Btlr. (= flagrans Swinh.) is extremely similar to the palearctic form. The most conspicuous difference is that in binotatum there are only 2 dark spots on the fringes above the proximal angle of the forewing, and that the black oblique streak passing behind the cell-end begins from the middle of the costa, not before its distal third. Indo-China.


The genus is founded upon one species from the Khasia Hills. Palpi porrect, projecting little beyond the head; ♂ antennae plain. Tibiae with long spurs. Forewing large compared with the much smaller hindwing; the 2nd to 4th subcostal veins on a footstalk, the lower radial and upper median vein from the same place, from the lower cell-angle. On the hindwing the upper median vein rises on a footstalk with the lower radial, the upper radial rises close above the lower cell-angle.
L. tigrinus Hmps. resembles certain Cidaria or Abraxas; on a white ground the forewing exhibits dark, tapering wedge-shaped stripes along the distal margin and proximal margin, parallel with both and before and behind the cell-end stripe. Hindwing with a dark cell-spot, dark marginal spots and a dark antemarginal band. At the proximal angle the forewing is yellow. Size about that of Argina cribraria (26 d).


This genus already showing alliances to the Callimorphinae is also recently sometimes omitted from the Arctiidae. Larva, pupa, web, imago, its habits, protective glands etc., however, are entirely Arctioid, so that we have already dealt with the genus in Vol. II, p. 74 under the palearctic Arctiids, to which we refer herewith; we merely recall the principal mark, the lace-like appendage at the anal angle of the male hindwing.

A. argus Koll. (26 c) is distributed over the whole of India, from the palearctic frontier to Ceylon and Burma, and has been dealt with at large in Vol. II, p. 74; compare also what has been stated there about the larva and pupa. Common.

A. syringa Cr. (= crotalariae F.) differs from argus by the head, thorax and forewing being light pinkish-brown, paler than in argus; the spots are larger and more distinct, those of the forewings are situate on cloudy, brown bands. Abdomen and hindwings crimson. — Larva violetish-grey with dispersed small hairs; across the dorsum extend black transverse bands, and in the sides there are black spots; head red. — Pupa in a light web. In the whole of India and Ceylon, besides in North Australia. Not rare.

A. cribraria Cl. (26 d) is paler or darker yellow, on the forewing numerous dark punctiform spots with light marginings, sometimes in different places arranged into chains, also the hindwing with black spots. —

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A. cribraria Cl. (26 d) is paler or darker yellow, on the forewing numerous dark punctiform spots with light marginings, sometimes in different places arranged into chains, also the hindwing with black spots. —
is distributed in the Himalaya from Cashmir, where it touches the palearctic region, as far as Burma; it seems not to be rare in some parts and it varies very much, particularly Sikkim-specimens are mentioned with more black on the hindwing.

C. similis Moore is entirely like the preceding, but much smaller and lighter, the spots on the forewing similis. quite pale bone-coloured, sometimes quite white except those at the base and costa. The ground-colour of the hindwing is also white instead of yellow, the black reduced. Sikkim.

C. equitatis Koll. (Vol. II, t. 18 g). The white spots of the forewing are similarly arranged as in similis, equitatis. but large, from behind the middle of the costa to the anal angle joined to a broad, white band traversed by the dark veins. Hindwing all white, except the black, though thin veins and a large, black spot only on the median veins In the Himalaya nearly everywhere common, from Simla to Sikkim and Burma, as well as in the Khasia Hills in Assam.

C. nyctemerata Moore is entirely like equitatis, but smaller, the white spots on the forewings are large and arranged in rows, the hindwing with a complete row of submarginal spots and often besides with median black spots. Sikkim.

C. plagiata Wkr. (Vol. II, t. 18 g). The black, lustrous green forewings are narrower than in the plagiata. preceding, the white spots large, very oblong, the largest chain not passing obliquely through the wing, but parallel to the margin. Hindwing pale lemon-coloured, irregularly spotted. Nearly everywhere in the Himalaya common; also in Assam (Khasia Hills).

C. lemnia Bsd. (26 i) from New Guinea, sufficiently characterized by the figure, I place here according to WEYMER, though somewhat dubious about it. But since the species must anyhow be inserted somewhere and no specimen is before me, it must be placed here, for from the Agaristidae, where it was placed with Kirby, it has been recently eliminated.

2. Genus: Calpenia Moore.

Moore established this genus for a large species, an unwieldy insect with a stout, orange-yellow, black-marked body and with dark wings spotted with a hyaline white. Head small, palpi delicate, not projecting far in front; the second joint rather long, the third short, conic. Antennae in the $\delta$ finely ciliated, in the $\varphi$ plain; proboscis short, thorax broad, collar broad, abdomen with lateral tufts. On the fore wing the cell is long and broad, the discocellular angled (in Callimorpha slightly curved); the upper median vein and lower radial rise from the lower cell-angle; the 4 last subcostal veins on a footstalk, the first very near to them, but not anastomosing with them. On the hindwing the last subcostal vein rises on a footstalk with the upper radial, the lower radial and the upper median vein rising in common at the lower, very pointed cell-angle. 2 species are known, both from North India.

C. saundersi Moore (26 f). Head and body bright orange, spotted black. Forewing dark brown saundersi. traversed by dull whitish-blue bands and rows of spots. Hindwing dirty bluish-white with a black marginal part enclosing dull greyish-white spots. Sikkim; apparently not common.

C. khasiana Moore is as large as saundersi. Thorax marked brownish-orange, abdomen bright yellow khasiana. with black dorsal and lateral spots. Forewing claret-brown, with yellow spots below the costa, and a light band and a chain of light spots. Hindwing orange with black streaks and rows of black spots. Described from the Khasia Hills in Assam; also in Burma; rare.

C. zerenaria Oberth. (26 f). Forewing bone-coloured, hindwing orange; the former spotted brown, the latter black. Abdomen with 3 rows of black drops. Patria: ,,China``; presumably more to the south. Owing to its resemblance to Obeidia tigrata (Vol. IV, t. 14 g), being a Geometrid, we may presume it to originate from the same habitat: O. tigrata, however, I very often found on the English cemetery in Hongkong. I reservedly place the species unknown to me in nature in this genus.


Only one species, the rare „Argus“ from North India. Palpi longer than in the preceding genus, otherwise the structure is quite similar; antennae in both sexes plain, thorax strong, and abdomen in both sexes comparatively stout and heavy. On the forewing the 1st subcostal vein anastomoses with the footstalk of the 4 others and thus forms an areola; the discocellular is obtusely angled, and the lower radial rises at the same place with the upper median vein from the lower cell-angle.

M. argus Wkr. (= elegans Moore) (26 f). A gigantic, golden yellow imago, the largest Arctiid on argus. the globe. Body and wings with numerous black spots, those in the forewing centred whitish or bluish; in the black apical part of the forewing bluish-white spots. Sikkim and Assam (Khasia Hills); in most districts rare.
VII. Subfamily: Nyctemerinae.

Proboscis strong. Palpi porrect or somewhat ascending. Accessory eyes present. Antennae in the ♀ strongly bicombed, the pinnae decreasing towards the tip, in the ♂ the teeth are shorter, or also the antennae are plain. On the forewing the 2nd subcostal vein anastomoses with the joint footstalk of the 3rd, 4th and 5th, so that an areola is formed. On the hindwing the lowest subcostal vein and the 1st radial rise on a footstalk from the upper cell-angle. The very numerous and often very similar forms might be reduced to very few primary forms, and by far most of the Nyctemerinae described as species may only be regarded as subspecies or local races. Although most of the forms are very common in their patriae, still the larvae of but very few are known: in contrast with most of the Arctiids larvae that are almost all polyphagous, the Nyctemerinae often seem to be monophagous or oligophagous and for the greatest part confined to plants from the genus of Senecio, as also the larva of the only European more closely allied to the Nyctemerinae — Euchelia jacobaeae — is quite or almost exclusively found on Senecio. According to several zoologists the larvae of various species exhibit, beside the tufts of bristles across the abdomen, two hair-pencils turned in front also at the sides of the head; I have never seen such larvae. The species I bred had larvae with yellow and black rings entirely like our Euchelia-larvae, or they were quite dark and likewise resting in swarms on Senecio. — Moreover, I refer to what I have said about this group on p. 102 of Vol. II.


A beautifully marked species forms this genus. Medium-sized; antennae in the ♀ bicombed, in the ♂ serrate-dentate; palpi obliquely porrect, and above with a short, conic terminal joint. On the forewing the 2nd subcostal vein anastomoses with the footstalk of the 3rd to 5th, forming an areola thereby. The footstalk of the subcostal veins comes from the upper cell-angle at the same place as the upper radial; the lower and upper median veins rise separately, but close together. Also on the hindwing the two veins mentioned last rise separately. Nothing is known to us of the life-history.

C. sangarida Cr. (= mopsa Drury, fasciata Wkr.) (26 e). Across the dark brown forewing extends an irregular, white oblique band; the hindwing is carmine with a black margin and macular band, on the upper surface the basal half has a black ground-colour. Local, though not rare; Ceylon and Nilgiri Hills. The habits are just like those of Euchelia jacobaeae, and the (unknown) larva is presumably found on Senecio.


Distinguished from the preceding genus merely by the areola of the forewing being much smaller, particularly shorter; the hindwing is yolk-coloured, unmarked. Several forms from Africa probably scarcely belonging to more than one species; one of them is distributed to Arabia and India.

S. strigata Wkr. Typical strigata, as we figure them in Vol. XIV from East Africa, do not occur in the Indo-Australian region. In South India, however, a small alpine form occurs: parvipuncta Hmps. (26 e), which is reported to occur also on the Kilima-Ndjaro in Africa and which differs from the larger strigata beside its smallness also by the reduction of the white macular band on the forewing.


Mostly medium-sized, very similarly coloured and marked, blackish-brown and white lepidoptera. The thoracic glands produce a corrosive oily sap of a smell quite similar to the same secretion of most of the other Arctiids and somewhat like that of the small coleopter Coccinella septempunctata. In many species also the abdominal end has the yellow colour of this oily secretion in order to protect also this most important part of the body by this premonitory colour.

On the forewing of a very regular shape the 1st subcostal vein rises close behind the middle to the cell, the 2nd anastomoses with the joint footstalk of the 3 last subcostal veins. Together with this footstalk from the same place rises the upper radial; the lower radial comes from the lower cell-angle, the upper median vein branches a little before it, the lower median vein scarcely behind the middle of the cell. The areola is rather long.

The larvae are reported partly to have pencils on their heads; some are rather exactly like those of Euchelia jacobaeae, without pencils on their heads, with black and yellow rings, gregariously resting on Senecio-
species. In the pupa mostly the spots of the abdomen of the imago show through. The imagines are mostly met with in numbers; they fly in day-time and are mostly common in their patria, often the most common butterflies of the district. They are most tenacious of life and even by entirely squeezing the thorax they are not killed.

**N. coleta** Cr. (29 a). Forewing sooty blackish-brown, with white, small, wedge-shaped spots in the basal part and an oblique macular band, hindwing white with a black border; from this border along the median veins black wedge-shaped streaks extend, whereby the species differs from all the similar ones. The wedge-shaped spots and the band of the forewing may be narrow, in some places even dying away, in which case mostly the marginal band of the hindwing is very broad. Indo-China, across the Sunda Islands to the Moluccas, New Guinea and the Philippines. In Java and Sumatra there occur beside the typical specimens also with such a very broad band of the forewing and an almost hyaline hindwing, the marginal band of which is scarcely half as broad as in typical specimens; I denominate this form ab. **subvirea** ab. nov. (29 a). — In Ceylon there occurs a constantly different form, in the hindwing of which the median and its branches are distinctly marked black; near Colombo and up in Kandy common; this is the form **nigrovenosa** Moore (29 a). — **melaneura** Btlr. **nigrovenosa** melaneura. (29 a) has much narrower dark margins of the wings, but all the veins are thick and black; it mostly comes from the Island of Nias, but it also occurs in North Australia in a form not different from Nias-specimens, and dark specimens are known from Ceram as **melas** Rôb. — Not rare; I took the species near Singapore in the Botanical Gardens. The imago flies in day-time and in its flight resembles some Pierids, such as **Ixiias**? forms of the group of **Pieris nerissa** etc.

**N. tripunctaria** L. (= petulea Sparrm., atralba Hbn.) (29 a). In its shape it approximates the preceding **tripunctaria**, the wedge-shaped spots of the base of the forewing are narrower, the oblique band of the forewing straighter and not so much divided into small spots by the veins. In typical **tripunctaria**, as they particularly fly in Indo-China, where I took them together with the preceding species near Singapore, the ground-colour of the forewing and the band of the hindwing is of a deep sooty black; the marginal band of the hindwing is broad and proximally little dentate. This form also occurs in Sumatra; but there we also find ab. **sumatrensisi** Pag. (sec **sumatrensisi**). (29 a) besides known from the Kinabalu in North Borneo, in which the band of the forewing is broader, particularly widened in the middle, the wedge-shaped spot of the forewing is narrower, so is the black marginal band on the hindwing. — **celsa** Wkr. (29 e) is larger, the ground-colour of the forewing more brown than black, **celsa** the white somewhat darkened, the marginal band of the hindwing broad. From China where I took the species in great numbers in Happy Valley in the Island of Hongkong. Siam-specimens form a transition to the form described first. — **candidissima** form. nov. (29 b) I denominate specimens from Hainan flying there in July and August. Here the upper surface is all white, unmarked, also the body being white except a slight yellow colouring on the head, collar and abdominal end. Beneath the marking of **tripunctaria** is sometimes very slightly indicated. From **alba** Pag. from Samoa (30 a), being likewise all white, it is at once discernible by the much broader wings. — Of **gratia** Schultze I cannot say whether it belongs here, no specimen lying before me. It is all white and must therefore be similar to **candidissima**, but it is larger, the veins of the wings partly brown, the abdomen with dark transverse bands, that on the penultimate joint strong. Luzon. — **harca** Holl. harea. has the oblique band of the forewing with straight cut margins and the white basal ray narrower. Malacca. The species is very common.

**N. amplificata** Wkr., known from different Lesser Sunda Islands, particularly Nias, occurs in all shades **amplificata**. to be thought of, varying from rather dark specimens (**amplificata** Wkr.) to somewhat lighter, more bronze-brown ones (**cypippe** Weym., 29 b), then **optata** Swinh. (29 b) in which the hindwing is already all white, except faint shades at the ends of the veins (still much fainter than in our figure) — to **pallens** Voll. (29 c) in which the marking is scarcely noticeable. The forewing has an invariably large, though dull and badly defined discal spot and the hindwing a marginal band always proximally dentate. On our figures this marginal band is more developed. Hindwing white, the usual marginal band bronze-brown. Size that of a small **coleta** Pag. by the shape of the wing. Before me a long series with different transitory specimens of the single forms.

**N. ovada** Swinh. is placed between **optata** and **kinabalina** by its author, but it is mentioned not **ovada**. to approximate any **Nyctemera**. Head and body white, marked darker, abdomen above unspotted, but with small, brown lateral stripes, in some places tinted yellowish. The forewing has above only a white costal spot and below it only an indistinct small stripe indicating the beginning of the usual discal band; beneath this band is more developed. Hindwing white, the usual marginal band bronze-brown. Size that of a small **soutea**. Waingapo, Sumba. — Unknown to me.

**N. latistigma** Wkr. nce Snell. (= arenatum Swinh. nce Voll.) (29 e) is not dissimilar to a small **tripunctaria latistigma**., but the antennae show longer pinnae, and the black marginal band of the hindwing projects proximally on the lower median vein in a strong tooth. As the type I regard the form distributed from the Himalaya to Ceylon and the Sunda Islands across the whole of India as far as the Moluccas. In some places the white marginal band of the forewing or the dark marginal band of the hindwing appears slightly narrower, the band
of the forewing being sometimes distally more straightly cut off (= inconstans Voll.), in which case mostly also the longitudinal wedge in the median fold of the forewing is narrowed. — This is also very much the case in the form from the Philippines, of which there are specimens before me from Camiguin, in which the white wedge sometimes dies away altogether (= negritorum form. nov.) (29 c). — In Nias the greatest variation takes place, since there sometimes occur here also extremely pale specimens, coloured almost like cyclichne or pallens, but besides also so very dark ones that the white of the forewing is confined to the narrowed oblique band and is entirely absent in the basal part: — ab. simplicior ab. nov. (29 c). This form then looks quite similar to popiye Swinh. from Java and to assimilis from Java, but there the tooth is absent with which the marginal band of the hindwing projects proximad on the lowest median vein. In some islands there fly stunted forms scarcely attaining half the size of the figured specimens and the species might be given at least twenty names, if we were to denominate all the transitions between the extreme forms mentioned here.

**N. propriag** Swinh. (29 d). This species, which is probably nothing else but a tripunctaria-form from the Philippines, as negritorum is the Philippine form of latistriga, is recognizable by the vast darkening of the body and hindwing, which may lead to a completely uniform colour. Such an extreme specimen I figure from SEMPER's collection and denominate it toligo form. nov. (29 c). Typical propriag have white spots on all the wings, sometimes more, sometimes less, sometimes brightly white, sometimes also darkened by a sepia-tint. On the Camotes from where the figured toligo-specimen originates, these dark specimens occur more frequently; on the other Philippines the differently coloured specimens are found mixed; according to PAGENSTECHER also in Celebes.

**N. alternata** Wkr. (29 c, d). Forewing in the basal part with 6 fine white lines from the base, of which that in the submedian fold is a little stronger. A chain of oblong white spots from the costal margin to the lower median vein. Hindwing white, with a broad brown costal margin and border. In some specimens the band of the forewing has died away or it is dusted so much that it is scarcely noticeable; I denominate this form showing also white fringes of the hindwing and an almost black abdomen with fine, white ringlets (instead of the contrary), whilst the marginal band of the hindwing is proximally hardly dentate: semibrunnea Wkr. (29 d); I doubt very much whether it really belongs to alternata, as SEMPER considered it to be. Sibulan, taken in January; the typical alternata is distributed in the Philippines. The species in its colouring and marking is very much like soutica Swinh., but it is at once discernible by the antennal pinnae of the 5 being more than twice as long and the much broader, obtuser wings. The whole exterior somewhat approximates that of tripunctaria.

**N. trita** Wkr. (29 d, e) has also the long antennal pinnae in the 5. Upper surface very dark, the oblique band of the forewing and the discal spot of the hindwing are only moderately lighter; the degree of this brightening varies individually. Java. — leucostigma Snell. is still darker than trita itself, for instead of the dull white oblique band, the forewing only exhibits a small whitish costal-marginal spot extending above only from the costa to the subcostal. — In nubeula Snell. this costal spot is also absent above, and only a dull, light cloud in the disc of the wing indicates the position of the discal band otherwise so very common in the Nyctemera. The last two forms were described as species of their own. They originate, as also the typical trita, from Java.

**N. lombokiana** Swinh. (29 d) is almost exactly like trita, but the discal light parts are traversed by a net of dark veins. Discovered by FRUHSTORFER in Lombok.

**N. assimilis** (de Haan i. 1.) is not before me; it likewise comes from Java and has a rather broad, white oblique band of the forewing, and white hindwings being brown at the base and border. The distal band of the hindwing mostly dying away before the anal angle in assimilis, extends to the anal angle in anthracinum. — In battakorum form. nov. (29 c) from Sumatra, the type of which is in the Coll. BANG-HAAS in Blasewitz, the marginal band of the hindwing is broader, the oblique band of the forewing, however, is narrower and quite straightly margined, and in distincta Wkr. from Java the band of the forewing is so intensely covered with brown that its course above can scarcely be noticed. — popiye Swinh. (29 e) from Java, known to me from the figure, is likewise similar, the broad oblique band of the forewing being above quite dusted, beneath, however, distinct, and this form which may justly be described as a separate species, is approximated by distincta Wkr. which likewise comes from Java, but it differs from popiye by the much broader border of the hindwing.

**N. regularis** Snell. (29 e). Whereas the forewing exhibits the oblique band similar to that of the preceding, being regular, smoothly margined, of a moderate width, the species is at once discernible by the narrow, uniform marginal band on the hindwing, growing narrower towards the anal angle and disappearing before the latter. In the 5 this band often terminates in a black streak of individual thickness. From Sumatra and Borneo.
**NYCTEMERA. By Dr. A. Seitz.**

*N. apensis* Semp. (29 f) has, like *distincta*, the oblique band above extinct and traversed by the *apensis* blackish-brown veins. The hindwing, however, has no regular marginal band, but its apical part is black, proximally smoothly cut off. From Mount Apo, at an altitude of 2900 ft., in the Philippines. I figure the type from the Senckenberg Museum at Francfort on the Main (Coll. SEMPER).

*N. nesites* nom. nov. (= *sumatrensis* Heyl. nec Pag.) (29 f) is in the figure denoted yet by HEYLAERT’s *nesites* name: *sumatrensis*. Forewing with an oblong-oval oblique band; in the hindwing only in the apical part a black band terminating in the middle of the margin or continued in 4 or 5 marginal dots. Known to me only from Sumatra.

*N. kinabalin a* Snell. (29 e). Forewing jet-black with a white oblique band, hindwing with a chain *kinabalin a* of oval marginal spots not reaching the anal angle. North Borneo.

*N. herklotsi* Voll. (29 e). The band of the forewing, which is here on a jet-black ground, is on both *herklotsi* borders very much notched; the hindwing is of a peculiar shape with a very long costal margin and almost rectangular apex. The fringes of the hindwing are of a bright white. — The insect figured by PAGENSTECHER as *herklotsi* has nothing to do with *bautus* Bsl., since the shape of the wings is quite different; it might rather be inserted in the very variable species *quadriguttatum*. Only known from Java.

*N. biserrata* spec. nov. (29 f). Body quite golden yellow, thorax spotted black, abdomen broadly banded *biserrata* black. Hindwing purely snow-white, with jet-black markings. The basal part of the forewing is white, at the costal margin and a stripe above the proximal margin black. The discal oblique band is distally regularly dentated. The margin of the hindwing moderately broad black, its inner border regularly dentated. The marking reminds us of *tripunctaria*, but the body is quite different. According to a ♀ of the Coll. BANG-HAAS from Sumatra.

*N. clathrata* Voll. (29 f) is a small species from Ceram. Forewing dull blackish-grey with an oval, *clathrata* dull white spot of the forewing, divided by the thick dark veins, the hindwing transparent whitish with a broad black margin. PAGENSTECHER’s figure does not exhibit distinctly that the abdomen has thick dark bands and that the marginal band of the hindwing projects proximally in a tooth on the lower median vein.

*N. velans* Wkr. (29 f). This very variable species from Celebes is characterized by a discal oblique *velans* band composed of whitish-hyaline spots, and by the hindwing being broadly margined with brown and diaphanous white in the disc. The resemblance with *propr ia*, stated by PAGENSTECHER, is merely superficial and is due to the extended darkening of both species. According to PAGENSTECHER it only differs materially from *propr ia* by the wedge-shaped spot in the submedian fold of the forewing being very strongly developed in *velans* ♀, whereas in *propr ia* there are scarcely any or no traces at all of it. — *subvelata* Wkr. (29 g), judging from the very incomplete description of WALKER, are essentially specimens with more concise light spots only separated by the thickly blackish veins, which are sometimes almost white (WALKER’s *var.*). — *infuscata* Hyf. has a brown forewing, the light oblique band of which is broken up into 4 spots the veins intensely hued blackish. From the base to beyond the middle run whitish stripes, as in *sonnica*, *alternata* etc. Easily discernible by the hindwing being preponderantly blackish-brown, only lighter towards the middle, where it is traversed by intensely black-hued veins. From Celebes.

*N. pratti* B.-Bak. (30 a) resembles *velans* ♀ and *subvelata*, but it is smaller; the forewing without *pratti* the white basal streak below the cell and the hindwing with an almost hyaline white discal area in which the veins are not black. New Guinea.

*N. obtusa* Wkr., probably allied to *velans*, is according to WALKER distinguished from all the other *obtusa* species of the genus by the wedge-shaped spot of the submedian space passing over into the oblique discal band of the forewing, or being only separated from it by the dark veins. Such an insect is very concisely figured by PAGENSTECHER in („KÜHNTHAL’S Voyage“) in the male (as „consbrina“). SWINHOE, however, states that this insect is not identical with WALKER’s *obtusa*, as is supposed by PAGENSTECHER in his „Monography of the Nyctemera“. I therefore figure here the species considered as *obtusa* by PAGENSTECHER, lying before me in both sexes from Celebes. The ♀ was captured by FRIHSTORFER in February at „Bua-Bräng, at an altitude of 5000 ft.“ The under surface is almost exactly as above. As the species has not yet been denominated, I call it *angulata* spec. nov. (29 g). Almost half of the ♀ hindwing is black.

*N. extendens* Wkr. (29 g). Forewing white, broadly margined with a brownish black; through the *extendens* middle of the wing extends a broad black stripe separating the white basal part from the discal band. Hindwing
white, with a broad black margin. From the New Hebrides and Salomon Islands, from Treasury Island and
horites. New Georgia. — horites Druce, likewise from the Salomons, seems to be founded upon a specimen more scantily
spotted white and, according to SWINHOE, it is identical with extendens. Not rare; the figured specimen from
the Shortland Island.

N. quaternarium Pag. (29 g) has still more scantily spotted forewings than horites, only 1 spot below
the cell and 3 before the apex. Hindwing blackish-brown, with a large, white discal spot. Abdomen black,
finely curled white. Described according to a ♀ from New Pomerania.

sexmaculata. N. sexmaculata Bllr. (= aolaensis Druce). (The figure denoted as „sexmaculata“ on t. 29 h represents
a quadriguttata). Similar to quaternarium and perhaps belonging to it, but the forewing of sexmaculata exhibits
a large, white cell-end spot parted by the median, and in the middle of the forewing there are 2 white larger
spots above each other. Salomons Islands.

consobrina. N. consobrina Hplfr. is like the preceding a species with a very broad marginal band of the hindwing,
but with a tooth projecting at the lower median vein, whilst in sexmaculata the whole proximal border of the
marginal band of the hindwing is irregularly notched. The oblique band of the forewing is broad, distally convex
and dentate, proximally at the median with a pointed excision. From the base of the forewing extends a broad,
white wedge-shaped band; size of the preceding. Described from Celebes. The form is very doubtful and each
author was of a different opinion about it, one placing it near inconstans (PAGENSTECHER), the other considering
it to be identical with inconstans or latistriga (SWINHOE).

latemarginata. N. latemarginata Pag. (29 h). I figure the type from my collection. Forewing with a shortened
discal band, hindwing with an oval, white discal spot. The thorax marked with a bright golden yellow, abdomen
golden yellow broadly curled black. From New Guinea.

quadriguttata. N. quadriguttata Voll. (29 h, by mistake denoted as sexmaculata) is of a very deep black ground-
colour; the narrow band of the forewing, shortened in latemarginata, usually extends here to the costal margin,
and on the hindwing the whole basal half and the fringes are white with a satiny lustre. Abdomen finely curled
light yellow. From Java. — Specimens with a very much reduced band of the forewing, kondekom Ševich.,
are considered by PAGENSTECHER to be identical with quadriguttata, whereas SWINHOE takes this latter species
to be a separate species approaching more distincta.

annulata. N. annulata Bsdl. nec Wkr. (= doubledayi Wkr.) (29 h) is quite uni-coloured blackish-brown. The
forewing with 2 or 3 discal spots often contiguous and in the shape of a small band extending from the costa
towards the anal angle, the hindwing with a white spot at the cell-end. Abdomen black and curled in a
yolk-colour. — Larva black, not long-haired, but with light tufts of stiff hair, with a red dorsal line and red
sides, on Senecio bellidioides, scandens and vulgaris, as well as on Cineraria maritima. In warmer districts
throughout the year. It pupates in a web intermixed with hair. Pupa lustrous black, marked yellow, yielding
the imago after 4 to 6 weeks. The latter flies in day-time (like all the Nyctemera), mostly favouring the early
hours of the morning. In New Zealand, everywhere common, beside some Pyrameis the most common lepidopteran
there. It varies considerably in the extent of the white spots, but there are always transitions, and it is
not justified to denominate these deviations.

amica. N. amica White (= annulata Wkr. nec Bsdl., plagiata Guen., conica [laps.] Ky.) (29 h). Like annulata,
the bone-white band of the forewing broader, notched on the median, but not interrupted; the spot on the
hindwing considerably larger than in the preceding. In the whole of Eastern Australia. — secundaria Luc.
(29 i), from North Queensland, has more pointed wings, a broader discal band of the forewing and a much larger
white spot of the hindwing. — The larva of amica lives on Senecio scandens all the year round, it is black,
marked red, and at the sides of its head there are somewhat longer hair-pencils. The imago is extremely
common; I often saw innumerable ♂♂ flying round the twigs on top of trees, strikingly resembling by their
restless flight the swarming of the European Bupalus piniaria. They also fly in winter, are fond of visiting
blossoms and rest in the grass, but are easily chased up. Common.

lacticinia. N. lacticinia Cr. (Vol. II, t. 18 h). The typical form of this widely distributed species is presumably
the South Chinese form I figured in Vol. II of the Macrolepidoptera. The oblique band is rather broad, but
thickly traversed by the median and its branches, the black margin of the hindwing projects proximally in a
tooth. Distributed over the whole of India as far as China. Ceylon-specimens have a remarkably narrow band
of the forewing, whilst in Penang-specimens it is broader than in typical Hongkong-specimens. Abdomen
white, posteriorly yellow. Nearly everywhere, where it occurs, the most common Nyctemeronid.

baulus. N. baulus Bsdl. Of this species BOISDUVAL has not only supplied us with an entirely insufficient
description fitting to very many Nyctemera, but he also seems to have sent abroad very different forms under
this name and confounded them with others. Thus quite a number of forms from the most various districts, from Java to the Philippines and from Indo-China to North Australia, have been collected, either as synonyma, or as side-forms or subordinate forms of baulus, many of which were regarded as separate species, certainly often also correctly so. The typical baulus Bsl. (29 i) is, according to SWINHOU, said to be identical with mundipicta Wkr., but also with herkloti from which it is very considerably distinguished already by the shape of the wings. If we take baulus to be identical with mundipicta Wkr., it would have to be a form allied to lacteinia in the colouring, which, however, shows the following differences: the proximal margin of the forewing is in its basal part not so broadly white. On the other hand there are white lines on or between the veins in the basal part of the forewing. The oblique band of the forewing is mostly in the middle somewhat wider. The tooth of the marginal band of the hindwing is more pointed and higher. The insect itself is mostly somewhat larger than lacteinia; its range extends across the Sunda Islands and New Guinea to North Australia. — picata Blr., described from Sumatra, PAGENSTECHER thinks to be identical with mundipicta. It is larger, the basal stripe in the submedian fold of the forewing is narrower, the border of the hindwing narrower and abruptly ending above at the 1st median vein, in order to reappear next to the anal angle as a narrow diffuse margin. — aluensis Blr. aluensis. (29 h) is almost exactly like a lacteinia, but the band of the forewing is traversed by thick black veins; Alu, Salomons. — illustris Swinh., considered by BUTLER to be a form of aluensis and likewise brought from Alu, is according to SWINHOU entirely different from it. Thorax and abdomen are white, in some places tinted yellow, the former with 3 black longitudinal stripes, the abdomen curled black, at the end ochreous. The basal part of the veins and the proximal margin of the forewing is streaked white, a white streak in the cell and a broader one below the cell, the latter streak extending into the lower part of the discal band. Of the spots forming this band the 1st and 3rd are the smallest, the 2nd being large, reniform, the 4th longer, the 5th the longest. Hindwing as in baulus. — tertiana Meyr. (= latistriga Snell.) (29 i) is distinguished by a ray coming from the ray on the submedian fold extending into the band; from the Pacific Islands and the Malayan Islands to Australia. — simulatrix Wkr. (29 i), in which the basal ray is still stronger, differs from tertiana by the narrowness of the almost oval fold of the forewing in tertiana; Celebes. — nisa Swinh. is marked exactly as simulatrix, but it is smaller, the dark ground of the wings is deeper and the marking more distinct; from Sangir. — nigrovena nigrovena. Swinh. (29 i), likewise from Celebes, is larger, and on its hindwing it shows the lower median vein as well as the median itself and the submedian dark sooty. — pagenstecheri Pag. (30 h) is easily recognized by the white band of the forewing being quite smoothly marginated, not notched and not pierced by black veins. Also the dark margin of the hindwing is proximally rather regularly and smoothly bordered; from Lombok. — fasciata Wkr., finally, from the same island, has quite dull brown, diaphanous scaling, and the white is very transparent; the band of the forewing is notched at the margins and traversed by dark veins, so that almost the whole exterior of lacteinia appears; but like all the other members of the baulus-group this form also differs from all the lacteinia-forms by the black abdomen being transversely curled.

N. kinagananga Swinh. from New Britain on the forewing entirely resembles baulus, but at the base kinaga-
nanga, it has a white inner-marginal stripe. On the hindwing the dark marginal band is as broad as in lacteinia.

N. dispar Drue somewhat resembles the species of the baulus-group, but it differs from them dispar. by the absence of all the vein-streaks in the dark proximal half of the forewing. The white discal band, however, is divided by the veins into 7 spots, in a similar way as in aluensis (29 h), but they are closer together. Rossel Island. The species is unknown to me in nature.

N. dinawa B.-Bak. (30 a). I figure from the type. It is the only species of the genus, in which the dinawa.
discal spot of the forewing bends somewhat distally round at the costal margin. The white basal streak below the cell is quite straight, quite uniformly thickened and distally quite smoothly cut off. New Guinea.

N. tenuifascia Snell. (29 i). Of this strange insect I only know the type in the Museum of Wiesbaden, tenuifascia.

which I figure here. The conspicuous marks are the almost quite orange thorax, the very hyaline wings and the small zigzag band on the forewing. From Lombok; discovered by FRÜHSTORFER near Sambalan in April, at an altitude of 4000 ft.

N. mesolychna Meyr. is not compared with any species known, and there are no differences mentioned, mesolychna.

for which reason the species is scarcely to be recognized. Forewing with whitish veins in the basal half and an undulate, whitish-brownish diffuse transverse patch, the hindwing white with an irregularly angled, brownish marginal band being narrow at the base and proximal margin, and with whitish fringes. New Guinea.

N. sontica Swinh. (30 a). Under this name there are 2 species not only exactly corresponding in the sontica.
colouring and marking, but also entirely agreeing in the variation. The typical sontica only occurs in the Philip-
pines, and it differs from radiata being coloured and marked quite the same by the much more pointed forewings
and smaller hindwings. — Sometimes all white or almost entirely white specimens are met with, in which only the veins are slightly shaded dark at the places otherwise coloured; I figure such a specimen from the Camotes, homologa. from Semper’s collection in the Francfort Museum, and denominate it ab. homologa ab. nov. (30 b).

N. radiata Wkr. greatly resembles sонтica (30 a) originating from the same patria (the Philippines), but according to Semper it is said to vary little, and it has a white abdomen; the white ray in the submedian fold of the forewing is mostly narrower, too.

N. niasana Swinh. from the Island of Nias very much resembles radiata, but the discal band of the forewing does not reach the costa, and the marginal band of the hindwing is here much broader.

N. absurda Swinh. from Salawatti, unknown to me in nature, is said to approximate sонтica (30 a). Abdomen slate-coloured, curled white. Forewing brown with a narrow basal stripe as in alternatum (29 c, d); the white discal band is very broad, straight through the hindwing, divided into 10 spots by the veins, the 2nd spot from the costa is divided into 3 by the discoidal and distal veins, and has a white stripe touching it on the outside, as well as another small one above. Hindwing with a narrow, brown marginal band as sонтicum, extending to the costa as in alternatum.

N. alba Pag. (30 a). The wings on both sides snow-white, the thorax yolk-coloured, faintly marked black, abdomen white, at the end yellow, banded black. I figure the type from my collection; it originates from the Samoa Islands; Swinhoe states also the Fidji Islands as the patria. The species has, beside the colour, nothing in common with the white form of amplificata (cydippe) from Nias, next to which Pagenstecher and Swinhoe place it, nor does it show any relations to the white Hainan-form of tripunctaria or celsia. Not common.

N. kala Swinh. (30 b). Jet-black, the band of the forewing thickly parted by the veins, the margin of the hindwing very broad and indented in the middle. Abdomen black. From the Key Islands.

N. lucuosa Volt. (= crescents Wkr.) (26 i) entirely resembles kala, but below the cell there is a triangular white spot, and the white oblique band of the forewing a strong, black tooth extends on the median from inside. In the Moluccas and North Australia not rare. — In syrnia Swinh. from the Fergusson Island the white spot below the cell of the forewing is absent. — In onetha Swinh. from New Britain the white inner-marginal stripe of the forewing is absent and the basal wedge of it is of a more regular shape. — kapauenris Swinh. (30 b) resembles the preceding particularly by the jet-black ground-colour and the unspotted basal part of the forewing. But the discal band of it is irregular and also the marginal band of the hindwing is not uniform, but sinuously bordered. Kapaur.

N. accepta Swinh. (30 b, misprinted into accepta). The band of the forewing begins broadly right at the costa, being pure white, without dark veins; in the submedian fold a thick, wedge-shaped, white spot. The margin of the hindwing is narrower than in the preceding. Celebes; in the Minahassa not rare.

N. galbana Swinh. (30 b). Very elegantly marked; the oblique band of the forewing makes a pointed tooth distally below the radial. Below the cell of the forewing a thick wedge-shaped spot to which there is in most cases yet a small white spot suspended in the cell-end. In Luzon local, but not rare.

N. pellex L. (= artemis Wkr., separata Wkr.) (30 b, c). The species is easily distinguished from all the preceding species by the white spots in the uniformly broad black margin of the hindwing distinctly prominent above and beneath. The abdomen is almost black, above quite finely, beneath somewhat more broadly curled light. The forewing has a large basal streak, a large, oblique oval spot and 3 submarginal spots. The proximal margin, moreover, is white in typical specimens. The size of the spots varies extremely, so that a great number of names could be distributed. The basal streak may be absent, or parted in the middle, terminate into a wedge, or be expanded to a band almost touching the white oval in the form tangens form. nov. (30 c). This white oval may be parted, reduced in size, notched at the margins and exhibit in front of it a small spot at the costa, in some cases even be connected with it. — We only enumerate yet signata Bltr. (30 c) as a separate name for one of these forms, making an entirely deviating impression owing to the extraordinary blackening. The basal ray and white proximal margin of the forewing are absent, the oval is reduced to a small circular spot, on the hindwing not only the distal margin, but also the costal and anal margins are broadly blackened, and the marginal spots are obsolete. On the contrary, also supernumerary white spots may be inserted between the others, particularly at the margin, as far instance in the form albipuncta Druce; or, as in amosa Swinh., the white marginal dots may be insignificant and reduced, the white discal spot, however, as well as the basal white so much increased that between them the ground-colour only remains as a narrow transverse bridge; this form is described from Dammer, albipuncta from Guadalcanar. — pellex is widely distri-
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N. quadriplaga Wkr. from New Guinea is described by Walker; ♀ black. Head at the eyes white, quadriplaga. palpi beneath yellow. Thorax anteriorly with interrupted yellow stripes; abdomen blackish-brown. Wings with a large white spot, forewing long-extended with a slanting distal margin.

N. kebeae B.-Bak. (30 c) is unmistakably a most peculiar form. Body black, abdomen and thorax kebeae. marked golden yellow, forewing black with a broad white inner-marginal area and a white discal spot. Hindwing uniformly margined with black. We figure the type taken in September on the Dinawa at an altitude of 4000 ft.

N. plagifera Wkr. (= adversata Shall.) (Vol. II, t. 18 h). This species has been dealt with in Vol. II, plagifera. p. 103. From inconstans it differs beside by the more scantily dark-spotted forewing being widely interrupted in the middle. As I have stated in Vol. II, I found the insect flying together with Pieris canidia and by its flight strikingly similar to this species somewhat similar only in the colouring.

N. cenis Cr. (= interlecta Wkr.) (26 h). Mostly somewhat smaller than plagifera, which it otherwise cenis. resembles; the spots in the middle of the forewing somewhat differently arranged and rounder; easy to recognize by the hindwing showing only spots at the margin, but none in the disc. The abdomen is besides golden yellow and curled black. I possess the species only from Sikkim; apparently local but not common.

N. hyalina B.-Bak. from Mount Arfak is recognizable by the almost hyaline hindwing with a broad, hyalina. transparent-brownish marginal band. Unknown to me.

N. semperi Swinh. (= leucospilota Senp. née Moore, semperi in tab.) (30 d) is an almost entirely semperi. snow-white form with but scanty brownish speckles, particularly at the costal and distal margins, representing one of those local albinisms so very frequently occurring in the Nyctemera. The species was at first known from the Philippines, but it also occurs in Celebes and Palawan. The abdomen is on top without the black median spots. — oroya Swinh. (30 d) is quite similar, but at the border of the wings and on the body there is a little oroya. more black marking. Discovered by Doherty in Sulawesi.

N. selecta Wkr. (30 e) approximates the form known as leucospilota Moore, but it is darker, on selecta. the forewing all the spots, except those from the base and those forming the dark transverse band, very much reduced. At the margin of the hindwing single small, white spots. selecta chiefly occurs in the Moluccas, particularly in Ceram and Amboina. — disrupta Bltr., considered by Pagenstecher as a synonym of the preceding, is probably regularly distinguished by the oblique band of the forewing being widely interrupted in the middle. Both are presumably forms of leucospilota Moore, in which there is instead of the oblique band a large, irregular oval and in the black basal part of the forewing a cone, white guttiform spot, the insect being on the whole more brightly coloured and more regularly marked; from the Andamanas. — burica Hold. From Burn and Sula-Mangoli. As the very long description of the author neither mentions any differences from other Nyctemera, nor tries any comparison or classification the insect is probably only to be ascertained by its origin. Body white, marked black, apparently without yellow colouring. Forewing black, with a large, oblong, white basal spot along the costa; near the base 2 small lentiform spots; across the middle of the hindwing extends a broad, very irregular band towards the distal angle, which it does not reach; above this band 2 subapical white spots at the costa and a large, suboval apical spot; in the middle of the distal margin a large, almost triangular spot; hindwing with a broad black margin in which there are some small white spots. — Not before me, but probably only a somewhat abundantly spotted selecta, as it occurs in numerous islands. The white spotting, particularly of the forewing, varies so extraordinarily in selecta that it is difficult to ascertain two specimens that are entirely alike. Many diagnoses of forms established here have been made according to 1 or 2 single specimens; the habitats stated with them are merely accidental and they can therefore not even be regarded as constant local races; as for instance abradoides Wkr., bipunctella Wkr., quadripunctella Wkr., variolosa Fldr., maculosa Fldr. In almost quite the same way N. inconstans Bltr. varies, but its collateral forms mostly have not the broad black margin of the hindwing; it is, however, white with some scanty nebulous spots.

N. fractifascia Wil. Thorax white, marked dark. Abdomen in front dotted black, behind banded. fractifascia. Forewing with a white wedge from the base, enclosing a dark spot at the base; at the costa 2 spots (at the base and behind the first quarter); a postmedian band of white spots; some more spots in the angle of the medians, above the proximal margin, before the proximal angle and apex. Hindwing with a rather broad, dark marginal band enclosing 2 white spots. 52 mm. Formosa.

N. guttulosa Wkr. (30 e). Easy to discern from all the others by the more intense transparency of the light spots. The forewings are densely netted brown, the light disc of the hindwing traversed by the intensely deep brown veins. — abradata Snell. probably scarcely differs from it. Celebes. — specularis Wkr. (30 e) has abradata. specularis.
a less densely netted forewing, and the dark veins in the posterior disc are absent. From Ceram. The abdomen
of this species is always unspotted above. — ab. confluens form. nov. is an accidental aberration from Ambonea,
in which the margin of the forewing exhibits 5 (instead of the usual 3) white spots.

confluens.

N. ludekingi Voll. (30 d). At first sight not unlike guttulosa, but recognizable by the black zigzag-band
through the middle of the forewing and by the white colour radiating in long teeth in the black margin
of the hindwing. Disc of the hindwing white. Round the cell-end some irregular, small black spots. Sumatra.

ludekingi.

N. macklotti Voll. (30 e, f, misprinted in mackloti), is presumably only a form of guttulosa, which,
however, is much more brightly coloured with a conspicuously orange-yellow head and collar and with jet-black marking of the wings. The disc of the forewing may be almost unspotted greenish-white or also traversed
by black bands, as in the figured. From Celebes.

macklotti.

N. varians Wkr. (= moolaica Moore) (30 d) is one of the largest species, white, netted dark on the
forewing. The hindwing with some irregular, large marginal spots. The species is unmistakable and varies
so much in the spotting that scarcely two entirely similar specimens can be collected in the same district. It
is distributed across the whole of India and Indo-China, but it prefers more the alpine districts than the open
plains. Common in Sikkim and along the long ranges of the Himalaya towards east, to the south as far as the
Malayan peninsula.

varians.

N. sangira Swinh. (= distincta Swinh., nec distinctum Wkr.) (30 d, as distincta) resembles a small
variants, but it has a black-banded abdomen and a dark, though interrupted border of the hindwing. Sangir.

sangira.

N. inconstans Btlr. (30 d), probably only a more faintly marked form of varians and, as the name
says, no less variable. inconstans almost invariably shows a white disc of the hindwing. On the forewing an
oblique band formed of spots is mostly easily distinguishable from behind the middle of the costa to in front
of the anal angle, but this band is often split into two or more parts. It seems to represent the preceding in
the far east, and occurs particularly in Formosa, in South East China and in the neighbouring islands.

inconstans.

N. separata Wkr. (30 c). This Australian form which is not rare in Queensland and extends to the
south as far as New South Wales, is recognizable by the one-coloured greyish-brown forewing exhibiting beside
some, now and then almost extinct, small white spots before the apex and the middle of the margin only yet
an irregular oblique band from which sometimes the posterior end seems to be cut off as an isolated spot.
The hindwing is purely white, with an irregular dark margin. Before the middle of the distal margin there
avitta ab. nov. (30 c). I denominate specimens in which the band of the forewing is extinct or only indicated as a minute
costal spot.

separata.

N. aegrota Swinh., described from New South Wales, has the abdomen curled brown and greyish-
yellowish. Forewing greyish-brown, with a white transverse band above the middle, bending a little proximally
above and being broken at the 1st median vein; beside it a large spot; 2 antemarginal white spots, the sub-
apical one of which is larger, the second situate well-nigh before the middle of the margin. Hindwing with a
brown marginal band exhibiting a strangulation before the middle of the margin and enclosing a bone-coloured
spot before the apex and near the middle of the margin.

aegrota.

Beside aegrota two more Nyctemerinae are mentioned from North Australia, neither of which is before
me: mackieana Luc. and drucei Swinh. Presumably only the types are known. They may be collateral forms
of species known long ago. There are no figures existing, nor are any museums known to me possessing them.
Both have been described to originate from Queensland. drucei is said to be the only species in the subfamily,
in which the discal band of the forewing is bent inwards.

warmasina.

N. warmasina B.-Bak. Unknown to me; from Arfak; it has the base of the forewing marked black
and white, and 5 white oval spots behind the cell between the veins. Abdomen curled yellow.


As members of this genus I regard the few forms distinguished by a conspicuous shape of the wings,
very long antennae, strong legs and a posteriorly very stout abdomen. The veins of the wings differ in both
sexes, which is partly due to the 58 exhibiting a very convex, sometimes lobately extended anal part
of the hindwing. The abdomen itself is always orange-yellow and curled black in such a way that sometimes
one colour, sometimes the other is predominant.
**DEILEMERA.** By Dr. A. Seitz.

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**D. evergista** Cr. (30 f). On the forewing there is a large, oval spot near the base on the sooty black ground, a white, large, oval spot covers the cell-end, and below the bridge separating both there is another white spot. The hindwing is margined with dark, and on both wings there are mostly some white antemarginal guttiform spots. The abdomen is orange-yellow, with broad black bands. Very conspicuous is the stunted anal part of the hindwing appearing somewhat distorted and marking folds in unprepared specimens. evergista is described from Amboina, but it seems also to occur frequently in other Moluccas. The spots of the forewing may vary in such a way that the spot above the cell-end flows together with the one below it to a broad, white crescentiform spot occupying almost the whole disc of the wing. This form might be separated as ab. unita ab. nov. and on the one hand it may be opposed to specimens with reduced white on the forewing, in which all the spots have disappeared except that at the cell-end, a form figured as uniplaga Swinh. (29 f). Swinh. is a form with very much increased white and an irregularly notched discal speck, the contrary, leuctra is from the Fergusson Island, on the other hand there is another form of it, in which the spots of the forewings are not only larger, but also increased in number (to 8) (= ab. intercisa Wkr.). eddela Swinh. from Engano has a short quadrangular band at the base of the wings, an irregular one from the costa to the lower cell-angle, 2 small antemarginal spots and a distal stripe below vein 2; hindwing with a broad distal band. — mutabilis Wkr. nec Swinh. from Ternate resembles evergista, but the discal spot of the forewing is not bent distally, but proximally, for which reason, according to SwinHoe, both cannot be united in one species.

**D. simplex** Wkr. (= doriae Oberth.). Black, head and abdominal end yellow; vertex black, forehead white, dotted black. Palpi beneath the base yellow. Abdomen otherwise brown, the segments with light margins. Forewing blackish-brown with white postdiscal stripes and a large, white spot situate almost in the centre; hindwing white, the blackish-brown marginal band broad. New Guinea.

**D. maculata** Wkr. (= noviespunctata Voll.) (30 f) probably originates from Java, but it is before me also from Lombok. The abdomen is more intensely banded in a sooty brown, its yellow colour is more hazy and duller, the brown of the wings somewhat diaphanous, the marking not very precise. In the mutabilis the anal part of the hindwing is less folded, so that the distortion is not so distinctly prominent, particularly since also the broad dark distal-marginal band is continued on this distorted part. The forewing shows an irregular oblique band, the basal wedge and a small dull spot before the middle of the distal margin white.

**D. aeres** Bsd. (= mutabilis Swinh., mutabilis var. Wkr.) (30 f). This form is very closely allied to aeres evergista, but it is recognizable by the abdomen being still more broadly banded black, by the basal spot being split into two wedges by the median, and by the discal spot of the forewing being irregularly notched on both sides. In the mutabilis the dark marginal band is broken off before the distorted anal part, and on the upper surface it crosses the terminal region of the median veins in the shape of dull traces of specks at most; in the mutabilis it extends to the proximal margin. From various Moluccas, Batjan, Buru and Ternate. — gerra Swinh. gerra (30 g), from Talaut and also occurring in Batjan (from where the figured specimen originates), has a discal spot of the forewing reduced to an irregular band, and the specks of the hindwings are distinct only in the mutabilis. — On the contrary, leuctra Swinh. is a form with very much increased white and an irregularly notched discal speck, already forming the transition to mülleri. It originates from Sangir and Talaut. — In the Amboina-form agacles agacles. Bsd. the white discal band of the forewing is above expanded and terminates broadly and rounded off, and the 2 basal spots of the forewings are fused into one large, irregular oval. — menes Fldr. is certainly only a macular variety of the preceding forms; the discal band of the forewing is very simious, like the margin of the hindwing. Ambonina.

**D. mülleri** Voll. (30 g) approximates the preceding, the white spot above the cell-end extends bandlike from the costal margin (behind its middle) almost to the proximal margin, and is separated from the white basal spot by some small spots. The anal part of the forewing is in the mutabilis very much bulged out, and that of the hindwing is developed into a very large, bulging lobe. From Borneo and Sumatra. Like in the allied species there occur also specimens with very much increased white which may be developed to a complete network (zerenoides Fldr.) (10 g) and, on the contrary, mutabilis with a narrowed oblique band of the forewing. zerenoides.

**D. arctata** Wkr. (= maculosa Wkr.) (30 g, h) is a very common species, chiefly from Sikking, but arctata also distributed across the whole northern parts of Indo-China and a great part of India. It is one of the largest species of the genus, the anal angle of the hindwing in the mutabilis only slightly bent, the brown marking conspicuously pale, at the margin of the hindwing a chain of dark guttiform spots. The arrangement of the marking on the forewing is distinctly seen from the figure. — In brownii Schulzle from the Philippines the basal ray of the forewing is extended into a white longitudinal line broadly flowing into the white median band, and the dark marginal spots of the hindwing are united to an irregular band. — albofasciata Wil. seems to me only to be the Formosan form of arctata; forewing blackish-grey; below the median a white ray ending dentately. Behind the middle a white band with a proximal border deeply indented between the median veins and a dentate distal border, between the radials there is a grey spot on the band; at the ends of the veins small white spots,
the 4th and 5th of which are larger and united with the discal band by rays; the hindwing white with 8 black marginal spots. Body and size almost of arctata. Formosa, at an altitude of 7000 ft.

**D. carissima** Swinh. (26 i) often flies together with arctata; in Sikkim and Assam, the Khasia and Naga Hills. At once discernible from arctata by the quadrangular, white subapical spot of the forewing and by the abdinal dorsum not being banded black, but spotted in pairs. Pagenstecher simply places the species to *müllerii* of which there are specimens before me with a spot and a transversely striped abdomen (from North East Borneo, thus from the same district). As Swinhoe himself, after having described the brown and white vein from the lower cell-angle; the margin is slightly concave below the apex. They are common, and so characteristic that we may refer to *müllerii* with respect to its characterization. The two lepidoptera have nothing whatever to do with each other. The first, *Macrobrochis gigas* shows relations to certain microlepidoptera, whilst the second exhibits only a very slight alliance to some Callidulids, though much too little as to justify its insertion there. As to the habits and particularly the larvae of both species nothing has become known.

**Appendix.**

We add here two lepidoptera that have wrongly been placed with the Arctiids. Both have an isolated position, and one of them has from cogent reasons been regarded as the sole representative of a separate family of lepidoptera. Both were described from Himalayan valleys, exhibiting a blackish body being in front and behind orange-red, and black wings spotted white. They are common, and so characteristic that we may refer to *müllerii* with respect to its characterization. The two lepidoptera have nothing whatever to do with each other. The first, *Macrobrochis gigas* shows relations to certain microlepidoptera, whilst the second exhibits only a very slight alliance to some Callidulids, though much too little as to justify its insertion there. As to the habits and particularly the larvae of both species nothing has become known.

**Genus: Macrobrochis.**

This genus of which only one species is known *), is found in the most ancient catalogues in the *Lithosiidae* to which it shows a superficial resemblance in the habitus. The slender body, broad head, long forewings and large hindwings, which are very much folded when at rest, are indeed common in the *Lithosia*. Hampson in his Fauna of India (Moths II, p. 66) figures also the veins of which „vein 8“ is absent on the hindwing, so that the species would in fact belong to the *Lithosiidae*. But in the 14 specimens of my collection I do not discover this kind of venation in any of them. Vein 8, however, comes from the base of the hindwing, running for some distance along beside the base of the subcostal and only then anastomoses with it. We nevertheless insert the species here referring to this behaviour, because it has been dealt with in Kirby’s Catalogue, in the special works on India etc. in the Arctiids, and it will therefore be looked for here.

Head moderately broad; eyes large, antennae in the ♀ with very fine, short cilia, palpi short, obliquely haired, legs short, middle tibiae with a pair of strong, stout end-spurs, posterior tibiae with middle-and end-spurs. Abdomen in the ♀ slender, when at rest strongly bent up, in ♀ stout. Forewing long-extended with pointed apex and oblique border, completely margined, with short fringes, the proximal margin very slightly curved. The 1st subcostal vein anastomoses with the costal, the 2nd with the footstalk of the other branches. The cell is long, the discocellular angled. On the broad hindwing the lower radial rises with the upper median vein from the lower cell-angle; the margin is slightly concave below the apex.

**M. gigas** Wkr. (26 h). This common Himalayan species is distributed across the whole eastern part of the mountain-range, from Sikkim to Assam. Black, anterior part of the thorax, body beneath and abdominal end orange. Forewing blackish-blue metallic with 3 large white spots in the proximal half and 4 to 7 in the distal half of the wing. Hindwing proximally white, distally black. — The spots vary a great deal. In ab. *interstitialis* H.-Schöfl, the spots are slightly enlarged, and below the cell of the forewing appears besides a white, longitudinal diffuse spot; — in *leucospilota* Moore the black of the hindwing is much narrower. — ab. *albicans* Btlr. (26 i) has the hindwing nearly all white and also the spots of the forewing much larger. — ab. *nigrescens* Moore (26 i), on the contrary, has the spots of the forewing very much reduced, — and in ab. *atrala* Btlr. (26 i) they have disappeared altogether except faint traces. All the aberrations occur beside each other in the same district. They are common, flying in day-time only when they are beaten from the branches hanging across the road or from the brushwood; the larva is unknown.

* Other species reckoned hereto are in fact Lithosiids.
Genus: **Pterothysanus** Wkr.

This isolated genus, containing only a small group of very closely allied forms, is placed by Kirby at the end of the Nyctemeridae, by Hampson directly before the Lymnaulidae, so that the genus will at first be looked for between these two groups and it is therefore inserted here. In fact it forms, as is also mostly assumed, a separate family which, however, would more correctly have to be placed near the Callidulidae. On discovering the larvae, this will be cleared up.

In spite of the difference in the exterior habitus, the anatomy shows many marks common to the Callidulids. The rather large head has small eyes, thin antennae, the ends being curved like an S in the living insect, short legs, a thin, though functional probosceis, the 2nd palpal joint furriuly scaled, the thorax of a moderate width, the abdomen short. On the forewing the costal branches rise very closely near each other, separated afar from the posterior one branching off right behind the upper median vein. On the hindwing the costal approaches the subcostal, so that it almost anastomoses with it, as is always the case in the Callidulidae. A difference consists in the transverse vein being more distinctly developed than in the Callidulidae, where we often meet with quite open cells (in Pterodecta on both wings, in Tetragonus on the hindwing).

Like the Callidulidae, the *Pterothysanus* also fly in day-time and behave like *Rh扑ocera*. The almost bare body peculiarly contrasts with the wings being haired manelike and exhibiting above also single, upright bristles. The range is confined to the eastern part of the Himalaya and some of its spurs.

**P. iaticilia** Wkr. (30 h). North India, particularly in Sikkim, in some places common. Dark greyish-brown, with white spots on the forewing and irregular bands on the hindwing. The white spotting is more variable than that of the 10 specimens of my collection there are not even 2 alike, nor among the 6 specimens that were captured at the same place and time. The white spots may most variably flow together to chains or bands, and in these bands there may appear again dark spots. On account of this variability we should examine the justification of most of the forms being regarded as separate species. Very much blackened species may be found everywhere among typical specimens as we figure from Sikkim (30 h). **lanaris** Btr., **lanaris** which is reported to come from China, has instead of the median band of the hindwing only single spots. — **atratus** Btr. (= orleans Oberth.) (26 h) from Assam the whole white is reduced and at the margin of the wing **atratus** there are small pink spots. — **pictus** Btr. from Elephanta has likewise small pink marginal spots, but the white is on both wings increased. — **noblei** Swinh. from Burmah is somewhat smaller than **batctica**, the black and white distributed as there, but the pink marginal spots are distinct and large.

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**Additions.**

*Celama cingalesa* Moore (= culaca Swinh.) is a form from Southern India and Ceylon, somewhat *cingalesa*, larger than *taeniata*; ground-colour light, whitish-grey, the median band of the forewing is only indicated in its borders by 2 dentate transverse lines the proximal one of which is indistinct, but begins with a black triangle in the middle of the costa, while the distal line projects below the costa in a sharp tooth; at the base of the costa a black dot and before the margin an irregular dentate line.

Page 121: Read Eugoa trifasciata Snell., not Moore.

Page 127: *Chamaita hirta* Wil. ♀ white, semi-transparent, the veins of the forewing covered with *hirta*, brownish hairs, except in the distal third (perhaps they have been rubbed off from there). ♂ whitish, semi-diaphanous and distinctly speckled brownish. ♀ 18 mm, ♂ 18 to 20 mm. One specimen from Kanshirei, at an altitude of 1000 ft, in May, and a ♀ from the same habitat, in August; it approximates *nympha* Moore.

Callimorpha albipuncta Wil. is almost as large as C. principalis. Forewing metallic dark green; a white spot in the cell, below it a smaller one, an antemarginal row of such spots, of which the first and last are small, the 2nd, 4th and 6th nearer at the margin; the 2 only has 4 spots in this row. Hindwing bluish, the costal basal part brown; body purple-red, abdomen with velvety black dorsal spots. Taken in August near Arizan (Formosa), at an altitude of 7000 ft.; it has a slow and clumsy flight.

Alphabetical List of the Indo-Australian Arctiids.

Page 265: After principalis insert:

**albipuncta.**

Abbreviated Trisch. Seitz, Macrolep. 10, p. 123.
abraxata Nyct., Snell., Tijd. voor Ent. 22, p. 73.
affinis Neosc., Rothsch., Novit. Zool. 19, p. 239.
alba Alba, Seidl., Tijd. voor Entom. 47, p. 155.
alberti Diac., Rothsch., Macrolep. 10, p. 246.
albescones Seic., Dirl., Macrolep. 10, p. 162.
thal. Hyps., Reise Novara Lep. 4, Pl. 140.
albieolliis Ag., Wkr., Reise Novara Lep. 4, Taf. 106.
albieolliis Ag., Wkr., Cat. Lep. Het. Br. Mus. 7, p. 188.
Alphabetical List of the Indo-Australian Arctiidae.

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Alphabetical List of the Indo-Australian Arctiidae.

281
erythrostigmata

fasciata

Neoh. Cr. Papil. Exot. 4, Pl. 398. *


euehana


erythlirophleps

equitalis


Oe. Cr. Papil. Exot. 3, pl. 208. *

entella

enganensis


ferrifasciata


fasciata

fasciata


fascioterminata


faseiosa

fascionitens

Diacr. Rothsch. Macrolep. 10, p. 245. *

flavens


flavula


flavilis


flavola


flavivenosa


flaviventris


flavivenus


flavokrinosina


flavolanca


fascelata


fuscalis

fusca

fusca


fuscapex


fusca

fusca


fumosa

fumosa


fusca

fusca


fusca

fusca


fusczyna


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fuscosina


fusca

fusca


fusca

fusca


fusczyna


fumipennis


fuscosina

Alphabetical List of the Indo-Australian Arctiidae.

heylaeerti Eng. Seitz, Macrolep. 10, p. 121.
honsouri Meta. Rothsch. Macrolep. 10, p. 239.
Alphabetical List of the Indo-Australian Arctiidae.

rubrifasciata Chi.

rubrogrisea As.

Rothsch.

ruptifascia As.

Novit. Zool. 20, p. 104. *

rubricosta Milt.

rubricosta As.


Macrolep. 10, p. 260.

rubilinea Diacr.

rubelliana Per.

rotundipennis Nish.

Cat. Lep. Phal. 2, p. 289. *

Macrolep. 10, p. 254.


sanguitincta Milt.

sanguinea Mel.

sheperdi Cast.


sexpuncta As.

Hmps. Fauna Ind. Moths 2, p. 113.

sanguinea Mel.


sangirensis Asot.

sangira Nyct. Cr. Pap.


rectilinea Man.


rubra suitability.


rubinina As. Hmps. Fauna Ind. Moths 4, p. 493.


rubinonota Macrolep. 10, p. 268. *

rubinocula Diacr. Hmps. Fauna Ind. Moths 4, p. 204.


rubinocula Diacr. Hmps. Fauna Ind. Moths 4, p. 239.

rubinocula Diacr. Hmps. Fauna Ind. Moths 4, p. 239.


rubinetia Asot. Hmps. Fauna Ind. Moths 4, p. 239.

rubinocula Diacr. Hmps. Fauna Ind. Moths 4, p. 239.


tricolor Milt. Wil. Entomol. 43, p. 224.


tricolora Milt. Entomolog. 48, p. 283.


trimaculata Mon. Cat. Lep. Phal. 2, p. 182. *


zebra Melanogr. & Ir. Tijd. voor Ent. 47, p. 163. *

zebra Melanogr. & Ir. Tijd. voor Ent. 47, p. 163. *


zebra Melanogr. & Ir. Tijd. voor Ent. 47, p. 163. *


zebra Melanogr. & Ir. Tijd. voor Ent. 47, p. 163. *


zebra Melanogr. & Ir. Tijd. voor Ent. 47, p. 163. *

5. Family: Lymantriidae.

The Indo-Australian Lymantriids are confined to few colours in a still more monotonous way as is already the case in the palearctic ones, and a white and yellow ground-colour, marked or shaded grey, or also entirely white, is preponderant as in no other family. Almost one fifth of all the Indian Lymantriids are nearly unicolorously yellow or monotonous, and destitute of almost all variegated colours whatever, such as red, blue, or grey. Some species, after their death, change the colour of the wings, which on the saps of the body drying up, turns from a delicate whitish green into a dirty white.

The separation of the Lymantriids from the neighbouring families is rather difficult. Thus large divisions, such as the Anthelinae, exhibit such great alliances to the Lasiocampidae that they might also be added to this group. The gigantic Chaleptheryx has at first been inserted in the Lasiocampidae, then in the Saturniids, and at last in the Lymantriids. The Thaumetopoea, formerly inserted in the Lymantriids, have later on been regarded as too different and been separated as a family of their own. The same is the case now with the Rattula and Diversesexus. On the whole each author will follow his own opinion as to the definition of a family, and he will adjust his view to certain characteristic marks, according to his considering the uniting or the separating marks to be more important. Discussions hereof are practically of secondary importance.

The total number of the Lymantriids known amounts to much more than a thousand, if we include the Anthelidae, Thaumetopoea etc. Staudinger and Rebel count little more than 100 palearctic forms, though to the exclusion of large palearctic countries in Eastern and Central Asia, such as Tibet, Japan, Korea etc; in our Vol. II, however, about 300 forms of the palearctic region are known, of which, however, many originate from the districts bordering on India and mainly belong to the Indo-Australian range. Beside a considerable part of forms already dealt with in the palearctic part (Vol. II), the Indo-Australian region is inhabited by about 500 more forms mostly peculiar of it and only for the smallest part common to Africa. Africa, however, itself and particularly the Island of Madagascar, must feed a great number of Lymantriids, for although this very group is as yet little known from Africa, yet Kirby enumerates more than 150 species, almost as many as have been made known from India, which has been well explored, inclusive of the Himalayan countries and of Ceylon. Already to-day, the number of African forms known of the family of the Lymantriids has extraordinarily increased, and the group of the Ethiopian region on having been more explored, will probably even excel India proper in number.

In contrast with them America is rather void of Lymantriids. From the whole of that continent scarcely more than 100 species are known, thus only one third of the species of the palearctic region in conjunction with the whole enormous district of North America, has only about 20 to 30 forms. This is chiefly due to the entire absence of the multiform genera such as Euproctis, Anthela etc. in the western continent, and neither the numerous genus of the Lymantria itself would be represented there, if it had not been introduced by careless collectors.

It is very probable that the larvae frequently decorated with remarkable, sometimes even monstrous hair-pencils and brushes are protected against many enemies. The inflammatory effect of the hairs in some species (Porthesia, Euproctis, Thaumetopoea) is so pronounced that forests and fruit-cultivations are impassable for pedestrians in larval years. But also the imagines seem to be protected by the hairing. At least it was impossible to discover any other function of the hairs covering the thorax and the proximal margin of the resting imago, they form an upright comb extending across the dorsum of the abdomen. Where they are of different colour from that of the parts of the body to which they are fastened, this may easily be noticed in the figure, e.g. in Eupr. niveinotum (t. 43 b) or in E. habrostola (44 g).

A great part of the larvae live on trees, preferably favouring cultivated plants. In Vol. II, p. 110, we have already mentioned the harm done by some of them. As in the districts of the Indian region there are scarcely forests approximating our forests of fir-trees and oak-trees with respect to their uniformity, a massy growth, such as that of Lym. monacha or dispar does not easily occur in the tropics. Certainly a great increase of certain species is also to be noticed there in some years. In extensive bamboo-thickets the Pandana-species are often seen in such masses dancing round the tops of bamboo-bushes, as the Stilpnotia salicis are in some years met with in our districts swarming round the poplar-avenus. The larvae of Perina nuda sometimes spin the tips of the twigs of the common fig-tree into small clusters in such a way that the tree assumes a decaying appearance. Euproctis pluma is then often at the same time found in such great numbers on the same trees that the insects rest gregariously on the dark bark which from afar looks as if it were covered with orange dots, and when they commenced to cultivate regular pine-forests in Hongkong, immediately an increase of Lym. dissoluta was to be noticed, which began to play the same dangerous part as Lym.
monacha does in the palearctic countries. The Lymantriids, moreover, exhibit a remarkable adaptability with respect to their food. *Lymantria dispar*, monacha and others do in no way occur on low plants; with respect to the trees, however, they make almost no difference between the extremest species. In Africa I saw larvae of *Lymantria* having been blown off by the storm from mulberry-trees on Euphorbiaceae, on which they were feeding and the larva of *L. monacha* being brought from coniferous trees on deciduous trees may live on them without being harmed. (Dr. A. Seitz).

As to further biological particulars and the characterization of the *Lymantriidae* we refer to Vol. II, p. 109—111.

**Characteristic marks of the family:** Proboscis stunted or absent, frenulum present; in the forewing 1 c is absent, but 1 a and 1 b are present and separated, 5 rises nearer at 4 than at 6; in the hindwing 2 dorsal veins, 5 as in the forewing or absent (*Porthesia*), 8 almost touches 7 near the middle of the cell and is connected with it by a transverse vein. The male antennae are mostly strongly combed, the ♀ mostly with abundant anal wool. Flying at night (except *Orgyia* and *Aroa*). As to further particulars comp. my review of the family in the Palearctic Part of this work, Vol. II, p. 109—111. — Deviating forms are the *Anthelinae* (see below). The family therefore is divided into 2 subfamilies. (Dr. E. Strand).

### A. Subfamily *Lymantriinae.*

Forewing with a moderately large areola or none at all; veins 8 and 9 on a footstalk. Veins 7 and 8 on the hindwing do not diverge beginning from the base.


**1. Genus: Dasychira Steph.**


### 1. Group: *Areolatae.*

#### D. Dalbergiae

D. *dalbergiae* Moore which is frequently dealt with as a synonym of *D. inclusa* Wkr. (from Java) and *invaria* Wkr. (from the Philippines), I have described as a good species only occurring in the Cashmir-district, in the Palearctic Part, Vol. II, p. 114—115 (fig. 22 a).

D. *grotei* Moore (= kausalia Moore) (Vol. II, t. 22 a) has been dealt with in the Palearctic Part, Vol. II, p. 115, as a good species that has nothing to do with *D. horsfieldi* (38 c).

D. *mendosa* Hbn. (♀ = sawanta Moore) see in Vol. II, p. 115 (fig. 22 d). At the same place as by-forms *fusiformis* Wkr., *lanceolata* Wkr., and *basivitta* Wkr., of which presumably at least the two latter forms belong also to the Indian region. Of the 5 other forms mentioned (basalis, divisa, basigera, distinguenda and *invaria* Wkr.), which Swinhoe (1903) synonymizes with *mendosa*, one or the other might perhaps be distinguished as a by-form. — The larva does very much harm to the tea-plantations in India and also lives on Ziziphus jujuba, cotton-plants, and Terminalia catappa L. etc.; it feeds for 25 days, the pupa rests for 9 to 15 days. *D. mendosa*, according to SEMPER, flies in the Philippines in September and October. The larva, according to him, lives in Manila on Caballero (Caesalpina spec.), is of a beautiful grey with a red head and red dots, at the head and anus with long black hairs, on the 4th to 7th segments with yellowish-grey hair-tufts on the dorsum, on the 4th and 5th segments also laterally. Pupa with black wing-cases, yellow abdominal rings and a grey dorsum bordered with red; it rests near Manila in March for 8 days, in July for 5 days. — Comp. what I have said about the larva in the Vol. II, J. c. What we have figured next to *mendosa*-♀ (38 a), is an insect differing so much from the typical form by a dark median longitudinal band on the forewing that it deserves to be distinguished from *mendosa* by a special name; unfortunately neither of the many names already given to the *mendosa*-forms can be applied to it, nor am I quite certain whether it belongs to this species. From Cooktown I have seen several specimens not varying very much from each other and not forming a real transition to the genuine *mendosa*. I call this form *cookiensis* form. nov. (38 a).


D. *horsfieldi* Savrd. (= arga Moore, longipennis Wkr.) (38 c). ♀ white. Forewing dusted with fine, brown scales, and with some transverse, brown, indistinct undulate lines. Hindwing white. Antennae, head, thorax and forelegs speckled brown, abdomen white. Expanse of wings: 70 to 80 mm. — ♀ greyish-white. The comb of the antennae red-brown, abdomen orange with a grey anal brush. Forewing speckled...
with dark scales, and with a brownish hue, with a dentate, subbasal, black line, two median lines, a reniform spot encircled by dark, a postmedian undulate line and an irregularly dentate submarginal line. Hindwing pale with an orange dorsal area, a black discocellular spot and a brownish marginal area. Expanses of wings: 46 mm. India, Ceylon, Singapore, Java, Palawan, Sarawak, reported also from North Queensland. The latter form, however, which I have seen and which I presume to be „D. horsfieldii“ of the authors, deviates so much from the type that it must at least be distinguished as a local race. It is (♀) a little smaller (expanses of the wings: 63 mm), the forewings without submarginal lines, the abdominal dorsum and the dorsal area of the hindwing dirty ochreous-yellowish, the hindwing only beneath with a distinct discocellular spot, the postmedian line of the forewing, in the middle towards the margin, before and behind the middle towards the base, is more distinctly convex than in the typical form (besides zigzag-shaped as in the latter form). This is the only quite distinct line; a submedian line in the middle towards the base convex or almost broken does not quite reach the costal margin, and the antemedian line is only recognizable in the costal area. I call this form queenslandica form, nov. The type from Kuranda is in the Coll. Setz. — Larva yellow with a dorsal black band between the 4th and 5th rings and with 5 tufts of yellow hairs on the 4th to 7th rings and on the 11th ring. On tea-plants.

D. oleria Swinh. ♀ olive-brown, beneath whitish, thorax in front orange. Forewing with an orange, oleria. posteriorly prolonged area in the basal half, brown veins, and indistinctly lighter longitudinal lines. ♀ light brownish-yellow, forewing with brown longitudinal lines in the middle of the marginal half, beneath with a subapical brown streak, hindwing a little lighter than the forewing and entirely or almost entirely uni-coloured. Expanses of wings: ♀ 32, ♂ 39 mm. Poona and Nilgiri Hills in India.

D. virescens Moore. ♀ head, thorax and forewing of a lighter green. Abdomen orange, sometimes virescens. above greenish. Forewing with a very prominently marked reniform spot filled up with grey. Hindwing orange with a large black discocellular spot and submarginal spots at the anal angle and at the apex, as well as with a sinuate marginal line. Under surface not hued black. Expanses of wings: 76 mm. Sikkim.

D. moerens Fldr. (41 e). ♀ dark olive-brown, forewing with double subbasal, antemedian and postmedian undulate and angular lines, submarginal and marginal rows of indistinct moon-spots, a reniform spot with indistinctly darker contours. Hindwing blackish-brown with red-brown, darker spotted fringes. Under surface red-brown with dark brown spots. ♀ much lighter, the lines of the forewing distally tinted purple-grey. Expanses of wings: ♀ 42, ♂ 60 mm. — Larva dark brown with a reddish lateral line, two long, dark brown dorsal tufts on the 4th and 11th segments, and two shorter, light brown tufts on the 5th, 6th and 7th segments. Ceylon. (According to Swinhoe [1903] this insect would be a Lymaandra). — Dasychira moerens Blr. 1882 nee Fldr. 1868 may be designated D. renominata nov. nom. nov.

D. flavicosta Hmps. Brown, costa and the subapical part of the marginal area yellow. India. flavicosta.

D. varia Wkr. (= maruta Moore). ♀ body brownish-grey. Palpi at the sides black. Forewing brownish-grey with an almost erect, subbasal, dark line, an indistinct, dark, forked antemedian line, a dark discocellular spot, a black, postmedian double line and a submarginal line of moon-spots. Hindwing light brown with traces of a dark discocellular spot and a postmedian band as well as a dark marginal line. The ground-colour is sometimes hued olive-greenish. Expanses of wings: 70 mm. India: Sikkim, Subathu, Dalhousie. — The light green larva lives on Leuceoseptrum canum and is haided green.

D. invaria Wkr. (38 b). ♀ is described by Walker as brownish, with faintly piebald forewings exhibiting invaria. indistinct, oblique, somewhat undulate, blackish bands, from the Philippines; the hindwings are expressly denoted as darker than the forewings, whereby this form is discernible from inclusa Wkr. (38 a) from Java, with which it is often synonymized and in which the hindwings are rather lighter than the forewings. Expanses of wings of invaria: 28½ mm. — patula Wkr. ♀ ferruginous, beneath grey. Forewing spotted black, partly fawn-coloured with some indistinct and irregular black transverse lines composed of moon-spots. Hindwing greyish-brown. Length of body: 14.3 mm. Expanses of wings: 33 mm. Sarawak. — ♀ from Luzon, where the species flies in January till April, October and November, deviates from the typical form by the white basal spot not being present, whereas many ♀ ♀ show a white streak at the cell-end. Beneath the wings are uni-coloured brownish-grey with a dark transverse band, and an enisiform spot at the cell-end on both wings. This form may be called demaculata form, nov. The larva belonging to it lives on „Mauzanas de China“, and is densely haired brown, with two light ochreous, almost white longitudinal stripes, between which there are 4 brush-shaped, light brown hair-tufts on the 4th to 7th segments; there also occur, however, larvae of a blackish-brown colouring. For the pupation it makes a large web und in it a dense casing, usually beneath railings. Pupal rest in January and February lasting for 11 days. — D. invaria besides occurs in India and Hongkong.
D. feminula Hmps. is certainly closely allied to bhana Moore, but the ♀ has the forewings hued ochreous with rather distinctly prominent ochreous markings on the transverse bands, whereas the ♂ is purple grey; the forewing with darker spots, undulate ante- and postmedian lines touching each other on the posterior margin, the discocellular spot brown and a brown, irregular submarginal band, the hindwings light grey. India: Nilgiri Hills.

D. thwaitesi Moore (= pudica Moore) (38 c). The ♀ differs from horsfieldii (38 c) by the head and thorax being whiter; forewing purely white, the two postmedian lines nearer at the margin, the submarginal line absent, abdomen and hindwing brown without orange. ♀ white, faintly speckled black, from the costal margin of the forewing there extend median and postmedian dark streaks, the lines very faint; hindwing purely white. Expanse of wings: ♀ 40, ♂ 50 mm. Ceylon, Nilgiri Hills, Trevandrum.

D. dudgeoni Swinh. (38 e). Both sexes: antennae, palpi, head, thorax and forewings dark brown; the latter in some places reddish-grey with two similar ring-spots near the base, an oblique, indistinct transverse row of moon-spots and a double row of similar light spots near the margin; fringes speckled with a light basal line. Abdomen and hindwing uni-coloured light brownish-grey. Under surface whitish-grey with traces of a dark, grey, discal transverse band in both wings. Abdomen without dorsal scale-combs. Expanse of wings: ♀ 37, ♂ 42 mm. India: Sikkim and Khasia Hills.

D. orniba Swinh. (38 a). Antennae, thorax and forewing brown, the latter with a discal double band of sharply angled black spots, which are largest in the ♀; a submarginal row of black moon-spots. Hindwing grey, fringes with a whitish basal line. Under surface grey with a brown, curved discal line on both wings. Expanse of wings: ♀ 39, ♂ 47 mm. Shillong, Khasia Hills.

D. magnalia Swinh. (38 c). ♀ and ♀ olive-brown. Forewing with a brown discocellular spot encircled by an ochreous, and one basal, antemedian and postmedian, sinuate, blackish-brown transverse line each, a distal, very sinuate, ochreous transverse line and ochreous marginal moon-spots, hindwing brown with traces of a discal black and of a discocellular spot. Under surface dark brownish-grey with a brown discal transverse band. Expanse of wings: ♀ 39, ♂ 42 mm. India, Khasia Hills.

D. cymata Swinh. (38 e). ♀ antennae, upperside of palpi, head, thorax and forewing dark olive-brown; the latter with moon-shaped, black transverse lines in some places marked white, extending subbasally, medially, discally and submarginally, the second of which shows two large teeth; discocellular spot large, moon-shaped, ochreous, encircled by black. Hindwings uni-coloured, light greyish-brown. Abdomen grey with a brown dorsal stripe. Expanse of wings: 39 mm. Darjeeling.

D. cinctata Moore. The ♂ deviates from albescens by the thorax being hued with brown and the abdomen curled black. Forewing with antemedian and postmedian, black costal spots; the antemedian, postmedian and submarginal undulate lines are more distinct. Hindwing with a dark discocellular spot, a dark submarginal band and marginal line. In the ♀ the thorax is not hued with brown; the forewings are more speckled brown. Expanse of wings: ♂ 62, ♀ 82 mm. India: Darjeeling.

D. complicata Wkr. (= pustulifera Wkr.) (38 d). ♂ head and collar whitish, palpi at the sides black. Thorax brown, prothorax spotted black. Abdomen orange, above darker, the anal brush and lateral brushes white. Forewing red-brown, a subbasal, undulate, black line with a macular band between the latter and the double antemedian line, a reniform spot margined with black, an undulate and curved postmedian line and distally to it a macular band, an undulate submarginal line. Fringes spotted light and dark. Hindwing yellowish-white, the basal area of the posterior margin hued orange, a dark spot at the end of the cell and a postmedian band. Fringes spotted black. ♀ lighter, abdomen above with a sharply marked row of black spots. Expanse of wings: ♂ 58, ♀ 86 mm. North India: Sikkim (Darjeeling).

D. nigra Hmps. (38 e). ♀: forewing dark brown with some silvery scales and a black antemedian, median and limbal transverse band, and a distally lighter sublimbal line in the middle angularly broken. Hindwing greyish-brown with a darker marginal line and obsolete vein 5. Expanse of wings: 30 mm. Sikkim, Bhutan.

D. lineata Wkr. (47 a). ♀: white. Forewing with a fine, antemedian black line being angled on the median vein, with indistinct, dentate postmedian and submedian lines, the postmedian line being parted and enclosing the discocellular; both wings with a marginal row of spots. The ♂ is smaller, the postmedian and sometimes the submedian undulate line are more distinct. Expanse of wings: 85 mm. Sikkim, Sylhet, East Pegu.
D. *albescens* Moore (38 c) ♀: body white or greyish-white, palpi at the sides black, teeth of the combs *albescens* red-brown. Forewing silky white, feebly speckled grey, at the end of the cell a brush of erect scales, very faded antemedian and postmedian undulate lines. Hindwing white with an indistinctly darker discocellular spot and a curved submarginal band. ♂ with white palpi, the forewing densely speckled brown, and with more distinct antemedian, postmedian and submarginal lines. Expanse of wings: ♀ 58, ♂ 68 mm. Sikkim (Darjeeling).

D. *strigata* Moore (= niveosparsa Bldr.) (47 a). Head and thorax iron-grey, abdomen faintly huecl yellowish. Forewing brownish iron-grey, with an indistinct, angled subbasal line, a double, antemedian undulate line, a reniform spot bordered with dark, a double undulate postmedian line and a single submarginal line. Hindwing brown, in the dorsal area hued orange, with an indistinct dark spot at the end of the cell and with a postmedian band and marginal line. Expanse of wings: ♀ 62, ♂ 73 mm. Sikkim, Simla, Masuri, Khasia Hills, Darjeeling.

D. *postfusca* Svrinh. (38 e). ♀ white. Antennae with reddish pinnae. Abdomen above reddish-yellow, postfusca. Forewing speckled dark; an irregular antemedian spot margined with dark on the costa; an incurved, irregular, dentate median line; a more prominent, dentate postmedian line extending obliquely from the costa to vein 6 where it is very angular and then incurred; an irregular, dentate submarginal line. Hindwing dark. Under surface suffused with dark, in the hindwing with a cell-spot and a curved postmedian line. Expanse of wings: 46 mm. India, Khásis.

D. *angulata* Hmps. (38 e). The margin of the forewing is behind the apex emarginated and on vein *angulata* angled. ♀ brownish-grey, speckled with brown. Forewing with three black discocellular spots and a marginal row. Abdomen and dorsal margin of the hindwing suffused with a reddish brown, a dark moon-spot at the cell-end, and indistinct, dark marginal spots. Under surface white, in both wings with moon-spots at the end of the cell and black marginal spots, hindwing with some dark postmedian spots. Expanse of wings: 46 mm. India: Khasia Hills, Sikkim, Upper Burma.

D. *signifera* Wkr. ♀ white. Head with a black line on each side of the forehead. Wings faintly opalescent *signifera*. Forewing at the end rounded off with two black spots on the costal margin towards the apex and with traces of a grey distal line accompanied by three black dots on the veins; the discocellular spot black and parted. Hindwing along the posterior margin spotted black, beneath with a black discal spot and with grey distal and submarginal bands; the latter are shortened anteriorly. Length of body: 10 mm. Expanse of wings: 24½ mm. Sarawak.

D. *brunnescens* Moore (41 f). ♀ body grey, speckled with brown, abdomen, however, light brown. brunnescens. Teeth of combs red-brown. Forewing greyish-white, speckled with brown scales, with an undulate basal line, two subbasal and two median lines, as well as a submarginal, light-margined line composed of moon-spots, and a discocellular line. Hindwing greyish-brown, towards the margin lighter, the veins and a submarginal band darker. ♂ with much lighter hindwings. Expanse of wings: ♀ 60, ♂ 70 mm. Sikkim.

D. *chloroptera* Hmps. (41 f). ♀ head and thorax dark green; abdomen blackish-brown, the three first segments with black hair-brushes; the anal brush reddish-yellow. Forewing dark green with indistinct undulate median, postmedian, submarginal and marginal lines. Hindwing black with a broad, irregular, yellow marginal band. Under surface ochreous, in the basal area hued blackish, with a black discocellular spot and an undulate postmedian line. Expanse of wings: 56 mm. India: Khasia Hills.

D. *perdix* Moore (38 c) is said practically to be a Notodontid (*Stauropsus*).  

D. *baruna* Moore (41 f). ♀ forewing green, along the costal margin brownish with several indistinct, *baruna* transverse undulate lines and a brown spot near the base of the costal margin. Hindwing light brown. Antennae, head, thorax and forelegs green, hindlegs and abdomen brown. Expanse of wings: 49 mm. Java; Penang. — *viridis* Druce ♂ body and extremities brown or brownish-green. Forewing brown, densely marked with fine, *viridis* sinuate, light green transverse lines; the costal margin partly with a white marginal line. Hindwings light brown. Expanse of wings: 42 mm. Perak, at altitudes of 2000 to 3500 ft.

D. *costalis* Wkr. (38 b). ♀ brown. Under surface and legs brownish white. Antennae brownish white *costalis* with brown pinnae. Forewing light greyish-brown, in some places darker, and with 2 antemedian bands, a thin undulate postmedian band, a subapical costal spot and some smaller spots; some of these spots are also beneath recognizable. Hindwing light greyish-brown, above uni-coloured, beneath with a brown discal spot and a similar interrupted submarginal band. Expanse of wings: 24½ mm. Java, Burma.
**D. bhana** Moore (38 b) is distinguished from the most closely allied *tenebrosa* Wkr. and *nigritula* Wkr. by an ochreous spot at the end of the forewing; it is much smaller than *nigritula*. Dark brown, forewing with 5 transverse lines formed of black crescents, distally bordered by lustrous brassy scales; beyond the cell a ferruginous spot. Hindwing lighter brown with two indistinct, dark, discal transverse bands. Under surface brown with two brown, still more indistinct bands. Fringes lighter and darker brown. Expans of wings: 37 mm. Larva dark brown and haired black, on various plants. Darjeeling.

**D. tristis** Heyl. ♀. Is said to resemble *D. moerens* Fldr. (41 e). Greyish-brown with greyish-white markings consisting on the forewing of: a basal, recurved band, an undulate band across the middle of the wing, being above (in front) broad, but decreasing in width towards the posterior margin and being situated between two whitish transverse lines, the distal one of which is dentate, and being in some places spotted brown; besides there is a semi-terminal line formed of brown dots distally lued whitish. Fringes greyish-whitish, spotted blackish. Hindwing greyish-yellow with a brown sublimal line and brown veins; beneath with a brown cell-spot, two transverse lines and spotted fringes. Expans of wings: 36 mm. Preanger (Java). — It may be a *Mardara*.

**D. preangeraensis** Heyl. ♀ head and thorax with black and white hair. Abdomen greyish-brown with a yellowish white anal brush. Forewing greyish-blackish, strewn with white scales; a white basal transverse figure formed of triangles, an almost straight transverse line, between this line and the basal figure there are 4 large black spots, another transverse line being partly double and formed of white moon-spots, a large, black cell-spot and some white discal streaks, besides a strong, snow-white, zigzag-line by which the uni-coloured greyish-white terminal area is separated. Fringes grey with a brown parting line. Beneath the wing is lighter and darker brown. Hindwing greyish-brown, beneath with lighter and darker diffuse spots. Expans of wings: 36 mm. Preanger (Java). — It may be a *Mardara*.

**D. cerigoides** Wkr. ♀. Greyish-white. Palpi very broad and obtuse, beneath broadly margined with black. Antennae short, very broadly combed. Thorax with a blured black band. Abdomen brownish-yellow, projecting far beyond the anal angle. Forelegs densely haired. Wings beneath whitish with an oblong, black discal spot. Forewing brownish-yellow with an oblique, long, narrow, whitish discal mark margined with black; between it and the base there are 6 irregular, black zigzag-lines, whilst 3 black, oblique ones extend between the discal mark and the margin, the second of which is incomplete. Hindwing pale yellow; the discal spot and marginal band brownish-black. Length of body: 20.4 mm. Length of wings: 41 mm. Sarawak.

**D. basinigra** Heyl. ♀. Allied to *D. mendosa* Hbn. (38 a). Head, palpi, and collar white. The strongly combed antennae are brown with reddish pinnae. Thorax white with a brown median longitudinal stripe. Abdomen with the anal tuft greyish-yellow. Forewing with a greyish-yellow ground, slightly strewn with ferruginous scales, and with some jet-black dots at the base, two transverse lines across the surface of the wing, between the first of them and the base of the wing 3 large black spots, between the two lines the ground-colouring is white, outside of the second line there are some white streaks. Between vein 6 and the posterior margin extends a terminal row of black dots. Hindwing greyish-yellowish, dusted with brown, with a brown cell-spot and a brown sublimal line. Expans of wings: 23 mm. Padang (Sumatra).

**D. asvata** Moore (38 b). Dark brown. ♀ forewing with a black spot at the base, a white, narrow, forked line along the discoidal veins from the base to the apex, a dark zigzag transverse line at ½ from the apex, and a submarginal row of dark spots; hindwing light brown; body and extremities dark brown. In the ♀ the discoidal and apical veins whitish, in the surface and along the margin some dark spots. Expans of wings: ♀ 34, ♂ 58 mm. Java; Dinding Island (Malaya).

**D. albiplaga** Swink. (♀ = Orgyia nebula Swink. 1906 nec Wkr.) (38 e) ♀ and ♀. Greyish-whitish; thorax greyish-brownish like the forewing which is in some places whitish and exhibits a broad, almost straight, whitish band from the base to the apex through the costal half, moreover an antemedian, dentate, white line distally margined with brown, a similar postmedian line, though proximally margined with brown, a submarginal whitish band composed of moon-spots, a row of brown marginal moon-spots. Fringes white, spotted brown. Hindwing in the ♀ light brown, in the ♀ almost white. Expans of wings: ♀ 27, ♂ 46 mm. East Java.

**D. anaha** Swink. (38 e). ♀ and ♀. Dark brown, hindwings of a lighter brown. Forewing with a large, though indistinct discocellular spot, hindwing with traces of a dark discal band. Fringes ochreous, spotted brown. Under surface in the ground dark ochreous-grey, in the ♀ with a brown stripe from the base to the end of the cell on the forewing, also in the ♀ with a blured, brown discal band spotted darker, hindwing with a brown discocellular spot and a blured brown median and discal band, the median band being in the ♀ quite indistinct. Expans of wings: ♀ 29.4, ♂ 34½ mm. ♀ from Padang (Sumatra); ♀ from Batavia, (Java). Allied to *D. bhana*. 
D. misana Moore (47 a) ♀ brown. Forewing with an irregular, whitish area extending from the middle misana.
of the base of the wing to the middle of the wing, where it is expanded and extends also towards the apex, sending
besides a branch towards the anal angle, enclosing thereby some indistinct brown marks. A dark brown zigzag-
line extends from the anal angle towards the middle of the wing. A submarginal row of dark brown spots inside
margined with white. Hindwing light brown with a lighter margin. Body and extremities brown. Expanse of
wings: 34 mm. Java. — The larva lives on Zea mays L., it is long-haired, golden yellow with a broad,
black dorsal longitudinal band showing 4 dense, light grey brushes; dorsum and sides with flesh-coloured,
white-haired protuberances. Pupa yellowish-brown, in a very dense, yellowish-grey web intermixed with hairs;
it rests for 9 days.

D. chalana Moore (38 b) ♀ dark brown; it is brightest in the marginal area. Forewing with a broad, chalana.
zigzag-margined, greenish white band right across the middle and along the posterior margin and round the
apex, as well as a submarginal, brown zigzag-line. Hindwing light brown. Antennae, legs, head, thorax anteriorly
dark brown. Abdomen and thorax posteriorly light brown. Legs brown with grey spots. Expanse of wings:
costiplaga.
on each side blackish. Abdomen with black scaled protuberances. Forewing with a blackish diffuse patch
in the basal half of the costal area and a blackish costal streak nearer at the apex, besides with four irregular
distal lines composed of black, wedge-shaped marks, the fourth being submarginal and more regular than
the others. Fringes with small blackish spots. Length of body: 10.2 mm. Length of wings: 24½ mm. Sarawak.

D. arizona Wilem. ♀ antennae reddish-brown, with a whitish shaft. Head and thorax whitish-grey, arizona.
abdomen greyish-brown, at the base lighter. Forewing whitish-grey, in some parts shaded darker, with a
reniform spot encircled by black, an indistinct black subbasal line, a blackish double antemedian line, a
black, sinuate postmedian line proximally tinted lighter, distally darker, a black, sinuate and interrupted sub-
marginal line. Hindwing dark, in the area of the posterior margin brown, with a darker discal spot and lighter
fringes. Expanse of wings: 44 mm. It may be a form of D. taiwana. Formosa, from an altitude of 7300 ft.
(Arizan) in August.

hued brown. Forewing whitish, hued light brown, in the marginal area shaded darker, with traces of a dark
brown subbasal line below the costal margin, followed by an oblong, dark brown spot. Hindwing whitish. Expanse of
wings: 37 mm. Kanshirei, Formosa. — Larva found on March 8th, crept out on April 6th.

D. olivacea Wilem. ♀. Head and thorax olive, abdomen darker. Forewing olive with black transverse olivacea.
lines; the subbasal line double, below the costal margin broken, the antemedian line is also double and sinuate
and before it there is a black diffuse patch in the costal area, the postmedian line undulate, the submarginal
line interrupted, fringes brownish, with black spots. Hindwing smoky-brown, the fringes at the ends lighter.
Under surface brown, forewing hued blackish, all the wings with 2 sinuate, black postmedian lines; hindwing
with a dark discal spot. Expanse of wings: 44 mm. Kanshirei, Formosa; in April.

D. taiwana Wilem. ♀. Antennae dark brown with a greyish shaft. Head and thorax light grey, in taiwana.
some places darker. Abdomen greyish, lighter at the apex, darker at the anal segments. Forewing lighter and
darker grey with subbasal and antemedian, black, sinuate, lines, the first of which is distinct only towards the
costa, between the lines a blackish nebulous band, the reniform spot margined with black, the postmedian
and submarginal lines black and sinuate. Hindwing darker and with traces of a postmedian line and of the
discal spot. ♀: the postmedian and submarginal lines are sharply marked, and the hindwings are lighter than
in the ♀. Expanse of wings: ♀ 56, ♀ 67 mm. — It may be a local variety of D. strigata Moore. — Formosa;
in May and August.

yellowish-brownish discocellular transverse spot and a similar transverse spot in the dorsal area, both spots
distally bordered by a black zigzag transverse line; a third, similar, though roundish spot is in the dorsal area
somewhat nearer at the base and within this spot there are 2 indistinct transverse lines, whilst in the costal
area 8 indistinct, light greyish transverse streaks are recognizable. In the marginal area 2 black zigzag transverse
lines, the proximal one of which rests on 6 jet-black wedge-shaped spots. Hindwing a little lighter, uni-coloured,
beneath, however, with a black discocellular punctiform spot and outside of it with 2 dark transverse streaks.
The body is coloured like the corresponding parts of the wings. Metathorax with one, the abdominal dorsum
with 3 small scaled protuberances. Expanse of wings: 31 mm; length of forewing: 16 mm. — In the darkest
specimens the forewing exhibits almost no other markings but the discocellular spot. — Formosa, Kosemo,
lying in January, October and December.

D. suisharyonis Strand (47 a). ♀. Forewing light grey with a brown postmedian area and subbasal suisharyonis.
spot, as well as fine transverse zigzag-lines. The subbasal spot extends as far as 5 mm from the base of the
wing and encloses a black longitudinal streak interrupted by a transverse streak. A transverse zigzag-line 6 mm from the base of the wing. About 1 mm distant from the margin extends a black, almost straight transverse line interrupted on the veins. Hindwing uni-coloured greyish-white. Under surface of the forewing whitish, in the terminal half and in the costal area hued greyish. Head and thorax light greyish-brown, abdomen and extremities whitish. Expanse of wings: 49 mm; length of forewing: 24 mm. Formosa, Suisharyo, in February.

D. minor B.-Bak. (38 f). ♀ body and extremities grey, the latter partly black. Forewing greyish-white, in some places speckled darker; the basal line indicated by 2 short streaks, a double, dentate median line of which the proximal line is interrupted by a whitish triangular patch, an undulate, sometimes double postmedian line, then follows a whitish area, and then two interrupted, indistinct undulate lines between this area and the margin; fringes grey and white. Hindwing whitish with a grey marginal area, fringes as in the forewing. The forewing beneath smoky black, at the posterior margin whitish, hindwing beneath white, beyond the cell with a dark longitudinal streak very distinct on the costal margin. Expanse of wings: 40 mm. British New Guinea.

D. kenricki B.-Bak. ♀ head and thorax grey, palpi brownish-black with a grey apex, abdomen yellow with dark transverse bands and a dark anal brush. Forewing grey, speckled lighter and darker, in the basal area whitish; a broad, dark median band angled blackish at the sides, then follows a still darker band enclosing the discocellular spot, then a postmedian, dentate, blackish line and a subterminal similar one. Hindwing yellow with a blackish postmedian band not reaching the apex. Expanse of wings: 62 to 63 mm. Dinawa in British New Guinea.

D. vitensis B.-Bak. (38 f). ♀ greyish-whitish, abdomen perhaps a little darker. Forewing with fine, reddish-brown markings: in the basal half of the costal area 4 short transverse streaks, the median line and antemedian line fine and partly interrupted, the postmedian line irregular, serrate, curved, the subterminal line irregular and interrupted at the veins; fringes white. Hindwing very pale brownish-white, the veins dusted darker, fringes white. Expanse of wings: 44 mm. Fidji Islands.

D. subnigra B.-Bak. (38 f). ♀ head and thorax light grey, palpi black with whitish tips; abdomen dark brown, below and at the end whitish. Forewing greyish-white, speckled darker grey; a subbasal, dentate black line interrupted in the cell, double and undulate median lines, a dentate postmedian line and a marginal line; between the two latter a whitish streak. Hindwing black with greyish-white fringes. On the under surface the wings are black with a whitish costal margin, the forewing besides with a whitish border. Expanse of wings: 54 to 58 mm. British-New Guinea, in August.

D. subnigropunctata B.-Bak. (38 f). ♀ body and extremities grey. Forewing white, scantily speckled grey; the basal line only anteriorly recognizable, the median line interrupted, the postmedian line more distinct and undulate. The submarginal line distinct, but interrupted on all the veins. Hindwing white, in the marginal area somewhat greyish. Beneath both wings white, very feebly speckled grey, with a very prominent, black, discocellular punctiform spot. Expanse of wings: 50 mm. British New Guinea, in August.

D. brunnea B.-Bak. (38 f). ♀ forewing grey, speckled brown, the basal and median lines dark and interrupted, the postmedian streak distinct, dentate, and on the costal margin double, between this streak and the fine, dark submarginal line extends a light grey, deeply dentate transverse stripe; the discocellular spot grey with a darker pupil; fringes light brown. Hindwing dark brown with lighter fringes. Beneath both wings are brownish-grey; forewing with an ochreous costal margin, a blackish discocellular spot and whitish fringes, the hindwing shows anteriorly pure white, posteriorly partly darker fringes. Head and thorax with brown and whitish scales, palpi black with grey tips, abdomen brown with a lighter apex. Expanse of wings: 54 mm. Dinawa in British New Guinea, in August.

D. ignotana spec. nov. (38 d, as ignotata). ? from New Guinea. ♀ dustily and insignificantly coloured above and still more so beneath, both wings beneath being coloured as the hindwing above (uni-coloured), except a small yellowish patch near the base of the forewing. Thorax beneath and laterally, head, palpi and legs as the thoracic dorsum, tarsi above black, beneath light yellowish. Expanse of ♀ wings: 70 mm.

D. praestula Fldr. (47 a). Placed into the genus Anchynura by the author. ♀ wings white, the forewing with a brownish costal margin and border, and above with a dark terminal band. Twice smaller than Laelia coenosae Hbn. Amboina.

D. grossa Pag. (38 g). ♀ described from Amboina, has an expanse of 65 mm, is whitish-grey, the legs with blackish spots, forewing with blackish transverse lines and a slanting macula bordered with blackish. A double transverse line at ⅔ of the wing dark leaden grey, proximally to it is a plain, dentate line; the macula is proximally accompanied by a grey, distally by a dentate transverse line, near the distal margin two likewise dentate undulate lines. Hindwing yellowish with a border shaded with blackish, and yellowish-grey fringes. Under surface yellowish-grey with blackish traces of the dark macula and of the distal
transverse line of the forewing, on the hindwing a dark discal dot and a dark band near the border. — ♀ antennae feebly combed. Abdomen greyish-yellowish, on the 3 first rings yellowish hair-pencils. The spaces between the dark undulate lines on the forewing are yellowish-brown. At the distal margin behind the last 2 undulate lines there is a broad, leaden-grey band. Hindwing yellowish-grey, at the base more densely haired and thereby appearing darker. Length of wings: 51 to 63 mm. Also in the Philippines, Java, Singapore, Waigeu. The smallest specimens from Singapore. The ♀♂ vary a great deal in size; a specimen just as large as the figured one, labelled „New Guinea?“, I have seen from Waigeu.

D. fidjiensis Mab. Vuill. (41 f). ♀ wings greyish-white, the forewing with fine, blackish, interrupted fidiensis and indistinct zigzag transverse lines slightly thickened on the costal margin, thus being more distinctly prominent; at the same place also traces of isolated spots. Before the fringes extends a fine, black line formed of crescents. The hindwings are without such transverse lines, but in the dorsal area and apical area slightly darkened, somewhat reddish. Beneath the wings and body are white, but the forewing is hued reddish at the costal margin and apex, whilst the hindwing shows in the cell a brown bow and the margins hued reddish. Antennae white with red teeth. Expanse of wings: 42 mm. Fidji.


Palpi rather long, projecting far beyond the frons, densely haired. ♀ antennae with very long combs. Thorax and abdomen smooth, the latter densely haired. Posterior tibiae quadricalcarate. In the forewing 7, 8 and 9 are on a footstalk, 10 rises from the cell and is sometimes connected with 8 and 9 before 7, forming a very small areola which is sometimes absent; 11 does not anastomose with 12 (in contrast with Axiologa). In the hindwing the veins 3, 4 and 5 rise separately near the cell-angle, 6 and 7 on a short footstalk or connate, 8 connected with the cell before the middle. ♀ with rudimentary wings. Type: „Dasychira“ („Teara“) rotondata Wkr.

1. rotundata Wkr. ♀ whitish. Head in front on each side black. Palpi black. Antennae with reddish-yellow teeth. Abdomen above reddish-yellowish. Legs partly black. Forewing with some black spots at the base and with 2 irregular, angled, double, almost interrupted black bands, one at ⅓, the other beyond ⅔ of the length; beneath with a black discal spot. Hindwing grey, in the middle whitish and with white fringes. Expanse of wings: 41 mm. Tasmania, Australia, Moreton Bay.


Palpi moderately strong, haired, porrect. ♀ antennae combed. Thorax and abdomen without a tuft, the base of the abdomen above densely haired. Posterior tibiae with two pair of spurs. In the forewing 10 is connected with 8 and 9 opposite 7 and thereby forms an areola; 11 anastomoses shortly with 12. In the hindwing 5 is at the base very near to 4, 6 and 7 on a short footstalk. ♀ antennae with very long combs. Thorax and abdomen smooth, the latter densely haired. Posterior tibiae quadricalcarate. In the forewing 7, 8 and 9 are on a footstalk, 10 rises from the cell and is sometimes connected with 8 and 9 before 7, forming a very small areola which is sometimes absent; 11 does not anastomose with 12 (in contrast with Axiologa). In the hindwing the veins 3, 4 and 5 rise separately near the cell-angle, 6 and 7 on a short footstalk or connate, 8 connected with the cell before the middle. ♀ with rudimentary wings. Type: „Teara“ pura Luc.

A. pura T. P. Lucas. ♀ 40 mm. Snow-white. Antennae creamy ochreous. Forewing oblong, feebly pura, expanded, costa rounded off, the margin obliquely rounded off; they are everywhere scantily speckled with very fine black dots, a sinuate, dentate, fine black line extends from ⅔ of the costal margin to ⅔ of the proximal margin, and a similar line is right before the apex of the costa, growing, however, less distinct towards the proximal margin, moreover an undulate marginal line; fringes white, with a smoke-coloured basal line. Hindwing and fringes snow-white. Brisbane; reported to be very rare.


Wings large and broad, the forewing subtriangular with an almost straight and very little oblique border, 3 being twice as distant from 4 as 4 is from 5, from the apex of the areola there rise 7 and the footstalk of 8, 9 and 10. Spurs long. Type: M. caligrama Wkr.

M. plagidotata Wkr. (47 b). Head and collar black dusted with white. Palpi orange. Antennae black. Thorax and abdomen white, dusted with dark. Anal segments of the abdomen orange. Forewing white, speckled dark, with a brown discocellular moon-spot and brown costal-marginal spots before, in and behind the middle, as well as with a brown marginal band from the apex to vein 2, where it is narrowed. Hindwing white with a round black discocellular spot, a submarginal spot on the veins 2 and 3, a costal spot near the apex and on the margin, the marginal area slightly speckled with black. Expanse of wings: ♀ 66, ♀ 72 mm. India, Darjeeling.

M. albostrriata Hmps. ♀ head and thorax red-brown. Abdomen black with an orange anal brush and albostrriata, white-fringed segments. Forewing red-brown with white-streaked veins and a basal white patch enclosing a black spot, as well as a subbasal white line, an angular antemedian line, a distally curved potmedian line
connected by a streak with the antemedian line, and almost touching a proximally curved submarginal line. Hindwing white with some black spots near the apex and on the margin, as well as two large spots near the anal angle. Both wings beneath white, with a brown apex. Expanse of wings: 60 mm. India: Manipur, Nágas.

**M. ruficeps** **Hmps.** ♀. Dark reddish-brown, head and collar reddish, anal brush greyish. Forewing with an indistinct, pale antemedian line, a dark discocellular spot, a dentate, light postmedian line, slightly curved distally at vein 5. Marginal area and fringes on both wings are yellow. Expanse of wings: 30 mm. India, Bhutan, at an altitude of 2500 ft.

**M. irrorata** **Moore** (= flavimaculata **Hmps.**) (47 a). ♀ head and thorax reddish-brown, abdomen dark with an orange anal segment. Forewing one-coloured whitish-brown, strewn with darker scales, at the end of the cell a yellow patch enclosing a black spot. Hindwing greyish-white, the middle of the marginal area dusted with brown. Expanse of wings: 64 mm. — ♀ ochreous. Forewing ochreous-white, scantily scaled red-brown, at the end of the cell a pale spot, enclosing a brown discocellular line. Hindwing ochreous-white, in the marginal area scantily scaled red-brown. Expanse of wings: 57 mm. Sikkim.

**M. caligramma** **Wkr.** ♀ head and thorax dark brown with yellow hair. Abdomen dark with yellow-fringed segments and an orange anal brush. Forewing dark brown with yellow veins, a subbasal, oblique, yellow line, an antemedian, angled line connected with a doubly angled postmedian line touching an undulate submarginal line; discocellular spot yellow. Hindwing smoky black, fringes ochreous. Expanse of wings: ♀ 50, ♀ 58 mm. India.

### 5. Genus: Rajacoa Swinh.

♀ antennae doubly combed as far as the tips, the teeth ciliary and moderately long. Palpi short, hairy, erect. In the forewing the discocellular is almost straight, vein 2 from the middle of the cell, 4 from the angle, 3 midway between 2 and 4, 5 from behind the middle and somewhat curved, 6 rising below the upper angle, and 7 on a footstalk, 9 from 10, forming the arco by anastomosing with 7 and 8, 11 from ½ before the end of the cell. In the hindwing the posterior half of the discocellular is projecting, 2 from ½ before the posterior angle of the cell, 4 from the angle, 3 from the middle between 2 and 4, 5 a little before the angle and curved, 6 and 7 on a long footstalk. Type: "Cypra (?)" **forbesi** **Druce.**

**R. forbesi** **Druce.** ♀ body and legs pale yellow, antennae black. Forewing semi-hyaline white, at the base and partly at the black costal margin yellowish. Hindwing semi-hyaline white. Expanse of wings: 49 mm. New Guinea, Milne Bay, Fergusson Island.

**R. antra** **Swinhoe.** ♀. Allied to **R. forbesi** **Druce,** though smaller etc. Dirty white, wings semi-hyaline, forewing with greyish margins, hindwing with a greyish border. Antennae grey with white shafts. Body above white, beneath yellowish. Frons white. Expanse of wings: 42 mm. Humboldt Bay (New Guinea).

### 6. Genus: Orgyia O.


**O. viridescens** **Wkr.** (42 g). ♀ deviates from **O. postica** by the base of the forewing and the vertex being spotted light; the ante- and postmedian lines are separated afar behind the cell and the space between tinted much more bluish-green than purple-coloured; the submarginal line with a white moon-spot near the anal angle. Hindwing paler, with traces of a curved postmedian line. Expanse of wings: 30 mm. Ceylon.

**O. turbata** **Btlr.** (42 h). ♀ body brown and grey. Forewing brown with an orange hue, with indistinct, dark, undulate, subbasal, antemedian and postmedian lines approaching each other towards the posterior margin, at the end of the cell an indistinct, dark spot, orange spots in the middle of the cell, at the apex of the wing and at the anal angle. Hindwing red-brown. Expanse of wings: 24 mm. India: Karen Hills, Malacca, Burma, Province of Wellesley.

**O. senica** **Hmps.** (42 h). ♀ brown, forewing red-brown with 3 grey, sinuate transverse bands, the two distal ones of which are connected behind the middle by a longitudinal streak; in the marginal area towards the anal angle a whitish patch. Hindwing reddish with a dark base. Expanse of wings: 34 mm. India: Chitral, 10 000 ft.

**O. varia** **Wkr.** (42 h). ♀ forewing greyish-brown, with a greyish-whitish median area proximally and distally bordered each by a narrow, towards the margin convex, blackish double transverse band and enclosing a transverse row of dark spots. The basal area in the costal area with 4 or 5 dark spots, the apex of the wing yellow. Hindwing in the basal half greyish-brown, in the terminal half yellow. Expanse of wings: 25 mm. Sarawak.
**ORGYIA. By Dr. E. Strand.**

0. *dimidiata* Wkr. (42 h). ♀ forewing orange-yellowish with darker undulate lines, the discal area *dimidiata*. posteriorly whitish, this area proximally bordered by a black transverse spot, the posterior half of the marginal area dusted dark brown. Hindwing and abdomen greyish-buff. Expanse of wings: 23 mm. Sarawak.

0. *nebulosa* Wkr. (42 h). ♀ ferruginous reddish-brown, beneath greyish-brown. Palpi porrect, hairy, *nebulosa*. obtuse. Antennae long-combed. Forewing coloured shade-like, in the middle of a darker brown; the proximal, median and distal lines blackish and dentate, the second proximally margined with white; a submarginal line composed of blackish moon-spots. Length of body: 8 mm; expanse of wings: 20½ mm. Sarawak.

0. *osseata* Wkr. (42 h). ♀ brown. Palpi broad, hairy, obtuse. Antennae with very long combs. Forewing *osseata*. purple, with 3 blackish, irregular lines margined with grey, the 4th or submarginal line is the most distinct and formed of blackish moon-spots; the veins are towards the costa of a whitish grey, and a similarly coloured discal spot encloses two interrupted black and brown streaks; at the proximal angle a white streak. Length of body: 9,3 mm; expanse of wings: 25 mm. Sarawak.


0. *flavovittata* Pag. ♀. Allied with *O. postica* (42 i), but somewhat larger and with brownish forewings *flavovittata*. crossed by blackish undulate lines, and blackish hindwings crossed in the middle by a radiating, yellowish stripe from the ground to the distal margin. Shortlands Islands.

0. *nigriplaga* Swinh. (42 i). ♀ antennae grey. Palpi, head, thorax, and forewings olive ochreous, the forewing usually lighter towards the apex and with a blackish-brown discal spot connected by a thin band with a similar, though smaller spot on the posterior margin. Hindwing blackish-brown. Under surface blackish brown with ochreous margins. Abdomen brown. Expanse of wings: 24½ mm. North Borneo (Perissiu). Allied with *O. nigrocoeca* Wkr. (42 i).


0. *postica* Wkr. (= ceylanica Nietn., ludekingi Snell.) (42 i). ♀ 24 to 28 mm. Head, thorax, and *postica*. abdomen brown. Forewing brown, with an indistinct, slanting, subbasal line, undulate ante- and postmedian lines approaching each other at the lower cell-angle, the part between them of a somewhat bluish-grey tint, and with an undulate dark line margined with white on each side of the discocellular; two indistinct, undulate submarginal lines; the apex slightly coloured grey and with some subapical, dark streaks. Hindwing dark brown. ♀ with stunted wings. — Larva half an inch long, yellowish, scantly haired brown, one dorsal and two lateral brown bands, paired tufts of long hair on the 1st and 11th segment directed forward and backward; lateral tufts of grey hair on the 4th and 5th rings, on the dorsum of the 4th to 7th segments tufts of yellow hair, head red. Lives on Caesalpina sp. and on almond-trees and apple-trees. Pupal stage in Manila for 5 or 6 days. — It flies in Luzon in January to April, July and October. India, Formosa, Ceylon, Burma, Borneo, Java, New Guinea, Celebes, Ambon, New Pomerania. — *ocularis* Moore deviates from typical *O. postica ocellaris*. by its smaller size (expanse of wings: 21½ mm), lighter colouring and less distinctly prominent marking. Calcutta.

0. *australis* Wkr. (42 i). ♀ grey, uni-coloured; ♀ (= canifascia Wkr.) is dark brown, forewing with 2 black zigzag transverse lines and between them a whitish nebulous band partly covered by 2 black moon-spots forming the discal marking, near the base a grey spot and another one near the anal angle, at the apex a whitish patch cohering with 3 black longitudinal streaks, marginal spots black and moon-shaped. Expanse of wings: 33 mm. Larva brownish-grey with very long hair. Head with a tuft of long, black, knotted hair on each side Australia (Brisbane).

0. *retinopepla* Lower. ♀ head, antennae and legs dull white, face and legs mixed with an ochreous *retinopepla*. brownish tint; pinnae brown. 8. Thorax and abdomen ochreous-brown, beneath greyish-white. Forewing oblong-triangular, the costal margin slightly curved, the distal margin gently rounded; light ochreous-brown, markings of a darker brown; two extinct bands, the first from ⅓ of the costal margin to ⅔ of the proximal margin, distally curved, its costal margin blurred, the second from ⅔ of the costal margin to ⅔ of the proximal margin, triangularly expanded on the costal margin, behind the middle proximally curved and everywhere margined with
a narrow, dull white line; in the middle between the two bands a discal spot; fringes light ochreous-brown with a darker basal line. Hindwing light ochreous-brown with a lighter base and whitish-ochreous dorsal hairing; fringes as in the forewing. 24 mm. Broken Hill (New South Wales); in October.

hemicalla.  

O. hemicalla Lower. ♂ head, thorax and antennae blackish, pinnae 8. Face, palpi and legs orange. Abdomen blackish with an orange anal brush. Forewing moderately oblong, the costal margin almost straight, the distal margin very much rounded and oblique; dark brown, the costal margin from 2/3 to the apex narrowly orange, fringes orange. Hindwing of a bright orange; the basal half dark brown, somewhat irregularly shaded; fringes orange. 20 mm. Melbourne (Victoria); in November.

anartoides.  

O. (Teia) anartoides Wkr. (42 i) is larger than pusilla (42 i): expanse of wings: 33 to 34 mm. Forewing dark brown with a brownish-yellow darker squared median area and bent convex towards the margin, and a similar marginal band. Hindwing of a bright yellow with a black marginal area and yellow fringes. Palpi yellow. Forelegs curled yellow and black. Larva on Acacia. South East Australia and Tasmania. — pusilla Bttr. (42 i) is a form of O. anartoides Wkr.; smaller, the forewing more intensely red, more scantily scaled greyish-white, the hindwing with a narrower black marginal band. Expanse of wings: 21 to 30 mm. Sydney, Melbourne (South East Australia).

nigrocrocea.  

O. nigrocrocea Wkr. (42 i). ♂ Ochreous. Abdomen and hindwing brownish-black. Forewing with a very broad, finely spotted, brownish-black band, posteriorly extending to the distal margin and being blurred and shortened towards the costa; under surface brownish-black except the costal margin and apex. Length of body: 8 mm. Expanse of wings: 22½ mm. Sarawak, Matang (Borneo).

nucula.  

O. nucula Swinh. ♂ antennae, thorax and forewing chestnut-brown, the latter with a subbasal brown band bordered on each side by a light line and adjacent to a white spot, besides a discal brown band rather close at the margin, a whitish apical spot and some whitish marginal spots. Hindwing jet-black. Fringes of all the wings ochreous. Both wings beneath jet-black. Expanse of wings: 24½ to 30 mm. India. Shan States, Cherra Punji, Khasia Hills.

tisada.  

O. tisada Swinh. ♂ brown, with a faint reddish hue; palpi on the inside, the body beneath and the legs almost white. Veins on the wings brown, the costal and marginal area of the forewing dark brown and with a large, dark brown discocellular spot. Expanse of wings: 20 mm. Margin of the forewing very much rounded. Java, Sumatra.

tricolor.  

Note: O. tricolor H.-Schaff. (24 i), described from South Africa; according to HY. Edwards (in: Vict.-Natur. 8, p. 152, 1891), however, it occurs in Australia, which is probably a mistake.


Palpi short, porrect, with rough and long brushes. Antennae (of the ♂) subseriate, roughly haired. Forewing: vein 2 rises far before the cell-angle, also 3 before the angle, 4 and 5 from the angle, 6 from behind the anterior angle, 7 from the apex of the areola, 8 and 9 from the areola and with a long, very much curved footstalk, 10 from the areola near 8, 11 anastomoses shortly with 12 and extends then near 10. Hindwing: 2 far before the angle, 3 likewise before the angle, 4 from it, 5 distinctly from before the angle, 6 and 7 on a footstalk, 8 feebly bent towards 7 which it touches.

ochracea.  

N. ochracea B.-Bak. (45 a). ♀ body greyish ochreous, roughly haired. Forewing ochreous-grey with a light antemedian line, an almost dentate postmedian line adjoining the light reniform spot, a subterminal row of dark, whitish-marginated patches between the veins, very prominent in the subapical area, disappearing, however, behind the veins 4 and 5; an irregular, dark, broken antemarginal line. Hindwing uni-coloured creamy-yellow. Expanse of wings: 36 mm. British New Guinea, in February.


In contrast with the Orgyia which the genus approximates otherwise, the ♀♀ are here always fully winged. As to further particulars about the genus vid. in the Palearctic Part, Vol. II, p. 120.

sagrara.  

A. sagrara Swinh. ♂ chocolate-brown, the apical third of the wings with darker veins. Under surface lighter, with a yellowish tint. Palpi and fringes of a light pinkish-brown. Expanse of wings: 32 mm. Rajputana, Jubbulpore Belgaum (India).
A. clara Swinh. is allied with A. pyrchochroma Wkr. (Vol. II, t. 19 i). ♂ nut-brownish red, the terminal clara. halves or thirds of the wings smoky black like the long-combed antennae are, fringes red. ♀ light reddish, the wings semi-diaphanous. Expanse of wings: ♂ 27, ♀ 32 mm. It flies in September and October near Bombay.

A. aurantifascia Hmps. ♂ body blackish-brown. Forewing brown with a dark green admixture, traces auranti-fascia. of subbasal and antemedian lines, as well as with an indistinct, undulate postmedian line and two submarginal lines. Hindwing black with a bright orange band from the base through the cell as far as near the margin, but interrupted by a broad black band on the discocellular; in the dorsal area two orange bands speckled with black scales; fringes orange. Under surface orange with broad black margins, a black discocellular band, and bands on the median veins of both wings. Expanse of wings: 44 mm. India. Naga Hills, 6000 ft.

A. xerampelina Swinh. (47 a) is said to be closely allied to the European Dasych. selenitica (Vol. II, t. 19 e). ♂ light reddish-brown, beneath lighter and more reddish, ♀ light brown without any red. Both sexes xerampe-lina. with a brown, crescentiform discocellular spot, in the basal area more intensely brown, and with brown veins in the terminal half and a brown sublimal band. Hindwing in the marginal area a little darker. Expanse of wings: ♂ 29½, ♀ 32 mm. In September and October near Poona in India.

A. atrella Hmps. (42 e). ♂ head and legs reddish-yellow. Thorax, abdomen and wings blackish-brown. atrella. Forewing with a black spot at the end of the cell and very indistinct ante- and postmedian, curved lines approaching each other behind the median. Expanse of wings: 20 mm. Sikkim, Margharita, Khasia Hills. Is said to fly also near Luzon, in May.

A. simplex Wkr. (42 k). ♂: body brown. Forewing yellowish brown, with a postmedian line in the middle simplex. curved distally and edged with light proximally. Hindwing orange, sometimes with a brown margin. Expanse of wings: 30 mm. Nilgiris; North India.

A. campbelli Hmps. ♂: head and thorax olive brown, abdomen grey, in some places darker. Forewing campbelli. light olive with a brown admixture, in the proximal-basal area some white; an oblique, white, brown-speckled band from the costal margin beyond the middle to the middle of the proximal margin is distally dentate at vein 5. Hindwing of a pure white with an olive-brown marginal band. Expanse of wings: 26 mm. Madras.


A. ochripicta Moore. ♂ of a bright ochreous red, forewing along the costal margin and behind the cell ochripicta. slightly brownish. ♀ is light greyish ochreous-brown, with a faint violetish tint, on the forewing the most intensely grey. Expanse of wings: ♂ 29½ mm, ♀ 37 mm. Hongkong, Formosa.

A. nigrofascia Willem. Both sexes have brown forewings, at the base blackened like in the costal area, nigrofascia. with a blackish antemedian band, a blackish reniform discocellular spot, a blackish, blurred postmedian band, a series of blackish moon-spots on the margin, fringes slightly spotted black. Hindwing brown, in the costal and marginal areas blackened. Fringes light greyish-brown. Under surface brown, lighter than above, in some places blackened. Expanse of wings: ♂ 34, 38 mm. Kanshirei, Formosa; April, July.

A. maxima Hmps. (42 e). ♂: body dark brown, antennal shaft at the sides lighter. Forewing blackish- maxima. brown, the cell pale with a black spot in a light halo at the end of the cell, traces of a submarginal line, the fringes spotted light and dark. Hindwing smoky-black with a white band from the base to beyond the end of the cell. Fringes pale. Both wings beneath with a distinctly marked cell-spot and a light discal area. Expanse of wings: 52 mm. Ceylon.

A. major Hmps. (42 e). ♂ deviates from A. maxima by the head, thorax and forewings being ochreous- major. brown, the forewing without a light band in the cell, the black spot in a white area and much more prominent, just like the curved submarginal line which is incurred between the veins 2 and 3. Hindwing greyish-brown with a black costal area. Beneath whitish. ♀ ochreous, the wings speckled darker. Forewing with a dark spot at the end of the cell and a submarginal row of indistinct dark spots. Hindwing lighter, except the fringes. Expanse of wings: ♂ 42, ♀ 50 mm. Ceylon, Trevandrum. Reported also from Luzon.
**sienna.**

*A. sienna* Hmps. (42 f). ♀ deviates from *subnotata* by the hindwing being uni-coloured dark red-brown without an orange band. Beneath not hued orange. — ♀ differs from *plana* by a reddish hue. Expanse of wings: ♀ 30, ♂ 36 mm. Nilgiris, Ceylon.

**subnotata.**

*A. subnotata* Wkr. (42 g). ♀ dark red-brown. Forewing with indistinct lines, the cell-spot on an orange patch. Hindwing darker, with an orange discal band from the beginning of vein 2, expanded towards the margin. Beneath the basal and dorsal areas of both wings are hued orange. Expanse of wings: 26 mm. Ceylon, Nilgiri Hills. — According to letters received from Seitz, the ♀ is entirely dissimilar to the ♂, of a light yellowish-grey, the forewing marked with small dark stains; the insect has a stout body, similar to the *Neorgyia ochracea* B.-Bak. (45 a), only smaller and a little more intensely marked. The ♂ ♀ fly on sunny days, but always in the shade of bushes and hedges and only some centimetres above the ground. The ♂ ♂ are in some localities very common.

**fenestriculata.**

*A. fenestriculata* Strand (42 k). ♀ light brownish-grey, in the basal half somewhat ochreous-yellowish. The discocellular punctiform spot is black, near the apex two round vitreous spots, one in area 7 being almost punctiform, the other in area 6 four times as large. Fringes scarcely lighter. Under surface except the costal margin lighter. Hindwing above and beneath whitish, at the apex above feebly dusted with a brownish-grey, at the margin beneath 5 brownish-grey spots. Expanse of wings: 22, length of wings: 12 mm. Central Sumatra. — *kinabaluensis* Strand. ♀ is larger (expanse of wings: 25 to 27 mm), the body with more whitish hair, the dark band of the costal margin of the forewing still more distinctly marked like the marginal spots of the hindwing beneath. The angle of the margin on the hindwing sharper than in *fenestriculata*. Kina-Balu (North East Borneo).

**risoria.**


**socrus.**

*A. socrus* Hbn.-G. (47 a). Forewing ferruginous or merging into orange, in the marginal area dark brown, which colouring is prolonged in the middle of the wing towards the base, but by far not reaching the base; in the middle of the dark area there are two small, blurred spots of the ground-colour to be recognized. Hindwing uni-coloured orange, but with dark fringes. Beneath the forewing is dark at the apex, otherwise uni-coloured yellowish-red, thus lighter than above. Expanse of wings: 35 mm. Java. — Allied with *A. socrus*.

**mirma.**

*A. mirma* Swinh. (42 g). ♀ orange-yellow; the combs of the antennae black, head and thorax brown. Forewing with a large, brown discocellular spot and a dark brown apical band, on the costal margin, distal margin, and at the base some lighter brown spots, only in the middle of the wing there remains a spot entirely void of the brown dusting. Hindwing with a broad dark brown costal area. Beneath the wings are dusted with brown only at the apices, the body and legs of a pale whitish-yellow. The shape of the wings as in *flaveofusca* Swinh. (42 g). Expanse of wings: 24½ mm. Sumatra.

**atrescens.**

*A. atrescens* Hmps. (42 g). ♀ head and anal brush red-brown, thorax and abdomen brown. Forewing blackish-brown, the fringes of both wings red. Expanse of wings: 20 mm. India (Khasis).

**glebula.**

*A. glebula* Swinh. (42 g). ♀ dark brown. Forewing with an indistinct, whitish, fine, antemedian transverse line and a similar, distally curved discal line. Hindwing uni-coloured. Fringes ochreous with darker spots. Expanse of wings: 24½ mm. Padang (West Sumatra).

**niasana.**

*A. niasana* Swinh. ♀: palpi and frons ochreous, antennae purple black, body and wings black, a high longitudinal streak below the cell in each wing, a light moon-spot at the end of the cell of the forewing. The wings beneath as above, abdomen beneath ochreous. Expanse of wings: 29½ mm. Nias.

**cometaris.**

*A. cometaris* Btlr. (42 h). Forewing light smoky-brown with indistinct black figures. Hindwing dark greyish-brown, the costal third except the margin, black, the latter as well as a broad, proximally narrowed longitudinal streak white. Body dark greyish-brown. Forewing beneath whitish brown with a blurred marking. Hindwing almost as above; body whitish brown. Expanse of wings: 43 mm. Alu (Salomons), Guadalcanar.

A. Leucogramma Fldr. (42 f, misprinted into leucogramona). Black, the wings in the basal area a little greyish, with a small, whitish-grey, at both ends pointed inverse spot at the end of the cell. Teeth of the comb brown. Expans of wings: 28 mm. Length of wings: 12 to 13 mm. It flies in January in Luzon.

The size of the white spots is variable, particularly on the hindwings, where they are sometimes expanded across the whole middle of the wing (ab. expansata ab. nov.). For this reason, leucogramma and Luisa may be expansata of the same species. — The larva lives in Manila on bamboo, it is of a light yellow, feebly haired yellowish, with a brown longitudinal stripe on the dorsum and a brown head. On the head with two tufts of long dark brown hair and at the anus with one similar tuft, on the dorsum of the 4th to 7th joints with one tuft each of yellowish-brown hair. Pupal stage in Manila in January for 12 days.

A. Exoleta Swinh. ♀ red-brown. Palpi yellow. Antennae dark brown. Forewing with a large, distinctly marked white spot in the middle of the cell and another one at the end of it. Abdomen and hindwing reddish, the latter in the marginal area brownish. All the fringes light reddish. Under surface reddish-yellow, with two white spots in the forewing as above, and a similar white spot at the end of the cell in the hindwing. Expans of wings: 32 mm. Queensland.

A. Flaveofusca Swinh. (42 g). ♂ body brown, head ochreous. Forewing brown, with a large ochreous area and a large black discocellular spot. Fringes ochreous, spotted with brown. Hindwing brown, the posterior margin and more than a third of the posterior part of the wing ochreous. Expans of wings: 19½ mm. Borneo, Lawas, Sandakan.

A. Plana Wkr. (Vol. II, t. 22 d) with the form junctifera Wkr. see in the palaearctic part, Vol. II, p. 120—1. plana.

A. Ochracea Moore, described from Calcutta, is one-coloured, of an intense ochreous tint. Expans of wings: 34 to 42 mm. The larva lives on bamboo; pupa on the 19th of October, imago on the 28th of the same month.


— At the same place A. Cinnamonomea Moore with the form aurantiaca Warr.


Medium-sized, mostly dark lepidoptera with long, stout palpi extended obliquely forward, bi-combed antennae and moderately long wings, the border of which is almost straight. Distributed in Southern and Eastern Asia. As to the palaearctic forms comp. Vol. II, p. 121.


C. Cervina Moore. ♀ deviates from C. locuples by its dark brown colouring; forewing with a purple cervina hue and a black discocellular moon-spot, the postmedian band is proximally bordered by an almost straight line; no marginal spots. Palpi and legs blackish. Expans of wings: 54 mm. Sikkim.

C. Biundulans Hmps. (42 k). ♂ ochreous. Abdomen hued brownish. Forewing with a light, doubly biundulans, sinuate antemedian line, proximally bordered by a broad dark band, besides with a faintly undulate, light postmedian line midway very much curved distally and with a dark hue along its distal side. Hindwing lighter with traces of dark speckles. Expans of wings: 22 mm. India (Khasis).


Forewing triangular with a sharp apex and an oblique border, 2 being very distant from 3, 6 rising from the angle, 7 and the long footstalk of 8 and 9 from the apex of the areola, 10 from the areola directly before its apex. The proximal margin of the hindwing is long, 3 and 4 on a footstalk and rising like 3 from the cell-angle, 6 and 7 on a footstalk. Palpi porrect, projecting little beyond the frons. ♀ antennae with long combs.
**M. melanochlora** *Hmps.* (42 h). ♀ blackish-brown, head and thorax in some places marked green, Forewing with a green basal patch, a green streak at the base of the posterior margin and a green band beyond the upper angle of the cell. Hindwing browner. Expans of wings: 36 mm. ♂ deviates by broader and more rounded wings, shorter teeth of the antennae, in the forewing by a sharply marked white undulate line from the apex to the anal angle. Hindwing with traces of a light submarginal band near the anal angle. India (Bhutan).


Beside the 15 forms enumerated in the Palearctic Part of the „Macrolepidoptera“, Vol. II, p. 122, there occur 20 more forms in the Indo-Australian region, extending from North India to Australia. HAMPSON inserts in this genus quite a number of other genera, some completely, some only partly, such as *Procodeca*, *Ricene*, *Charnidas*, *Repaea*, *Odagra* *Wkr.* and *Laelioides*, *Hondella* and *Harapa* *Moore*. As to the genus itself, which is confined to the palearctic and Indo-Australian regions, comp. Vol. II, p. 121.

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**adalia.**

**L. adalia** *Swinh.* (42 e). The ♀ has a red-brown head, thorax and forewing, in the ♂ lighter and more red, a black moon-spot at the end of the cell, a light streak in the basal half of it. Abdomen and hindwing reddish-grey, in the ♀ of the lightest and most intense red. Under surface lighter. Expans of wings: ♂ 27, ♀ 51 mm. Jaintia-Hills. — It may be a large form of the palearctic *L. exclamations* (Vol. II, t. 19 i).

**striata.**

**L. striata** *Wilem.* (42 e). ♀: head and thorax whitish with a reddish-brown hue, at the base of the antennae a red spot. Palpi light brown above, blackish and reddish beneath. Forewing greyish-brown; veins, streaks between the veins and fringes whitish, with a pinkish-reddish tint; a series of 7 black spots in the marginal area, of which 4 and 6 are linear. Hindwing and abdomen whitish. Under surface whitish, in the forewing of a darker tint. Expans of wings: 48 mm. Kanshirei (Formosa), in April.

**fulvata.**

**L. fulvata** *Hmps.* (42 d). ♀: orange-yellow. Forewing with a sublimbal row of sharply marked, black spots; the spot in the area 6 is removed the farthest towards the margin, whereas those before and behind vein 2 form a row subparallel to the posterior margin. Hindwing lighter. Expans of wings: 52 mm. Ceylon.

**umbrina.**

**L. umbrina** *Moore* (Vol. II, t. 20 a). ♀ deviates from *L. fasciata* (42 b) by the head, thorax, forewing and legs being dark reddish brown, the palpi ochreous, abdomen and hindwing dark brown. Expans of wings: 39 mm. In India widely distributed and reaching the palearctic region in Cashmir. Vid. Vol. II, p. 122. — *ada*. In Simla there flies a form that is yellowish-brown with blurred spots (♀ *ada* form, nov.), in Travancore a yellowish-travancar. brown form, the female being ochreous (♀ *travancar* form. nov.).

**cardinalis.**

**L. cardinalis** *Hmps.* (42 d). ♀: deviates from *umbrina* (Vol. II, t. 20 a) by the head, thorax, forelegs and forewings being of a bright scarlet or reddish-brown; hindwings black. Abdomen black with a reddish hue. Expans of wings: 32 to 38 mm. Ceylon.

**atestacea.**


**suffusa.**

**L. suffusa** *Wkr.* (= angulifera *Wkr.*, subrufa *Smuell*. 1879 nec 1872) (42 d). ♀: extremities ochreous, body and forewing white, with a faint reddish hue, the forewing with a submarginal row, posteriorly incurred as far as the middle of the dorsal area, of 7 black spots. Hindwing pale, towards the margin hues darker. ♀: head, thorax and forewing uni-coloured, light ochreous, abdomen and hindwing white. India, Ceylon, Java, Celebes, Luxon, Bago. — Larva black, with long whitish hair, with tufts of long, spatulate, black hair on the sides of the 1st and in the middle of the 11th segment, the 4th to 7th segments with four brown dorsal pencils, the 9th and 10th segments with round, whitish dorsal tubercles, one subdorsal and one sublateral yellow line, as well as yellow lateral streaks. Head and legs brown or black. It lives on grasses. Pupa in a rather loose, reddish or brownish cocoon.

**devestita.**

**L. devestita** *Wkr.* (= pallida *Moore*, laetca *Moore*) (42 g). ♀: head, collar and legs light ochreous, thorax, abdomen and wings white with a very faint ochreous hue, sometimes with faint traces of a submarginal, curved row of black spots on the forewing. Expans of wings: ♂ 36, ♀ 42 mm. India, Formosa.

L. fasciata Moore (= testaceoa Moore) (42 b). ♀: head, thorax and forewing reddish chestnut-brown, *fasciata*. Antennae speckled with grey scales, in the dorsal and marginal areas lined greyish, the latter area with a row of black punctiform spots interrupted between the veins 3 and 4. Abdomen and hindwing lighter. ♂ with a less grey hue on the forewing. Expanse of wings: ♀ 36, ♂ 40 mm. Ceylon, India. — rubripennis Moore *rubripennis* from Burma has indistinct spots and almost white hindwings. Is reported also from Luzon, flying there in April.

L. moszkowski Strand (42 e). ♀: forewing in the basal half dark brown with lighter transverse patches, at the base in front purely black, in the cell dark brown; the terminal half light brown, somewhat ochreous-yellowish, with a darker marginal line and a subliminal row of black transverse spots; fringes brown. Hindwing above greyish-black, with a jet-black median punctiform spot. Forewing beneath dark brown with traces of a darker disocellular patch and a lighter posterior margin. Body and extremities uni-coloured brown. Expanse of wings: 35, length of wings: 19 mm. Central Sumatra.

L. prolata Steinh. ♀: white. Palpi ochreous. Antennae greyish-brown, head and anterior part of prolata. the thorax ochreous. Forewing with an ochreous costa, both wings and the abdomen purely white and unmarked. Beneath as above. Legs ochreous. Expanse of wings: 30½ mm. Moulmein; Kangra in North India; Borneo.

L. costalis Mats. In both sexes the forewings are grey, in the middle dotted black, at the base of both costalis. margins dirty yellow, from the base to the apex a brownish longitudinal line, the apex in the ♀ obtuse, in the ♂ sharp. Hindwing whitish, with light yellow veins and fringes. Beneath lighter. Abdomen whitish, the rest of the body yellowish. Expanse of wings: ♀ 35, ♂ 44 mm. Formosa.

L. ochripalpis Strand. ♀: forewing smoky-black, the base of the areas 2, 3 and 4 jet-black, the dorsal ochripalpis. area beneath whitish. Hindwing dirty-white. Abdomen and legs grey. Head and thorax brownish-grey, frons lighter than the thorax, palpi ochreous-yellow, antennae light grey with black pinnae. Expanse of wings: 30 mm. Formosa (type in the German Entomolog. Museum at Berlin), Dahlem.


L. calamaria Hmps. (42 d). Both sexes light mouse-coloured brown. Forewing with a curved and calamaria. undulate row of black spots from the costal margin near the apex to below the base of vein 2. Hindwing of a somewhat darker brown with lighter stripes. Expanse of wings: ♀ 42, ♂ 54 mm. — Larva light reddish-brown and with scanty, long hairs, the 1st segment with long, brown, lateral hair-tufts, the segments 2 to 5 with red hair-pencils, the anal segment with a long hair-tuft turned backward. Food-plant: Calamus huegeliannius Mart. India, Nilgiris.

L. acuta Snell. ♀: Palpi and forehead ochreous-brown. Antennae white with greyish-yellow pinnae. *acuta*. Vertex and thorax silvery white, of which colour the wings are, too, with a satiny lustre. The costal margin of the forewing with a yellow band being as fine as a hair at the base, gradually growing broad towards the apex. At the middle of the distal margin the wings exhibit a grey spot. Abdomen white, at the sides posteriorly with a dark ochreous-yellow stripe. Expanse of wings: 32 mm. Manila.

L. venosa Moore. ♀: above light ochreous-brown. Veins of the forewings and fringes of both wings venosa. ochreous-white. Fronds, head, palpi and abdomen ochreous-yellow, thorax above greyish. Under surface lighter. ♂ lighter. Expanse of wings: ♀ 40, ♂ 54 mm. S. Andamans, Sikkim, Singapore. In Darjeeling there occurs a form with an expanse (♀) of only 32½ mm, being lighter with almost whitish hindwings and with a lighter discocellular spot: *venosula f. nov. (42 b)*.

A number of Laelia-forms occur in the districts bordering on our region and have therefore already been dealt with in the Palearctic Part, Vol. II, p. 122, to 123; they are the following:

L. sinensis Wkr. (= brevicornis Wkr.) (42 b) from China is a form allied to *coenosia Hbn.* (Vol. II, t. 19 i), or presumably only its representative in the south east of the palearctic region. It lives also near Hongkong in the Indo-Australian region. Comp. Vol. II, p. 122.


L. *litura* Wkr. is like *exclamationis* (Vol. II, t. 19 i), but dark greyish-brown, its range extending from Cashmir across a great part of India to Tenasserim.

L. *testacea* Wkr. (= uniformis Hmps.) (42 c). Comp. Vol. II, p. 122, also about the forms: *juvenis* Wkr. and *colon* Hmps. (42 c). — The larva of *testacea* is dark flesh-coloured with a lighter dorsal band, in which there is a dark line. Neck canary-coloured. Each segment with tufts of brown hair, at the segments 4 to 7 there are very thick tufts of umbra-brown hair. Head bare and brown.

L. *obsoleta* F. (42 b). White. The costal margin of the forewing and the palpi ferruginous-reddish. Abdomen grey. Expanse of wings: 35 mm. Australia (Port Essington, Moreton Bay). Queensland (Brisbane). — *eremaea* Meyr. (42 b). Both sexes 30 to 34 mm. Head and palpi light ochreous-orange. Antennae white with ochreous-brown pinnæ, in the ♂ 14, in the ♀ 1. Thorax ochreous-white, in front light ochreous-orange. Abdomen ochreous-whitish, in the ♀ beneath orange and above behind with an orange hue. Legs ochreous-orange. Forewing somewhat oblong-triangular, in the ♀ more elongately extended, the border obliquely rounded off; rather thinly scaled, white ochreous, lighter in the ♀, the costal margin more intensely ochreous, particularly in the ♀. Hindwing in the ♀ whitish ochreous, in the ♀ more whitish. Duaringa, Queensland. — There is a ♀ before me, taken by Dr. Seitz near Sydney in October, which I must place to *eremaea* Meyr. It deviates from *L. suffusa* Wkr. (42 d) ♀ (from the typical locality!) by the following marks: forewing a little broader, at the end a little obtuser, the costal margin towards the apex more curved, the ochreous-yellowish dusting of the forewings more intense, the abdomen at the end and beneath intensely ochreous-yellow, the hindwing more pointed with a more oblique border, the abdomen projects but little beyond the anal angle, the basal half of the posterior margin of the forewing is intensely dusted with ochreous-yellow.


Palpi small, porrect, hairy. Antennae with two short combs (♂). Legs hairy, hindlegs with 2 pair of spurs. Forewings: veins 4 and 5 from the angle, 6, 7, 8, 9 and 10 forked, 8 and 9 near the apex, 10 in the middle between 7 and 9, 6 in the middle between the cell and 7. Areola present. Hindwing: 4 and 5 from the angle, 6 and 7 forked.

L. *grisea* B.-Bak. (45 a). ♀: body dark grey, anal segment lighter. Forewing grey, speckled darker, with a blackish, broad, antmedian nudulate band, a blackish spot at the end of the cell, a blackish, interrupted subterminal line rising from two subcostal spots and being angled in the fold. Hindwing uni-coloured grey. Expanse of wings: 50 mm. Babooni in British New Guinea in August.


As to this genus compare what has been said in Vol. II, p. 123 about the genera denoted there as *Arctornis* Germ. and *Stilpnotia* Ww. and *Humphr*. To the 16 palearctic forms enumerated there we add here yet more than 40 Indian resp. Australian forms. The genus is besides distributed in the Ethiopian region and in America.

L. *fenestrata* Hmps. (39 a). Light reddish-white. Forewing with a large, irregular hyaline spot in and beyond the cell-end, a hyaline subapical spot, a chestnut-brown spot at the end of the cell, and numerous indistinct stripes of erect scales. Hindwing with a smaller hyaline spot in and beyond the cell-end. Expanse of wings: 38 mm. Ceylon.
L. seminsula spec. nov. (42 k). A ♂ captured by Dr. Seitz in Hongkong on November 6th is allied to *seminsula. L. fenesratra Hmps.; the forewing is the same except the middle hyaline spot being a little larger, whilst the hindwing deviates more, exhibiting 2 hyaline spots of almost quite the same size and shape as those in the forewings. From *ecnomoda Swinh. it differs among other marks by the subapical hyaline spot being single on both wings. Expanse of wings: 28 mm. Type in the Coll. Seitz.

L. ecnomoda Swinh. (42 k). ♂. Allied with *fenesratra Hmps., but the hyaline spots are much larger *ecnomoda. and differently shaped; in each wing the greatest part of the area is occupied by such a spot being inside uniformly curved and ending in front into a dot below the costal margin, being outside, however, very irregular, forming 3 quadrangular expansions in the forewing, one in the hindwing; in the forewing moreover with an almost subapical hyaline double spot, in the hindwing at the same place a hyaline spot and a similar patch beside it. Expanse of wings: 29½ mm. Java, Sumatra.

L. thyridoptera Hmps. (39 a). ♀: white. Forewing hyaline except the marginal areas. The areas *thyridoptera. of the costal margin and distal margin are a little brownish, four irregular, oblique antemedian lines formed by raised veins, in the disc a patch formed by white scales; the interior edge of the marginal band is angled at the veins 5, 2 and 1, and it shows some streaks formed of raised scales and a faded dark subterminal line. Hindwing hyaline except in the marginal area and posterior margin, from the middle of the cell to the proximal margin an antemedian patch of scales, a discoidal moon-spot, the interior edge of the marginal band is angled at the veins 5 and 2. Expanse of wings: 48 mm. Ceylon.

L. silhetica Wkr. (39 a) is closely allied with *divisa Wkr. (39 a), but it differs by being almost entirely *silhetica. hyaline, whilst in *divisa both sexes are rather densely scaled. Silhet, in the Khasia Hills, common.


L. diaphana Moore (39 a). The ♂ deviates from *divisa by the frons and the costal margin of the *diaphana. forewing being orange-yellow, the antennal combs and the legs hued orange, wings diaphanous with some haired scales; sometimes (fa. *birmanica form. nov.) there are small heaps of scales at the upper and lower angles of the cells on both wings. Expanse of wings: 44 mm. India, Burma, Mupin, Kwei-Chow, Omeishan. There is also a specimen before me labelled „Sumatra“.— lactea Moore (39 a) from Darjeeling, according to the description, is distinguished by black-spotted legs, palpal tips and frons, as well as by the pale ochreous costal margin of the forewing. It is at least to be separated as a side-form of *diaphana Moore. It is not true, what we might presume according to Swinhoe's „Revision“ (1903), that *lactea is the ♀ of *diaphana-♂, for I have seen the ♀ and ♂ of both forms. Nor is it correct what Swinhoe states at the place quoted above, that the types of both forms are in the British Museum; that of *lactea is in the Berlin Museum. The latter is easily discernible from *diaphana by its denser scaling, somewhat larger size and a more robust body.

L. semiochrea H.-Schäff. (47 b). White with an ochreous-yellow thorax, head and anterior hips, brownish teeth of the antennal combs, and a dark, rounded, small spot in the anal angle of the forewing, which spot may sometimes be absent (fa. *alboanalis form. nov.). Australia (Adelaide).


L. discirufa Swinh. (39 b). Ochreous fawn-coloured; forewing with a large, ochreous-red discocellular *discirufa. spot, the fringes, the marginal line and the costal margin on both wings being of the same colour, hindwing in the costal half whith, in the dorsal half as in the forewing, the latter very scantily strewed with some black scales. The whole under surface almost white, the margins of the wings and fringes, however, red. Expanse of wings: 24½ mm. Pulo Laut.

LEUCOMA. By Dr. E. Strand.

L. gigantea Auriv. from Java deviates from subvitrea Wkr. (39 b) by its much larger size (expanses of wings: 61 mm), and by black markings of the frons, palpi and legs: frons with 2 black dots, palpi with black tips, the 1st and 2nd pairs of legs with a subbasal tibial spot, and the basal half of the first tarsal joint black.


L. subvitrea Wkr. (39 b). ♀: purely white. Forewings almost without scales; the few scales present are hair-like, and the membrane is iridescent; in the living imago the veins are apple-green. Expanse of wings: 38 to 42 mm. — Larva and pupa black (comp. Ind. Mus. Notes V. T. 22, h. 4 a and b). Food-plant: Terminalia catappa L. and perhaps others. Hongkong, Formosa, India (Ceylon, Bengal).

L. semihyalina Swinh. (39 c). ♂: purely white, very scantily scaled, the wings lustrous and as hyaline as in L. silhetica Wkr. (39 a). Costa of the forewing slightly ochreous, the discocellular spot black. Antennae hued ochreous. Expanse of wings: 29½ mm. Padang (Sumatra). — The veins 4 and 5 of the forewing are farther remote than is usual in this genus, and the veins 6 and 7 of the hindwing rise on a long footstalk.

L. singaporensis spec. nov. (39 b). ♂: resembles L. semihyalina Swinh. (39 c), the veins of the wings being similar, too. From L. subvitrea Wkr. (39 b) it deviates by its different size, the wings being not at all „almost unsealed“, etc.; from L. transiens Wkr. it particularly differs by the entire absence of the discocellular spot. The whole insect is white, except a faint greenish hue in the forewing, particularly recognizable at and on the veins, so that only the costal margin of the forewing and the fringes of both wings appear purely white on a dorsal view. Antennal pinnae somewhat greyish. Palpi brownish-yellow, frons, vertex and collar greyish. It is open to doubt whether the abdomen is purely white in fresh specimens, since the two specimens before me appear somewhat oily on the abdomen. Expanse of wings: 27, length of forewings 14, length of body 11 mm. Singapore (Coll. Setz).

L. riguata Snell. ♂ and ♀ as L. submarginata Btlr. (39 b), but the forewings all over with undulate, silvery or satiny white lines, and the distal margin of both wings hued grey, the most so beneath, where the grey is dentate towards the base in the ♀. Otherwise the animal is all white; the forewing shows a black central dot, the tibiae and the face are hued grey, the antennae grey with a white shaft, the legs without black dots, 27 to 40 mm. Deli (Sumatra); Java.

L. pulverulenta Snell. belongs to Section II of Hampson’s Fauna of Brit. India. Palpi, head, thorax, and wings above light yellow, the face, antennal shaft, collar and costal margin of the forewing purely white. Forewing thinly and uniformly strewn with dark scales being blackish towards the costal margin, otherwise dark brown. Central dot fine, black. The costal-marginal half and the posterior margin as far as vein 1 b on the hindwing are white, very thinly scaled, almost diaphanous, otherwise like the forewing. Fringes darker light brown. Wings beneath white, fringes hued brown. Abdomen brownish. Legs white, outside brownish, 34 to 43 mm. Deli (Sumatra); Java.

L. geometrica Semp. (39 b). ♂: forewing on both sides pale yellow, with a black discocellular dot and a brown spot right behind the apex of the wing. Hindwing still paler yellow. All the fringes brown. Length of wings: 17 mm. South Mindanao, in January.

L. submarginata Wkr. (39 b). White with brownish palpi and antennae and black-spotted legs. Forewing silvery lustrous with a yellowish costa at the apex, brownish fringes and a black cell-spot. Expanse of wings: ♂ 42, ♀ 50 mm. India, Ceylon, Burma, Java. — transiens Wkr. (39 c) may be distinguished as a side-form. ♂: purely white. Head fawn-coloured with a white band in front. Forelegs with black and ochreous spots. Wings partly with lustrous white scales; fringes with a very faint fawny hue. Forewing with a black dot at the cell-end; the costal margin ochreous. Length of body: 12.2 mm. Expanse of wings: 28½ mm. Walker himself supposes this form to be a variety of submarginata from which it differs by the ochreous costal margin. Sarawak. According to Semper’s figure the insect would be white, in the forewing with a round, black discocellular spot and extremely fine, black, transverse undulate lines, which, on a cursory view, are not conspicuous at all. All the wings with darker fringes. Length of wings: ♂ 17 to 19, ♀ 17 to 20 mm. Flies from November till February, in May and July not rare in the Philippines. Mentioned also from Perak and North Queensland. Specimens, well corresponding with Walker’s description, are before me from Kuranda in Queensland. — hippocria Swinh. is presumably also a collateral form of submarginata. ♂: purely white, wings thinly scaled, forewing with a small black discocellular spot, the whole upper surface of both wings appearing
finely spotted owing to minute silvery scales; costa of forewing and fringes of both wings faintly flesh-coloured. Under surface purely white, with silvery scales as above. Expanse of wings: 32 mm. Singapore. — **sikkima sikkima**. *form. nov.* (39 b) from Sikkim, Darjeeling, is distinguished by the absence of the discocellular spot. — "L. submarginata", inclusive of its forms mentioned above, is besides reported from Sandakan, Pulo Laut, Selangor, Fergusson Island, New Guinea, New-Ireland, New Britain, Chusan Island, Ichang in West China, the Andamans and several other Indian localities. — Larva pale brown with long, dispersed, plain and spatulate hairs; a dorsal tuft of long black hair on the second abdominal ring; subdorsal and sublateral black lines; the first and 2nd abdominal rings anteriorly banded black, the second also with a yellow band. Pupa green with black spots on each side of the thorax, somewhat flattened and curved, suspended in some netted threads.

**L. egerina** Swinh. (39 c). Purely white. Forewing with a brownish costal band and similarly coloured *egerina*. Veins interrupted by silvery spots; the latter form regularly undulate transverse bands across the whole wing. The discocellular spot brown. Hindwing without any marking. All the fringes white, in some places brownish. Allied with *L. submarginata* Wkr., but different by the absence of the 2 brown frontal spots and by other differences. Expanse of wings: 32 mm. Singapore.

**L. cygna** Moore (= *cymbicornis* Btlr.) (39 d) in Eastern Asia towards the south traverses the northern frontier of the Indian region and is reported from Ceylon and the Andamans (comp. Vol. II, p. 124).

**L. saturnioides** Snell. (42 k). ♀ wings for the greatest part unscaled, but there is a marginal band formed of dirty whitish and darker scales, being quite narrow in the forewing at the costal and posterior margins, broadest in the anterior half of the border, narrowest in the area 3, whilst the marginal band of the forewing attains its greatest width in the areas 2 and 5. Body with dirty whitish and interspersed darker scales. Expanse of wings: 37 mm. Celebes, Singapore.

**L. marginalis** Wkr. (39 e). ♂: purely white; head, except the frons and palpal tips, brown. Wings *marginalis*. With lustrously scaled patches and with faint grey streaks along the margin; fringes dark grey. Forewing with a greyish hue in the costal area towards the apex. Length of body: 10 mm. Expanse of wings: 26½ mm. Sarawak, Singapore, Kuching. It flies from October to December in Luzon. — Larva 4 cm long, feeding on Mangifera and Terminalia sumatrana, densely covered with snow-white and lustrous silvery hair, feet and body green, head white and black. Pupa in a very thin web, green with white markings; it rests for 7 days.


**L. flavescens** Moore (39 c). ♂: yellowish-white, frons brown. Antennae light brown, with a white *flavescens*. Shaft. Upper surface with silvery white reflecting scales, margin faintly fawn-coloured. Palpi white with brown tips. Legs whitish. Expanse of wings: 30½ mm. — Southern Andamans, Nilgiris, Travancore, Philippines, where the species flies from November till February, in May and July. Length of wings: ♀ 16 to 18 mm. — **sericea** Moore (39 c). ♂: purely white, frons brown. Antennae light brown with a white shaft. Upper surface *sericea* with lustrous silvery white hair; the costal margin of the forewing is brown, a black spot at the cell-end, the border and fringes of both wings fawn-coloured. Legs white, the anterior and middle legs with black streaks. Palpi light brown with black tips. Expanse of wings: 27½ mm. Southern Andamans.

**L. intacta** Wkr. (39 d). ♀ (according to Swinhoe, the specimen described by Walker is in fact a ♀, *intacta*, not a ♂ as stated), silvery white. Head with an ochreous band between the antennae. Palpi ochreous, not longer than half the width of the head. Antennae short, very broadly combed. Thorax in front with an obliquely rising tuft of scales. The abdomen does not reach to the anal angle. Forewing pointed with a convex and oblique border. Expanse of wings: 39 mm. New Guinea.

**L. niveata** Wkr. ♀: white, palpi beneath light yellow, not projecting beyond the head. Antennae *niveata*. Yellow, with moderately long combs. Tarsi, anterior femora above and anterior tibiae yellow. Wings lustrous, forewing elongate, slightly convex, very oblique. Expanse of wings: 39 mm. Makiam, Celebes.

L. thyridophora Hmps. (39 a as thyridoptera). ♀: body yellowish white. The whole forewing, except the margins, is occupied by a very irregular, hyaline area, but with two antemedian scales and a discocellular band of an ochreous-white colour, some dark scales at the upper angle of the cell and in the centre of the posterior margin, as well as an indistinct submarginal line. Hindwing ochreous-white, with an irregular hyaline area in and beyond the cell-end. Expanse of wings: 50 mm. Sikkim.

L. egens Fldr. ♀: wings scantily scaled, the forewing pointed, fringes and marginal line brownish, body and legs white. Expanse of wings probably about 40 mm. Amboina.

L. subargentea Fldr. In the ♀ and ♂ the wings are densely scaled, silvery white, the forewing obtuse, antennae reddish-yellow, body white, palpi, forelegs and tarsi of the hindlegs reddish-yellow. Amboina.

L. minutissima Swinh. ♀: purely white; frons, antennal pinnae, and tarsi greyish-ochreous, a very small black spot at the end of the cell of the forewing; otherwise uni-coloured white. Expanse of wings: 17 mm. Sarawak (Borneo).

L. pellucida Swinh. (39 d). Both sexes white; palpi and vertex orange, frons white. Wings almost hyaline, with an orange costal-marginal line and the fringes hued orange; forewing with a small, black, sharply defined discocellular spot. Forelegs orange, hindlegs white. Expanse of wings: ♂ 42, ♀ 54 mm. Khasia Hills.

L. rufimarginata Swinh. ♀ and ♂ purely silky-white; palpi, antennal pinnae, underside of the body and of the legs ochreous-grey, the legs with dark brown spots. The costal margin of the forewing reddish, of which colour are also the discocellular spot, border and fringes of both wings. Expanse of wings: ♂ 24½, ♀ 37 mm. Most closely allied with L. sub-marginata Wkr. (39 b). Pulo Laut.

L. primula Swinh. (39 f). In the ♀ and ♂ the palpi are chestnut-brown, below and inside whitish. Antennae grey, frons chestnut-brown. Legs, body and wings above and beneath unicoloured light bone-coloured, forewing with the apical third of the costal margin and the border, inclusive of the fringes, of a dark chestnut-brown, hindwing with the marginal line and fringes shortly before the middle as far as near the anal angle similarly coloured, forewing with a small, brown discocellular spot. Sangir.

L. flora Swinh. (39 g). ♀: palpi and antennae chestnut-brown, ochreous, antennal shaft speckled grey and white, frons and vertex white, the space between the antennae chestnut-brown, forelegs spotted brown with ochreous tarsi. Body and wings white, thorax and forewing very scantily dusted brown, at the cell-end a similar, blurred moon-spot, the costal area near the end and the marginal area partly brownish. Hindwing otherwise unmarked, but with triangular marginal spots and the fringes of a light chestnut-brown tint. Expanse of wings: 27 mm. Pulo Laut; Sandakan.


This genus (= Caveria Hmps. nec Wkr.) is distributed across India and is also found in South America. In the palaearctic region there occurs only one species (sericea) in Tibet and Cashmir penetrating from India. About the genus itself vid. Vol. II, p. 124.

C. clara Wkr. from Sikkim and Hongkong has a white body with orange extremities and light brown antennal combs. Wings silvery white, the forewing with two oblique, curved bands formed of raised, silvery white scales, outside the coll. ♀ 36, ♂ 48 mm.

C. collucens T. P. Luc. ♀: white. Palpi ochreous. Forewing with 8 or 9 lustrous silvery streaks in front near the posterior margin, the first 4 or 5 of which extend as far as the cell, the others almost to the costal margin. Veins silvery white. Brisbane: 26 to 34 mm. — Is allied to C. clara; but it was described as Porthesia.

C. costalis Moore (47 b). ♀: purely silky white. The costal margin of the forewing is black and turned round near the apex, at the base slightly ochreous, the veins higher than their surroundings. Body ochreous white, antennae with ochreous pinnae, palpi at the sides and the head beneath black. Forelegs above black. Expanse of wings: 50 mm. Sikkim.
C. ochripes Moore (39 d). ♀: purely white; palpi, forelegs, middle and posterior tarsi light orange. ochripes. ♀ forehead, costa and apex of forewing sometimes hued dark. ♀ 40 mm. The ♀ has more rounded forewings, and the veins 4 and 5 rise from the cell. Hindwing without mock veins from the veins 1a, 4 and 5 as in the forewing. Purely white; palpi, forelegs, the middle and posterior tarsi bright orange. Expanse of wings: 48 mm. India (Darjeeling, Khasia-Hills) and West China.

C. cygna Moore (39 d, as cygna). ♀ white, forewing silky-white with faint traces of a band-marking, cygna. hindwing not silk-coloured. Palpi and forelegs ochreous-yellow, the middle and posterior tarsi light ochreous-yellow. Expanse of wings: 40 mm. Southern Andamans, Ceylon.

C. dinawa B.-Bak. (39 d). ♀: head creamy, thorax whitish, legs yellowish, abdomen yellow. Both dinawa. wings hyaline with dispersed erect scales forming a spot on the forewing at the cell-end and being also noticeable at the posterior margin below vein 2 and in the subterminal area; they are similarly found in the hindwing. Expanse of wings: 40 mm. Dinawa in British New Guinea, in September.

C. impressa Snell. ♀: antennae, palpi, anterior tibiae entirely and the other tibiae at the ends ochreous-yellow, otherwise the head, thorax, and wings beneath and above are lustrous snow-white, the forewing with three transverse bands extending parallel to the margin and at equal distances from each other, but owing to their different scaling they are not lustrous. Abdomen white-haired, in the living insect it will probably be snow-white, whereas in the specimens of the collections it seems to be greyish. Expanse of wings: 36 to 37 mm. Java, Amboina, Sandakan, Fergusson Island.

C. sericea Moore (39 c) is the only species of the genus penetrating the palearctic region. In the sericea. Indo-Australian fauna it inhabits Sikkim where it is not rare. Comp. Vol. II, p. 124.


For Caragola rinaria Moore Swinhoe established a new genus, Pendria, in 1906, characterized by small and porrect palpi, doubly-combed antennae, the posterior tibiae provided with 4 small spurs, as well as by the neuration. In the forewing 2 rises at 2/3 of the cell, 3 before the angle, 4 from the angle, 5 from the middle of the discocellular, 6 from the upper angle, 7 + 8 + 9 + 10 on a footstalk, 11 from the cell at 3/4. In the hindwing 2, 3 and 4 as in the forewing, 5 from close before the angle, 6 and 7 from the upper angle.

P. rinaria Moore (= margaritacea Snell., snelleni Ky.). ♀: body white, antennal shaft brown and rinaria. white, pinnae brownish. Forewing silvery white, with three very oblique, dentate bands in the distal half of the wing, the middle band being marked with a brown line; besides with two indistinct subapical spots. Costa brown. Tips of fringes brown. Hindwing white, in the middle with brown tips of the fringes. ♀ with white antennae. Expanse of wings: ♀ 42, ♀ 60 mm. Java, Sumatra. — According to Swinhoe, dica Swinh. (39 e) dica. from the Khasia Hills differs by its much larger size and rounded hindwings, whereas the hindwing of rinaria is more or less quadrangular, by reason of the margin being straight between the veins 2 and 7.

P. rotundata Swinh. ♀: purely white. Palpi above black. Antennae and legs marked black. Forewing rotundata. with a blackish costal line in 3/4 of its length and with one median, discal, and submarginal, indistinctly greyish, straight transverse band each, appearing only in certain directions. Hindwing with a similar, short, indistinct mark in the middle, and another one near the margin. Fringes of both wings purely white. Expanse of wings: 41 1/2 mm. Nias.


The 8, mostly Chinese forms of this genus enumerated in the palearctic part are opposed by about 20 occurring in the Indian region. In Australia it seems to be absent. As to the genus itself and its habits comp. Vol. II, p. 124. Our illustration of this genus shows in the palearctic part (Vol. II, t. 29) three, and in this volume on t. 41 and 42 seven new Pantana-figures. While the tables were in work, the figures were subsequently changed so that the denominations got into disorder, for which reason we premise the treatment of the separate genera by an adjusted tabular explanation.
Vol. II, t. 20:
third and fourth figures = Pantana ampla Wkr.
last figure = Pantana bicolor Wkr. (= delineata Wkr.,
circumdata Wkr., sordida Wkr., comparata Wkr.).

Vol. X, t. 41:
penultimate figure = Pantana terminata Wkr.
last figure = Pantana baswana Moore.
t. 42:
1. figure = Pantana visum Hbn. (= dispar Wkr.)
2. figure = Pantana destituta Wkr.
3. figure = Pantana mindanensis Semp.
4. figure = Pantana visaya Semp.
5. figure = Pantana luzonensis Semp.
6. figure = Pantana semilucida Swinh.
7. figure = Pantana lineosa Wkr.

P. luteiceps Swinh. ♂: antennae, body and wings above black, forewing with a whitish spot at the
cell-end, and a large whitish area in the lower half of the wing. Hindwing uni-coloured black. Body beneath
and legs yellow, wings beneath as above. Expanse of wings: 27 mm. Khasia Hills.

P. droa Swinh. ♂: palpi and forehead orange-ochreous. Antennae white with black pinnae. Head
and body blackish-brown. Wings white; the forewing with a black spot behind the apex of the cell, margin
broad black, the apical third of the costal area dark, with a blackish hue on the whole wing, being lightest below
the black spot; hindwing with a black hue at the base and a large, black diffuse patch at the apex. Under
surface as above, though lighter, the blackish hue more uniform. Legs above grey, below white. Body white.
Expanse of wings: 35 mm. Hongkong.

P. ochrota Hmps. ♂: head and thorax reddish-yellow, antennae with blackish pinnae. Abdomen
dark reddish-yellowish-brown. Forewing reddish-yellow, in the costal half hued reddish-brown extending in
the marginal area to vein 2, the discoidal spot being crescentiform and yellowish. Hindwing in the costal half
brown, in the posterior half reddish-yellow. ♂: uni-coloured ochreous. Expanse of wings: ♂ 38, ♀ 52 mm.
Travancore.

P. terminata Wkr. (41 g, misprinted into terminalis). ♂: body light brown. Forewing in the basal
area white or hued brownish, in the apical area smoke-coloured black, the oblique, white median band with
3 black spots below the median. Hindwing white, in the apical area black, the dorsal area brownish. Expanse
of wings: 40 mm. India (Burma).

P. interjecta Swinh. The ♂ is darker than terminata, the head, palpi and anterior hips of a bright
reddish-yellow. Forewing in the basal area much darker, in the apical area blacker, no black spots below the
median. Hindwing either entirely covered with brown except a white spot in the distal half of the costal area
in which the black diffuse patch is situate behind the apex of the wing, or the wing is white with a black
apical area. Expanse of wings: 46 mm. India: Khasia Hills.

P. albifascia Wkr. The ♂ deviates from interjecta by the whole hindwing being dark brown. — Expanse
of wings: 42 mm. Sikkim, Khasia Hills. — subfascia Moore. ♂: ochreous, head and palpi ochreous, antennae
black. Forewing with a lighter oblique band from within the middle of the costal margin to the anal angle.
Under surface of the forewing darker brown with a more distinctly marked oblique band. subfascia deviates
from albifascia particularly by the band of the forewing being covered with brownish. Expanse of wings: 37 mm.
Sikkim (Darjeeling), Bengal.

P. visum Hbn. (= dispar Wkr.) (42 a) has already been dealt with in Vol. II, p. 125; we figure
here this specifically Burman form. — The South Chinese form occurring also in Hainan, being common in
Hongkong and reaching the palearctic frontier in the north, is ampla Wkr. (Vol. II, t. 20 b) which has likewise
been described at large in Vol. II, p. 125.

The species is widely distributed in India. The form figured as ,,bicolor“ on t. 42 a is in fact semilucida.
**P. mindanensis** Semp. (42 a, third figure, by mistake denoted as visaya). Head, palpi, collar, chest, mindanensis legs, and abdomen beneath yellowish-brown, abdomen above, forewing on both sides, antennae and dorsum visaya blackish-grey, the forewing with a large, white discal spot dentiformly projecting once towards the base, twice towards the margin. Hindwing white with a broad, black margin and beneath with a narrow, black costal margin. Length of wings: $\varphi$ 20, $\delta$ 18 mm. Flies near Eastern Mindanao in October.

**P. visaya** Semp. (42 a, by mistake denoted as luzonensis) is closely allied to *P. mindanensis* Semp., visaya. but the white spot is considerably smaller, and the veins of the basal half of the forewing are dusted grey; in the autumnal generation the black marginal band of the hindwing is broader than in the vernal. Length of wings: 14 to 15 mm. Flies in March, October and November in Cebu and Leyhe (Philippines).

**P. luzonensis** Semp. (42 a, 5th figure). Head, antennae and dorsal side blackish-grey, ventral side luzonensis and palpi whitish-grey, legs yellowish, forewing with a white discocellular spot. Hindwing white, with a black margin, beneath besides with a black proximal margin. Length of wings: $\delta$ 13 to 16 mm. Flies in April and May in Luzon. — In North East Luzon a form occurs, in which the black dusting of the hindwing is more extended, so that above only a discal area, beneath even only a large spot has remained of the white ground-colour: *ab. nigrosquamata* ab. nov.

**P. lineosa** Wkr. (= nubila Btlr.) (42 a). $\delta$: grey. Body and legs yellow. Forewing greyish-brown, lineosa along the costal margin and distal margin brownish, with three black streaks at the yellowish base. The veins are whitish. Expanse of wings: 49 mm. Singapore, Malakka; Sumatra.

**P. simplex** Leech. $\delta$: forewing whitish, along the veins and margins ochreous, behind the cell four simplex brownish spots. Hindwing white, in the marginal area bestrewed with ochreous scales. Fringes laced ochreous with an ochreous line in front of them. Expanse of wings: 39 mm. Kanshirei, Formosa; in August. West China. — A somewhat lighter form occurring at the same place and deviating besides by the absence of the brownish spots behind the cell of the forewing, is *monotonia* ab. nov. monotonia.

**P. baswana** Moore (41 g). $\delta$: white. Forewing in the apical third of the costal area brownish, in baswana, the posterior half of the marginal area with a narrower marginal band, in the basal area laced somewhat brownish, along the posterior margin of the cell a series of black spots. Hindwing with a brownish margin. Antennae light brown. Palpi ferrugnious reddish-yellow. Body beneath and legs yellowish-brown. Expanse of wings: 37 mm. Java.

**P. semilucida** Swinh. (= bicolor Wkr. nom. praecoc.) (42 a). $\delta$: body and legs brownish-yellow. semilucida Forewing light brown, along the margin and at the apex somewhat darker, veins white, the second of the lower veins is almost four times as distant from the third as it is from the first vein, the third being as distant from the second as it is from the fourth. Hindwing white. Expanse of wings: 41 mm. Siam, Penang, Sarawak.

As a doubtful Pantana we find *Genusa* destituta Wkr. (List Het. Br. Mus. 32, p. 341) (from Cambodja), destituta. mentioned in Kirby’s Catalogue: but the description seems to me to indicate (e. g.: „proboscis brevis“) that it is probably no Pantana (comp. t. 42, 2nd fig.).

17. **Genus: Pida** Wkr.

Of this genus, as to the characterization of which we refer to Vol. II, p. 125, only very few species are known, one of which also penetrates the palaearctic region. The genus is otherwise only distributed in North India as far as Formosa.

**P. apicalis** Wkr. (41 g). Head and thorax light brown, palpi black with orange hair. Abdomen blackish, apicalis with an orange anal brush. Forewing light brown, strewed with darker scales, being most densely accumulated on a transverse band bordering proximally on the large yellow apical spot. Hindwing light yellow, towards the dorsum with long brown hair. Under surface yellow. Expanse of wings: 64 mm. Sikkim (Darjeeling), Nepal, Silhet, Khasia Hills.

**P. decolorata** Wkr. $\delta$: whitish. Head and prethorax light dco-coloured. Abdomen above brown, decolorata whitish at the base and beneath light ochreous at the apex. The anterior femora and tibiae with light ochreous hair. Forewing partly pale ochreous, thinly and very finely dusted black, and with a large, parted, light dco-coloured apical patch densely speckled with black. Hindwings uni-coloured. Expanse of wings: 82 mm. India; Benares, Khasia Hills, Darjeeling, Subathu.
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DAPLASIA; SCARPONA; NUMENES. By Dr. E. Strand.

P. postalba Wilem. is allied to P. apicalis Wkr. ♂; head and thorax brown, hued reddish. Palpi above blackish, beneath brownish. Abdomen blackish with whitish segmental rings and a yellow anal brush. Forewing greyish-brown, speckled with blackish scales, traces of lighter transverse lines, a large, creamy-white apical spot and a white moon-spot at the cell-end. Hindwing white, behind with some darker hairs. — ♂: forewing without the apical spot, the moon-spot very faint, a light grey antemedian line in the middle indistinct, and a distally angled postmedian line, between these lines olive-brownish colouring. Hindwing white. Expanse of wings: ♂ 54, ♀ 57 to 60 mm. Rantaizan, Formosa, at an altitude of 7500 ft., in May.

P. strigipennis Moore. (Vol. II, t. 20 c). This species described in the palearctic part (p. 125) and figured there, is also distributed in North India, particularly in Sikkim and Assam.


Small lepidoptera with very thin, short palpi flatly appressed to the frons. In the forewing 3 is as distant from 4 as from 2, whereas 4 and 5 almost touch each other at the base, 6 rises from the upper angle, 7 and the rather long footstalk of 8 and 9 from the apex of the areola. In the hindwing 3, 4 and 5 are separate, whereas 6 and 7 may be on a footstalk.

D. irrorata Moore (39 d). ♂: white, thorax speckled brown, palpi and legs of a bright yellow. Forewing strewn with small brown scales forming four indistinct, oblique bands which are most distinct towards the posterior margin, the distal one extending to the apex. Abdomen and hindwing light yellow. Expanse of wings: 28 mm. Sikkim, Khasia Hills, Omeishan.


Body strong. Palpi porrect, short, strong, obtuse, the third joint small. Antennae with very long combs. Abdomen broad and flat, not projecting beyond the anal angle, without an anal brush. Legs strong and rather short, posterior tibiae with four strong, moderately long spurs. Wings broad and extended (?). Forewing subfalcate with an almost straight costal margin and the distal margin slightly angled in the middle; the 3rd of the lower veins is more than twice as distant from the 4th as it is from the 2nd vein. Margin of the hindwing posteriorly slightly emarginated. Is said to be closely allied to Numenes. — Unknown and doubtful to me.

S. ennomoides Wkr. ♀: sulphur-coloured. Forewing with brown fringes and a doe-coloured marginal spot not far from the anal angle. The fringes of the hindwing are brown towards the anal angle. Expanse of wings: 37 mm. Sarawak, Borneo.


This genus is particularly conspicuous by the far-reaching sexual dimorphism and by the ♀♀ exhibiting a variegated colouring reminding us of the Arctiids. The genus is entirely Indian, only 1 species reaching the east of the palearctic region. Vid. Vol. II, p. 126.

N. insolita W. Schultze. ♂: head and thoracal dorsum dark brown, palpi, thorax beneath, middle and posterior legs as well as abdomen yellow; the latter with a dark dorsal spot. Forewing creamy-whitish with a dark band of the posterior margin, a similar narrower antemedian band and broader postmedian band extending from the posterior margin resp. from the anal angle almost vertically on the costal margin. Hindwing yellow with a somewhat irregular, narrow marginal band. Length of wings: 21 mm. Allied to N. contrahens Wkr. Palawan, Philippines.

N. contrahens Wkr. ♂: brownish-yellow. Head, thorax and forelegs brown. Palpi porrect, short, stout, hairy. Abdomen, hindlegs and hindwings pale yellow. Forewing with a brown streak along the posterior margin and with 2 brown, parallel and almost vertical bands, the second of which is irregularly double except in front. Hindwing with a brown marginal band irregularly emarginated in front. Length of body: 14 mm; expanse of wings: 37 mm. Sarawak.

N. patrana Moore (= partita Wkr.) (41 f). ♂: head and thorax reddish-brown. Abdomen ochreous. Forewing white with a basal, dark red-brown diffuse spot and a costal-marginal spot outside of it, a bread, Y-shaped discal band and an oblique streak from the same costal-marginal dot to the middle of the margin.
Hindwing light yellow with a large, dark spot towards the anal angle. ♀: forewing pale pinkish-brown with antemedian, median and subapical costal-marginal spots, a V-shaped or rounded spot on the posterior margin and one or two small spots at the anal angle. Expanse of wings: ♂ 50 mm, ♀ 76 mm. India: Bhutan, Sikkim, (Darjeeling); Formosa.

N. siletti Wkr. (= quadruplagnata Wkr.) (41 g). ♀: body dark brown, abdomen with white-fringed segments. Wings dark brown, forewing with a light orange band from beyond the middle of the cell almost to the margin. — ♂: head and thorax black. Abdomen orange with paired, ventral and dorsal brown spots. Forewing yellowish-white, a broad, black band of the posterior margin, from which an antemedian and a postmedian, chocolate-coloured, oblique band extend to the costal margin, the postmedian band enclosing sometimes one (fa. inclusa form. nov.) or several (fa. bineclusa form. nov.) white spots. Fringes likewise chocolate. Hindwing light orange with a brownish-black subapical spot (which is sometimes absent = fa. silettoides form. nov.) and a similar one near the anal angle. Expanse of wings: ♂ 50 mm, ♀ 53 mm. India: Sihlet, Sikkim, Caachar, Burma. — insignis Moore from Java seems to differ from siletti in the ♀ forewing by the yellow transverse band being ochrous at the costal margin, whereas in siletti this band is white. The ♂ is slightly larger than siletti (expanse of wings: 60 resp. 53 mm), and the proximal transverse band is straight and broader than in siletti, where it is slightly bent convex towards the margin. — delta form. nov. (41 g). ♀ from Kina-Balu (Borneo) has a larger delta. (4 x 10 mm) black spot at the anal angle of the hindwing, the distal transverse band of the forewing in its anterior half forms a delta-shaped figure and in its posterior half it is likewise expanded triangularly, but it encloses there an L-shaped light figure. (Berlin Museum). — laeta Wkr. (41 g). The ♂ differs from siletti above laeta. by the broader, more extended and more yellow light bands and beneath by the basal half of the forewing being yellow at the costal margin like the apex of the wing. The ♂ deviates from siletti by the forewing being rounded off at the end and by the fringes showing yellowish-white tips. On the hindwing there is only a black spot situate quite at the distal margin and enclosing also the fringes. Length of wings: ♂ 22, ♀ 26 mm. Flying in February and October. Java, Philippines.


Forewing extended with a rather sharp apex and oblique border; the veins 3, 4 and 5 at the base very close together, but still remaining separate, 6 from the anterior angle, 7 and the footstalk of 8 + 9 from the apex of the areola. In the hindwing 3 and 4 are usually on a footstalk, and 6 and 7 mostly separate. Legs bare with short spurs. Quite a number of forms of this genus have been described, which, however, are nearly all confined to India and probably only form 2 species one of which is reported to be distributed over Arabia to Abyssinia.

Th. vilis Wkr. (= indeterminata Wkr.) (39 f). Body and forewing grey, strewn with brown scales. vilis. Forewing with an indistinct, dark discocellular spot and a series of dark marginal spots. Hindwing white. Expanse of wings: ♂ 26, ♀ 32 mm. Southern India (Nilgiris), Ceylon. Is said to occur also in Arabia, Somali Land and Abyssinia.

Th. postica Wkr. (= denatata Wkr., nigroscripta Wkr., curvata Wkr.,basifusca Wkr.) (39 c). Body postica, and forewing greyish-brown, the latter with obliquely curved, subbasal and antemedian black double lines, which are angled behind the median vein, and with a double postmedian line being curved round the cell-end and bent proximally behind the cell and sending some streaks to the margin. Hindwing with an indistinct, curved postmedian line and a brown diffuse patch enclosing a dark streak, in the anal angle. Besides some marginal streaks. Expanse of wings: ♂ 38, ♀ 44 mm. India, Burma. — Larva with a red head marked with a white V-figure; body pale yellowish-green with a broad, white dorsal band margined by black, dentate lines, a lateral row of black spots with and 6 red tubercles exhibiting long, grey hair on each segment. Food-plant: Zizyphus jujuba.


The only species belonging hereto is an animal of not very strong structure and with large wings, distinguished especially by vein 1 a of the hindwing being connected with the proximal margin by 3 or 4 transverse veins. Otherwise in the hindwing veins 4 + 5 and 6 + 7 rise on a footstalk, whereas 3 rises almost from the angle; the hindwing projects considerably beyond the abdomen. In the forewing 4 and 5 are forked, 6 and the long footstalk of 7 and 8 and 9 rise from the angle (8 and 9 being very short), 10 from the costal margin near the angle and seems mostly not to form an areola. Palpi very small and porrect. Posterior tibiae with two spurs. Antennae with long combs.


This genus was described as a „Drepanulid“ genus and also left in the Drepanids in Hampson’s „Fauna of British India“. According to Swinhoe, however, it belongs to the Lymantriids; this author has unfortunately not given any good reasons for this assertion, nor has he mentioned that the genus has formerly been considered as a Drepanid. It is unknown to me in nature. — The triangular wings being curved at the ends certainly make the species resemble the Drepanids, and the neuration, according to Moore’s description, seems to be most similar to that of Oreta, to which Hampson places Cobanilla as synonym. But the descriptions of the two authors seem to contradict each other, since Moore describes the palpi to be „small, apex minute“, whereas Hampson says, that they are „upturned, reaching vertex of head“. Posterior tibiae with 4 spurs, forelegs densely haired, antennae bi-combed with ciliated teeth. Body short.


C. plumbea Swinh. ♀: lead-coloured, speckled with fine silvery scales. Forewing with a black spot at the cell-end, a blackish costal line and costal spot and a similar indistinct discal band; margin of the forewing near the apex and of the hindwing behind the middle hued blackish. Under surface ochreous-grey. Forewing slightly hued blackish. Expanse of wings: 32 mm. Nawngchik (Malayan Peninsula, 2500 ft.); beginning of May.


The species being unknown to me in nature, I can only repeat the original description. Swinhoe (in 1903) mentions the genus as maintainable, but he does not add anything to the original description. — ♀: body rather thin, almost linear. Head large, palpi very short, the third joint minute. Antennae with long pinnae, more than half as long as the body. Abdomen projects beyond the anal angle. Legs strong; posterior tibiae with two small, apical spurs. Wings very narrow. Forewing very much longer than the hindwing; the first and second lower veins touch each other at the base, the fourth is about four times more distant from the third than the latter is from the second. — Walker distinguishes the genus from Beralade by the much narrower wings of Ieta; Beralade, however, is in fact a Lasiocampid. — Thus it is not stated whether it is an Areolata or Inareolata.

I. fulviceps Wkr. ♀: black; head, palpi, antennae, anterior part of thorax, apex of abdomen and legs reddish yellowish-brown, the hindlegs above black, forewing with a yellowish-brown costal margin. Expanse of wings: 22 1/2 mm. Australia.


Walker’s description says: Body rather strong. Proboscis moderately long (NB!). Palpi strong, densely haired, obliquely rising, but not reaching the vertex, the third joint minute. Antennae moderately (long?) combed. Abdomen feebly tapering off from the base to the apex, projecting beyond the hindwings, anal brush small. Legs rather short and thin, femora with long hair-fringes, spurs short. Forelegs very strong. Wings rather broad. Forewing slightly pointed, costa straight, margin slightly convex and rather oblique. — Thus it is not stated, whether it is an Areolata or Inareolata.

M. senicula Wkr. Grey. Proboscis and antennal combs reddish-yellow. Wings with a black marginal line interrupted by the veins, the under surface with a very broad, submarginal, dark brown band. Abdomen brownish. Forewing with two black basal streaks and with two undulate black transverse lines, the first streak being transverse, the second longitudinal, the first line is at 1/4 of the length of the costal margin, the second it dentate and extends at 2/3 of the length of the wing; in the disc a black lunar figure between the two lines. Hindwing with an undulate, indistinct, brown transverse line at 2/3 of its length. Expanse of wings: 28 1/2 mm. Moreton Bay.

Original description: palpi turned forward and slightly downward. Frons, head and thorax long-haired. Abdomen on each segment with hair-tufts. Antennae as far as the tips bi-combed with long pinnae which are ciliated and at the ends bristly. Wings as in Dasychira of the Olene-group. In the forewing the veins 7, 8 + 9 are on a footstalk, 10 and 11 coincident and forming the cell (?); in the hindwing 6 + 7 rise on a long footstalk. Posterior tibiae with 4 spurs.


27. Genus: Pseudodura Strand.

Recalls Dura Moore by the vein 11 anastomosing with 12, but it is areolate. Hindwing not angled. In the forewing vein 3 is twice as distant from 2 as from 4, 5 separated from 4, 6 behind the angle, 7 from the apex of the areola and terminating into the margin, 8 + 9 on a long footstalk from the apex of the areola, 10 from the middle of the costal margin of the long, narrow areola, 11 is flawed by anastomosing with 12. In the hindwing 3 + 4 are on a very short footstalk, 6 + 7 on a slightly longer footstalk. Palpi porrect, projecting beyond the frons, below with long bushy hair. Antennae bipectinate to the tips. Habitus similar to that of Dasychira. Hindwing much broader than the forewing; in the latter the apical third of the costal margin is upturned, thus forming a marginal bracket.

Ps. dasychiroides Strand (47 b). ♀: forewing brownish-black, with a somewhat violetish antemedian transverse area, a light brown basal spot margined with black and situate in the dorsal area, a jet-black discocellular spot forming a transverse line concavely curved towards the apex, 1 or 2 indistinct light zigzag lines and traces of zigzag bands. Hindwing more greyish black, only in the costal area lighter, beneath lighter than above. Forewing beneath darker than the hindwing with traces of a transverse band and of a discocellular spot. Body as the wings. Expanse of wings: 31, length of forewing: 15½ mm. Formosa, Japan. Types in the German Entom. Museum.


One Indian species easily discernible by its peculiar marking, and one Australian species. Palpi long, erect and below with long brushes, the antennae (of the ♀) with fine cilia. Forewing broad with a rounded apex, 3 rises far from the angle, 6 behind the anterior angle, 8 + 9 + 10 on a very long footstalk, and almost from the middle of this footstalk rises 7.

H. discivitta Moore (39 f). Head, collar and prothorax dark brown, meso-, metathorax and abdomen discivitta, reddish-yellow. Forewing with a small, dark brown, costal mark, a large, round, basal, reddish-yellow spot margined with white, and a dark brown discal band. Marginal area reddish-yellow, strewn with black scales, and proximally bordered and margined by a curved, white line. Hindwing dark brown, with a broad, reddish-yellow marginal band inside slightly undulate. Expanse of wings: 64 mm. Sikkim.

H. leonina Trnr. ♀: 58 mm. Ochreous, partly mixed with white. Forewing except the two margins leonina, somewhat brownish, with an oblong-oval, whitish, antemedian discal spot and a smaller, whitish spot at the cell-end; the veins towards the margin with lighter borders. North Queensland (?).


Slender, scantily scaled lepidoptera with very large wings. Palpi strong, hairy, densely appressed to the head, reaching vertex, the third joint very minute. Antennae in both sexes long-combed. Abdomen with a small anal brush. Legs smooth, rather short, anterior tibiae thickened and with a long tuft, posterior tibiae with four long, thin spurs. Forewing at the end rounded, with an almost straight, slightly oblique margin; the second of the lower veins is more than thrice as distant from the third as from the first vein, the third is much more distant from the fourth than from the second. Hindwing projecting far beyond the abdomen.

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S. marginata Auriv. from Manila is closely allied to S. denudata Wkr. — White, head yellowish, palpi and legs of a brighter yellow. Wings semihyaline, whitish, margin broad dark, but with whitish veins; forewing with a dark band growing broader towards the apex, from the base to the apex. Expanse of wings: 64 to 74 mm.

S. karoli Semp. (39 c) from North East Luzon and East Mindanao, flying in July and August, is closely allied to S. denudata Wkr. (= Kettelia lowii Bttr.) from Borneo, but in the hindwing no brownish macular band extends from the costal margin to the anal angle, whereas the brownish marginal band is broader than in denudata. At the apex of the forewing the brownish dusting extends as far as the discal cell and fills up its anterior half. Length of wings: ♂ 30 to 33, ♀ 33 to 38 mm.

eleuterioides.

S. (?) eleuterioides Semp. Body, legs, and bases of wings yellowish, the wings otherwise whitish, forewing with a grey marginal band extending to the cell and growing narrower behind, and grey-dusted veins. Wings particularly in the ♀ somewhat diaphanous. Length of wings: ♂ 23 to 25, ♀ 28 mm. North East Luzon, in June and July.


To this genus, of which we find particulars in Vol. II, p. 126, belong 68 forms from the Indo-Australian region. As in the palearctic region the well-known Lym. monacha is enumerated as one of the most dangerous foes to forestry owing to its multiplying so rapidly, so some Indian species also belong to the most common lepidoptera of their patria. The species combined here under the name of Lymantria, have been placed by other authors into different genera, such as Enome and Pegella Wkr., Nagunda and Barhonana Moore, Psilura Steph. etc.

nudala.

L. (Enome) nudala spec. nov. (39 g). One ♂ ex coll. Seitz, unfortunately without the patria being stated. All the wings semihyaline, particularly so in the disc of the hindwing. Forewing dirty whitish-grey with a yellowish hue, the veins dusted brownish (most distinctly so on the discocellular) and with a similarly coloured distal-marginal band of about 5 mm width, which, however, at least in the areas 2, 3 and 4, encloses a marginal band cut by the dark veins. Hindwing with a brownish marginal band in the dorsal area, otherwise of the light ground-colouring of the forewing, which besides covers the whole under surface of both wings. The whole body with rather long and bright yellow hair, the under surface, however, whitish-yellow. Head and palpi likewise of a bright yellow. Antennae blackish with one white longitudinal line on each side of the shaft. The large eyes jet-black, with a lighter reticulation. Expanse of wings: ♂ 39 mm. Length of wings: 20 mm.

similis.

L. similis Moore (♀ = cara Bttr.) (40 c). Forewing of the ♂ greyish-white with narrow black zigzag lines, basal and marginal spots and small spots in the cell. Head and thorax white, the latter spotted black. Abdomen reddish with black bands. Palpi black on the sides. Legs spotted black. Antennae brown with a white shaft. Under surface light ochreous-brown with black spots on the distal margin and costal margin, and indistinct transverse bands. Allied to L. monacha and superans, but the markings of the forewings narrower, hindwings broader and without a marginal band; discernible from L. asoetria Hbn. (41 b) by the tegulae not showing the undulate lines of the forewings extinct, the black costal-marginal and inner-marginal spots large, the three first spots of the costal margin cut the cell, a diffuse spot in the middle of the distal margin. Hindwing whitish with a dark submarginal band and marginal spots. Abdomen of the ♀ red with black dorsal spots and a yellow apex. A southern form occurring in Borneo and Sumatra and widely distributed in India; it is doubtful whether it belongs to the palearctic region. — niasica form. nov. (40 c). One ♀ from Nias (Coll. Seitz), certainly very closely allied to L. similis (40 c), but it deviates from the figure of this species named L. cara in: Ill. Het. Brit. Mus. V, table 90, fig. 13, by the following: the black markings of the forewings jet-black, in a small spot in the cell, the discocellular spot is more sharply marked, not interrupted midway and not double, between the basal transverse streak and the semicircular figure of the posterior margin there are in an oblique transverse row two spots, three black subapical spots, of which in cara only the anterior is present, of the middle spot only traces, the posterior spot being absent altogether, three black spots in or close at the anal angle, the anterior marginal spots larger. Hindwing with a dark grey marginal band of 5 mm width and more sharply marked, white and black spots on the fringes. The somewhat compressed abdomen seems to be ochreous-yellow and only behind provided with black dorsal spots; ventrum yellow with black transverse bands. Both wings beneath hue dark brownish-grey and with white marginal spots, the forewing besides with white costal-marginal spots; the ground-colour is lightest in the dorsal area of the forewing and as a spot in the posterior third of the marginal area of the forewing. Expanse of wings: 72 mm. Probably not specifically different from similis.
L. marginata Wkr. (41 c). ♀: hindwing always purely white with a black margin. Forewing with a varying median band which is, just like 3 more transverse bands, brown, irregular and angular: the first near the base, the second at the posterior margin connected with the third, which is double, the fourth submarginally and interrupted. Wings beneath with a more prominent brown colouring. Expanse of wings: 64 mm. — pusilla Flbr. which will probably be nothing else but the ♀ of marginata Wkr. ♀, has dark sulphureous forewings exhibiting at the costa margin 5 black spots, in the marginal area 2 or 3 transverse bands composed of black crescentiform spots, as well as several small black spots in the discal and basal areas, with a blackish hue besides, so that the ground-colour appears only little. Body and hindwing black, the latter with some narrow yellow crescents at the distal margin, abdomen with 4 or 5 narrow yellow transverse lines. 33 mm. India, Burma.

L. semicincta Wkr. (40 d) is very characteristically coloured: forewing jet-black with small yellow marginal spots, a yellowish-white spot at the base of the proximal margin and one at the cell-end, a transverse row of 3 coherent yellow spots behind the middle of the costa and a similar one at the proximal margin. Hindwing crimson with a broad black limbal band not reaching the proximal margin and being spotted yellow at the distal margin. Abdomen like the hindwings, above with a series of black spots. Expanse of wings: 60 mm. From North India: Darjeeling (Sikkin).

L. obfuscata Wkr. is figured in Vol. II, t. 22 f according to the type in the British Museum and has been dealt with there on p. 130. We may here add the following about the larvae: according to BUTLER (1886), in captivity they crept out at the beginning of May, feeding on oak and hawthorn, on the 5th of June they had undergone their second sloughing and attained a length of 11 mm. Upper surface slate-coloured with a median longitudinal row of 7 spots beginning from the 4th segment, the 5th spot being ochreous, the others red; on either side of these spots there are black spots. Sides and ventrum ash-grey. Lateral tuberules brownish-yellowish with radiately projecting bristles. Nothing is known to me about the later stages of the larvae.

The imago occurs in the North West Himalaya and presumably inhabits its Indian as well as palearctic parts.

L. obsoleta Wkr. (41 d). This form and its allied forms have already been dealt with at large in Vol. II, p. 130, where the form iris Strap, known from China, is figured on t. 20 f (as obsoleta), and the differences and occurrence of vinacea Moore, bhascura Moore, and sobrina Moore are stated. All the forms occur in the Indo-Australian region, and according to SEMPER the species also lives in the Philippines. He reports as follows: it flies in Luzon in February, May till July and October. Length of wings: ♀ 16 to 19, ♂ 26 to 28 mm. — Larva on Dujat (Eugenia sp.), feeding only at night, whilst in day-time it rests between dry leaves. It is brownish-black with ochreous-brown hair and besides with auburn hair-tufts on the first three segments and the last segment, as well as on the 4th, 5th and penultimate segments with whitish-brownish markings. Hindwing of the ♀ forewing are narrower and paler than in grandis. Expanse of wings: ♀ 40, ♂ 46 mm. South India.


L. viola Swinh. (40 f, g) is a local species occurring near Bombay, the ♀ a little like L. grandis viola (40 g), both sexes, however, being much smaller, the ♀ forewing and thorax dark grey with distinct brown markings. Hindwing of the ♀ pink with a greyish-brown discocellular spot and submarginal band not reaching the anal angle. The bands of the ♀ forewing are narrower and paler than in L. grandis. Expanse of wings: ♀ 46½, ♂ 81 to 86 mm.

L. todara Moore (41 e). ♀: forewing white, with narrow black zigzag transverse lines, black basal and marginal spots and a similar spot in the cell. Hindwing and abdomen light ochreous-yellowish, the former with a black broad marginal band. Beneath light ochreous-yellowish. Expanse of wings: 46 mm. South India.

L. fuliginosa Moore (40 d) is allied with L. pusilla Flbr. and beatrix Stoll (40 e). ♀: forewing with fuliginosa, smoke-black transverse bands and spots, and ochreous-grey interspaces: hindwing yellowish ochreous with a broad, irregularly defined, smoke-black marginal band. ♀ forewing with broad, somewhat confluent, sinuous transverse bands and greyish-white interspaces, hindwing smoke-black, with an indistinct, whitish, discol macular band. Thorax smoke-black in the ♀, white in the ♂ with a blackish frontal and median spot. Expanse of wings: ♀ 40, ♂ 64 mm. Bombay, Ceylon.

L. concolor Wkr. (40 h) has already been dealt with in Vol. II, p. 131; it is widely distributed in concolor, the Indo-Australian region, occurring from Cashmir through the whole Himalaya to Burma, mostly common.

The allied form superans Wkr. (40 e) is more brightly marked and smaller; — car necolor Moore and superans, car necolor.
micanis. micans Flbr. are likewise only forms allied to this species. — The larva is brown with tufts of brown and black hair; on the dorsum it is speckled with black, and on the 2nd ring there is a conspicuous spot.

furva.

L. furva Leech, from Japan and West China was figured in Vol. II, t. 21 b, but not described. The ♀ is brownish-black, in the forewing, parallel to the proximal margin, with a longitudinal row of black spots from the base almost to the anal angle; around and behind this row whitish dusting. Also some subapical blackish diffuse spots. The ♂ is lighter and with more distinct markings, with a distinct [lighter?] basal band, behind which a blackish shade extends from the costal margin to the middle of the wing. Expanse of wings: ♀ 26 to 35, ♂ 30 to 40 mm.

dispar.

L. dispar L. Of this species the form fumida Btlr., resembling the (larger) japonica Motsch and described in Vol. II, p. 127, occurs also in Formosa.

incerta.

L. (Enome) incerta Wkr. (= aryma Moore?). ♀: auburn, with a red line behind the head, red abdominal bands and red spots on the legs. Forewing greyish-brown, a black subbasal line with some spots behind it, one antemedian and one postmedian undulate line and a postmedian band darker. Hindwing brown with an indistinct postmedian line and an oblong spot in the anal angle. Fringes of all the wings spotted black. ♂ 36 to 54 mm. — ♀ with entirely stunted wings, sacciform, abdomen blackish, head, thorax and wings white.

detera.

— detera Wkr. (47 d) is small (36 mm) and lighter; hindwing without a dark spot in the anal angle; abdomen without red transverse bands. — costalis Wkr. has two red longitudinal spots on the costal margin and one or more of such spots at the distal margin. It flies from September till November. Larva on Acacia arabica. The ♂ is stout, black, maggot-shaped, without wings. Probably a good species. — India; the type also in the North Indian parts.

grandis.

L. grandis Wkr. (= macalosa Wkr., metarhoda Wkr.) (40 g). ♀ deviates from L. viola (40 f, g) by the purely white ground-colour of the thorax, forewing and antennal shaft; in the forewing all the bands are broken up into spots, and the collar and thorax are spotted as in L. malthura. — The ♂ deviates from malthura (40 g) by its black frons and the second palpal joint being provided with a black spot. Expanse of wings: ♀ 58 mm, ♂ 110 mm. Ceylon.

subrosea.

L. subrosea Swinh. (= rosen Hmps. [nom. praecocc.]) (41 c). The ♂ resembles L. grandis, but the palpi, head, thorax and legs are black and white, without red. Forewing with a distinctly marked discocellular moon-spot. The antemedian and 2 postmedian lunular lines are not broken up into spots. Hindwing with a broad, smoke-black marginal band. Beneath hued dark. Expanse of wings: 54 mm. India; Ceylon.

lepcha.

L. lepcha Moore. ♀: head and thorax white, behind the head a red line, thorax spotted black, abdomen white with a reddish hue. Forewing ochreous-white with a red spot at the base of the costal margin, with 4 equidistant lines formed of lunar marks, a small black spot in the cell and a moon-shaped discocellular spot. Hindwing whitish, in the basal and dorsal areas hued red, a faintly marked dark submarginal band. ♂: pale reddish, extremities black, the first antemedian joint and a line behind the head red. Forewing with a black moon-spot from the costa to vein 12 at the middle of the cell, a moon-shaped discocellular spot and line from vein 1 to the middle of the posterior margin. Expanse of wings: ♀ 62, ♂ 92 to 98 mm. Sikkim.

postflusca.

L. postflusca Swinh. (41 c). ♀: palpi black, beneath orange. Antennae black. Head, thorax and forewing white, thorax, however, with 2 black spots. Abdomen orange with black dorsal spots. Forewing with black markings: in the basal area a short line and some spots, a dentate antemedian line and distally curved, deeply dentated double lines not filled up with black, incomplete submarginal and marginal lines. Hindwing brownish-black, in the middle hued whitish, and with a white marginal spot. Expanse of wings: 49 mm, ♂ like the ♀, though with a jet-black marginal band, the forewings of a purer white, with thicker transverse lines, the ante- and postmedian lines are behind the middle connected by 2 large [black?] diffuse spots, the anterior one of which encloses 2 white spots. Hindwing whitish, in the basal area yellowish, with a broad blackish marginal band with a sinuous proximal margin and some white spots at the end. Expanse of wings: 64 mm. — Allied with beatrix (40 c) and fuliginosa (40 d). Kandy (Ceylon).

plumbalis.

L. plumbalis Hmps. (41 a). ♀: head, thorax and forewing lead-coloured, thorax spotted black. Anterior femora and abdomen red, the abdomen with a row of black dorsal spots and black anal wool. Forewing with indistinct, subbasal and antemedian chains of crescents, 2 median lines touching each on the median vein, and with postmedian and submarginal lines rising from black costal spots; at the end of the cell a black moon-spot, besides a row of black marginal spots. Hindwings dark. Fringes of both wings white, except the apex. Expanse of wings: 60 mm. Burma.
L. grisea Moore (41 b). ♀: abdomen whitish, the rest of the body light brown. Forewing light brown grisea, with many indistinct, dark lines composed of crescents, the most distinct of which are 2 submarginal lines with white crescents between them. Discocellular spot dark. Hindwing yellowish-white with an indistinct dark marginal band. ♀: 42 mm. India, also in the north; Burma.

L. ampla Wkr. (41 d). ♀ as L. incerta, but of a more yellowish-brown colour, without any red ampla, on the head, abdomen and legs. ♂ with stunted wings, which are white like the anterior body with black spots; abdomen blackish. Expanse of wings: 40 mm. — Larva brown with short hair-tufts, on the anterior and posterior segments with rather long hairs. ♀ with a light subdorsal line and dorsal and sublateral white spots, ♀ with black dorsal spots and a white spot on the 9th segment. Head and legs ochreous. India, Ceylon, Burma.

L. singapura Swinh. (41 c). ♀: palpi black with white tips. Head, thorax, and forewing white, singapura, the middle of the head, however, with a black spot and a red line behind it, thorax spotted black. Forewing with black spots and lines: 6 spots in the basal area, an antemedian, dentate line and a median dentate line with still longer dents, a cell-spot, a submarginal dentate line, and marginal spots. Abdomen red with white and black spots. Hindwing red with a black marginal band not quite reaching the anal angle. Expanse of wings: 41½ mm. Singapore.

L. rhodina Wkr. (40 c). ♀: palpi, antennal shaft, head, thorax and forewings dark brown, antennal comb light reddish brown. Forewing with an indistinct, discal, angularly bent, blackish, dentate line distally bordered with a light reddish-grey, at the end of the cell an angular, blackish spot and near it, in the cell itself, a heap of blackish scales, fringes brown with light reddish spots. Hindwing greyish-white, with a broad brownish marginal band, fringes and dorsal margin reddish. Abdomen red with brown dorsal spots and anal brush. Forewing beneath greyish-brown, hindwing whitish with traces of a darker marginal band. Expanse of wings: 40 mm. India, Sikkim, Khasia Hills.

L. bivittata Moore (41 c). Head and thorax white, palpi and antennae black, frons hued reddish, bivittata, basal joints of antennae and a line behind the head red, basal and anal segments white Forewing silvery white with 2 black basal spots, a distally oblique, somewhat undulate antemedian line, followed at the posterior margin by a proximally oblique postmedian line, and a series of marginal spots. Hindwings white. Expanse of wings: 100 mm. Sikkim, Sylhet.

L. cerebosa Swinh. (40 c). In both sexes the antennae orange-ochreous. Palpi and frons dark brown, cerebosa. Head, body and forewing dark olive-grey, speckled whitish, at the cell-end a double line of small crescents, 4 sinuate double transverse lines, whitish marginal moon-spots. Hindwing dirty white with a grey discocellular spot. Beneath light grey, in both wings with an indistinct, grey discal transverse band and a moon-shaped discocellular spot. Tarsi spotted white. Expanse of wings: ♀ 41½ mm, ♂ 49 mm. Simla (India).

L. dissoluta Swinh. (40 d) is allied with obsoleta. In both sexes the antennae, palpi, frons and head dissoluta are brown. Thorax and forewing dark brownish-grey with undulate brown transverse lines: an antemedian line being distally angled above the middle, the second discal one being feebly bent back, partly dentate, the third being submarginal. Discocellular spot large, angular, brown. Fringes grey with blackish-brown spots. Hindwing dirty white with a grey discocellular spot. Beneath light grey, in both wings with an indistinct, grey discal transverse band and a moon-shaped discocellular spot. Tarsi spotted white. Expanse of wings: ♀ 41½ mm, ♂ 49 mm. Hongkong. — A ♀ from Hongkong Nov. 1891 (Coll. Seitz) which I take to be this species, is characteristic and, as far as may be judged from the too short description by Swinhoe, different from the principal form by the marginal area not exhibiting any dark transverse lines in a width of 6 to 7 mm, but small transverse spots at the costal and posterior margins, evidently the remainders of the submarginal line. The distal one of the transverse lines present is at the costal margin 9 mm distant from the border, at the posterior margin 7 mm, curved zigzag-like or broken, thickened at the costal margin and proximally forming a long tooth directed towards the discocellular. Then follows a nebulous transverse line widened at both ends and enclosing the jet-black hook-shaped discocellular streak of 3½ mm length and being connected on the posterior margin by a dark longitudinal streak of 2 mm length with the subbasal transverse line being 7 mm distant from the base at the posterior margin, 5 mm at the costal margin, and being at both its ends, particularly in front, strongly thickened, 1½ mm distant from the base there is a jet-black, medium-sized spot which may be sometimes expanded into a transverse band. Thorax with a black median longitudinal line which seems to be in front expanded to a transverse streak. Frons greyish-white. If, as I presume, this form is to differ from the typical form of this species, it may be denominated ab. limboarealis Strand. — A ♀ collected at the same place and doubtfully added to this species is distinguished among other marks by the forewing being lighter, of a light greyish colour, at the costal margin, which is most conspicuous between the antemedian (or proximal) and the median transverse line. Abdomen like the hindwing, scarcely with traces of a reddish glimmer. In the cell there is above a small, jet-black, punctiform spot. Expanse of wings: 36 mm, length of wings: 16½ mm, length of body: 16 mm.
LYMANTRIA. By Dr. E. Strand.

*L. kosemononis* Strand (47 a). ♀: forewing grey, in the median area the darkest, with black markings: a subbasal transverse band distinctly prominent only on the costal margin and in the middle, an antemedian transverse line directed vertically on the posterior margin, forming in the middle an obtuse angle which is open towards the base, and being cut in the middle of the dorsal area by a sharply marked, black, characteristic longitudinal streak; the discocellular spot is a jet-black, oblique longitudinal streak; in the cell a black spot and a lighter one; in the marginal area three dark, almost parallel transverse lines composed of crescents and in some places forming wedge-shaped spots; the marginal line dotted black. Beneath grey, uni-coloured, only with a discocellular spot. Hindwing above and beneath uni-coloured grey; body grey or greyish-blackish. Expanse of wings: 30, length of forewings: 15\(\frac{1}{2}\) mm. — ♀ larger: expanse of wings: 35, length of forewings: 38 mm. Ground-colour of forewings greyish-whitish with very scanty black markings, the characteristic longitudinal streak in the dorsal area of the ♀ being absent; hindwings darker grey than in the ♀ with fringes spotted lighter and darker. Kösempo, Formosa, in October. Types in the German Entomolog. Museum in Berlin-Dahlem.

*L. melanopogon* Strand (47 a). ♀: resembles *Dasychira pseudahietis* and *abietis*. — Forewing black with a light grey subbasal area 2\(\frac{1}{2}\) mm distant from the base, and indistinctly lighter bands in the marginal area. Median area as broad as the subbasal area and gradually passing over into the somewhat lighter basal area which encloses a lighter zigzag transverse band. Hindwing above and both wings beneath greyish-brown. Head and dorsothorax black, abdomen as well as sides and underside of thorax greyish-brown. Expanse of wings: 36, length of forewings: 19 mm. Kösempo, Formosa, in October. Types in the German Entomolog. Museum in Berlin-Dahlem.

*L. umbrifera* Wilem. ♀: head, thorax and abdomen grey, the latter with reddish lateral hairs. Forewing grey, at the base and in the median third dark with blackish transverse lines, the subbasal line of which does not reach the posterior margin; the antemedian line is undulate and widened in front, the postmedian line thinner and opposite the cell-end dentate, the submarginal line indented, in and at the end of the cell a black spot, border spotted black. Hindwing dark, particularly in the marginal area. Under surface dark, hued rosy reddish, forewing in the middle blackish, hindwing with a black moon-spot at the cell-end, and traces of 2 curved transverse lines. Expanse of wings: 44 mm. Formosa.

*L. nebulosa* Wilem. ♀: forewing light grey, in the apical two thirds hued darker, the subbasal line black and not reaching the posterior margin; the antemedian line black, dentate, a little oblique and connected by a shade with the blackish discoidal spot, behind the latter a short black streak; a postmedian, slightly curved line is whitish, partly margined with black. Fringes spotted black. Hindwing dark, especially in the marginal area, with lighter fringes. ♀: forewing whitish, at the costal and dorsal margins somewhat brownish, marked similarly as in the ♀. Hindwing whitish, shaded darker, the darkest in the marginal area. Expanse of wings: ♀ 43, ♀ 54 to 64 mm. Allied with *L. fumida* Btlr. Formosa; in April, May, August. — The ♀ of April has less distinctly shaded forewings, the transverse lines are very faint, and the marginal area is hued blackish.

*L. xyline* Bsw. (40 f). ♀: antennae black. Palpi brown, inside white. Head, body and wings creamy-white. Collar red. Forewing with a brownish-black subcostal spot near the base, a small spot at the middle of the costa, a reddish-brown, thin transverse band beyond the middle. Hindwing in the costal area hued brown, both wings with brown marginal spots between the veins. Under surface dirty white with traces of a transverse band, body beneath and legs red. Expanse of wings: 54 mm. Formosa.

*L. strigata* Auriv. (= *strigosa* Auriv.). Both sexes grey, palpi above black, forewing whitish, speckled black, with black transverse lines, the distal one of which is very much curved like a crescent. The submarginal band is angled and almost clouded; marginal spots, a discocellular streak and a streak in the middle of area 1 b black. ♀: abdomen yellowish-white, so are the wings, too, except the margin being somewhat darkened. Expanse of wings: 37 to 42 mm. ♀: abdomen above yellowish, at the end and beneath dark, hindwings yellowish, hued reddish at the proximal margin, and the border broad dark. Expanse of wings: 52 to 59 mm. Java.

*L. tagalica* Auriv. ♀ and ♀ doe-coloured, chest, abdomen and posterior margin of head hued pink. Forewing greyish doe-coloured with 5 angular transverse lines, a longitudinal streak at the cell-end, and a similar one in area 1 b, as well as marginal dots black or dark brown. ♀: hindwing dark yellowish, in the middle and at the proximal margin hued pink and with an indistinctly dark submarginal band. Expanse of wings: 34 to 40 mm. ♀ with yellowish hindwings everywhere hued pink, with a darker submarginal band. 50 to 61 mm. Philippines. — This species and the preceding are characterized by the two black longitudinal streaks of the forewings.

*L. dubiosa* Auriv. Both sexes dark, indistinctly marked; by its habitus, colour and shape of wings it resembles *Ocneria detrita* Esp., Vol. II, t. 21 e, and the terminal joint of the palpi is somewhat longer than in typical Lymantria-species. Forewing with one darker transverse band each before and behind the middle and similarly coloured submarginal spots and discocellular spot. ♀ hindwing whitish with a darker margin, that of the ♀ unicoloured dark. Expanse of wings: ♀ 31 to 37 mm, ♀ 40 to 51 mm. Java.
L. ganaha Swinh. (40 e). ♀ closely allied with L. beatrix (40 e). Forewing above uni-coloured purple-grey and somewhat lustrous, the markings as well as the hindwing as in beatrix. Expanses of wings: 54 to 73 mm. Java, Borneo. — A ♀ from the western coast of Sumatra (Coll. Seitz) is presumably most closely allied with L. ganaha Swinh. Expanses of wings: 59 mm. Hindwing white with a black marginal band being 6 to 7 mm broad in the anterior half und tapering off in the anal angle. Ground-colour of forewing faded pale greyish-brownish, with similar black markings as in L. beatrix, which, however, seem to be interrupted only in the areas 4 and 5 in the marginal area at most; costal margin with 3 or 4 white spots, marginal spots large and black; under surface blackened with 3 white costal-marginal spots, a similar marginal spot in the areas 4 and 5 and traces of small whitish submarginal spots. Abdomen ochreous-yellow, above spotted black, beneath with black transverse bands interrupted in the middle. Thorax with a black longitudinal band above. Hindwing, particularly beneath in the costal area as far as the base, blackened. — In the Berlin Museum there is a ♀ from Fort de Kock (Sumatra) and a couple from the Kina Bah. The latter ♀ has an expanse of 65 mm and a more purple-grey ground-colour of the forewings; beneath they are almost uni-coloured black. The ♀ has an expanse of 38 mm and black hindwings only with a light, sublimbal, zigzag-band in the middle of the marginal area, the forewings being darker, too, than in the ♀; thoracic dorsum black.

L. beatrix Stoll (40 e). ♂: white, hindwing with a broad black marginal band. Forewing with narrow beatrix dark transverse bands, one near the base, one not far from it, three undulate-zigzag-shaped, anteriorly interrupted submedian bands and a similar, twice interrupted sublimbal band, a dark, double moon-figure in the cell, and dark marginal spots. Expanses of wings: about 55 mm. Java. — As to L. marginata Wkr., nigra Moore and pusilla Flbr. being frequently synonymized with this species, I have dealt with them briefly in Vol. II, p. 131, comp. also p. 313.

L. asoetria Hbn. (= antica Wkr., promesta Moore) (41 b). ♂: dirty greyish-yellow whitish. Behind the head a red line. Tegulae with a black spot. Forewing with near narrow darker zigzag transverse bands and rows of spots; across the middle runs a somewhat broader, more sharply marked, dentate, zigzag-shaped band. Hindwing whitish with faint traces of a sublimbal band. Abdomen red with black dorsal and lateral spots. Expanses of wings: 40 mm. — ♂ in the dorsal half of the forewing darkened, so that only two narrow submedian transverse bands remain of the light ground-colour; in the costal area three narrow black transverse figures and at the end of the cell a similar angular spot. Hindwing with a slightly projecting anal angle. — Expanses of wings: 60 to 63 mm. — Under surface of wings of both sexes similar as above but much less distinctly marked, hindwing beneath with a blackish discocellular spot. Java, Moulmein, Thetmyo.

L. ganara Moore (41 b). ♂ deviates from L. asoetria (41 b) by more square hindwings, light body, ganara, and the thorax not being spotted black. Java, Sumatra, Borneo, Singapore, Burma.

L. ganaroides sp. nov. (41 c). ♂ resembles Lym. ganara Moore (41 b), but the hindwings are of ganaroides. The usual rounded shape, the markings of the forewings are different etc. Characteristic is the sharply marked, jet-black, almost semicircular discocellular spot of the forewing; a little farther towards the base is on the costal margin a likewise jet-black and sharply marked transverse streak. Head and thorax dirty whitish without dark spots, legs white with one black spot each on the end of the tibiae, on the metatarsus, and the apex of the last tarsal joint. Abdomen above and beneath dirty yellowish, like the dorsal area of the head, thorax and forewings. Hindwing darkened, so that only two narrow submedian transverse bands remain of the light ground-colour. The thorax of the male has a broad black marginal band, beneath such a band appears in both wings; the under surface is otherwise unmarked, except small spots on the costal margin of the forewing and the faint traces of small discocellular spots, the ground being dirty yellowish. — The three specimens unfortunately have a doubtful declaration of their patria: ♀ New Guinea; I have seen a probably very closely allied specimen from Perak. Expanses of wings: 30 to 40 mm.

L. brunneiplaga Swinh. (40 f). ♂: palpi black, at the apex white. Antennae brown, at the base white. brunneiplaga. Head, thorax and forewings white, costa with 4 brown spots, large, brown spot in the middle of the posterior margin, some brown spots at the base and at the margin, three dentate brown transverse lines. Hindwing grey with a darker margin and white fringes. Abdomen reddish with brown dorsal spots. Legs white, spotted black. The anterior femora red. ♂: head, thorax and forewing chocolate, the latter with similar markings as in the ♂. Hindwing light grey. Expanses of wings: 44, 69 mm. Java, Borneo, Sumatra, Penang.

L. loacana Spoon. (39 h). ♀: the author says it is allied with asoetria Hbn. (41 b) and possibly the ♂ loacana. of brotea Cr. Head and collar light yellow, dorsum whitish with a black streak in the middle, abdomen light brownish with a white anus, antennae black, forewing reddish-grey, at the base white with a black streak, with 4 white transverse lines, only the distal one being sharply marked, margin white, discocellular spot dark brown and crescentiform, fringes speckled. Hindwing whitish with traces of a darker band, fringes uni-coloured white. Length of wings: ♂ 26 to 27 mm. Loacan, at an altitude of 1200 m, in North West Luzon. Flies in July.
**L. narinda** Moore (= hilaris Vollenh.) (47 g). ♀: forewing white with brown markings: two spots near the base, a discal band beginning broad on the proximal margin, growing narrower in front, directed towards the costal margin at 2/3, and sending one branch each towards the base and middle of the costal margin, a small spot in the cell, a moon-spot at the cell-end, marginal spots, a larger, central submarginal spot, three spots near the anal angle. Hindwing light brown, towards the base whitish and with white marginal spots. Antennae, palpi, frons and three spots on the thorax, ventrum and legs blackish-brown. Abdominal dorsum in front brown, behind reddish, the segments above white, on the sides and beneath fringed red. Expanse of wings: 92 mm. Java, Sumatra.

**L. marginalis** Wkr. ♀: white. Abdomen on each side with a rosy-red stripe. Tibiae and apices of tarsi rosy-red. Forewing with black spots at the base and along the costal margin and with a black spot on the proximal margin near the base; a series of black marginal spots; 3 oblique rows of brown moon-spots. Length of body: 16.3 mm. Expanse of wings: 41 mm. Sarawak.


**L. lunata** Stoll (41 a). ♀: forewing pale brownish-grey with one antemedian, one submedian and one postmedian, blackish, narrow zigzag transverse band being most distinct in the costal area, near the base 2 black spots, near them a transverse row of similar spots, in the middle of the cell a round spot and at the end of it an L-shaped black spot, a sublimbal row of black spots and black marginal spots. Hindwing in the basal half and particularly in the dorsal half hued reddish, otherwise pale greyish with a dark sublimbal and small black marginal spots. ♀ dirty whitish, hued reddish with 3 narrow, olive greyish-brownish transverse bands and fringed spots, and in the cell 2 spots as in the ♀. Amboina, Celebes, Aru, New Guinea, East Java, Philippines. — In the ♀ (Philippines, according to SEMPER) the colour of the hindwings is different dark and the reddish dusting at the base is sometimes entirely absent. Behind the most distal row of black dots on the forewing the ground-colour is sometimes very light, resembling a whitish band (f. lunatoidea form. nov.), which form occurs among other habitats in the Key Islands. — The larva lives near Manila on „Mabolo” (Diospyros sp.) and „Macupa” (Eugenia sp.), and besides it is reported to live on Psidium, Seseania, Ricinus, „Manuzanas de China” and preferably on Terminalia. It is brown with darker markings, close behind the head and in the middle with a whitish spot; on both sides of the body it has tufts of long, whitish hair, on each segment there are 2 bluish tubercles and on the 9th and 10th segment a red dot. — Pupa dark brown with single tufts of whitish hair. Pupal stage near Manila in January-February 10, in November 9 days. Flying from July till September, and November till May. Length of wings: ♂ 19 to 26 mm, ♀ 31 to 41 mm. In the Philippines common. — Ichorina Blttr. (41 a). Forewing above white with 3 almost equidistant golden brown bands: the first interrupted and angled, the second broader, oblique, in the middle of the wing, flowing together with an angular discocellular band of the same colouring, the third narrow and oblique, in the middle between the median band and the margin; of the same colour are besides 2 or 3 basal spots, a cell-spot, the veins and a series of marginal spots. Hindwing reddish, towards the margin turning white, with small brown diffuse spots. Body whitish, antennae black. Expanse of wings: 100 mm. Amboina.

**L. maculata** Semp. (41 b) from Mount Arayat in Luzon is closely allied with beatrix Stoll, but distinguished by the abdomen being above uni-coloured brown, beneath uni-coloured yellow, the light markings on the forewings above running differently or being entirely absent, whereas the hindwing shows a long yellow spot before the cell and near the anal angle. Fringes of forewings spotted, those of the hindwings at the costal angle black, then yellow, and at the proximal angle brownish. Length of wings: 21 to 23 mm (♀). March, May.

**L. curvifera** Wkr. ♀: white, palpi black, at the base white. Antennae black. Tarsi and anterior tibiae likewise black. Wings with black, oblong marginal spots. Forewing with a brown zigzag line not far from the base, uniting with the posterior end of an oblique, brown, posteriorly expanded median band, and with an oblique brown band posteriorly converging with this band, in the disc with a brown spot and lunar figure. Expanse of wings: 63 mm. Philippines. — (The type was by mistake described as a ♀).

**L. simplex** Pag. has an expanse of 40 mm, looks like an *Acronycta*, has grey palpi, yellowish antennae, greyish-brown legs, the body being above lighter, beneath darker grey. Forewing whitish-grey with darker shades, the maculae are light, surrounded by a darker tint, line of fringes dotted dark, within this line at first a dentate, dark undulate line, then a slightly curved transverse line and then a more strongly dentate transverse
line. At the costal margin and the base of the wing grey dusting, at the distal angle and the proximal transverse line there is reddish-yellow dusting. Hindwing uni-coloured grey. Forewing beneath at the proximal margin whitish-grey, towards the costal margin dusted darker, hindwing dark grey with lighter fringes. Aru Islands.

L. rosina Pag. (41 f). ♂: 50 mm. Allied with B. rosea Hmps., but without the black proximal margin of the hindwing. Head, collar and shoulder-covers yellowish-white like the forewing. On the costa 6 black spots which are connected with just as many rows of black spots extending as far as the proximal margin. A marginal row of black spots, hindwings snow-white, proximal margin pink, which colour passes over a little into the disc and along the costal margin to the apical angle. Legs and abdomen pink, the abdomen above dotted black. New Pomerania.

L. brotea Cr. ♂: white. Antennae brownish-yellow. Forewing with narrow, oblique, somewhat undulate, brownish-yellow transverse bands: 2 submedian ones (which may also be called a double band), an antemedian one forming a spot on the costal margin, a sublimbal one. A similarly coloured basal spot and another one in the cell, as well as a crescentiform transverse spot at the cell-end. Body beneath white with grey legs. Expanse up to 66 mm. Amboina and (?) Coromandel Coast.

L. inordinata Wkr. ♂: fawn, rosy-red at the posterior margin of the head, on the short, strong, ascending palpi being outside mostly coloured black, at the base of the antennae and the sides of the abdomen. Forewing speckled black with one black angular mark each at the end of the cell, a black diffuse spot between the cell and the proximal margin, two brown sublimbal transverse bands formed of moon-spots, and brown spots on the fringes. Length of wings: 49 mm. Makian, Celebes.

L. antennata Wkr. (40 d). ♂: fawn. Antennae with very long combs. Thorax in front rosy-red. Abdomen the same, but with three rows of black spots. Coxae and femora pink. Forewing with black spots and oblique, incomplete bands, with a rosy-red spot near the base of the costal margin; the third dorsal vein is about three times as distant from the fourth as from the second. Hindwing with a brown marginal band and a pink dorsal area. Expanse of wings: 43 mm. Australia: Richmond River, Moreton Bay.

L. lygaea B.-Bak. (41 d). ♂: head, antennae and thorax umbra-brown, abdomen pink. Forewing lygaea. umbra-brown with dark brown markings: an interrupted basal line, a median, feebly serrate line projecting distally in the cell, but being bent towards the base behind the cell, a roundish diffuse patch in the cell, which is closed by a double spot, finally a dark, serrate postmedian line extending towards the base behind the cell; a similar line is in the subterminal area; margin spotted dark. Hindwing brownish-grey. Expanse of wings: 38 mm. British New Guinea. January—February.


L. ekeikei B.-Bak. (41 d). ♂: yellowish grey or (abdomen) yellowish-brown. Forewing whitish-grey, ekeikei. with a yellowish hue, 6 strongly dentate, dark grey lines, the 5 distal ones being most closely juxtaposed, in the basal area a row of 2 or 3 dark grey spots, the distal margin spotted black, the costal margin with 4 black spots. Hindwing unpainted yellow. Beneath both wings yellow. — ♀: head and thorax whitish grey; abdomen rosy-red, of the same colour the hindwings. Beneath both wings are rosy-red. Expanse of wings: ♂ 41, ♀ 60 mm. British New Guinea, January—February.

L. kebeae B.-Bak. Allied with ninayi (41 d). ♂: head black, collar white, thorax white, spotted kebeae. and striated black, abdomen black with a yellow anus. Legs black, with long white hair, femora above red. Forewing greyish, veins orange; basal area white, dotted black; a broad, black, interrupted antemedian band, a black spot in the cell, a black and reniform discocellular spot, opposite it on the proximal margin a white diffuse patch cut by a black lunar figure, between the cell and the margin are three transverse rows of black spots, the margin is spotted black. Hindwing orange with a black spot in the cell, a black dorsal area and a narrow black marginal band. Beneath the hindwing is black with an orange median patch. Expanse of wings: 42 mm. Mount Kebea in British New Guinea; in March and April.

L. ninayi B.-Bak. (41 d). White, collar marked black, legs with red and black stripes. Abdomen ninayi. black. Forewing white with a dark grey marginal area, yellow veins, in the costal area 5 or 6 black marks, two postmedian, dentate transverse lines, the margin spotted black. Hindwing white, in the anal fourth black. Expanse of wings: 39 mm. New Guinea, Ninay Valley, 3600 ft. — Allied with L. kebeae B.-Bak.

Distinguished from *Lymantria* especially by the longer and narrower palpi with a long and brushed second joint, whilst the third is very small. Antennae in both sexes with long combs. In the forewing 3, 4 and 5 rise from near the angle, 6 from the anterior angle, 8 and 9 on a very long footstalk and about from the middle of this footstalk rise 10 and 7. In the hindwing 3, 4 and 5 are likewise separated, although they rise near the angle, 6 and 7 from the anterior angle. The genus is exclusively Indian, distributed from the Himalaya to Ceylon and to the east as far as the Philippines and contains 16 forms. The imagines do not seem to be very common.

**punctifascia** Wkr. (39 h). Body orange. Antennae black, shaft laterally white. Collar, thorax and tegulae spotted black. Abdomen with a lateral row of black spots. Forewing brownish-orange with light yellow veins, two black, subbasal spots and an orange median band which is between the veins bordered with red-brown, distally white-margined streaks. Hindwing orange with a curved postmedian band from the costal margin to vein 2 on the under surface. Expanse of wings: ♂ 50, ♀ 70 mm. India, Sikkim, Assam, Bhutan, Ceylon. — In the typical form from North India the orange band of the forewing reaches both to the costal margin and posterior margin. In *f. inferiora* form. nov. from the lowlands in Ceylon the bands of the forewing only extend from the anterior angle of the cell to vein 1, whereas in *f. superiora* form. nov. flying in higher districts of Ceylon the curved median band of the hindwing is much more strongly developed, the marginal area being hued reddish with yellow streaks on the veins, the black dorsal and lateral spots of the abdomen being larger, and the whole imago larger and darker. Expanse of wings: ♂ 62, ♀ 76 mm.

**nisseni**. 

L. *nisseni* Roths. ♂: head and antennae, as well as abdomen yellowish greyish-brown, dusted black, a black streak below and one in the cell, a black discocellular ring, 2 postmedian, black transverse lines broken in a zigzag way, fringes indistinctly spotted black. Hindwing light yellowish greyish-brown, the anal half blackened, a submarginal band and a discocellular spot indicated by more intense black dusting. Length of forewings: 20 mm. — Captured at the end of June in Khenchela, Algeria.

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**novaguineensis** B.-Bak. (41 b). ♂: grey, in some places hued reddish. Forewing white with black markings: 2 basal spots, a row of 3 antemedian spots, a median, interrupted line beginning in a costal spot, a small spot in the cell and one on the discocellular, 2 irregular, strongly dentate lines ending near the anal angle, an interrupted and irregular subterminal line, finally black marginal spots. Hindwing white, in the dorsal area somewhat yellowish, the margin with 2 black spots near the apex, traces of a dark discocellular spot. Expanse of wings: 68 mm. British New Guinea. In March and April, and August. Perhaps the same species as *L. turneri*.
C. venosa Wkr. deviates from punctifascia (39 h) by its bright orange colour, the band of the fore-wing being broader and its marginal streaks but slightly darker than the ground-colour. Both wings beneath with a dark macular band, the apex being dark. Expanse of wings: 70 mm. Sikkim. — Pupa in a light web, body curved, thorax and abdomen above with short hair-tufts.

C. charma Swinh. (39 f) deviates from punctifascia by the forewing not exhibiting the orange median charma. band dotted black at the margin. Expanse of wings: 50, 76 mm. Karwar.

C. puncticilla Moore. Both sexes white, pinnae of antennal combs brownish, legs striated black. Wings puncticilla. semi-diaphanous. Forewing with a black line along the basal half of the costa, a spot in the middle of the cell and 6 on the fringes. Hindwing with a black apical spot on the fringes. Expanse of wings: 30, 34 mm. Nilgiris.


C. alba Moore (39 f). White, semi-diaphanous; forewing with 2 black transverse lines the first of alba. which is subbasal and zigzag-shaped, the other being discal, oblique, and curved near the costal margin, besides with a black discocellular spot; both wings with a marginal row of small black spots. Thorax and (in the ♀) abdomen spotted black. Expanse of wings: 39, 58 mm. Ceylon.

C. fasciata Semp. Closely allied with C. punctifascia Wlk. (39 h), but in the ♀ the dorsum is brown fasciata. without black dots, ventrum and legs light brown without black markings, in the middle of the forewing a yellow spot not bordered by darker streaks. Wings beneath unmarked except a small brown spot at the apex of the forewing. The ♀ is somewhat darker than the ♀, in the apical area of the forewing there is a yellow spot between veins 6 and 7, and the hindwing beneath has a brownish transverse band. Length of wings: 22 to 23 mm, 35 mm. It flies in January and October in Mindanao.

C. grisea Semp. From East Mindanao, flying in May, deviates (in the ♀) from fasciata particularly grisea. by the whitish hindwing being provided with a grey marginal band, the forewing showing a broad white transverse band. Length of wings: 34 mm.


C. dichroa Flbr. Wings yellow, forewing above with a broad, sinuate, grey discal band and dark dichroa. ferruginous marginal spots, hindwing above with a proximal dark ferruginous area; beneath uni-coloured. Amboina.

C. suffusa Flbr. Wings of a deep yellow, forewing of the ♀ above with a ferruginous basal spot, suffusa. that of the ♀ distally between the veins dark ferruginous, hindwing of the ♀ on both sides with a proximal ferruginous area. One third smaller than dichroa. Amboina.

C. punila Flbr. ♀: wings and body pale yellow, forewing above deeper yellow, proximally with a punila. ferruginous spot. Amboina.

C. kinabaluensis spec. nov. (47 b; what is denoted as kinabaluensis on fig. 39 g, is in fact something kinabaluensis. -else). ♀: dull white, semi-diaphanous, in the costal area silvery white lustrous scaling; I cannot tell, whether this scaling is spread farther across the surface of the wings in quite fresh specimens, at any rate the specimen before me is rather well preserved. Costal margin of forewing in the proximal three quarters brownish-black, in the apical quarter lighter brown; beneath the whole costal margin of the forewing, and the bases of both wings are dirty ochreous-yellowish. The fringes at least of the forewing are at their ends dirty ochreous-yellowish, nor are the veins of a pure white. Head, thorax, antennae and their pinnae white, and probably also the abdomen above is of the same colour, whereas the body beneath and the extremities are dirty ochreous-yellowish. — Posterior tibiae only with end-spurs. Expanse of wings: 32 mm, length of wings: 18 mm. Kina-Balu (Borneo) 1. IX. 1898 (Coll. Setz).

C. borneensis sp. nov. (47 h). ♀: white; diaphanous, almost entirely unscaled and somewhat iri-borneensis. descent wings, the costal margin of the forewing a little more densely scaled, but scarcely darker, but in the forewing there is a dark discocellular spot and traces of a similar marginal spot in area 4. The fringes not being well preserved seem to be white. Antennae and pinnae white, the latter, however, at their ends dark. In contrast with C. kinabaluensis vein 6 of forewing is far away from the footstalk of 7 + 8 + 9 + 10. Expanse of wings: 24½ mm. Length of forewing: 14 mm. Kina Balu (Borneo). 1. IX. 1898.

But few species distinguished by long, thin and porrect palpi, long-combed antennae, slightly convex border of the hindwing, and some peculiarities in the neuration of the wings, e.g. 6 on the forewing rising behind the upper cell-angle. From Euprocotis the genus differs by the veins 6 and 7 of the hindwing being separate; of less importance is the fact that the palpi are longer and the hindwings differently shaped. — In the forewing $7 + 8 + 9 + 10$ rise on a footstalk and 11 does not anastomose with 12.

I. mundus Wkr. (40 b) is light brown, the legs spotted black; forewing with a sharply marked subbasal and antemedian row of spots, a cell in the line, a line on each side of the discocellular, a deeply dentated postmedian line, as well as submarginal crescents and spots. Hindwing with an indistinct submedian band and marginal spots. 80 mm. In North West India, as well as Java; it may also be reckoned to the palearctic region.

I. durioioides sp. nov. (40 a) is a medium-sized species with a whitish ground-colour, lying before me durioides. I. sulphurea. anaj brush. Forewing with a short dark basal line, a double dark antemedian line, an interrupted median line Wkr. I. mundus. mundus I. sulphurea. with erect scales. Expanse of wings: 32 mm. British New Guinea, March and April. — Before me is a white hindwing projecting rounded off, particularly at vein 3; fringes white. — Apparently closely allied with Imaus gratti B.-B. — North Queensland, Kuranda; in October and November. — In the original description the characteristic jet-black punctiform spots on the distal margin and in the terminal third of the costal margin are not mentioned.

I. ochrias Trnr. (39 g). $\delta$: 32 mm. Head and thorax ochreous-grey whitish. Palpi ochreous-whitish with some dark brown scales on the outside. Antennae whitish-ochreous. Legs whitish. Forewing triangular, the costal margin very much curved, apex rounded like the oblique margin; vein 11 separate; ochreous greyish-whitish with light grey markings and some dark brown scales here and there; two dark brown spots near the base at the costal margin resp. anal margin; an extinct undulate transverse line at 1/4 and another one from the costal margin before the middle to the anal margin behind the middle, being united in the surface of the wing with a dentate line from 5/6 of the costal margin; a light grey circular spot; a dentate subterminal line and a small dark brown spot on the second line at the end of the cell. Margin of the white hindwing projecting rounded off, particularly at vein 3; fringes white. — Apparently closely allied with Imaus pratti B.-B. — North Queensland, Kuranda; in October and November. — In the original description the characteristic jet-black punctiform spots on the distal margin and in the terminal third of the costal margin are not mentioned.

I. marginepunctata B.-Bak. $\delta$: whitish, palpi outside black, abdomen straw-coloured with a whitish anal brush. Forewing with a short dark basal line, a double dark antemedian line, an interrupted median line cutting a round cell-spot margined with grey, a double, serrate postmedian line, two spots at the cell-end, and a subterminal row of grey diffuse spots between the veins. The basal quarter of the costal margin is black, then it is spotted black. Hindwing white. Veins 10 and 11 anastomose. Expanse of wings: 32 mm. Area River in British New Guinea, in March. — Before me is a $\delta$ (Coll. SEITZ), the patria being unfortunately merely stated to be New Guinea, with an expanse of but 26 mm, in which the median line and the cell-spot are only very feebly noticeable; at the end of the cell there is a blackish, midway narrowly interrupted transverse streak convexly bent towards the margin and appearing distally dentate owing to the veins being dusted blackish, and being identical with the two spots mentioned in the original description. I should rather describe the sublimbal marking as a zigzag-line partly united with a transverse row of internerval spots situate within the hindwing.

I. puteilla. zigzag-line. Only the upper half of the outside of the palpi is black (i. puteilla form, nov.) (40 a).

I. dubia B.-Bak. $\delta$: grey. Abdomen yellowish-white. Forewing with traces of a basal line and with an antemedian, irregular dark grey line, a similar median line cutting a spot formed of raised scales at the end of the cell, and a postmedian serrate double line followed by a subterminal row of dark diffuse patches. Distal margin spotted dark, costal margin in the terminal half spotted black, hindwing of a pure white. Expanse of wings: 32 mm. — Aroa River in British New Guinea, March and April. — Distinguished from marginepunctata by its darker colouring, somewhat differently running lines, and by the veins 10 and 11 not anastomosing here.

I. sulphurea B.-Bak. $\delta$: head, collar and forewing sulphureous greyish, thorax and abdomen greyish, hindwing whitish, hued somewhat sulphureous yellowish. Forewing with 2 black basal spots, an antemedian, irregular black line, a black median line cutting a blackish spot at the cell-end, then follows a subparallel, dark-spotted line and a subterminal, irregular, dark line, the distal margin and terminal half of the costal margin spotted dark. Expanse of wings: 32 mm. Area River in British New Guinea, March.

I. niveus B.-Bak. (40 b). $\delta$: white, palpi on the sides brown. Forewing on a great part of the surface with erect scales. Expanse of wings: 62 to 64 mm. British New Guinea, March and April.
I. spodea B.-Bak. (40 a). ♀: head, thorax and anal brush white, abdomen and palpi black. Forewing spodea, white, in the costal area greyish and with 5 greyish transverse lines, margin spotted black, costa with 5 grey spots. Hindwing grey with white fringes. ♂ more of a brownish colour, with less distinct lines. British New Guinea, in August, March and April.

I. aroa B.-Bak. is perhaps the ♂ of spodea or niveus. ♂: whitish, palpi outside brownish. Forewing aroa, with traces of one basal, one antemedian and one median dark line, besides there are postmedian and subterminal lines flown together into a single dark line between the veins 1 and 2 before the anal angle. Distal margin and terminal half of costal margin spotted black. In and at the end of the cell there is one spot each. Hindwing with traces of black dots between the veins 2 and 5 and the margin at the same place spotted black. Expanse of wings: 98 mm. Aroa River in British New Guinea, in January.

I. pratti B.-Bak. (40 a). Body ochreous-brown. Forewing light ochreous-grey with an antemedian pratti, and a postmedian darker line, a darker discocellular spot and subapical costal-marginal spots, the margin spotted darker. Hindwing uni-coloured pale ochreous-yellowish. ♀: white, forewing subhyaline, speckled dark grey with three antemedian dark streaks to vein 1 and a similar postmedian line, the cell with two black diffuse spots at the end, a dark subterminal, serrate line, the margin spotted black. Hindwing white. Expanse of wings: ♂ 30 mm, ♀ 40 mm. British New Guinea, August and September.


Like Imaus, but in the forewing the veins 11 and 12 anastomose, and the hindwing is angular at vein 3.

D. alba Moore (40 as albus). White, with a faint brownish hue. Palpi black on the sides. Antennal alba, pinnae red-brown. Forewing with about 7 indistinct brownish undulate lines and with a ring-shaped and reniform spot bordered with brownish. Both wings with black marginal dots. Expanse of wings: ♂ 38, ♀ 45 to 58 mm. Sikkim, Formosa.— It is reported to fly also in S. E. Mindanao, in April and December.

D. amplipennis Wkr. ♀: white, palpi outside black, antennae black, tarsi and anterior tibiae amplipennis, for the greatest part black. Wings with black marginal dots. Forewing with an incomplete black discal ring and with four irregular, oblique undulate lines composed of black crescentiform spots. Hindwing projecting far beyond abdomen. Expanse of wings: 94 mm. New Guinea.

D. inhonorata Hpfr. ♀: snow-white, forewing scantily dusted dark, with a black undulate streak near inhonorata, the margin. Wings beneath with a dark discocellular spot. Length of wings: 38 mm. Celebes.

D. albicans Wkr. ♂ and ♀: whitish, beneath more or less grey. Wings with a brown discal spot. albicans. Forewing with several indistinct, light fawn bands. Hindwing of ♂ with a grey marginal band, that of the ♀ uniformly feebly greyish. Expanse of wings: 28½ to 45 mm. Celebes, Borneo, Singapore.

34. Genus: Ocneria Hbn.

To this genus, the characterization of which is stated in Vol. II, p. 131, beside the 15 palearctic species, also 1 Australian species not lying before us is said to belong.

O. heliaspis Meyr. 58 to 60 mm. — ♀: head and thorax light ferruginous-red. Palpi pale orange. heliaspis, Antennae brown, with pale pinkish-brown combs (7). Abdomen light reddish-orange. Legs whitish, anterior and middle tibiae mixed with black. Forewing triangular with an oblique, scarcely undulate, in the middle distinctly indented margin; ferruginous with five darker and feebly curved lines finely speckled dark grey, the two first being antemedian, the third postmedian, the fourth and fifth undulate and subterminal; a blackish discal spot in the middle; margin partly hued darker. Hindwing with a rounded distal margin and a long proximal margin, so that the anal angle appears to be extended; bright orange and with traces of two undulate, dark postmedian lines; the posterior third of the margin broadly brownish. — ♀: body and palpi ochreous-white. Antennae dark brown, pinnae 2. Legs brown. Forewing triangular with an oblique, almost straight border; ochreous greyish-whitish with a blackish-grey discal spot in the middle and with two fine, undulate, dark grey lines corresponding to the third and fourth lines of the ♀, whilst the first is quite faint. Hindwing as in the ♀, but the anal angle is less extended, ochreous-white with a faint pinkish hue, with a blurred grey discal spot and two grey lines as in the forewing, but still more indistinct. Larva long-haired, the stiff hair arranged in groups and in transverse bands, without forming any conspicuous brushes or pencils; colouring of the larvae dirty light reddish. The larva attains a length of as much as 75½ mm, lives on Eucalyptus and pupates in February or March. — Pupa has a length of up to 30½ mm. — Flying time January, February and April. Australia: Hunter River, Port Jackson; Newcastle, New South Wales.
35. Genus: **Perina** Wkr.

This genus composed of but 2 very similar species has been described more minutely in Vol. II, p. 134. The imagines are common, and the larvae, with a variegated dorsum and covered with numerous brushes, are frequently met with on fig-trees shading the streets of tropical towns.

*P. pura* Wkr. (39 g) from North India to Calcutta and Cachar differs from *nuda* only by the head, thorax and abdomen being whitish and the scaled surfaces of the wings white with a brownish hue. $\varphi$ much lighter than that of *nuda*. $\varphi$ 30, $\varphi$ 40 mm.

*P. nuda* F. (= subtineta, basalis, combinata Wkr.) (Vol. II, t. 21 d) has already been dealt with in the palearctic part, Vol. II, p. 134, where also the larva is described. The latter is figured — unfortunately not coloured — in Ind. Mus. Notes III, t. II, fig. 2 d. It lives on Ficus indicus and F. religiosa, and is like the pupa magnificently coloured. — Flying time September and October. — The species also occurs in Formosa, according to statements by Dr. Seitz it is common in Hongkong and reaches the palearctic region in China and Japan.


Forewing broad, subtriangular, with a sharp apex and a midway indented margin, the hindwing forming an angle at vein 1 b. Palpi long and obliquely upturned. Antennae with long combs. Posterior tibiae quadrifurcate. In the forewing 6 rises behind the angle, $8 + 9 + 10$ on a long footstalk, and from the middle of this footstalk rises 7, 8 terminates into the margin. In the hindwing 6 and 7 rise from the angle, and the transverse, very little oblique discocellular is midway deeply indented or perhaps broken. The genus is exclusively Indian.

*subinanis.*

*T. subinanis* Wkr. (39 b). $\varphi$: sulphureous. Frons and palpi red-brown, antennae with brown pinnae. Forewing with a red-brown spot beyond the lower angle of the cell and some marginal marks. Hindwing with a red-brown marginal spot near the anal angle. Expanse of wings: 42 to 56 mm. Java, Borneo, Singapore, Tenasserim.

*discolor.*

*T. discolor* Hmps. (39 g). $\varphi$: distinguished from *subinanis* by the very pale reddish ochreous colouring; thorax and base of forewing are suffused with whitish, the forewing strewn with silvery scales, costa reddish, a blurred dark spot on the upper discocellular instead of a spot beyond the lower cell-angle, the margin behind the apex is much more excised and angular at vein 4. Expanse of wings: 36 mm. Ceylon.

*lerwa.*

*T. lerwa* Swinh. $\varphi$: body white, antennae and head brownish. Wings yellowish, the forewing lightest, with a brown moon-spot at the cell-end, the costal line and partly the marginal line reddish. Hindwing unicoloured. Fringes of all the wings reddish. Body beneath whitish, legs reddish. — $\varphi$: forewing dusted olive-brownish, in the middle and at the margin darkest, the margin angular at vein 4. Under surface ochreous. Expanse of wings: 34,3 mm. Karwar, flying in September and October.

37. Genus: **Dactylorhynchha** Hmps.

Distinguished by very long, thin, obliquely porrect palpi the terminal joint of which, however, is very short. Antennae long, with long combs. Spurs long. In the forewing 6 rises about from the middle of the discocellular, 7 from the angle, $8 + 9 + 10$ on a rather long footstalk, scarcely touching 7 at the base.

*luteifascia.*

*D. luteifascia* Hmps. (44 f). The palpi do not extend much beyond the frons. $\varphi$: blackish-brown. Forewing with a narrow orange-yellow costal band and a broader anal-marginal band, as well as with very indistinct ante- and postmedian lines. Beneath lighter. Expanse of wings: 28 mm. Burma.

*pallida.*

*D. pallida* Hmps. (47 c). $\varphi$: uni-coloured pale silky greyish-brown, forewing with some dark marginal marks below the apex. Pinnae dark. Expanse of wings: 28 mm. India, Nilgiris.

38. Genus: **Porthesia** Steph.

This genus composed of numerous species is easily discernible from *Euproctis*, to which it is otherwise closely allied, by the absence of vein 5 on the hindwing. It is distributed over the whole old world, and many occur in great numbers. The hair of the larvae on being touched often cause an inflammation of the skin.
P. scintillans Wkr. (Vol. II, t. 21 h). In Vol. II, p. 139 I have, relying on former authors (Hampson, Swinhoe etc.), dealt with this species as an Euproctis, but on re-examining it I found it is a very typical Porthesia. With respect to this species and its forms subnigra Wkr. (= justiciae Moore), linbata Bhr. and irrorata Moore I refer to what I have said there. In the Indian region the species is distributed across India to Ceylon and the Philippines. It flies in Luzon from January till June, in September and December. Length of wings: $\varphi$ 9 to 11, $\Omega$ 11 to 17 mm. — Larva on Sesbania sp, and on a species of willows. Head and legs brown, head with 2 hair-tufts on red tubercles. Dorsum white with a red streak, the third joint with a red tubercle, 4th and 5th joints with black hair-tufts, penultimate joint with a black torus, last joint brown. On the sides greyish-brown and red longitudinal stripes. Pupal stage lasts for 10 days near Manila in December, for 11 days in January-February.

P. virguncula Wlk. (= marginals Wlk.) (45 b c). The $\varphi$ is white, the forewing faintly hued creamy, and on the costal-margin beneath slightly darker. Anal tuft of a bright saffron. 28 mm. India, also in the north; Java, Sumatra. — From Java originates a small Porthesia with an expanse of but 25 mm which I discovered as Porthesia minor Snell. This name, however, I do not find published anywhere and I describe the species on the assumption that minor Snell is a nomen in litt., as a new species. It is closely allied to Porthesia virguncula Wkr., above uni-coloured purely white, but the rather large anal tuft is 4 mm long and of a bright yellow, and the basal area of the forewing beneath is, in a length of 3 to 4 mm, dark grey, which colouring extends along the costal margin to the beginning of the last third of it towards the apex, covering also the base of the cosatal area of the hindwing. Pinnae dark brown. I call this form P. javanica form. nov. (45 b). javanica.

P. stigmatifera Hamp. $\varphi$: brownish-ochreous, speckled darker. Forewing densely speckled darker except the proximal median area; traces of a reddish antemedian band and a spot in the cell, a more prominent blackish reniform spot, some indistinctly defined postmedian and submarginal dark spots forming traces of bands. Hindwing with traces of median and postmedian lines. Expanse of wings: 26 mm. India, Bhutan.

P. aurantiaca Hamp. $\varphi$: head and legs orange, thorax dark red-brown, abdomen blackish. Forewing in the basal two thirds bright orange, in the apical third dark red-brown. Hindwing bright orange, fringes hued red-brown, particularly towards the apex. Expanse of wings: 24 mm. India: Sikkim.

P. xanthorrhoea Koll. (= subdita Moore) (Vol. II, t. 22 a) see Vol. II, p. 134; at the same place another form flavonigra Moore. — Other forms: subnigra Moore from the Khasia Hills etc. has whitish forewings and black hindwings, the posterior margin and fringes of which, however, are white. Under surface of both wings black with white fringes and in the forewing with a white marginal band. — subdita Moore ($\varphi$) from Ceylon, according to the description, is allied to the European P. auriflua, but smaller (expanse of wings: 24½ mm), and the forewings are without markings, except that they show beneath a black costal-marginal band. Ceylon.

P. euproctiformis sp. nov. $\varphi$ (45 c). In the hindwing the veins $3 + 4$ are on a very short footstalk, $6 + 7$ on a rather long one. In the forewing $6 + 7 + 8 + 9 + 10$ are on a footstalk, 6 rising distinctly removed from the cell, whilst 10 rises between 7 and 9. The palpi are, also for a Porthesia, remarkably long and thin. Thorax, base of abdominal dorsum, and forewings of a bright ochreous-yellow, forewings scantily and irregularly speckled with dark brown scales except a narrow distal-marginal and costal-marginal band and the base. Head, palpi, chest and legs a little lighter ochreous, hindwing above and both wings beneath pale ochreous without dark dusting, and the middle of the abdomen is apparently so, too. Expanse of wings: 30 mm. Length of body: 10 mm. Unfortunately the patria of the interesting insect is doubtful; the specimen is labelled: „probably Darjeeling“, but it is doubtful whether it originates from that comparatively well explored district.

P. urocoma Strand (47 c). $\varphi$: forewing brownish ochreous yellow with two lighter transverse lines, urocoma. one being submedian and curved like an $S$, the other being postmedian, extending straight obliquely from the anal margin to vein 5, then bending towards the base, so that it is united with the preceding line at the costal margin; in the marginal area 3 lighter spots similar as in Euproctis subnigata, the two anterior ones being situated close together. Hindwing uni-coloured light yellow like the under surface of both wings. Abdomen above, except the two ends, and laterally black, otherwise the body is like the wings. Expanse of wings: 22; length of forewings: 11½ mm. — Kosempo, Formosa; in January. Types in the German Entomolog. Museum at Berlin-Dahlem.

P. macroplura Strand (47 b). $\varphi$: closely allied to urocoma, but the $\varphi$ deviates by the veins 3 and 4 macroplura. of the hindwing being separate, whereas in urocoma on a very short footstalk, the forewings are uni-coloured ochreous-yellow without a brownish tint, and the dark part of the abdomen is greyish, only towards its posterior
margin blackish. — ♀ larger (expanse of wings: 26, length of forewings: 14½ mm), the wings still lighter, veins 3 and 4 of the hindwing on a very short footstalk. Formosa, in April, May and November. Types in the German Entomolog. Museum at Berlin-Dahlem.

fulvonigra. P. fulvonigra Stwink. (44 c). ♂ and ♀ show blackish antennae, the palpi, frons, head, thorax and forewing above being ochreous, the hindwing black with a broad ochreous margin. Abdomen black, anal brush of the ♀ yellow. Under surface of body and of the wings, as well as the legs yellow, both wings proximally somewhat blackened. — The ♂ ♀ vary somewhat. Expanse of wings: ♂ 24½, ♀ 29.4 mm. Guadalcanar-Island (Salomons).

pulverea. P. pulverea Hmps. (45 b). ♂: white, head and thorax somewhat brownish-yellow, antennal pinnae brownish; anal brush of abdomen orange. Forewing rather densely strewn with large, yellowish-brown scales, and with a brown median and postmedian band which is curved distally convex. Hindwing white, with brownish margin and fringes. — In the ♀ the anal brush is yellowish or brownish, the forewings are less dusted with brown and their bands indistinct. Christmas Island.


gracilior. P. gracilior Pag. from the Aru Islands, has an expanse of 19 mm (♂), a whitish antennal shaft with darker pinnae, thorax, legs, wings and fringes white, the anal angle and posterior margin, however, faintly yellowish. Beneath as above, the veins a little darker. [It is perhaps an Euproctis!].

isabellina. P. isabellina Heyl. ♀. It is said to be closely allied to P. jumosa Sn. (which, however, is said to be an Euproctis), but the forewing without white transverse lines, the discocellular spot smaller, hindwing white and beneath without a black dot, thorax with a yellow anal tuft and like the thorax less dark, the whole under surface more intensely white, the hindwing even silvery whitish. Expanse of wings: 32 mm. Padang Pandjang, Sumatra.

lutea. P. lutea F. (= [Artaxa] chrysospila Wkr., chrysophaea Luc. 1892 nec Wkr.) (45 d). ♂: yellow. Antennal combs black. Anal brush very long. Forewing with two white, thin, distally curved bands, the first of which is antemedian, the other postmedian. Hindwings project beyond abdomen. Expanse of wings: 24½ mm. Varying very much both in size and colouring. In both sexes there is a form with dark-speckled hindwings. Cairns, Kuranda, Townsville, Rockhampton, Brisbane, Queensland. — inobrota Meyr. is a form of P. lutea, with ferruginous-ochreous forewings, body and extremities; forewings with ochreous undulate transverse lines at †⁄₄ and †⁄₃ of the length of the forewings. Hindwings dark ferruginous. Antennal pinnae black (♂). — The ♀ is in the forewing like dark ♂ of lutea, in the hindwing darker brown. ♂ 19 to 24, ♀ 24 to 28 mm. Cooktown and Eumundi in Australia.

paraneura. P. paraneura Meyr. Like P. lutea (45 d), but the first line of the forewing is more uniformly curved, the second is in the middle sharply angular, in the terminal parts sinuate; in the ♀ there is in the lower half before the first and behind the second line one nebulous ferruginous band each; ♀ of a deeper colouring than P. lutea, and the area between the first and second line of the forewing is dorsally usually ferruginous, and the lines are very indistinct. ♂ 22 to 23, ♀ 28 to 40 mm. Fly River, New Guinea.

pyraustis. P. pyraustis Meyr. ♂ 19 mm. Body and extremities orange; antennal pinnae 8. Forewing triangular with an obliquely rounded margin, rather dark ferruginous, in the basal half except along the costa strewn with ferruginous-orange hair, costa margin orange like the whole fringes. Hindwing dark grey; fringes grey with a light ochreous distal margin (apex). Queensland.

radiata. P. radiata B.-Bak. (45 b). ♀: body yellow like the forewing which shows traces of a pale median oblique line and of a more distinct similar postmedian line; the spaces between the veins are filled up with orange. Hindwings lighter yellow. Expanse of wings: 50 mm. British New Guinea, in July.

squamosa. P. squamosa B.-Bak. (45 b). ♂: body orange-brown. Forewing light straw-coloured with an orange-yellow patch at †⁄₄ from the base of the proximal margin; the spaces between the veins are light orange. Hindwing light straw-coloured, at the base and in the middle deeper yellow. ♀: paler; the spaces between the veins of the forewings speckled with darker scales. Expanse of wings: ♂ 39, ♀ 49 mm. British New Guinea, in March-April and August, at an altitude of 600 ft.

P. melanosoma Btlr. (47 c). ♀: snow-white, antennal pinnae greyish-brown, abdomen black with a snow-white anal brush, anterior femora above blackish, anterior tibiae above ochreous, the base of the costal margin of the forewing beneath blackish. Expansé of wings: 32 mm. Melbourne. — A specimen without the habitat stated from Coll. Sertz has on the forewing beneath not only the whole costal margin blackish, but also the marginal area, the latter, however, not so dark as the basal half of the black costal-marginal band; fringes purely white. Length of wings: 16 ½ mm. This form may be called f. melanina f. nov. (45 c).

P. mixta Btlr. (45 c). ♀: allied with P. melanosoma Btlr., but the anal brush is orange and the costal margin of the forewing beneath is not black. Tasmania.

P. aroa B.-Bak. ♀ and ♂ purely white, abdomen except the first segment blackish, wings not hyaline at all. Expansé of wings: ♀ 33, ♂ 36 mm. Aroa River (Brit. New Guinea).


P. meeki B.-Bak. ♀: head and thorax white, abdomen beneath white, otherwise yellow. Wings meeki. purely white, but the hindwing in the abdominal fold yellowish. — ♂ with a straw-coloured hue in both wings. ♀ 21 to 26, ♂ 32 mm. Aroa River (Brit. New Guinea), in March and April.


P. owgarra B.-Bak. (45 b). ♀: body light straw-coloured, antennae black like the forelegs, whereas owgarra. the middle and posterior legs are light straw-coloured with black tarsi. Forewing lustrous white, at the base pale straw-coloured. Hindwing purely white. Expansé of wings: 32 mm. Owgarra in British New Guinea. — [Described as Caviria, but according to the author’s letter a Porthesia.]

P. acatharta Trnr. ♀ 25, ♂ 35 mm. Head light ochreous, in the ♀ ochreous-whitish. Palpi ochreous- acatharta. whitish. Antennae whitish-ochreous, the combs in both sexes strongly developed, the longest in the ♀. Thorax and abdomen light ochreous, the anal brush darker ochreous. Legs ochreous-white. Forewing oblong triangular with a strongly curved costal margin, a rounded apex and a curved and very oblique distal margin; whitish-ochreous speckled with dark ochreous; lighter towards the costal margin; an extinct, undulate, whitish line from ¾ of the costal margin to 3/4 of the anal margin, the most distinct in the ♀; fringes whitish. Hindwing with a very round margin, whitish, and with similar fringes. Kuranda in North Queensland; August.

P. paraóxas Btlr. ♀: wings semi-transparent snow-white, with a faint silky lustre, at the fringes paraóxas. two very faint greyish lines; body white, scantily scaled; abdomen with a golden ochreous anal brush. Under surface as above. Expansé of wings: 32 mm. Rockhampton.


P. panabra Trnr. (45 c). ♀ and ♂ white, anal brush ochreous, costal margin of forewing near the base panabra. ochreous, along the dorsal margin single, oblong, ochreous scales, whereby the species differs from P. paraóxas Btlr. and similar ones. — From P. euthysana it deviates by the white abdomen and less intense ochreous colouring. ♀ 24 to 26, ♂ 40 mm. Brisbane, Queensland, in March and April. Sidney.
Porthmeia; Euproctis. By Dr. E. Strand.

**galactopis.**

P. galactopis Trnr. (45 c). Both sexes white. Palpi of the ♂ outside ochreous. Anal brush ochreous, in the ♀ sometimes whitish. Anterior legs of the ♀ ochreous. Forewing dull lactean, the base of the costal margin in the ♀ ochreous. — From P. panabra it is best distinguished by the absence of ochreous scales on the dorsal margin of the forewing. ♂ 18 to 25, ♀ 26 to 30 mm. Queensland.

**euthysana.**

P. euthysana Trnr. ♂: white, vertex with some ochreous scales, palpi at the base below with long ochreous hairs. Antennae whitish-grey. Thorax with some ochreous scales. Abdomen dark, with a white anal brush and end of the segments. Proximal joints of anterior legs in front ochreous. Forewing at the base of the costal margin ochreous, along the dorsal margin with large ochreous cales. 26 to 30 mm. Queensland, in November and February.

**fimbriata.**

P. fimbriata T. P. Luc. (45 d). ♂: palpi blackish-brown with a whitish apex. Forewing light ochreous-yellow, hued purple-grey, which colour leaves free an undulate ochreous terminal band and sometimes also a costal streak of the same colour. Fringes ochreous-yellow. Hindwing ochreous-whitish, fringes light ochreous. In the ♀ both wings and the fringes whitish. Queensland, Brisbane; in October; Kuranda, North East Australia, in December. Expanse of wings: 24 mm.

**anacausia.**

P. anacausia Meyr. ♂: body black, patagiae and collar at the end orange. Forewing orange, in the apical and basal thirds the spaces between the veins are filled up with black, whilst the middle of the wing seems to be provided with an oblique, broad, orange band. Hindwing uni-coloured jet-black. ♂ like the ♂, but with a white anal brush. Expanse of wings: ♀ 34 mm. British New Guinea.

**bicolora.**


**39. Genus: Porthmeia B.-Bak.**

Palpi small and porrect. Antennae in both sexes bipectinate, the teeth remote from each other. Legs with some long bristles, tarsi almost bare. Forewing subovate, costal margin feebly and uniformly curved, the distal margin at the end more curved. Hindwings small. Forewing: vein 2 from the middle of the cell, 3 before the angle; 4 from the angle, 5 above the angle, 6 from the anterior angle, 7 + 8 + 9 + 10 on a footstalk, 7 in the middle between the cell and 10. Hindwing: 3 and 4 from the angle, 5 absent, 6 + 7 on a long footstalk, 8 curved towards 7 and shortly anastomosing with it.

**subnigra.**

P. subnigra B.-Bak. ♂: body black, patagiae and collar at the end orange. Forewing orange, in the apical and basal thirds the spaces between the veins are filled up with black, whilst the middle of the wing seems to be provided with an oblique, broad, orange band. Hindwing uni-coloured jet-black. ♂ like the ♂, but with a white anal brush. Expanse of wings: ♂ 34, ♀ 42 mm. British New Guinea.

**bicola.**


**40. Genus: Euproctis Hbn.**

Of this extremely numerous genus, the diagnose of which is stated at large in Vol. II, p. 135, almost 300 forms are known occurring in the Indo-Australian region. Most of them are rather uni-coloured, yellowish-brown or whitish, but usually lighter or darker yolk-coloured. They often very obviously rest on the trunks of trees, being just as conspicuous as our E. chrysorrhoea; they are, however, mostly captured by shaking saplings or branches by heavy blows. They fly at night.

As nearly all are rather alike, I have arranged the species chiefly geographically.

Forewing with a yellow spot in the cell, a sinuate, whitish median line and a dentate submarginal line, between them brown spots, at the apex a yellow diffuse spot, below it two spots and two above the anal angle, fringes yellow and brown. Hindwing with a brownish basal half and yellow terminal half. Expanse of wings: 34 mm. India (Khasia Hills).

E. atripuncta *Hmps.* (44 b). ♀: white and reddish. Forewing with double white antemedian and *atrispecta.* postmedian lines, the former being slightly undulate, the latter dentate, besides with a black discocellular spot and a white marginal area. Hindwing yellowish-white. In the ♀ the reddish hue of the forewing is more intense and the hindwing is brownish ochreous with a whitish margin. Expanse of wings: ♀ 28, ♂ 46 mm. India (Khasia Hills).

E. dispersa *Moore (= bidentata *Hmps.*)* (43 h, as *bidentata*). ♀: yellow. Abdomen blackish except *dispera.* the two ends. Forewing in the basal two thirds hued brown and speckled black, in the costal area, however, a spot before the middle remains yellow, and with a subapical black spot. The distal border-line of the brown area forms two sharp teeth behind the veins 6 and 5. Hindwing light yellow. Expanse of wings: 38 mm. *Sikkim, Darjeeling* (*).

E. bimaculata *Wkr.* (Vol. II, t. 21 b) with its forms *bigutta* *Wkr.* and *lutescens* *Wkr.*, comp. Vol. II, *bimaculata.* p. 138. *bigutta.* The species, according to *Semper,* flies in Luzon, from February till June, August, November and December. Length of wings: ♀ 18 to 20, ♂ 21 to 28 mm. — The larva is 4 cm long in its adult state, polyphagous, sometimes occurring in large numbers and differs from that of *atrosgonna* (43 g) by having a darker head and not being so much covered with the small hairs apt to cause inflammation in man; its colour is besides more red-brown, the ventral feet light brown, on the first three segments there are white hair-bristles, on the 4th and 5th two dark brown, large hair-tufts. Everywhere common, distributed across almost the whole of India to Java and the Philippines, extending in China into the palearctic region.

E. plana *Wkr.* (= *discina* *Moore*) (43 f) is one of the most beautiful and at the same time most *planar.* *Moore* *Euproctis,* distributed from Cashmir and the Andamans through the whole of India to China and the Philippine Islands. Very common in Hongkong. According to *Semper,* it flies in Mindanao in March. As to *further particulars on the species and its larva vid. Vol. II, p. 137.*

E. icilia *Stoll* (Vol. II, t. 22 g) is beautifully marked on the forewing. Distributed from the North *icilia.* West Himalaya across the whole of India to Ceylon and the Philippines. As to the species and its larva vid. *Vol. II, p. 137.*

E. varians *Wkr.* (= *pusilla* *Moore*) (45 g). This tiny species, owing to its occurring in the northern *varians.* parts of India and China, has been also dealt with in the palearctic part (p. 137) and figured there on t. 23 b as *'pusilla'*. But it also occurs in the more southern districts of India and China, also in Formosa, and in Luzon it flies in April, May, and July, August.

E. latifascia *Wkr.* (= *antica* *Wkr.*) (Vol. II, t. 21 f). The medium-sized, dull yellow species having *latifascia.* already been dealt with in Vol. II, p. 137, occurs both in the Cashmirean and Indian Himalaya; presumably also its forms *postica.* *Wkr.* with a brownish abdomen and white anal wool, *abdominalis* *Moore,* and the form *basiatra* *Strand* distinguished by the black base of the costa on the forewing. — In Formosa there occurs a ♀-form (sulphurizonis *Strand*) (47 d) with bright creamy forewings and fringes; expanse of wings: 37 mm.

E. subfasciata *Wkr.* (45 e) deviates from *latifascia* by the anal brush being whitish, in the ♀ very slightly hued orange; sometimes on the forewing with an indistinct discal band of dark scales from the lower angle of the cell to the posterior margin. — *tritasciata* *Moore* (44 d) is pale brownish ochreous on its head, thorax *tritasciata.* and forewing, with more distinct light lines. Expanse of wings: ♀ 36, ♂ 44 mm. India: *Sikkim, Assam, Cachar, Nilgiri Hills.* — *Semper* mentions *E. subfasciata* from the Philippines, where it is said to fly in Luzon and Mindanao in January, May, July, and December.

E. signata *Blanch.* Snow-white, forewing with a small black circle at the discocellular, and a small, *signata.* black, linear spot at the proximal angle. In some specimens only the latter is present. Anal brush golden-yellow. India: Murree, Pendjab Hills, Skardo, according to *Swinhoe* (1903); *Hampson* has not mentioned the species at all in „Fauna of British India“*. *Blanchard* states the Himalaya as patria.

E. venosa *Moore* (45 k). White. Antennae, frons, palpi, forelegs and anal brush pale ochreous. Forewing *venosa.* with a subbasal, median and marginal band yellow, cut by white veins; an interrupted, indistinctly defined band of brown scales from the upper angle of the cell to the proximal margin, and a narrower submarginal band. Expanse of wings: 38 mm. *Sikkim, Tenasserim.*

*) As to „*Euproctis* scintillans *Wkr.* following here see under *Porthesia,* p. 325.
**E. subfuscua** Hmps. (45 i) deviates from *E. flavinata* (Vol. II, t. 23 a) by its being more or less hued brownish or also uniformly one-coloured reddish-brown; in the forewing the lines and the cell-spot are indistinct, the hindwings are not lighter. The costa of the ♀ forewing beneath is dark. Expanse of wings: ♂ 38, ♀ 46 mm. India (Nilgiris).

**E. fraterna** Moore (44 i). The ♂ differs from *E. guttata* (43 g) by its smaller size (expanse of wings: 24 mm) and by its shorter and more quadrangular forewings. The ♀ has sometimes an almost complete sub-marginal row of black spots on the forewing. Expanse of wings: 30 to 38 mm. — Larva black with a red head, the first segment with long lateral brushes of black hair rising from projecting tubercles. On the other segments are dorsal and lateral brushes of white hair. Subdorsal light lines. The 9th and 10th segment with white dorsal spots. The 11th segment with a black dorsal brush. India: Ceylon, Burma.


**E. apicalis** Wkr. (45 i). ♂ body and wings reddish-yellow. Forewing with indistinct, light, undulate antemedian and postmedian lines the edges of which are scrolled with red-brown scales; near the apex a black spot encircled by white, and another one towards the posterior angle. ♀ head, thorax and anal brush dirty grey, abdomen orange. Forewing bright orange-red with indistinct and darker lined margins, and with two black spots each towards the apex and anal angle. Hindwing orange. Expanse of wings: ♂ 40, ♀ 33 mm. — Larva black with a scarlet head and long anterior and posterior hair-brushes, each segment with lateral brushes of white hair which are curved upwards across the dorsum; the first and second segments with white bands and the 9th and 10th with dorsal spots. Ceylon.


**E. variegata** Moore (47 c). ♂ body white and olive-yellow. Forewing in the basal area white, speckled with black and olive-yellow scales forming indistinctly defined subbasal, antemedian and median bands, besides an indistinct, forked postmedian band connected with the distal olive-yellow area speckled with black scales. Hindwing white with a dark discocellular spot and a broad dark marginal band not reaching the posterior angle. Forewing beneath almost entirely hued black. Expanse of wings: 30 mm. Sikkim.

**E. plagiata** Wkr. ♀ distinguished from *icilia* (Vol. II, t. 22 g) by the basal purple-brown area of the forewing being united with the postmedian band both in the costal and dorsal area; yellow remains a spot at the posterior cell-edge, and the margin. No black discocellular spot. Expanse of wings: 60 mm. Nepal. — *quadrangularis* Moore has lighter hindwings, and in the row of spots of the forewing one subapical and two median spots are missing. Manipur.

**E. marginata** Moore (43 e) deviates from *plagiata* by the abdomen being black except the orange anal segment and similar anal brush. In the forewing the red-brown colouring is darker and more distinctly defined by the yellow marginal area marked with a row of 8 black spots. Expanse of wings: ♂ 46, ♀ 60 mm. Darjeeling, Sikkim, Kurseyong. — *quadrangularis* Moore has lighter hindwings, and in the row of spots of the forewing one subapical and two median spots are missing. Manipur.


**E. bipartita** Moore (45 g). ♀ body reddish-yellowish brown with a reddish-yellow anal brush. Forewing reddish brown, strewn with darker scales, and with lighter, curved antemedian and postmedian lines inside and outside the cell; the apex and a narrow marginal line yellow, a subapical spot black, some specimens with a black mark in the cell. Hindwing yellow, frequently hued brownish, except the marginal area. Expanse of wings: 52 mm. Sikkim.

**E. costalis** Wkr. (= *incomptaria* Wkr., *compless* Wkr., *ilepida* Wkr.) (47 c). ♂ body dark. Forewing whitish, in the basal and costal areas hued dark brown, at the cell-end a large, blunted, brown patch enclosing three dark spots and from which an oblique streak extends to the apex, an indistinct submarginal row of dark spots. Hindwing light greyish-brownish. — ♀ in the basal and costal areas of the forewing no brown colouring, the three spots at the cell-end are not situate in a brown diffuse patch and are separated from the oblique streak. — Larva blackish-brown with short hair-brushes; between the 5th and 6th segments a rosy-red line. Expanse of wings: ♂ 24, ♀ 30 mm. Ceylon.
E. minutissima Swinh. (44 c). \( \sigma \): antennae, palpi, head, thorax and forewing ochreous, the latter in the terminal part chocolate. Expanse of wings: 24 mm. Assam. — The eggs are globular, smooth, lustrous, the subterminal line which is whitish and distally curved, then indistinct, brown, undulate and oblique; from light green, and are deposited in rows between dark greenish-grey hair. — Larva solitary, cylindrical, pubescent, the apex to vein 4 extends a blurred, yellowish terminal line with small brown spots. Hindwing dark chocolate, running to the submedian fold; an elliptic, dark chocolate spot extends from vein 7 to behind vein 6 before the subterminal line which is whitish and distally curved, then indistinct, brown, undulate and oblique; from the apex to vein 4 extends a blurred, yellowish terminal line with small brown spots. Hindwing dark chocolate, at the base and in the basal half of the costal margin orange. Fringes yellow at their tips. Under surface orange, in the terminal part chocolate. Expanse of wings: 24 mm. Ceylon.

E. antiphates Hmps. \( \sigma \): body brown with a yellow anal brush. Forewing brownish grey, more or less covered with brown, antemedian and postmedian lines light, but distally bordered with brown, at the cell-end a dark, sometimes almost extinct spot, outside of the postmedian line the colouring is dark brownish, a submarginal row of dark moon-spots distally encircled by grey. Hindwing brownish white with dark veins, a dark spot at the cell-end and a faded postmedian band. Expanse of wings: 24 mm. India (Naga Hills).

E. xanthoceps Hmps. \( \sigma \): head and legs light yellow, antennae whitish with reddish pinnae, thorax xanthoceps, and abdomen red-brown with a greyish hue. Forewing uni-coloured red-brown, fringes light at their tips. Hindwing darker brown, but with a reddish tint, fringes lighter at their tips. Beneath the costal margin of the forewing is yellowish. Expanse of wings: 24 mm. Ceylon.

E. diplaga Hmps. \( \sigma \): body chocolate with a yellowish admixture, under surface and legs yellow. diplaga. Forewing yellowish, almost entirely suffused with chocolate-brown; between the cell and vein 1 there is a large, quadrangular, chocolate, antemedian spot bordered with yellowish-white and followed by the curved brown antemedian line; a brown postmedian line is distally curved from the costa to vein 6, then dentate and obliquely running to the submedian fold; an elliptic, dark chocolate spot extends from vein 7 to behind vein 6 before the subterminal line which is whitish and distally curved, then indistinct, brown, undulate and oblique; from the apex to vein 4 extends a blurred, yellowish terminal line with small brown spots. Hindwing dark chocolate, at the base and in the basal half of the costal margin orange. Fringes yellow at their tips. Under surface orange, in the terminal part chocolate. Expanse of wings: 24 mm. Assam. — The eggs are globular, smooth, lustrous, light green, and are deposited in rows between dark greenish-grey hair. — Larva solitary, cylindricial, pubescent, with some long grey hairs, black with 5 yellow rings, collar red, two red tubercles near the anal end, ventral side dark olive-grey, head black, small, retraceted. Food-plant: Schima Wallichii. Cocoon oviform, silky, strong, grey, squeezed in a shallow cavity of the bark of trunks. Pupa dark brown, bare.

E. atrisignata Swinh. (44 c). \( \sigma \): antennae, head, thorax and forewing red-brown, hued ochreous. atrisignata. Forewing with 3 pair of white spots on the margin and between them one small white spot each, with faint traces of two light transverse lines both of which are distally curved, at the end of the cell a black spot. Fringes with white spots. Hindwing blackish-brown with ochreous-white fringes and marginal line. Under surface, palpi, chest, body, legs and wings ochreous-whitish. Forewing hued brown, except the margins. Expanse of wings: 29½ mm. Singapore.

E. hampsoni Swinh. (= variegata Hmps. nom. praeocc.) (45 f, as variegata). \( \varphi \): forewing light brown, hampsoni. Strewn with black scales and with 5 narrow lighter transverse bands bent convex towards the margin, the middle band enclosing a sharply marked orange spot. Hindwing light yellow. Under surface uni-coloured light ochreous. Body light brown, anal segments ochreous. Expanse of wings: 30½ mm. Nilgiri Hills, India. [According to HAMPSON the type is a \( \varphi \), according to SWINHOE a \( \sigma \)].

E. minutissima Swinh. (44 c). \( \sigma \): antennae, palpi, head, thorax and forewing ochreous, the latter minutissima. scantily speckled with grey, and with a large, black subapical spot. Hindwing black with ochreous fringes. Under surface: body and legs ochreous-white, wings hued blackish-brown with ochreous-whitish margins which are broadest at the apex of the forewing. Expanse of wings: 17 mm. Singapore.

E. oreosaura Swinh. (43 g). \( \varphi \): antennae, head, thorax beneath and legs yellow. Thorax above dark oreosaura. Chocolate. Forewing yellow with a chocolate band covering almost the whole surface of the wing, so that only the margin, costa and a round part enclosing the distal half of the cell remain yellow; discocellular spot large, black, in a yellow area. Hindwing blackish-brown with a yellow marginal band and a yellowish costal margin. Abdomen black with a yellow anal brush. Under surface yellow, the proximal parts of both wings blackened. Expanse of wings: 59 mm. India: Cherra Punji.

E. pelona Swinh. (44 i). \( \sigma \): antennae, hindwing, body, legs and the whole under surface pale straw-coloured. Forewing above bright cinnamon-yellow, with three brown submarginal spots and two blackish-brown transverse bands, the antemedian one of which is slightly curved distally, whereas the second is bent concavely towards the base, sending a continuation from its middle towards the margin. Expanse of wings: 29½ mm. India: Nilgiri Hills.
E. howra Moore (44 d). ♀: upper surface ochreous-yellow, the hindwing the lightest, the forewing with a black-spotted short streak from the middle of the posterior margin and a small black-spotted spot at the cell-end. Pulpi above ochreous-brown. — Distinguished from E. semisignata Wkr. (44 b) by the darker colouring and the presence of a black disco cellular spot. Expanse of wings: 24½ mm. Calcutta. — In rhoda Swinh., two dark bands rise from the posterior margin, the proximal one extending to the disco cellular spot. Expanse of wings: 32 mm. North Kanara. — obsoleta Hmps. is lighter than rhoda and without the disco cellular spot. One or several of these 3 forms are reported to occur also in Burma and the Andamans.


E. xanthosticta Hmps. ♀: yellowish-white, thorax with a reddish admixture. Forewing hued reddish and with traces of 6 undulate and extinct lines; two orange spots towards the apex and a small spot before vein 3. Hindwings yellow. ♂: white. Forewing with some reddish-yellow scales behind the base of vein 2, two similar spots near the apex, a dot below vein 6, and a spot above vein 3. Expanse of wings: ♀ 28, ♂ 34 mm. Bombay.

E. olivata Hmps. (44 c). Both sexes have a whitish head, brownish thorax, dark abdomen with orange anal brush. Forewing greyish-brown, speckled with black and hued olive-yellowish, with a curved, white antemedian line, a postmedian line formed of crescentiform figures and angled twice proximally, fringes spotted brown and white. Hindwings white, hued brownish. Expanse of wings: ♀ 28, ♂ 40 mm. Khasis (India).

E. macrostigma Hmps. ♀: white. Antennae and thorax hued orange. Forewing with a similar costal margin. Forewing speckled with large orange scales from behind the costal margin to the proximal margin and between veins 3 and 5 to the margin; at the cell-end a large, round black spot, besides two subapical spots. Hindwings hued yellowish-white. Expanse of wings: 18 mm. Ceylon: Kandy.

E. laniata Hmps. ♀: head and thorax ochreous, thorax mixed with black. Abdomen black, the extreme apex orange. Forewing black, in the basal area speckled with ochreous scales, costal margin, antemedian and postmedian lines as well as fringes ochreous. Hindwing black with orange fringes. — ♂: head, thorax and forewing with very long, white, undulate hairing, the black areas of the ♀ are here brown. Costal margin of forewing, lines and fringes of both wings yellowish-white. Expanse of wings: ♀ 36, ♂ 32 mm. Madras.

E. humida Swinh. ♀: ochreous-fawn; abdomen blackish-brown with an ochreous anal brush. Forewing with an ochreous antemedian line showing in and before the middle a proximal angle or bend, and a similar postmedian line, which is distally curved before the middle, as well as with a dark disco cellular spot and 2 or 3 more, sometimes blurred dark spots; marginal line light brown; fringes ochreous-fawn. Hindwing blackish-brown except in the marginal area. Expanse of wings: 32 mm. Singapore.

E. semisignata Wkr. (44 b). Light yellow, forewing with a brown costal-marginal streak near the base and with a short, oblique, black-spotted band from the angle of the cell to the middle of the posterior margin. — In leithiana Moore this band is broken up into 2 to 4 spots, and besides there is a disco cellular spot; erecta, the ground-colour is very light. — erecta Moore shows a broad, brown, coherent, straight band from the costal margin of the cell to the posterior margin of the wing, whereas in brevivitta (44 i) it is replaced by an AA here brown. Costal margin of wings, three or four black spots almost touching each other. — illanta Swinh. is a small, uni-coloured, creamy-whitish form. — citrina Moore from Ceylon is of a particularly light colouring and without a black disco cellular spot. Expanse of wings: ♀ 33 to 40 mm, ♂ 40—52 mm. Widely distributed in India and Ceylon.

E. nigripennis Hmps. ♀: head and thorax reddish-yellow, abdomen black with an orange anal brush. Forewing reddish-yellow, speckled darker, with undulate antemedian and postmedian lines, the space between as well as the apical area hued black, except on the veins; besides a light submarginal undulate line. Hindwing jet-black with a broad reddish-yellow marginal band. — ♂ lighter, abdomen with a large, reddish-yellow anal brush, marginal band of hindwing light fawn. Expanse of wings: ♀ 42, ♂ 55 mm. Sikkim.

E. arenacea Hmps. ♀: body brownish-ochreous, forewing light yellow, speckled darker, with indistinct light antemedian and postmedian lines, and before the antemedian line there extends a broad, impurely dark band, whereas the postmedian line exhibits on its outside on the costal margin a large dark patch and is otherwise slightly scaled dark on the outside. Hindwing light yellow. Expanse of wings: 22 mm, Sikkim *).

(*) Euproctis flavimaculata Hmps. is Mardara irrorata Moore.
al brush. Margin of forewing slightly angled at vein 3, with 2 white bands converging towards the posterior
margin, especially between them ochreous and dark scales which are more densely accumulated also in the
middle of the marginal area; at the cell-end a black moon-spot. Hindwing white, especially in the disc slightly

E. rana Moore. ♂: yellow. Antennae and abdomen brown. Forewing in the basal two thirds speckled rana.
darker, and a knee-bent, dark-sealed stripe extends towards the middle of the margin; behind this stripe the
wing is whitish; antemedian and postmedian lines pale. Hindwing in the dorsal area brownish. Expanse of
wings: 63 mm. Silhet.

E. albopunctata Hmps. ♂: body red-brown with a yellow anal brush. Forewing wine-coloured
brown, speckled darker, with an antemedian, curved, light line and a postmedian line being strongly curved
beyond the cell-end, besides with an interrupted row of white marginal spots. Fringes white and brown. Hind¬
wing light brown with a lighter margin, but a brown marginal line. Fringes whitish. Expanse of wings: 52 mm.
Sikkim.

E. postincisa Moore (47 e) ♂: white, forewing with a narrow, black median transverse band being
angular at the cell-end and not reaching the costal margin, and a black, short, oblique longitudinal streak near
the anal angle. Expanse of wings: 34½ mm. North East Bengal.

E. semivitta Moore (47 e) ♂: white. Thorax light ochreous. Abdomen ochreous-whitish, indistinctly
banded black. Anal brush light ochreous. Antennae light brown. The 2nd palpal joint black. Forewing with
a median band of black scales from the subcostal to the proximal margin and some black scales on the proximal
margin on each side of this band. Expanse of wings: 30 mm. India: Khasis.

E. bifascia Hmps. (45 h) ♂: purely white; forewing with antemedian and submarginal, slightly bifascia.
undulate lines composed of short orange streaks. Expanse of wings: 42 mm. Nilgiri Hills and Travancore
in India.

E. fulvipuncta Hmps. (45 e ♂, 45 h ♂). ♂: purely white, antennal pinnae light brown. Forewing fulvipuncta.
with an orange spot at the cell-end and one or two subapical orange spots. ♂ with an orange anal tuft. Larva
deep bluish-black; the 1st segment with small, paired, black-haired lateral tubercles, the 2nd to 11th segments
with lateral tufts of white hair, the 2nd, 3rd and 10th segments with paired dorsal tufts of white hair, the 4th
to 9th segments with 4 short, brown dorsal tufts each, the 8th to 11th segments with 4 orange tufts, the
11th with 4 mouse-coloured brown tufts, the 8th and 9th with a small yellow dorsal tubercle. Expanse of wings:
♂ 26, ♀ 32 mm. Ceylon.

E. cheela Swinh. (44 h). ♂: ochreous-yellow; palpi, antennae, head and body bright chrome-yellow; cheela.
antennal pinnae, thorax and basal third of forewing hued light brown. Hindwing light yellow. Under surface
whitish, hued yellowish, forewing in the basal area behind faintly hued blackish. Expanse of wings: 20½ mm.
Singapore.

E. flavicosta Hmps. (45 d). ♂: head, thorax and base of abdomen reddish-yellow. Forewing olive-
brown with yellow fringes and intermixed orange scales, as well as 2 whitish-yellow transverse lines, the costal
area with 3 or 4 yellowish spots. Hindwing blackish-brown with yellow fringes. Expanse of wings: 28 mm.
Sikkim.

dorsal area. Expanse of wings: 22 mm. India, Khasis.

E. barbara Swinh. (43 e). ♂: Allied with E. zeboe Mr. Head, thorax and forewing dark ochreous-
barbara. yellow; the latter with a round, black discocellular spot and a narrow, blackish-brown, discocellular macular
band divided by the veins. Hindwing blackish-brown, margin and fringes light ochreous-yellow. Under surface
whitish-ochreous, hindwing in the dorsal area blackened. Abdomen brownish-black. Expanse of wings: 34½ mm.
Borneo.

E. celebesicola form. nov. (43 c). ♂: allied with E. barbara, but the forewing without a discocellular celebesicola.
spot and without other markings, though in the median and marginal areas uniformly speckled black, but
nowhere so densely that the ground-colour is essentially covered, a narrow costal-marginal band and the fringes
are not speckled black. Hindwing dull black with ochreous-yellow fringes and speckled with similar scales
along the margin. Forewing beneath as above, but also in the basal area with black scales and with a black
longitudinal stripe in the dorsal area. Hindwing beneath black with a light ochreous-yellow marginal band
and similar fringes. The somewhat oily abdomen of the type is presumably dark brown, but with a yellowish
ventrum. Expanse of wings: 36 mm. Celebes.
E. magna Swinh. (44 b). ♀: palpi, antennae, head and anterior part of thorax light yellowish-grey, otherwise the thorax and forewings are dark grey and speckled with black, abdomen dark brown. Forewing with a broad yellow marginal band proximally bordered undulately, and with a large black spot in the upper discoidal area. Hindwing lighter grey than forewing, with a whitish marginal band. Beneath the forewing is grey with a light yellow marginal band, hindwing whitish. Expanse of wings: 56 mm. ♀ lighter than ♀. Forewing with a narrower whitish-yellow marginal band, a pale discal line as in the ♀ and besides with a pale proximal line which is twice sharply broken. Hindwing almost purely white. Abdomen with a golden brown anal brush. Expanse of wings: 44 mm. Khasia Hills.

E. cina sp. nuc. (43 c) from Kina Balu resembles celebesicola Strand (43 c), but the yellow is much lighter, the dark dusting finer and more scanty, beneath the forewing is black in the basal half, in the terminal half yellow without a black longitudinal band in the dorsal area, the forewing has above traces of two lighter submedian transverse lines, extending subparallel to each other and to the margin and being less distant from each other than from the margin, resp. from the base. Hindwing black with yellow fringes and marginal line, beneath the yellow marginal band is considerably broader (in the costal area almost reaching the middle). — Different from E. anna Swinh, and others by the palpi not being blackened on the sides. Expanse of wings: ♀ 32, ♀ 41 mm. (Coll. Sertz and Zoolog. Museum Berlin).

E. phaea Hmp. (47 e). Blackish-brown. Forewing with an indistinct antennal median line, a black discocellular spot, a whitish postmedian line, a subterminal row of white moon-spots as well as some black and some olive marks in the marginal area. Expanse of wings: 22 mm. Khasia Hills.

E. flavociliata Swinh. (44 a). Allied with E. conspersa Fldr. (45 k), but browner, finely dusted purple-brown, fringes ochreous-yellow etc. Abdomen brown with an ochreous-whitish anal brush, head and collar ochreous, thorax brown with some ochreous hair in front and on the sides. Expanse of wings: 49 mm. Perak.

E. reccaba Swinh. (44 b). In ♀ and ♀ antennae, thorax and forewings are light chocolate; forewing with 2 light, sinuate transverse lines which are both single in the ♀, whereas the postmedian one of the ♀ is double; in the ♀ the discocellular spot is brown and very indistinct, in the ♀ black and very prominent; with some white spots at the margin, in the ♀ the white colouring of the marginal area is more extensive. Hindwing white. Abdomen black with an ochreous anal brush. Expanse of wings: ♀ 39, ♀ 44 mm. Java.

E. renifera Swinh. (44 f). ♀ ochreous-brown, antennae black with a whitish shaft, forewing towards the margin lighter and with an antennal brown double line extending obliquely from the middle of the costal margin to the basal third of the posterior margin, as well as with a brown patch at the cell-end, a discal brown band and black marginal spots. Hindwing brownish-black. Expanse of wings: 19.6 mm. India.


E. negrita Hmp. (44 h, misprinted into nigrita). ♀: body black, anal brush orange. Legs whitish. Wings black, at the base white, this colour sometimes (except the costal margin of the forewing) extending to the middle; fringes sometimes white at the tips. ♀: white, hued blackish, especially in the marginal area. Expanse of wings: ♀ 33, ♀ 40 mm. Sikkim.

E. renominata Hmp. (= uniformis Hmp.) ♀: head, thorax and forewing smoky-brown, the latter with a lighter costal margin and fringes. Abdomen and hindwings pale. Expanse of wings: 36 mm. Nilgiris.


E. stirasta Swinh. Certainly closely allied with E. decussata Moore (44 e). Both sexes ochreous-yellow. Forewing with a black discocellular spot, a brown, round spot at the posterior margin near the base and a brown discal transverse band from the middle of the posterior margin as far as towards the apex of the costal margin, where it is somewhat narrowed. Hindwing lighter yellow, and without markings, like the whole under surface. Expanse of wings: ♀ 37, ♀ 41½ mm. Shan States.

E. abjecta Swinh. resembles Porthesia scintillans (Vol. II, t. 21 b). Forewing light reddish brown, dusted black, with an antennal and a postmedian, light, narrow transverse band bent convex towards the margin, but these bands are not always recognizable. Hindwing according to the figure apparently pale yellow with a brown marginal line. Vertex white, thorax somewhat like the forewing, abdomen brown with an ochreous anal brush. — Expanse of wings: ♀ 42½, ♀ 29½ to 34½ mm. Lower Sind (India).
E. anguligera Btlr. (43 h). Forewing light ochreous with a broad, dark brown, postmedian transverse band being distally once angled and cut by the yellow veins. Hindwing much lighter, towards the costa all white. Body ochreous, antennae white with grey pinnae. — Expanse of wings: 26 mm. Murree in Western India. Andamans.

E. unimacula Moore is closely allied with E. digramma Bsd. (Vol. II, t. 21 h), but in the forewing it has but one black apical spot, and the abdomen is brownish with an ochreous anal brush. Expanse of wings: 33.7, 40 mm. Khasia Hills.

E. guttata Wlk. (43 g) is closely allied with E. digramma, but in the forewing it has but one black apical spot, and the abdomen is brownish with an ochreous anal brush. Expanse of wings: 33.7, 40 mm. — Larva black with a chestnut head, long anterior and short lateral grey hair-tufts, the thoracal segments with grey dorsal brushes, the others with short brown brushes. India, also in the north.

E. singapura Sivinh. antennae, body and forewing ochreous; forewing with two narrow, whitish, almost straight transverse bands enclosing a narrow median area extending almost parallel to the margin and not or not quite reaching the costal margin. Hindwing yellowish-white like the whole unicoloured under surface. Expanse of wings: 27 mm. Singapore.

E. basalis Moore (47 e). head, thorax and palpi yellow. Abdomen and legs whitish. Forewing in the basal two thirds red-brown, the distal border of this area oblique and in the middle distally angled; between this angle and the margin a red-brown spot; marginal area yellow. Hindwing and under surface whitish. Expanse of wings: 32 mm. Sikkim; Khasia Hills.

E. immaculata Btlr. deviates from E. plana Wkr. (43 f) by the white hindwings and the absence of immaculata. the black discocellular spot. Darjeeling.

E. dana Swinh. antennae, body and forewing ochreous; forewing with a red-brown spot near the base, a black discocellular spot, an irregular, oblique, postmedian, brown band strewn with darker scales and increasing very much in width from the posterior angle of the cell to the posterior margin. 46, 58 mm. Widely distributed in India. — In Sikkim there occurs a form in which the forewing has a red-brown marginal area, the hindwing being hued reddish (f. siccimana siccimana. nov.). — javana Auriv. deviates from the type by the basal quarter of the forewing being dark ferruginous and connected with the transverse band. Hindwing of the 4 blackish only at the proximal margin, that of the 2 with a broad black transverse band covering the whole proximal margin, but gradually growing narrower towards the apex of the wing. Java.

E. albescens Swinh. (= immaculata Moore nom. praecoc.) antennae, palpi, forehead, head light ochreous, palpi above greyish-white. Antennae ochreous-brown with a white shaft. Expanse of wings: 52 to 58 mm. Java, India (Sikkim, Bhutan), Philippines, Levuka.

E. mirabilis Swinh. In 4 and 2 the antennae, palpi, forehead, head light ochreous, palpi above brown. Thorax brown. Abdomen ochreous. Forewing in the ground light ochreous-yellow, but the wings are all over strewn with dark brown scales, except at the costal margin and distal margin; the latter is yellow,
into this light area extend two short continuations of the brown part; a little before the middle of the wing extends an ochreous transverse band, above the middle of the wing a large ochreous spot. Hindwing and under
surface light ochreous, uni-coloured. Expanse of wings: $\varphi 24\frac{1}{2}$, 2 32 mm. Andamans.

**E. discinota** Moore (44 h). Above light ochreous, forewing with 2 dark median transverse bands spotted chestnut, the distal band being convex towards the margin and cut by lighter veins; at the cell-end a black spot. Under surface lighter, both wings with an indistinct, dark ochreous transverse band and a black spot at the cell-end. 40 mm. S. Andamans. Certainly closely allied with *E. plana* (43 f) *).

We insert here a number of *Euproctis* already described in the palearctic part (Vol. II, p. 136 to 139). As more accurate statements have been made there only about their occurrence in the palearctic region, we merely add here their occurrence in the Indo-Australian region.

**E. flavinata** Wkr. (Vol. II, t. 23 a) lives except in China also in the greatest part of India and in Burma, as well as Ceylon, where the species is common, and in Borneo.

**E. sulphurescens** Moore (Vol. II, t. 21 h) crosses the Indian frontier in Cashmir.

**E. lunata** Wkr. (Vol. II, p. 21 g) is distributed across the whole of India and Ceylon.

**E. cervina** Moore (Vol. II, t. 23 n) likewise extends to the south as far as Ceylon.

**E. albedentata** Moore (Vol. II, p. 137) is rather similar to *albopunctata* Hmps., distributed in the North West Himalaya and occurs also in Burma.

**E. bipunctapex** Hmps. (Vol. II, t. 21 h) is beside Cashmir also reported from the Naga Hills, the Nilgiris, from Burma and China.

**E. atomaria** Wkr. (Vol. II, t. 21 h) from Cashmir, India to Ceylon, was considered to be synonymous with *apicalis* Wkr. in Vol. II (p. 138). *apicalis*, however, differs by its yellow costa of the forewing and is therefore to be considered as a form of it; Bombay, Ceylon.

**E. digrampa** Guér. (Vol. II, t. 21 h) and its form *unimacula* Moore occur also in South China, in many parts of India, and in Java. As to further particulars vid. Vol. II, p. 138.

**E. labecula** Wilem. $\varphi$: forewing buff, in the middle feebly speckled ferruginous; antemedian band represented by some brownish scales before the posterior margin, the postmedian band is narrow, dark brown, indented, in the posterior half of the wing the most distinct and inside margined with whitish. Hindwings lighter. Expanse of wings: 24 mm. Formosa, in May.

**E. karapina** Strand (47 e). $\varphi$: forewing creamy-yellowish or dirty whitish with traces of two creamy-yellow transverse bands extending subparallel to the margin and being below 1$\frac{1}{2}$ mm distant from each other and 1 mm broad; in the dorsal area scanty creamy scales. The whole hindwing, fringes and the under surface of the forewing are uni-coloured dull white. Head and thorax whitish, above somewhat yellowish, Abdomen with black hairing and black anal wool. Expanse of wings: 33 mm. Karapin in Japan; in August. (Type in the German Entomolog. Museum at Berlin-Dahlem).

**E. pterofera** Strand (47 e). $\varphi$: both wings bright ochreous-yellow, hindwings towards the base only slightly lighter. Forewing with a brownish, submedian transverse band slightly convex towards the base, of 1 mm width, not quite reaching the costal margin nor the posterior margin, on both sides bordered by a narrower, indistinctly whitish band. Under surface of both wings like the upper surface of the hindwing, only in the costal area of the forewing faintly hued brownish. The body like the corresponding wings. Legs ochreous-yellow, palpi outside faintly hued brownish. Expanse of wings: 16$\frac{1}{2}$ mm. Anping and Kankau (Koshun) in Formosa; in May. (Type in the German Entomolog. Museum at Berlin-Dahlem).

**E. allikangiae** Strand (47 d). $\varphi$: forewing ochreous orange-yellowish with a small, indistinct, orange discocellular spot and in the middle and basal half with traces of lighter transverse bands or lines (which may be „artificial“!). Hindwing above lighter ochreous than the forewing; beneath both wings have a colouring about midway between the colourings on both wings above. Body coloured like the corresponding wings; anal brush brownish-yellow. Expanse of wings: 28 mm. Alikang, Formosa; in November. (Type in the German Entomolog. Museum at Berlin-Dahlem).

*) Cramer (Pap. Exot. IV, t. 307 f. g) figured a *Phalaena Bombyx flavata* mentioned by Walker (List Het. Br. Mus. VII, p. 1736) as „Euproctis?“ and originating from Samarang (Java). In fact the figure, representing an almost uni-coloured ochreous-orange insect, leads us to presume that it is an *Euproctis*, and specimens of this genus lying before me from Macassar and Ambonese have been determined to be *Euproctis flavata* Cr. Wkr. by modern authors. But as Cramer states that the species is said to be provided with a proboscis, it is presumably no Lyantriid at all, although the proboscis is said to be very short, for which reason I should not like to enumerate it here. Semper mentions „*Euproctis flavata* Cr.“ from the Philippines, as a synonym *E. incomta* Snell. 1877, flying in May, October and December, the length of wings to be: $\varphi 16$, $\varphi 13$ to 16 mm.
E. labeculoides Strand (47 c). ♀: Deep ochreous-orange with an antemedian and a postmedian transverse band formed of large, partly isolated scales and distally resp. proximally bordered by a narrow whitish band. Besides a sublimbinal row of 3 or 4 black spots. Under surface of both wings as the hindwings above, without markings. Expanse of wings: 20 to 21 mm. The ♀ is a little lighter and larger (expanse of wings: 24 mm). Formosa, types in the German Entomolog. Museum at Berlin-Dahlem.

E. sparsa Wilem. ♀ forewing yellow, without transverse lines, but the disclal area is scantily speckled sparsa. with black scales, except in the costal area. Hindwing whitish, along the veins creamy yellow. Under surface of forewings yellowish, of hindwings whitish. Expanse of wings: 34 mm. Formosa; in May.

E. dissimilis Wilem. ♀ cinnamon-coloured. Abdomen mixed with white; forewing scantily streen dissimilis. with darker scales, antemedian and postmedian lines whitish, the former broken before the middle, the latter curved towards the costa. Hindwings and under surface of both wings whitish, speckled darker. ♀: head, thorax and forewing yellow; the whitish transverse lines of the forewing very indistinct. Hindwing and under surface of both wings yellowish-white. Abdomen whitish-buff, anal segment and edges of the other segments darker. Expanse of wings: ♀ 26, ♂ 34 mm. Anping, Formosa.

E. conspersana Strand (47 e) from Formosa, resembles (♀) E. speedoconspersa Strand (= conspersa conspersana. Btlr. nec Flbr.), but it is smaller (expanse of wings: 20 mm), the forewings are so densely streen with black, large scales that the orange-ochreous ground-colour appears only in the shape of streaks on the veins, as a marginal and costal-marginal band, and as two narrow, curved and broken transverse bands. Types in the German Entomolog. Museum at Berlin-Dahlem.

E. kanshireia Wilem. ♀ light ochreous. Anal brush orange-brown, the two last segments dark brown, kanshireia. Forewing speckled with dark brown scales, anteriorly greyish, antemedian and postmedian lines of the ground-colour, accompanied by grey bands, at the apex three small, black spots. Hindwing dark grey with a whitish margin. Under surface of forewing dark with a twice interrupted light yellow marginal band, hindwing whitish with a darker base. ♀ is light sulphreous; the dark grey band following on the postmedian line is speckled with dark brown scales; abdomen dark grey with anal brush as in the ♀. Expanse of wings: ♀ 30, ♂ 44 m. Formosa.

E. insulata Wilem. Allied with E. marginata Mr. (43 c). ♀ head light brown, thorax reddish brown, insulata. abdomen lighter with a yellowish anal brush. Forewing light purple brown with some black scales, in the middle a yellowish spot and round about it more densely dusted black, a yellowish, once interrupted marginal band enclosing a row of 5 to 7 black spots, not reaching the costa. Hindwing light buff with a darker patch in the interior. ♀ like the ♀, but the marginal band of the forewing is of a deeper yellow and the anal brush browner. Expanse of wings: ♀ 48, ♂ 60 mm. Rantaizan, Formosa, at an altitude of 7500 ft.; in May.

E. unifascia Wilem. ♀ forewing buff with a postmedian band turned proximally towards the costa unifascia. and on each side margined with whitish. Hindwing and under surface of both wings paler. Expanse of wings: 21 mm. Formosa; in April and July. — The type is from Kanshirei; in Tainan there occurs a form with a lighter band of the forewing, the forewing being darkened beneath, with an expanse of wings of 24 mm (f. tainana tainana. form. nov.)

E. sericea Wilem. (45 a) ♀: head and body faintly hued yellowish, anal brush distinctly yellow, sericea. Wings uni-coloured silky white. Expanse of wings: 34 mm. Kanshirei (Formosa); in November.

E. nigropuncta Wilem. ♀ allied with E. sericea (45 a), but larger (40 mm), forewing with a small nigropuncta-black discocellular spot and a brown anal brush. Kanshirei (Formosa); in April.

E. crocoela nom. nov. (= crocea Wilem. nec Wkr.), ♀ head yellowish, thorax and abdomen rosco-crocoela. reddish. Anal brush reddish. Forewing yellow, a bifurcate transverse band is indicated by three heaps of black scales in the cell, and three similar ones are arranged in an oblique row behind the cell, a postmedian band is formed by single black scales, in the marginal area three subapical black spots and one removed towards the posterior margin. Hindwing whitish with yellow fringes. — ♀. The first and third of the apical spots in the forewing are larger, the spot approaching the anal angle is double. Expanse of wings: ♀ 36, ♂ 46 mm. Formosa; August, April.

E. striata Wilem. ♀ forewing buff feebly speckled with red-brown, in the marginal area between striata. the veins some irregular streaks formed of black scales, in the disc some single black scales. Hindwing and under surface of both wings hued red-brown, fringes lighter. Expanse of wings: 21 mm. Formosa; in October.
E. flexuosana nom. nov. (= flexuosa Wilem, nec Veen). ♀ forewing yellow; an antemedian, slightly bent transverse band reaching neither of the margins, a postmedian curved transverse band not reaching the costa, both bands formed of single black scales and accompanied by a whitish line; between the antemedian and the base of the wings there is a black spot and two similar ones in the marginal area. Hindwing hued orange with lighter fringes. Under surface uni-coloured orange. — ♀ larger (expanse of wings: ♀ 25, ♂ 28 mm), but it seems otherwise to resemble the ♀. Formosa.

simplex.

E. simplex Wilem. ♀ antennae ochreous with whitish shaft. Head and thorax light ochreous, abdomen ochreous, hued greyish on the middle segments. Forewing white, at the base hued light ochreous. Fringes silky. Expanse of wings: 23 to 26 mm. Kanshirei (Formosa); in May.

inornata.

E. inornata Wilem. ♀ light brown, hued ferruginous. Abdomen greyish-brown with a yellow anal segment. Forewing speckled with black scales, three whitish double spots on the margin, a dark median band being interrupted near the posterior margin and bifurcate towards the costal margin. Hindwing dark, towards the margin somewhat whitish. Expanse of wings: 52 mm. Kanshirei (Fomosa); in May.

benguetana.

E. benguetana W. Schultze. ♀ thoracic dorsum and forewing red-brown, forewing with black scales in the middle of the marginal area. Abdominal dorsum and hindwing dark. Length of wings: 13½ mm. ♀ head, thorax above, anterior and middle legs yellow, posterior legs and thorax beneath dark. Abdomen dark brown with a creamy-whitish anal brush. Forewing dark brown, costal area, veins and fringes light yellow. Hindwing dark brown. Length of wings: 20 mm. Luzon.

samarensis.

E. samarensis W. Schultz. ♀ head, antennae and legs yellow, thorax above pale reddish-brown, beneath abdomen dark brown. Forewing red-brown, with a large, moon-shaped, creamy-white discocellular spot, and with a yellow, proximally dentate macular band at the margin. Hindwing in the basal half dark brown, in the terminal half yellow. Length of wings: 30 mm. Samar (Philippines).

atrosquama.

E. atrosquama Wkr. (= glandulosa Fldr.) (45 f, as albosquamn). Very pale ochreous. Forewing with an accumulation of black scales in the middle and an often interrupted submarginal band of small black spots touching on the posterior margin a spot formed of long, black, penicillate hairs. Hindwing slightly darker than forewing. Expanse of wings: 49 mm. Philippines. SEMPER describes the ♀ to be considerably darker than the ♀ figured by FELDER, antennae brownish, palpi and first pair of feet pale orange; forewing darker than hindwing (in the ♀ the contrary), with a subliminal row of black dots or spots, and with two dark brown transverse bands, a black discocellular spot pupilled white. Hindwing towards the proximal margin almost as dark yellow as the forewing. — The larva lives near Manila on Sesbania sp., Caesalpina sp., Pithecolobium sp., Psidium sp., Bambusa sp. and sometimes occurs in great numbers on all the plants of gardens. In its juvenile state it is light brown with darker segmental indentations, thinly haired, with hair-tufts, and at the anus with an obtuse elevation, in its adult state it is dirty brown with a whitish streak, more thinly haired dark and with dark hair-tufts, pupa brown with lighter wing-cases. Pupal stage near Manila in February-March 16, in September 12 days.

distracta.

E. distracta Wkr. ♀ white. Palpi above ochreous. Thorax in front ochreous. Forewing ochreous, speckled black, and with 3 whitish undulate lines, the first of which extends very near the base, whilst the second is connected with the third by a streak, approaching it very closely on the posterior margin, but strongly diverging anteriorly. Fringes dotted white. Hindwing with a slight golden reflection. Expanse of wings: 22½ mm. Sarawak.

enunciativoides.

E. enunciativoides Swinh. ♀ bright ochreous. Forewing with a heap of black scales forming a ring-shaped spot at the cell-end, two parallel, ochreous-grey, transverse, almost straight, narrow bands speckled with black, one of them extending through the spot, the other beyond the middle of the wing, both extending anteriorly and distally beginning from the posterior margin; besides a submarginal band and the posterior margin are speckled black. Marginal line of both wings slightly darker than the surface of the wings. Hindwings and under surface unmarked. Expanse of wings: 34 mm; Philippines. — enunciativoides form. nov. is lighter, the median bands of the forewings are scarcely visible and in the dorsal area of the forewing there is a dark ochreous patch. Manila.

austriaca.

E. austriaca Semp. ♀ black, forewing with two lighter transverse lines, two round light spots in the apical area and a smaller similar one in the anal angle. Hindwing with a lighter marginal area. Length of wings: 20 to 22 mm. Flies in July and October. Mindanao.

sibulana.

E. sibulana Semp. (43 b). ♀ deviates from E. conspersa (45 k) by the ground-colour being on both sides a more intense yellow; the forewing showing a dark yellow macular line parallel to the margin, and the yellow distal margin of the hindwing being more dentate; forewing beneath plain orange. South East Mindanao.
E. angusta Semp. (43 b). ♀ forewing yellow with a black subapical spot, hindwing black with a narrow angusta.
yellow marginal band. Body and legs yellow, but abdominal dorsum grey with yellow anus. Length of wings:
17 mm. South East Mindanao.

E. geometrica Semp. (43 a). ♀ wings jet-black, forewing with a pale yellow apex and a small similar geometrica.
spot in the anal angle. Hindwing with a broad orange marginal band. Length of wings: 28 mm. Flies in October
in North Mindanao.

E. albovenosa Semp. (43 d). ♀ wings brownish-black with whitish veins turning yellow distally, and albovenosa.
finely dotted light brown. Costal margin, distal margin, and fringes yellow. Hindwing brownish-black with
a broad yellow marginal band. Length of wings: 28 mm. East Mindanao, in May.

apical spot scarcely crossing the fringes, and a somewhat larger one near the anal angle. Hindwing with a
narrow orange marginal band. Length of wings: 14 mm. Flying in May.

E. grisea Semp. (45 e). ♀ uni-coloured light brownish-grey, only the proximal margin of the hindwing grisea.
is somewhat lighter, and the apex of the abdomen is faintly yellowish. Under surface coloured the same. Legs
and body beneath whitish. Length of wings: ♀ 11 mm. Luzon, in January.

yellow, forewing above with a black transverse band, beginning behind the subcostal vein at the cell-end with
a width of about 2 mm, below the cell only 1 mm broad, turning sharply proximad, and ending at the proximal
margin in half the length of the wing; distally it is bordered by whitish. Under surface uni-coloured yellow. Wings: ♀ 15 mm. South West Mindanao, in December.

E. pallifrons Semp. ♀ diaphanous white; head, collar, antennae and forelegs feebly yellowish. Also pallifrons.
the anal hair white. Very closely allied with E. subfasciata, but the wings are more stretched, the dusting different.
Length of wings: ♀ 15 to 18 mm. Philippines. Flying in March and April, August and September.

E. siribana Semp. (43 b). ♀ ♀ forewing light yellow, hindwing blackish-grey with a broad light yellow siribana.
distal margin. Beneath the forewing is black in the basal half. Anterior part of body and extremities light yellow,
posterior part of body black with yellow anus. Length of wings: ♀ 22, ♂ 13 [?] mm. At an altitude
of more than 2000 m in South East Mindanao. Flies in February.

E. cerasina Swh. ♀ palpi white, inside black. Frons, antennae, and head ochreous. Thorax and cerasina.
wings light yellow. Hindwings uni-coloured. Forewing covered with cerise scales scantily mixed with black,
so that the ground-colour appears only here and there; an antemedian and a discal light transverse line, in
the marginal area with light rosy-reddish markings and a black spot on the fringes in the middle of the margin.
Abdomen ochreous and hued brownish. Wings beneath yellowish-white with a blackish subcostal streak
in the forewing. Expanse of wings: 27 mm. Sambawa.

E. ormea Swh. ♀ lighter and darker ochreous. Forewing almost entirely hued ochreous-brown ormea.
and speckled with black scales, while some apical streaks, a streak in the marginal area and the marginal line
remain light, besides two light, feebly sinuate transverse lines, the first of which extends a little before the
middle and being somewhat distally curved only in the costal half, whilst the other is dentate and rises on the
posterior margin near the first line, being at first distally curved and then proximally at the costal margin.
All the fringes ochreous. Hindwing blackish like the body beneath. Under surface of all the wings blackish
with ochreous margins. Expanse of wings: 37 mm. South East Borneo.

head in front somewhat yellowish. Antennae with very broad combs. Abdomen dark brown with a whitish-
grey transverse band, anal brush and leg yellow. Forewing a little paler along the costal margin and towards
the distal margin. Hindwing brown with a pale brownish broad marginal band; posterior margin densely
haired. Expanse of wings: 40 to 44 mm. Sarawak; East Mindanao in May.

E. guttistriga Wkr. is closely allied with E. transversa Moore. ♀ dull yellow. Antennae with very gutti-
striga broad combs. Abdomen and hindwing brown, hindwings with lighter margins. Forewing speckled with black,
with two oblique lines formed of black spots and shortened in front. ♀ head and antennae brown, antennae
feebly combed. Thorax in front ochreous. Forewing with the proximal line being blurred. Hindwing with
yellowish fringes. Length of body 10 to 12 mm. Expanse of wings: 28½ to 37 mm. Sarawak.
E. anna Sveh. (43 f). Both sexes light yellow; palpi at the sides black. Forewing finely dusted brown, and with traces of two light transverse lines being curved towards each other. Hindwing hued blackish. Fringes yellow. Under surface pale yellow, unmarked. Expanse of wings: $\varphi 39, \varrho 49$ mm. Kina Balu (Borneo).

gentia.

E. gentia Sveh. (43 g). $\varrho$ palpi, antennae, head and anterior part of thorax orange-ochreous, the rest of thorax and abdomen blackish-brown, anal brush ochreous. Forewing yellow, in the basal third hued blackish, and with a large black subapical spot, and a similar one near the anal angle. Hindwing black with a broad yellow marginal band. Expanse of wings: $34\frac{1}{2}$ mm. Kina Balu (Borneo).

fusipennis.

E. fusipennis Wkr. (fuscipennis aut.). $\varphi$ white. Body somewhat yellowish-brown, which colour extends also across a part of the wings. Forewing narrow, fusiform, slightly rounded at the apex; the margin very oblique, the posterior margin with some very long hairs. Hindwing obtuse, but scarcely cut transversely at the end. Length of body: 12 mm. Expanse of wings: 20 mm. Sarawak.

xanthomela.

E. xanthomela Wkr. is most closely allied to E. atomaria (45 k). $\varphi$ bright ochreous, beneath lighter. Antennae with very long combs. Abdomen black except at the base and apex. Forewing scantly speckled with black, discocellular spot jet-black. Hindwing black with a broad, pale ochreous marginal band. Expanse of wings: up to 45 mm. Sarawak.

manda.

E. munda Wkr. (44 h). $\varphi$ very pale fawn. Antennae short with long-haired pinnae. Legs thin, rather scantly clad with long hair. Forewing narrow, at the end rounded, margin very oblique, posterior margin with long, feathery hair. Length of body: 9 mm. Expanse of wings: 24 mm. Sarawak.

strigifimbria.

E. strigifimbria Wkr. (43 h). $\varphi$ brown. Abdomen, hindwing and under surface light grey. Forewing spotted black, with some black marks forming three very irregular and incomplete bands; an irregular proximal band and a broad marginal area light grey; fringes with brown subsquare spots. Length of body: 8 mm. Expanse of wings: 20 mm. Sarawak.

calesia.


nigribasalis.

E. nigribasalis Sveh. (44 h). $\varphi$ palpi, head, anterior part of thorax, and antennal shaft orange. Antennal combs, the rest of the thorax, and abdomen black, chest and legs light yellow. Wings whitish with a black spot at the cell-end, and a blackish hue in the basal area. In the hindwing nearly the whole basal half is black and in it the black discocellular spot is visible. Expanse of wings: 41$\frac{1}{2}$ mm. Sarawak.

virgo.

E. virgo Sveh. (44 d). $\varphi$ antennae ochreous with white shaft. Head, body, and wings above and beneath white, anal brush ochreous; costal margin of forewing above grey, beneath dark brown, the margin itself, however, white. Forelegs inside striped brown. Expanse of wings: 24$\frac{1}{2}$ mm. Mandalay, Rangoon, Upper Burma.

tenuis.

E. tenuis Sveh. (44 d). Both sexes have ochreous-grey antennae, head, thorax, frons and legs. Antennal shaft white. Wings white, thinly scaled, in the $\varphi$ the forewing shows an ochreous costal stripe. Both wings very faintly hued ochreous. Expanse of wings: $\varphi 19\frac{1}{2}, \varrho 24\frac{1}{2}$ mm. Sambawa.

cincta.

E. cincta Sveh. In both sexes palpi, antennae and thorax are dull yellow. Abdomen brown with yellow anal brush. Wings ochreous-brownish; forewing with a narrow yellow marginal band proximally dentate and ending at the anal angle into a yellow spot. Hindwing with a yellowish white margin (or only border?). Under surface much lighter, chest yellow, legs and ventrum whitish. Expanse of wings: 29$\frac{1}{2}$ mm. Kina Balu and Kuching in Borneo.

postnigra.

E. postnigra Sveh. (43 d). $\varphi$ antennae, palpi, head and thorax brownish-ochreous. Forewing in the ground dull ochreous-yellow strewn with jet-black scales, at the cell-end a whitish patch enclosing a black spot, a discal whitish transverse band (broken up into spots in the 3 specimens before me), abdomen and hindwings-black, anal brush and fringes ochreous. Ventral side and legs black, wings beneath blackish-brown. Expanse of wings: 54 mm. Pulau Laut. Mindoro. Kina Balu, at altitudes of 12 to 1500 m. Labuan (North East Borneo).

celbesa.

E. celbesa sp. nov. (43 b). $\varphi$ resembles E. postnigra Sveh. (43 d), but the forewing is not strewn with jet-black scales, the white discal spot on the same wing does not enclose a black spot, etc. It also reminds us of E. praecurrens Wkr. (43 e), bolitha Sveh. and pyroxantha Pag. Forewing pale ochreous speckled with
brownish scales, and with a white, indistinctly defined spot of about 3 mm length and width on the distal side of the posterior angle of the cell; between this and the proximal margin, a little farther towards the base, there is a similar spot but parted lengthwise. Hindwing black with pale ochreous fringes and a similar, very indistinctly defined marginal band of about 2 to 3 mm width. Veins of both wings towards the margin a little lighter. Beneath both wings are black in the larger basal half, in the terminal half pale ochreous-yellowish, forewing besides at the costal margin of the latter colouring. Head and thorax like forewing, abdomen black with yellow anal apex. Expanse of wings: 53 mm. Celebes (Coll. Seitz). Before me also from the Minahassa.

**E. lyclene** Sebh. ♀ purely white, frons with some grey hair, legs striated grey. Forewing with a grey *lylene* spot at the cell-end, then with a black line, extending from near the apex of the costal margin to close beyond the middle of the posterior margin, being midway distally bent like a knee and ending behind in a small black spot, another black line which is very short and oblique. Under surface uni-coloured white without markings. Expanse of wings: 22 mm. Borneo, Kuching.

**E. sexmacula** Sebh. (43 g). ♀ palpi, head and anterior part of thorax bright orange-ochreous, the *sexmacula*. rest of the thorax, abdomen, the basal third of the forewing, and basal half of hindwing black, the rest of both wings orange-ochreous. Forewing with 3 very large black spots forming a triangle, and with two smaller black similar ones. Body beneath black, legs yellow. Expanse of wings: 37 mm. Kina Balu.

**E. civitta** Sebh. (44 h). ♀ frons, antennae and collar ochreous, palpi brown, thorax and forewing chocolate; *civitta*. forewing with two light transverse lines midway towards the margin bent in an elbow-shape, between which the ground-colour is darker; at the margin some light spots, fringes yellowish. Hindwing blackish with a broad, light yellow margin. Abdomen black with an orange anal brush. Expanse of wings 29½ mm. Borneo.

**E. metaleuca** Wkr. ♀ very pale fawn-coloured. Head and palpi white, the latter porrect with rounded *metaleuca*. tips, the 3rd joint minute. Forewing with a blackish spot at the end of the costal margin and with traces of a submarginal blackish line; a broad white streak along the proximal margin. Length of body: 8 mm. Expanse of wings: 20½ mm. Sarawak.

**E. ruptata** Wkr. ♀ pale yellow, scantily and finely dusted darker, the costal margin of the forewing *ruptata*. of a brighter yellow, costal area of forewing with a jet-black, wedge-shaped transverse spot with its point turned backward, and two or three small accumulations of black scales towards the anal angle. Marginal line on both wings apparently a little darker. Hindwing somewhat lighter. Under surface brown except the posterior margin and distal margin. Expanse of wings: 20 mm. Sarawak.

**E. signiplaga** Wkr. (45 k). ♀ forewing yellow with a jet-black spot being proximally pointed in the *signiplaga*. anal angle and a violetish-brownish basal area, the distal margin of which is midway obtuse-angular. Hindwing and body lighter yellow, thoracal dorsum behind with a narrow brown transverse band exhibiting in front two brown long teeth. Expanse of wings: 30 mm. Sarawak.


**E. funeratis** Sebh. (43 c). ♀ and ♀ palpi, frons, anal brush, head, thorax and forewing ochreous, antennae *funeratis*. ochreous-grey with a white shaft. Forewing speckled with brown scales. ♀ hindwing almost white, the posterior margin, however, hue blackish, in the ♀ blackish-brown with a light yellow margin. Abdomen above and beneath black. Legs yellowish. Beneath the wings of the ♀ are whistish, only at the posterior margin blackened, in the ♀ they are everywhere hue blackish. Veins of the ♀ may be yellow. Expanse of wings: ♀ 39, ♀ 64 mm. Singapore, Sarawak, Penang, Java. — From the Coll. Seitz a ♀ is before me labelled „*Nias, Burma*” and „*Semper*”, which I should like to place to this species; it has, however, a rather indistinct black discocellular punctiform spot. The abundant anal wool is dark, round about, however, light yellow.

**E. chirunda** Sebh. (44 a). ♀ palpi, frons, head and anterior part of thorax yellow, the rest of the thorax, *chirunda*. and forewings dark chocolate; forewing with a yellow costal margin, a yellow patch in the centre of the wing, extending to the end of the cell, where it encloses a black spot, a quadrangular yellow spot at the margin before the middle and one at the anal angle. Abdomen black with lighter transverse lines and yellow anal brush. Hindwing blackish-brown, yellow on the margin. All the fringes yellow. Under surface yellow, the wings, however, blackish-brown, at the margin marked yellow as above. Expanse of wings: 54 mm. Sandakan, Java.
**E. perplexa** Stuh. (44 e). ♀ antennae, palpi, head, and apex of abdomen ochreous, thorax and forewing dark ochreous-brown, at the proximal margin a little before the middle is a black spot situated in an ochreous area and another one opposite it. Abdomen black. Hindwing blackish-brown, darker than forewing. All the fringes brown with some ochreous hairs. Wings beneath lighter with an ochreous margin, body and legs ochreous, too. Expanse of wings: 27 mm. Singapore.

**E. icelomorpha** Stuh. is allied with **E. perplexa** Stuh. (44 e). ♀ irons white; palpi, antennae, thorax and forewings pale ochreous-yellow; forewing in the basal two thirds more brown, and with a median band being pale brown in the anterior half, white in the posterior half, and two dark purple double spots as well as two similarly colored subapical single spots. Hindwing pale ochreous, but painted brown except in the marginal area. Abdomen blackish, with an ochreous anal brush. Legs whitish. Expanse of wings: 29½ mm. Padang, West Sumatra.

**E. hemibathoides** Stuh., ♀ palpi, antennae, head and anterior part of thorax light ochreous, the rest of the thorax, abdomen and wings dark ochreous-brown, hindwing somewhat lighter than forewing. The latter with an ochreous costal line and ochreous narrow marginal band and broad apex. Hindwing with a pale straw-colored costal and marginal band. Under surface almost white. Expanse of wings: 27 mm. Padang (West Sumatra). — **hemibathoides** form. nov. (44 e) from Kina Balu has an expanse (♀) of 27 mm, the length of wings being 12 mm, the ground-colour of the wings is a brownish black, the hindwings are scarcely lighter than the forewings, the marginal band of the hindwing is scarcely lighter than that of the forewing, the under surface of the wings is but very little lighter than the upper surface.

**E. ridleyi** Stuh. ♀ and ♀ brown and ochreous. Forewing strewn with large black scales and with a jet-black discocellular spot, marginal area and fringes lighter. Hindwing black with a broad greyish-ochreous, equally broad marginal band. Abdomen black with a greyish-ochreous anal brush. Under surface whitish; forewing with a black discocellular spot, hindwing with a sharply marked black lunar spot, the basal and dorsal areas of the wings blackish. Expanse of wings: 46½ mm. Singapore.

**E. fumosa** Snell. (47 g). ♀ head and thorax dark brown. Forewing dark greyish-brown with a pale yellow marginal band, everywhere dusted black and with a large, black discocellular spot. Hindwing greyish-black with a light yellow marginal band, abdomen greyish-black with a yellow anus. 42 mm. — ♀ body and forewing brownish-grey, the latter with a jet-black, light-margined discocellular spot and close at this spot there are two light, parallel transverse lines feebly bent like an S. Hindwing lighter greyish-brown. 35 mm. Sumatra.

**E. rubiginosa** Snell. (47 g). ♀ antennal combs brownish, palpi pale ochreous-yellow. Body above light ferruginous, and three quarters of the forewings, being otherwise ochreous-yellow, are provided with such a dusting. In this ferruginous area there are two lighter transverse lines being both forked three times. In the area 5 there is near the margin an oval, jet-black spot. Hindwing yellowish-white, towards the posterior margin hued ferruginous. Under surface uni-coloured yellowish-white. 20 mm. Java.

**E. flexuosa** Veen from Java is also unknown to me from the literature on entomology.

**E. tonkinensis** sp. nov. (44 f). A ♀ from Haiphong (Tonkin) I hesitatingly describe as a new species; it resembles **E. plana** Wlk., **catala** Stuh. etc. — Forewing light ochreous-yellow with a round, jet-black discocellular spot, the diameter of which is more than 1 mm, and with a straight, equally broad, blurred band formed by brown scales, of about 2 mm width, extending from the middle of the posterior margin subparallel to the margin as far as vein 6, from where it is rectangularly broken and turned proximad and in front towards the costal margin, which it does not quite reach; the proximal side of the apex of the angle of this band is about equally distant from the discocellular spot and from the apex of the wing. The under surface of both wings and the upper surface of the hindwing are uni-coloured whitish-ochreous with similar fringes. Palpi below ochreous, above and on the sides brown. Head and thorax light ochreous, thoracal dorsum and antenal pinnae slightly brownish. Under surface and apex of abdomen ochreous (above and laterally the abdomen is rubbed off!). Eyes jet-black, finely reticulated lighter. Expanse of wings: 42 mm. Length of wings: 20½ mm. Sumatra.

**E. catala** Stuh. (atomaria Wkr. 1855 (nom. praecocc.) Sn. 1877). Head, thorax, and forewings saffron-coloured (♀) or ochreous (♂), finely scaled black, in the ♀ with two indistinct ferruginous transverse stripes and an indistinct darker similar one. Discocellular spot jet-black. Hindwing much lighter than forewing, in the ♀ hued with a saffron-colour. Abdomen of ♀ light greyish-brown, of ♀ ochreous. Under surface of ♀ light ♀ very pale. 42 to 44 mm. Java. — **müllerii** Sn. (43 f) is a form occurring in Java and Celebes being certainly wrongly mentioned in Swinhoe’s so-called „Revision“ as a synonym of **catala**, chiefly because the name **müllerii** was given in 1877, **catala**, however, only in 1903. It is larger: ♀ 45 to 47, ♀ 62 to 65 mm, wings ochreous-yellow or golden yellow (♀) without any other markings except the black discocellular spot or (♀).
with fine blackish-brown marks; ♀ hindwing almost still darker ochreous than forewing with or without dark dotting. Judging from the figure, the apex of the forewing in \textit{mulleri} would be obtuser than that in \textit{calva}. Larva small, short-haired, with yellow dorsal longitudinal stripes. Pupal web dense, white, long-stretched. Pupal stage 10 days. — [Our figure (43 f) is too light, particularly the hindwings.]

\textbf{E. calva} \textit{Siew.} (44 g). ♀ and ♀ antennae, palpi, head, body, and forewings deep orange-ochreous \textit{calva}, without markings; hindwings pale whitish-ochreous. Expanse of wings: ♀ 34, ♀ 41½ mm. Allied with \textit{E. holoxutha} \textit{Turn.} Sambawa, Bali, Lombok.

\textbf{E. xanthura} \textit{Siew.} ♀ resembles \textit{Porthesia scintillans} (Vol. II, t. 21 h). — Antennae and frons ochreous; \textit{xanthura}. Palpi above brown, below and at the tips white; body and wings blackish-brown. Thorax in front ochreous. In the forewing the costal line and an apical spot are ochreous-whitish, at the apex a black spot, at the margin an ochreous-whitish spot, of which colour are also the fringes. Hindwing uni-coloured, with purely white fringes. Forewing beneath a little lighter, at the margins even whitish, hindwing whitish, only in the dorsal third hued blackish. Expanse of wings: 27 mm. Sumatra.

\textbf{E. servilis} \textit{Wkr.} (= \textit{prima} \textit{Wkr.}, \textit{incoma} \textit{Sn.}, \textit{incompta} \textit{Siew.}). ♀ body and forewings brownish-\textit{servilis}. Grey or light greyish-ochreous, forewing with greyish-brown scaling which is more or less irregular and blurred, recognizable as transverse bands and spots. A greyish-brown discocellular spot is always present. Hindwing uni-coloured dirty whitish. All the fringes like their wings. The whole under surface uni-coloured, forewings brownish-grey, hindwings rather lighter than above. 29 to 32 mm. — Java, Celebes, Sambawa, — \textit{cinerea} \textit{cinerea}. Hegl. ♀ from Sindaglaja (Java), deviates from \textit{servilis} by its ash-grey colouring, the forewing showing a large, black discocellular spot and a brown transverse line parallel to the margin, whereby the darker marginal area is separated from the discal area. Hindwing with fringes whitish-grey. 23 mm.

\textbf{E. calvella} \textit{sp. nov.} (45 i). ♀ closely allied with \textit{E. calva} \textit{Siew.} (44 g) and \textit{dorsa} \textit{Mr.} (44 d), but different \textit{calvella}. From both by the presence of a rather very indistinct oblique band on the forewing. This band extends about between the veins 2 and 6 straight and parallel to the margin at a distance of 4 to 5 mm, but at its posterior end it is slightly bent towards the margin or almost broken, so that the end is almost vertically turned towards the proximal margin, whereas at vein 6 it is reversely bent, so that the convexity is here turned towards the margin, the anterior end, however, not being quite recognizable as far as the costal margin. The band is in fact double, proximally lighter, distally darker than the ochreous ground-colour of the wings. The latter are reddish-ochreous at the base and on the discocellular punctiform spot, but slightly contrasting with the ground-colour. The fringes like the latter, at the posterior margin, however, more reddish hairing. Hindwing with fringes uni-coloured pale ochreous, thus lighter than forewing. Body, particularly head and thorax, reddish-ochreous, abdomen apparently more of the ochreous colouring of the forewing. Under surface of both wings pale ochreous, like hindwings above, but the costal margin of both wings and the fringes of the forewing are somewhat darker ochreous. Head and thorax long-haired. Expanse of wings: 45, length of wings: 22 mm. Java (Coll. Seitz). — It also occurs smaller: 37 resp. 19 mm.

\textbf{E. alba} \textit{Siew.} In both sexes palpi grey, below white. Antennae grey. Head, thorax, and wings white. \textit{alba}. Forewing with some indistinct red scales at the cell-end and at the base, dorsally speckled somewhat blackish. Hindwing in the dorsal area only of the ♀ hued brownish. Abdomen above blackish except at the base and anal brush which are ochreous. Under surface uni-coloured white. Expanse of wings: 39 mm. Sambawa.

\textbf{E. neola} \textit{Siew.} reminds us of \textit{E. atomaria} (45 k). ♀ blackish-brown. Antennae, palpi, thorax below, \textit{neola}. Legs and anal brush ochreous-whitish, thorax in front orange. Forewing with a large, yellow apical spot enclosing two jet-black spots, another, smaller yellow spot behind the middle of the margin. Fringes coloured as the corresponding parts of the wing. Hindwing uni-coloured, fringes bright yellow which colour partly passes over to the margin. Forewing beneath as above, but the apical spots are absent and the costal line is yellow. Expanse of wings: 37 mm. Padang, Sumatra. — From the Kina Balu there is in Coll. \textit{Seitz} a ♀ with an expanse of 29 mm, which presumably belongs to a form closely allied with \textit{E. neola}. The larger half of the forewing is ochreous-orange, the border of the dark basal part extending from behind shortly within the anal angle almost rectilinearly to \(\frac{1}{2}\) of the costal margin. In this yellow area there are 3 black spots (see fig. 43 g). The yellow marginal band of the hindwing is above 4 mm broad, beneath 5 mm. Forewing beneath as above, but the border between the black and ochreous colour is less distinct, and of the black spots only that at the cell-end appears. We call this form \textit{neolella} \textit{form. nov.} (43 g as \textit{neolella}). It certainly also approximates \textit{neolella}. \textit{E. sexmacula} \textit{Siew.}

\textbf{E. flavolimbatalana} \textit{sp. nov.} (44 e) ♀: resembles \textit{E. bipunctapex} \textit{Hmps.} (Vol. II, t. 21 h), but the yellow marginal band of the forewing is not interrupted, and besides \textit{flavolimbata} \textit{Aur.}, but it has two black sub-
EUPROCTIS. By Dr. E. Strand.

Apical spots on the forewing, and it is also allied with E. neola Suid. Forewing dull brownish-black, with a somewhat violetish hue, hindwing greyish-black, both wings with a bright yellow marginal band of about 2 to 2½ mm width in the hindwing, whilst in the forewing it is about 1½ to 2 mm broad behind vein 4 and 4 to 5 mm broad at the apex, the costal margin narrows down to a yellow line. The subapical spots of the forewings are black, not quite 1 mm in the diameter, situated in the areas 5 and 7, less distant from the margin than their diameter, and being absent beneath. Otherwise the under surface is as the upper, but the marginal band a little broader. Body dark with a yellowish anal brush; likewise yellow seem to be the head, anterior half of or perhaps the whole thorax, ventral side, and extremities (very much rubbed off). Expanse of wings: 31 mm. Java. (Coll. Sertz.)

E. lodra Mr. (44 h). ♀: forewing brown, the lightest at the base, along the costal margin yellowish. Hindwing brown with a broad yellow marginal band. Antennae, head, legs and anal brush yellow. Thorax and abdomen brown. Expanse of wings: 40 mm. Java.

E. transversa Mr. (44 a). Dull brownish-yellow. Forewing strewn with small black scales, and with two transverse bands of black spots. Hindwing brown with dull brownish-yellow fringes; coloured like the latter are also the antennae, head and thorax. Abdomen light brown with a brownish-yellow anal brush. Expanse of wings: 33½ to 40 mm. Java, Singapore, Sumatra.

E. similis Mr. (44 c). ♀ and ♂ ferruginous reddish-brown. Forewing with three yellow marginal spots being remote from each other, that at the apex being very small. Hindwing with a yellow margin. Antennae, head, body, and legs ferruginous reddish-brown. Anal brush light reddish ferruginous. Expanse of wings: 30½ mm. Java, Singapore.

E. obscura Mr. Brown. Forewing light brownish-yellow at the base and apex, of which colour are also the antennae, head and thorax. Expanse of wings: 15 mm. Java, Singapore.

E. linta Mr. (44 e). Yellow, both wings in the middle somewhat brownish. Expanse of wings: 24½ mm. Java, Sandakan. It is not quite certain whether the figure 44 e represents the typical linta.

E. kala Mr. (44 d). ♀ white, forewing with 2 black apical spots the upper one of which is smaller. Expanse of wings: 30½ mm. Java.

E. subrana Mr. (44 b). ♀ light brown. Forewing along the costal margin lightest with two white zigzag transverse lines both of which are proximally curved and of which one is antemedian, the other submarginal; two white spots each near the apex and near the anal angle. Hindwing brown with a broad, light yellow marginal band. Antennae, head, and legs yellowish. Thorax and abdomen brown, anal brush yellow. Expanse of wings: 33½ mm. Java, Singapore.

E. dersa Mr. (44 d). ♀ and ♂ yellow, forewing along the veins whitish, the base of the costal margin ferruginous-reddish, the disc with an ochreous-yellowish discal spot which is indistinct in the ♂. Hindwing whitish brownish-yellow. Palpi, inside of the forelegs, frons and mesothorax (only in the ♂) ferruginous-reddish, anal brush ferruginous reddish-yellow. Expanse of wings: ♂ 37.7, ♀ 49 mm. Java.

E. bicolor Heyl. ♀ resembles E. apicalis Wkr., but the yellow part at the end of the forewing is narrower and lighter, the black subapical spots are absent altogether, the costal margin is not yellow, the thorax is of the same brownish-black colouring as the abdominal dorsum. Beneath the wings are brownish-black, and the yellow parts are still narrower and more blurred. Expanse of wings: 18 mm. Padang (Sumatra).

E. biplagata Mr. (44 e). ♀ yellow, along the veins whitish, with a brown discal spot and a short, oblique row of 4 or 5 brown spots between the discal spot and the margin, being nearer to the former and extending from vein 5 almost to the posterior margin. Hindwing yellowish-white. Antennae light brown. Palpi above black. Anal brush yellow. Expanse of wings: 33½ mm. Java.
E. sastra Mr. ♀ yellow. Forewing with an apical black spot. Abdomen brownish with a yellow anal brush. Expanse of wings: 30½ mm. Java.

E. albinotata Heyd. is allied with E. digramma Bsd. (Vol. II, t. 21 h). Whitish, frons and hindhead intermixed with yellowish scales, antennae with long yellow pinnae. Collar, thorax and forewing in the ground white, but so densely strewn with ochreous-yellowish scales that the ground-colour appears only here and there: a large, white diffuse spot in the middle of the cell, one on vein 1a, two near the apex and some smaller ones here and there on the surface of the wings. The yellow scales are more densely accumulated particularly along the margin, where they form a band. Hindwing white, with some yellowish dusting. Expanse of wings: 17 mm. Fort de Kock (Sumatra).

E. flavolinbata Auriv. from Java very much resembles Porthesia seintillans Wkr. (Vol. II, t. 21 h), but it differs by the non-interrupted yellow marginal band of the forewing. Posterior half of thorax, and abdomen dark grey, wings the same, but with a yellow marginal band, and yellow are also the extremities and the anterior half of the thorax. Expanse of wings: ♀ 35 mm.

E. sabulosa Heyd. ♀ head, palpi and collar ochreous, antennae with ochreous pinnae and a lighter sabulosa. shaft, thorax greyish-ochreous. Abdomen greyish-black with a yellowish-white anal brush. — Contours of forewings as in E. mälderii Snell. (43 f), ground-colour whitish-grey with ochreous and brown dots accumulated particularly to a rather broad, oblique transverse band from the anal angle to the apex which it does not fully reach. Hindwing greyish-black. All the fringes whitish. ♀ 64 mm. Buitenzorg (Java).

E. pyroxantha Pag. ♀ antennal shaft whitish, pinnae blackish. Palpi above blackish, below whitish. pyroxantha. Legs beneath whitish. Body blackish-brown, anal tuft golden yellow. All the wings above blackish-brown, the costal margin, the apical triangle and the distal margin of the forewing whitish. At ⅓ of the posterior margin, in a darker ground, there is a roundish, white spot, below it a smaller one at the posterior margin and next to this distally another one. Hindwing blackish with a white distal margin. All the wings beneath blackish-grey, the distal margins whitish. Celebes (Minahassa).


E. repanda Wkr. ♀ yellowish-white. Head in front with short dehiscent hair. Palpi porrect, scarcely repanda. extending beyond the head. Thorax on each side with a yellow patch. Forewing with four yellow, very irregular bands partly broken up into spots and partly being connected. ♀ yellow. Forewing with ochreous bands, similar as in the ♀. Hindwing brown, in the marginal area yellow. Expanse of wings: 24½ to 30 mm. Celebes.

E. inturbida Wkr. (= megaxantha Wkr.). ♀ yellow. Antennal pinnae black. Abdomen brown, inturbida. anal brush silvery white, ventral side yellow with a silvery white base. Hindwing extending far beyond abdomen. Expanse of wings: 45 mm. Celebes; Batschian. (Described by Walker as ♀, but according to Swinhoe a ♀).

E. praecurrens Wkr. (= globifera Flbr., guttata Snell.) (43 e). ♀ doe-coloured. Abdomen brown, praecurrens. at the apex with yellow wool. Forewing with a round whitish spot outside of the discocellular. Hindwing brown with yellow fringes. Celebes, Moluccas. — bolocora Siek. from Borneo seems ♀ to deviate from the typical form by the broad yellow marginal band of the hindwing, a yellowish discal spot of the forewing, the veins of the forewing being lighter than the ground-colour. Expanse of wings: 48 mm. The species is also mentioned from Dinding, Kuching and Sarawak.


E. innotata Wkr. (39 h). ♀ forewing, head and chest pale yellowish, scantily dusted black, except innotata. in the marginal and costal areas of the forewings; the latter with a sublimbal, orange, extremely indistinct transverse band. Hindwing sooty black with yellow fringes, abdomen the same with yellow anal tuft. Expanse of wings: 63 mm. Ternate (Moluccas). — conspessa Flbr. (45 k) is considered to be a form of innotata, flying in the Philippines in December and January, March and April. ♀ yellow with black abdomen (except anus) and black hindwing with yellow marginal band. The ♀ has brown forewings which are said to be yellow at the distal margin (and costal margin?), with some lustrous golden scales and two white transverse lines; beneath they are black with a yellow costal margin and a yellow, broader distal margin. Length of wings: ♀ 14 to 15, ♀ 18 to 21 mm. Described from the Moluccas.

distincta.

E. distincta Fldr. (44 g). ♀: forewing, thorax, apex of abdomen and marginal band of hindwing orange, hindwing and abdomen as well as two subparallel, almost equally broad transverse bands on the forewing, not reaching the costal margin, black. These bands are about equally distant from each other and from the two ends of the wing; the distal one is pointed anteriorly and slightly bent convex in its posterior half towards the base. Expanse of wings: 39 mm. Moluccas.

discophora.

E. discophora Snell. (47 h). ♀: golden ochreous-yellowish, the posterior half of thorax, and the wings as well as abdomen darker, greyish-brown with a yellowish hue. Fringes golden ochreous-yellowish. Wings beneath of the latter colouring, in some places, however darker. Expanse of wings: 41 mm. Celebes.

pallipes.

E. pallipes Snell. (47 h). ♀: head and palpi dark brown, antennal shaft orange-brown, thorax and forewing in the ground orange-brown or golden yellow, dusted darker greyish-brown in such a way that two lighter transverse bands and a row of spots (whether invariably so?) are faintly noticeable. Fringes greyish-brown. Hindwing reddish-black, in the ♀ with golden yellow fringes. Abdomen black, at apex haired golden yellow. In the ♀ the fringes of the hindwings are whitish, thorax and antennal shaft yellowish. Expanse of wings: 30 to 33, ♀ 45 mm. Celebes.

niveinotum.

E. niveinotum sp. nov. (43 b). ♂: body black, thoracal dorsum with a roundish, snow-white area with fine appressed hair, which is on both sides bordered by the black, long, dehiscent hairy of the tegulae, whereby it is still more conspicuous. Antennae brown with whitish base. Anal brush dark grey, in front all round bordered by a narrow, yellow transverse band being widened beneath. Tarsi brownish-yellowish. Wings dull black, faintly hued brownish-grey, with a light ochreous-yellowish marginal band irregularly defined by intermixed darker scales, being at the apex of the forewing 7 mm broad, otherwise in the forewing about 3, in the hindwing scarcely 2 mm; beneath this marginal band is rather broader in the hindwing than in the forewing. Expanse of wings: 65 mm. Celebes (Coll. Seitz); Minahassa (Zool. Mus. Berlin).

fulva.


flavipennis.

E. flavipennis Snell. (47 h). Palpi on the sides, antennal pinnæ, and under surface of the base of the costal margin on the forewing are brownish-ochreous, otherwise the head, thorax and forewings above with fringes are golden yellow, hindwings and the under surface of the wings somewhat paler. Abdomen of ♀ somewhat grey. On the forewing traces of 2 transverse lines composed of crescentiform spots. Celebes.

commutanda.

E. commutanda Suh. (= inmaculata Btlr. nom. praecoc., butleri Sivh. 1907 [sic!]). ♂: creamy, forewing above, however, ochreous, antennal pinnæ brownish-yellow. Expanse of wings: 21 mm. Duke of York Island, New Guinea, Borneo. — From Java (Coll. Seitz) a small, male Eu¬proctis is before me, probably a form of E. commutanda Suh., distinguished by its still lighter, dirty white colouring; the costal margin of the forewing, however, is beneath very faintly ochreous-yellowish, and the abdomen seems to be of the same colour; the apex is not specially coloured. Antennal pinnæ pale brownish-yellow. Wings above and beneath quite the same. Length of wings: 10½ mm. Length of body: 8½ mm. I call this form: javaniana f. nov.

subnobilis.

E. subnobilis Snell, (= simulans Btlr.) (43 a as simulans). Forewing blackish-brown, at the apex a large, ochreous spot. Hindwing in the basal-dorsal half black, in the other half light orange, the border-line between the two areas being towards the margin bent convex at the lower angle of the cell. Head, antennae, collar, tegulae and prothorax ochreous, the rest of the thorax and the abdomen black. Expanse of wings: 47 mm. Amboina, Key Islands. — It copies the Agaristine Ophthalmis lincea flying at the same locality. — aruana. In the Aru Islands a form occurs with a narrower orange marginal band of the hindwing: aruana lineca form. nov. Our figure denoted with „subnobilis“ on t. 43 d does not represent a typical specimen, but a form of it lineca, which I denominate lineca form. nov.

pratti.

E. pratti B.-Bak. (46 f). ♀: reddish-brown, anal brush white, all the tarsi quite black, the tibiae II and III below black. Forewing with lighter veins and sublimbal transverse band being distally deeply dentate, and with a large, round, white spot at the cell-end. Hindwing deep ochreous. Expanse of wings: 42 mm. British New Guinea, in August.
E. fuscoradiata B.-Bak. ♀: head and thorax yellow, abdomen black with a whitish anal brush. Forewing yellow with a subbasal, ferruginous patch rising from the posterior margin and not reaching the costa, and outside the cell extends a somewhat spotted, towards the margin convex, ferruginous transverse stripe from the posterior margin, but not quite reaching the costal margin; from this transverse stripe there extend dark longitudinal streaks towards the margin. Hindwing chrome-yellow with a blackish basal area. Expanse of wings: 44 to 46 mm. British New Guinea, in February and March.

E. area B.-Bak. ♀: head and thorax reddish-brown, abdomen red with a whitish anal brush. Forewing reddish-brown, the basal area and a broad postmedian band and a less broad terminal area darker, in the latter, however, the veins are lighter. Hindwings orange. Expanse of wings: 64 mm. Aroa River, Brit. New Guinea, in February.

E. nigroapicalis B.-Bak. ♂: body dark greyish-brown. Forewing orange, in the basal and discal areas speckled black, the costal, apical and terminal areas black with slightly reddish veins. Hindwing jet-black, a costal-marginal band also bordering the apex, however, is orange. Expanse of wings: 37 mm. British New Guinea, in March.


E. parallela B.-Bak. ♂: head yellow, thorax grey, abdomen blackish, anal brush creamy. Forewing parallela light grey with two oblique, parallel, angular lines in the terminal half, the posterior two-thirds of these lines being dark grey, the rest yellowish; in the cell a dark grey spot connected by a dark stripe with a similar spot on the margin. Besides an indistinct sublimbal line of spots. Hindwings uni-coloured light ochreous. Expanse of wings: 34 mm. British New Guinea.


E. dinawa B.-Bak. ♂: body grey or ochreous yellow, legs yellowish-white. Wings light ochreous, dinawa. forewing with a ferruginous spot on the posterior margin. ♀ like the ♂. Expanse of wings: ♂ 40 to 43, ♀ 40 mm. British New Guinea *).


E. rubroradiata B.-Bak. ♂: head, collar and abdomen light yellowish-brown, thorax light yellow rubrorad- with a red streak on each patagia. Tarsi black, tibiae partly streaked black. Forewing light yellow with one iata. red spot each at the base of the costa, in the middle of the cell, and near the base in the dorsal area; directly outside of the cell is a transverse row of red spots reaching quite or nearly both the margins, these spots being prolonged towards the margin in the shape of streaks which are alternately thin and thicker, two of which commence in the dorsal half almost at the base. Hindwing yellow, in the dorsal area somewhat orange. Expanse of wings: 45 mm. British New Guinea.

E. xutha B.-Bak. (♀). ♀: head, thorax, and first abdominal segment orange-red, abdomen otherwise xutha. dark red with a light anal segment. Forewing dirty orange-brown, with a broad, postmedian, reddish undulate band, and beyond it with a broad, yellowish area, the margin being reddish. Hindwing orange. The ♀ is less dark and more unicolorous. Expanse of wings: ♂ 52, ♀ 68 mm. British New Guinea, at altitudes of 1500 to 3600 ft., in May and June.


E. rotunda B.-Bak. (♀). ♀: body deep yellowish-red with a whitish anal segment. Forewing rotunda. like the body, at the cell-end a round, creamy spot, of which colour is also a subterminal row of spots shaped like the points of lances. Such spots are also in the hindwing, but they are narrower there. ♀ like the ♀, but

*) With regard to the ♀ the original description is corrected in: Novit. Zool. 15, p. 187 (1908).
the anal brush is grey instead of whitish. Expanse of wings: $\varphi$ 56, $\delta$ 74 mm. Mafalu in British New Guinea, at an altitude of 6000 ft., in August.


**E. virginea** B.-Bak. (45 h). White, head laterally lined yellow, thorax and abdomen spotted bluish, and one row each of such spots is in the marginal and dorsal areas of the forewings. Expanse of wings: 36 to 43 mm. British New Guinea.

**E. albociliata** B.-Bak. (43 e). $\delta$: head, thorax and antennae olive-brown, abdomen black with a yellow anal segment and anal brush. Forewing monotonously olive-brown with a quadrangular spot at the cell-end, the narrow marginal band and fringes likewise white. Hindwing yellow, at the base and partly at the posterior margin black. Under surface yellow, only the posterior margin of the hindwing slightly blackened. Expanse of wings: 53 mm. British New Guinea, in January.


**E. sublutea** B.-Bak. (43 a). $\delta$: frons grey, palpi black, head dark brown, thorax white with brown patagiae. Abdomen black with yellow anal brush, legs brown with black tarsi. Forewing dark brown; hindwing orange, but in the dorsal area with a black, rounded part. $\varphi$ darker and larger. Expanse of wings: $\delta$ 39, $\varphi$ 64 mm. Brit. New Guinea, March-July.

**E. flavicaput** B.-Bak. $\delta$: frons and palpi orange, collar and thorax dark brown, abdomen black with a whitish anal apex, chest orange, legs yellowish with similarly coloured tarsi. Wings as in sublutea, but the forewing darker and the hindwing more yellow, not so orange. Expanse of wings: 38 mm. Aroa River (British New Guinea).

**E. lunula** B.-Bak. (45 c). $\delta$: head and thorax dirty straw-coloured, abdomen orange. Forewing creamy with traces of an erect median line and a yellowish postmedian line which is curved behind vein 5 towards the base; at the end of the cell a chocolate lunular spot. Hindwing creamy, in the basal two thirds orange. Expanse of wings: 34 mm. British New Guinea, at an altitude of 5000 ft.

**E. pulchra** B.-Bak. (43 a). $\varphi$: head, thorax, and the first abdominal segment flesh-coloured, abdomen otherwise black with a whitish anal segment. Forewing flesh-coloured with yellowish veins, in the marginal area the spaces between the veins are filled up with red. Hindwing chrome-yellow with a black dorsal area. Expanse of wings: 58 mm. Kebea Range in British New Guinea (at an altitude of 3600 ft., July).


**E. coniochroa** B.-Bak. (44 h). $\delta$: head and thorax dirty grey, abdomen darker, both wings as the thorax, hindwing somewhat darker. Expanse of wings: 53 mm. British New Guinea, at an altitude of 6000 ft., in August. Allied with *E. deficita* Wkr. (43 d).

**E. mambara** B.-Bak. (43 d). $\delta$: head, thorax and first abdominal segment red, anal segment white, the rest of the abdomen black. Forewing red, finely speckled with grey. Hindwing chrome-yellow. Expanse of wings: 49 mm. British New Guinea, 5000 ft., in April.

**E. maza** Swh. (44 i). $\delta$: primrose-coloured, body and legs uniclorous. Forewing darker and brighter yellow, with a large, round, subbasal spot at the posterior margin, a broad red discal band parted by the veins.

*) In Novit. Zoolog. XV (1908) p. 187 BETHUNE-BAKER adds the following lines to his original description of this species: „I have received a male of this species since my paper (ib. c.) was written, which is exactly like the $\delta$ with the exception that the dark area of the secondaries is slightly larger.“ In the original description, however, it is stated that just the $\delta$ is described, whereas the $\varphi$ is not mentioned there!! If „$\delta$“ of the original diagnose would be a misprint, B.-B. would have had to express that in this addition, but he has evidently not become aware of the contradiction of his two statements on this species.
midway sharply angled and not quite reaching the costal margin, and besides there are traces of a darker median band. Expanse of wings: 19.6 mm. Kapaur, New Guinea.

**E. perpusillana** sp. nov. (44 d) is very similar to *E. varians* (*pusilla*) (Vol. II, t. 23 b). Expanse of wings only 15 mm, thus one of the smallest species of *Euproctis*. Forewing ochreous-yellow, on the costal margin in the basal half a little darker, with traces of two submedian, almost unnoticedly lighter and almost linear transverse bands enclosing between them a band less than 1 mm broad of the ground-colour and extending subparallel to each other and to the margin. Fringes, head and thorax coloured like the forewing. Hindwing beneath and above yellowish greyish-white with a distinct yellow marginal line. Forewing beneath pale yellowish-brown, in the dorsal area whitish like the hindwing, in the marginal area faintly hued yellowish. Antennal pinnae light brownish with a whitish-yellow shaft. Legs light brownish-yellow. Abdomen like hindwing, but with a dark yellow apex. New Guinea (Coll. Seitz).

**E. flexuosa** (Snell. i. l.) Veen. ♀: head and collar orange, thorax greyish-yellow, abdomen darker, *flexuosa*, but with an orange anal tuft. Forewing greyish-yellow, everywhere speckled with black; a black band from the middle of the posterior margin along the distal side of the cell to the costal margin, 2/3 of its length distant from the base and sending a tooth into the cell; fringes yellow and parted. Hindwing darker grey, less yellow, the darkest at the posterior margin; fringes parted, the distal half yellowish-white, the proximal half alternately lighter and darker. — In the ♀ there appears more ochreous colouring instead of orange, forewing with a less sharply marked and not furrowed band, hindwing coloured as forewing, though dusted darker. Expanse of wings: ♀ 32, ♂ 44 mm. Precanger (Java).


**E. lavella** B.-Bak. is allied with *E. varians* (*pusilla*) (Vol. II, t. 23 b). ♀: head and thorax light *lavella*. yellow, abdomen grey. Forewing light yellow, in the basal area deeper yellow, with a light median and postmedian line being angled at the cell, the space between of a deeper yellow. Hindwing whitish-yellow. ♀: head and thorax orange, abdomen dark grey. Forewing orange. Hindwing yellowish and partly dark grey. Expanse of wings: ♀ 30, ♂ 34 mm. Salomons, in February and March.


**E. luteomarginata** B.-Bak. (45 h). ♀: head, collar and patagiae purely white, the rest of the thorax and abdomen light orange. Forewing purely white, the basalt two thirds of the posterior margin narrow light orange; traces of one postmedian and one median orange undulate line, which lines flow together on the posterior margin. Hindwing white, in the dorsal area orange. Expanse of wings: 43 mm. Sometimes the colouring is straw-coloured and the undulate lines of the forewing more distinct: ab. garra ab. nov. British New Guinea. *garra*.


**E. osuna** Sivh. (43 e). ♀: dull ochreous with a chestnut hue. Forewing long, the distal margin almost *osuna*. as long as the costal margin; two chestnut macular bands, one discal, the other marginal, the first composed of 5 or 6 quadrangular spots, towards the base traces of another blackish band, all the spots and the fringes speckled blackish. Abdomen and dorsal half of hindwing hued blackish. Expanse of wings: 49 mm. Kapaur (New Guinea).


**E. livia** Sivh. (43 h as *livia*). ♀: light yellow, palpi ochreous, antennae grey. Forewing chestnut *livia*. brownish-grey bands covering almost the whole upper surface, the first occupying almost the whole basal third and being separated from the second somewhat narrower band by a yellow, distally curved streak, at the costal margin a yellow spot, at the end of the angle of the distal margin of the second band there are two sharply
marked black spots which are connected by a black line. Hindwing and under surface whitish-yellow. Fringes reddish-yellow. Expanse of wings: 22 mm. Milne Bay, New Guinea.

**E. huntei** Warr. ♀: forewing deep yellow, with some reddish-brown scaling except in the marginal area; into this lighter area, however, the brown colouring extends between the veins 3 and 5, and faint brownish patches are in the marginal area between the veins. Costa and veins in the terminal half yellow. A pale whitish-yellow spot immediately outside the discocellular spot. Fringes reddish-brown. Hindwing uni-coloured light orange, along the dorsal fold somewhat deeper; fringes yellow. Head, thorax and antennae yellowish. abdomen dark brown with narrow lighter segmental rings, anal hair greyish-brown, anal segment snow-white. — Most closely allied with *E. edwardsi* Newm. from Australia. Expanse of wings: 52 mm. British New Guinea.

**E. faceta** Sveh. (44 f). ♀: palpi, frons, head and thorax white; forewing greyish-olive with a white costa and two white transverse lines, one of which is antemedian, being on the costal margin proximally curved and composed of two broad-crescentiform streaks, the posterior of which forms the distal border of a large white spot, whilst the other transverse line is dentate, formed of crescentiform figures and being midway curved distally. Fringes white with grey spots at the ends of the veins. Hindwing and abdomen dirty ochreous-white. Under surface whitish and uni-coloured, but in the forewing with grey streaks below the costal margin. Expanse of wings: 22 mm. Kapat (New Guinea).

**E. revera** Sveh. is allied with *E. lodra* Moore (44 h). In both sexes the antennae, frons and head are ochreous, thorax dark brown, abdomen black. In the ♀ the basal halves of both wings are blackish, the apical halves ochreous, in the ♂ the wings are uni-coloured blackish, except the ochreous terminal third of the costal margin of the forewing and the ochreous margin of both wings. Expanse of wings: ♀ 29½, ♂ 44 mm. New Guinea.

**E. peela** Sveh. (43 h). ♀: antennae, palpi, head, thorax and forewing bright yellow; two brownish-black transverse bands, the first being antemedian and interrupted, not reaching the costal margin, the other discal, before the middle dentate, with a tooth reaching the margin. Abdomen, hindwing, and under surface whitish, slightly hued yellowish. Expanse of wings: 24½ mm. Milne Bay, New Guinea.

**E. leucospila** Wkr. Both sexes dark brown. Forewing with 6 white marginal spots, the anterior one of which is situated at the apex and much larger than the others, the second and second being smaller, the fourth and fifth being quite small, the sixth being larger than the second. In the ♀ the abdomen is ochreous at the apex with yellowish-grey woolly hairing; hindwing with white fringes, but unspotted. Expanse of wings: 28½ to 45 mm. Celebes.

**E. submarginata** Wkr. ♀: brown. The thin palpi extend far beyond the head. The pinnae of the outside of the palpi are much longer than those of the inside. Abdomen with pale yellow anal wool. Forewing lighter than hindwing, with 5 white marginal spots, the first of which is apical and much larger than the others, the second small, the third likewise small and distantly remote from the fourth and fifth. Hindwing with similar white marginal spots, the posterior ones of which are connected. Expanse of wings: 24½ mm. Celebes. *Of Euproctis biplagiata* Wkr. there are 2 specimens before me from Minahassa. Walker’s description is good.

**E. biplagiata** Wkr. ♀: blackish-brown, abdomen laterally yellowish, the margin with white spots between the veins. Forewing with a yellow inner-marginal spot near the base, the first, second and third marginal spots large and streak-shaped, between the first and the costal margin two small streaks, the fourth, seventh and eighth small, the fifth and sixth very small. Hindwing with equally large spots. Expanse of wings: 57 mm. Celebes. *Of Euproctis biplagiata* Wkr. there are 2 specimens before me from Minahassa. Walker’s description is good.

**E. leucospilodes** sp. nov. (44 a; ♀ as *leucospila*). From „Celebes“ there is a ♀ form before me beside several specimens from the Minahassa, which I have seen for certain as *E. leucospila* Fldr. which species is identified by Swinhoe with Walker’s species of the same name. Whether the latter is correct does not seem to be quite sure to me, since Walker mentions „a white fringe“ on the hindwings, whereas Felder’s figure of the under surface represents these fringes blackish-grey, but a white, almost linear marginal band of the hindwing. At any rate the present form is neither identical with Felder’s *leucospila* nor that of Walker, nor can it be the other sex of *E. biplagiata* Wkr., as this is also present in the female sex. — Forewing as in *leucospila* Fldr. (cf. Novarra Reise, Lep., t. 98, fig. 16); the number of the white spots varies from 6 to 8, that in area 3 being always small and sometimes quite absent (ab. *defecta* Strdl. ab. nov.), which has consequently 7 spots at most. In the hindwing there are 7 or 8 white marginal spots little different in size, of which the two posterior at most touch each other, though they are never quite confluent.

**E. inepta** Btlr. (43 h) is allied with *E. moorei* and *anguligera*. Forewing, thorax and antennae light ochreous, hindwing and abdomen ochreous-whitish. Under surface creamy-whitish. Forewing of ♀ above in
the basal area greyish-brown and with a similarly coloured zigzag-shaped band ending at the upper radial vein and being on both sides bordered by a light line, and with 2 brown spots. Abdomen greyish behind, but with a whitish anal brush. Expanse of wings: \( \varphi \) 32, \( \varphi \) 39 mm. St. Aignan Island, Louisiads. — It also occurs in the Key Islands and has sometimes an expance of only 26 mm.

E. arclada Swih. (44 c). \( \varphi \): much larger and darker than E. fulvistriata, the anal apex of the abdomen arclada. is narrow white, the legs are orange-ochreous without white tarsi; the orange streaks of the forewings are similar, but the hindwings are much much darker than the forewings, of a vermilion-orange colour. Expanse of wings: 54 mm. Woodlark Island.

E. facventa Druce. \( \varphi \): body and legs dark brown, abdomen black with a white anal brush. Forewing facventa. uni-coloured dark brown, hindwing chrome-yellow with a black base. Expanse of wings: 43 mm. Fergusson Island.

E. ochreata Wkr. \( \varphi \): yellow. Forewing for the greatest part ochreous with a deep ochreous spot near ochreata. the base of the posterior margin. Hindwing towards the posterior margin with long hair. Expanse of wings: 31 to 41 mm. Ceram.

E. mirma Druce. Body and extremities brown. Forewing light brownish, somewhat doe-coloured; mirma. black are: a spot near the base, and one at the end of the cell, as well as two curved transverse lines. Hindwing yellowish-white. Expanse of wings: 37 mm. Timor. Certainly closely allied with E. servita Wkr.

E. drucei Swih. (titania Druce nom. praecocc.) (44 i). \( \varphi \): light yellow, forewing with 3 sinuate chrome- drucei. yellow bands. \( \varphi \): darker and without the transverse bands. Expanse of wings: \( \varphi \) 24\( \frac{1}{2} \), \( \varphi \) 34 mm. Trobriand Island, Kirivini.

E. leptotypa A. J. Trnr. White, palpi of \( \varphi \) and anal brush of \( \varphi \) ochreous. Forewing with a narrow, leptotypa. interrupted, ochreous-brownish, curved band from \( \frac{5}{6} \) of the costal margin to \( \frac{5}{6} \) of the posterior margin, which is almost entirely blurred in the \( \varphi \). \( \varphi \) 23, \( \varphi \) 32 mm. North Queensland, in July; larva on Acacia alopecocarpa.

E. ericydes A. J. Trnr. \( \varphi \): head, thorax and palpi light ochreous, antennae dark; abdomen black, ericydes. ochreous. Forewing black with a light yellow apical patch, where also the otherwise black fringes are yellow. Hindwing light ochreous, in the basal third black. \( \varphi \) 46 mm. North Queensland, in May.

E. deficita Wkr. (43 d). Both sexes light doe-coloured, beneath lightest. Thorax with long erect deficita. hair. Abdomen black, in the \( \varphi \) with an ochreous, in the \( \varphi \) with a whitish anal brush. Forewing with a small, deficita. indistinct, whitish discocellular spot. Hindwing with a brownish hue not extending to the margin; costal band and fringes sometimes yellowish. Expanse of wings: 57 to 65 mm. Australia: Queensland.

E. epaxia Trnr. \( \varphi \): 18 mm. Head, palpi, and thorax ochreous. Antennae ochreous-whitish. Abdomen epaxia. whitish-ochreous. Legs whitish; anterior tibiae and tarsi densely covered with long, ochreous hair. Forewing triangular, costal margin very much curved, apex rounded, margin curved and oblique; light ochreous, speckled with a brighter ochreous tint except two broad bands which are speckled with dark brown scales; the first of these bands at \( \frac{1}{4} \) of the length of the forewing and not quite reaching the costal margin nor the posterior margin; the second being subterminal and ending in the anal angle, but not quite reaching the costal margin; fringes ochreous. Hindwing with a roundish margin, light ochreous, of which colour are also the fringes. [Type a little rubbed off!]. North Queensland: Kuranda; in July.

E. epidela Trnr. (45 h). \( \varphi \) 25, \( \varphi \) 35 to 45 mm. Head, palpi, thorax and abdomen ochreous. Antennae epidela. light ochreous. Forewing triangular, in the \( \varphi \) more long-stretching. Costal margin very much curved with a rounded apex and an obliquely rounded margin; bright ochreous, in the \( \varphi \) ochreous or pale ochreous; a pale transverse line near the base; a broader, distally curved transverse line at \( \frac{1}{3} \) and a similar line at \( \frac{3}{4} \) of the length of the wing, which lines are extinct in the \( \varphi \) (45 h); fringes uni-coloured. Hindwing with a rounded margin, light ochreous, in the \( \varphi \) coloured like the forewing; fringes coloured the same. North Queensland, Kuranda; in August-October and April-May. — Allied to E. varia Wkr.

E. euryzona Lower. \( \varphi \): dark ochreous-orange. Antennal pinnae darker. Forewing speckled with euryzona. fine ochreous-whitish scales, costal margin lighter ochreous, two transverse bands one of which is antemedian,
the other extending from $\frac{3}{4}$ of the costal margin to the dorsal margin. Fringes ochreous, in the terminal half lighter. Hindwing orange with a lighter basal half. Veins 3 and 4 of the hindwing are on a footstalk. 22 mm. South Australia; in November.

**E. pycnadelpha** Lower. $\varnothing$ 20 mm. Smoke-brown, collar ochreous, costal margin of forewing lighter than the surface of the wing. Hindwing in the basal two thirds a little lighter. — Allied with *E. euryzona* Low. South Australia; in March.

**E. pelodes** Lower. $\varnothing$; body, wings and extremities brownish ochreous. Forewing oblong triangular, costal margin near the base feebly curved, margin oblique, apex rounded; between the anal angle and the apex of the wing a row of rather sharply marked whitish spots, the first being more oblong; the row is midway distally angled; fringes whitish-ochreous, marked darker. Hindwing and fringes like the forewing, but not marked. Expanse of wings: 25 mm. Parkside (Adelaide) in Australia; taken by the lamp in January.

**E. lucifuga** T. P. Lucas. $\varnothing$; body and palpi ferruginous-yellow. Antennae reddish-yellow with dark pinnae. Forewing ferruginous-yellow or orange-brown, with two indistinct, ochreous, undulate transverse lines in the middle and at $\frac{3}{4}$, and with ochreous-yellowish fringes. Hindwing smoke-black with fringes as in the forewing. $\varnothing$ 17 to 28, $\varnothing$ 22 to 30 mm. Queensland, Mackay, Cooktown to Brisbane. Closely allied with *E. chrysophaea* Wkr. — *E. lucifuga* Luc. is, though certainly wrongly, synonymized by Turner 1902 with *E. chrysophaea* Wkr. which is African. According to Swinhoe (1903), *lucifuga* is discernible from *chrysophaea* by the brown speckling of the forewings, whereby the latter appear dark orange; beneath both wings are dark brown with orange margins (in *chrysophaea* uni-coloured bright light orange).

The following 3 species are often reckoned to a separate genus *Urocoma* H.-Schaff. which, however, is not for certain distinguishable from *Euproctis*.

**E. (Urocoma) marginalis** Wkr. Both sexes dark brown. Head, antennae, chest and legs brownish-yellow of which colour is also the anal apex. Hindwing with a broad white marginal band. — $\varnothing$; forewing with white spots and with a white streak along the margin. $\varnothing$; forewing with a broad white marginal band. Expanse of wings: 28$\frac{1}{2}$ to 41 mm. Tasmania, Australia.

**E. (Urocoma) limbalis** H.-Schaff. (47 e). $\varnothing$; blackish-brown. Forewing with an anteriorly linear, posteriorly gradually widening, light brownish-grey marginal band and somewhat darker fringes; along the proximal margin of the posterior half of the marginal band there is a row of four small, snow-white spots entirely or almost touching each other and increasing in size posteriorly. Hindwing with a white marginal band which is about twice as broad as that of the forewing and everywhere rather equally broad; fringes a little darker, but in their posterior half spotted white. Anal brush split [whether accidentally?], reddish-yellow. Expanse of wings: 39 mm. Australia: Sydney.

**E. (Urocoma) baliolalis** Swh. (45 a). $\varnothing$; frons dark ochreous, antennae light ochreous, thorax and forewing light chocolate, abdomen black with orange apex. Forewing with a dark spot at the end of the cell, a broad, greyish-white marginal band hued ochreous, the proximal margin of which is irregular and exhibits white spots, a light discal transverse line. Hindwing in the basal half blackish-brown, the terminal half and the costal area white, besides a white basal patch. Beneath as above but lighter. Expanse of wings: 44 mm. Australia: Moreton Bay (Sydney).

**E. edwardsi** Newm. $\varnothing$; reddish-yellow; forewing in the basal and discal areas lead-coloured yellowish-grey, but this area encloses a reddish-yellow, white-pupilled, round spot at the end of the cell and at the distal margin it is midway slightly dentate. Abdomen black, at both its ends, however, yellow. Antennal pinnae brownish. The whole under surface light reddish-yellow. Expanse of wings: 40 mm. Victoria (in Australia); Adelaide. — *togata* T. P. Lucas, $\varnothing$; head, palpi and thorax ochreous-brown. Antennae ochreous with brown pinnae. Abdomen black with an ochreous-brown anal brush. Forewing lustrous purple grey, except the posterior margin from the base to $\frac{3}{4}$, a large discal spot and the marginal quarter, which parts are ochreous-brown. All the fringes, as well as the hindwings ochreous-brown. Certainly closely allied with *E. edwardsi* Newm. and often considered as the synonym of it. 40 mm. Brisbane.

**E. leucomelas** Wkr. (44 i). $\varnothing$; white, palpi and forelegs on the inside yellow. Antennae black. Forewing blackish on the costal margin and in the apical third. Hindwing towards the apex brownish-grey. Expanse of wings: 32$\frac{1}{2}$ mm. Hobart (Tasmania); Melbourne.
E. {?} choerotricha Fltr. (47 h). Forewing miniate, in the centre of the marginal half feebly irrorated choerotricha, with black. Hindwing jet-black, at the base reddish, with slightly yellowish fringes. Body miniate. Antennae black. Expanse of wings: 35 mm. Moluccas. — Felder created a new genus (Microthorpe) for his choerotricha, with the short diagnose: „affinis Artanae Moore“, which must besides be a misprint, as there does not exist any genus Artanae Moore; he probably meant to say Artaxa (= Euproctis). The figure itself does not exhibit any marks by which the species might be distinguished from the genus Euproctis, and I therefore add it hereto, though with an interrogation mark. Still there is a remarkable fact exhibited by the abdomen hardly reaching to the centre of the hindmargin of the hindwing.


E. idonea Schh. (44 f). ♀: body and extremities ochreous. Wings whitish, feebly lined with ochreous; idonea, forewing, however, darker than hindwing and on the margin and fringes darker than in the surface, with two narrow, brownish-black transverse bands, one of which is antemedian, the other discal, both not quite reaching to the costal margin. Under surface light ochreous whitish, apical area of forewing with a darker hue. Expanse of wings: 43 mm. South Australia.


E. amphideta Trnr. (43 h) as amphideta. ♂: head, palpi, antennae, and legs light yellow, thorax amphideta, and abdomen ochreous. Forewing orange-ochreous, with a light grey hue, except near the base and on a discal spot, with a light yellow terminal band which is crenulate at two fifths of the margin. Fringes of both wings light yellow. Hindwing ochreous-yellow. 26 mm. Townsville in Queensland.

E. semifusca Wkr. ♂: brown. Head, palpi, thorax, and chest densely haired, thorax on each side semifusca, with long grey hair. The abdomen does not reach to the anal angle, the large anal brush and the ventrum are ochreous. Wings beneath partly ochreous. Hindwing ochreous-speckled with brown; hindmargin with long fringe. Expanse of wings: 26½ mm. Australia.


E. crocea Wkr. (44 g). ♂: light ochreous. Head and thorax with long protruding hair. Palpi projecting crocea, slightly beyond the head, the third joint being almost lancet-shaped and a little shorter than the second. Antennae very broadly combed. Apex of abdomen black-haired. Hindwing projecting beyond the abdominal apex. Expanse of wings: 53 mm. Moreton Bay; Cairns. — arrogans T. P. Luc. (= mecki DC). ♀ like ♀ of a deep arrogans, reddish ochreous-orange colour. Apical brush of abdomen white. Hindwing ochreous. ♂♀ 44 to 46 mm. Cairns (Queensland), and Woodlark Island. In June and November. — urbis form. nov. (44 g) is a ♀ from Townsville urbis, in Queensland, taken on Oct. 14th 1901 (Coll. Sivh.). Expanse of wings: 45 mm. It is characterized by the presence of 4 black dorsal transverse bands leaving only linear (hindmarginal) bands of the yellow ground-hairing between them. Anal brush greyish light yellowish. Both wings ochreous, forewings scarcely darker.

E. habrostola Trnr. (44 g). ♂♀: head, thorax, and antennae whitish ochreous. Face and palpi ochreous. habrostola. Abdomen blackish with ochreous base, under surface ochreous, anal brush white. Forewings with fringes cream-coloured. Hindwing deep yellow, in the basal area and along the hindmargin dark; fringes yellow. ♂ 43. ♀ 58 mm. — Larva on Melaleuca. Queensland in March. — pura Sivh. (44 i). ♀ like ♀: palpi, frons, chest, pura, under surface of body, and legs ochreous. Antennae, thorax and forewing uni-coloured light lilac-grey. Abdomen above at both its ends ochreous, otherwise jet-black, the four posterior segments with cross-bands. Hindwing

X

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ochreous, in the ♀ with a black hue in the dorsal area. Under surface light ochreous, in the ♀ with a similar blackish hue as above. Expanse of wings: ♀ 37. ♀ 51½ mm. — Presumably it is similar to E. deficita. Queensland.

**E. niphobola** Trnr. ♀ and ♀ dark brownish. Anal brush of ♀ ochreous, of ♀ grey. Forewing scantily speckled with large, triangular, white scales, with a straight subterminal, white nebulous band and white marginal spots. Hindwing with a whitish-terminal band crossed by the veins. 37 to 42 mm. Queensland, in February and September.

Note: *Eup. bipunctulata* Stelh. (45 f) is a form of the almost exclusively palearctic E. *flava*, distinguished by 2 black apical dots of the forewing. Cf. Vol. II, p. 135. — E. *consoperta* (fig. 45 g) is a form of *rifellina* from Kashmir and has been dealt with in Vol. II, p. 137. As to further particulars about *E. fimbula* Bulr. cf. also Vol. II, p. 139.

### 40. Genus: *Dasychiroides* B.-Bak.

Palpi erect, densely long-haired. Antennae of ♀ very long-combed. Legs hairy. Margin of forewing rounded off and hardly oblique; 7 + 8 + 9 + 10 forked, 11 and 12 anastomosing quite shortly. In the hindwing 4, 5, and 5 rise near the angle of the cell, 6 and 7 from the anterior angle. — Without definitely stating it, the author seems to want to enlist his genus in *Dasychira*. The genus *Dasychiroides* B.-Bak. is diagnosed by Turner, as follows: palpi porrect or feebly inclined upwards, 1st joint moderately [long or thick?], 2nd joint below long-haired, last joint very short. Thorax and abdomen without crests. Forewing: 7 + 8 + 9 + 10 forked, 7 rises before 10, 11 anastomoses shortly with 12. Hindwing: 5 and 4 close together at the base, discocellular angular. 6 and 7 fused, 7 anastomoses shortly with 8 before the centre. — Distinguished from *Euprotis* by the anastomosing veins 11 and 12 on the forewing, from *Axioptera* Trnr. by the absence of an areola.

**D. obsoleta** B.-Bak. (46 f). ♀: head and thorax greyish-white, abdomen dark brown; legs grey, spotted black. Forewing whitish, traces of a black, dentate basal line, with double antemedian and median, dentate, interrupted lines, a postmedian serrate line, and an antemarginal line almost appearing as a row of lines; margin spotted black. Hindwing greyish-black, with similar fringes. Beneath the wings are dingy grey below the cell, of the same colour is the centre of the costal margin; hindwing dark grey, with traces of a lunula spot in the cell. Expanse of wings: 44 to 50 mm. Is said to be common in British New Guinea; it flies near the coast in May and June, in more mountainous districts in August.

**D. nigrostrigata** B.-Bak. (46 g as nigrostrigata). ♀: very similar to *D. obsoleta*, but with blurred markings, and at the end of the cell a broad black, oblique transverse band extends from the centre of the costal margin to the anal angle. Expanse of wings: 47 mm. British New Guinea.

**D. pratti** B.-Bak. (46 i). ♀: head and thorax greyish-white, palpi black, laterally edged with white, abdomen brown with a whitish anal brush. Legs greyish-white, tibiae and tarsi of hind-legs brown, wings dark brown with white fringes which exhibit a dark parting-line in the hindwing, whilst in the forewing they are traversed by black lines. Forewing with a white basal and marginal area and a whitish spot in the centre of the costal area. Black, dentate transverse lines are to be recognized. In the ♀ the light parts of the forewings are not white, but light grey. Expanse of wings: ♀ 50, ♀ 75 mm. Rather common in British New Guinea; it flies in January-February and July-August. It also occurs in Kuranda in North Queensland, where it flies in October.

**D. bicolora** B.-Bak. (46 c). ♀: head and thorax grey with a dark median streak, pectinations orange-red, abdomen brown. Forewing whitish grey, in the costal area in the discal half a dark brown area posteriorly roundish, and from here to the base of the wing a dark grey costal-marginal band; fringes as in *D. pratti*. Hindwing uni-coloured blackish-brown, with similar fringes. Beneath both wings are uni-coloured dark brown. Expanse of wings: 43 to 44 mm. Closely allied to *D. pratti*. British New Guinea.

**D. brunnneostrigata** B.-Bak. (46 i). ♀: forewing white; beyond the cell a narrow brown, angular transverse band which is angularly broken at vein 6, where it bifurcates, so that one branch extends anteriorly and proximally to the costal margin, whilst the other is expanded towards the apex which, however, it does not reach. Hind-margin almost in the centre with two black spots. Hindwing dark grey. Head, thorax, and anal brush whitish. Abdomen dark grey. Expanse of wings: 51 mm. British New Guinea.

### 41. Genus: *Haplopseustis* Meyr. (*Acnissa* Trnr.)

Proboscis feebly developed, palpi obliquely porrect, last joint small. Antennae in both sexes bi-pectinate, thorax with a posterior tuft of scales. Abdomen in both sexes smooth. In the forewing vein 2 rises from ¾.
3 from before the angle, 4 from the cell, distinctly separated from 4, 6 from below the upper angle, 7 from the upper angle, 8 + 9 + 10 forked from before the angle, distinctly separated from 7. In the hindwing 3 and 4 are close together at the bases, 5 nearer to 4 than to 6, 7 and 6 conuate; 8 anastomoses with the cell near the base. — Most easily discernible from Eneproctis by vein 7 of the forewing being distinctly remote from 8, 9 and 10. — According to Turner, it is doubtful whether this insect is a Noctuid or Lymantriid.

H. erythrias Meyr. (= pyrrhias Trnr.). In the ♂ and ♀ the head, thorax, and palpi are reddish-brown. Forewing dull reddish, scantily speckled darker, with a dark transverse band which is somewhat crenulate on both sides and defined by a red border-line, besides with a dark subterminal patch and marginal line. Fringes with reddish base or everywhere reddish. 16 to 20 mm. Queensland; Brisbane, Townsville in December till May; North Australia, Port Darwin.

42. Genus: Pellucens B.-Bak.

Antennae as far as the tips with long double-rowed pectinations; foreleg of ♂ with a long hairy spine from the tibial joint, which is much longer than the tibia itself. In the forewing vein 2 rises at 4 from the lower angle, 4 from the upper angle, 5 a little remote from 4, 6 from the upper angle. 7 + 8 + 9 + 10 forked, 10 rising about midway between the cell and apex. In the hindwing 4 rises from the upper angle, 5 near to it, 6 and 7 from the upper angle.


43. Genus: Anthelymantria Stnd. gen. nov.

No areola. In the forewing 3, 4, and 5 are very closely together, but unmistakably separated, 6 distinctly rising from behind the angle of the cell, 7 + 8 + 9 + 10 are forked; 7 rising rather far from the cell, 10 less far away, so that 7 rises between 10 and 8 and is by far nearest to 10, 8 and 9 being short and close together terminating into the apex of the wing, 11 rising almost from the centre of the anterior edge of the cell and being separate in its whole course, 10 running in the greatest part of its length almost midway between 9 and 10. In the hindwing the veins 3 to 5 are like in the forewing, 6 and 7 from the same place, i.e., the anterior angle of the cell. The veins 7 and 8 of the hindwing are distinctly separated, but connected by an oblique cross-branch. Hind tibiae with 4 spurs. Palpi obliquely turned forward and downward, with a small, smoothly scaled and pointed terminal joint, scarcely projecting beyond the rather long and densely haired frons. The preceding joint with obliquely raised hairing. The forelegs are covered with long woolen hair on the tibiae and femora, but the tarsi of all the legs are covered with appressed scales. — Forewing narrow, hindwing broad. The distal margin of the hindwing slightly oblique and slightly curved, the hind-margin therefore comparatively long. The distal margin of the hindwing is very slightly, almost unnoticedly sinuous behind the vein, the anal angle being consequently a little projecting. The abdomen projects beyond the anal angle only by the length of its anal wool. Dorsum of thorax and head with long, erect, coarse woolen hair. The veins and palpi correspond well with Lymantria, but the habitus, the scheme of markings etc. are quite different. — Antennae of ♂ long-combed, the pectinations at the tips with long bristles. — Separated from Cispia by the shorter palpi etc. [Snellen labelled a specimen before me as 'Cispia sp.']. — In the habitus very much like Anthela. The type is.

A. bistigmalis Stnd. sp. n. (57 c). ♂: characterized on the surface of the forewing by the two small, bistigmalis, jet-black maculae edged with a ferruginous yellowish colour, the distal one of which is situate on the discocellular and has sometimes the shape of an X; the specimen figured is unfortunately not quite intact, for which reason the maculae are not so distinctly prominent as usual. Beneath both wings are like the forewing above, or the forewing is but slightly darker; the forewing indistinctly exhibits the two cellular spots, the hindwing shows the discocellular spot. The body is beneath as dark as above, with dark brown palpi, outside blackish. Antennae light greyish, with darker ringlets, with yellowish-brown pectinations. Expanse of wings: 35 mm. Hindwing sometimes with a grey marginal band. Cooktown; Richmond River in New South Wales. — The present specimen (Coll. Seitz) was labelled „Sikkim“ which is presumably wrong. Besides there are two worn Javanese specimens before me, undoubtedly generically belonging together, among them the specimen of Snellen mentioned above; they apparently belong to the same species. The type is from the Richmond River.
II. Subfamily: Anthelinae

Thorax and coxae densely covered with bristly hair. In the forewing the areola almost extends to the apex of the wing; 8 and 9 rise separately from the areola. In the hindwing 8 is distantly remote from the cell, thus 7 and 8 diverge from the base.

I. In the hindwing 8 is very near to the centre of the cell.
   a. In the forewing the areola is single
      Pterolocera
   b. In the forewing the areola is parted by a vein
      Chelepteryx

II. In the hindwing 8 is distantly remote from the centre of the cell.
   a. Forewing with vein 5 from the angle of the cell
      Nataxa
   b. Forewing with vein 5 distinctly above the angle of the cell
      Anthela

Besides Chenuala Sch. will belong to this subfamily.

44. Genus: Pterolocera Wkr.

I repeat here at first the rather insufficient original description. — ... body hairy and rather strong. Proboscis not to be noticed. Palpi porrect, rather long, very hairy, projecting beyond the head, the second joint much longer than the first. The third rather long, linear, obtuse. Antennae \( \frac{3}{4} \) the length of body, with extraordinarily long and somewhat bristly pectinations. Legs rather long and thin, femora long-haired, hind tibiae with 2 rather long apical spurs. Wings broad. Forewing with a straight costal margin, at the apex hardly angular. (This is probably a mistake: Walker presumably meant to write „sharply angular“). The 2nd of the lower veins is much farther from the 3rd than from the 1st vein, the 3rd is much nearer to the 2nd than to the 4th vein. The hindwing projects beyond the abdomen. Thus far Walker’s description. — The veins are remarkably thickly and densely scaled and therefore very prominent, although the scaling of the surface of the wing is thick and dense. In the forewing vein 3 is at the base twice as far from 2 as from 4, vein 4 being only half as distant from 2 as from 3, 6 almost from the angle of the cell, resp. on a very short fork with 7, the latter from the long areola at \( \frac{3}{4} \) of the length of it. 8 and 9, separated from each other, from the apex of the wing, 8 into the apex of the wing, 9 shortly before it. 10 from the anterior edge of the areola, from the apex of which it is not far away. 11 from the anterior edge of the cell beyond the centre: discocellular transverse and very feebly bent; the cell projects beyond the centre of the wing. In the hindwing 3 is farther from 2 than from 4, 4 is distinctly separated from 5, but they both rise from the angle of the cell. 6 and 7 on a very short fork from the anterior angle, both terminating into the distal margin.

Pterolocera is particularly distinguished by the long (extending almost to the last quarter of the forewing) antennae provided with exceptionally long pectinations; the costal margin of the forewing is straight in its whole length, and the apex forms an acute angle with the distal margin.


ferruginea. 37 mm. Adelaide, Melbourne (Australia); Tasmania. — ferruginea form. nov. is ferruginous reddish with a darker head, anterior part of the thorax and costal margin of forewing; wings with an interrupted brown discal oblique band which is farther remote from the distal margin than in the typical form; veins like the surface of the wings. Swaney River and Tasmania. — ferrugineofusca form. nov. is ferruginous reddish-brown on the thorax, and the wings are rather dark brown with a black band. Tasmania: New South Wales.

Pt. insignis H.-Schäff. (57 b). \( \varphi \). Light reddish-grey; wings with bright red veins; both wings with an almost linear blackish cross-band which encloses on the veins one jet-black dot each, beginning on the costal margin of the forewing at \( \frac{3}{4} \), extending parallel to the distal margin as far as the posterior margin, whilst in the hindwing it is straight or even slightly convex towards the base. Expanse of wings: 41 mm. Australia.


Antennae bipectinate, in the \( \varphi \) much shorter and in-curved, palpi short, obtuse, hairy. Body long-haired. Wings broad, semi-transparent, clad with hair-scales, forewing subtriangular, hindwing at the end slightly falciform, its cell closed. Legs thin, the four hind tibiae with terminal spurs. Thus far the original diagnose. — Both wings with a sharp apex, that of the hindwing projecting beyond the anal angle of the forewing. Forewing of the \( \varphi \) with a slightly undulate distal margin, hindwing with a right anal angle; in the \( \varphi \) the posterior angle on both wings is broadly rounded. Antennae of \( \varphi \) with long, of \( \varphi \) with short double pectinations. Palpi porrect, projecting beyond the head, in the \( \varphi \) strong, in the \( \varphi \) thin, the last joint and basal joint small and of equal size, the second joint twice as long. Middle tibiae with 2, hind tibiae with 4 small spurs.

(45) Of many of the species enumerated here (particularly Anthela) only one specimen (the type) is known, which is in Australia. At the time when this group was elaborated (1918), no copies for figuring them were to be obtained. This may be done later on in supplementary numbers.

Dr. Seitz.
Ch. collesi G. R. Gray (= lapaceli Feisth., affabricata Wallgr.) (46 c). Wings black. Forewing near collesi, the apex with two hyaline spots and with grey and ochreous undulate transverse bands. Hindwing with a whitish median band and an undulate ochreous band near the distal margin, parallel to it. Antennae and palpi of △ black, its head ochreous; thorax and abdomen black, in some parts brownish and ochreous. (Original diagnose).

Expanse of wings: △ 150, □ 185 mm. △ forewing brown with a red-brown median band somewhat undulate edged with black and enclosing a round white spot, 3 narrow light postmedian bands, and a black narrow angular antenemedian band. Hindwing with a darker basal area and 3 light postmedian bands or lines. In the △ the hindwing is darker with a straight narrow median band and an intensely yellow postmedian transverse band. — Larva and cocoon covered with stiff bristles and fine sharp hairs which, on being touched, stick to the skin and cause inflammations; the species is therefore known to cause great destructions, particularly because it may occur in masses. — Larva on Eucalyptus corymbosa and perhaps another species of Eucalyptus, as much as 147 mm long thick, satiny brown, each segment with 8 yellow tubercular spots, the second and third segments besides with 2 more spots, the first and last segments with a yellow cross-band, two yellow longitudinal bands between the legs of all the segments, the bristles being brown. The young larva is light reddish with grey spots. — Cocoon elliptical, at both its ends extracted and very tapering, formed of a strong solid web, hairy, in the △ brownish, in the □ whitish. Pupae 79½ mm long. red-brown, at the last segment bristly. It particularly flies in July. Near Sydney and Darling Point common.

Ch. chalepteryx Flbr. (= felderi Trnr.) (46 f). △ forewing light reddish-brown with two narrow, black, oblique, almost straight transverse bands, one of which borders on the basal area, being at the hind-margin 6 mm, at the costal margin 8 mm distant from the base of the wing; in the costal area, midway between this band and the base of the wing, there is a black transverse stripe. The second band terminates into the apex of the wing and in the hindmargin not far from the anal angle, being almost straight and in front with a light centre. In the middle and at the end of the cell there is one ring-spot each. Hindwing in the basal half red, in the other half brown, the two halves separated by a feeble, indistinct black band. In the marginal area there is a broad, jet-black transverse band narrowly edged with light and distally defined in a zigzag shape. Expanse of wings: 85 mm. At first stated from the Cape of Good Hope, but in fact Australian, and before me from Queensland.


Palpi hairy and very short. Antennae long-combed, not longer than the thorax. Abdomen not or but little projecting beyond the anal angle. Legs rather thin; hind tibiae with two very small apical spurs. Wings with an almost straight costal margin, a rounded apex and very oblique distal margin; the first and second of the lower veins at the base close together, the third is much more than twice as distant from the fourth a from the second, — In the forewing vein 2 rises in or within the centre of the cell, 3 from 2 and 4 equally far away, 4 and 5 from the angle of the cell, but unmistakably separated, the discocellular is rather much curved or broken, 6 from the anterior angle, where also 7 rises, unmistakably separated from 6, 8 from the centre of 5 and terminating into the costal margin, 7 into the distal margin, 10 from the anterior edge of the cell, 9 rising from the apex of the remarkably long areola, the final vein of which extends quite transversely between 8 and 9 and very obliquely between 9 and 10.

N. flavescens Wkr. The △ is in the form flavifascia Wkr. ferruginous reddish, beneath lighter. Abdomen blackish-brown with a ferruginous reddish apex. Wings blackish-brown, towards the margin red, with a narrow, oblique, slightly undulate yellow band which is expanded towards the costal margin of the forewing. Hindwing beneath un-coloured red, except the yellow band. Expanse of wings: 24½ mm. From Tasmania, — The typical form, from Australia, is lighter, more yellowish and lighter brown. — ochrocephala Flbr. (57 a). The △ has in the costal area of the forewing two large, whitish spots situate close together and replacing the yellow band in the other forms. Abdomen with a transverse line and a longitudinal line. Ground-colour dark as in flavifascia. It may only be the ordinary female form of the species.

N. rubida Wkr. △ deep red. Head and prothorax dark ochreous. Abdomen beneath and legs golden rubida, red. Antennae black, Fringes golden yellow, and forewing with a similar spot on the costal margin, but on the outside of the centre without the median band of N. flavescens; its distal margin is almost straight and very oblique. Hindwing broad with a projecting anal angle. Expanse of wings: 33 mm. Australia.

47. Genus: Anthela Wkr. (Darala Wkr.).

Original diagnose: △ body thick, very hairy. Palpi hairy, porrect, scarcely extending beyond the head, the third joint small. Antennae almost pectinate. Legs bare, very thin, hind tibiae with two long apical spurs. Abdomen not reaching to the anal angle. Wings rather broad. In the forewing the second of the lower veins
are rather far away from the first, but not so far as from the third; the third is nearer to the second than to the fourth. — Vide the review on p. 364.

A. J. Turner divides the species of Anthela into three groups:

a) Vein 8 of hindwing not connected with the cell: synophona Trnr., ferruginosa Wlcr., parva Wlcr., heliopha Low., ocellata Wlcr., nicothoe BdL., repleta Wlcr., denticulata Neum., neurospasta Trnr.

b) Vein 8 of the hindwing is sometimes connected with the cell by a cross-vein: gueeni Neum.

c) Vein 8 of the hindwing is connected with the cell by a cross-vein: rubicunda Swh., phoenicias Trnr., pedica Swh., uniformis Swh., aspilota Trnr., oseisenum Luc., magnifica Luc., acuta Wlcr., excisa Wlcr., censors Wlcr., canescens Wlcr., achronata Trnr.

A. parva Wlcr. (46 b). ♀ reddish fawn-coloured. Antennae light brownish-yellow with brown pectinations. All the wings beneath and the forewing above with a small blackish discal spot. Palpi slightly projecting beyond the head. The abdomen of the ♀ reaches to 3/4 of the length of the hindwing. Forewing at the apex fuscous, and angle of hindwing almost rectangular. Expanse of wings: 24 1/2 to 28 1/2 mm. — Sometimes the forewing shows a black macular band and single black discal spots, whilst the hindwing has but one black spot: f. guttifascia form. nov. — Tasmania, South-East Australia, Victoria, Sydney. Probably closely allied with the following species.

ferruginosa. A. ferruginosa Wlcr. ♀ light ferruginous-reddish. The head, prothorax and chest darker. Antennae brownish-yellow. Wings with a small black discal spot which is the most distinct beneath, and with a series of black submarginal spots. Expanse of wings: 32 1/2 mm. — Another form has more distinct spots on the wings, walkeri, and each wing shows 2 or 3 extra spots (f. walkeri form. nov.). — Tasmania; South-East Australia (Sydney).

reducta. A. reducta Wlcr. ♀ brown, beneath lighter. Antennae with reddish-yellow pectinations. Forewing with two longitudinally arranged black spots, each of which encloses two yellow punctiform spots; beyond the second spot there is a series of dark brown spots and another similar one along the distal margin; beneath there is a single black spot. Hindwing lighter than forewing with a discal black spot. Expanse of wings: 30 1/2 mm. Australia.

denticulata. A. denticulata Neum. (= basigera Wlcr.). ♀ dark brown. Forewing with five oblique transverse lines composed of silvery grey moon-spots. The discal line of which is submarginal. Hindwing silvery grey, with three dark transverse lines, the first of which is undulate, the second and third being dentate. Expanse of wings: 41 mm. Adelaide, Melbourne. — undulata Fldr. (57 a) has only 4 transverse lines in the forewing and 2 silvery grey discal spots which may also be present in the type.

rubescens. A. rubescens Wlcr. ♀ red. Antennae whitish with black pectinations. Wings short and broad. Forewing at the apex somewhat roundish, the distal margin hardly oblique, anteriorly somewhat stunted. Hindwing extending beyond the abdominal apex. Expanse of wings: 41 mm. Australia.


minuta. A. minuta Swh. ♀ reddish fawn-coloured. Antennal shaft light, with brownish oblique and convex distal margin. Body darker than the wings which are darkest at the bases. Forewing with a small brown discocellular spot and an extinct light brown transverse line. Hindwing with a brownish discocellular spot, but otherwise uni-coloured. Expanse of wings: 28 mm. Australia (New South Wales).

censors. A. consors Wlcr. (36 c) [published as censors, which is probably a misprint]. ♀ ochreous; head with a black band before the antennae. Palpi blackish, short and obtuse. Antennae black, above speckled white. Wings short and broad, with a black zigzag line near the base and a black, slightly dentate distal line extending from 1/3 of the length of the costal margin of the forewing somewhat outside the centre of the hindmargin of the hindwing and being distally accompanied by a line of black dots. Forewing at the apex somewhat rounded off, with two white, black-edged discal spots and a blackish costal margin. Hindwing extending beyond the anal angle, beneath with two spots as in the forewing. Expanse of wings: 61 mm. Distinguished from A. conspersa (p. 368) by the dentate distal line on the wings. — Pupa and cocoon described in: Bull. Amer. Mus. Nat. Hist. 5 p. III (1891) by W. Beutemüller. South Australia, South-East Australia.

pinguis. A. pinguis Wlcr. ♀ yellow. Thorax with a broad faded fawn-coloured band. Wings in the basal areas fawn-coloured, this area being bordered by a purple brown, partly double zigzag line; a distal, oblique, purple brown, distally dentate band, enclosing a yellow line, is in the forewing only present at the hindmargin as
70 mm. $ 100 mm. Queensland. — Larva and pupa are found below bark.

Forewing falcate, with a brown discal spot. Hindwing with a brown patch in the anal angle. Expand of wings: 90 mm. Australia.

**A. canescens** Wkr. ♀ grey, lustrous. Antennae brownish-yellow. Wings with a thin, straight, oblique, greyish median band which is distally accompanied by a row of greyish spots. Forewing with two small reddish ocelli which are black in the centre. Hindwing with a reddish streak towards the end of the hind-margin. Expand of wings: 57 mm. Australia. — **deficiens** Wkr. The ♀ is very pale brownish-yellow and in some places purple-coloured. Described from North Australia.

**A. rubriscripta** T. P. Lucas. ♀ body and antennae brownish-yellow, palpi dark with creamy-white tips. Forewing brownish-yellow with four brown lines or bands, the first of which arises from near the base of the costa, extending at first for a short distance along the costal margin and then being curved towards the hind-margin; the second band is rather broad which extends in a similar way though very convexly curved towards the distal margin, from a brown costal spot at $\frac{2}{5}$ of the costa to $\frac{2}{3}$ of the hind-margin a dark brown line, whilst the fourth line being parallel to it is brownish-yellow. Fringes ochre-brown. Hindwing like the forewing with three bands. ♀ 33 mm. Mackay (Australia).

**A. rosea** T. P. Lucas, ♀ body, palpi, and antennae orange, thorax more pink. Forewing orange rosea, with pink veins and between them black dots; a black line from near the base, crossed by a smoke-coloured line and touching about in the centre of the wing a smoke-coloured band which extends from $\frac{3}{4}$ of the costa to the centre of the hind-margin; besides a submarginal, smoke-coloured band. Fringes creamy-yellow. Hindwing orange with a pink hue. Fringes creamy-yellow. ♀ 32 mm. The ♀ is slightly larger, but otherwise the same. Queensland. — The species is particularly characterized by the pinkish-red veins.

**A. haemoptera** Lowe. ♀ body and extremities mahogani-red. Antennae ochre-yellow with brown markings; an extinct curved band from $\frac{1}{4}$ of the costal margin to $\frac{1}{3}$ of the hind-margin, a distinctly marked white, black-ringed discal spot; a broad, almost straight and undulate band the anterior edge of which extends from $\frac{2}{5}$ of the costa to $\frac{3}{5}$ of the hind-margin and is irregular, whilst the posterior edge runs from $\frac{5}{6}$ of the costa almost to the anal angle and is dentate at the veins, each tooth being filled up by a black spot; a moderate marginal line; fringes reddish-ochreous. Hindwing reddish-brown, towards the base lighter, with a black discal spot and an almost straight row of black spots on the veins from the costal margin near the apex to the anal angle, which band is posteriorly bordered by a lighter band, as well as with an extinct brown marginal band; fringes like in the forewing. Expand of wings: 52 mm. Port Lincoln in Australia.

**A. magnifica** T. P. Lucas. Head black with a grey face. Palpi black. Antennae white with black markings; an extinct curved band from $\frac{1}{4}$ of the costal margin to $\frac{1}{3}$ of the hind-margin, a distinctly marked white, black-ringed discal spot; a broad, almost straight and undulate band the anterior edge of which extends from $\frac{2}{5}$ of the costa to $\frac{3}{5}$ of the hind-margin and is irregular, whilst the posterior edge runs from $\frac{5}{6}$ of the costa almost to the anal angle and is dentate at the veins, each tooth being filled up by a black spot; a moderate marginal line; fringes reddish-ochreous. Hindwing reddish-brown, towards the base lighter, with a black discal spot and an almost straight row of black spots on the veins from the costal margin near the apex to the anal angle, which band is posteriorly bordered by a lighter band, as well as with an extinct brown marginal band; fringes like in the forewing. Expand of wings: 52 mm. Port Lincoln in Australia.

**A. asciscens** T. P. Lucas. Body, antennae, and palpi black, ventrum grey, head brown. Forewing asciscens, smoky-grey, marked black, extending from $\frac{2}{5}$ of the costal margin to $\frac{1}{4}$ of the hind-margin there is a narrow blackish-brown band enclosing a sharply marked, round, white spot, a black band from $\frac{3}{4}$ of the costal margin to $\frac{2}{3}$ of the hind-margin; from $\frac{1}{4}$ of the costal margin to $\frac{3}{4}$ of the hind-margin a black sinuous line which is posteriorly bordered by a white line, and there is also a similar submarginal double line. Fringes brownish-grey. Hindwing blackish-brown with a darker band from $\frac{1}{5}$ of the costal margin to the centre of the hind-margin and with three sinuous transverse lines at $\frac{3}{4}$. The ♀ is a little larger and lighter than the ♀. — Allied to A. magnifica. ♀ 96—100 mm. Queensland. — Larva and pupa are found below bark.

**A. simplex** Wkr. ♀ brownish-yellow. Head, chest in front, and palpi red. Wings yellow. Wings with simplex, a narrow reddish median oblique band and two reddish discal spots. Forewing with some reddish markings along the costal margin. Hindwing beyond the median band slightly hued reddish. Expand of wings: 33 mm. — Described according to a specimen without the patria being stated; it is said to have been re-discovered near Sydney.

**A. plana** Wkr. ♀ is very closely allied to simplex, but it seems to have no discal spots. The median plana, band of the wings is distally accompanied by an indistinct row of black spots; between them and the distal margin likewise blackish spots. Expand of wings: 35 mm. Australia.
**ANTHELA.** By Dr. E. Strand.

\section*{A. conspersa Wkr. (\textit{=} quadriplica Wkr., potentaria Wkr.) is allied to \textit{consors} (36 c). Light yellow. Head with a reddish band. Palpi and legs red. Hind knees with a white spot. Wings with a reddish oblique median band and with different reddish spots and patches. Forewing with two small white discal ocelli edged with reddish. In the hindwing the median band is distally accompanied by a yellow band which is partly present in the forewing. Expanse of wings: 37 mm. South East Australia.}

\section*{A. excisa Wkr. (46 c). \♀ yellow. Head in front partly red like the palpi, tibiae and tarsi. Wings with a yellow band and brown spots. Forewing with two small white, black-edged discal ocelli and with two red spots near the anterior part of the distal margin which is bordered with red, where it touches the costal margin. Hindwing with two black discal spots which are the most distinct beneath, and a reddish mark near the anal angle. Expanse of wings: 33 to 50 mm. Sydney, Tasmania. — The best discernible from \textit{A. acuta} by the white-centred discal spot of the forewing.}

\section*{A. excellens Wkr. \♀ reddish fawn-coloured. Head whitish with a reddish spot between the antennae which are brownish-yellow. Legs for the greatest part whitish, a whitish spot at the end of each femur. Wings yellowish beyond the straight, oblique, ferruginous reddish band which extends from about \(\frac{1}{4}\) of the costal margin of the forewing to beyond the centre of the hind-margin of the hindwing and is edged with whitish; between it and the distal margin there are two reddish zigzag bands the angles of which are black. Forewing with two white, grey-edged discal ocelli. Expanse of wings: 82 mm. Australia. — A female from the Coll. Seitz which is before me, from Moreton Bay, with an expanse of 73 mm. I should like to place to this species, but the legs appear to be more fawn-coloured than whitish, though densely speckled with whitish scales; beside the large, purely white spot at the end of the femora there is a small one at the ends of the tibiae. The dark transverse band of the wings is not edged with whitish, but distally rather ochre-yellowish, whereas inside the light fawn-coloured ground-colour is directly contiguous. Between the band and the distal margin the colouring is dark brownish-yellow, and the two reddish zigzag lines are only yet discernible in the costal area. The discal ocelli of the forewing are almost punctiform and not white-centred. The distal margin of the forewing is very convex, the apex slightly falcate. Vein 8 of the hindwing far remote from 7 and connected with it by a very oblique transverse vein. I denominate this form (which may be a distinct species) \textit{moretonensis} form. nov. (46 c, as excellens).}

\section*{A. xantharcha Meyr. \♀ 63 mm. Head brown, antennae blackish, in some places speckled with light yellowish. Thorax blackish mixed with white and ferruginous reddish. Abdomen ferruginous-red, anal brush yellowish-white. Legs blackish, speckled with light yellowish, hairing of femora partly ferruginous red. Forewing triangular with a roundish and somewhat oblique distal margin; dark brown, densely strewn with white hairs, and with some light ferruginous red scales; three undulate brownish-black lines, the first of which extends from \(\frac{1}{4}\) of the costal margin to \(\frac{1}{3}\) of the hind-margin and is sharply angular above the centre, whilst the second and third are close together beyond the centre, feebly curved towards the base; discal spot small, round, white, encircled with black above the centre, directly before the second line; a distal-marginal band, almost without any white speckles, is at the proximal edge straight and dentate. Hindwing light whitish-yellow, of a brighter yellow towards the base, in the submedian fold with orange hair; an indistinct grey straight median line; a broad dark grey marginal band, speckled with yellowish-white, enclosing before the proximal margin a row of indistinct grey spots and an indistinct dentate subterminal line. Under surface of both wings whitish with a black discal spot and median line. Forewing centrally orange with a white, black-edged spot as above. Koolunga (South Australia).}

\section*{A. pyromacula Low. \♀ 48 mm. Body and antennae, also the pinnae (10). dark brown. Forewing shaped as in \textit{callispila}, dark brown, strewn with fine dingy white scales and more or less dark brown striated along the veins towards the margin, a black line along vein 2, a somewhat wedge-shaped orange-red, black-edged spot at the anterior end of the cell, a rather large, round, similarly shaped spot in the cell at the posterior end; fringes dark brown, very feebly marked darker. Hindwing with an almost straight distal margin, the colouring and fringes like in the forewing, basal half of the wing with long brown hair. Under surface of forewing and hindwing with one dingy white spot each at the posterior end of the cell. Broken Hill (New South Wales): in September.}

\section*{A. heliopa Low. \♀ 40 mm. Lighter and darker ochreous. Forewing somewhat yellowish, in the two basal thirds the darkest, with two curved, dark purple bands and a similarly coloured, whitish-centred discocellular spot, as well as a curved row of dark subterminal spots. Fringes yellow. Hindwing like the forewing, but the first line is absent. Western Australia; in October.}

\section*{A. callixantha Low. \♀ 40 mm. Canary-coloured. Forewing with four dark transverse lines, the 3 discal ones of which are almost parallel, the last being subterminal. Hindwing like the forewing, but the first transverse line is absent. West Australia; in December.}


A. nicothoe Bal. (= adusta Wkr., australasiae H.-Schäff.) (36 c as australasiae). ♀ fawn-coloured, palpi partly blackish, antennae brownish-yellow. Wings with three black bands, the antemedian one being broadest and strongly curved, in the hindwing anteriorly blurred, the second extends postmedianly in the forewing, almost medially in the hindwing, being distally bordered with red and composed of small crescentiform spots, the third extends almost midway between the second and the margin and is proximally dentate. In the forewing two light discal spots with darker borders. Expanse of wings: 86 mm. Hobart (South Australia).

A. ochreoptera Low. ♂ 55 mm. Allied with D. ocellata Wkr. (46 c). Body and legs pale whitish ochreous; ochreoptera.

A. linearis T. P. Luc. ♀; body, palpi and antennae light cinnamon-brown; forewing of the same linearis.

A. succinea T. P. Luc. ♂ ♀ body, antennae and palpi amber-coloured, legs blackish brown. Forewing succinea.

A. scortea T. P. Luc. Head, antennae, thorax and abdomen chamois-coloured or (in the ♂) ochreous scortea.


Completed 20. XI. 1915.

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of black spots parallel with the band, and beyond the wings are lighter and with an indistinct row of brown spots. Beneath without a band, the spots usually white-pupilled. Hindwing above with more or less blurred spots, beneath they are very distinct and white-pupilled. ♡ with a greyish hue. Forewing along the costal margin whitish, along the termen grey, the spots with white pupils. Expanse of wings: 37—69 mm. — Sometimes the whole insect is fawn in both sexes, excepting the spots and bands of the wings (= dama form, nov.). — Another form is light fawn, the head, prothorax, and the costal area of the forewing white, the wings with two indistinct whitish, slightly undulating discal bands, the forewing with two white, brown-edged ocelli; the hindwing above with a brown spot, beneath with two white, brown edged ocelli (= tasmaniensis form, nov.). —

A. curanda Str. sp. nov. (46 c). ♡ the most closely allied to A. ocellata (46 c). Forewing dirty greyish-brown with 4 hazy and indistinct blackish narrow transverse bands the two distal ones of which are parallel to the margin, equidistant from each other and from the latter, and sharply broken in a zigzag shape. The median band begins on the centre of the costal margin, extending at first almost vertically to the margin, then rectangularly broken in area 5, from where it runs almost parallel with the distal margin to the inner margin. The discocellular spot is deep black, transversal, crescentiform, towards the margin concavely curved and edged with rusty yellowish. A similar though smaller and longitudinally placed spot in the cell and a small black punctiform spot near the base. Hindwing grey, in the marginal area a bit lighter with a blackish discocellular punctiform spot. Under surface of both wings uniformly grey with a small blackish discocellular spot, in the forewing besides with a similar small spot in the centre of the cell. Expanse of wings: 53; length of wings: 24; length of body: 22 mm. Kuranda (Queensland).

A. uniformis Sch. ♡. Reddish fawn with a yellowish antennal shaft and brown pectinations. Forewing and body slightly darker than hindwing. Forewing with a white spot in the centre of the cell and another one at the end of it. Forewing beneath with a white spot at the end of the cell and a larger similar one at the end of the hindwing. Expanse of wings: 44 mm. Queensland.

A. niphomacula Low. is presumably not specifically different from uniformis. Described as follows: ♡ 46 mm. Head, palpi, and legs dull reddish carmine. Antennae carmine-whitish, 10 pectinations, dark brown. Forewing oblong-triangular, termen almost straight; dull carmine-brownish, a whitish spot in the cell at 1/2 of the length of the wing, and a similar spot at the end of the cell, both indistinctly edged with brown; fringe reddish ochreous. Hindwing coloured as forewing, the basal two thirds lighter and somewhat ochreous, fringe as in forewing. Hindwing beneath with a single white, dark-edged spot at the end of the cell. — Allied with A. rubescens Wkr. (56 C e) though at once discernible by the white spots. — Duaringa (Queensland); in November.

A. callispila Low. ♡ 46 mm. Head and thorax ochreous brown, face ochreous, palpi above brown, below ochreous. Antennae whitish, with 10 pectinations of dark brown colour. Abdomen ochreous brown, anal brush ochreous. Legs ochreous brown. Forewing oblong-triangular with a rounded margin; dark ochreous brown, with fine ochreous hair-scales along the costal margin; markings snow-white, very distinct; a moderately large elliptic spot at the anterior edge of the cell, a large round spot at the posterior end of the cell; fringe yellowish ochreous. Hindwing with an almost straight margin; coloured as forewing; at the posterior end of the cell a not very distinct white spot; fringe as in forewing. Forewing beneath of a brighter ochre colour, especially in the cell, spots as above. Hindwing similarly coloured, but with another round white spot in the cell at 1/8 of the length of the wing. The species is characterized by the white spots on the ochreous ground. Broken Hill (New South Wales); in April.

A. inornata Wkr. ♡ light yellow. Palpi and prolegs rusty reddish. Antennae brownish yellow. Wings with a band of black spots which are indistinct and very small. Forewing with two small black discal spots. Expanse of wings 57 mm. Swan R. in Australia.

A. subfalcata Wkr. (56 C f) ♡ light fawn-coloured. Palpi above black. Antennae below golden yellow with brownish-yellow pectinations. Abdomen above reddish-yellow, excepting the base. Wings with a narrow oblique red band extending from 2/3 of the costal margin to the centre of the posterior margin of the hindwing, and with an exterior row of red spots; near the base of each wing a very much interrupted reddish band.
Forewing with two small whitish, red-edged ocelli and a red mark near the apex of the wing. Hindwing with two black spots corresponding to the ocelli of the forewing, and with a red streak along the posterior margin towards the apex. Expanse of wings: 43 mm. The ♂ is grey, with a very faint reddish hue. Wings with a reddish oblique band which is outside accompanied by a series of blackish spots. Forewing with a few reddish marks near the costal margin and with two white, black-edged discal spots. Expanse of wings: 45 mm. Tasmania, Australia (New South Wales).

**A. hamata** Wkr. (= latifera Wkr.) (56 B e). ♂ light fawn-coloured. Wings with a broad brownish oblique band extending from ¾ of the costal margin of the forewing to the centre of the posterior margin of the hindwing and enclosing a row of light spots and being inside bordered by a narrow dark brown band which is outside edged with a reddish yellow. Forewing falcate, with a rather broad, zigzag-shaped, light brown band at ½ of the length; this band is quite indistinct in the hindwing. A small brown discal spot is present. Expanse of wings: 79 ½ mm. ♂ (= uvaria Wkr.) shows a slight purple hue, with a brown, anteriorly pale purple head and also somewhat differently marked wings which have an expanse of only 67 mm. Australia (Sydney, Moreton Bay). — The larva lives solitary on Eucalyptus from March till June, and attains a length of up to 86 mm; it is below smooth and jet-black, but above densely haired, the hairing of the 3rd to 11th segments being short and red, but laterally blackened, the posterior margin of each segment exhibits besides 5 purely white long hairs on pencils, and before them are round yellow protuberances. The 3 anterior and 2 posterior segments are much more densely and longer haired, so that nothing is to be seen of the tegument and the anterior and anal ends are only recognizable when the larva is moving. — The imagines fly from the middle of February.

**A. sydneyensis** sp. nov. (46 g). ♂ Forewing pale creamy with black markings, namely: a narrow subbasal transverse band extending only between the costal margin and the centre of the basal area and being almost vertically directed towards the costal margin, and an almost twice as broad, very irregular, midway very narrow, antennemedian (almost median) transverse band; these two bands run almost straight; a third band is postmedian (or sublimbal), parallel to the distal margin and divided by the ground-colour into two likewise almost linear bands, the exterior of which is twice or oftener interrupted and in some places expanded like a spot. Fringe of the ground-colour. Hindwing blackish-grey. Under surface of both wings grey with black, irregular and blurred spots; two on the costal margin, two in the posterior half of the marginal area, and a small discocellular spot; hindwing with 2 or 3 patches, head and thorax like the ground-colour of the forewing, palpi, frons, eyes, edges of the eyes, and metadorsum black. Pectinations reddish-brown. Expanse of wings: 48 mm. Vein 8 of hindwing connected with 7 by a bar. Sydney (Coll. SEITZ in the Senckenberg Museum at Frankfurt).

**A. repleta** Wkr. ♂ rusty reddish-brown, palpi below red. Antennae whitish brownish-yellow with repleta. reddish-yellow pectinations. Wings with two narrow, oblique, brownish-yellow transverse bands which are composed of crescentiform spots and partly bordered with black. Near the base an irregular black band. Forewing with two small white, black-edged discal spots and two brownish-yellow marks between the interior ocellus and the base of the wing. Expanse of wings: 53—61 mm. — A female form is reddish-yellow, the bands of the wings are broader and more distinct, the discal ocelli larger (f. repletana form. nov.). — Tasmania.

**A. cinerascens** Wkr. (46 g). ♀ red-grey, with brownish-yellow antennae. Wings with three indistinct cinerascens. blackish bands, forewing with two white, black-edged ocelli. Abdomen extending to ¾ of the width of the hindwing. Antennae very much longer than thorax. Expanse of wings: 49 mm. — cerinella form. nov. is more cinerella. fawn-coloured, the wings with a rather broad red band and an exterior row of black spots. Forewing with a white, black-edged ocellus. — Tasmania.

**A. obscura** Wkr. (58 b) ♂ greyish-brown. Head and legs partly rusty reddish. Antennae whitish with obscura. blackish pectinations. Thorax blackish-brown. Forewing with two narrow blackish, zigzag oblique bands, the inside of the first and the outside of the second being yellow. Hindwing with a brown band corresponding to the exterior band of the forewing. Expanse of wings: 39 mm. — According to WALKER the type is from an unknown patria, whereas SWINHOE states it to be from Australia; apparently no other specimen is known.

**A. connexa** Wkr. ♀. Dark fawn-coloured. Wings with three black oblique bands, the second of which connexa. is narrower than the first and spot-shaped and on the hindwing less distinct, whereas the third is submarginal and broader than the first. Forewing with two white, black-ringed discal ocelli which are connected by two black lines. Expanse of wings: 49 mm. — The ♂ (= fervens Wkr.) is of a rusty reddish colour. — Tasmania.

**zonata** Flkr. (57 a) is mentioned by SWINHOE as a synonym of connexa, but if the descriptions resp. figures of zonata.
these forms are correct, they must certainly be separated. *zonata* has only two black bands on the wings one being submedian, the other, frequently broader band being at the margin, whilst the fringe is fawn resp. reddish-yellow like the surface of the wings. Tasmania.

**A. postica** Wkr. (56 C f). ♀ rusty reddish-brown, beneath yellow. Head in front and palpi below brownish-yellow. Forewing with two black, white-centred ocelli and three brown oblique bands, the first extending across the first ocellus, the second beyond the second spot, whilst the third is zigzag-shaped and submarginal. Hindwing in front yellowish, similarly marked as the forewing. Expanse of wings: 59 mm. Australia.

**A. varia** Wkr. (= odenestaria Wkr.) (56 B c). ♀ brownish-yellow, head in front blackish, palpi and legs for the greatest part black. Antennae yellow. Wings with a double zigzag-shaped, blackish band at 1/3 of the length and with a thin oblique yellow band beyond the centre, this band being outside accompanied by a row of black spots and inside by a blackish patch; fringe yellow; two black discal spots. The said spots arranged in a row are all connected by a black line in the hindwing, but only partly in the forewing. Expanse of wings: 57 mm. Australia.

**A. delineata** Wkr. ♀ light yellowish fawn-coloured. Head in front with a purple band. The thick obtuse palpi are purple. Abdomen with a very small apical brush which is purple at the tip. Legs above also purple the posterior femora and tibiae are white at the tips. Wings with an interrupted black zigzag transverse line near the base and with an exterior straight, oblique, brown or ochreous line which is sometimes undulating in the forewing, and with a submarginal line composed of brown dots. Fringe ochreous. Forewing pointed, almost falcate, and with two brown, white-dotted discal spots. Hindwing with a purple diffuse spot near the end of the posterior margin. Expanse of wings: 43 mm. Australia.

**A. rufifascia** Wkr. ♀ greyish fawn-coloured, head and thorax hued with reddish. Antennae feebly pectinated. Abdomen not projecting beyond the anal angle. Wings finely speckled black, with two red, extinct, almost straight oblique bands and two dentate brown lines: one within the first oblique band, the other outside the second band. Beneath no bands. Forewing pointed, scarcely falcate, with two white, black-edged spots, one in the first band, the other between the bands. Expanse of wings: 49 mm. Tasmania.

**A. ferruginea** Wkr. (= diophthalma H.-Schiff.) (46 b). ♀ varying between reddish and yellowish shades. Palpi, tibiae and tarsi black. Antennae yellow with brown pectinations. Legs with a white spot at each knee. Wings with a narrow reddish oblique band from the centre of the posterior margin to 2/3 of the costal margin, outside bordered with a lighter colour. Midway between the oblique band and the margin there is a row of black spots. Forewing with two small, black-edged ocelli. Expanse of wings: 30 1/2—37 mm. ♀ fawn-coloured Forewing with two reddish bands, the proximal one inside and the distal one outside bordered with brown. Expanse of wings: 45 mm. Tasmania.


**A. integra** Wkr. (56 C f). ♀ yellow, head, tibiae and tarsi whitish. Palpi whitish, above yellow. Antennae whitish with brownish-yellow pectinations. Anterior tibiae inside reddish. Wings with a straight, oblique, narrow red band extending from 2/3 of the costal margin of the forewing to the centre of the posterior margin of the hindwing; beneath with two white, black-edged discal spots on each wing and with an indistinct row of black spots beyond the band. Costal area of forewing reddish. Hindwing lighter than forewing, towards the costa yellowish. Expanse of wings: 43 mm. Australia.

**A. protocentra** Meyr. ♀ 48 mm. Body and legs dull brownish-red. Antennae whitish with reddish-brown pectinations (10). Forewing triangular with a roundish, slightly oblique margin, rather light red-brown with an ochreous line; a white discal spot at 1/3 and another similar one in the middle; an indistinct, fine, sinuate, feebly curved, darker reddish postmedian line; a feebly curved subterminal row of black spots. Hindwing: ground-colour and subterminal spots as in forewing; an indistinct feebly undulating reddish line at 1/3 and another one in the centre. Fernshaw (Victoria); in November.

**A. asterias** Meyr. ♀ 38 mm. Body, palpi, antennae and legs light reddish-brown; pectinations of antennae dark brown (12). Forewing triangular with a roundish and hardly oblique margin; rather light
reddish-brown; a white discal spot bordered with a darker edge at $\frac{2}{5}$ and another one at $\frac{3}{5}$. Hindwing light reddish-brown. Melbourne (Victoria); in November.

*A. complans* Sieh. ♀ light yellow. Palpi below reddish, above brown. Antennae with light reddish-brown pectinations. Forewing with the two usual brown cellular spots, a narrow brown antemedian transverse band. Both wings with a brown, straight, luniform discal band exhibiting inside luniform brown spots, and with orange fringes. Expanse of wings: 58 mm. Australia.

*A. unisigna* Sieh. ♀ Antennae blackish-brown with whitish shafts. Palpi and frons blackish-brown. Thorax lighter and darker chestnut-brown. Abdomen light red with a white anal brush. Forewing light ochreous grey, with a brownish-grey submedian band in which there is a distinctly marked white spot encircled with brownish-black at the end of the cell, another similar though narrower transverse band and a broad brownish-grey marginal band. Hindwing almost white with a similar marginal band. Under surface white, seantily marked; chest and legs brownish-grey. Expanse of wings: 56 mm. Sherlock River (West Australia).

*A. ostra* Sieh. ♀. Antennae black with white shafts. Palpi, frons, head, shoulder light ochreous. Thorax ostra. blackish-brown. Wings black. Forewing with one yellow spot each in the cell and at the end of it, a yellow costal margin, the exterior half of the fringe and a sublimbal row of spots likewise yellow. In the hindwing the sublimbal yellow spots are larger and the whole fringe yellow. Abdomen orange. Under surface ochreous and yellow, hindwing however beneath black with a yellow cellular spot and marginal band. Expanse of wings: 41 1/2 mm. Adelaide.

*A. binotata* Btlr. (56 C f). Whitish grey. Forewing with a dark-edged spot almost in the centre and a binotata, reniform spot at the end of the cell; these two spots are situated between two grey, somewhat dentate transverse streaks which are curved towards the costa, but otherwise parallel to the margin; besides with an indistinct submarginal row of spots and indistinctly spotted fringe. Hindwing with pale fringe. Beneath the wings are pearl-coloured grey with golden brown margins. Expanse of wings: 51 mm. Peak Downs (Australia).

*A. charon* B.-Bak. ♀. Body and wings very dark smoky brown, both wings with a darker oblique charon, postmedian line. Forewing with a white spot in the cell and another larger one at the end of it. Expanse of wings: 59—60 mm. British New Guinea, at an altitude of 6000 ft., July — August. — Specimens from the Kebea Range, l. e., are less dark, with traces of one irregular antemedian and median line each, and a row of dark blotches outside the postmedian line (= ab. kebea n. ab.).

*A. ekekei* B.-Bak. ♀ brownish-grey, palpi blackish. Forewing with an antemedian, very irregular, ekekei, reddish-brown line, a similar median line, a small dark spot in the cell and a larger one beyond the cell, a postmedian, distally white-edged line and a row of dark spots in the marginal area. Hindwing distinguished by the absence of the median line; beneath with two black spots in the cell. Expanse of wings: 57—60 mm. British New Guinea, January—March. — The species is rather variable; the two dark spots of the forewing may be provided with a white pupil (= pupillifera form. nov.), the median area between the two lines is sometimes of a particular colour, either dark grey or reddish (= mediana form. nov.), and sometimes all the markings are blurred (obsoletipicta form. nov.).

*A. stygiana* Btlr. (56 C f). ♀: forewing grey with a white, black-ringed spot in the cell, connected by stygiana, a black line with a similar spot at the end of the cell, and with 5 black transverse zigzag lines. Hindwing creamy yellow, in the last third ashy grey, at the base brownish-yellow and with a black transverse streak in the basal third, in the marginal area with a black undulating line and with a submarginal row of white spots. All the fringes black, spotted white. Body black with single white hairs, abdomen silky white, on the sides with a few red hairs. Antennae white with grey pectinations. Expanse of wings: 63 mm. Melbourne.

*A. figlina* Sieh. ♀ dark olive brown, frons ochreous and with a similar spot in the cell, a larger double figlina, spot at the end of the cell, and a discal band of indistinct black lines on the veins. All the fringes ochreous. Expanse of wings: 29 1/2 mm. West Australia: Sherlock River.

*A. clementi* Sieh. ♂ brown. On looking at the insect from a certain direction both its wings above clementi, show traces of a dark median transverse band, and near the base there are a few long grey hairs. Under surface a little lighter. Frons with a reddish hue. The ♂ is lighter. Expanse of wings: ♀ 34 1/2, ♂ 39 mm. West Australia: Sherlock River.

*A. tritona* Sieh. ♀ antennae black with light red shafts. Palpi and frons black, on the sides ochreous. tritona. Head brown. Thorax and abdomen blackish chestnut with a bronze reflection, in the ♂ the abdomen shows rings formed of long red hairs. Forewing black, speckled with grey, with three black transverse bands nearing
each other, the distal one enclosing a small light spot at the end of the cell; another black discal band is outside bordered with white and near it towards the apex there is a distinctly marked white, feebly dentate band. Hindwing light brown, with an ochre hue and a broad, dark, brown antemedian band and a double, white, sinuate band before the blackish margin. Expanse of wings: 98, $ 113 mm. Queensland.

**flavata.**

A. flavata Swh. $ unicoloured rather bright yellow; palpi above brown; both wings with a grey spot in the cell and one at the end of it, with traces of an interior, distally curved transverse line and of a broader postmedian line, followed by two fine notched lines. Beneath as above. Expanse of wings: 39 mm. Sherlock River (West Australia).

**crenulata.**

A. crenulata Swh., $ palpi reddish-brown; antennae, head, body, and wings above and beneath unicoloured ochreous grey; forewing with a small brown spot in the cell and a larger one at the end of it, a brown antemedian transverse band within the first spot and continued right across the hindwing, a uniformly notched line extends across both wings. Fringes of both wings ochreous. Expanse of wings: 69 mm. Fremantle (West Australia).

**expansa.**

A. expansa T. P. Lac. $ Head and antennae creamy ochreous, collar black, palpi brown, abdomen light fawn. Forewing dark intermixed with red scales, in the basal fifth whitish with a smoke-coloured exterior border-line from \( \frac{1}{6} \) of the costal margin to \( \frac{3}{4} \) of the posterior margin, and with a jet-black, posteriorly lighter-edged line from \( \frac{2}{3} \) of the costal margin to \( \frac{1}{2} \) of the posterior margin; discal spot large, creamy ochreous, edged with black. Marginal line and fringe smoky brown. Hindwing ochreous, seantily marked lighter and darker. $ 118 mm. Australia (Dawson River).

**adiana.**

A. adriana Swh. $ Head, body and wings chestnut-brown, prothorax and marginal areas in both wings slightly darker. Beneath lighter. Expanse of wings: 34 1/2 mm. West Australia (Sherlock River).

**rubricia.**

A. rubricia Swh. $ antennal shaft red, pectinations black. Wings and body above and beneath as well as the legs unicoloured light rosy-red. Expanse of wings: 39 mm. West Australia.

**pudica.**

A. pudica Swh. $ antennal shaft ochreous white with black pectinations. Head, body and wings white with a flesh-coloured hue. Expanse of wings: 39 mm. West Australia.

**vinosa.**


**phoenicias.**

A. phoenicias A. J. Trnr. $ unicoloured purple without markings. Queensland, North-West Australia; in January and February. 36—42 mm. — Larva on Eucalyptus sp. — It is surely closely allied with *rubricia* Swh.

**aspilota.**

A. aspilota A. J. Trnr. $ light brownish ochreous without markings. Vein 8 connected with the cell by a bar. 44 mm. Queensland, in January.

**neurospasta.**

A. neurospasta A. J. Trnr. $ whitish. Face and palpi ochreous. Pectinations dark. Forewing whitish with darker strigae; one along the costal margin, one from the disc at \( \frac{1}{4} \) to the margin, one along the fold to the posterior angle, and six shorter ones terminating into the margin. Hindwing as forewing, but without the costal streak, and the dorsal streak not extending to the base (? cf. forewing!). 38 mm. Queensland.

**limonea.**

A. limonea Bltr. (58 b) $ Wings lemon-coloured with a rusty reddish postmedian transverse line and an ochreous line midway between the former and the base of the wing, both bands beginning on the costal margin in a lead-coloured nebulous spot; besides two angular rusty reddish marks on the costal margin and an indistinct lead-coloured undulate line outside and parallel to the said postmedian line; beneath the wings exhibit two brownish spots in the cell. Body yellow, beneath somewhat golden. Expanse of wings: 43 mm. $ wings ochreous with a paler discal spot and a brown, distally yellow-edged postmedian line and an obsolete ochreous line towards the base, and a slate-coloured undulating line. Forewing with 2 brown spots at the end of the cell. Body light ochreous, analwards darker. Wings beneath ochreous with slate-coloured transverse lines and two brown spots in the cell of the hindwing. Australia (Rockhampton).

**guenei.**

A. guenei Neum. $ Wings blackish-brown, with two white spots on each wing, the larger one at the end of the cell, the smaller one in the centre of it. Fringe reddish-yellow. Body reddish-yellow, thoraceal dorsum however brown and abdomen, especially in the anal half, with narrow black transverse bands. Expanse of wings: 45 mm. Australia (Victoria).
A. elisabetha White. ♂ (58 a) light fawn-coloured. Head in front, palpi, chest and legs reddish. Antennae elisabetha. white with brown pectinations. Abdomen above brownish-yellow, beneath reddish. Forewing with an oblique band of brown spots, at \( \frac{3}{4} \) of its length; under surface and hindwing reddish. Expanse of wings: 37 mm. King George's Sound.

A. epicrypha Swh. ♂ pale vermilion-grey, very monotonously coloured, with traces of an antemedian epicrypha. curved grey line, a brownish discocellular spot, a discal sinuate grey line, then a notched grey, somewhat spotted line; these two lines are divergent towards the costa in the hindwing, the inner line here corresponding to the exterior line on the forewing. Expanse of wings: 90½ mm. New South Wales.

A. carneoicincta Swh. ♀ uniformly ochreous grey with a flesh-coloured hue, the ♂ being darkest. Antennae, palpi, chest, ventrum, and legs ochreous. Forewing with a brown spot in the cell and one at the end of it, an indistinct notched grey line extends across the surface of both wings and almost parallel to the margin. Fringes in both wings ochreous. The ♀ shows besides an interior discal double band in the forewing and traces of a similar band in the hindwing, as well as traces of an antemedian transverse band in both wings. Expanse of wings: ♂ 66, ♀ 86 mm. Fremantle.


♂: palpi porrect, short, thin. Antennae bipectinate. Middle and hind tibiae with short terminal spurs. In the forewing veins 2, 3 and 4 are equidistant from each other, 5 from the angle, 6 from the anterior angle; areola very long, from the centre of its posterior side 7 proceeds, from its apex 8 and 9, 8 terminating into the apex or very shortly before it, whereas 10 rises from the apical third of the anterior margin of the areola. Hindwing: veins 2 and 5 as in forewing; the discocellular is angled, 6 and 7 rise from the anterior angle, 8 is distantly remote from 7 and connected with it by a bar.

Ch. rufa Swh. ♂ orange-red. Forewing with a small black discocellular spot and a light grey sinuate rufa. antemedian line and two similar bands across the surface of the wing. Under surface lighter, forewing with a brown spot in the cell and at the end of it. Expanse of wings: 59 mm. Queensland.

Appendix.

On the editor's request I append here to the Lymantriidae a small group of Australian genera most of which were hitherto ranged among the Lymantriidae, though they differ from them in vein 5 of the forewing rising at the same distance from 6 and 4, or nearer to 6 than to 4, etc. In this respect and also otherwise the "Teareas" correspond rather well with the Eupterotidae in which family they were also inserted e. g. by Turner (1902) and Swinhoe (1903). The habits of the larvae are very much like those of our processionary larvae and are presumably the most closely allied to the family of Thaumetopoeidae, as I had already ascertained in Vol. II, p. 143. They differ, however, in the scaling of the wings not being thin and intermixed with hairs as in the Thaumetopoeidae, but very dense, the apex of the wings being mostly rather sharp, the termen oblique and convex, the type of marking different; an areola may be present, veins 6 and 7 of the hindwing are on a long stalk, 3 and 4 of the same wing, however, distantly separated from each other, 8 being also separated from 7, though they are nearer together. — Moreover these genera are somewhat different among themselves, and as part of them are unknown to me and their original descriptions are very insufficient, their systematic position remains questionable for the present.

1. Genus: Epicoma Hbn. (Marane Wkr.)

Mostly small lepidoptera with pointed forewings and a straight costal margin and oblique distal margin, the colour being mostly blackish with a lighter margin and marking of the fringes, or silvery greyish. In the forewing veins 2—4 are almost equidistant and rather remote from each other, 5 is equidistant from 4 and 6. 6 rises behind the angle of the cell and also remote from 7 which rises from the angle and is stalked with 8 + 9 + 10. 8 terminating into the apex of the wing, 9 and 10 into the costal margin, 10 rising almost as distantly from the base of 7 as from 8 + 9. Thus there is no areola present. In the hindwing 3 is about twice a distant from
2 as from 4, 5 about equidistant from 4 and 6, 6 and 7 being stalked, 8 for a long distance very near to 7 though not connected with it. Thorax and head clad with long, projecting and bristly hairs, the wings densely covered with mostly smooth and frequently remarkably large scales, abdomen mostly with appressed hair and scales, in the ♀ with an anal tuft, in the ♂ with anal wool, and besides the last ventral segments may be clad with dense and projecting hairs. Hind tibiae only with terminal spurs.

**E. tristis** Lev. (46 g, 57 b). ♀ forewing with a whitish ground-colour, rather densely and finely speckled with brownish, so that at first sight the ground-colour is rather inconspicuous, with a large jet-black irregularly quadrangular discocellular spot enclosing a light spot, a row of purely white, brown-edged marginal spots, and dark fringe with yellow spots. Costal margin and posterior margin slightly darker. Hindwing black with small white marginal spots and yellow, scantly brown-spotted fringe. Head and thorax brown, abdomen black with yellow spots and anal wool. Length of wings 20 mm. The ♂ is smaller (length of wings 13—14 mm) and the forewing exhibits two blackish transverse bands almost parallel to the margin, the exterior band bordering on the white marginal spots, whilst the interior band touches the discocellular spot on its outside, where it is also connected with the exterior transverse band by a black longitudinal band. Outside and inside the discocellular spot there is one small purely white spot each. The abdomen is less spotted yellow than that of the ♀. Described from New South Wales. Sydney, Rockhampton; Brisbane. — **contristis** Hbn. (57 e). The ♂ is larger (length of forewing 16—17 mm), the discocellular spot is smaller and isolated, the two black transverse bands are not connected by a similar longitudinal band, and the whole insect appears to be neater than **tristis**. Beneath the basal area of the forewing is bright yellow and both wings exhibit a yellow sublimbal band and yellow limbal spots. — The larva (50 mm long) of **tristis** Lev. is figured by Lewin as follows: ground blackish, each segment beginning from the 3rd or 4th shows above two light longitudinal stripes which are yellow in front and red behind, as well as a red median transverse band, besides a light longitudinal band extends over the sides, but all these bands are rather inconspicuous; head in front yellow with a black angular marking, behind reddish. Hairing apparently reddish and brownish. Larva found in January on Pultenoea villosa Willd., pupating in February and yielding the imago in March; the pupa rests in a loose brownish web which is fastened underneath branches of the food-plant and very insufficiently covered by leaves that are spun together. The larva of *Epic*. **tristis** is generally very slow and lazy and is mostly found clinging to low plants.

**E. pontificalis** Rosenst. is very similar to **contristis** Hbn., but: 1) the exterior border of the yellow discal area on the forewing beneath is quite straight instead of being indented in the middle, 2) on the hindwing beneath there is no yellow submarginal band present (in accordance with **tristis** Lev., which however lacks this band also in the forewing), 3) the abdomen has but one yellow spot on the centre of the dorsal area. South Australia.

**E. derbyana** sp. nov. (46 g, 57 b). ♂ expanse of wings: 28 mm. Above black with black fringes and yellowish markings (cf. fig. 46 g). Head and thorax brownish-yellow, abdomen black with an orange yellowish anal brush. Beneath the wings are black, in the forewing towards the base a little lighter, all the wings with light marginal spots as above, the fringes with traces of light punctiform spots or streaks. Legs blackish. Derby (Coll. Seitz). Certainly closely allied with **E. tristis**.

**E. melanosticta** Don. has glossy silvery white forewings with two narrow postmedian yellow oblique bands subparallel to the margin, a yellow, black-ringed, transverse discocellular spot and indistinctly darker speckled fringe. Hindwing yellow with two blackish blurred bands almost parallel to the costal margin which are connected with each other and with the margin by dark longitudinal streaks. Head and thorax white, antennae blackish like the abdomen. Hindwing sometimes altogether blackened. Expanse of wings: 38 mm. — Sydney, Kuranda.

**E. walkeri** Strand nom. nov. *) (= melanosticta Wlk. nec Don.) (57 b) like **melanosticta** has silvery white forewings which, however, exhibit a roundish jet-black discocellular spot and a black postmedian transverse band touching or almost touching the former, as well as blackish dusting along the posterior margin; costal margin also black though very narrow. Hindwing for the greatest part blackened resp. the two bands in **melanosticta** are here confluent. Head and collar white, rest of body black with yellow transverse bands on the abdomen and a yellow anal tuft. Expanse of wings: 35 mm. Sydney.

**E. melanosiplia** Wallgr. (57 b) with a silvery white forewing, without bands but with a large jet-black discocellular spot and a black margin with more or less blackened fringe. Sydney.

*) In honour of Francis Walker, one of the most eminent entomologists that ever lived, but who just for this reason has been calumniated and insulted by envious and narrow-minded "colleagues" and whose memory is still mocked and bullied by thoughtless and dishonest prattlers who thereby try to pose as superior explorers. (Strand.)

**E. argentosa** T. P. Luc. (= argenta Trnr. nee Wkr.). ♀ 28, ♂ 46 mm. Head and thorax creamy white, argentosa. Antennae brown. Forewing elongate, costa almost straight. Colouring creamy yellowish, speckled with silvery and scarcely dusted with ochreous brown; the markings blurred, light ochreous brown, discocellular spot small and frequently indistinct, from 1/2 of the costal margin to 3/4 of the posterior margin a band which is the most distinct in the ♀, a submarginal dentate line the notches of which touch the marginal line, fringe creamy yellowish. Hindwing creamy yellowish in the ♀, light brown in the ♂, shaded near the base, from 3/4 of the costal margin to 3/4 of the posterior margin there is a band, a sublimbal line and a limbal line are light ochreous brown and connected by short longitudinal lines; these markings are rather indistinct and in the ♀ more light brown; the long hairing of the posterior margin is light brown, the fringe creamy yellowish. Dauringa in Queensland.

**E. prothahens** T. P. Luc. ♀ 27—30 mm. Head, palpi, and antennae ochreous brown. Abdomen prothahens. Ochreous brown, the base of each segment is black, the anal hairing ochreous brown. Forewing oblong triangular with a rounded costa, grey, and speckled with brown and black scales, a very large discal spot beyond the centre and near the costa is creamy yellowish with a brown centre, a sublimbal row of 8 creamy yellowish spots and a similarly coloured interrupted marginal line; fringe ochreous and brown. Hindwing smoky black, in the ♀ a row of creamy yellowish marginal spots which are reduced in the ♂ to three small ochreous spots near the anal angle, the fringe in the ♀ ochreous, in the ♂ smoky brown and ochreous. The ♀ is generally lighter than the ♂. Brisbane.

**E. zelotes** A. J. Trnr. ♀ 30—33 mm. Head whitish with an ochreous face. Antennae dark grey. Thorax zelotes. Light grey. Abdomen blackish, the anal brush and a median row of spots ochreous. Forewing oblong-triangular, with a slightly curved costal margin and an obliquely rounded distal margin, snow-white, on the costal and posterior margin speckled with brown and ochre, an ochreous, dark-edged, roundish discal spot, a broad ochreous brown oblique line from 1/5 of the costal margin to 8/10 of the posterior margin; fringe light ochreous, at the apex and a row of 4 basal spots dark brown. Hindwing ochreous with a narrow blackish band parallel to the distal margin at 4/5, and a feeble dark subterminal line. ♀ 34—36 mm. Face grey. Forewing more speckled, and the oblique line lighter. Hindwing dark brown, at the base whitish-ochreous with a terminal row of ochreous spots. — Larva gregarious on Eucalyptus platyphylla, hiding during the day. Queensland, November and December. — Near Cape York in Queensland a male form occurs with less brightly coloured hindwings which show a broader darker band (= zelolina form. nov.).

**E. asbolina** A. J. Trnr. ♀ 36 mm. Blackish. Anal brush ochreous. Forewing brownish-whitish, costal margin and posterior margin as well as a broad terminal band hued with blackish, a blackish discal spot beyond the centre, a terminal row of large oval white spots. Hindwing blackish with subterminal spots as in the forewing [where the spots, however, are stated to be terminal]. Queensland, North Australia, in June.

**E. rubricorpus** Siek. ♀ antennae with a white shaft and light red pectinations. Head, thorax and forewing white, in some places with a light brownish ochreous hue; the space between the median vein and vein 3 as well as between the veins 4 and 5 opposite the end of the cell is pure white; three narrow brown (subbasal, antemedian and postmedian) transverse bands are slightly distally curved, and the antemedian band forms below the costa a sharp angle distally. Hindwing almost white without markings, at the inner margin chestnut-reddish. Abdomen dark bright chestnut-red with a white anal brush. Fringes of both wings white. Under surface unicoloured dingy white. Expanse of wings: 49 mm. — It is said to be allied with **E. isabella White** (57 b). Roebourne in West Australia.

**E. signata** Wkr. ♀; head and thorax light brownish-yellow. Abdomen yellow. Forewing white, along signata. the costal margin and distal margin speckled with brown and yellow, with an indistinct brown oblique band outside the discal spot which is dark brown and transverse. Hindwing light yellow with a brown submarginal band. Length of body 12 mm, expanse of wings 33 mm. Swan River (Australia).

**E. isabella** White (= nephthis White, lugens H.-Schäff.) (57 b). ♀ yellow. Abdomen blackish, at both isabella. its ends yellow. Forewing partly white with two yellow discal spots and 4 brown oblique bands, the distal one of which is submarginal and distally denticulate. Hindwing dark brown, base and fringe yellow. ♀ light yellowish-brown. Abdomen light yellow with a broad brown band. Forewing white, with a slight brownish-yellow hue, with 4 brown bands. Hindwing light yellow with two brown bands. Expanse of wings 49 mm. — In suppressa Wkr. ♀ the 4 bands of the forewing are composed of small black spots, and there are traces of 5 white, ochreous-spotted bands. Hindwing with a black-spotted transverse discocellular streak. Australia.
ochrogutta.

E. ochrogutta H.-Schäff. (57 f). ♀ greyish black. Forewing with a pure white antemedian straight transverse band and a slightly curved postmedian band which is only half as broad and almost parallel to the margin; between them in a longitudinal row two red transverse spots, and the margin with 7 or 8 red punctiform spots. Hindwing quite unicoloured. Head and prothorax whitish, the black antennae basally reddish. The very much spread anal tuft is yellowish. Expanse of wings 25 mm. Australia.


The Teara Wkr. (Ochrogaster Fldr.) are larger, with longer hair and more densely scaled than the Epicoma, and without the characteristic silvery white colouring on the forewings of some species of the latter genus. Antennae bipectinate, in the ♀ short, in the ♂ longer. Thorax clad with long projecting and bristly hair; the tiny pulps do not project from the hairing of the head. The legs excepting the tarsi are also clad with very long hair. Neurom: in the forewing 3 is twice as distant from 2 as from 4, and 4 twice as distant from 5 as from 3; stalked are 6 + 7 + 8 + 9, and this stalk anastomoses with 10 between 6 and 7 (6 being nearest!), 10 rises from the anterior edge of the cell near the apex, whereby a small areola is formed, from the posterior edge of which 6 rises: 8 and 9 are short and enclose the apex of the wing. Discocellular between 4 and 5 towards the base convex. In the hindwing 8 is distinctly separated from 7, being divergent not far from the base of the wing reaching the apex of the wing. 6 + 7 are stalked, 5 is not much farther from 4 than from 6, whereas 3 is almost four times as distant from 2 as from 2. The discocellular is oblique. — The biology has been dealt with by W. W. Frogatt in Proc. Limn. Soc. N. S. Wales 1896, p. 258—260, t. XIV. According to this author the genus Teara is characterized by the larvae living in tan-coloured, silky, irregularly funnel-shaped bags which are spun around a strong branch, enclosing several of them, being outside smooth and regular, but inside rough. At the broad end they have a diameter of 70—200 mm, and it is either quite open or only spun over with a few loose threads. These bags serve the larvae as a shelter in the daytime, whilst the larvae leave their nest at nightfall in order to feed at night and to return to their nest again at daybreak. They wander in the same way as our processionary caterpillars. These bags do not serve for the pupation and they are therefore abandoned by the grown-up larvae.

contraria.

T. contraria Wkr. (= lanifer H.-Schäff., leucopyga Wkr., cinctifera Wkr.) (46 d). Brown. Hair on head and thorax with white tips. Antennae brownish-yellow. Abdomen orange reddish with blackish-brown bands, the ventral side blackish-brown, the apex white. Forewing above, hindwing beneath with a white discal spot. Length of body 15—20 mm, expanse of wings 41—65 mm. Sydney; Swan River. — The larva of T. contraria attains a length of 50 mm, it has a rusty reddish head covered with reddish brown hair, being above and on the sides black with white and reddish-brown hairs rising on protuberances, between the segments finely dotted white, the ventral side ochreous with dark rusty reddish protuberances. It lives in colonies of 100 or more specimens; the nest-bag is fastened to the protected side of tree-trunks close at the ground, and single silk-threads extend from it all round the tree. Sometimes the larvae occur in such great numbers that they may become pernicious by the defoliation of the trees (Acacias etc.). Imported, almost adult larvae burrowed into the loose sandy ground of the breeding receptacle after two weeks and constructed a felt-like cocoon of the hair on their body, emerging from the end of September till November. Pupa short, stout, smooth, glossy, reddish-brown. The breeding is extremely difficult. — The size of the imagines varies considerably.

luctipennis.

T. luctipennis Wkr. ♂ brown. Head, thorax, chest and legs densely haired. Antennae ochreous, moderately long combed. Thorax with a white band which is slightly interrupted midway and strongly expanded on each side. Abdomen black, not projecting beyond the hindwings, the posterior margins of the abdominal segments and the anal wool ochreous. Tarsi black, the tips of the members white. Forewing dark grey, speckled with black; with two narrow slightly undulating bands, the first at ⅓, the second at ⅔ of the length of the wing; ring-spot and reniform spot white, situate between the bands; margin very oblique and slightly rounded, under surface whitish-brown. Hindwing dingy white, on the long-fringed inner margin brownish. Length of body 16, expanse of wings 49 mm. Australia.

barnardi.

T. barnardi T. P. Luc. ♀♂: 38 mm. — ♂ rusty reddish brown, thorax with creamy hair. Abdomen black, last segment and anal brush rusty reddish-brown. Forewing greyish-white with reddish-brown markings: a narrow subcostal line from the base to ⅖ from the end of that line obliquely to the centre of the inner margin a broad band, from shortly before the apex of the wing, to ⅖ of the inner margin a band parallel to the distal margin, then a submarginal line which is connected with the second transverse band along the veins; fringe reddish-yellow. Hindwing greyish-brown with two darker bands parallel to the distal margin, marginal line darker with 8 creamy spots. The ♀ has ochreous forewings slightly dusted with brown and with deep brown markings; the brown dusting forms a line on the costa from ⅔ to the apex, and a shadow on the
AGLAOSOMA. By Dr. E. Strand.


The only species which we leave in the genus Aglaosoma Scott is a large, clumsy insect more similar to Teara than to Epicoma, but easily discernible i. a. by the hind tibiae having 4 spurs instead of two in Teara. Palpi small, strongly haired, the second joint thrice as long as the basal joint, the last joint small. Neuration: in the forewing veins 3 and 4 are distantly separated, but 3 is twice as distant from 2 as from 4, the forewing. Beneath as above. Australia, Fraser Range; in October.

T. ruptimacula Fldr. (46 d). The  has dark olive-brown forewings with a whitish costal-marginal band and two white discal longitudinal bands the posterior one of which is divided into 3 parts by two black transverse bands being almost parallel to the margin, whilst the anterior white band is only traversed by the distal one of the black transverse bands, because it is shorter than the posterior band. Hindwing dark olive yellowish with similar fringe, and the thorax, head and antennae seem to be of the same colour, too, whereas the anal wool is lighter yellow and the rest of the abdomen reddish. Expanse of wings 48 mm, length of body 26 mm. Adelaide.

T. interrupta Wkr. is closely allied with T. ruptimacula Fldr. (46 d), but the forewing has 4 white interrupta interrupted longitudinal bands, whilst ruptimacula has but 3; moreover the apex of the abdomen is whitish, the forewing with white marginal spots and with a dark brown discal spot. Adelaide. — Walker describes a variety with a white streak in the disc of the  forewing, whereas the  forewing shows three white streaks and a thin curved dark brown band outside the centre (f. discistriga form. nov.); stated from the Swan River, discistriga New South Wales and „New Holland“.

T. circumfunnata Fldr. (57 e)  from New Caledonia has light reddish-brown wings which are most intensely red in the basal area, and with a dark greyish marginal band which is 6 mm broad at the costal margin of the forewing, but posteriorly slightly narrowed and at vein 2 only 3 mm broad, whilst in the hindwing it is about 4 mm broad at the apex, but much narrower towards the two ends. The marginal line is dark brown, the fringe at the base yellow, at the end darker, the veins of the forewing are lighter in the marginal area than the surroundings are. Body like the basal area of the forewing, the abdomen with 7 black transverse bands. Length of wings: 24 mm.

T. farenoides T. P. Luc.  88 mm. Snow-white. Antennae less purely white, with very short and farenoides. dark pectinations. Abdomen white with rusty reddish shades. Costal margin of forewing rounded, margin obliquely rounded; snow-white, strewn with tiny smoky brown dots, especially towards the margin. Base and dorsal half of hindwing shaded with light rusty reddish. Fringes of both wings white, mixed with tiny smoky brown fringes. Healesville, Victoria.

T. erebodes Lower.  42—59 mm. Body and legs dark brown, thoracic hairing hued with yellowish erebodes. and somewhat erect. Abdominal segments and anal brush orange, the brightest below. Antennae ochreous. Forewing oblong, costal margin almost straight. Margin obliquely rounded; unicoloured dark brown, finely speckled lighter; fringe brown with a black basal line. Hindwing with a roundish margin, a little lighter than the forewing. Beneath as above. Australia, Fraser Range; in October.

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the segments exhibit bright cobalt-blue protuberances with long and stiff hairs, and similar ones are also on the thoracic segments above. The silk cocoon is brown-haired; the pupa is about 26 mm long, reddish-black, and at both its ends rounded.


Body strong. Proboscis very short. Head and thorax with very long hairs. Palpi very short and strongly haired like the legs, the hind tibiae exhibiting small terminal spurs. Wings rather narrow, costal margin of forewing slightly convex towards the apex; three lower veins, the first of which touches the second at the base; at the apex rounded, densely scaled and at the base hairy. In the ♀ the antennae are long-combed and slightly longer than half the body; the abdomen projects a little beyond the anal angle and its end is covered with very long tufted hair. Antennae of ♀ slightly pectinate and not beyond half the length of the body, the abdomen projects a little beyond the anal angle, the end being densely woolly.

*T. sparshalli* Curt. (58 c) (♀), described from England, but probably imported from Australia. The whole insect is creamy yellowish, with ochreous pectinations, the eyes surrounded by grey and black, prothorax light reddish-brown, anal tuft yellow, wings glossy with purple-tinted veins, anterior tibiae in front as well as the basal joint of the anterior tarsi dark brown, whilst all the tarsi below are ochreous. Expanse of wings: 47 mm.

*T. fratema* Btlr. The ♀ differs from *T. sparshalli* only in the white anterior legs not being black above. In the ♀ all the wings are white, thorax black, tegulae inside brownish-yellow, the large anal wool brown. Expanse of wings: ♀ 43, ♀ 53 mm. Moreton Bay in Australia.

*T. stibosoma* Btlr. ♀ distinguished from *T. mesomelas* by the abdomen being snow-white as in *fratema* and showing brown anal wool above. Expanse of wings: 53 mm. New-South Wales.

*T. mesomelas* Wkr. (58 c). ♀ white, antennae brownish yellow, anterior legs above black, the body more or less black, in the ♀ the head is black, only in front white, the abdomen blackish and at both its ends whitish, whereas in the ♀ the head and thorax are black and the abdomen above blackish and provided with black anal wool. Length of body 10—14, expanse of wings 33—45 mm. The species varies a great deal; the abdomen may be (♀) at the apex ochreous (*f. ochripyga* form, nov.) or (♀) towards the apex beneath black-haired (*f. melanotricha* form, nov.), or white, towards the apex black (*f. bicolorifera* form, nov.); in the latter form the head and the anterior portion of the thorax may be white (*f. antebalba* form, nov.). Moreover the thorax may be brown and the apical tip covered with brownish yellow hair, the rest of the insect being white (*f. tricolor* form, nov.), and finally the thorax may be white-haired, but the rest of the insect as *f. tricolor* (*f. albotestacea* form, nov.). — Australia, Tasmania.

5. Genus: Comana Wkr.

It is questionable whether it belongs to this place. Walker described it as a Limacodida, whereas Kirby placed it to the Lymantriidae. Swithin, in a revision of the Lymantriidae of the British Museum, states that the genus resp. type has now been removed from the Lymantriidae in the British Museum, but he could not discover it anymore and can therefore not say anything about its systematic position. And as the *Teura* are now neither ranged anymore among the Lymantriidae in the British Museum, this statement by Swinnoe does by no means exclude the conjecture that the genus Comana is closely allied with Teura as Kirby supposed it to be. Under these circumstances I must content myself with repeating Walker’s diagnoses. — ♀ body smooth, very strong. Proboscis stunted. Palpi smooth, rather strong, obliquely rising, not reaching the vertex; the third joint conical, not more than 1/6 of the length of the second. Antennae smooth. Legs smooth and strong, hind tibiae with 4 moderately long spurs. Wings oblong. Forewing at the apex roundish, costa slightly convex, distal margin convex and very oblique, the second of the lower veins more remote from the third than from the first, the third about thrice as distant from the fourth as from the second, the second of the upper veins being forked.

*C. collaris* Wkr. ♀ white. Head ochreous round the eyes. Palpi ochreous. Antennae reddish-yellow. Thorax in front with a broad ochreous band. Legs above ochreous. Wings unicoloured. Length of body: 16, expanse of wings: 57 mm [it is doubtful whether these sizes are correct]. North Australia.

Like *Comana*, this genus was formerly ranged among the *Lymantridae*, but it has now been removed from them (at least in the British Museum) without any positive statements having been made about its proper position. The original description which, in fact, was given by Walker (Newman first described the typical species and in doing so used the generic name to which he added the author's name, "Walker", but he did not diagnosticate it; a month later Walker's description appeared, and he denominated the genus *Oenosandra* and the species *duponchelii*, evidently having heard the name given by Newman, but not yet having seen Newman's publication) furnishes little information: "♀♂ body strong. Probosces not recognizable. Palpi very short. Antennae plain, much longer than thorax which is densely clad with woolly hair. Abdomen not projecting beyond the anal angle. Legs strong and hairy, the hind tibiae with but two short terminal spurs. Wings rather long and moderately broad. Forewing in front straight, hardly pointed, with a very oblique margin and three lower veins the first and second of which almost rise together, whilst the third is remote.

*Oe. boisduvali* Newm. (= *duponchelii* Wkr.). "♀♂ white. Head in front with a black spot. Antennae boisduvali black. Chest brown. Abdomen black with yellow dorsal bands. Legs black, the tarsi with white bands. Forewing with a black costa and a black discal stripe extending along the whole length and being more or less marked white and yellow. Beneath the wings are white, with a very faint smoky hue, the costal margin of the forewing is brown, without any traces of the black band above. Length of body 12—14, expanse of wings 41—53 mm. It is said to be common in Australia and Tasmania.

7. Genus: **Lewinibombyx** gen. nov.

Lewin *) figured a species as *Bombyx lewinae* (57 b) whose larvae he states to live exactly like those *lewinae* of "*Teara*" and which most probably belongs to this place. Judging from the figures, however, the imagines are very similar to the Bombycid genus *Ocinara* Wkr. (*Trilocha* Moore), and the species was also placed to that genus by Kirby, whilst Herrich-Schäffer, perhaps only because of the habits of the larvae, placed the species to the *Thaumetopoea*; the same was done by Swinhoe who probably only copied Herrich-Schäffer. According to Swinhoe's statements, Walker described the species once as "*Drepanulida*" and three times as *Lasiocampidae*; Swinhoe quotes "*Thaumetopoea*" (stating Herrich-Schäffer as its author) among the *Lasiocampidae*. — The ♀ has an expanse of 41 mm, it has blackish-grey forewings with three darker, almost linear transverse bands, the two proximal ones being straight and in front expanded and enclosing the bluish-grey median area, whilst the third is feebly undulate and situate between the distal margin and the exterior one of the two other bands. Near the anterior and posterior margins there is apparently one narrow dark longitudinal band each. Hindwing blackish-brown. Abdomen black with traces of lighter spots, anal brush whitish-grey, front body dark brown. The ♂ is smaller (expanse of wings 29 mm) and lighter, rusty reddish, in some places speckled with grey, the two proximal transverse lines are relatively nearer together, and the exterior one of these two is double, the area between this exterior line and the distal transverse line is dusted with light bluish-grey. Hindwing with two narrow brown submedian transverse bands. Abdomen rosy-reddish. Thorax like the basal area of the forewing. — Larva 40 mm long, blackish, above with a reddish-yellow longitudinal band enclosing a row of darker spots, on the sides two narrow light longitudinal bands, head black with a white median spot, hair dark grey. The blackish-grey cocoon, which is fastened to the underside of twigs of the food-plant, is 30 mm long and in the middle 10 mm broad. Habits according to Lewin similar to those of *Teara contraria* (p. 378). New South Wales.

Alphabetical List

with reference to the original descriptions of the Indo-Australian Lymantridae.

* signifies that the form is also figured at the place quoted.

acuta Laelia Snetl. Tijds. v. Ent. 24, p. 128.
adara Laelia Moore Cat. Lep. E. Ind. House 72, p. 337.
ala Dura Wkr. Lep. Atkin., p. 56.
albescens Dura Moore Lep. Atkin., p. 59. *
arizona Das. Wkr. Entom. 43, p. 311.
attrella Arosa Harps. Fauna Ind. Motls I, p. 139.

* signifies that the form is also figured at the place quoted.
Alphabetical List of the Indo-Australian Lymantriidae.

<table>
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<th>Species Name</th>
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</tr>
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Note: The full text contains a list of species names with their respective authors and publication details, but the table format is not fully provided in the extracted text. The list continues with similar entries for various species.

quadraugnilaris Euphr. Mr., Lep. Atkins., p. 50.

queenslandica Das. Strand, Seitz Macrolep. 10, p. 293.


travaeae Laelia Strand, Seitz Macrolep. 10, p. 306.

vitadus Das. Mr., Lep. Atkins., p. 50.
uniloba Anth. Fldr. Reise Novara Lep. t. 99, f. 188.
7. Family: Thaumetopoeidae.

This almost purely palearctic family as to which we refer the readers to Vol. II, p. 143, sends only one offshoot across the frontier of the Indian fauna:

Genus: Thaumetopoea Hbn.

Th. cheela (51 c) Mr. This processionary caterpillar has the size between Th. processiona (Vol. II, t. 21 k) and pinivora (ibid.). — The colouring and marking is almost exactly as in pityecampa (ibid.), but the transverse shades in the marginal area are absent, and the median and distal undulate transverse bands are hued with yolk-colour on the sides facing each other. From Simla in North India; no particulars known about their habits.

Original Description

of the Indian Thaumetopoea.


This family consisting of but one genus certainly belonging hereto, was yet in Hampson's Fauna of British India, Moths I, p. 493 (1892) in an offhand way united with the Lymantriids, but later on it has quite justly been dealt with by him as a separate family which he even enumerates separated afar from the Lymantriids*). We do not wish to dispute this remote separation, but for practical reasons we enumerate it near the Lymantriids, from which they differ chiefly by the following marks: frenulum absent, in the forewing vein 1c is present, in the hindwing there are 3 dorsal veins. — As doubtful belongs hereto the Papuan genus Diversosexus B.-Bak. which is quite unknown to me in nature.

1. Genus: Ratarda Mr.

Beside the marks already stated in the diagnose of the family, this genus is distinguished by long, narrow, rounded wings, small and porrect palpi, doubly combed (?) or serrate (?) antennae, and by the presence of a rather incomplete partition-vein in the cell of both wings. In the forewing vein 3 rises remote from the angle, 4 and 5 from the angle at a short distance from each other, 6 about from the middle of the discocellular, 7 is absent, 8 + 9 + 10 on a long footstalk, the base of 10 being equally distant from the cell and from the apex of the wing. In the hindwing 3, 4 and 5 are as in the forewing, 6 and 7 are separated at the base.

R. marmorata Mr. (51 c). Body smoke-black, legs yellowish. Forewing blackish-brown, speckled with white scales, and with many white spots in the disc, some of which are connected. Hindwing in the basal area white, speckled with black, in the marginal area the reverse. Expanse of wings: 54 mm. ♀ with short and plain antennae. Sikkim.

R. furvivestita Hmps. (51 c). ♀ body reddish-yellow. Forewing dark brown, hued reddish, the veins streaked grey, traces of numerous grey streaks. Hindwing lighter brown with a reddish hue and grey veins. Expanse of wings: 52 mm. ♂.

R. tertia Strand. (51 a). ♂. Black, quite indistinctly striped lighter, with a faint bluish-green reflection, the costal area of the hindwing towards the base somewhat reddish-violet. Head and collar yellowish-red, the anus with long red hair. Antennae below brownish, above black. Expanse of wings: 47, length of forewings 27 mm. Formosa. — ab. monstrosa Strand (51 c). Length of forewings only 19 mm, in the hindwing 9 veins!

2. Genus: Diversosexus B.-Bak.

Antennae in the ♀ with long, in the ♂ with short double combs. Palpi of diminutive size. Proboscis absent. Legs short, feebly haired. — ♀ forewing with 2 dorsal veins. 1b forked at the base, 3 and 4 from the angle, 5 from the middle of the discocellular, 6 from the angle, 7 + 8 + 9 + 10 on a footstalk, 11 from the cell. Hindwing with 3 dorsal veins, 3 and 4 from the angle, 5 from about from the middle of the discocellular, 6 + 7 on a footstalk, 8 separate beginning from the base. ♀. In the forewing 3 rises behind the angle, 4 and 5 from the angle, 6 to 11 as in the ♀, but 10, 11 and 12 less closely together than in the ♀. Hindwing with 3 below the angle, 4 and 5 from the angle, 6 and 7 on a footstalk, 8 anastomoses with 7. — It is not stated whether there is a frenulum or not, and it is therefore doubtful whether they are genuine Ratardidae.

D. bicolor B.-Bak. (46 f). ♀ head and extremities brown, thorax brownish-black, abdomen black, bicolor. above with lighter semi-rings and a yellowish apex. Wings brownish-black. Forewing with a broad, whitish median transverse band being curved convex towards the margin. Hindwing with the basal half of the posterior margin white. ♀ like the ♀, but the white part does not form a transverse band reaching to both the margins, and the veins are more or less white. Expanse of wings: ♀ 52, ♂ 55 mm. British New Guinea.

D. aroa B.-Bak. (51 c). ♀ body blackish, abdomen with a white apex. Forewing black with a broad, aroa. white postmedian band from the costal margin to the anal angle. Hindwing white with a broad black marginal band. Expanse of wings: 56 mm. Aroa River (Brit. New Guinea).

*) In Cat. Lepid. Phal. 1, p. 19 (1898).
Alphabetical List

of the Indo-Australian forms of *Ratardidae* with references to the original descriptions.

* signifies that the form is figured at the place quoted.


About the scope of the family, their relative position, about the morphology of the lepidoptera and larvae, as well as the remarkable peculiarities of the metamorphosis and biology, we have already dwelt on at large in the introduction to the description of the palearctic Lasiocampidae (Vol. II, p. 147—149). It will therefore suffice to consider here the Indo-Australian Lasiocampidae from their purely faunistic point, and to cast a look at the character of the fauna as a whole by referring to their relationship to the contiguous districts of the fauna. We can here altogether forego a closer comparison with the Ethiopian fauna, for everything that might be added as being common to both faunas are the names of some species, such as Taragama, Trebala, Chilena, Lenodora. The relations, however, between the Eastern and palearctic fauna are naturally quite different. As points of contact manifested themselves at the palearctic Lasiocampidae with the Indian fauna, the conformities and deviations between the two closely touching and converging faunas will have to be emphasised when we take the Indian representatives of the family into consideration. We must at once point out that at a further comparison we are only allowed to comprehend the fauna of South Asia and may do so per adventive with the inclusion of the Sunda Islands, which we denominated the Indian fauna; for within the whole Indo-Australian territory there must, according to our present knowledge, two strictly separated groups of fauna and form be distinguished.

The closer points of contact between the Indian and Palearctic Lasiocampidae fauna, which points are common to each other, are now exclusively put to the account of the former. We reckon to the Palearctic fauna a number of species from the long extended boundary district in which the two faunas touch each other which, however, from their principal diffusion and their whole character are all typical representatives of the Indian fauna. To them belong the best known and most frequent, therefore the most typical amongst the Indian Lasiocampidae genera, Lebida nobilis, Paralebida planifera, Swina concolor, Trebala vishnu, Estigena pardalis, Taragama dorsalis, Metanastria hytica, M. subpurpurea, Bhima undulosa. We can therefore cite a number of Indian species as occurring on the palearctic territory, but we cannot reverse the exemplification, for there is indeed no typical palearctic Lasiocampidae species, the spread of which extends into the eastern district. In this sense we may with the Lasiocampidae speak of a strict division between palearctic and Eastern Fauna. Also the genera common to the two faunas, apart from the species above-named, are soon enumerated. The genera Taragama and Chilena represented in the Mediterranean district and Asia Minor by some species, are indigenous to the whole Ethiopian and Eastern countries. Of the typically palearctic genera, which are likewise indigenous to Central and Northern Europe, having representatives amongst the Indian species, we can only mention Malacosoma, Gastropacha and Trichiura, of which the former two genera are represented in India by 2 and the latter only by one species. With the genus Cosmotriche, which is likewise palearctic, the main point of the distributive district is doubtlessly situated in Southern Asia, where we must enumerate at least 15 species which are confronted as purely palearctic species only by the C. potatoria indigenous to Europe and Northern Asia. The genus Arguda, likewise very rich in its ramifications in the Indian district, is replaced in the palearctic district by the closely allied genus Otomenitis. For other palearctic genera, even if they are widely distributed and come up closely to the boundary of the Eastern district, we may look in vain there. We know no Lasiocampa nor Chondrostega in Southern Asia.

The Lasiocampid forms described in upwards of 250 species in the palearctic fauna, we cannot confront with even 160 Indo-Australian species. Though at first sight this number may appear somewhat moderate for the total and large Indo-Australian district, we must firstly take into consideration that the forms described in the following pages are apportioned to as many species, while with the palearctic Lasiocampidae the number of sub-species considerably exceed the species. Let us only take into account such highly varying species as Lasiocampa quercus, Malasoroma venustia, Cosmotriche potatoria, Dendrolimus pini. Of such an intensive research of the whole district, such an exhaustive elaboration of the whole material going down to the minutest variations in the colouring, markings and formation of local races, which partly joins and separates the possible combinations even quite schematically like Tutt is doing with the English species, we cannot, as a matter of fact, speak of the Indo-Australian Fauna. It is only Northern East India and Ceylon and mayhap yet the colonised stretches of the Australian continent which have been explored. With the Sunda Islands, the Moluccas, Philipines, New Guinea and the whole of Polynesia this is by far not yet the case at least with respect to the Heteroceres; and the great number of newly described species having come down to us from these districts within the last twenty years, and particularly from New Guinea, justifies our opinion that we may expect yet quite a considerable accession from there. With a more thorough elaboration of the faunistic material, an adequate increase of the habitats and species, the statements of aberrations and geographical races will go hand in hand,
as we see it carried out at the present day with the Indo-Australian day-butterflies. The South Asiatic Lasiocampidae, as for instance the very variable species of Metanastria, Cosmotriche or Arguda are no less paying objects than our palearctic species.

That we are still very far remote from a thorough exploration of the Indian Lasiocampid fauna, we can gauge best from the paucity of knowledge we have had up till now of their early stages, their metamorphosis and habits. We cannot even say that their biology is only fragmentarily known, for it really forms only one sole vast gap, a compact desideratum, if we leave out the most frequent species forcing themselves upon us by their size alone. Even at Sikkim, on the classical grounds of the Indian entomology, the observations have not proceeded beyond those species which by their frequency may stand a comparison, let us say with the European Gastrophaea neustria or Gartropacha rubi (fox-moth) and all of which have already been enumerated as boundary forms in the palearctic fauna.

The most conspicuous character of the Indian Lasiocampid fauna in its more restricted sense is their abundance in specimens of a large size. Species, such as Lebeda nobilis, Suana concolor, Metanastria ampla and lidderdali surely belong to the most prominent of Indian Heterocera. The species last named are little inferior to the large African Gonometa-species, the biggest Lasiocampidae we know. With some genera we find a strongly pronounced sexual dimorphism, quite similar to that of Gonometa where it is particularly conspicuous, as for instance with Suana, Taragama, Entometa, Pinares, Creza. The distinctions, however, are invariably restricted to size and contour of wings; species with wingless ♀♀ as they occur for instance with the palearctic genera Chondrostega (Led.) and Lambessa (Stgr. i. 1.) we know neither from India nor Australia. Some genera, the wings of which are strikingly sparsely scaled and transparent as is the case with the Australian Creza-species, or those having some sporadic vitreous spots, as the Odontocraspis, are yet worth mentioning. The latter genus, of which only one species is known, might at first sight rather be taken for a Hesperid than for a Lasiocampid.

With the Australian Lasiocampidae we see the contrary to the Indian; only medium-sized or small forms, if we do not take the few larger species of Cyclophragma into account, for with the provisionally represented genus Cycethra, which is also rather of good size, the position of the Lasiocampidae appears to be yet a little problematical. At any rate the Lasiocampids of Australia and Tasmania form a faunistic group for themselves particularly characteristic by the genera Entometa, Perna, Porela, Pinares, Creza, Aspiducha, which are only peculiar to this insulated district. We cannot cite one genus of which we should precisely know its occurrence in both the Indian and Australian district simultaneously, for in the species albigutta Wkr. from Queensland hitherto assigned to Arguda, the statement that it belongs to the same genus is doubtful, which is also the case with Arguda pratti of New Guinea. The only genus really closely joined to representatives of the typical Indian fauna and particularly to the genus Metanastria, which extends as far as New Guinea, is Cyclophragma and we know 3 species of it from New Guinea and North Australia, two of which are common to both districts. Some genera which appear to be indigenous to New Guinea, Pararguda, Isostigena, Sporostigena, exhibit a closer or more distant alliance to Indian genera, and it seems that in New Guinea, the country of the zoogeographical riddles will likewise be borne out for the family of the Lasiocampidae what we already know of numerous other groups of animals, so that here many links combine in forming connections between India and the Archipelago on the one side and Australia on the other, which, however, can only then be surveyed if the fauna of this vast district will once be better known. At any rate the relations to the Indian fauna will be more predominating than those of the Australian, at least with respect to the Lasiocampidae.

In New Zealand the Lasiocampidae seem to be quite absent.


\textit{nobilis}.

The only Himalayan representative of this genus known hitherto, \textit{L. nobilis} Wkr. (Vol. II, t. 30 d) is no less conspicuous by its large size than by the prettiness of its marking chiefly effected by the subdult, warm tint, as well as by bright contrasts. It has already been dealt with in the palearctic part (Vol. VII, p. 174, t. 39). The marking of the ♂ is of darker, more intense tints than in the ♀, the sexual difference being also very distinctly expressed by the size, without, however, overstepping the boundaries of the normal state. In their strong and squat body large ♀♀ are not inferior to those of \textit{Suana concolor} (Vol. II, t. 29 c), but in the expanse of wings they are even by far excelled by them. North Western and Eastern Himalaya, from North India to Cashmir; Darjeeling, Sylhet, Nagas, Nepal.

Another species originating from Borneo has only lately been described:

\textit{L. cognata} Grünb. (33 c) resembles \textit{L. nobilis}, but it is smaller, with a less pronounced, more diffuse marking. Head and thorax ash-grey, abdomen dark brown with a lighter apex. Median area of forewing deep chocolate-brown with a distinct white discal spot, from which a blackish-brown longitudinal ray proceeds as in \textit{nobilis}, though it is indistinct here, the whole distal costal-marginal half as far as the extensive light innermarginal spot being much darker. Of the broad light transverse bands bordering on the discal area on both sides in \textit{nobilis}
the proximal one is entirely absent, the distal one only extends to vein 5, in nobilis, however, to the costal margin. Hindwing uni-coloured deep chocolate-brown, without the two whitish areolate bands characteristic for nobilis. North East Borneo (Kina Balu). ♀ still unknown.


As in the genus Lebeda, this genus also contains a species, P. plagifera Wkr., having already been described and figured in the palearctic part (comp. Vol. I, p. 174). plagifera is also a remarkably large, beautiful species, easily recognizable by the intensely chocolate median spot expanded to the margin on the forewing.

P. plagifera Wkr. (= crinodes Flkr.) (Vol. II, t. 30 c). This species has been described in Vol. I, p. 175, plagifera. In dealing with its palearctic form femorata Mén. The typical form does not occur in the palearctic region, its northern range being the Eastern Himalaya (Nepal and Sikkim), whilst in the south it extends to Java. Opsiphina crinodes Flkr. is identical with this species.

Another species is known from Java.

P. lucifuga S&h. (34 a). In the marking it resembles plagifera, but it is much smaller and without the black spot at the anal angle of the forewing. Body and wings light reddish-brown, forewing with a distinct, dark reddish-brown or blackish-brown oblique band narrowly edged with whitish, beginning in the middle of the proximal margin with a lighter colouring and extending in the direction of the apex of the wing up to the costal margin, where it is terminated by a delicately bluish-white spot followed by a corona of small dark brown submarginal spots. Hindwings and under surface light reddish-brown. Singapore; Java.


This genus likewise contains a single species:

S. concolor Wkr. (= binaeulata Wkr., ampula Wkr., cervina Mr.) has already been dealt with in the palearctic part (Vol. II, p. 178, t. 29 c). The species is distinguished by a very remarkable sexual dimorphism, the ♀♀ belonging to the largest representatives of the family and being unrivalled at all in size in the whole Indo-Australian region. Its range extends across the whole of South Asia and the Sunda Islands to the Philippines and to the north it proceeds in the Himalaya up to Cashmir.

4. Genus: Bhima Mr.

Description of the genus in Vol. II, p. 177. This genus must be numbered among the typical representatives of the Indian fauna, although beside 2 palearctic species inhabiting the Amur district also the South Asiatic undulosa Wkr. for which the genus was established may yet be reckoned to the extreme forms of the palearctic fauna (comp. also Vol. II, p. 178.)

B. undulosa Wkr. (34 a). Of a deep, intense dark brown, the ♀ almost black, abdomen and the dense anal wool of the ♀ lighter. Frons of the ♀ with yellow or greyish-yellow hair, the thoracal hairing sometimes also light brownish. Forewing with a distinct, white, fusiform discal spot which in dark specimens is also sometimes absent, besides with a distinct white predigital and postdiscal double band, the latter strongly dentate; the whitish submarginal band is coherent or often interrupted, proximally bordered by black spots. In the ♀ the forewing and the anterior half of the hindwing is very thinly scaled and very diaphanous. ♀♀ from Kangra (Cashmir) are lighter, very much intermixed with grey, and with white anal wool. Pupa in a brown web. South Asia and Sunda Islands, to the north as far as Cashmir.

5. Genus: Taragama Mr.

Comp. Vol. II, p. 175. Some species (hyrtaca, recta) enumerated there as extreme forms under this genus, are to be found here under Metanastria Hbn. Taragama differs from the very closely allied Metanastria by the formation of the ♀ antennae the pinnae of which suddenly grow shorter behind the middle, by the narrower forewing, the very oblique border of which passes over into the proximal margin in a uniform rounding, and by the absence of the tibial spurs. The two South Asiatic representatives of this genus are mentioned also in Vol. II (p. 177) as extreme forms occurring in the Himalaya.

T. dorsalis Wkr. (castanoptera Mr., igniflua Mr., hyperantherae Mr., intensa Mr.) (Vol. II, t. 30 c). dorsalis. Recognizable by the dark red-brown colour of the body and wings. Abdomen with only narrow grey rings, the postdiscal band in the forewing distinct, scarcely interrupted; hindwing red-brown, in the ♀ with a whitish postmedian spot; in the ♀ with a whitish band. In the whole of India from the Himalaya to Ceylon, the Sunda Islands and Philippines. Specimens from the Sunda Islands are lighter.
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TICERA; METANASTRIA. By Dr. K. Grünberg.

T. siva Lef. (= ganesa Lef., pallida Wkr., venusta Wkr., albicans Wkr.) (54 a). Distinguished from dorsalis Wkr. (Vol. II, t. 30 e) by the lighter colouring and the more distinct postdiscal band in the forewing, of which only the part bordering on the costal margin and a small spot between the veins 4 and 5 are distinctly developed. Tegulae and inner-marginal part of forewing light ferrugines, abdomen whitish with narrow reddish-brown rings or quite light, hindwing whitish with a dark brown anal margin, the distal margin in the ♀ broad reddish-brown. Comp. also Vol. II, p. 177, where also the larva is described. In the whole of India, also in Burma.

T. dinawa B.-Bak. (34 b). ♀ body and wings one-coloured, of an intense dark brown, forewing with an extensive, deep blackish-brown basal spot being behind the middle cut off by a fine lighter oblique line and not reaching the proximal margin. Costal margin of hindwing somewhat darker. Beneath as above, both wings with faint traces of a narrow blackish discal band, hindwing at the costal margin with a yellowish basal spot. British and German New Guinea (Dinawa, Huon Golf).

T. rubiginea B.-Bak. (32 b). Head, thorax and wings of a bright brownish-red. Abdomen lighter, beneath brown with a dark brown anal tuft. Forewing with subbasal, discal, and postdiscal, narrow, blackish, somewhat undulate transverse lines; behind the latter touching the proximal margin close in front of the anal angle, another indistinct, fine, dark line, and besides an arcuate row of dark submarginal spots distally finely dotted whitish. Hindwing with 2 or ? scarcely noticeable dark transverse streaks, on the under surface at the basal part of the costal margin densely strewn with white scales. British New Guinea (Dinawa).

T. indicus Conte. Head, thorax, and hairing of legs red-brown, abdomen blackish-brown with a reddish-brown anal tuft. Forewing dark brown, before the middle of the proximal margin a smaller, behind the cell-end along the costal margin a larger, red-brown spot. Hindwing uni-coloured greyish-brown. Under surface in the forewing red-brown, turning darker towards the margin, at the base of the cell a white streak edged with black, in the hindwing blackish-grey. Assam.

T. (?) proserpina B.-Bak. (32 a). Body, antennae and palpi black, frons white. Forewing with faint, white discal spots and a deep blackish-brown discal area distinctly margined with white, the distal borderline deeply undulate and very sinuate below the costal margin; basal and marginal parts lighter, at the base below the cell a blackish-brown, white-angled spot, a blackish-brown spot at the somewhat reddish apex of the wing, another one in the middle of the marginal part; along the margin a row of black spots distally bordered by white bows. Hindwing blackish-brown, in the middle of the costal margin a white spot showing through from beneath. Under surface of forewing blackish-brown with a white discal spot and 2 white inner-marginal spots behind the base and before the anal angle, a third white spot before the apex of the wing. Hindwing before the white, median costal-marginal spot with a jet-black, larger spot. British New Guinea (Dinawa).


Most closely allied with Taragama and chiefly agreeing with it in the morphological marks, easily discernible by the peculiar contours of the hindwing, the distal margin of which is sharply cut off and somewhat concave, forming a sharp angle with the costal margin and proximal margin. Only one species known from the Philippines.

T. castanea Sweh. (32 a). ♂. In the habitus and marking entirely resembling the ♀♀ of the Taragama species, dark red-brown, head and dorsal marking of thorax light greyish-yellow, forewing with a white spot in the middle of the costal margin, and a white submarginal line being indistinct in the middle; at the base and behind the cell-end a light ferruginous spot. The ♀ is not yet known. Philippines.


Mostly conspicuous, partly very large species. Antennae in the ♂ with long pinnae, the branches of which gradually decrease towards the apex, in the ♀ with short pinnae. Palpi long, porrect and densely scaled. Forewing broader than in Taragama, with a steeper margin, hindwing broadly rounded. In the forewing vein 8 forked with 6 and 7 or from the cell-end, the stalk of 9 and 10 mostly much shorter than the free ends. Veins 4 and 5 in the hindwing at the lower cell-end or on a short footstalk. Middle and posterior tibiae with short terminal spurs. Distributed across the whole palearctic region, also in Africa. Comp. also Vol. II, p. 161.
M. aconyta Cr. (= quadricincta E., opponens Wkr., trifascia Wkr., strigosa Wkr., subparallel Wkr.) (34 c). Light brown, on the wings with a slight reddish tint, the forewing between the bands and before the marginal part very much intermixed with white scales, whereby these parts turn greyish; 2 prediscal and 2 postdiscal transverse bands distally bordered with dark and converging towards the proximal margin, the former rectilinear, the latter in the ♀ distinctly, in the ♂ more feebly curved. Of the irregular submarginal line only 2 small black spots close at the proximal margin are always distinct. In the ♀ the ground-colour of the forewing and the marginal part of the hindwing are sometimes very much darkened. Under surface with 2 indistinct dark transverse bands extending across both wings. North India: Sikkim (Darjeeling), Bengal, Canara.

M. deruna Mr. (34 d). Brownish-yellow, the darker prediscal and postdiscal line of the forewing edged with partly undulate blackish lines. Of the submarginal line 3 white, black-margined spots below the apex of the wing and some angular markings before the proximal margin are distinct. Java.

M. nanda Mr. (34 b) differs from M. aconyta Cr. by the more strongly bent proximal postdiscal band touching the distal prediscal line at the proximal margin, and by the larger dark spots at the anal angle. Basal part of hindwing red-haired. Sikkim. Perhaps only a form of aconyta.

M. latipennis Wkr. (= placida Mr., vulpina Mr., cheela Mr., fasciata Mr.) (34 b, c). The species is of a very variable ground-colouring and was therefore repeatedly described. If it occurred in Europe, it would certainly have caused the establishment of quite a number of species, and also here it seems to be justified in restituting at least 2 of the names as sufficiently characterized forms. The ♀ is mostly of a beautiful dark copper-tint, in the forewing with a distinct white discal spot or a more or less distinct ferruginous-yellow spot behind the base as well as 2 prediscal and 2 postdiscal, blackish, not always distinct transverse bands, the two latter generally distinctly dentate; the space between the two median bands and the marginal area exhibit a distinct grey hue. The series of the white submarginal spots distally bordered with black begins with a large spot at the proximal margin. The ♀ ♀ occur also in a lighter, even light greyish-brown colouring, in which case the discal and marginal areas of the forewings are more distinctly grey than in the darker specimens. On the under surface both wings exhibit 2 nearing dark transverse bands, the proximal one of which in the hindwing extends exactly across the middle of the wing almost rectilinearly from the costal margin to the proximal margin. The ♀ ♀ are much larger than the ♀ ♀, dark or lighter greyish-brown. The transverse bands of the forewings and of the under surface are broader and more diffuse, in the submarginal spots the distal black spots are predominant. — An especially lighter form is grisea Mr., in which the whole forewing and the costal part of the hindwing are densely intermixed with white scales, thus creating a monotonously grey tinge only interrupted by the dark bands and spots. The abdominal hairing is also very light. — In variegata Mr. from Ceylon, however, the thorax is grey-haired, and the basal part of the forewing is lighter, whereas the abdomen and hindwings are darker. — Larva at the thorax with dense, long lateral hairing, on the abdomen with basal lateral and dorsal hair-tufts of light and dark hair. Pupa on the broadly obtuse anal end with a corona of bristles. — In the whole of India from the Himalaya to Ceylon, Burma, Sunda Islands (Java, Borneo).

M. fulgens Mr. (34 b). Allied with latipennis. The ♀ bright dark copper-red, the forewing somewhat more slender with a more bevelled border, the white discal spot minute, like a dot. On the distal half of the proximal margin an extensive, bright dark yellow spot. The transverse bands irregular, dentate, blackish, and indistinct like the submarginal spots being in the middle confluent with the distal band. Sikkim.

M. ampla Wkr. (= ferruginea Wkr.) (34 c). ♀ larger than in latipennis, copper-red, greyish-brown ampla or dark brown. The white discal spot often small, punctiform, the light spot behind the base of the forewing usually distinct. Transverse bands and submarginal spots similar as in latipennis, the postdiscal ones somewhat more strongly dentate. Hindwing with 3 often indistinct dark transverse bands. Under surface of both wings with 3 distinct, dark transverse bands, the proximal one in the hindwing exhibits on the median part a broad indentation proximally, whereby the species is easily distinguished from latipennis. The reddish-brown or greyish-brown ♀♀ attain a very large size (expanse up to 130 mm). The bands of the hindwings are generally very obsolete, those beneath also being less distinct. India and Sunda Islands, as far as the Philippines.

M. lidderdalii Btlr. (32 d). ♀ light copper-reddish with a distinct white discal spot in the forewing and 3 dark transverse bands, the 4th (proximal one) for the greatest part quite indistinct. The submarginal spots rather dense at the distal band. Discal area between the two proximal bands and the marginal part behind the submarginal spots with a grey lustre. Hindwing without distinct bands, under surface in the forewing and hindwing with 2 indistinct dark bands. — In the ♀ of the typical form the discal spot is absent, whilst in the
M. undans Wkr. (= excelsens Btlr.) (34 e). This species passes over to the palearctic region with some East Asiatic forms (see Vol. II, p. 173, under Dendrolimus). Body and wings light brown, forewing with a white discal spot and different prediscal and postdiscal light yellowish macular bands which, being very close together, leave free the middle of the wing and a broad marginal part; submarginal spots closely approaching the bands and agreeing with them in colour. Hindwing uni-coloured. Under surface with a discal band extending across both wings and a less distinct distal band. ♀ lighter, greyish-brown with a somewhat reddish tint, the marking more diffuse and more drawn apart. Bands beneath only distinct at the costal margin of the forewing. North India: Silhet, Khasia Hills.

M. hyrtaca Cr. (34 e). The species is already described and figured in the palearctic part (Vol. II, p. 177, t. 29 a), where also the larva is described. The whole of South Asia from Ceylon to the Himalaya and China; also in the Sunda Islands.

M. repanda Wkr. (32 b). Closely allied to hyrtaca and perhaps only a form of it. The black spot on the forewing of the ♂ is smaller and narrower, the white discal spot is situate at its proximal margin. In the ♀ the proximal postdiscal band is more strongly broken towards the costal margin. In both sexes the submarginal spots are darker. North India and Assam.

M. recta Wkr. (34 c). Light greyish-brown, similar to M. aconyta (34 c), but the 4 transverse bands of the forewing are quite rectilinear and parallel. The submarginal spots distinct, at least in the ♀. North India.

M. obliquifascia Swh. Deep dark red-brown, hindwings lighter. Forewing with an indistinct dark streak proceeding from the base and being behind the middle bent up to the costal margin, and with an almost rectilinear, deep chestnut-brown, distally lighter oblique band extending from the costal margin close before the apex to the middle of the proximal margin; behind it an irregular row of light spots, the space between the latter and the oblique band dark red-brown. Sikkim (Darjeeling).

M. subpurpurea Btlr. (= dieckmanni Graes., rubra Hmps.) (Vol. II, t. 26 c). Distributed from the Amur District and Japan to North India and already described in the „Fauna palearctica“ (Vol. II, p. 161) and figured there. HAMPSON himself (1897, Journ. Bomb. Soc. Nat. Hist., v. 11, p. 294) already placed his rubra as a synonym to dieckmanni Graes. Of a bright dark red-brown, palpi black, vertex and thoracal dorsum brownish-yellow. Forewing strewn with yellowish scales, with a dark discal spot and a yellowish prediscal and postdiscal band only distinct at the costal and proximal margins; near the base begins a triangular, blackish marking extending to the apex and distal margin, leaving free the costal-marginal and proximal-marginal parts as well as vein 5. Hindwing of a brighter red, with a dark margin.

M. lineata Mr. (= fuscomarginata Swh.) (35 c). Head, thorax and forewing reddish greyish-brown, abdomen and hindwings lighter. Antennae and palpi blackish. Forewing parted by a blackish longitudinal streak extending from the base towards the margin, with several narrow, dentate, partly indistinct, blackish transverse bands and a series of blackish submarginal spots. Both wings beneath with a blackish discal band interrupted before the proximal margin, in the forewing besides with the beginnings of a prediscal and postdiscal band and a row of submarginal spots. Sikkim (Darjeeling).

M. albisparsa Wil. Head and thorax red-brown, abdomen lighter; patagia densely intermixed with white scales. Forewing reddish-brown, along the veins strewn with whitish scales, with a white discal spot, behind which a dark, interrupted streak extends to the apex. On the inner-marginal part 3 dark oblique bands bordered with whitish. Hindwing and under surface brown. Expanse of wings: ♂ 60, ♀ 80 mm. Formosa.

M. arizana Wil. ♂ forewing reddish-brown with a white discal spot, as well as a black antemedian and postmedian dentate line, the former broken in the middle and proximally bordered with whitish, the latter bent; the discal area between the two lines dark red-brown; the blackish submarginal spots distally edged with grey are particularly distinct before the proximal margin and connected by a dark line; in the middle of the proximal margin a dark red-brown shade. Hindwing pale reddish-brown with slightly darker narrow median bands. ♀ much darker, the reddish tint only noticeable in the basal and submarginal parts of the wings. Expanse of wings: ♂ 54, ♀ 92 mm. Formosa.

M. dora Swh. ♀ allied with M. latipennis Wkr. (34 b, c). Deep dark and lustrous reddish-brown, forewing with a distinct white discal spot and a blackish antemedian and postmedian undulate arcuate line,
as well as a discal row of black spots marked with white; at the proximal margin of this row of spots the ground of the wing is somewhat lighter. Hindwings somewhat lighter, dull brown and uni-coloured. Java.

**M. gynandra** Seh. (32 b). ♂ dark red-brown, palpi, head and anterior part of thorax almost black, antennae reddish-grey. Forewing with a light discal spot, behind it with a narrow, light transverse band being on both sides bordered with black and above the middle sharply flawed distally; discal area with 2 indistinct black, undulate transverse lines, and in the anterior part with 2 or 3 indistinct, dark, rectilinear transverse streaks, the postdiscal part lighter reddish as far as the dark, likewise undulate and white-spotted submarginal line. Hindwing somewhat lighter than forewing, uni-coloured. Under surface dark brown with 2 dark discal bands. Java.

**M. himerta** Seh. (32 b). ♂ light brown, abdomen above blackish-brown with a yellowish-brown anal tuft. Forewing with a black discal spot and 3 distinct, blackish-brown, rectilinear transverse bands being prediscal, discal and postdiscal. Hindwing with an indistinct dark brown transverse band forming the continuation of the median band of the forewing, and a dark brown marginal part. Under surface of forewing lighter, only with traces of the two distal bands, hindwing with a somewhat reddish tint, the discal area hued whitish, with a subbasal line and a discal dentate line. Java.

**M. hades** B.-Bak. (46 a). ♂ head and collar grey, thorax dark yellowish brown, abdomen dark brown with lighter bands. Forewing dark greyish-brown with a small white discal spot, scantily strewn with yellowish-grey scales, with an almost vertical, slightly bent, dark median line and an oblique, somewhat distally bent postmedian line, the part behind the latter lighter, with a row of dark submarginal spots. Hindwings uniformly greyish-brown. Brit. New Guinea: Koebea Range.

**M. babooni** B.-Bak. (46 a). ♂ head and collar grey, thorax dark reddish-brown, abdomen black with yellowish-grey bands. Forewing dark red-brown with a small white discal spot and a broad light grey median and postmedian band, the latter irregular, distally bordered with a fine, grey, slightly dentate line; submarginal spots grey with black pupils, the marginal part behind them watered with grey. Hindwing dark red-brown with a lighter median band on both sides bordered with dark. British New Guinea: Babooni.

**M. mafala** B.-Bak. (46 a). ♂ head and thorax light chestnut-brown, patagia with yellow hairs, abdomen light brown. Forewing pale brown, strewn with yellowish scales and a yellowish discal spot; an antemedian, light transverse band bordered with dark, a postmedian, deep dark transverse line bordered with yellowish, followed by a similar line being slightly dentate below vein 7; submarginal spots in an irregular row, large, dark, bordered with yellowish. Hindwing pale brown, with a lighter base a rectilinear dark median line and an undulate postmedian line. British New Guinea: Mafala.

**M. poeciloptera** Grünb. (33 a). ♂ body light greyish-brown, antennal pinnae and under surface of palpi dark brown. Forewing light brown, except a broad inner-marginal zone everywhere intermixed with dark brown scales, with a blackish-brown discal dot; on the middle of the wing an oblique, dark brown double band formed by 2 narrow single bands sharply rectangularly broken below the costal margin, the proximal one coherent and indistinct, the distal one composed of single spots; behind them a likewise double, quite rectilinear, dark brown postdiscal band extending parallel to the distal median line and ending at the proximal margin with a rhombic, dark brown spot. The submarginal line begins with 3 distinct white spots arranged in one line and distally bordered with black, then it grows very irregular and terminates with a distal white and black border of the dark brown inner-marginal spot. Hindwing and under surface of both wings uni-coloured light greyish-brown. ♀ not yet known. Sumatra.

**M. mediofasciata** Grünb. (33 a). ♂ antennal pinnae dark brown. Head, palpi, thorax and forewing lighter or darker brownish-red, abdomen and hindwing greyish-brown. Forewing with a broad, dark, towards the proximal margin narrower median band edged by two distinct white lines. Submarginal line very irregular, deeply dentate, formed by white spots incompletely bordered with black, of which, however, only the 3 anterior, smaller ones are of a pure white. Marginal part dark like the median band. Under surface of both wings uniformly greyish-brown with a narrow, indistinct median band being almost rectilinear in the forewing and proximally bent in the hindwing. ♀ not yet known. Kina Balu (Borneo).

**M. aequizonata** Grünb. (33 a) differs from *M. mediofasciata* only by the everywhere equally broad, entirely parallel-margined, more proximally bent median band of the forewing. ♀ not yet known. West Java.
M. (♀) aroa B.-Bak. ("Opsirhina"). ♀ head and thorax red-brown. Abdomen lighter. Wings in the 
♂ reddish brown. Forewing with a small, indistinct, black discal spot and 2 parallel, somewhat proximally 
bent, dark transverse lines being distally bordered with light; apex intermixed with grey scales. Hindwing 
with a somewhat lighter base and a darker margin. Under surface of forewing lighter, surface of forewing lighter, 
more yellow, the distal transverse line distinct, apex darkened; hindwing dark red-brown, strown with grey 
scales and 2 angular transverse bands, proximal margin light. In the ♀ the forewing is light yellowish greyish-
brown, with a pale anterior and postmedian band, the discal area darker with a small white discal spot. 
Before the margin slight traces of a third band. Hindwing darker, especially the two bands. Expans of wings 
about 105 mm. British New Guinea (Aroa River).

M. (?) metaspila Wkr. is a rather larger species. ♂ dark brown, forewing with 4 grey transverse 
lines approaching each other at the anal margin, and a grey submarginal dentate band being indistinct at the 
 apex of the wing; before the anal angle 2 black spots, the posterior one being much larger than the anterior one. 
Hindwing in the middle with 2 approximated, parallel, grey transverse bands. ♀ lighter, hindwing reddish. 
Celebes.

M. (?) basimacula Wkr. Light brown, very much woolly haired, with a lighter under surface. Head 
and anterior part of thorax dark ferruginous, antennae pale. Abdomen with a blackish anal tuft. Forewing 
dark ferruginous with a reddish tint, with a white discal dot and an ochreous spot close at the base, and with 
4 indistinct blackish transverse lines; submarginal line formed of black, grey-speckled spots, the spot situate 
at the proximal margin being larger than the others. Hindwings very densely covered with woolly hair. Expans 
of wings more than 100 mm. Borneo (Sarawak).


The species belonging hereto show a size of the body rather considerable for Australian representatives 
of the family and greatly resemble the large Indian species of Metanastria. They are also in fact so closely allied 
with this genus as the representatives of which they might be denoted, that the only difference is merely noticed 
in their shorter palpi, which mark in conjunction with the evidently secluded range may justify the retention 
of the separate genus. Hereto surely also belong Odonesis centralistrigata B.-Bak. from New Guinea, of which 
only the ♀ is known most strikingly resembling the two other species. Characteristic seems to be the yellow, 
black-banded abdomen being common to the ♀♀ of all the three species described below, and besides the invariably 
paired, proximally bent, dark bands of the forewings.

C. cyclornela Lower resembles leucosticta (33 c). Head, thorax and legs dark red-brown, legs curled 
yellowish. Abdomen above yellowish brown with black transverse bands, beneath reddish-brown. Antennae 
with a dark brown shaft and yellowish-brown pinnae. Wings reddish-brown, everywhere intermixed with 
whitish scales, especially densely so in the ♀. Forewing with a dark brown discal spot and 2 parallel, uniformly 
proximally bent, somewhat irregularly dentate, prediscal and postdiscal dark transverse bands which may 
particularly in the ♀ almost or entirely disappear. In the hindwing only the two distal bands are noticeable. 
A submarginal row of dark spots in the forewing is partly coherent, more or less distinct. Queensland.

C. leucosticta Grünb. (33 c) resembles cyclornela from which it differs by the small, but distinct white 
discal spot in the forewing. Abdomen also beneath yellowish-brown, in the ♀ above without bands, with a more 
reddish tint. Queensland and New Guinea (Kaiser Wilhelmsland).

C. centralistrigata B.-Bak. (33 a). Described as Odonesis. Frons and upper surface of palpi light 
grey, under surface red-brown. Antennae light brownish-grey, thorax and wings light red-brown, very much 
intermixed with grey. Abdomen above black and curled ochreous-yellow, beneath grey. Forewing with a 
blackish longitudinal streak extending from the base almost to the margin, in which there is a small, but distinct 
white discal dot, besides with 2 prediscal and 2 postdiscal, irregular, dark transverse lines and a row of small, 
indistinct, black submarginal dots. Hindwing only on the costal part intermixed with grey, with 2 dark median 
bands in the continuation of the distal bands of the wing. On the under surface in both wings only the two 
postdiscal bands are indistinctly developed, the grey scaling is confined to the anterior part of the hindwing. 
British New Guinea (Dinawa); North Queensland (the figured specimen).

9. Genus: Arguda Mr.

As to the diagnose of the genus see Vol. II, p. 178. The genus comprises medium-sized and rather large 
species essentially agreeing in the marking of the wings. One species, A. flavovittata Mr. differs somewhat by
the palpi being broadly scaled shovel-shaped, and the undulate border of the wings, which in the forewing projects a little at vein 6, for which reason Moore established a separate genus for it, *Rhodica*; it differs besides from the other species by the separate rise of veins 4 and 5 in the hindwing. In the other species the palpi are smoothly scaled and the border of the wings is quite or almost rectilinear. The genus is distributed across the whole Indian region as far as Australia and Tasmania, if we insert *A. albignuda* Wkr. in this genus, as Hampson did.

*A. flavovittata* Mr. (34 e and Vol. II, t. 29 c). This species being easily recognizable by the very undulate border of the wings forming a projecting angle in the forewing at vein 6 and by the terminal joint of the palpi being conspicuously broadly scaled in tufts and sprawling, has already been described and figured in the palearctic part. The under surface of the forewing shows a dark brown discal line disappearing towards the proximal margin, whilst the hindwing shows a subbasal blackish undulate line. North India to the Himalaya.

*A. bheroba* Mr. (33 d) is rather bright vermilion with a brownish tint, the forewing only at the apex and in the marginal area more densely intermixed with white scales, with a distinct, white discal spot, the prediscal band indistinct, flatly bent proximad, the postdiscal band distinct, parallel to the margin, very slightly curved and distally bordered with white; submarginal dark dentate line distinct. Hindwing brownish-red with a lighter base, marginal half not darkened. On the under surface in the hindwing the dark postdiscal band and submarginal row of spots indistinct, apex and margin deep brownish and intermixed with grey scales; hindwing light reddish-brown, intermixed with white and dark brown scales, with a discal, posteriorly shortened, blackish-brown dentate band and indistinct dark submarginal spots. India as far as the Sunda Islands.

*A. erectilinea* Sck. (35 a) is conspicuous by its bright brownish-red colouring, particularly in the forewing; distinguishable from *A. bheroba* (33 d) by the darker wings being more intermixed with grey scales and the almost rectilinear, only slightly distally bent postdiscal band of the forewing posteriorly converging with the margin. Forewing with a distinct white discal spot and a black prediscal and postdiscal transverse band, the latter more distinct, and both on the averted sides bordered with white. Marginal part in both wings darkened, especially in the hindwing, in the forewing very much intermixed with white scales. Under surface: forewing with a blackish-brown discal band, hindwing with an extensive, dark spot in the middle of the costal margin; the dark discal dentate band in the hindwing very distinct and double. India as far as the Sunda Islands to the Philippines.

*A. vitta* Mr. (35 a). Bright brownish vermilion, abdomen lighter. Forewing with a small, white discal spot encircled by blackish, the prediscal band scarcely noticeable, postdiscal band more distinct, blackish, irregular, like the submarginal line. Margin darkened. Under surface of a duller and darker colouring, forewing with a discal and a submarginal band. Hindwing in the middle of the costal margin blackened, likewise with a dark submarginal band. Sunda Islands (Sumatra, Java, Borneo).

*A. angulata* Grünb. (33 d). Head and thorax grey. Abdomen above reddish, beneath grey. Palpi red-brown. Forewing as far as the submarginal row of blackish spots brownish-grey, the marginal part dark red-brown; discal spot white, large and distinct; prediscal line very sharply bent proximad. Postdiscal line distinct, between veins 5 and 7 rectangularly bent round. Hindwing dark red-brown, at the costal margin grey. Under surface of forewing brownish-red with a grey border and a slightly bent, not broken, narrow postdiscal band, in the hindwing grey with a distinct, dark brown, posteriorly shortened, double discal dentate band and almost black, only in the middle part developed submarginal spots. Malacca and Borneo.

*A. rosea* Hmps. (35 a) is a large species with black palpi, a black streak across the head and thorax, and a broad black saddle-spot on the abdomen. Forewing light brown with a slight reddish tint, a small black discal spot, a prediscal and postdiscal dark transverse band, the former undulate, the latter slightly curved and distally bordered with light, and a dark submarginal undulate line. Hindwing with a brighter reddish tint except the grey costal margin. Nilgiris.

*A. vinata* Mr. (35 b). Allied with *rosea* Hmps., palpi also black, but the dorsal marking on the body red-brown, wings light greyish-brown. Forewing with a distinct black discal dot, prediscal and postdiscal bands parallel, very oblique, both proximally bordered with light. Submarginal band almost rectilinear and almost parallel to the two proximal bands. Hindwing with a red-brown anal area and an indistinct red-brown transverse band, the middle of the wing somewhat lighter. North India: Sikkim (Darjeeling).
A. rectilinea Hmps. Allied with vinata Mr. (35 b), but scarcely more than half as large, with light palpi, abdomen without dark dorsal marking. Prediscal and postdiscal band in the forewing less oblique, indistinct, submarginal line very indistinct. The black discal spot larger. Hindwing dark red-brown with an indistinct dark median line. Burma.

A. holoxantha Grünb. (33 d). Antennae light brown; body yellow. Head and thorax with a brown longitudinal streak, abdominal dorsum blackish. Wings bright ochreous-yellow. Forewing with 3 parallel, dark brown oblique lines arranged as in vinata, a very small, red-brown discal dot and the proximal margin bordered with brownish-red. Bands on forewings beneath indistinct, hindwing on the whitish basal half with 2 short, brown oblique bands proceeding from the costal margin, a broad brown median band and a submarginal dentate line. Sumatra.

A. decurtata Mr. (35 b) is smaller than rosea Hmps. and the allied species, dark red-brown, especially the hindwing of the $$. Palpi and dorsal line across the head and thorax blackish, abdomen without a dark dorsal marking. The black discal spot in the forewing very small, punctiform, prediscal band rectilinear, postdiscal band slightly curved, submarginal line rather indistinct. Hindwings uni-coloured. North India: Sikkim (Darjeeling).

A. albigutta Wkr. (35 b). Reddish-brown, head, thorax and forewing densely intermixed with whitish hairs and scales. Antennal shaft whitish, palpi dark red-brown, above whitish. Forewing with a white discal spot, prediscal band very indistinct, postdiscal band somewhat curved, submarginal band broken up into a row of single, dark spots. Under surface uni-coloured red-brown (in Australian specimens) or in the forewing with 2 postmedian dark transverse lines, in the hindwing with an indistinct, subbasal transverse line. North India, in the North Western Himalaya; Australia and Tasmania.

A. pratti B.-Bak. (35 a). Head, thorax and wings light reddish-brown, abdomen darker, palpi dark red-brown. Forewing thinly strewn with grey scales, in the middle with 2 parallel, rather remote, blackish undulate lines, on the averted sides bordered with light, the space between them particularly densely intermixed with grey scales. Discal spot small and indistinct, the blackish submarginal spots neither very distinct. British New Guinea (Ekeikei).

A. bipartita Leech (32 c). Head and thorax light brown with a dark median streak. Abdomen reddish-brown, anal hairing lighter, forewing dark cinnamon-coloured, basal half much intermixed with grey, less so the marginal half, with 3 dark brown oblique bands, the middle one more undulate and distally bordered with grey, the distal one darker and irregular. Hindwing dark cinnamon-coloured with a grey proximal margin. Marginal scales of both wings darker than the ground-colour. Under surface light brown, forewing with a reddish-brown costal margin and a narrow brown postdiscal band, hindwing with an irregular antemedian transverse band and darker marginal part. West China: Pu-tsu-fong.

A. formosae Wil. (32 c). Forewing reddish-yellow, the small white discal spot narrowly margined with black. Postmedian line and veins behind it head-coloured, like the margin: submarginal line dark, dentate. Hindwing reddish-brown, costal margin lighter, marginal half darker and strewn with grey scales. Under surface red-brown, both wings with a lighter proximal margin, marking of forewing as above, but more distinct and broader, hindwing with a blackish antemedian and postmedian line. Expanse 50 mm. Formosa.


Palpi rather long porrect, densely scaled, with a flat terminal joint. Antennae combed as far as the tips. Forewing rather broad, trilateral, with a uniformly rounded costal margin and a steep margin, veins 6 and 7 forked, with 8 from the anterior cell-end, 9 and 10 forked, 11 extending close at vein 12. Hindwing at the costal margin and apex excised, veins 4 and 5 forked, 7 separate, no secondary cell nor secondary veins. Middle and posterior legs densely covered with long hair. 2 species are known.

P. rufa B.-Bak. (46 c). $ body red-brown. Forewing bright reddish-brown with a dark discal spot and a dark antemedian and postmedian oblique line, the latter more strongly bevelled; dark submarginal line only feebly noticeable, apex slightly scaled grey. Hindwing dark red-brown with faint traces of a dark discal line. Medium-sized species. British New Guinea: Kebea Range.

P. pallens B.-Bak. (46 a as pallida). $ head and thorax light yellowish-grey, abdomen much darker. Forewing light yellowish-grey with a dark discal spot and a dark antemedian and postmedian oblique line, the latter very oblique and broken in a sharp angle below the costal margin; only faint traces of a submarginal line of dark spots. Apex and proximal margin with a fine dark border. Hindwing greyish-brown with a light yellowish-grey basal part. Medium-sized species (43 mm). British New Guinea: Kebea Range.
11. Genus: **Syrastrena** Mr.

The genus only comprises one rather small species, the body of which is densely covered with appressed hair, the palpi appearing triangular from the sides and being remarkably broadly scaled, the antennae exhibiting also in the ♀ rather long pinnae, the branches of which gradually grow shorter towards the apex. Forewing broad triangular with a steep, in the ♀ somewhat more curved margin, hindwing uniformly rounded. In the forewing veins 6, 7, 8 on a footstalk, the footstalk of 9 and 10 very long. In the hindwing veins 3, 4, 5 on a footstalk, 7 rising near the base, 8 approaching it very closely, 1 or 2 secondary veins. Middle and posterior tibiae with short terminal spurs. North India.

**S. minor** Mr. (35 b). Uni-coloured light reddish-brown, forewing with 2 parallel, dark, antemedian *minor*.

and postmedian oblique bands proximally bordered with light. Under surface at the apex of the forewing and in the hindwing hued grey, hindwing with a narrow brown median band proceeding from the costal margin and extending to vein 5. North India (Sikkim).

12. Genus: **Bhareetta** Mr.

Antennae with moderately long pinnae, palpi porrect, long, densely scaled. Forewing with at first rectilinear costal margin being rather much bent towards the apex, apex sharp, margin below the apex excised, projecting again at vein 6, then forming another broad excision as far as vein 2. Hindwing broad, uniformly rounded, or excised below the apex. In the forewing veins 6 and 7 forked, footstalk of 9 and 10 not quite so long as the free branches. In the hindwing veins 4 and 5 on a short footstalk, 7 and 8 at the base closely touching each other, 1 secondary vein. Middle and posterior tibiae with short terminal spurs. Represented by 2 species occurring in North India.

**Bh. cinnamomea** Mr. (35 c) is a medium-sized species of a reddish-grey total colouring, with black palpi and a blackish longitudinal streak across the vertex and thoracic dorsum. Forewing with a dark brown oblique band extending from the apex to the proximal margin, behind which the distal part of the wing is somewhat more grey-coloured. A blackish discal spot and 2 blackish subbasal spots near the costal margin, besides a series of distinct, blackish submarginal spots. Hindwing with a pale brown oblique band from the apex to the proximal margin. On the under surface in the forewing the discal spot is somewhat larger, the other spots are absent, the band is indistinct. The band in the hindwing, however, somewhat more distinct than above, light ferruginous, in the middle slightly bent. Sikkim: Darjeeling.

**Bh. flammans** Hmps. is easily discernible from the preceding by its smaller size, the bright red colouring, and the excision of the margin of the hindwing. Forewing with dark bands and a prediscal and postdiscl rectilinear oblique band approaching each other at the proximal margin. Hindwing with a dark reddish-grey apex and an indistinct median band. Manipur.


In its exterior not at all like a *Lasiocampa*, the only species of this genus known hitherto at first sight strongly recalls some Hesperiidae, which is also expressed in its name *hasora*. The rather long-extended, narrow forewing exhibits 2 unscaled preapical vitreous spots, the distal margin projects somewhat at vein 6, then follows an almost semicircular concavity. The hindwing is also oblong, semicircular with a rectilinear proximal margin, only at vein 7 the margin forms a small projection. In the forewing veins 6, 7, 8 forked, the footstalk of 9 and 10 very long; hindwing with an open cell, veins 7 and 8 fused for a short distance so that a narrow secondary cell is produced, from which 2 or 3 secondary veins rise. Antennae remarkably short, with rather long pinnae; palpi as in *Bhareetta* long, projecting beak-shaped. Middle and posterior tibiae without terminal spurs.

**O. hasora** Swh. (35 c). Dark brown, forewing beside the two hyaline preapical spots with irregular *hasora*.

black spots between the cell-end and the vitreous spots, and with traces of a blackish discal and postdiscl band; in the cell a more or less extensive, bright orange-red longitudinal stripe, at the end of the discoidal vein dentate white. Marginal scales whitish. Under surface of forewing somewhat lighter with a white discal spot, hindwing beneath with a broad, though incomplete, bluish-white transverse band. The species might, especially also according to the marking beneath, be considered as a typical model of mimicry. North India (Khasia Hills) as far as the Sunda Islands (Borneo).

As to the diagnose of the genus, comp. Vol. II, p. 163. The two Indian species deviate little from the 3 palearctic ones, occurring in the Eastern Mediterranean district and in Anterior Asia, they are likewise small, densely haired, grey or pale brown species with round wings, with a white discal spot and brown oblique stripes in the forewing. The genus also occurs in the Ethiopian region.

*Ch. similis* Wkr. (32 a). Pale light brown, almost whitish, the wings strewn with dark brown scales. Forewing with an oblong, white discal spot from the posterior end of which a dark brown line extends towards the base of the proximal margin; 2 more brown oblique lines extend from the apex parallel to the border as far as the proximal margin. Hindwing uni-coloured. Nepal, Pendjab.

*Ch. strigula* Wkr. is somewhat larger, otherwise as *similis*, but abdomen and hindwing purely white. — Larva yellow, with black transverse stripes; black lateral hair-tufts on all the segments, a longer dorsal tuft on the 2nd, 3rd and 11th segments; dorsal hairing short, yellow and black. On Acacia-like thorn-bushes. Cocoon with an intense silky lustre, with its ends firmly spun onto twigs, on the end being turned downward with an opening for flying out. Pupa dark brown, squat, cylindrical, with a flatly rounded, unarmed anal end. From the Himalaya (Nepal) through India to Ceylon.


Of this genus being at home and common in the whole palearctic region, the typical representative of which is the well-known Lasiocampid *M. neustria* L., only two species are known from the Indian district, and usually go by the name of *Clisiocampa*. As to the diagnose of the genus see Vol. II, p. 150.

*M. indica* Wkr. (32 a). Body pale reddish-brown, forewing yellowish-grey, a large spot in the middle of the costal margin and the marginal part reddish-brown; a prediscal and a postdiscal narrow brown oblique band. Hindwing uni-coloured reddish-brown. North India.


16. Genus: *Alompra* Mr.

Antennae of ♀ and ♂ combed, and flawed before the middle. Palpi short, porrect, densely scaled, with a short, stump-shaped terminal joint. Forewing long, apex rounded, margin very oblique, passing over into the proximal margin in a flat bow. Hindwing long, its apex projecting beyond the anal angle of the forewing, the basal costal part convex. In the forewing 6, 7 and 8 forked, the footstalk of 9 and 10 longer than the free ends. In the hindwing vein 3 with the short footstalk of 4 and 5 from the posterior cell-end, 7 behind the base for a short distance fused with 8; 1 long, strong secondary vein and another short, feeble one. Middle and posterior tibiae with very short terminal spurs. Only one North Indian species.

*A. ferruginea* Mr. (35 d). Body and hindwing bright brownish-red, forewing darker, more grey, with a brownish-red marking, a large basal spot, a spot on both sides of the discal vein and an indistinct submarginal band; besides with a black basal spot and a subbasal arcuate row of black spots. Under surface uni-coloured brownish-red. North India: Sikkim. (The figure denoted as *ferruginea* ♀ on t. 35 c does not represent this species, but the ♀ of *Entometa fervens*).

17. Genus: *Kosala* Mr.

Medium-sized species with a densely haired body and broad wings. Antennae in the ♀ with long, in the ♂ with short combs. Palpi short, the apex hidden in the dense scaling. Forewing with an almost rectilinear costal margin and a steep, bent margin. Hindwing broad and uniformly rounded or with a projecting apex, costal margin convex or rectilinear. In the forewing vein 6 with the short footstalk of 7 and 8 from the anterior cell-end; the footstalk of 9 and 10 shorter than the free ends. Cell in both wings very short. In the hindwing vein 7 close at the base for a short distance fused with 8. Middle and posterior tibiae with short terminal spurs. North India and Burma. 4 species known.


K. rufa Hmps. As large as or still larger than sanguinea (35 d). Antennae with a brownish-yellow shaft and brown pinnae. Head, thorax and forewing red-brown, forewing at the base ferruginous, with 2 white discal spots, a dark, almost rectilinear median band and a submarginal row of indistinct, ferruginous spots. Abdomen and hindwing darker red-brown. Under surface lighter and duller, on both wings with a dark transverse band close behind the middle. Naga Hills.

K. flavosignata Mr. (35 d). Head, thorax and forewing bright dark red-brown, abdomen and hindwing duller, more claret-coloured. Forewing with a white discal spot and a dark prediscal undulate line towards the proximal margin on both sides bordered with yellowish; the postdiscal and the submarginal bands indistinct, the latter distally bordered with yellow. Sikkim.


This widely distributed genus was already described in the palearctic part (Vol. II, p. 165), where.

T. vishnou Lej. (= sulphurae Koll., mahananda Mr., basalis Wkr., prasina Wkr., pallida Wkr.) vishnou. (36 e) being at home and common in the whole Indian region was described as an extreme order (p. 166, t. 27 a). We figure it (35 e) once more as a particularly typical representative of the Indian fauna and for its interesting dimorphism.

Besides it but one more species:

T. irrorata Mr. (32 d). Bright ochreous-yellow, marginal part and inner-marginal part of forewing as well as the marginal part of the hindwing with a blackish discal area of the hindwing densely strewn with dark brown scales. Forewing with an indistinct, dark, prediscal dentate band, a light bluish-grey discal spot and a submarginal row of spots of the same colour, the grey spots strewn with blackish scales. A similar, submarginal row of spots in the hindwing. Marginal scales yellow. Under surface lighter, the dark scales more scanty, hindwing with a brown discal undulate line. Java, Borneo.


Description of the genus in Vol. II, p. 152. In the oriental district represented by one North Indian species.

T. khasiana Mr. (35 e). Head, thorax, and forewing deep blackish-brown, abdomen and hindwing lighter dull greyish-brown. Pinnae of antennae with a reddish tint. Veins and a submarginal undulate line in the forewing reddish-brown, a whitish prediscal and postdiscal line, the former rectilinear, the latter bent and undulate. Sikkim, Khasia Hills.


C. torrida Mr. (35 d). Yellowish-brown, proximal margin of hindwing and abdomen darker. Antennae with blackish pinnae. Forewing with a blackish, proximally bent prediscal and postdiscal band; at the cell-end a large, quadrangular, greenish-white spot, a smaller triangular one in the cell behind the prediscal band, an indistinct row of light submarginal spots. In the hindwing a narrow median band, submarginal spots as in the forewing. Sikkim, Khasia, Manipur.
LENODORA. By Dr. K. Grünsberg.

inexperta. C. (?) inexperta Leech. Body dark brown, patagia greyish. Forewing greyish-brown, with a slight violet reflection, with a small, white discal spot and 2 blackish transverse lines on the discal area, the proximal one bent and dentate, the distal one broken below the costal margin and then curved; a blackish submarginal line indistinct; between the distal transverse line and the anal angle at the proximal margin a black spot on both sides bordered with white. Hindwing sooty-brown with a grey-scaled costal margin. Under surface sooty-brown, both wings with a darker discal band. Forewing at the apex with 2 spots of greenish lustrous scales. North East China: Ningpo.

cissa. C. (?) cissa Wil. (32 b). ♀ forewing brown with a reddish discal area, hued and spotted with grey, especially at the costal part; discal spot black; in the marginal area a light, undulate transverse line; in the middle and before the proximal margin deeply indented, proximally accompanied by a dark brown shade; apical part clouded dark brown. Hindwing with the costal margin deeply excised in the middle, a dentate margin, above vein 6 with a deep indentation; brown, in the middle of the costal margin a black spot distally bordered with white; the veins behind the latter spotted white. Under surface of forewing chiefly as above, but lighter, with distinctly prominent veins, hindwing pale brown, spotted and clouded blackish, with a black antemedian line, the veins behind the latter black, spotted white. Formosa: Arizan.

21. Genus: Lenodora Mr.

Medium-sized species with broad round wings. Palpi short, densely scaled. Antennae in the ♀ with very short pinnae. In the forewing veins 6 and 7 on a short footstalk, the footstalk of 8 and 9 likewise short. In the hindwing veins 4 and 5 from the lower cell-end, 7 and 8 connected by a transverse vein; numerous secondary veins. 7 Indian species.


signata. L. signata Mr. (= fasciata Mr.). ♀ body and wings bright dark red-brown. Forewing with a small, white, bent discal spot, a broad, indistinct, blackish postmedian band. ♀ darker brown with an indistinct light postmedian band in the hindwing. — In fusca Moore (35 f, as signata) which is placed to this species the white discal spot of the forewing is absent. — India.

semiyalina. L. semiyalina Sich. (35 f). Reddish-brown, the wings somewhat darker than the body, with an extensive, lighter, somewhat diaphanous spot produced by the thinner scaling; in the forewing it extends as a broad band from the apex to the basal part of the proximal margin, in the hindwing it covers the median part behind the cell. ♀ somewhat lighter than the ♀, more greyish-brown, the spots more indistinct. Naga Hills (Burma).

pellidochrea. L. pellidochrea Hmps. (46 a). Light greyish-brown, forewing with a dark brown discal spot, a pale reddish arcuate line extending from the distal margin close below the base to the middle of the proximal margin, and a distal, deeply dentated arcuate line forming on the veins a double row of black spots. Khasia Hills.

fia. L. fia Sich. (32 g, 46 b). Body light yellowish-brown, anal tuft bright ochreous. Wings light reddish-brown, thinly scaled, diaphanous, whereas the costal and proximal margins of the forewing are densely scaled dark red-brown; a submarginal row of blackish spots indistinct. Marginal scales bright red-brown. Scaling of forewing a little denser. Both wings beneath more brownish-yellow with a red-brown marginal part. The ♀ is darker brown, and in the forewing it exhibits 4 grey transverse lines, the two middle ones of which enclose a deep dark brown band. Cashmir. — HAMPSON places the species to Metanastria.

crenata. L. crenata Hmps. (32 g). Dark yellowish-brown. Forewing partly lighter yellowish-white, below the costal margin with an indistinct whitish streak from the base to behind the upper cell-end and with a slightly bent, dark, postdiscal dentate line beginning below the apex and extending to the middle of the proximal margin. Ceylon.

hyalomelaena. L. hyalomelaena Hmps. (46 b). Body dark grey, beneath yellowish. Forewing deep blackish-brown with a narrow, yellowish costal margin and a broad, whitish longitudinal band extending from the base to below the apex of the wing and covering the whole discal part. Hindwing light diaphanous, veins and margin black. Medium-sized. Madras.
22. Genus: Estigena Mr.

The only, wide-spread species of this genus, Estigena pardalis Wkr. (= nandina Mr., abstracta Wkr., pardalis, scriptiplaga Wkr.) (35 f 2) was, since it occurs in Arabia, already dealt with in the palearctic part (Vol. II, p. 169 and 170, t. 27 c). In its habits it reminds us of the palearctic Gastropacha- and Epicnaptera-species with which it is also closely allied, and varies considerably in the size and colouring which likewise varies in all shades between the predominant brownish-red and a light yellowish-grey. The dispersed black scaling and the black dentate bands may in light specimens disappear almost entirely except the submarginal band. Arabia, in the whole of India common from the Himalaya to Ceylon, Burma, Java, Andamans.


Palpi short, antennae in the ♀ with very long pinnae as far as before the middle, then the branches suddenly grow shorter and gradually shorten as far as the tips. Forewing stretched, almost semicircular, costal margin rectilinear and only before the apex feebly bent; veins 6, 7 and 8 forked, the footstalk of 9 and 10 long. Hindwing likewise stretched, oval, veins 3, 4 and 5 from the posterior cell-end, 7 and 8 connected by a transverse vein, 8 from the latter with a strong curve towards the costal margin, forming a broad secondary cell from which several feeble secondary veins proceed. Legs at the tarsal ends with long dense hair-tufts.

The only species known is:

I. bicellata B.-Bak. (32 a). ♀: of a moderate medium size, body and forewing red-brown, the hair of bicellata. the body with light apices, anal hair blackish. Forewing with a blackish discal dot and a not very distinct, dark prediscal and postdiscal line, the latter broken at vein 6. Marginal part lighter, watered with grey, inner-marginal part from the cell-end to the anal angle deep dark brownish-red. Hindwing light brownish-red with an indistinct darker submarginal band. British New Guinea: Dinawa.


Palpi short, porrect, projecting far beyond the frons. Antennae as in the preceding genus. Forewing narrow and stretched, costal margin at the distal half slightly curved, margin and proximal margin uniformly curved; veins 6, 7 and 8 forked, footstalk of 9 and 10 very long. Hindwing stretched, with a very convex costal margin. Veins 4 and 5 forked, 7 touching vein 8 close at the base, secondary cell small with 2 secondary veins. The only species known is:


This genus which otherwise belongs to the palearctic fauna and has therefore been dealt with in Vol. II, p. 170, penetrates the Indian region with one species:

O. brevivenis Btlr. (Vol. II, t. 27 f) is described in Vol. II, p. 6 with its larva and cocoon; the species brevivenis. is particularly as a larva common in the southern part of China (Hongkong, Swatow etc.) the fauna of which entirely belongs to the Indian.


The otherwise quite palearctic genus (comp. Vol. II, p. 171) penetrates the oriental region with 1 species:

D. punctata Wkr. (Vol. II, t. 28 d) is also found in the faunistic Indian south of China and often common punctata. in the artificially afforested pine forests of Kaulung (opposite the Island of Hongkong) where it causes great havoc by its frequency. Comp. Vol. II, p. 171.
27. Genus: **Gastropacha O.**

The typical representatives of this genus the diagnose of which we find in the palearctic part (Vol. II, p. 168) are *Gastropacha quercijolia* L., the well-known copper lappet-moth distributed across the whole palearctic district, and *G. populifolia* Esp., the scarcely less well-known poplar lappet-moth. To the Indian fauna belong 2 species occurring in the Himalaya at the northern frontier of the district, thus distinctly showing that they are actually strangers in this fauna. One originates from Dharmasala at the southern frontier of Cashmir, the other being known from Sikkim. A third species likewise described from Sikkim must be placed to *Stenophylloides*.

**G. undulifera** Wkr. (32 c). Body light brownish-grey, wings somewhat darker, strewn with dark brown scales. Forewing with a black discal streak and an indistinct prediscal and postdiscal, double, black dentate band. Dharmasala.

**G. divaricata** Mr. (32 c). Head, thorax and forewing dark red-brown. Abdomen and hindwing somewhat lighter. Forewing with a blackish prediscal and postdiscal dentate band very much approaching each other at the proximal margin; between them 2 more indistinct, shorter bands not reaching the proximal margin; a row of indistinct, grey submarginal spots. Sikkim: Darjeeling.

28. Genus: **Stenophylloides Hmps.**

Very closely allied with *Gastropacha*. Palpi long, porrect, antennae at the basal half with rather long, behind the middle short pinnae. Forewing long and narrow, costal margin rectilinear, only behind the middle moderately bent, margin very oblique, proximal margin short. Hindwing with a very convex costal margin, forming a sharp angle at vein 7, margin at first rectilinear and undulate, then passing over into the proximal margin in a bow. In the forewing veins 6, 7 and 8 forked, the footstalk of 9 and 10 very long, in the hindwing vein 3 with 4 and 5 on a short footstalk, 7 connected with 8 by a long transverse vein; numerous secondary veins. The only remarkable differences between *Stenophylloides* and *Gastropacha* consist in vein 8 being forked with 6 and 7 in the forewing and in the angular contours of the hindwing. Beside the typical species *sikkima* Mr. also *Gastropacha sinuata* Mr. belongs hereto.

**S. sikkima** Mr. (33 d). A beautiful, bright reddish-brown species. Proximal margin of forewing and costal margin of hindwing light golden brown, and so is also the posterior margin of the thorax and the apex of the forewing, though it is not quite so bright. Antennae and palpi blackish, across the head and thorax a dark longitudinal streak. Forewing with an indistinct dark discal spot and several, usually very indistinct blackish dentate bands, the submarginal one of which is most prominent. Sikkim: Darjeeling.

**S. sinuata** Mr. (35 f). Head, thorax and forewing in the ♂ light greyish-brown with a somewhat reddish tint, abdomen and hindwing more intensely brown, abdomen of the ♀ pale greyish-brown, the wings like the forewings in the ♂, the reddish tint a little more distinct. Forewing with an indistinct black discal spot, prediscal band very obsolete, postdiscal bands and submarginal band likewise indistinct. Sikkim: Darjeeling.

**S. encausta** Hmps. (32 g). Head dark yellow, antennae and palpi brown. Thorax dark red-brown, abdomen greyish-brown with a reddish dorsum. Forewing dark brown, costal-marginal part inclusive of cell and at the posterior cell-angle obliquely up to the apex intermixed with grey; discal spot black; inner-marginal half bright red, in the middle of the proximal margin a dark ochreous-yellow spot. Marginal part slightly reddish. Hindwing dark brown with a reddish tint, the inner-marginal part grey. Marginal scales with yellow tips. India: Simla.

29. Genus: **Cosmotriche Hbn.**

The typical species is *C. potatoria* L. distributed in a great number of forms in the palearctic region from Europe to East Asia. As to the diagnose of the genus see Fauna palaearctica, Vol. II, p. 163. Most of the oriental species closely approximate *C. potatoria* in their morphological marks and in the scheme of markings.

**C. laeta** Wkr. (33 c). Head, thorax and forewing reddish-brown, abdomen lighter, more greyish-brown. Forewing with a large, white, somewhat lustrous silvery discal spot on which the discal transverse vein is set forth prominently dark, above it a small white spot; an indistinct, vertical, prediscal and a more distinct postdiscal dark undulate line extending very obliquely and bent to the left, reaching at the costal margin
to the proximal margin; behind it a submarginal dark undulate line. Under surface uni-coloured reddish greenishbrown or with very faint traces of a darker discal band. — In *decisa* Wkr. (= inobtrusa Wkr.) (33 b) the colouring *decisa.* is monotonously greyish-brown, abdomen and hindwing almost grey, the reddish tint almost entirely absent also on the forewing, the discal spot is dark brown. — Larva dark brown, striped blackish, with reddish lateral spots and lateral hairtufts of black mixed with grey, being the longest on the 1st segment. Dorsal tuft on the first segment black, on the 2nd grey, on the 3rd to 10th black, short, V-shaped, also on the 11th long, black. Cocoon whitish, dense, parchment-like. — India from the Himalaya to the Sunda Islands.

**C. castanea** Hmps. (33 b). ♀ body and forewing light chestnut-brown, hindwing dull, brown. Forewing *castanea.* with 2 small, grey discal spots, the oblique band grey, rectilinear, not bent towards the proximal margin. The ♀ is more reddish, the costal part of the hindwing red-brown. Sikkim.

**C. signata** Mr. (33 b). Head, thorax and forewing dark red-brown, abdomen and hindwing greyish-brown. Forewing at the proximal margin with a broad triangular scaled continuation, the white discal spot narrow, strewn with light reddish scales, the upper small spot distinct, prediscal line indistinct, postdiscal line more distinct, blackish, undulate, below the discal spot removed somewhat proximally, submarginal line less distinct. Hindwing with faint traces of a dark discal band. Under surface coloured as above, forewing with an indistinct white discal spot, both wings with a blackish discal band disappearing towards the proximal margin. Sikkim: Darjeeling.

**C. isocyma** Hmps. Size of *castanea* (33 b). Dark red-brown. Forewing with a darker discal spot, an *isocyma.* indistinct prediscal undulate line and a more distinct, uniformly bent, blackish postdiscal line extending from the apex to the proximal margin. Hindwing flesh-coloured with a darker costal margin. Assam: Naga Hills.

**C. pyriformis** Mr. (33 b). Head, thorax and forewing dark ferruginous, abdomen and hindwing with a more reddish tint. The white discal spot in the forewing above narrow, beneath broad, guttiform or pyriform, the black prediscal line distinct, very slightly undulate, directed somewhat distally, the postdiscal line running at the costal margin close before the apex to the middle of the proximal margin, where it almost touches the prediscal line, distinct, black with a white distal border. Submarginal line broken up into a row of oblique transverse streaks. Beneath lighter ferruginous with an indistinct, dark discal band on both wings. North West Himalaya. Sikkim: Darjeeling.

**C. divisa** Mr. (33 a). A beautiful species of bright colours with a remarkably large, silvery white *divisa.* discal spot strewn with brown in the forewing. Head and thorax lighter or darker red-brown, like the costal part of the forewing, which, however, in a specimen from Labuan is of a bright, light golden-brown colouring; a blackish prediscal line indistinct. The postdiscal line beginning at the apex or close before it, extending rather rectilinearly to the middle of the proximal margin; the marginal half behind it whitish-grey with a reddish or delicately violet tint, the margin often again somewhat darker. Abdomen light brownish-grey, somewhat reddish, like the larger proximal half of the forewing which is rather distinctly separated from the darker red-brown costal part. — To this species belongs *sulphurea* Auriv. *sulphurea.* having hitherto been placed to *laeta* Wkr. and occurring from North India to East Asia and Japan, in which the basal inner-marginal area of the forewing is bright ochreous yellow (comp. Vol. II, p. 165, t. 26 g as *laeta*). HAMPSON already mentions the yellow colouring at the proximal margin in specimens from Sikkim, and *sulphurea* undoubtedly belongs according to its whole character to *divisa.* In the specimen from Labuan the proximal margin of the forewing is likewise golden yellow. — From the Sunda Islands and Ceylon across India and China to the Amur District and Japan. The typical form without the yellow colouring of the proximal margin in the forewing seems only to occur in Ceylon.

**C. purpurascens** Hmps. (32 d). Head, thorax, forewing and costal part of hindwing deep red-brown, abdomen and proximal part of hindwing light greyish-brown with a reddish tint, the dark colouring of the costal margin distinctly defined. Forewing with a dark discal spot and a blackish postdiscal line at the costal margin close before the apex to the middle of the proximal margin. HAMPSON's presumption that this species might be the ♀ of *divisa* Moore, is probably incorrect, as in the ♀ of the form *sulphurea* Auriv. of *divisa* the large, white discal spot is very distinctly prominent. Ceylon.

**C. ochreipuncta** Wil. ♀ (32 d): forewing red-brown with a small light yellowish discal spot, the oblique band blackish, proximally finely bordered with a violettish-grey, from the costal margin close before the apex to the middle of the proximal margin; the distal half of the wing behind it lighter and speckled with a violettish grey; submarginal line blackish, dentate. Hindwing brown, beneath the same, basal parts in both wings more reddish, oblique band of forewing scarcely noticeable, hindwing with a slight dark discal shade. ♀ above less red, beneath with any reddish tint. Formosa.

Small species with a long-haired abdomen and broad, round wings. Antennae of the ♂ with long, of the ♀ with very short pinnae. Palpi short, long-haired. In the forewing veins 6, 7 and 8 forked, the footstalk of 9 and 10 as long as the free ends; in the hindwing veins 4 and 5 from the posterior cell-end, 7 and 8 before the middle of the wing connected by a long transverse vein, basal part of 8 rather much curved, 1 secondary vein.

**exposita** Lew. (= pusilla Don., (?) combinata Wkr., brevis Wkr., hebes Wkr., rufoeircerea Wkr., ? myceria Bsl.) (32 g). Dark red-brown, hindwing darker. Forewing with a white discal dot; blackish prediscal and postdiscal lines, the former rather vertical and proximally bordered with white, the latter irregular, dentate and distally bordered with white; a very dentate, black submarginal line proximally bordered with whitish; discal area between the proximal band dark. The part between the postdiscal and submarginal lines lighter, grey. ♀ lighter and duller than the ♂, more greyish-brown. In the whole of Australia.

**brevipennis**. Wkr. (= figurata Luc.). Head brownish-yellow, beneath blackish, palpi with a blackish upper surface. Thorax ferruginous with an interrupted white band. Abdomen slightly yellowish. Wings white, very short, forewing with 4 irregular, ferruginous dentate bands, the two middle ones broad, connected at the costal margin, and with a row of brown marginal spots. Queensland.

**indistincta** Btlr. (described as Cosmotriche). ♀ allied with P. *exposita* Lew. (32 g). Head and collar blackish, body smoky-brown, wings smoky-grey, semi-transparent, forewing a little darker than hindwing, with an indistinct, oblique, dark discal band on the posterior half and an indistinct dark submarginal row of spots. Under surface somewhat lighter than above, without markings. The ♂ is not described. Australia: Peak Downs.

Allied with *Entometa* Wkr. Palpi much longer and broader at the ends. Costal margin of forewing behind the middle very much bent, veins 6, 7 and 8 forked, in the hindwing veins 3, 4 and 5 forked, 7 anastomosing with 8 near the base; 1 secondary vein. Only 1 species known.

**D. crocota** Trnr. Head, thorax and wings light reddish-orange, abdomen reddish-yellow, under surface *crocota*. Legs darker, dull reddish. Palpi dark red-brown. Forewing with an irregular dark brown prediscal and discal line meeting at the proximal margin near the base, and a feebly developed submarginal row of spots. Hindwing unmarked. Under surface similar, somewhat lighter, in the hindwing with an extensive, dark costal spot interrupted before the middle by a lighter transverse line. Queensland.


♀ antennae with very long and dense pinnae, in the ♀ with short ones. Palpi very long, porrect, beak-shaped, in the ♀ at the end broad, in the ♀ pointed. Body in the ♀ slender, in the ♀ robust and clumsy, with dense, fur-like hair. Forewing stretched, in the ♀ triangular, in the ♀ more roundish. Hindwing uniformly rounded with a long costal margin very much curved at the base. In the forewing vein 8 rises with the short footstalk of 6 and 7 at the anterior cell-end, the footstalk of 9 and 10 is much shorter than the free ends; in the hindwing veins 4 and 5 on a short footstalk, 7 near the base anastomosing with 8, 1 secondary vein.

**E. fervens** Wkr. (= apicalis Wkr., decorata Wkr., sobria Wkr., guttularis Wkr., flexicosta Fldr.) (35 c; *fervens*). ♀, by mistake denoted as *ferruginea*, 33 b, ♀. ♀ body light greyish-brown changing to dark reddish-brown, antennae and palpi blackish-brown, antennae with yellowish-brown apex. Forewing with yellowish-grey and reddish-brown scaling producing a decidedly reddish tint, with a frequently indistinct blackish discal spot and an indistinct narrow prediscal and postdiscal band, as well as a submarginal row of spots. Hindwing of a bright dark ochreous yellow, sometimes blackish in the middle. Under surface darker, discal and proximal part of the forewing ochreous-brown, both wings with a black discal band disappearing towards the proximal margin. ♀ larger and lighter, body and forewing mostly yellowish-grey, the discal spot more distinct, hindwing light ochreous-yellow. Australia.

**E. marginata** Wkr. (32 f). ♀ ferruginous brown, abdomen blackish-brown, beneath at the apex yellowish. Hindwing blackish-brown, with a brownish-yellow marginal part, of which colour is also the discal area of the forewing beneath. Tasmania.


**E. albida** Wkr. (= [Pinara] erubescens Low.) (32 f). Head and thorax brownish-yellow, terminal joint of the palpi and antennal shaft dark red-brown, pinnae of the antennae yellowish. Abdomen of ♀ yellow, ♀ whitish, body beneath, tibiae and tarsi as well as patagia dark red-brown. Forewing yellowish-red or light flesh-coloured, with a brownish-yellow or dark red-brown discal spot and an equally coloured spot at the base of the costal margin; proximal margin darker, veins yellow. Hindwing as forewing, at the costal margin of a brighter reddish, in the ♀ the middle part of the proximal margin is orange; beneath before the apex a ferruginous brown costal spot. Queensland.

**E. rufescens** Wkr. (= rubida Wkr.) (32 c). ♀ dark reddish, antennae yellowish. Marginal scales broadly spotted white. ♀ more reddish grey with darker antennae. Forewing at the margin ashy-grey, hindwing more red-brown. Marginal scales as in the ♀. South Australia, Tasmania.

**E. cycloloma** Trnr. (= plinthopa Trnr.) ♀ body and forewing light reddish-yellow intermixed with dark reddish-grey hairs and scales. Forewing with a dark brown discal spot and equally coloured prediscal and postdiscal lines, the former being bent distally, the latter in the middle proximally. Marginal scales reddish-grey like the hindwing. Queensland.

**E. spodopa** Trnr. (33 c). Body and forewing whitish-grey with a yellowish tint. Forewing with a small, dark brown discal spot and an equally coloured, fine, slightly dentate postdiscal line; submarginal line broader, but less distinctly broken up into spots. Hindwing grey, a little darker than the forewing, especially in the marginal half, with yellowish-grey marginal scales. Both wings beneath with the beginnings of a blackish transverse band extending from the costal margin before the middle; apex in the forewing slightly blackened. Queensland.

**E. australasiae** F. (= nasuta Wkr., interemerata Wkr., cinerata Wkr., pudorina Wkr.) (32 f). Light brownish-yellow or light brownish-red, hindwing also light brownish-red in case of the body and forewing being lighter, too. Sometimes the body and wings exhibit a decidedly monotonous ashy-grey colouring with a but very faint reddish tint. Palpi extending very far, especially in the ♀ broad and blackened at the apex. Forewing
in the ♂ broad with a steep border, in the ♀ more olong with a sharp apex. Discal spot small, blackish, the narrow, brown prediscal and postdiscal lines as well as the submarginal row of spots often very indistinct, sometimes entirely absent. Both wings beneath with a red-brown discal band being often confined to a costal-marginal spot or also entirely absent, in the forewing the submarginal spots are mostly distinct, the marginal scales sometimes intensely dark brown. Australia and Tasmania.

E. nana Wkr. (32 g) is a very small species with an expanse of scarcely 20 mm. Brownish-red, antennae yellowish-brown with blackish branches. Hindwing with an incomplete blackish transverse band. Tasmania.

33. Genus: Rhathymodes Trnr.

Allied with Entometa. Palpi very much prolonged. Forewing trilateral, costal margin moderately, only before the apex more strongly bent, apex rounded, angular, margin bevelled and curved. Veins 5, 7, and 8 forked. Hindwing rounded, veins 3, 4, 5 separate, 7 anastomosing with 8 near the base, secondary cell small, sending 2 strong secondary veins to the costal margin. The only species known is:

Rh. lechriodes Trnr. ♂ body and wings light reddish-brown; the terminal joint of the very much prolonged palpi darkened; antennae light brownish-yellow. Forewing with a somewhat yellowish tint and double, dark prediscal and postdiscal lines, the latter curved; submarginal spot brown, distinct. Hindwing uni-coloured, marginal scales of both wings whitish-yellow. Under surface light reddish, without marking. Queensland.

34. Genus: Symphyta Trnr.

Head with a conformly projecting tuft of scales. Palpi moderately long, with a small terminal joint covered with dense hairing. Forewing trilateral, in the ♂ somewhat more extended, costal margin rectilinear to shortly before the apex, apex rounded, angular, border rectilinear, bevelled, in the ♀ slightly curved; veins 4 and 5 from the posterior cell-end, 6 and 7 forked, so are 9 and 10. Hindwing rounded, veins 4 and 5 forked (rarely 3, 4 and 5), 7 anastomosing with 8, secondary cell with several secondary veins.

S. psaropis Trnr. Body and wings whitish-grey; antennal shaft white, pinnae yellowish. Forewing thinly strewn with dark grey scales, and with a dark brown discal spot; marginal scales white with brown bases, sometimes also with brown apices. Hindwing likewise strewn with dark grey scales, the proximal margin whitish; marginal scales white with a dark brown median line. Queensland.

S. nyctopis Trnr. Body and wings dark reddish-brown; antennae whitish-yellow. Forewing with a darker discal spot, the dark marginal scales at the apices spotted white. Hindwing a little lighter than forewing, marginal scales the same. Queensland.


Body densely haired, in the ♂ slender, in the ♀ rather clumsy. ♂ antennae with long pinnae, in the ♀ with shorter ones, palpi short, projecting but little beyond the frons, densely haired. Forewing rather broad, trilateral, apex and anal angle rounded, hindwing broad, uniformly rounded, with an almost rectilinear costal margin. In the forewing vein 8 with the footstalk of 6 and 7 from the anterior cell-end or on a very short footstalk; the footstalk of 9 and 10 rather short. In the hindwing veins 4 and 5 from the posterior cell-end, 7 and 8 anastomosing near the base or fused for a short distance; 1 secondary vein. The genus is confined to Australia.

P. vetusta Wkr. (= varia Wkr., anthracica Trnr.) (33 e). ♂ blackish-brown, frons, antennae and palpi yellowish. Thorax in front, abdomen at the apex white. Legs curled yellowish. Forewing blackish, with a slightly greyish marginal part, distinct white marginal spots and a white discal spot, between the latter and the proximal margin scaled white, behind the middle of the proximal margin a black spot; the prediscal and postdiscal dentate bands rather indistinct. Basal half of costal margin scaled yellow. Hindwing blackish with white marginal spots. ♂ larger, also the lateral edges of the thorax white, the white spots of the forewing larger. Forelegs of the ♂ densely covered with long white hair.

P. vitulina Don. (33 f). Dark greyish-brown, head and the greatest part of the thorax, as well as the apex of the abdomen white. Antennae light brown, legs curled yellowish. Forewing with a distinct, white discal spot and a white subbasal band, at the costal margin and on the distal half extensively white, so that the brown colouring projects here in the shape of a rather distinct discal and submarginal band. Margin brown with white spots. Hindwing with a broad, diffuse white discal band and white marginal spots. Both wings beneath with a white discal band. Australia.
P. notodontina Flbr. (33 f). Body and forewing blackish-grey. Antennae light brown. Forewing with a distinct, white, black-margined discal spot and a distinct, black, prediscal and postdiscal dentate band; the blackish submarginal band being broken up into spots is less distinct. Margin black and spotted white. Hindwing white with a black margin, in the ♂ with a darkened basal part and a diffuse submarginal band. Beneath with a blackish discal band which in the hindwing is only distinct at the costal margin. Australia and Tasmania.

P. arida Wkr. (= lignaria Wkr., nubila Wkr., metastigma Wkr., contracta Wkr.) (33 f). Light greyish-brown or yellowish-grey or rather light whitish-grey, forewing with a smaller white discal spot and a blackish, deeply dentated prediscal and postdiscal band which are more remote from each other at the costal margin, more closely together at the proximal margin; behind the postdiscal band, at the proximal margin, a rather large, black, sometimes pale or indistinct spot; a row of dark submarginal spots on a whitish ground; marginal scales spotted dark. Hindwing brownish or grey, somewhat darker or also lighter than the forewing, with an indistinct, often scarcely noticeable light median band, at the anal angle somewhat darkened, marginal scales less distinctly spotted. Australia.

P. subfasciata Wkr. ♂ light brown, head above and prothorax white. Palpi beneath and at the tips white. Antennae black. Legs black with partly white hair. Tarsi banded white. Forewing with a white discal spot partly edged with a dark brown, and prediscal, discal, and submarginal, somewhat irregular white bands, the latter enclosing the dark submarginal spots. Hindwing somewhat lighter than the forewing with an indistinct, light discal transverse band and a whitish margin. Australia.

P. notabilis Wkr. (= mioleuca Meyr.) (32 g). Grey with a whitish abdomen. Palpi blackish. Forewing with a white, black-margined discal spot and a blackish prediscal and postdiscal band, the former rectilinear and vertical, proximally bordered with white, the latter oblique, undulate and distally bordered with white. Submarginal line very much bevelled; dark grey; slightly undulate, broken up into spots. Hindwing white. Australia and Tasmania.


A most aberrant genus, the position of which is still uncertain and which is for the present provisionally inserted in the Lasiocampidae. Hitherto only the ♂ known. Palpi short, hairy, antennae up to the apex with short pinnae. Forewing with an extraordinarily oblong accessory cell from which the veins 7, 8, 9 and 10 rise separately. Hindwing with only one inner-marginal vein, vein 4 from the posterior cell-end, 5 from the discal vein, 8 separate. No frenulum. The author unfortunately does not make any statements as to the contours of the wings and other marks. The only species known is rather large, the ♂ has an expanse of more than 100 mm.

C. aroa B.-Bak. 105 mm. Body and wings reddish-brown, forewing only thinly scaled and diaphanous, aroa. with 2 dark spots in the cell and an almost rectilinear, dark postmedian line proximally bordered with light; the marginal part behind the latter of a greyish ground-colour. Hindwing also with dark cellular spots, the basal one of which is especially intensely dark. British New Guinea (Aroa River).


The species of this genus are distinguished by an intense sexual dimorphism not only expressed by the size of the body and shape of the wings, but especially by the colouring.

Antennae in the ♂ densely set with long pinnae, the branches of which gradually shorten towards the apex, in the ♂ almost filiform with very short branches. Palpi short, porrect, densely haired. Abdomen of the ♂ slender with a dense anal tuft. Forewing oblong, trilateral. Proximal margin and the very much bevelled distal margin almost equally long, anal angle in the ♂ more broadly rounded than in the ♂; hindwing broad, the anal part in the ♂ more prominent than in the ♂. In the forewing veins 6, 7 and 8 forked. The rather short footstalk of 9 and 10 right in front of or likewise behind the cell-end rising from the footstalk of 6, 7 and 8. Costal margin of the ♂ hindwing at the base rather very much indented. Vein 8 fused with the anterior vein of the discoidal cell for some distance, vein 7 rising from 8 only close behind this point of contact; 4 and 5 jointly from the cell-end or on a short footstalk. Discal vein of forewing rather fine, vertical, in the hindwing stronger, very oblique in a posterior and distal direction. The ♂ of the different species are easily discernible by the scheme of the colouring and marking in spite of their great conformity, but the ♂ being of a very monotonous colouring and marking are less easily distinguished. The genus is confined to Australia.

P. cana Wkr. (= calligama Flbr. ♂ nee ♀) (32 e). Body of the ♂ dark greyish-brown, basal part of forewing as far as the white discal spot and along the costal margin still farther of a bright red-brown; white
Punctigera.

P. obliqua Wkr. (= calligama Flbr. ♂) (32 c, f) resembles cana. The ♂ differs by the monotonously greyish-brown forewings strewn with white scales and the narrower white discal spot, but particularly by the prediscal and postdiscal bands being here blackish; by this mark also the ♂ is discernible from that of P. cana. The ♀ also often has a dark abdomen. Australia.

P. divisa Wkr. (= rufescens Blr.) (32 e). Base of forewing in the ♂ as far as the cell-end, except the proximal margin, of a deep dark brown, crossed by a fine, distinct, white transverse line. The white discal spot large and distinct. Postdiscal line white, rather distinct, undulate. The yellow, black-dotted submarginal spots distinct only on the posterior half of the wing. The posterior part of the wing as well as the whole hindwing reddish-grey. The ♀ is not described. Australia.

P. metaphaeca Wkr. (= adusta Wkr.) (32 e). Base of forewing in the ♀, except the proximal margin, of a deep dark red-brown, the submarginal row of spots distinct. ♀ with a blackish-brown abdomen the apex being light grey, hindwing likewise blackish-brown with a broad, whitish-grey border. Evidently closely allied with P. obliqua Wkr. and perhaps only a form of it. Australia.

38. Genus: Crexa Wkr.

Smaller species, likewise with a very well pronounced sexual dimorphism, though here in contrast with Pinara the ♂ ♀ are difficult to distinguish.

Antennae of ♂ ♀ as far as the apex densely set with long pinnae. Palpi short, porrect and densely haired. Wings in the ♂ very thinly scaled, diaphanous, forewing trilateral with an almost quite rectilinear costal margin, hindwing produced at the anal angle, in the ♀ more uniformly and densely scaled, broader and more rounded than in the ♂. In the forewing veins 6 and 7 on a short footstalk, 8 rising separately before the cell-end, 9 and 10 on a rather short footstalk. In the hindwing veins 7 and 8 as in Pinara; 1 secondary vein. Discoidal vein in the forewing vertical, in the hindwing very slanting in a posterior and distal direction. The genus is confined to the Australian region.

Crexa punctigera Wkr. (= bimacula Wkr., anthracoide Wkr., majus Flbr.) (32 f). ♂ head white, palpi, antennae and body dark brown, only the under surface of the abdomen partly white and on the thorax single white hairs and scales. Wings dark greyish-brown, diaphanous. Forewing with a blackish basal part enclosing a small white spot; discal spot whitish, indistinct, encircled by 7 distinct black spots; a narrow, white prediscal and postdiscal dentate band, as well as a row of blackish submarginal spots distally bordered with white. Hindwing uniformly greyish-brown, with white marginal scales. ♀ antennae and palpi dark brown. Head and thorax white, the latter with 3 brown spots. Abdomen dark brown with white dorsal spots and a white apex. Wings dark greyish-brown as in the ♂, the white dentate bands not very distinct, beside the prediscal and postdiscal bands another subbasal one. Australia.

Crexa pinnalis Lac. (= hyalversa Trmr., [Sitina] albicans Swh.) (33 e). ♂ similar to Cr. punctigera, but easily discernible by the presence of but one black discal spot in the forewing. Wings very transparent. The blackish base of the forewing intermixed with white, the prediscal and postdiscal undulate lines not very distinct, the latter, however, beginning with a distinct white costal-marginal spot, behind the former, between veins 1 and 2, a black spot; of the blackish submarginal spots only 3 or 4 are distinct below the apex of the wing, distally bordered by a fine, white dentate line which is very faintly continued still farther posteriorly. Hindwing with a narrow white median band parallel to the border, ♀ antennae dark brown, body white, thorax and abdomen with a darker, brown longitudinal streak. Forewing whitish with an indistinct dark discal spot and crossed by a number of dark brown undulate lines; a prediscal and postdiscal, white, transverse band each bordered by 2 of the dark undulate lines; the blackish submarginal spots are distinct, distally accompanied by a white undulate line. At the proximal margin a broad, black spot. Hindwing white, with a dark base, a dark greyish-brown discal band and blackish submarginal spots. Marginal scales white with a dark base. Queensland.
Cr. subnotata Wkr. ♀ smaller than Cr. pinnalis ♂ (33 c), the discal spot in the forewing very obsolete, the black spot between the veins 1 and 2 absent. ♂ dark brown with a white head and some white on the thorax. Wings very diaphanous, basal part of forewing whitish, crossed by 2 brown undulate lines, between which there are 3 brown longitudinal streaks; the prediscal and postdiscal white dentate lines approaching each other at the proximal margin and here enclosing a large black spot. The black discal spot encloses a fine, white transverse streak; the submarginal row of dark brown spots distally bordered by a fine, white dentate line. Hindwing with a whitish transverse band and a white marking at the anal angle. Melbourne.

Cr. macroptila Trnr. ♀ head and palpi white. Antennae and body yellowish-brown, thorax intermixed with white, abdomen with a whitish under surface, the anal tuft long, tripartite. Forewing of a brown ground-colour, at the base a white spot and a blackish trilateral one being sharply defined; middle of the wing thinly scaled, diaphanous, discal spot white, on both sides bordered with black; a fine, white, postdiscal undulate line and a row of dark brown submarginal spots distally margined with white. Marginal scales dark brown. Hindwing of brownish-yellow, costal and distal margins dark brown, marginal scales white. ♂ not described. Queensland.

Cr. dianipha Trnr. (33 c). ♀: head, palpi and thorax white. Antennae brown. Abdomen dark brown, apex and under surface white. Legs whitish with dark brown bands. Wings dark brown, forewing with a white discal spot on both sides bordered with black, a fine, white, prediscal, somewhat undulate transverse line, and a distinct, dentately defined, white postdiscal line beginning narrow at the costal margin and then growing broader, enclosing a dark brown arenate line. Hindwing with a narrow, whitish discal band in the continuation of the band of the forewing. On the under surface this discal band is likewise distinct, in both wings equally broad, but less distinct, like the discal spot; a submarginal row of rather indistinct, white spots which are above only in the forewing very faintly noticeable behind the apex. ♀ not described. Queensland.

Cr. acedesta Trnr. Head white, palpi and antennae dark brown. Thorax in the ♀ dark brown, in the ♂ white. Abdomen dark brown, in the ♀ with a white anal tuft. Legs dark brown and white. Forewing dark greyish-brown, discal spot brown, on both sides margined with black, with a small, white pupa; a prediscal white undulate line, a white postdiscal line rectangularly broken before the proximal margin, enclosing in the angle a blackish spot strewed with some brown scales; submarginal line undulate, white, proximally bordered with dark brown. Marginal scales grey and white. Hindwing in the ♀ dark brown, in the ♂ grey with a white antemedian transverse line being rectilinear in the ♀, twice interrupted in the ♂. Australia.


Smaller, densely haired species with broad, rounded wings whereby they differ from Entometa. Palpi long, porrect, projecting far beyond the frons, and densely haired. Antennae in the ♀ with long pinnae as far as the tips, in the ♂ with short pinnae. Vein 7 in the forewing rising close behind the cell-end from the footstalk of 6 and 7, the footstalk of 9 and 10 much shorter than the free ends. In the hindwing veins 3 and 4 rise separately, 8 for a short distance fused with 7, the narrow accessory cell with a secondary vein.

The species remind us of the Indian Arguda-species, but they differ by the rounded forewings and, in case we apply the idea of a genus to A. pyroscoma established as the type by Turner and the allied lateritia, also by the veins 4 and 5 in the hindwing, which are separate at the base. The range is apparently confined to Australia.

A. pyroscoma Trnr. Body and wings dark reddish, forewing intermixed with white hair-scales. Antennal pinnæ whitish-yellow. Forewing with a dark brown discal spot, a narrow inner-marginal border sometimes likewise dark brown. ♂ on the forewing with a dark brown, curved, postdiscal dentate line being indistinct in the ♀, as well as a submarginal row of small dark brown spots. Hindwings uni-coloured. North Australia and Queensland. Size about that of lateritia (33 c).

A. lateritia Grünb. (33 c) is closely allied with pyroscoma and perhaps only an aberrative form. Body and wings in the ♀ and ♂ dull brick-coloured red with a somewhat brownish tint, also the antennal pinnæ of this colour. Forewing rather densely strewed with white hair-scales, the small, dark brown discal spot with a distinct, white pupil. In both sexes a distinct, dark brown prediscal and postdiscal dentate line, both approaching each other at the proximal margin; also the small dark brown submarginal spots in the ♀ and ♂ distinct. Hindwing uni-coloured, like both wings beneath. Queensland.

A. monotona Grünb. (33 c). Monotonously brownish-red, without any marking at all, only with a hardly noticeable, dark brown discal dot in the forewing, apex and border of the forewing darker, border between the veins slightly sinuate with greyish-yellow and dark brown marginal scales. Queensland: Brisbane.
A. obtusa L. (Wmr.) (= metatygma Wmr.) (32 g), ♀ pale grey, forewing with a white discal dot and 2 post-discal, blackish dentate lines enclosing a black spot at the proximal margin. ♀ brownish, forewing only with an irregular row of blackish submarginal spots. New South Wales.

A. fola Sich. (46 b). Uni-coloured drab, forewing with a broad, parallel-margined darker median band on both sides bordered with white, and an indistinct grey discal spot. Hindwing somewhat darker, unmarked. ♀ somewhat lighter than the ♂. West Australia, Sherlok River. Described as a Olothoe.

edna Sich. (46 b as edna). ♀ body and forewing dark olive-grey, head and thorax with single greyish-white hairs, abdomen and legs haired whitish. Antennae at the base whitish, shaft red, pinnae reddish-grey. Forewing strewn with reddish scales, and with reddish marginal scales, unmarked. Hindwing uni-coloured red-brown. ♀ above uni-coloured reddish-grey, beneath dull red. Abdomen with white hair. West Australia, Sherlok River. — Turner has not inserted this species in his classification of the Australian Lasiocampidae (Ann. Queensl. Mus. Nr. 10, 1911); it must therefore be considered doubtful whether it belongs to the family.

Alphabetical List

with reference to the original descriptions of the forms of the Indo-Australian Lasiocampidae.

* signifies that the form is figured at the place quoted.

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<td>cyclomela</td>
<td>Low. Trans. R. Soc. S. Afr. 27, p. 18.</td>
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<td>exposita</td>
<td>Peru. Low. Prodr. Ent. 8, Taf. 7. *</td>
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<tr>
<td>fosciformosa</td>
<td>Wkr. Entomol. 43, p. 136.</td>
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Alphabetical List of the Indo -Australian Lasiocampidae.

khasia Trich. Moor. Lep. Atk., p. 82. *


sodopa Ent. Trur. Trans. R. Soc. S.-Austral. 28, p. 239.
sutura Crexa Aufr. Iris. 7, p. 104.
vitulina Por. Don. Ins. X-Holl. Taf. 35. *
10. Family: *Eupterotidae*.

The Eupterotids, having been dealt with but very briefly in Vol. II (p. 185—187) because they are represented in the palearctic region by only few boundary-forms, are a group of lepidoptera which has been consistently comprehended in its delimitation by hardly two authors. It is a group of genera being sometimes more allied to the *Saturniidae*, sometimes approaching more the *Lasiocampidae*. Many systematizers have not acknowledged them at all as a delineable family, inserting them in one family or another. Kirby placed them to the *Lasiocampidae*; Staudinger and Rebel left them out altogether in their Catalogue, because Japan is no more regarded there as palearctic, but Rebel at another place states the number of the palearctic *Eupterotidae* to be 8, inserting them between the palearctic *Endromidae* and the American *Ceratocampidae*, neither of which, however, is allied to the *Eupterotidae*.

The *Eupterotidae* are mostly very large lepidoptera with broad wings; the colouring is mostly rather monotonous, but some are also black and white or with silvery markings. The antennae are not very long, mostly bi-serrated, in some genera (*Cotana*) also in the male representing but very feeble, short, atrophous, thin threads, sometimes scarcely attaining \( \frac{1}{4} \) of the length of the costa. Besides they mostly exhibit a remarkably short discal cell on all the wings, the upper wall of which often hardly projects beyond the basal quarter of the wing (*Palirisa, Pseudojana*). The *Eupterotidae* differ from the *Saturniids* by vein 8 in the hindwing nearing the upper wall of the cell or being fused with it for some distance, whereas in the *Saturniidae* it runs separately. From the Bombycids we can easily distinguish the *Eupterotidae* by the frenulum which is absent in the Bombycids. In the *Drepanidae* which are also mostly much smaller except the *Cyclidia*-group than most of the often gigantic *Eupterotidae*, the origin of the middle radial is invariably nearer at the lower than the upper angle of the cell on the forewing, whereas this vein (vein 5) in the *Eupterotidae* comes from the middle of the transverse vein. The most difficult is the separation of the family from the preceding *Lasiocampidae*, so that in catalogues and faunistic enumerations there is frequently no separation at all, though the genuine Lasiocampids are always without the frenulum by which the *Eupterotidae* are recognized.

Thus, the family is confined to the continents of Asia and Africa with their islands, but very few species penetrating from the north into Australia. All the species except very few are tropical; they preferably inhabit the hottest countries of the globe and are fond of districts with vast, continuous forests. Many are of an almost inexhaustible variability and beside a considerable number of geographical races they also exhibit an inclination to individual deviations chiefly in the ground-colour which sometimes turns from yellow into greyish or brownish. Bark-coloured shades may be a protective colouring which, as often also in other families, is presumably adjusted to the changeable background of the resting insect. The *Eupterotidae* are apparently not protected by somatic properties; when they — though rarely — fly in day-time, they are keenly pursued by birds and at night, when they fly to the light, by bats. I could observe an *Eupterote undata* being pursued by a bird and taking refuge in a thorny hedge of Opuntia, where it slipped in between two of the thick, thorny discs, whereupon its pursuer desisted from the pursuit. The flight of the \( \mp \) is slower than that of the \( \delta \), but owing to the large wings it is not so unwieldy; the \( \delta \) dash along in a plunging and whizzing flight, somewhat like a \( \mathcal{S} \) of *Philosamia cynthis* or *Saturnia pyri*.

Of the larvae not many are known, although the very large, black, long-haired larvae of *Eupterote fabia* are not rare at the skirts of the forests, where they settle down in day-time on branches and are to be seen from afar. I have not noticed a burning effect of their hair, as in many Saturniids (*Automeris* and others), but it is easy to understand that such long and dense hair (as in our *Aricia*-larvae) may be protective against many enemies. Many genera, particularly the Papuan *Cotana* and *Melanergon*, mostly contain species discovered of very late; the large species of India, Java and Ceylon have mostly been known long ago.

Palpi erect and densely haired. Antennae with moderately long combs. Legs haired. Forewing short and very broad, apex rounded off, the upper discocellular very oblique, veins 6 + 7 + 8 + 9 forked. In the hindwing the upper discocellular is short and oblique, veins 6 and 7 forked, 8 strongly curved and remote from 7. — The Melanothrix exhibit a far extending sexual dimorphism, since the smaller, more uni-coloured female are opposed by large male marked black and white. They are distributed across the whole of India into the Australian subregion, but have no representatives in Africa.

**M. nymphaliaria** Wkr. (= nymphaliaris Hmp., pulchricolor Fldr., atropurpurea Auw., coryma Sckh.) (36 a ♂ as atropurpurea, 37 e ♀) from Java is in the female easily distinguished from our figure; the ♂ (██ atropurpurea) has the wings above uni-coloured dark silky brown, though in the forewing with a narrow and interrupted, in the hindwing broad, light grey, blurred transverse band, and in the forewing with a narrow, white, submedian costal spot: beneath the wings are uni-coloured dark chestnut-brown with a yellowish costal margin. Expans of the ♂: 66 mm. — **albidior** Rothsch. ♀ from West Sumatra deviates from the principal form by the white markings of the wings being more extensive and also the yellow on the sides of the abdomen. — **philippina** Rothsch. ♀ is the form figured by Semper in Schmett. Philipp. II, p. 387, t. 51, f. 2 as pulchricolor var., which has almost entirely black forewings except a spot beyond the cell and the basal half of the wing below vein 1 being white; also in the hindwing the black colour is more extensive.

**M. intermedia** Rothsch. The ♀ deviates from that of nymphaliaria Wkr. by the black colour of the proximal two thirds of the wings being more extensive and the teeth of the proximal side of the distal third being longer, so that between the veins 5 and 7 they project beyond the apex of those of the black area of the proximal two thirds. In the hindwing, however, the teeth of the proximal side of the black terminal third are smaller than in nymphaliaria. Abdomen golden yellow, the rest of the body and the antennae black. Length of forewings: 38, expanse of wings: 81 mm. Mergui Archipelago.

**M. leucotrigona** Hmp. (56 B a) from Burma has in the male brown wings and body, in the forewing it shows a large, lustrous white, triangular, postmedian costal spot, the apex of which rests on vein 5 and the distal edge of which is dark brown like an extensive spot between this spot and the anal angle. Hindwing with a narrow, dark brown marginal band. Expans of wings: 74 mm. The ♂ resembles nymphaliaria philippina, but the white is less pure, the white marginal spots are larger, and the teeth at the proximal side of the distal black part on both wings are much larger and longer; abdomen yellow.

**M. nicévillei** Hmp. The ♀ differs from the other species of the group of nymphaliaria by the white areas of both wings being much more extensive; it is the most closely allied to radiata Grbg. The distal area of the forewing only exhibits 4 black spots, and also in the proximal three quarters of the wings the black is very much reduced. In the hindwing the black distal marking consists of 7 large, wedge-shaped spots. Abdomen yellow. The ♂ has purely white forewings with a chocolate-brown basal area extending to the middle of the costal region and forming three teeth beyond the lower angle of the cell, and with a similarly coloured marginal band being broad at the costal margin and being darkest and undulate at its proximal edge. Hindwing purely white with a narrow, chocolate marginal band and small white spots on the fringes. Expans of wings: ♂ 78 mm. Burma.

**M. homochroa** Grbg. (37 d ♂; ♀ as nicévillei, 37 e), from the Kina-Balu, is in the ♂ almost uni-coloured, whereas the ♀ differs from the ♀ of nicévillei and leucotrigona by its larger size, a broader black distal area and more extensive black of the proximal area of the forewing, and besides the white colour is on both wings purer and the white marginal spots are remote from the proximal white areas of both wings, though not so far as in leucotrigona.

**M. radiata** Grbg. (37 e) ♀ from the Kina-Balu was described as a variety of nicévillei, but it is at once discernible by the white parts in the latter being here reddish creamy and the black of the distal area much broader, and the black being more brownish; the black of the distal area on each wing consists of 7 large, wedge-shaped spots.

**M. latevittata** Grbg. (37 e) ♀ has an expanse of only 62 to 67 mm and originates from the Kina-Balu; (♀) the purely white marking forms a distally dentate band extending across both wings, being at the costal margin of the forewing 9 to 10 mm broad and leaving only free a basal, triangular area extending in the direction of the costal margin on the forewing and a small basal area on the hindwing; the dark marginal part is somewhat narrower than in nymphaliaria; both wings with distinct white marginal spots. Beneath as above. Head, thorax and dorsum of abdomen as far as the 6th segment blackish-brown, apex and under surface of abdomen ochreous-yellow.

**M. semperi** Rothsch. (37 ♂ as pulchricolor Smp. nec Fldr.). The wings of the ♀ resemble nymphaliaria, but they are less black. Abdomen yellow with black transverse bands. East Mindanao.
M. alternans Pag. (= funosa Sieb. <Order>Chrysocharis</Order>)). 

Forewing black with a narrow white transverse band extending from 1/3 of the costal margin, at the beginning widened, to the distal margin and being once dentate along the veins. Hindwing in the ground black; in the white distal margin there are 8 black spots, the marginal band sending rays to the white fringes. Beneath as above. Body and extremities black, only the abdomen yellow. Palawan, Borneo.

M. xanthomelas sp. nov. (37 d) from the Kina-Balu is a species easily recognizable from our figure; both wings yellow with a black base, in the forewing besides a row of black longitudinal streaks in the marginal area. (Rothschild in Nov. Zool. 24, p. 466 mentions as author Grünberg who, however, has never described the species and whose name is neither stated on the table having been published in the meantime).


Allied with Melanothrix, but more robust and somewhat resembling a Lasiocampida. The first subcostal vein rises remote from the apex of the cell, opposite the origin of vein 2. The 3rd and 4th subcostals and vein 6 are equally distant from each other, 6 and 9 rising together from the upper angle of the cell. The upper discocellular only half as long as the lower, 6 and 5 at the base close together. In the hindwing the upper discocellular is oblique and longer than the middle one, the lower discocellular being twice as long as the upper and middle ones; 5 and 6 closer together than 6 and 7. The first palpal joint conical and porrect.

L. noakesi Joicey & Talbot. 3. Deep purple brown or purple black, beneath lighter. Forewing with a large, subhyaline, very feeblly purple-scaled, band-like transverse area extending from vein 6 almost to the anal angle which it does not quite reach, being posteriorly gradually and feeblly narrowed, at both its ends somewhat rounded and traversed by a brown line. The body above like the ground-colour of the wings, the palpi, anterior tibiae outside and femora lighter, the other legs, the thorax and abdomen beneath yellowish-brown. Length of forewing: 38 mm. Dutch New Guinea.

L. meeki Rothschild. differs from L. noakesi by its chocolate colouring; the costa of the forewing is orange instead of black, the whitish, semi-hyaline area is not narrowed towards the anal angle and traversed by a strongly curved double band instead of a line, between the veins 1 and 2 a broad reddish streak extends from the base almost to the transverse band. Expanse of wings: 86 mm. Length of forewing: 38 mm. British New Guinea.


differs from Cotana by vein 5 of the forewing being absent, 3 rising much farther from the angle of the cell in both wings; the sexes are not dimorphous.

M. vidua Wkr. 3. Wings blackish and subhyaline; body black. The 3 is lighter, with a distinct postmedian transverse band, more densely scaled, frons tan-coloured instead of black, and the anal brush yellow instead of whitish. Dutch New Guinea. — proserpina B.-Bak. differs from vidua by its more intensely black colouring, the postmedian, semi-hyaline transverse band being broader and more distinctly marked. South East New Guinea. — fergussonis Rothschild. 2 differs from that of vidua by the whole head, tegulae and patagia being orange, and in the forewing there is both an antemedian and postmedian transverse band; end of abdomen orange. Fergusson Island. — lousiadanensis Rothschild. 3 in the forewing with hardly any trace of a transverse band, and the anal brush is dark tan-coloured. Louisiads.


To this genus 27 forms are reckoned the size and shape of which reminds us somewhat of the palearctic Lasiocampa trifolii, being more or less brownish-yellow with rather monotonous hindwings, but showing a more intense sexual dimorphism. Quite different of course, compared to the Lasiocampaediae, are the very small and feeble antennae which rest also in the 3 as almost atrophous, thin threads on the broad, woolly head in which the eyes are hidden in the dense hair of the face. The wings are very broad with a short costal margin and long, mostly somewhat curved distal margin. Most peculiar are the veins. By the fusion of the veins forming the anterior and posterior cell-walls in the basal part of the forewing, the discal cell only begins several millimetres behind the base of the wing and is very short, but continued by an enormously long, lancet-shaped areola which, as it were, replaces the reduced cell of the forewing. A cell-end spot being in the 2 invariably, in the 3 often distinct is thereby very much removed proximad, being situate on the border of the basal third of the wing, whereby the members of the genus are at once recognized. The forms are very much alike, and
as nearly all of them occur in New Guinea and the adjacent islands, it is hard to say how many species and subspecies there are. The $\mathcal{O}$ of nearly all the species are chocolate-brown with a yellowish-red dorsum and costal margin of the forewing, all wings traversed by thick light veins and with an antemarginal chain of white spots and a large cell-end spot of the forewing. As the larvae seem to be entirely unknown, we supply here the synopsis of the genus, as it was established by Lord ROTHSCILD who figures nearly all the forms. Many of these forms originating from confined localities are presumably geographical representatives, but we renounce such a systematic classification which would remain uncertain as the biology is entirely unknown to us. The type of the genus is \textit{L. rubrescens}. Lord ROTHSCILD herewith also includes the genera \textit{Epicydas} B.-Bak. and \textit{Hypercylas} B.-Bak. and the genus \textit{Nervicompressa} B.-Bak. based upon the \textit{\$} of \textit{Cotana}.

\textit{C. joiceyi} Roths. (56 B a). $\mathcal{O}$ yellowish-brown, forewing tan-coloured, hindwing tinged golden yellow, forewing with a straight transverse streak through the middle and an extinct parallel streak through the distal third. $\mathcal{O}$ with an orange-red body, and grey apex of the abdomen; through the pale chocolate wings extends a chain of white wedge-shaped spots, and before the middle of the forewing is a large, white central spot. Arfak Mountains in Dutch New Guinea.

\textit{C. germana} Roths. $\mathcal{O}$ like that of \textit{rubrescens} (56 B c), but the forewing is of a paler brown, the transverse streak thinner; $\mathcal{O}$ like that of \textit{joiceyi} (56B a), but the centre of the wing is crossed by a slightly curved darker band. Aroa River (British New Guinea).

\textit{C. bakeri} Joic. & Talb. Only 1 $\mathcal{O}$ known, looking almost exactly like a $\mathcal{O}$ of \textit{joiceyi} (56 B a), but the transverse streak in the distal third is absent, whilst that through the middle of the forewing is somewhat duller, and proximad to it the cell-end spot is feebly traceable. Wandammen Mountains (New Guinea).

\textit{C. rubrescens} Wkr. (= unistrigata B.-Bak., turneri B.-Bak.) (56 B a, b). $\mathcal{O}$ similar to the preceding, but the transverse streak of the forewing is broader and towards the margin somewhat concave; both wings are more of the same colouring. In the $\mathcal{O}$ the light veins are thicker and more distinct, the antemarginal cucullate spots and the central spot dull yellowish-white. Distributed in the mountains of New Guinea and in the Aru Islands. — \textit{kapaura} Roths. from Dutch New Guinea has a more cinnamon-brown $\mathcal{O}$ with obtuser forewings, the $\mathcal{O}$ with a lighter ground-colour, a saffron-coloured costal-marginal area of the forewing and a similar base of the wing, and the dark yellow spots of the wings are more extinct. — \textit{oetakwensis} Roths. from the Oetakwa River has a thick velvety black transverse stripe of the forewing and cell-end spot.

\textit{C. kebeae} B.-Bak. (56 B c). $\mathcal{O}$ allied to the preceding, but the second transverse stripe in the distal third of the forewing likewise distinct and both transverse streaks also traceable in the hindwing. $\mathcal{O}$ unknown.

\textit{C. grandis} Roths. from Dutch New Guinea is much larger (expans of wings: 43 mm, against 35 of the type), it has a dark brown thorax, and the forewing is marked and shaded deeper brown.

\textit{C. dubia} B.-Bak. (56 B b). The $\mathcal{O}$ deviates from the preceding by the median transverse stripe being duller than the distal one, and by the veins behind the latter stripe exhibiting small blackish-brown spots. In the $\mathcal{O}$ the submarginal bone-coloured spots are cucullate and the veins marked very bright bone-white. British and Dutch New Guinea; apparently uncommon.

\textit{C. lumulata} B.-Bak. (56 B a). The $\mathcal{O}$ has a dark chestnut thorax and forewing, so that the dark median transverse streak is rather indistinct; hindwing with brown, partly undulate transverse stripes on a reddish yolk-coloured ground. In the $\mathcal{O}$ the discal spots are broadly contiguous and, like the discal spots of the forewings, of a pure white. British New Guinea (Angabunga and Aroa River). — \textit{albaserrati} B.-Bak. from Mambare River has the distal area of the $\mathcal{O}$ forewing yellow and all the markings more distinct. — \textit{occidentalis} Roths. has the $\mathcal{O}$ forewing lighter brownish, the median transverse band of the forewing broad brown, with a distinct whitish cell-end spot. — \textit{satisbona} Roths. in the $\mathcal{O}$ shows a light undulate transverse band parted by brown before the dark marginal area of the forewing, whilst the hindwing is covered with dark brown, with strong undulate bands; in the $\mathcal{O}$ the white cell-end spot is but small. From the Island of Goodenough.

\textit{C. erectilinea} B.-Bak. (57 d). From the preceding the $\mathcal{O}$ (the $\mathcal{O}$ is not known) are easily discernible by the proximal area of the forewing, proximad to the median transverse streak, being lighter than the distal part of the forewing. In typical $\mathcal{O}$ from the Ninay Valley the transverse streak is distinct and quite straight and distally uniformly shaded. — \textit{setakwensis} Roths. from the Snow Mountains in Dutch New Guinea the shade extends distally to the median streak at the costal margin farther distally and narrows at the proximal margin, the whole wing being lighter and the discal spot very large and distinct.

\textit{C. affinis} Roths. The $\mathcal{O}$ is unknown; the $\mathcal{O}$ resembles that of \textit{erectilinea} (57 d), but the basal area of the forewing is creamy with an oblique chocolate band near the base and a broad dark antemedian band; the rest of the forewing is grey, tinted brownish with dark, partly undulate transverse stripes and a dark, white-pupilled discal spot; size about that of the preceding. Dutch New Guinea.

\textit{C. albomaculata} B.-Bak. (\textit{\$} = ovata B.-Bak.) (56 B c) $\mathcal{O}$ and $\mathcal{O}$ similarly coloured pale chocolate-brown with an antemarginal, in the $\mathcal{O}$ very thin chain of white spots and an oval central spot of the forewing; in the $\mathcal{O}$ also the apex of the forewing is dirty white. British New Guinea.
C. calliloma Drue (56 B b). This species of which only the ♀ is figured hitherto, originates from North Queensland. It almost exactly resembles the ♀ of joiceyi except the white cucullate spots being somewhat thinner and the veins not being so bright.

C. aroa B.-Bak. (56 B c). The ♀ is rather variegated; in the basal third the distal part is lighter, in the apical third the proximal part; the white stigma before the centre of the forewing is surrounded with dark. Hindwing crossed by dark undulate lines and chains of light spots. The ♀ has chocolate-brown wings crossed by the lighter veins; in the basal third a large, yellow stigma-spot; the spots of the submarginal chain are golden yellow, their distal points stunted. British New Guinea.

C. rosselliana Roths. Head and thorax chocolate-brown, abdomen deep orange. Basal part of forewing as far as $/3$ orange-brown, the distal part lighter, more yellowish. Near the base a broad, irregular, dark brown band, behind it the dull yellow stigma-spot surrounded by brown; through the centre a broad blackish-brown band; in the marginal part 3 black zigzag lines of a varying distinctness; below the apex a dark brown spot. The ♀ has a saffron-coloured head and body, with a grey anus; forewing saffron with a large white stigma and an antemarginal chain of small white crescents. Rossel and South East Island in the Louisiad Archipelago.

C. meekii Roths. (56 B d) is a variegated species. ♀: forewing with a creamy-white basal part in which there is a stigma surrounded with dark; through the centre a broad brown median band; marginal third grey with a doubly dentate undulate line. Hindwing dull yellowish-red, marginal part behind a chain of light spots dark brown. ♀ with a very large, irregular, white discal spot of the forewing on a chocolate ground and large, broad, white crescentiform spots flown together into a submarginal chain. North East New Guinea.

C. castaneorufa Roths. In this species from the Setakwa River in Dutch New Guinea the ♀ exhibits a dark brown thoracic dorsum; the forewing is dark liver-brown with a white dot at the base, a white antemedian stigma with a brown transverse band behind it, being distinct and broad at the costal margin and growing narrower and more indistinct towards the proximal margin; an antemarginal chain of greyish-olive crescents. Hindwing orange, the distal two thirds almost entirely covered with liver-brown, in the basal third a brown transverse line, in the marginal third a curved orange line.

C. bisecta Roths. Size a little larger than that of the following. Only the ♀ is known; it has a dark brown forewing with a black median band and an indistinct blackish postmedian band followed by a band of tan-coloured, small crescents, behind which there is a line of black dots connected by a series of small indistinct blackish lunae. From the Angabunga River in British New Guinea.

C. brunnescens Roths. (56 B c). ♀ brown, forewing and hindwing quite similarly marked, traversed by a median, straight, dark transverse line and a distal dense chain of spots. ♀ similar to that of the preceding species, but the submarginal white spots separated so far by the light chocolate ground-colour, that they remain rather remote from each other. North East New Guinea.

C. pallidipascia Roths. ♀ head and thorax dark brown, abdomen orange. Forewing dark chocolate; in the basal quarter below the cell a white dot; through the centre an indistinct, black nebulus line, and a postmedian, double line proximally greyish-white, distally dark brown; fringes white. Hindwing lighter chocolate, the postmedian line very indistinct. Somewhat smaller than joiceyi.

C. variegata Roths. (56 B d) is very closely allied to meekii (56 B d) of which it may be merely a form. In the ♀ the brown median nebulus band of the forewing is proximally irregularly defined, and the marginal part of the hindwing not dark and brown, but coloured just like the basal half. The ♀ scarcely differs from those of brunnescens or lunulata: it is midway between brunnescens♀ and calliloma♀, the lancet-shaped spots not being separated so far as in the former, but neither being quite contiguous. Dutch New Guinea.

5. Genus: Paracydas B.-Bak.

Most closely allied to the preceding genus; the almost atrophous antennae, the very short discal cells of all the wings and the enormous areola formed by the subcostal base being fused with the costal margin and subsequent anastomosis are entirely as there; but the ♀ forewings are still much broader. Otherwise the colouring and marking is rather similar to that of some specimens of Cotana lunulata, and the genus would probably be best regarded as a subdivision of Cotana. From this genus it differs particularly by vein 4 of the forewing rising from the lower and 5 from the upper cell-angle, and by vein 10 not being forked.

P. biagi B.-Bak. (56 B c). ♀ dark chestnut-brown with a broad greyish-brown, distally darker marginal band. Hindwing towards the base lighter flesh-coloured. ♀ with very broad wings, with a very large, somewhat irregular yellowish-white cellular spot near the base of the forewing and a row of white cucullate spots interrupted in the radial interspaces before the distal margin. On the Mambare in North East New Guinea.
**P. postpallida Rothsch.** (56 B cl). Only the $\xi$ is known. It is most closely allied to some $\zeta$ of *Cotana lunulata* (56 d) from which it chiefly differs by the curved course of the black median line in the forewing, British New Guinea.

### 6. Genus: **Apha** Mr.

Compare Vol. II, p. 185 and the description of *Ganisa* (p. 425). Palpi erect and feebly fringed. Antennal combs short. Apex of forewing sharp and somewhat projecting. Discocellular almost straight, $7 + 8 + 9$ forked. In the hindwing the upper discocellular is oblique, $6$ and $7$ forked, $8$ somewhat curved and remote from $7$, the costal margin somewhat convex. In the typical section (*subdives* Wkr., *floralis* Btlr.) the forewing is without vein 10, and vein 8 rises far from the apex; in the second section (*Prismosticta* Btlr.) to which *A. fenestrata* Btlr. belongs, 10 is present and 8 rises near the apex.

**subdives.**

* A. *subdives* Wkr. (36 c). $\xi$. Head elaret-coloured reddish-brown, thorax and abdomen purple brown. Wings brownish ochreous. In the forewing a purple spot on the costal margin near the base, about four very indistinct antemedian undulate lines, a spot at the cell-end, four or five very undulate, indistinct postmedian lines approaching the antemedian lines below the cell; the postmedian band is very oblique, below the apex sharply acute-angular, in the costal area undulate, and everywhere composed of a dark and a yellow line; the marginal area is yellow with two undulate submarginal lines. In the hindwing there are traces of antemedian undulate lines, an oblique median line, a double dentate submarginal line resembling a series of letters „W”. The under surface is much more magnificently coloured. $\Omega$ lighter and yellower. Expanse of wings: $\xi$ 72, $\Omega$ 86 mm. India (Khasis, Sylhet, Nágas).

**floralis.**

* A. *floralis* Btlr. (37 b). $\xi$. Similar to *subdives*, but the apex of the forewing is more extended and the costal straighter; thorax and abdomen ochreous, but the collar and tegulae purple, the latter besides somewhat reddish. Wings of a bright yellow; in the forewing the area before the postmedian line is less irregular, the proximal submarginal line is doubly dentate, the margin covered with brown, in the hindwing the area before the median line is covered with dark red and the line itself dark red, the submarginal line is broken up into a row of small spots on the veins, and these are connected by a feeble undulate line. Beneath light chestnut-brown, marginal area yellow. The $\Omega$ is in the forewing not covered with purple, but on both wings with dark reddish. Expanse of wings: $\xi$ 64, $\Omega$ 74 mm. Sikkim.

**fenestrata.**

* A. *fenestrata* Btlr. (57 c). $\Omega$. Body red-brown, thorax somewhat olive. Forewing olive-brown, the costal and marginal area light, two indistinct, angular, brown median lines, a brown discocellular line, two oblique postmedian lines being angular below the costa and undulate in the discal area, apex of wing brownish-grey with a triangular, hyaline spot. Hindwing red-brown with two slightly undulate, brown postmedian lines and traces of a sublimbal line. Expanse of wings: 50 mm. Sikkim.

### 7. Genus: **Apona** Wkr.

Palpi small, but still a little larger than in *Eupterote*, and with very long fringe, antennal combs in both sexes very long and thin in the $\xi$, shorter in the $\Omega$. Spurs of the legs very long. Forewing broad with a rounded margin, the discocellular almost straight, vein 11 rises near $7 + 8 + 9$. In the hindwing the discocellular is angular below vein 5 which rises near the upper angle, 6 and 7 from the angle. In the type: *A. cashmirensis* Koll., the apex of the forewing is somewhat projecting, in *phunosa* and *shevaroyensis* more rounded. As to the genus comp. Vol. II, p. 186.

**cashmirensis.**

* A. *cashmirensis* Koll. (Vol. II, t. 29 e). $\xi$. Body red-brown, antennal comb white. Wings light red-brown. Forewing with an indistinct, undulate subbasal line, a black spot at the cell-end, an oblique median line with three indistinct undulate lines outside of it, a double postmedian line with a light interspace and an undulate submarginal line, the space between the latter and the postmedian line darker; the veins are dark between the median line and submarginal line. In the hindwing no subbasal line, the other lines curved. Cilia of both wings dark. $\Omega$ light greyish-white, the markings as in the $\xi$. Expanse of wings: $\xi$ 114, $\Omega$ 96 mm. *major*. — *major* Rothsch. from Sikkim is at once discernible by its larger size, the less reddish-yellow cinnamon ground-colour and the more distinct markings. North Western Himalaya; Sikkim.
A. plumosa Mr. (56 B f). ♂ darker brown than cashmirensis, the reddish tint is very faint. In the forewing the median line is very slightly bent below the costa, the undulate lines are feebly traceable, the postmedian line is proximally white, distally red, the marginal area darker with reddish veins and without an undulate line. In the hindwing the undulate line and postmedian line are almost extinct, the marginal area dark without an undulate line. In the ♂ the undulate median lines are in both wings more distinct, the postmedian line dark brown. Expanse of wings: ♂ 94, ♀ 102 mm. Nilgiri Plateau (India).

A. shevaroyensis Mr. (57 c). The ♂ is duller brown than plumosa, in the forewing the antemedian line is extinct, the median line and postmedian line oblique, the undulate lines more distinct. Expanse of wings: 134 mm. India (Nilgiri Plateau, Shevaroys); Ceylon.

A. frater Roths. is very closely allied to shevaroyensis, but smaller, greyer, at once discernible by the projecting apical lobe and the brighter marking. Khasia Hills (Assam).


Palpi long, obliquely erect and densely fringed with hair. Antennae pinnate. Forewing short with a rounded apex, without an areola, the discocellular above and below vein 5 angular, the upper abscissa of it less oblique than in Melanothrix, veins 7 + 8 + 9 forked, from the cell-apex. Also in the hindwing the discocellular is angular above and below vein 5, 6 and 7 rise from the cell-angle.

D. hades Wkr. (37 d). mouse-coloured brown, in the discal area of the forewing and basal area of the hindwing lighter; forewing with five indistinct undulate transverse lines and an almost straight, distinctly marked postmedian line almost vertical on the dorsal margin, and with an undulate sublimbal line. In the hindwing the undulate lines are absent in the basal half, and the postmedian line is less distinctly marked, the sublimbal line only in the forewing. Expanse of wings: 72 mm. Assam.

9. Genus: Palirisa Mr.

Palpi long, obliquely erect and densely fringed with hair. Antennae with short pinnae. Forewing very broad, at the apex rounded, the discocellular above vein 5 in both wings angular, in the forewing the upper abscissa of the discocellular is but little oblique, almost erect, veins 7 + 8 + 9 forked, rising from the cell-apex, no areola. Discordellus of hindwing oblique.

P. lineosa Wkr. (31 a) is light reddish-ochreous; forewing with 6 almost straight and erect transverse lines, the fourth of which (counting from the base) is slightly undulate and often blurred, whereas the sublimbal line is curved and proximally margined with grey. Hindwing with an antemedian, a submedian, a postmedian and a sublimbal transverse line. Expanse of wings: ♂ 100 to 110, ♀ 120 to 128 mm. Widely distributed in India (Sikkim, Bhutan, Sylhet, Naga Hills).

P. cervina Mr. (31 c). ♂. Distinguished from lineosa by its light greyish-brown colouring; palpi black, fringed with ochreous hair; antennae black. Forewing only with a median and postmedian line of a reddish tint, and a somewhat undulate sublimbal line; between the latter and the postmedian line the ground-colour is darker. Hindwing with three blurred transverse lines, but without a sublimbal line. — ab. burmanica ab. nov. burmanica. from Burma, probably also elsewhere, has light palpi and antennae. — Expanse of wings: 104 mm. Sikkim and Burma.

P. sinensis Roths. is allied to cervina (31 c), but differs in the ♂ by its smaller size, paler silvery grey colour, and by the transverse bands of the forewing being closer together and duller. The ♂ is less reddish-yellow than that of cervina, the bands of the forewing are here likewise closer together. Described from China.


Palpi erect and densely fringed with hair. Antennal combs pinnate. Forewing very broad, with a projecting apex by which it differs from Palirisa, the discocellular also in the hindwing angular above vein 5, the upper abscissa of it turned vertically on the costal margin, veins 7 + 8 + 9 forked and rising from the cell-apex. In the hindwing the discocellular but little oblique, veins 6 + 7 from the angle of the cell on a very short footstalk or from one and the same place.

T. patula Wkr. (= undulosa Wkr.) (31 a) has a sharper apex of the forewing than the following species. The ♂ is pale reddish-ochreous, the head, however, black. The basal joint of the antenna exhibits a light hair-tuft. Forewing with a hyaline spot at the cell-end, two reddish oblique lines from the proximal
angle of the cell to the dorsal margin, 8 or 9 indistinct, dark, undulate transverse lines, a double, anteriorly very much curved, midway and posteriorly straight, reddish postmedian line extends from the costa near the apex to the anal angle, the sublimbal line is very undulate, irregular, indistinct, and dark. Hindwing with a reddish subbasal line being the most distinct at the dorsal margin, moreover with 4 very indistinct undulate lines, the reddish postmedian line indistinct, somewhat irregular row of small sublimal spots. — In ab. dehyalinata ab. nov. the hyaline spot at the cell-end is absent. — ab. abnorminervis ab. nov. is distinguished by vein 7 of the forewing rising from 6 instead of 8. — The ♀ is darker, the apex of the forewing sharper, the apical area of both wings covered with grey, the oblique line on both wings distinctly marked and single, the undulate lines on the cell-end, at the cell-end of the forewing the following two hyaline spots, the red postmedian line more distinct, an undulate grey sublimal line in both wings. — Expanse of wings: ♂ 100, ♀ 130 mm. Widely distributed in India (Sikkim, Burma). — _khasiana_ Mr. from the Khasia Hills in Assam is so closely allied to the preceding that it is only regarded as a form of it not even being geographically sharply defined.

**rothschildi**

_T. rothschildi_ nom. nov. (=_pallida_ Rothsch., nec Wkr.) is a form likewise closely allied to _khasiana_ Mr. The name of _pallida_ which is already absorbed in the genus _Tagora_ and in the genera allied to it, has been replaced here. _rothschildi_ differs from _khasiana_ by its larger size (expanse 134 mm against 117 mm). The oblique band from the apex of the forewing to the proximal margin, is more distinct and straighter, the submarginal cloud much duller. The hindwing is also similar, but with only one antemedian band and a brown, straight, not dingy, dentate postmedian band. Likewise from the Khasia Hills, described according to 1 ♂.

**pallida**

_T. pallida_ Wkr. (=_asclepiades_ Flbr.) (31 b, c). The ♂ differs from _patula_ by the head being dark red-brown and the hair-tuft on the antennal basal joint being dark. Forewing without a hyaline spot, the two median undulate lines are on the costa and at the dorsal margin remote from each other and almost contiguous in the middle; the double postmedian lines of both wings are dark, narrow, closer together and less curved. The ♀ is very much tinted brown and with a hyaline spot at the cell-end. Expanse of wings: ♂ 120, ♀ 180 mm. India, Sumatra, Borneo.

**nigriceps**

_T. nigriceps_ Hmps. ♂ (56 B f). Brownish-grey, with a black head and a light hair-tuft at the basal joint of the antenna. Forewing with traces of undulate antemedian lines, a hyaline spot at the end of the cell, beyond the middle five undulate lines, the postmedian cell indistinct, from the undulate sublimal line there extend dark streaks along the veins to the postmedian line, between the veins 2 and 3 there is a dark brown patch. Hindwing with a straight postmedian line and within this line 4 undulate lines, the undulate sublimal line is remote from the margin. Expanse of wings: 96 mm. Ceylon.

**murina**

_T. murina_ Mr. (56 B f). ♀. Greyish red-brown. Head dark brown, the basal joint of the antenna with a light hair-tuft. In the forewing 4 indistinct antemedian lines, no hyaline spot at the cell-end, 5 undulate postmedian lines, the proximal one of which almost touches the distal one of the antemedian lines on the disc, the postmedian straight line is double and distinctly marked, the area between it and the distal undulate line covered with greyish. Hindwing with 4 or 5 undulate lines within the straight, double postmedian line, near the margin an undulate line, the area outside of it covered with greyish. The ♀ is more reddish, the forewing with two hyaline spots at the cell-end. Expanse of wings: ♂ 84, ♀ 94 mm. Ceylon.


This genus based upon one species, _incandescens_ Wkr., is easily distinguished from the following genus _Ganisa_ by vein 7 of the hindwing rising before the cell-end, remote from 6. The palpi are erect and densely haired. Antennae in both sexes with rather short combs, but the spurs of the legs are long. Forewing broad and rounded, discocellular almost straight, without an areola, veins 7 + 8 + 9 forked. In the hindwing the discocellular is angular below vein 5.

P. _incandescens_ Wkr. (31 b). Head, collar and prothorax dark chestnut-brown, meso- and metathorax somewhat lighter brown, abdomen bright reddish yellow. Forewing greyish-brown with traces of a subbasal curved grey line and with indistinct antemedian, median and postmedian, erect, straight, dark lines, the last of which is proximally edged with grey, and with an indistinct submarginal line which is angular on vein 4. Hindwing darker brown and with an indistinct, curved median line. Under surface covered with a fiery reddish tint, with a median line and an oblique postmedian line. Expanse of wings: 130 mm. Sikkim.
P. perspicuifascia Rothsch. of which only 1 ♂ was captured by H. Fruhstorfer on the Volcano Gede in West Java, which is in the Tring Museum to-day, very much resembles incandescens (31 b), but it differs by its much smaller size and above it shows a less olive-coloured tint; the basal, antemedian and median bands are not only nebulous bands, but as distinctly marked as the postmedian band; on the hindwing there are 3 dark nebulous bands. The under surface is more grey, less olive, the hindwing deep purple; on both wings the postmedian band is not straight as in incandescens but deeply concave. — niassana Rothsch. represents the species in the Island of Nias and exhibits the postdiscal area of both wings above wood-coloured and the under surface of both wings tinted orange.

P. pallidipennis Hwps. is unknown to me in nature; the ♂ (having been described alone) has an expanse of 130 mm. It is pale ochreous, strewn with a dark brown. Basal part of forewing shaded with dark which tint goes across the cell and extends along the subcostal and median as a dentate dark marking. An oblique dark line from the costa near the apex to the middle of the proximal margin, behind it 3 lines on a brown ground and 2 additional ones; from the apex dark spots extend on a brown band. Black antemedian and marginal spots are feebly connected with a dentate line. The ♀ has an expanse of 112 mm. From Tenasserim. — grands Rothsch. from the Shan States is much larger (128 mm) and the transverse lines between the oblique median band and the submarginal row of spots in the forewing more numerous and more distinct.

P. clemensi Schultz. resembles rather certain Pseudojana, but the author places it to Palirisa which has otherwise broader wings. Head and prothorax blackish, body otherwise ochreous-brown; abdomen with dark transverse bands except on the anal part. Wings brownish-grey, a broad, dull dark transverse band near the base of the forewing, a narrower similar antemedian band, in the centre of the wing itself a distinct, somewhat curved line and a straight dark transverse stripe before the marginal area. Hindwing similarly coloured and marked, but somewhat duller. Length of forewing: ♀ 63, ♂ 77 mm. Mindanao.


It differs from the genus Apha by the straight costal margin and vein 8 of the hindwing being less distant from 7 as well as the densely haired palpi. Forewing broad with a sharp and somewhat projecting apex, the discocellular is angular below vein 5, the veins 7 + 8 + 9 forked. In the hindwing the discocellular is oblique, veins 6 and 7 forked (pandya, glaucescens) or rising from the cell-angle (postica). Spurs of the legs long. The type is postica Wkr., and therefore the 1. Section of the genus founded upon postica according to the course of the veins 6 and 7 of the hindwing is to be regarded as the typical one.

G. postica Wkr. (= plana Wkr., similis Mr.) (Vol. II, t. 29 e). ♀. Purple-coloured greyish-brown, the head darker brown. In the forewing an indistinct oblique antemedian line, a black and grey spot at the cell-end, five indistinct dark undulate lines, a double, oblique, almost straight line from the apex to the dorsal margin outside of the centre. In the hindwing there is sometimes a black spot at the cell-end (f. nigromaculifera form. nov.), besides there are three indistinct undulate lines and a somewhat oblique and slightly undulate postmedian line outside of which there is usually a row of dark spots which may sometimes be absent (f. monotonica form. nov.). Fringes of both wings red-brown. Beneath the spots at the cell-end and the undulate lines are more distinct. In the ♀ forewing the apex is more projecting. Expanse of wings: 68 mm. Widely distributed in India and Ceylon.

G. pandya Mr. (37 e). The ♂ differs from postica by its fawn colouring and black head. In the forewing there is a light spot at the cell-end; in the hindwing no undulate lines, on the dorsal margin a dark spot, a dark median line is distally tinged ochreous, a submarginal row black spots. — pallida Bltr. has a dark oblique transverse spot in the centre of the costal area, from which a dark longitudinal band extends between veins 4 and 5 to the margin, and a distinctly marked dark marginal band of the forewing. — niassana Rothsh. has in the female a cinnamon-coloured, not drab ground-colour, and the transverse markings are much less distinct and more reddish-yellow; from Nias. Besides the species is widely distributed in the Indian Himalaya: Sylhet, Sikkim, Bhutan.

G. glaucescens Wkr. (37 e ♂, 36 a ♂). Dark reddish-brown, ♂ with a yellow spot at the cell-end and two dark, indistinct undulate lines; the double postmedian line is below the costal margin bent convex towards the margin and between the two demi-lines of it the ground is reddish-yellow, whereas the space between this double line and the submarginal undulate line is grey, of which colour is also the marginal line. In the hindwing the postmedian line is curved, the marginal area as in the forewing. — The ♀ is more ochreous and scarcely covered with grey in the marginal area. Expanse of wings: ♂ 89, ♀ 94 mm. Sikkim.
13. Genus: **Sangatissa** Mr.

The diagnose of this genus based upon one widely distributed species has been given in Vol. II. p. 187. In the habitus there is a superficial resemblance with some *Lemoniidae*, the ♂ exhibiting a robust thorax with a slender abdomen but stout head. Particularly remarkable is the extended shape of the hindwings. The flight of the ♂ is vigorous.

*S. subcurvifera* Wkr. (Vol. II, t. 29 c). The species is distributed across the whole Himalaya and penetrates to the east as far as Southern China, but it does not reach the palearctic region in the east, to which it extends in the north-west in Cashmir; to the south as far as Ceylon. It prefers especially alpine districts, flying in the Nilgiris at an altitude of 6000 ft., in Ceylon yet high up in Nuwara Eliya. — It varies rather much; entirely uni-coloured saffron specimens were denominated *triseriata* Bhr.; from the Pulney Hills. — In ab. *albipars* Mr. the dark arcuate bands are all extinct; — ab. *citrinula* Wkr. (= teta Swh.) is yellow, and the bands next to the proximal margin are extinct, only the upper band being faintly traceable. — In some places the ♂ are rather common.

Another species of this genus: *S. arctiades* Swh. has remained unknown to me.


Distinguished from the preceding genus chiefly by the much shorter cell of the hindwing. Likewise containing but one species of a yellow ground-colour, but not so widely distributed.

*N. simplex* Wkr. (37 b). Like in the preceding species the ground-colour may vary between a bright, light yellow and a dingy brownish-red. In normal specimens the forewing is traversed by cinnamon-brown or greyish-brown longitudinal stripes of dark atoms of a variable intensity and density. — These stripes are rarely absent: ab. *modesta* Mr. — Distributed in Southern India; in the Nilgiris (in September) and in the Khasia Hills in Assam.

*N. rufescens* Hmps. from Mysore has an expanse of 50 mm, with red-brown wings tinted silvery grey. Forewing with a badly marked antemedian and median line and an oblique dark red-brown postmedian line. On the hindwing a brown postmedian band formed of diffuse lines.

15. Genus: **Sarmalia** Wkr.

This genus contains few whitish or pale yellow lepidoptera with broad wings, the ♂ antennae with moderately long branches. Cell in both wings extremely short. The lower median vein rises behind the middle of the lower cell-wall which is twice as long in the hindwing as the upper, so that the discocellular runs obliquely.

*S. alba* Swh. (37 c) is the largest species, quite bone-coloured white, in some places only feebly darkened by a creamy tint. Both wings are crossed by a thick, dark brown stripe parallel to the margin and 10 to 15 mm before it. From the Philippines.

*S. radiata* Wkr. (37 b) is much smaller, pale sulphur-coloured with slightly darker veins. Head and collar yolk-coloured. Philippines.

*S. decolorata* Grbg. i. l. (36 b). According to a figure sent by Dr.Grünberg, probably from the Berlin Museum. Patria not stated; allied to *radiata*, though with a dark costal margin of the forewing; forewing to a great extent tinted greenish.


This genus containing numerous forms but not species has been denominated according to the powerfully developed wings which enable the ♂ to fly swiftly though irregularly and in a somewhat plunging manner, swarming at night in a wheeling flight round the lamps even in the streets of the towns. According as the genus is conceived, the neuration is more or less constant and the body sometimes more slender, sometimes more robust. Some species (e.g. *geminata* Wkr.) have been ranged in 4 different genera (*Horopcella*, *Beodoptera*, *Dreata*) by the different authors. They have a head of medium size, very small and slim palpi with a stunted terminal joint, doubly combed antennae with rather long branches in the ♂; the thorax is not very stout, but clad with very long, woolly hair, the abdomen in the ♂ slender, not reaching the anal angle. In the forewing the 1st subcostal vein branches off before the upper cell-angle, the 2nd to 5th being forked, the upper radial rises nearer to the upper than to the lower cell-angle. The submedian is forked at the base; no areola. In the hindwing the upper cell-wall is much shorter than the lower. Larva with long dark hair on tubercles; pupa in a dense web, short and stout. The genus is almost exclusively Indian, it also passes across the Sunda Islands and Philippines, and touches the palearctic region in the North West Himalaya; as to further particulars vid. Vol. II, p. 189.

*E. fabia* Cr. (Vol. II, t. 29 f). The typical form is recognizable by the intensely golden yellow colour of the ♂. Across the wings extend numerous dark, undulate and dentate lines being sometimes distinct in
their entire course, sometimes only at their costal origin; before the apex a bluish-grey discoid spot and almost invariably also a distinct, dark, punctiform spot in the submedian fold before the margin; the \( \varphi \) is browner. Described from Comorand; it occurs in nearly the whole of British India. — In Ceylon there occurs an intense chrome-yellow form — *ochripicta Mr.* — with very distinct dentate lines which may sometimes be very distinctly prominent (f. *fasciata Mr.*). of a bright dark ferruginous colouring. Such specimens fly particularly near Kandy, where they are met with at night on the lanterns in the streets and even fly to the lamps on the terraces of the hotels of Lake Kandy. — In *auriflua Mr.* from Malabar, on the contrary, the blackish-brown dentate lines are more extinct, so that there are only yet 2 in the discal area of the forewing and one before the margin. — *mutans Wkr.* from Sikkim has the transverse stripes still more extinct so that only one through the centre of the wing is yet distinct and besides only the submarginal dentate line somewhat prominent. — This form is closely allied to *permutata Mr.*, from Bengal; it is somewhat smaller, the \( \varphi \) much paler yellow, the \( \varphi \) tinted reddish; on the hindwing only in the centre an extinct stripe. — *immutata Mr.* from Nepal is allied to the Sikkim form (*mutans*), but on the forewing it has one subbasal transverse stripe and 3 through the disc; while the hindwing shows 2 discal dark lines, although they run somewhat differently from those in *ochripicta* from Ceylon. — *discordans Bgl.* from Calcutta, the \( \varphi \) of which is bright yolk-coloured, sometimes turning olive, the undulate lines distinct, the median and submarginadentate stripes likewise bright and dark. — *alterata Mr.* from Darjeeling is in the male ochreous-yellow, the band slightly undulate, purple brown, indistinctly defined. The median stripe dentate, of the discal parallel lines there are only traces; the \( \varphi \) is brown. — *gyra Swh.* has distinct dark spots towards the margin of the forewing and the undulate distal line in the forewing is likewise distinct; from Belgana. — *lucia Bgl.*, placed by Kirby into Moore's group *Murdida*, is according to HAMPSHIt merely a form of *fabia* inseparable from the type; it originates from Assam. — The larva of *fabia* is deep dark red-brown, densely haired blackish, with longer and shorter tufts; each segment shows three double rows of white dots; on the 5th and 11th rings there is a series of red subdorsal spots. On different shrubs, on road-sides; the imagines are not rare.

**E. undata Bick.** (= *undifera Wkr.*) (37 b) is very much like the preceding species, with a darker, often brownish ground-colour and 8 partly rather indistinct, parallel transverse lines of the forewing, which are more feebly continued also on the hindwing. Most of its forms are also smaller, browner, as dark as the brownest forms of the preceding. The marking, however, is rather similar, but owing to the brownish strewn the dark transverse lines are less prominent than in the bright golden yellow males of *fabia*. Still more forms have been distinguished than in *fabia*, known from different parts of India, but by no means always geographically bound to them, nor do the subordinate forms occur in the single districts of the range as the sole representatives of the species. For instance *vinosa*, *subdita* and *variegata* are all described from Jubbulpore. *vinosa Mr.* is brownish claret-coloured, the subbasal, curved transverse stripes, of which only the proximal one is distinct in our figure, are both complete like the two antemedian ones and the 4 through the disc; — *subdita Mr.* is quite similar, somewhat darker, but likewise claret-coloured, but the subbasal transverse stripes are removed more towards the base; — in *variegata Mr.* the subbasal transverse stripes are quite indistinct, but the centre of the wing is crossed by a thick, blackish, curved line. — *cupreipennis Mr.* described from Madras, from there as far as Trichina Pali (Trichinopoly), in some places the predominant form, has a pale copper-red upper surface, in the basal third of the \( \varphi \) forewing several dark zigzag lines. — *affinis Mr.* is rather a large form, much larger than *vinosa*, with a dark yellowish-brown colouring of the \( \varphi \); it resembles *consimilis*, but the median transverse lines of the forewing are confluent; from North India. — *consimilis Mr.*, which it approaches the most, is somewhat smaller, but reddish-grey, the \( \varphi \) darker, the \( \varphi \) paler; from Darjeeling. — *similis Mr.*, is in both sexes cinnamon brown; from Calcutta. — *decorata* is in the male of a very bright colouring, ochreous-yellow, both wings traversed by a great number of thick lines which are partly bright red-brown and expanded; from the Pendjab. — *persimilis Mr.* occurs near Calcutta like *cupreipennis*, but the upper surface in the \( \varphi \) is light yellowish-brown, the discal dentate lines are very faint, and the transverse double line is also indistinct. — *dissimilis Mr.*, from the North Western Himalaya (Oeyra-dhun) is coloured the same, but the subbasal, curved line is pale brown, the centre is traversed by a broader curved line, the 4 discal transverse lines are scarcely traceable or partly extinct. — *ignavus Swh.*, *suffusa Mr.* and *griseipennis Mr.* are only slight deviations in the colouring; *assimilis Mr.* is also hardly separable from *dissimilis*, and likewise from the North Western Himalaya; \( \varphi \) above greyish-brown. — *hirsuta Swh.*, from Khandalla, is rather a large form; yellow, with a yellow collar, the wings suffused with red-brown so that the markings are less conspicuous. — *nigricans Mr.* (= *diabolic Swh.*) is the darkest form,umber-brown, but the lines well recognizable, from Western India. — *sinuata Mr.* is pale claret-brown. The two lines next to the base of the forewing are hazy, dark, the 4 discal lines distinct, the proximal one of them is on the veins slightly confluent with the antemedian line; a large form nearing very much the typical *undata*; from the Himalaya. — *caliginosa Mr.* from Central India (Jubbulpore) is again more closely allied to *nigricans*, but the double line before the marginal part is removed more proximad, and the submarginal spots are sharply defined. — *imbecilis Wkr.* (= *cinnamomea Mr.*) is a uni-coloured lighter or darker cinnamon-coloured form from Canara and other parts of India, in which the double line before the marginal part is...
E. mollifera, likewise with numerous forms according to the different shades, is somewhat smaller, mostly yellowish, more or less tinted or strewed with reddish; between the base of the wing and the distal double line there are no more than 5 dentate lines which, however, are not all of the same development; in the hindwing there are proximally to the postmedian line 3 transverse lines at most. — mollifera Wkr., (= flavia Mr., antheraeta Wkr.), the form described at first, from Ceylon and Southern India, has an expanse of 64 (5) to 80 (5) mm and the males uniformly suffused with a brownish-red, in which the row of spots distally to the thick postmedian streak is well developed. In the ♀ the spots are white, bordered with black, and some specimens appear very variegated by the contrast of the reddish forewings with the lemon-coloured hindwings, in conjunction with the very prominent transverse lines. Such particularly variegated ♀♀ have been denominated ornata Flbr. (56 B c), whereas on the contrary uni-coloured pale yellow ♀♀ being scantily marked were called flavia Hmps. (56 B f); they are known from the Nilgiris where they occur yet at an altitude of 6000 ft. — discrepans Mr. from Bomba is yellowish-ochreous, with rather distinct discal transverse lines, whilst contaminata Mr. from the same habitat is dull ochreous-yellow, the discal transverse lines scarcely traceable. — mollis Mr. from Bomba and the Nilgiris is quite similar, pale yellow, and todara Mr. from the Nilgiris is of a very bright yellow. — In rufodisca Hmps. (56 B d), likewise from the Nilgiris (observed in September), the yellow marginal area of the forewings contrasts with the red-brown proximal rest of the wing, whereas rectifascia Hmps. (56 B c) is monotonously mouse-coloured, with almost entirely extinct discal lines; likewise from the Nilgiris. — canaraica Mr. and the entirely similar lativittata Mr. (36 b), both from the southern part of India, exhibit faint and incomplete discal lines, whereas the postdiscal line is in the latter form very much widened and even once more longitudinally parted by a fine light median line. — In nigirica Mr. from the Nilgiris the postmedian undulate line is absent. — Larva whitish, spotted black; on the dorsum tufts of dark hair on whitish pads, across the dorsum itself extends a bluish-black band: on the sides of the dorsum flesh-coloured colouring through which a grey line extends; on the sides a row of small black spots; the sides almost violet-grey, long-haired; head black, feet flesh-coloured. On the bushes, on the road-sides not rare. The imagines rush towards the light, and on the lamps of the hotels in Coonoor being situate in the midst of the forest they are often the only larger, more common Heterocera.

E. amaena Wkr. (37 c) is very closely allied to the fabia-group, and also shows the white submarginal spots bordered with black, as the ♀ of mollifera has. But the marking is more irregular, the transverse dentate lines are broken up into hardly contiguous crescents, the bases of the wings are sometimes almost without any markings, the forewing of a deeper yellow, in some places tinted red-brown. Java.

flavicollis.

E. flavicollis Guér. differs from the mollifera-forms with a mostly yellow or yellowish-red thorax by the brown thorax brightly contrasting in the ♀ (not in the ♀) with the light yellow collar. On the forewing 5 or 6 dark transverse lines are almost invariably distinctly developed, whilst the marginal third is traversed by a small light undulate band. — In the form adolphaei Guér. (56 B d) the collar is bright yellow, the forewing dark brown; — in collaris Guér. the ground-colour is paler and more reddish. Together with the preceding, at great altitudes in the Nigiris.

diffusa.

E. diffusa Wkr. (37 a) is very closely allied to flavicollis as well as mollifera, from the latter it differs by the head contrasting with the yellow thorax. The colour of the wings varies from whitish-grey to a dingy ochreous-brown. The postmedian line is single not double, on both wings curved, but nearer to the margin.

primularis. Ceylon. — primularis Mr. from Coonoor, perhaps a distinct species, has a creamy-white colour of the wings, and occurs at the same habitats as the preceding species, but much more rarely.

geminata.

E. geminata Wkr. (= petosiris Cr.) (37 a, as gemina) is smaller than the preceding, only about as large as adolphaei, but quite lemon-coloured with faint markings. Distinct are only the submarginal dentate line and some soot-coloured spots before it. This species besides also varies much. — In anada Mr. and phalaenaria Flbr. the sooty spots in the marginal part are absent and the dentate line is indistinct, but in phalaenaria the median transverse line and the one bordering proximally on the marginal part are thick and prominent.

lineata. — In lineata Wkr. still more lines are prominent and the spots are absent; the ground-colour is generally darker, which in the form placida Mr. from Ceylon is replaced by a dingy brown. — The species is distributed from
the Himalayan countries through India to Ceylon. It is the only species of *Eupterote* which I met with several times in day-time, but evidently only on having been scared up.

**E. minor** Mr. from Burma is almost like the preceding and also varies in the colouring, but the two transverse lines of the forewing are in the $\mathcal{O}$ steeper and below the costa more bent; also those of the hindwing are less oblique.

**E. axesta** Sch. (57 d) from the Khasia Hills almost looks like a small *diffusa* (37 a), it is pale yellow like it, but it has speckled fringes on the forewing, and also in the basal part of the hindwing dull transverse lines. Also allied to *testacea* Wkr. (57 d).

**E. lineosa** Wkr. (31 a) is much larger than the preceding, the forewing divided into 4 almost equally broad areas by 4 dark transverse stripes; another transverse stripe right at the base, and in the marginal area a slightly undulate brown line. Between the median and the distal transverse stripe 2 or 3 dark zigzag lines. The colouring is mostly yellowish-brown slightly tinted reddish; darker specimens were denominated *fratema* Mr., they exhibit thicker transverse stripes and the distal undulate line before the margin interrupted; in the $\mathcal{O}$ the markings are less distinct. Our figure already shows a transition to this form. Sikkim, Nepal, Nilgiris and Ceylon.

**E. calandra** Sch. from the Khasia Hills in Assam, has not quite the size of *lineosa* (31 a) and differs *calandra* from it by the bright yellow upper surface which is without any marking.

**E. undans** Wkr. (57 a). Head and body reddish brown, wings greyish-brown, strewn with dark scales. Forewing with 6 highly undulated lines; hindwing with 3 almost straight, indistinct lines and a highly undulated submarginal line. India, Assam, Nilgiris, at altitudes of 6000 ft., in May.

**E. testacea** Wkr. (57 d). Head and thorax more reddish-yellow, abdomen and wings paler yellow. *testacea*. Through the forewing extend 2 antemedian and 2 median almost straight, indistinct lines; a postmedian, similar double line, the proximal one of which is well marked. An antemarginal undulate line; basal and distal areas dusted with dark; hindwing with an antemarginal line and a double postmedian line; a curved antemarginal line. Cachar, Sylhet, Assam, Burma.

**E. translata** Sch. (57 d) differs from *testacea* by the pale ochreous brown colouring. Forewing with an antemedian, median and postmedian indistinct line, but single not double; the submarginal line is removed nearer to the margin. Hindwing without the antemedian line; the postmedian line single and straighter, the submarginal line better marked. 54 mm. Satara, Puna, Nilgiri Hills.

**E. flavida** Mr. (= *aeinea* Sch., *procumbens* Grbg. *i. l.*) (36 b as *procumbens*). Pale yellow, the $\mathcal{O}$ deeper yellow. Recognizable by 3 brown stripes beginning close at the apex of the forewing and diverging towards the proximal margin which they divide into 4 about equal parts. Canara, Khandala, Nilgiris.

**E. plumipes** Wkr. (= *rubiginova* Wkr.) (37 a). Size and shape of the preceding species, but the colour is not light yellow, but in the $\mathcal{O}$ reddish yellowish-brown, in the $\mathcal{O}$ dark earthy brown, sometimes claret-coloured (*oenescens* Mr.), ochreous-brown (*quadrifasciata* Mr.) or light yellowish-brown (*similis* Mr.). Instead of 3 there are here only 2 brown stripes proceeding from the apical region, the proximal one terminating about in the centre of the proximal margin, the distal one before the anal angle. Ceylon, not rare, in the alpine districts; I took them yet in Newara-Eliya and World's End in February; but they fly almost throughout the year.

**E. vialis** Mr. (31 b). Here the forewing only has yet a stripe extending from the apex to the centre of the proximal margin, distinctly marked dark brown, distally bordered with a light yellow. Ceylon, in the central parts at great altitudes, in Newara Eliya (1758 m), in May.

**E. unicolor** Hmps. (56 B e). This species has in the $\mathcal{O}$ has no distinct transverse lines at all; there are only yet dispersed dark punctiform shades and rests of streaks on the uni-coloured brown wings tinted in a claret-colour that indicate their position. The $\mathcal{O}$ is yellower and exhibits an antemedian, median and postmedian line, the two first lines being curved below the costa. Madras; in the Nilgiris at an altitude of 6000 ft.

**E. citrina** Wkr. Walker's description is not quite clear; a figure of the species is nowhere to be found. Whether Sikkim-specimens reported from there belong hereto, seems to be doubtful also to HAMPSON. The Berlin Museum (Dr. GRÜNB.) sent us a $\mathcal{O}$ for being figured (37 a), but it seems to me to belong scarcely hereto and I rather take it to be a somewhat deviating form of the *diffusa-gemina* group. *citrina* has entirely uni-coloured light yellow wings. *lutosa* Grünb. (36 e) may be merely a small yellow form of it. *citrina* originates from India.

**E. petola** Mr. (36 d $\mathcal{O}$, 37 b $\mathcal{O}$, as *petala*). Typical of this Javanese species is the group of 3 straight parallel lines in the disc and a chain of violetish brown moon-spots before the marginal area. The basal part of the wings is in some $\mathcal{O}\mathcal{O}$ almost unmarked yellow, but in some $\mathcal{O}\mathcal{O}$ it is traversed by dark transverse lines,
shaded with brown or even entirely covered with brown (as in fig. 36 d), but it is of no use to denominate these variations of the colouring. — Larva black, the head marked with bone-yellow, on the dorsum beginning from the 4th ring there are black, saddle-like pads surrounded by a greyish blue, at the sides of which there are dark bosky tubercles in a yellowish-red ground. Feet yellowish-red; on the 2nd and 3rd ring lateral, bone-yellow spots. Pupa red-brown, obtuse. The imago was taken in November.

_E. udiana_ Mr. Likewise from Java, rather large (expanse 4 to 5½ inches), all the wings with a double, paler, oblique transverse line. Antennae red-brown with lighter brown pinnæ. The _♀_ is red-brown, the double oblique lines well developed. — Larva black, 11 cm long, with 3 cm long, tufted hairs on rosy embeddings; head marked whitish-yellow. Pupa blackish-brown, with 2 obtuse spines at the anal end.

_E. caniceps_ Wkr. _♂_ ochreous-yellow, head grey, its posterior edge black, antennæ with broad combs. Wings very broad with a straight reddish-yellow oblique line bordered with light; with 2 distal, dentately angled, black lines and a discal, grey, small spot with an indistinct black margin; forewing yellowish doe-coloured, with a scarcely crescent violetish-whitish apex. Under surface yellowish doe-coloured, the space behind the first line reddish-violet with a greyish hue. Hindwing with a very prominent proximal angle. Proximal margin very densely fringed with hair. Moreton Bay in Australia.

_E. styx_ B.-Bak. Expanse of wings: 94 mm. Head, thorax and forewing umber-brown, forewing with entirely faded traces of 3 or 4 transverse bands through the centre of the wing; a slightly bent, dingy ochreous antemarginal line bordered with dark; from there a broad, dark green area with a dentate distal margin; border of the wings dull ochreous-brown. New Guinea (Biagi, Mafalu, 6000 ft.) in August.


We append here this genus entirely unknown to us, which is based upon 1 species and may be best inserted near the genus _Cotana_ (p. 419). The prothorax with the bristly patagia forms a projecting hair-tuft; metathorax with a feeble central tuft. Base of abdomen with 2 tufts on each side; at the abdominal end an anal tuft. In the forewing vein 3 rises before the cell-angle, 4 from it, 5 directly above the middle of the transverse vein; 6 to 10 forked. 7 and 10 from the end of the accessory cell, 8 and 9 on a long footstalk, 11 pressed down long towards the areola. Forewing with an almost straight costal margin and pointed apex; margin in the radial region feebly bent. Hindwing broad, the margin at vein 3 feebly angular.

_O. bella_ B.-Bak. _♂_; head flesh-coloured brownish with a white frontal tuft, collar with a white transverse streak, like the thorax pale chestnut brown; abdomen lighter with creamy lateral tufts and a dark red dorsal tuft. Forewing light doe-coloured with a median, bent silvery stripe from vein 2, obliquely to the costa continued in a light stripe of the ground-colour; behind the middle a pale stripe interrupted on vein 3 and still more on vein 2; an antemarginal light stripe is distally bordered with dark and interrupted on all the veins; from the postmedian line at the costa an entirely oblique line runs into the silvery stripe. Cell on both edges dotted dark. Reniform macula surrounded by light. Between the subterminal and postmedian line dark dots in two rows; costal margin dark reddish, in the apical part broad violetish-grey. Beside the silvery stripe there is another silvery triangular spot. Hindwing flesh-coloured, towards the base ochreous, fringes dark reddish. Expanse 43 mm. Kebea (New Guinea).

Genus _Paramarane_ B.-Bak.

Based upon one lepidopteron that was taken at an altitude of 6000 ft. in the Arfak Mountains in New Guinea in February. In the forewing vein 4 rises from the lower cell-angle, 5 from the centre, 6 from the upper angle of the cell, 7, 8 and 9 forked, 10 being absent. In the hindwing 4 rises at the upper angle of the cell, 5 in the centre, 6 and 7 being forked.

_P. pulchra_ B.-Bak. with an expanse of 51 mm is unknown to me, nor is it anywhere figured nor compared with another species. Head, thorax and legs sooty black, abdomen ochreous-yellow. Forewing silvery white, behind the middle a yellow, undulate, oblique stripe with a fine, dark brown central line. Hindwing uni-coloured golden yellow.

Genus _Rarisquamosa_ B.-Bak.

Likewise based upon one male specimen originating like the preceding from New Guinea (Ninay Valley), the type being in a private collection. In the forewing vein 4 rises from the lower angle of the cell, 5 above the centre of the cell, 6 to 9 forked, 10 absent, 11 from the cell. In the hindwing 4 comes from the angle,
PSEUDODREATA; PSEUDOGANISA. By Dr. A. Seitz. Alphabetical List of the Indo-Australian Eupterotidae. 431

5 from above the centre of the cell, 6 and 7 forked, 8 anastomoses shortly with 7 near the base of the cell. Forewing very scantily scaled, in the place of the small scales hair-like formations, whereby the wings appear semi-transparent.

R. arfaki B.-Bak. Head, body, legs and wings red-brown; discal area of forewing clad with fine grey arfaki hairy scales; through the cell-end extends a broad red-brown line; marginal area with similar grey scales, the postmedian area between these grey areas of a clear red-brown. Hindwing without markings; at the base more thinly scaled.

Genus Pseudodreata B.-Bak.

Wings very broad, obtuse, the costal margin very much bent. In the forewing vein 6 rises from the upper cell-angle, 7 forked with 8, and 9 with 10, by the anastomosis of 8 with 9 an areola is formed almost as long as the cell; 10 and 11 from the cell. In the hindwing 4 and 5 rise from the lower, 6 and 7 from the upper cell-angle; 8 near the base connected with 7 by a short branch.

P. strigata B.-Bak. (57 d). Dark chestnut-brown; in the forewing there are 2 round punctiform spots, strigata, in the hindwing 1 below the costal area. Behind the middle of the forewing a dark, thick transverse streak being angular below the costa and then straight and continued straight through the middle of the hindwing. Behind this streak an undulate dentate stripe bordered with white towards the margin, and before the margin a similar, but much more flatly undulate stripe. Dinawa (New Guinea).

Genus Pseudoganisa Schulz.

This genus is at once recognizable by the peculiar shape of the ♀ wings. Costal margin of forewing quite straight, only before the apex curved and then passing over aracutely into the distal margin, so that the apex itself is almost no more noticeable. The margin of the hindwing is below its middle broken in an almost exactly right angle so that it projects in a sharp corner. All the cells of the wings extremely short.

Ps. currani Schulz (57 e). Yellowish-red-brown, thorax brownish earth-coloured with a creamy currani collar. Before the apical part of the forewing begins a slightly curved dark streak extending to the proximal margin as far as before the anal angle and being continued through the whole hindwing. At the cell-end and before the tornus of the forewing blackish punctiform spots. From Mindanao (Philippines). District of Zamboanga, discovered by W. J. Hutchinson.

Alphabetical List

with reference to the original descriptions of the forms of the Indo-Australian Eupterotidae.

* signifies that the form is also figured at the place cited.

affinis En. Mr. Trans. Ent. Soc. Lond. 1884, p. 369.
albira En. Mr. Trans. Ent. Soc. Lond. 1884, p. 366.
albires En. Mr. Trans. Ent. Soc. Lond. 1884, p. 357. *
assimilis En. Mr. Trans. Ent. Soc. Lond. 1884, p. 368.
auriflua En. Mr. Trans. Ent. Soc. Lond. 1884, p. 364.
callicusco En. Mr. Trans. Ent. Soc. Lond. 1884, p. 367.
cashmiriensis Apona Koll. Hügel's Kaschm. 4, p. 472. *
emius En. Mr. Trans. Ent. Soc. Lond. 1884, p. 361.
emianotata En. Mr. Trans. Ent. Soc. Lond. 1884, p. 363.
ekupreicheni En. Mr. Trans. Ent. Soc. Lond. 1884, p. 381.
decolorata En. Mr. Trans. Ent. Soc. Lond. 1884, p. 369.
discordans En. Mr. Trans. Ent. Soc. Lond. 1884, p. 368.
11. Family: Bombycidae.

This group, as it was hitherto comprehended, and arranged in Kirby's Catalogue, only contains about 60 to 80 forms, 16 of which occur in the palearctic region (where they were partly introduced), whilst about 50 occur in the Indo-Australian region and but very few in the Ethiopian region. To what extent the American forms (about 50) reckoned to the Bombycidae are allied with the Indian Bombycids will be discussed when dealing with them; they are undoubtedly less allied to all the palearctic forms than the latter are to each other.

The principal characteristics are the stunted stomatop parts. Not only the whole proboscis is entirely absent, but also of the palpi there are merely atrophous remainders entirely hidden in the wool of the face. In this respect they differ particularly from the Brahmaeids to the larvae of which they are otherwise somewhat similar. The antennae are (like in the Brahmaea) also in the $ bi-combed and exhibit rather strong small branches. The reason of this may be that most of the Bombycidae are rather monophagous and that therefore also the♀♀ require a well developed sense of smelling in order to detect the food-plant.

In Vol. II (p. 189) we have already called the readers' attention to the peculiarly bent-over apex of the forewing, being a distortion by which the branches of the subcostal vein appear to be bent down. The discal cell, especially on the forewing, is considerably larger than in the Eupterotids from which the Bombycidae differ besides by the presence of a frenulum.

The larvae, however, differ entirely from those of the Eupterotids which are densely covered with long hair, whereas the Bombycidae are almost entirely without it. Though — especially in the early stage — there are traces of a hairy cover, it becomes atrophous later on and even entirely bare, like in the Brahmaea and the American Ceratocampids. Like in the latter, also in the Bombycidae the body grows into protuberances or cones, which may in some cases produce a horny caudal formation being peculiar of the habitus of the Sphingid larvae.

The pupa the shape of which does not show any peculiarities, rests in a cocoon the industrial utilization of which by the silk-spinner has become of world-wide importance. Beside certain Saturniids and the Lasiocampid Pachypasta atus (comp. Vol. II, p. 174), the Bombycid Bombyx mori is the chief producer of silk and excels the former considerably in their importance. This is the reason why such a great number of artificial races were cross-bred from Bombyx mori as in no other insect.

The ♀♀ of the Bombycids, except Bombyx mori having been modified by domestication, are good flyers which, however, only move about at night and are very much attracted by the light. In daytime the brown species mostly rest on the trunks of the food-trees, whereas the white ones lie flatly spread on the leaves, some exhibiting a somewhat distorted position: they press their forehead on the base and turn their abdomen upwards. They place their wings above each other in such a way that the proximal margin of the hindwing looks out from beneath the forewing, which usually also influences the colouring of the inner-marginal area of the hindwing.

The larvae seem to live rather exclusively on trees and frequently prefer cultivated trees (such as figs, mulberries). In Eastern Asia the Bombycidae are often found in towns and avenues and are preferably developed on shady trees in the gardens and streets.

As we have already mentioned the typical species, on which the family was founded, has an economical importance such as no other insect, not even the honey-bees. The history of the silk-moth is so closely associated with the history of humanity that neither can be separated from the other. Already for the time in which the world's history passes over from myths and uncontrollable traditions to historical facts, the production of silk is mentioned. The Chinese — the Seres of the ancient occidental nations — attribute the discovery of the silk webs to the reign of the mythical Emperor Hwang-ti, but the secretion of the silk-glands of Bombyx mori was differently applied already before that time, for strings for a kind of guitarre, and for fishing-lines, which are up to this day yet manufactured in China from the spinning secretion of the Saturniid Eriocyna pyreum (Vol. II, t. 31 a). In this latter application the silk is already mentioned from the year 3000 when, according to the well-known Chinese historical work „Shu-king“, the Emperor Shin created mulberry-plantations in order to encourage the manufacture of fishing-lines.
As those historians regarding Adam not as a personification of an Asiatic descendant from the first
man but as a historical person, computed him to have died in the year 3053 before our Christian era, we find
the knowledge of the silk-moth stated in the Chinese annals already at about the same time in which Adam
was still living, and it is easily understood that this insect was closely associated with the first great event
which can be historically borne out, i.e. the great flood.

It is of no importance whether the inundations of the South Asiatic lowlands have occurred in the
south and south-east of Asia at the very same time and have been effected by the same cosmic or tellurian
events, for which Rudolf Falb has provided several reasons, or whether the countries of Southern Asia were
afflicted successively; it seems to be sure that the receding of the flood was not continuous in South East Asia,
but interrupted by many recurring floods, by which the human beings having been chased to the central
highlands were at last so much frightened that the Chinese government of those times devised means and
ways for making the lowland-habitations that had been left on account of the flood attractive again for the
population.

The Emperor Yāu reigning then at first entrusted Kwan with this task who, however, was unequal
to this mission. His son Yu recognized that the lowlands were still too much interspersed with swamps and
rank growth as to enable the fields to be successfully and properly cultivated, and he therefore made use of the
silk-culture in order to reacustom the inhabitants of South East Asia to a productive occupation. The soil
being still very soft proved not to be unfavourable for the cultivation of mulberries, and the reconstruction of
the nations made rapid progress. Already under Yāu's successor Shun silk garments were introduced for
state and court officials, into which allegorical figures and pictures were embroidered or interwoven, which
makes us presume that the silk-industry must have made rather great progress.

Only some time hereafter the silk-culture having been chiefly attended to by the court-circles of China,
Proper became popular with the Chinese nation and the adjoining countries, and only in the last millennium
before Christ the trade with silks was extended to the Mediterranean Sea. And when Europe was at the height
of her prosperity, the trade between her and China was so brisk that whole countries and nations owed their
rise and wealth to this produce, such as Central Asiatic Khotan, Bucharia and great parts of the Iran.

The breeding of the larva of Bombyx mori was in the beginning anxiously guarded as a monopoly by
the Chinese, and it was only by and by and indirectly that the art of silk production found its way to the
western countries. At the time of Rome's greatest prosperity, during the Caesarian times, such enormous quan-
tities of silks were imported from China to the west that the Chinese had to perceive that their export exceeded
by far the consumption of India and the other intermediate countries. They told themselves that to the west
of the countries with which they were in commercial connexion, there must exist a great empire of an enormous
purchasing power and living in immense luxury, and they should have very much liked to get in touch with
it. Tissa was the Roman Empire which, on her part, would also have liked to enter into direct commercial
intercourse with them. But all the efforts to shut out the commission agents were in vein owing to the successful
resistance of the Central and South Asiatic nations that did not allow this lucrative intermediary trade to
be snatched away from them. Particularly the Indians, Parthians and Arabians, and in the north the Central
Asians averted all the attempts of the purchasers and producers to get to each other; repeated Chinese recon-
noitring embassies were stopped or forced to return, but not in any case furnished with sufficient information,
and on the other hand all the Roman attempts to advance to the east were frustrated by the desperate resistance
of the Parthians who were never subdued by the Romans.

Till to the 4th century after Christ the silk luxury increased enormously in India, Persia, but parti-
cularly in the Byzantine Empire, and even the popes' appeals against the luxury and extravagance of silk
costumes and furniture were in vain and even only caused those who stuck to their plain and decent dress
to be mocked as hypocrites and slaves of the clergy. Only the migration of people and its after-effects put
an end to the immense waste of silks in the western countries. This also brought about the collapse of the most
important branch of trade of the Persian Empire which was more and more buried in historical insignificance;
the influx of great numbers of Syrian silk-weavers in whose patria the silk industry had been annihilated by
insane taxes of the Byzantine government, remained therefore without a lasting importance for the Parthian
Empire.

The breeding of Bombyx mori came to Europe under the reign of Justinianus. Already in the 4th
century it had broken through the Chinese monopoly — the export of breeding material was prohibited on
pain of death — by a Chinese princess married to Bucharia having smuggled across the frontier eggs of B. mori
in the calices of her head-dress.

For a long time Bucharia provided now the Sogdians being eminent tradespeople with self-bred raw
silk particularly produced in the Bucharian Khotan, which was then transmitted partly worked up partly
raw to the Parthians and by them to the western countries, as soon as more peaceful times brought again
about wealth and a greater consumption of silks. But the Sassanids grew more and more adverse to the com-
nexion with the Sogdians who proved to be a nation of conquerors, and the Persian king Chosru once bought
the whole stock of silks from the Turanians, in order to burn it publicly and thereby to put an end to the
principal instigation for the intercourse between the Persians and his Turkestan federal or tributary states.
These interruptions of the trade may have induced Justinianus to think of introducing the silk-culture in Europe.
And when two Persian monks offered him to procure breeding-material of *B. mori* he enthusiastically took this
opportunity, and in 555 the two monks brought him a great number of lepidopteral eggs, and thus this energetic
regent, by his incessant endeavours, succeeded in raising the silk-culture and industry in Byzantium to such
an extent that it became later on the emporium for the silk trade of the whole world.

The expansion of christianism meant a new stage in the history of silk, as its use for liturgic garments
offered a new way for gorgeous display. On the improvement of ornamentation the taste and modifiability
grew more refined, and the variety of colouring, tissues and embroidery of the silks gave the opportunity of
reforming the art in more than one respect; partly the political conditions of the western countries, partly
an internal exhaustion, and probably also the bad effects of the Byzantine super-culture did not allow a lasting
rise; a narrow-minded policy of taxes and certain social institutions hostile to civilization led to a stagnation
of the silk-production and silk-industry, which reached a threatening degree when the conquering period of
the Islam upset the frail Anterior-Asiatic and Eastern nations.

The Arabian epoch of the 7th to 10th century all of a sudden brought the whole silk-culture to the
height of prosperity. This is not the place to pursue the causes of this fact; but if I mention the esteem of
the Arabian race for handicraft, particularly for artistic trade, their trading talent having remained to them
up to this day, the eminent part played by garments of every kind, carpets, draperies, and home decorations
in the daily life of the Arabians, their fondness of bodily not very fatiguing plaited work, weaver's work,
embroidery and jewellery-work, one easily understands the paradise provided by the Arabian culture to the
silk-trade. And besides the inane taxes and royalties by which the silk culture and industry had hitherto
been restrained, had quite suddenly been removed; the rapid expansion of the conquerors' new culture throughout
the Medi¬terranean district, the vast opportunity for home and harem work of the oriental women whose
sense for art and production was otherwise confined; the most unique taste in colours and decorations being
a national peculiarity of the conquering tribes, and many other circumstances had to effect favourably the
improvement of the silk-culture. In short, it developed to a prosperity which neither the luxurious Byzantine
period nor the christianity so enthusiastic for church-splendour had been able to bring about. The Mohammedan
commercial towns of Bagdad, Basra, Mossul, Damascus being emporia for silks grew to be of a great mercantile
importance, and from these towns, being the principal places of manufacture, the threads of silk production ran
across all the Mediterranean coasts to the Atlantic coast of Spain and Portugal.

Since those times the cultural conditions of the states and empires have often been changed; the silk-
culture, however, in a more or less prosperous development remained in the whole orient, especially in Central
and Anterior Asia, South-Eastern Europe, the northern provinces of Italy, in Southern France, in single parts
of Spain, and to a slight degree also in small districts of the old Danubian monarchy and in few places of Switzerland.
In all the countries situate outside of a certain zone extending from Japan and Southern China across
Central Asia and Northern India through Persia, Anatolia, Syria, the Balkan Peninsula, the southernmost parts of Russia, the district of Goricia, along the southern slope of the Alps and through Southern France, the breeding of *Bombyx mori* could not be adopted successfully and permanently.

The geographical frontier of the silk-countries is restricted partly by physical (climatic) conditions,
and partly the cultural state of the peoples inhabiting them do not permit of a prosperous development of the
breeding of larvae. The East Asiatic competition for which China and Japan are particularly fit on account
of the frugality of their inhabitants, pre-supposes low wages in those countries that wish to make a profit by
the silk-culture. Only where the breeding-localities can remain unheated without the summer-frosts destroying
or hurting the breeding, we may reckon to have a positive profit, but in all the countries where the permanent
dampness of summer does not occur in conjunction with stifling heat like in hot-houses, the breeding must be
dissuaded.

Finally, not each of the races of *B. mori* having been developed in the five millennia since silk-breeding
is being carried on by mankind, is fit for all the breeding-countries. By ample experiments that were made in
the breeding-establishments to be found nowadays in all the civilized countries fit for breeding, in many cases
the race of *B. mori* fit for the conditions there had first to be cross-bred, and this proceeding is still being
adhered to up to this day.
In the breeding itself the following work is chiefly to be considered. Above all the supply of the fit material being best guaranteed and provided by the government from the so-called breeding in cells *. Secondly a rational instruction of the persons entrusted with the supervision. Thirdly the feeding with mulberry-leaves (not comfrey **), lettuce, dandelion or other substitutes according to the rules ascertained by the text-books for silk-culture in all its details. Fourthly the appropriate care on the approach of the time of pupating by providing rational spinning-gardens. Finally the harvesting and after-treatment of the finished cocoons has to be performed by experts.

In the countries where the silk-culture is popular, especially in Eastern Asia the punctual observance of rational regulations is often fixed by state-laws. Governmental control in conjunction with advice free of charge has nearly everywhere proved to be very beneficial; and where it is absent, the silk-culture is mostly unmanageable and has led to epidemics and degenerations that have proved to be rather pernicious.

1. Genus: **Bombyx** L.

This genus has already been dealt with in the palearctic part of this work, Vol. II, p. 189. Above all the well-known cosmopolitan species:

**B. mori** L. which we therefore need not enter upon at large. The forms *croesi*, *fortunatus*, *sinensis*, *textor*, and *arracanensis* Moore and Hutt. are domesticated, artificial forms only distinguishable as larvae and by the web, but nevertheless they are, just for that reason, systematically quite interesting, and they must not be merely buried in the synonymy. *pluma* Wkr. placed hereto I. e. belongs to *Ocinara lida* Moore (= *mori* Hutt.), not to *mori*. According to Sasaki (in Annot. Zool. Japon. Vol. 2, pars II [1898]) and Conte (in: Essai de Class. d. Lép. prod. de Soie, fasc. 7 [1911]) *Theopilia mandarina* Moore would be a race of *B. mori* which, however, appears to me to be at least somewhat doubtful. As *mandarina* has already been dealt with in the palearctic part (Vol. II, p. 190), we need not touch it here. — The larval forms mentioned are said to differ as follows: in *textor* Mr. & Hutt. the cocoons are only harvested once a year, they are of a pure white, much smaller than in *mori*, at both ends somewhat pointed, outside not hard, smooth, with very densely woven silk threads as in *mori*, but loosely and irregularly woven together, therefore appearing matted or even woolly, the larva being much smaller than in *mori*, but otherwise scarcely different, casting their skin 4 times; *croesi* Mr. & Hutt., thrives best at high temperatures and, in contrast with the two preceding forms, may be harvested 7 or 8 times a year, the cocoon is of a bright yellow, smaller, though larger than that of *fortunatus*, loosely woven together as in *textor*; larva about 36 to 49 mm long, silvery whitish or pearl-coloured with two black spots on each ring, and it mostly appears as if covered with dew, the horn being short and obtuse, and the dark moon-spots being so distinct on the 5th and 8th rings in the two preceding forms are here entirely absent; *fortunatus* Mr. & Hutt., is the smallest of all the forms of *mori* (length of forewings: 17 mm), it thrives best in moderate warmth, the cocoon is small, golden yellow, similar to that of *croesi*, the adult larva is of a bluish leaden grey colouring, like in *croesi* without moon-spots on the segments 5 and 8, the horn of the penultimate segment is short and light, according to Cotés the forewing shows two and the hindwing one indistinct dark transverse band being bent convex towards the margin; *arracanensis* Mr. & Hutt., a local race from Arracan, being insufficiently known, has a larger cocoon than the two preceding forms, the silk is particularly strong and good and is harvested about 5 times a year, the juvenile larvae are light brownish, the anterior edge of the first segment whitish, the head black; *sinensis* Mr. & Hutt. has a much smaller larva than *textor*, the adult larva (after 4 skinnings) being wax-coloured with a greyish-brown head, the second segment exhibiting a dark transverse band on each side ending into a black spot; two dorsal and two lateral rows of small brown hump-spots are present, the 5th segment with two dark moon-spots, the 8th with two dark circular spots, the stigmata appear as one black white-centred ring each, the cocoon may be yellow. All the 4 forms occur in China and India, as *arracanensis* is said also to have been imported from China, and *textor* is said to have besides a still wider range. Another form: *meridionalis* Wood-Mason, from Madras, is certainly very much like *sinensis* and is perhaps not always discernible; the cocoon is described to be small, soft, generally very smooth (satiny), of a white colour, light sulphur-coloured or very pale green.

**B. mioleuca** Meyr. Head, palpi, thorax, abdomen and legs intermixed with dark brown and whitish hair and therefore appearing grey. Antennae dark brown with ochreous orange pinnae (in the ♀ 10, in the ♂ 3 times as long as the diameter of the antenna). Forewing oblong, triangular, posterior margin obliquely rounded off, brown, with whitish and dark brown scales; costal margin dark brown in the ♀, two dark brown

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* The copulating imagines are in couples separately preserved in isolating cells, after their death microscopically examined for Pbreme-germs, and only if the soundness of the parents has been incontestably ascertained, the laying is released.

** As to the disadvantages of the comfrey-culture comp. SEITZ, Seidenzucht in Deutschland (Silk Culture in Germany), Stuttgart 1918, p. 178 to 185.
intense lines, the first of which extends from the first quarter of the costal margin to two fifths of the anal margin and is somewhat sinuate, whereas the second runs from about two thirds of the costal margin to beyond the middle of the anal margin and forms a minute distal tooth; a small, transverse-oval, before the centre brown discal spot encircled with black, and an indistinct, irregular, subterminal row of black spots. Hindwings whitish. Expanse of wings: \( \varphi 35, \varphi 50 \) mm. Australia.

**B. crenulata** T. P. Lucas. \( \varphi \). Dark chocolate-coloured, in the \( \varphi \) the thorax is somewhat lighter. **crenulata.** Apex of palpus ferruginous reddish-brown. Antennae reddish-ochreous, pinnae of the \( \varphi \) very short. In the forewing the costal margin is almost straight, at the end the wing is rounded off; the margin almost straight, finely crenulated, the veins darker, at two fifths near the median longitudinal line there is a small black discal spot which is indistinct or entirely absent in the \( \varphi \), in the \( \varphi \) a fine dark marginal line, which is in the \( \varphi \) ochreous between the crenulations, the fringes vary between ochreous and chocolate-brown. Hindwing in the dorsal area very hairy, fringes chocolate-coloured. Expanse of wings: \( \varphi 34 \) to 38, \( \varphi 60 \) mm. Australia: Eltham, Melbourne, Brisbane. (It is presumably scarcely a genuinely Bombyx!)

2. Genus: **Ectrocta** Hmps.

A strikingly large and broad-winged Bombycid; both wings with an emarginated border (the forewing behind the apex and the hindwing at the anal angle). Palpi very small. In the forewing the veins 6 + 7 + 8 + 9 + 10 + 11 are forked, 6 rising between 10 and 11, 7 and 8 being very short and terminating behind resp. right before the apex, 9 also being short and from 10 more than twice as distant as from 8; 3 and 4 from the same place (angle of the cell), diverging very much towards the margin. In the hindwing 5 rises from the centre of the discocellular, 6 and 7 being forked.

**E. diaphana** Hmps. (57 g). \( \varphi \). Head, thorax and abdomen light ochreous-brown, shaded darker, **diaphana.** All the wings white, semi-diaphanous. Forewing with a dark basal spot, a subbasal dark curved band, a streak-shaped, dark discocellular spot, a doubly S-like curved dark submarginal line, and a large dark apical spot. Hindwing with an antemedian dark spot in the dorsal area, a postmedian band of dark spots and a slightly darkened margin. Expanse of wings: 54 mm. Burma.


This genus with which we unite *Trilocha* Moore, *Ernolatia* Wkr., and *Chazena* Wkr., beside the genus *Naprepa* Wkr., being denominated by a name already conferred, has already been described in Vol. II, p. 191 (as Ocinera).

0. **signifera** Wkr. (= lactea Hutt.) (Vol. II, t. 35 f) being widely distributed in India and occurring besides in the Andamans, Sumatra and Borneo, has been described in Vol. II, p. 191. f. **diaphana** Mr. has no black spots on both wings. Khasia Hills.

0. **lida** Mr. (= apicalis Wkr., signata Wkr., moorei Hutt., pluma Wkr.) (Vol. II, t. 35 f, as apicalis) has **lida.** already been dealt with in Vol. II, p. 191, by the name of apicalis Wkr.; the latter name, which is incomprehensibly also used by HAMPSON, is, however, of a later date than *lida* Moore and must therefore be mentioned as a synonym. It occurs in China, India, Java and Borneo. — SEITZ (according to a letter) observed in Hongkong that *Ocinara lida* takes up a very peculiar position when at rest, standing on the centre of the leaf on its head, keeping the wings spread on the leaf, the abdomen being erect and bent upside down. On beating the imago down, it closes its wings and bends the abdomen under its chest.

0. **varians** Wkr. (= albicollis Wkr., cervina Wkr., velata Wkr.) (Vol. II, t. 35 f.) has been described **varians.** in Vol. II, p. 191, and occurs in India, Ceylon, China, Formosa, the Philippines, and Borneo.

0. **brunnea** Wil. (57 h) \( \varphi \). Dark chocolate, vertex lighter, like the costal-marginal and anal-marginal areas of the forewing; the latter provided with reddish-brown, double ante-and postmedian lines only distinct in the dorsal area, as well as with a discocellular spot of the ground-colour of the wings. Hindwing light reddish-brown, anal margin light brown with darker markings. Beneath the forewing is chocolate with ochreous veins, the hindwing ochreous-brown with a chocolate shade at the margin, a black discocellular spot and two undulate brown postmedian transverse lines, the first of which is only distinct in the dorsal area. Expanse of wings: 37 mm. Formosa: Rantaizan, 7500 ft., in May. It is reported to occur also in India.

This original description was drawn up according to a specimen that was somewhat rubbed off on the forewing. From the German Entomological Museum there are two \( \varphi \) before me with an expanse of wings of only 30 to 31 mm, the length of the forewing being 14 to 15, and the length of the body 15 to 16 mm. Both wings exhibit a faint violetish hue, and the chocolate-brown colouring is more or less removed by extremely
faded lighter patches, one of which is the most distinct at the centre of the anal margin, being recognizable as an almost semicircular spot with a diameter of about 2 mm. At the corresponding place in the hindwing there is a similar though smaller and somewhat oblong spot, and between the latter and the anal angle there are two light, parallel, somewhat oblique transverse streaks, the distal one of which is continued in front, but disappearing far behind the costal margin. On the under surface, however, this transverse line is much more distinctly prominent, but also here the most distinctly in the dorsal area, being undulate zigzag-shaped and towards the base adjoining to a similarly shaped dark brown line reaching to the costal margin. Shortly within these two lines the dorsal area of the hindwing beneath shows a blackish-brown oblique spot from which a soon vanishing nebulous line continues in front. The under surface of the forewing like that of the hindwing with a double, postmedian, zigzag-undulate transverse line, and besides with a dark streak at the apex being otherwise dusted greyish. Locality: Shisa in May and June (Formosa).

**O. cyproba**

Antennae reddish grey. Body and wings of a pure white; the wings thinly scaled, almost semi-hyaline, with many grey bands: the first being antennal, on the hindwing indicated by a cellular spot and a short streak on the dorsal margin, the second being discal, the third submarginal and both coherent (except that they are cut by the white veins), and these bands are on the forewings cut by similar bands extending almost from the base to about the centre of the margin. Expanse of wings: 26 to 31 mm. Java. — Larva on a species of Ficus called Weringin by the natives; in April. According to the uncoloured figure in Moore, Cat. Lep. East India Comp. II, t. 18, f. 6 a, the larva shows a dark lateral longitudinal line, at least beginning from the 5th ring one small, dark, subdorsal spot each, it is 50 mm long, slender, cylindric, with a strong horn on the last ring; the cocoon is oviform, 18 mm long and 11 mm broad on the figure.

**O. dilectula**

Whitish. The head above on each side as well as below, the palpi and anterior legs above reddish. Thorax in front with a fawn-coloured spot on each side or with such a band, behind some similar hairs. Abdomen hued brownish-yellow, at the apex fawn-coloured. Wings uni-coloured, veins white. Length of body: 9 mm, expanse of wings: 22 mm. Java. — Larva in the genus **Ollina**. Antennae reddish grey. Body and wings of a pure white; the wings thinly scaled, above and beneath the same, somewhat lustrous. Antennae light greyish-yellow. Abdomen whitish like the wings, the anal brush at the apex somewhat yellowish, particularly beneath. Expanse of wings: 26 to 31 mm. Java. — Larva gregariously on Ficus (benjaminea L. ?), bare, of a light green colour, at the anal segment provided with a horn. They pupate in a dense, yellow web fixed on a leaf, yielding the imago already on the 6th day.

**O. albiceps**

White. Wings faintly opaline. Forewing rather pointed with two double, dentate lines composed of brown moon-spots and accompanied by oblong black dots, besides with a brown, oblique basal streak and two brown spots one of which is basal (according to the original description; according to the figure published by Swinhoe it would be a discocellular spot), the other being before the middle of the margin. Hindwing with similar lines as in the forewing, the proximal one almost blurred, the margin slightly bent, fringes brown. Length of body: 9 mm, expanse of wings: 22 mm. Sarawak.

**O. attacoides**

Colouring reddish. Head dark brown with a white band between the antennae. Thorax with two grey bands. Wings broad, thinly scaled, fringes partly grey, under surface somewhat purple. Forewing at the apex somewhat rounded off, with 4 indistinct, dentate, rusty-reddish lines, the costal margin rusty-reddish; discal spot grey, oblong. Hindwing at the anal margin more densely clad. Length of body: 11 mm, expanse of wings: 25 mm. Sarawak.

4. Genus: **Gunda**

Particularly distinguished by the absence of the palpi and the presence of a partitive vein in the cell of the forewing. In the hindwing 5 rises from the centre of the discocellular, in the forewing 6 + 7 + 8 + 9 + 10 + 11 are forked, 7, 8 and 9 are strongly curved.

**G. javanica**

Light brown, collar with darker brown fringes. Forewing somewhat darker than the body, with three indistinct transverse lines, a more distinct postmedian line being sharply angled behind the costal margin, a deep dark brown subcostal stripe from near the base to the apex of the costal margin leaving free a light apical costal spot enclosing a dark apical streak. Hindwing dark brown with three indistinct transverse lines, in the dorsal area some light streaks and with two small light submarginal spots near the anal angle. On the under surface the two distal lines of both wings are more distinct and undulate. The ♀ is more monotonously light brown, the costal and apical markings of the forewing have disappeared and so have the markings on the hindwing. Expanse of wings: ♀ 48, ♀ 66 mm. Sikkim. Java.
G. apicalis Hmps. ♀. Distinguished from javanica by much more yellowish brown colouring, the antennae are ochreous, the abdominal dorsum has a light stripe, in the forewing the distal line is less angular, and the dark apical spot is much larger, in the hindwing the transverse lines are more distinct. Trincomali (Ceylon).

G. sikkima Moore (= variegata Hmps., thwaitesi Mr. [presumably a good form?]) (57 g). ♀. Body red-brown mixed with grey. Forewing ochreous-brown, in the dorsal and marginal area lined with red-brown, near the base two dark spots, a very much curved subbasal line, two almost straight median lines, the distal one of which is continuous with an oblique streak crossing the cell-apex, an undulate submarginal line, a dark apical spot. Hindwing red-brown, towards the margin ochreous, with two indistinct undulate lines, the dorsal area dark red-brown, with a greyish hue, at the anal angle two dark spots. Hindwing beneath with two dark spots in the cell and more distinct lines than above. ♀. Yellow, thorax hued reddish-brown, forewing at the distal margin and anal margin reddish-brown, hindwing at the base and near the anal angle hued reddish-brown; transverse lines like in the ♀, but less distinct. Expanse of wings: ♀ 42, ♂ 62 mm. Sikkim. Ceylon.

G. hainana Mr. ♀. Thorax dark rusty reddish, abdomen greyish rusty-reddish, head, legs, and body beneath of a brighter rusty red. Forewing dark rusty red, at the anal margin somewhat brighter, in the centre spotted by purple brown and flesh-coloured scales, with one short, oblique, subbasal line and two sinuate discal lines somewhat darker, the discocellular spot of a bright rusty red, margin spotted iron-grey. Hindwing yellowish rust-coloured with short, purple brown basal, median and narrower discal bands and a subbasal white stripe formed of moon-spots and being above purple brown. Beneath the wings are bright rust-coloured; the forewing is lighter towards the base, with a dark, light-spotted margin, a black discal transverse line, the hindwing with a distally convex discal line, two discocellular spots and an indistinct median band, whilst the anal angle is dark brown and spotted white. Expanse of wings: 50 mm. Hainan.

G. richteri Weym. (57 g). ♀. Brownish ochreous, the forewing at the margin and before the apex lighter ochreous with three brown bent transverse stripes and a particularly distinct dark brown, almost straight longitudinal stripe extending from the base of the costal margin to the apex of the wing. Hindwing with two brown transverse stripes and a broad brown distal margin. Beneath the forewing is in the posterior half light ochreous, the brown longitudinal stripe is broader than above, at the costal margin there is a large red yellow spot in which the two dark transverse stripes start. Hindwing beneath of a reddish-yellow ground-colour, but very much dusted with brown, in the cell two black oblique punctiform spots, behind it two bent transverse bands. Length of forewing: 20½ mm. The ♂ is larger: 32 resp. 33 mm, the dark longitudinal stripe of the forewing is only traceable in the marginal half, whereas the basal half neither shows any transverse bands. East Celebes.

G. ochracea Wkr. ♀. Ochreous. Forewing somewhat darker in the basal half, along the anal margin and at a sublimbal band. Hindwing a little lighter and brighter than the forewing, with a somewhat darker, postmedian transverse band being expanded in the anal angle, and a similarly coloured basal patch, at the anal margin with whitish fringes. Length of body: 24 mm, expanse of wings: 60 mm. Sarawak.


G. kebeae B.-Bak. (57 g). ♀. Head and thorax yellow, abdomen brown with a creamy anal tuft, legs brown, antennae blackish. Both wings yellow, somewhat orange, with traces of a postmedian band or streak. Expanse of wings: 50 mm. Kebea, New Guinea.

5. Genus: Theopilia Mr.

In this genus the palpi are likewise absent. It is described in Vol. II, p. 190.

T. religiosae Helf. (= huttoni Wwe., sherwilli, affinis and bengalensis Hutt.). Also here HAMPSON religiosa, describes a species by a name selected quite ad libitum (huttoni Westw.) and places the legitimate, by 11 years older name religiosa Helfer to the synonymy. Body greyish-brown. Margin of both wings more or less crenulated, Forewing greyish-brown with obliquely curved, anteriorly and median, indistinct dark lines: a dark line beyond the discocellular, a transverse postmedian line, one or two twice curved submarginal lines, a large chocolate apical spot. Hindwing darker, at the dorsal margin speckled brown with white, a slightly curved submarginal line. Hindwing beneath with postmedian and submarginal lines. In some specimens the first segment
and the last segments of the abdomen are coloured dark. Expanse of wings: ♂ 40, ♀ 50 mm. — Larva yellow, with brown and black spots and streaks, the three first rings very much swollen, the 5th to the last rings with paired dorsal pricks. The shape of the larva described by Hutton as *bengalensis* was whitish, marbled with yellowish red and black. India: North-Western Himalayas, Sikkim, Assam.

*T. lugubris* Drury. Head and thorax ashy-grey. Abdomen and wings rusty red, forewing with some faint, bluish marks near the margin. Expanse of wings: 48 mm. Madras? — A questionable species not having been found again.

*T. mandarina* Mr. (57 h) from Shanghai has been described in Vol. II, p. 190. It is before me also from Formosa.

*T. horsfieldi* Mr. (57 h). Brownish-grey. Forewing with two slightly bent brown transverse bands, the first of which is distant from the base, by a third of the length of the wing, the other by a third from the apex of the wing, the latter being undulate at the margin; between the two bands there is a brown discal spot which is grey in the centre, and a brown streak right behind the apex, the proximal margin of which is light; hindwing light rusty reddish near the base, with a narrow, curved, submarginal, light line and light veins, the anal margin with two blackish-brown spots, one of which is near the base, the other about in the centre. Expanse of wings: 67 mm. Java.


See Vol. II, p. 190. — At the same place is described.

*M. falcipennis* Wkr. (Vol. II, t. 29 e). — A darker form of it is: *castanea* Mr. occurring like the type in Darjeeling and having more angular, uni-coloured dark chestnut-red hindwings which are neither yellow in the costal area; the markings are like in the type.

*M. phaeopera* Hmps. Body reddish, antennal shaft and a band between the antennal bases white, Forewing reddish with a greyish hue; the apical area from the centre of the costal margin to vein 3 in the marginal area chocolate-brown, costalwards dusted with greyish; a brown antemedian line is behind the costal margin bent convex towards the margin; subparallel to it an entirely blurred median transverse line; a distinctly marked postmedial line is behind the costal margin bent convex towards the margin and in the dorsal area almost zigzag-shaped; fringes light yellow. Hindwing reddish with a slight greyish hue, in the marginal area chocolate-brown; from the middle of the costal margin to the anal angle two subparallel, slightly curved lines; fringes light yellow. Under surface greyish with a reddish hue in the costal area; two oblique, curved, brown postmedian lines. Expanse of wings: ♂ 54, ♀ 70 mm. — The larva draws its head far in when it is disturbed, it is in front broad and flattened, behind tapering and cylindrical, on the anal segment a horn, 16 feet, bare, tan-coloured, dorsum darker with a dark olive spot at the anal end, on the sides yellow spots, otherwise the whole body is spotted green, the ventral side with a yellow spot on each segment, the legs pale red, the forelegs outside with a yellow spot. Food-plant: *Camellia caudata*. Cocoon dark brown, at one end pointed, at the other obtuse, Assam (Khasis).

*M. sphingiformis* Mr. (57 f). Differences from *falcipennis* by the head and thorax being purple greyish-brown. Abdomen dark brown. Forewing light red-brown, with faint and blurred markings, a discocellular spot and a doubly curved postmedian line; the whole marginal area is chestnut-brown, extending in the centre to the postmedial line. Hindwing ochreous, in the dorsal area brown. Fringes of both wings ochreous. Expanse of wings: ♂ 58, ♀ 82 mm. Mussoorie.

*M. hepatica* Mr. (57 f) ♂. Light red-brown, hued with grey, antennal shaft and a line between their bases white. Forewing with an indistinct undulate antemedian line, a dark discocellular spot and an oblique postmedian line which is generally indistinct, angled below the costa and being contiguous with an oblique line from the apex of the wing. Hindwing with a curved, indistinct postmedial line and two dark streaks on the anal margin. Marginal area on both wings hued with grey, towards the posterior and anal angle three dark spots. The ♀ is more monotonously chestnut-brown. Forewing with a smaller cellular spot. — *columbaris* Bttr. from Murree is paler and more uniformly dusted with grey. — Larva greenish brown, behind lighter, of a Sphingid-like shape, with a long tail on the 11th ring; the skin of the anterior part of the body may be expanded to broad lateral wings. Expanse of wings: ♂ 64, ♀ 90 mm. Sikkim, Murree.


This genus is described in the palearctic part of the work, Vol. II, p. 190.

*A. bipunctata* Wkr. (57 f) ♂. Rusty reddish, beneath of a purer reddish. Palpi and chest yellowish. Antennae dark brown with black pinnae. Forewing with three brown, slightly undulate transverse lines, the
second and third of which are broken off near the costal margin, a black discal dot between the first and second line, and a blackish subcostal line as well as an irregular whitish patch near the end of the costal margin. Hindwing with two lines which are the most distinct beneath, where we also notice a black discal dot. Length of body 19 mm, expanse of wings 48 to 56 mm. The ♀ is lighter red-brown, the antennae are white with dark pectinations. Expanse of wings: 66 mm. Hindostan; Sikkim; Assam.

**A. trilochoides** Moore is of a somewhat brighter colouring, on the forewing more powdered with grey, *trilochoides*. India.

**A. albilunata** Hmps. In the forewing the distal margin is very much indented behind the apex, then at vein 4 angularly projecting, then notched; hindwing similar, but not so distinctly notched, the posterior margin not indented. Dark red-brown, mixed with grey; in the forewing a darker red-brown, slightly undulate band proximally bordered with grey obliquely extends from the costal margin to the submedial fold, the discocellular spot is indistinct and parted by a lighter line, an undulatory brown median line and a similar grey postmedian line, behind the veins 6 and 7 small, oblique, white, subapical lunar streaks. Hindwing red-brown with a greyish hue, a brown discocellular spot, chocolate-brown anal-marginal spots and between them light-greyish ones. Forewing beneath chocolate-brown, costa grey as far as the postmedian line, and with a brown spot beyond the centre; hindwing grey with a brown discal spot, two undulate brown postmedian lines and an effaced red-brown spot at the anal angle. — The larva hangs its head and arches its shoulder, when it is at rest; it is gregarious, long, cylindrical, the 3rd and 5th rings with two horns, the anal ring with but one horn, 16 feet, hairy, dull black, speckled with greyish, dorsal line light yellow, subdorsal and lateral lines orange, ventral side with two yellow lines, between the front legs broad yellow spots, head black, the horns whitish at the apex and orange, on the base, otherwise dark. Food-plant: Cudranus javanicus. Cocoon silky, in front obtuse, behind tapering, on the dorsum with an excavated, boat-shaped appendage. Expanse of wings: ♀ 40, ♂ 46 mm. Assam (Khäsis).

**A. apodecta** Sckh. ♀ ♂. Ochreous fawn-coloured, ♀ darker than the ♂ and with an apically whitish costa. *apodecta*. Forewing with three indistinct grey bands or lines, the two proximal ones of which are indented; the distal one is deeply angled behind the costal margin. Hindwing with two median lines and towards the costa lighter, in the dorsal area with dark brown hair. Beneath lighter, with lines as above. The forewing does not protrude so much as in *bipunctata*, and the hindwing is not emarginated in the dorsal area as in the latter. The antennae are dark brown above, white on the sides, the ♂ pectinations are brown. Expanse of wings: ♀ 59 mm. Padang, West Sumatra.

8. Genus: **Hanisa** Mr.

Body long and thin, anal brush spread asunder. Antennae short, with broad double pectinations. Legs short, hairy. Forewing triangular, costal margin rather uniformly convex. Distal margin very oblique and midway angular, posterior margin short; costal and subcostal veins with 5 branches, the first and second branch being parallel, the third thrice bifurcating, the lower fork terminating below the apex of the wing, the upper radial rises from the upper apex of the cell; the latter is narrow, short, enclosing a discoidal vein; the lower radial from the centre of the discocellular vein, the median vein with three branches, the middle branch terminating at the angle of the distal margin, the submedian vein is straight. The anal portion of the hindwing is extracted, for which reason the hindwing appears to be very broad, reaching to the apex of the abdomen, distal margin slightly convex, subcostal vein with two branches, median with three branches. Cell short.

**H. subnotata** Wkr. ♀. Rust-coloured reddish, thick, hairy, abdomen with grey rings, stomatic parts *subnotata*, stunted. Antennae broadly dentate. Abdomen much more slender than the thorax, not projecting beyond the hindwing, the anal lateral appendages fringed. Legs short, stout. Forewing at the apex rounded off, though forming a small angle there, the distal margin very oblique, in the centre slightly angular, and next to it on both sides slightly emarginated, costal margin with 4 or 5 small dark spots, the centre of the posterior margin with 4 short dark transverse streaks, a narrow dark marginal band being midway slightly expanded, where it encloses a lighter spot; a light discocellular transverse streak. Beneath with a yellow costal-marginal spot near the apex. In the hindwing the posterior margin is densely fringed towards the apex. Length of body: 14 mm. Expanse of wings: 35 mm. Singapore.


Body moderately stout. Proboscis absent. Palpi porrect, smooth, thin, not projecting beyond the head, the third joint very small. Antennae short, by far not reaching the centre of the costa of the forewing, very broadly pectinated. Abdomen not reaching the anal angle, anal brush very small. Legs rather short and thin, slightly hairy; hind tibiae without spurs. Forewing large, elongate, at the base narrow, at the end rounded, distal margin slightly convex, very oblique, longer than the posterior margin; areola large; the third of the lower veins is moderately distant from the 2nd, the 3rd upper vein bifurcates, and its posterior forked vein bifurcates once more.

. Head small and very much retracted. Eyes very small. Antennae (of ♀) short, very broadly pectinated. Probosces absent. Palpi small, not projecting beyond the head, wings with short fringes, entirely margined; forewing with an obtuse apex and a convex distal margin, the subcostal vein with 5 branches (the first branch rises near the apex of the cell), the second disceoidal vein rises almost in the centre of the curved discocellular, the last median branches close together, the first somewhat more remote; hindwing rounded off, the costal vein at the base connected with the subcostal, then nearing the costal margin and terminating behind its centre, the subcostal vein branches off far behind the apex of the irregularly closed cell, the second and third median branches close together. Legs short, bristly, hind tibiae with two small apical spurs. Abdomen of ♀ moderately robust, hardly projecting beyond the centre of the hindwing, apex hairy." — Thus far the original description.

tricolor.  
E. tricolor Flmd. (57 f) ♀. Black. Forewing with a white median transverse band being shortened behind, expanded in front, hindwing with a yellow anal spot. Apex of abdomen yellow. According to the figure the veins of the forewing are somewhat lighter. Expanse of wings: 48 mm; length of forewing: 22½ mm. Ambouina.

Alphabetical List

with reference to the original descriptions of the forms of the Indo-Australian Bombycidae.

* signifies that the form is also figured at the place cited.

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12. Family: Drepanidae.

This family containing about 3 to 400 forms is often ranged by the name of *Platypteryxidae* owing to the derivation from one of its most polytypical genera, *Platypteryx* Lasp. A third family name, *Drepanulidae*, however, is used without authorisation (Kirby), for there is no generic name of „*Drepanula*” in this family, but it exists in a family of butterflies (cf. Vol. V, p. 698, pl. 133 e, f). Schranck denominated that genus „*Drepana*”.

About 80 per cent. of the species belonging to this family exhibit a remarkable consistency in the shape of the wings (falciform forewings) as well as in the colouring (varying from yellow to brown) and even marking (oblique line in the distal portion of the forewing, and the cell-end spot). Most of the species are also of less than the medium size of the Heterocera, showing an expanse of wings of 2 to 4 cm, so that the occurrence of silvery scales and some conspicuous indentations in the margins of the wings are the only extravagances noticeable.

The systematic position must be regarded as provisional up to this day. The Geometrid-like habitus, which is also laid stress upon by Warren in the following pages, has already been commented upon in Vol. II (Strand p. 195), although the resemblance is always stated to be merely quite external. Hampson and Staudinger-Rebel have placed the family directly before the Callidulidae, and the latter authors (as well as Kirby) range it after the Bombyculiae, from which Hampson separates it rather distantly. Packard considers it to be an offspring of the Notodontid tribe (and the Bombycidae to be another offspring); he was probably influenced by regarding the very much specialised larvae of the *Drepana*. — Certain relations to the Thyridiidae have been commented upon in Vol. II to which we also refer (p. 195) with respect to the principal marks.

The range of the family is rather irregular, since it has a most remarkable centre in British India. They decidedly require great dampness in summer combined with great heat, and both Africa and Australia exhibit vast districts where the family is entirely absent or where hardly one isolated species represents it; above all they hardly occur at all in the deserts, and in the oases of the Sahara only 2 species are met with. Their main range in the Old World extends from the torrid parts of India, particularly the Himalayan countries through Assam to South China and Japan on the one hand, and across the Malay Archipelago to New Guinea on the other hand. Europe as well as North America only contain 7 or 8 species, the Khasia Hills boast of numerous though rather closely allied forms. In Tropical America they are almost quite absent, but they are replaced there most conspicuously by a certainly allied lepidopteral tribe — the *Perophoridae* — which is even included in the family by some systematisers, although its larvae are quite differently specialised. These *Perophoridae* are represented in Tropical America by about 100 species; about 1 to 2 dozens of species occur in every larger geographical district, so that about the same proportion prevails there as in the Indian faunal region regarding the range of the *Drepanidae*.

As to the distribution within the Indo-Australian Region most of the districts contain at least about a dozen species, except Australia where, as we mentioned above, they occur very rarely. Arabia, the eastern coast of which only belongs to our fauna (its northern part being palearctic and the southern part Ethiopian), hardly possesses one species, but on the opposite coast of India quite a number of species occur already, and in the Nilgiri Mts., where Hampson ascertained 12 species, I found single forms rather frequently. Ceylon has 9 species, some common with India. From there to Bengal and Assam their number increases rapidly, attaining its maximum in the Khasia, Naga, and Sikkim Mts.; from some of these districts up to 50 species are known, most of which we figure here for the first time. From here to the south and east their number decreases again, but there still occur more than about 20, where the palearctic southern frontier shuts off the faunal region, in Southern China and the southernmost parts of Japan. From the Philippines which, however, are still very insufficiently explored, Semper only enumerated three species.

We cannot say that the Tropical-Indian *Drepanidae* excel the eastern palearctic species to a considerable extent. On the contrary, we know the *Cyclidia* (*Euchera*) of North China and Tibet, the *Auzata* and *Macranosta* of Japan to be the most eminent palearctic forms, whereas the Indian Fauna contains mostly polytypical genera looking almost like insignificant European species such as *Drepana curvatula* or *cultraria*. 
Of the early stages of Indo-Australian species we know very little on the whole. In Europe, where some Deprenanae, such as Drepl. calvataria, lactinaria, binaria, are in some places very common, we neither notice the larvae very frequently, since they mostly live on trees and besides temporarily remain hidden in a case of leaves. The Cyclidiinae seem to have normally shaped larvae, whereas the Deprenanae exhibit the changed larval shape described in Vol. II, p. 199. The posture somewhat recalls that of the larva of a Di- cranura, but the anal end terminates in but one point. The last thoracic or the first abdominal rings frequently exhibit protuberances or stings; in Teldenia the 3rd ring shows a pin-like point. The pupa rests in a leaf spun all round; some pupae exhibit a bluish bloom. The imagines are often met with in India throughout the year, and in daytime they are mostly difficult to discover owing to their protective colour. Many have the colouring of a small dry leaf, and the deception is still increased by hyaline spots representing holes, or by abnormal shapes bearing a striking resemblance to shrinks in the dry leaf. Such abnormalities of the shape are exhibited for instance in the Canucha the forewings of which look as if they had been cut off with the scissors. In Leucoblepsis excisa the distal margin of the forewing, and in Thyrmista tripaucata (50 b) and rufa (50 b) also the hindwing at the anal angle look as if they were gnawed; in Hyalospectra grisea (48 d) and hyalocosta the wings appear to be perforated, in Albarea specularia (49 h) and A. perhamata (49 f) we notice a colouring found on dry leaves that have been washed out and discoloured by water. Certain Cyclidiinae such as Macroctenius maia (48 b) look exactly like bird-droppings, and others again such as Dreptodes matutula (= obliquifasciata, 48 i). Dreptodes fratercula (48 i), and Phalacra vihissara (48 g), when at rest, exhibit such a peculiar attitude that our eyes only notice a formation difficult to explain. Real mimicry, however, does not occur; some resemblances, such as exhibited by Spica isteola (50 d) with a habitus quite dissimilar to the family, looking almost like a Xanthia citrago at first sight, are of course only accidental and as superficial as those with the Geometrids.

The Drepanidae form a group of moths with broad wings partly bearing a striking resemblance to certain Geometrids; they also copy their habit of resting during the day with their wings spread out on the underside of leaves. In most of the genera the apex of the forewing is falciformly extended, from which the name is derived, but in many also both wings are rounded; it will be found that in the Indo-Australian species the shape of the wings varies much more than in the palearctic species. Among the special marks, the shortness of the antennae and the feeble development of the proboscis and palpi must be mentioned. The head is broad and smoothly scaled like the thorax and abdominal dorsum. Dr. Strand, in his treatise on the palearctic species, divides the family into two subfamilies, Eucherinae (which I change into Cyclidiinae) and Drepaninae, which division I agree with; in certain points the former seem to be nearer to the Geometrids than the Drepaninae are, but in both the subfamilies vein 7 of the hindwing rises before 6 and approximates vein 8 or anastomoses with it. The only families exhibiting a similar structure of the subcostal veins on the hindwing are the Thyrididae, the Cypnetophoridae, and the Pyralididae, and with the two latter some Drepanidae might easily be confounded; the Thyrididae could be distinguished by their marking. The larvae live freely on trees and shrubs, pupating in convolute leaves, and the autumnal breed spends winter in such casings. Externally they vary to a great extent; some, such as the Platypteryx, are shorter with a large head, and the anal segments are transformed into a kind of upturned tail; others resemble more the Geometrid larvae and are longer and thinner, with thickened anterior segments; several species have two generations (in warmer latitudes perhaps all), and the generations are somewhat different, as for instance in the common Cilix glaucus Scop. (Warren).

I. Subfamily: Cyclidiinae nom. nov.

Characterised by the long, stout, upturned palpi, by the oblique, rarely angular discocellular from the centre of which vein 5 rises, and by the larva invariably showing 16 feet.

1. Genus: Cyclidia Gn. *)

Probosces present; palpi stout, before the face stretched upwards; antennae short, stout, with lamellae; legs short, stout, middle tibiae with one, hind tibiae with two pairs of spurs; chest feebly woolly; wings broad;

*) In Hübner's List (p. 350) the genus Euchera is defined as follows: "both wings streaked and margined with mottled brown"; and the following three species are enumerated as belonging to it: No. 2943 Euchera eunice = canica Cr. 257 G; No. 2944 E. hesperaria = hesperia Cr. 251 B. A.; No. 2945 E. cenidaria = cenis Cr. 147 E. Thus canica Cr. is the type of Euchera Hbn. List.

But in Hübner's Additions III, p. 29 (fig. 519, 520) we find substigmaria Hbn. ranged with the genus Euchera, and this species was regarded as the type of Euchera Hbn. But Hübner himself quotes the List, on the same page 29 of his Additions, Cent. III, saying that he has quite forgotten to enclose Cramer's Vesalia in Euchera; nor is substigmaria of his Additions mentioned here; therefore, whatever doubts there may exist as to the priority of the List or of the Cent. III of his Additions, it is almost certain that the 29th page of the 3rd Cent. of his Additions was written, after the type from page 305 of his List had been established; and the application of canica Cr. as the type of Euchera Hbn. (List) must exclude the application of substigmaria Hbn. as the type of Euchera Hbn. Additions, which is to be replaced by GUNNES Cyclidia, and the subfamily must be called Cyclidiinae.
forewing with a curved costal margin and subacute apex; distal margin smooth, obliquely bent; hindwing triangular, both angles rounded off; on the hindwing vein 5 rises almost from the centre of the discocellular, vein 6 below the upper cell-angle; veins 7, 8, 9, 10 forked. Hindwing with a short cell; vein 5 comes from above the lower cell-angle. Larva with 10 bogus feet. — Type: \textit{C. substigmaria} Hbn. A genus of Indian moths a few of which also occur in China.

\textbf{C. substigmaria} Hbn. (Vol. II, pl. 23 f). Wings whitish, with a straight, oblique, grey line from the apex of the forewing to the centre of the hind-margin of the hindwing; the space behind it is white; a proximal 

\textbf{C. capitata} Wkr. (Vol. II, pl. 23 f). Forewing white with a broad grey median band fading away towards the costa; a distal grey band expands towards the costa and is strungulat in the middle; near the distal margin a row of small black spots; cellular spot white; a proximal curved band is in some places double; on the hindwing the grey median band is expanded in the centre and above interrupted; head; palpi, and antennae black; dorsum grey with whitish segmental bands. Distinguished from \textit{substigmaria} by the absence of the deep black cellular spot on the hindwing above, whereas beneath there is a dull blackish cellular spot on both wings, instead of the jet-black spot of \textit{substigmaria}. This palearctic species also occurs in Tonkin; it was originally described from Hongkong.

\textbf{C. rectificata} Wkr. (= muricolaria Wkr., patulata Wkr.) (48 a). Head, thorax, and forewing greyish-

\textbf{C. sericea} Warr. (48 a). Forewing silky-white, like that of \textit{pitmani} Mr., but with a broad grey median 

\textbf{C. pitmani} Mr. Head, thorax, and abdomen white; frons black; antennae ochreous; wings white, \textit{pitmani}, 

\textbf{C. javana} Auriv. (= absentimacula Warr.) (48 a) is the most closely allied to \textit{substigmaria} Hbn. from \textit{javana}, which, however, it is at once discernible from the entire absence of the round cellular spot above and beneath; instead of it there is on the forewing above a flat-oval, oblique, light spot; all the grey markings are tinted yellowish-red, particularly towards the apex of the forewing; the border of the basal area and the proximal edge of the central band behind the angulation on the subcostal extend almost vertically, not obliquely bent down to the hind-margin; the distal border of the central band opposite the cell is obtusely and vertically undulated, not oblique and angular; the distal undulate line is quite complete, and the marginal area is yellowish reddish-grey; the hindwing is without a dark tint or spots at the distal line towards the apex; beneath the costal area of the forewing is broadly tinted yellowish reddish-grey. Hitherto only known from the Isle of Java.

\textbf{C. dictyaria} Suh. Body and wings above and beneath pure white; wings without transverse markings; \textit{dictyaria}, on the forewing the discal spot shows through beneath; hindwing with a large black spot at the cell-end; both wings with a subterminal row of bright round black spots and a few very small black dots between these spots and the distal margin; vertex black; beneath the cell-end is in both wings marked with a large black spot, the small subterminal black spots are smaller and not so round. Described from a single $ from Kanara in Bombay.
C. orciferaria Wkr. (♀, 36 a as pruinosa; ♀ 48 a). Both wings dark violetish-brown with some indistinct undulating dark lines in the basal area; the distal band is broad with a bluish-grey tint and indistinct undulating grey lines thereon and on its undulated distal margin; forewing with a folded spot on the discocellular; from below the apex a bluish-grey subterminal band extends, being expanded in the centre into a hazy spot; at the distal margin a dark line; hindwing with a bluish-grey spot and a similar marginal line at the apex, and an oblique bluish-grey line from vein 2 to the anal angle; the type of orciferaria Wkr. originates from North China, though the species was also found in Tenasserim, in the mountains of Tonkin, on Mt. Wuchi in Hian, and in Sumatra.

II. Subfamily: Drepaninae nom. nov.

Characterised by the very small, badly developed, porrect palpi and by the feeble proboscis; at the angulation of the discocellular vein 5 rises close above 4; the larva has only 14 feet.

2. Genus: Macrauzata Btlr.

Proboscis present; palpi quite small; antennae in both sexes bipectinate; the pectinations of the ♀ are feeble; middle and hind tibiae with pairs of very short terminal spurs; wings large; forewing with a curved costal margin which is flattened down before the apex which is obtusely produced; distal margin curved; hindwing with a rounded, almost notched distal margin; forewing with a strongly angular discocellular; vein 6 rises from the flattened end of the subcostal; 7, 8, 9, 10 stalked, 11 from the cell; both wings with large transparent central spots. Type: M. fenestraria Moore.

M. fenestraria Mr. (Vol. II, pl. 23 1). Forewing yellowish-white, with a large irregular vitreous spot occupying the end of the cell and the area behind it and below it, the veins crossing it are yellow; along the proximal edge of the vitreous spot a double yellowish-brown line, and another line around its distal edge and inwardly bent below the centre; the upper border of this spot is edged with dark rusty-yellow; before a dark shadow there is an undulating white subterminal line; on the hindwing the vitreous spot is more irregular and pierced. Bengal and the Kangra Valley in India; also mentioned from Japan.


Proboscis present; palpi upturned, feeble; antennae with lamellae, slightly thickened and flattened down; forewing with an acute apex; margin at vein 3 broken; hindwing angular at vein 4. then notched as far as the anal angle; on the forewing vein 6 rises directly below the upper cell-angle; veins 7, 8, 9, 10 stalked, from the cell-angle. Type: A. semipavonaria Wkr.; three of the five species are from China and Japan.

A. semipavonaria Wkr. (48 b, and Vol. II, pl. 23 g). Head, thorax and abdomen white; forewing white; lines dark brownish; two proximal lines, undulating and curved, but indistinct, interrupted on the veins; two distal lines, with a large comma-shaped yellowish-brown spot from vein 1 to 5, with a black spot centred with silvery blue at the beginning of the small tail; subterminal and terminal lines similar; hindwing white with three pairs of similar lines, but without the spot. It occurs in the Penjab and in Sikkim (North India).

A. simpliciata Warr. (48 b). Forewing white, very scantily scaled; costal spot ochreous; the lines are exceedingly feeble, formed of scanty small blackish scales; the first is vertical, distally projecting on the median after the first third, before it a median line; the second line at 2/3 behind the cell bent outward, and bent inward to the hind-margin near the 1st line; behind it a dull line containing a dark spot and dot on vein 4 and a black dot on the two veins above and below it; subterminal line very indistinct, strongly dentate; fringes white; on the hindwing the lines are single, and no black spots behind the second line. Under surface iridescent white; costal margin of forewing towards the base dark; face and front legs brown; antennae ochreous; thorax and abdomen white. Described from a single ♀ from the Khasia Hills in Assam. In this species vein 6 of the forewing rises above the cell-angle, and the posterior margin of the hindwing is not notched.


Proboscis present; palpi quite small; antennae bipectinate, the branches in the ♀ shorter; apex of forewing not produced, the distal margin obliquely bent; on the hindwing the distal margin and both the angles
are rounded; the discocellular of the forewing is strongly angular; vein 6 from the flattened end of the subcostal; 7, 8, 9 forked, 10 forked with 11. Type: M. mysticata Wkr.

M. mysticata Wkr. (Vol. II, pl. 23 f). Head, thorax, and abdomen white; thorax and abdomen above mysticata. yellow; wings semi-transparent white; forewing with a broad, somewhat irregular golden brown distal band from the subcostal to the hind-margin, enclosing a white stripe on the discocellular and short streaks on the veins 3 and 4; on the margin from the cell to the hind-margin 2 light lines; before the distal margin 2 dark bands forming small crescents and being more or less interrupted; on the hindwing the bands are twice distally dentate, near the hind-margin, and despatch towards the base along vein 1 a narrow stripe; before the distal margin a double line of small dark lunae; at the anal angle a yellow spot on which there are three small black spots. Sikkim and Penjab in North India.

M. maia Leech (48 b and Vol. II, pl. 23 f). Distinguished from mysticata Wkr. by being somewhat larger mala. and the wings being more intensely scaled; on the forewing the narrow grey distal band of mysticata forms an almost fish-shaped spot on both sides bordered with yellow which is defined by black, and extends distally a tooth on vein 3, a shorter tooth on vein 2, and a black line on the submedian fold; on the inside there is on vein 2 a long spine, below vein 1 a jasper-red oval bordered with black; the discocellular is marked silvery white; from vein 8 to 3 a line of small yellowish-brown subterminal lunae; on vein 4 at the margin a yellowish-brown spot; fringes light yellow; hindwing with an olive-grey streak exhibiting a central lustrous line from the base along vein 1, being connected with an irregular yellow and grey triangle and meeting a double grey line from the centre of the costa; the latter line terminates in a tooth exhibiting a black spot above vein 3, and then extends undulating to the hind-margin; the latter and the proximal edge of the spot are marked with a line of small lustrous scales; the lower cell-end is marked with a silvery white spot, and vein 3 with a fine silvery line; before the margin a series of small grey and yellow subterminal lunae, extending into the distal margin below vein 3; 3 small dark brown dents behind the distal line below vein 2; a round grey spot in the upper cell-angle; under surface with a diffuse grey spot behind the centre of the forewings; both sexes show some grey small subterminal spots. Face, palpi, and front legs brown; thorax olive, with a bright yellowish-red tint; abdominal dorsum olive-brown, the anal rings lighter with ocellus markings. This species was described by Leech from Japan, but it also occurs in Sikkim and the Khasia Hills in Assam; the distal grey spot is here larger and broader than in the Japanese specimens.

M. taiwana Wil. Forewing white with dark brown transverse markings; proximal line double, undulating, angular below the costa; distal band undulating, angular below the costa, crossed by two white lines and traversed by the white veins; in the band near the hind-margin a black spot; from the cell-end almost to the distal angle a curved fawn-coloured streak; the subterminal band does not reach the costa; hindwing white; almost in the centre of the hind-margin two small black dots; in the anal angle a blackish-brown cloud; the dark grey distal band being crossed by two white undulating lines does not reach vein 4; fringes of both wings greyish, apically darker, before it small black lunae; under surface whitish; both wings towards the margin with lines of blackish spots; basal half of forewing with dark clouds; head, thorax, and basal segment of abdomen white; face brown. 42 to 48 mm. Formosa. Described from two ♀♀.

5. Genus: Sewa Swh.

Distinguished from Macrocilix Blr. by the antennae being thickened and flattened down, with small dense crooked dents; on the forewing veins 10 and 11 both come from the cell, 10 anastomoses with 8 and 9, forming an areola. Type: S. orbiferata Wkr.

S. orbiferata Wkr. (= insignata Mr., silicoides Snell.) (48 b, and Vol. II, pl. 23 g). Forewing white orbiferata. with a broad brown streak on the basal half of the costal margin; an irregular and indistinct dark proximal band; a broader distal band the centre of which is traversed by a white line; a subterminal interrupted band of spots; on the hindwing the distal band is obliterated towards the costa, expanded towards the hind-margin and traversed by a white line; in the anal angle a yellow spot and a subterminal and terminal row of small dark spots and streaks thereon. Originally described from Borneo, but the species also occurs in Sikkim, Bhutan, and Assam in North India, and in the Shan States in Burma; Leech also mentions it from West China.

6. Genus: Dipriodonta Mr.

Proboscis present; palpi porrect, short; antennae of ♂ laterally flattened down, below plainly serrate, the dents broad and curved, above file-shaped, with short sharp dents; forewing with an entirely bent and
roughly scaled costal margin; distal margin obliquely bent; anal angle obtuse; hindwing at the apex and distal margin rounded, the anal angle angularly cut off; on the hindwings veins 6, 7, 8, 9 stalked, 10 and 11 stalked, 10 anastomoses with 8 and 9, forming an areola; thinly scaled; forewing with oval vitreous spots in the disc. Type: *D. sericea* Warr.

*D. sericea* Warr. (48 c). Forewing silvery white; two large fine brown lines near the base, strongly bent in the cell; a proximal brown undulating line, below the centre distinct; a distal similar line strongly bent in the centre; at the costa behind it a brown shadow nearing the line, forming two dark small lunae and small spots between the veins 2 and 4 and a dot at the hind-margin; a grey marginal shadow proceeds from two small black subapical dots; at the apex some black spots; at the lower end of the discocellular a black spot; at the hind-margin close at the base a black dot; the lower half of the cell and the space between the median vein and the submedian fold as far as the distal line is semi-diaphanous; fringes white with a few small dark scales at the base. Hindwing with a feeble median line, a double grey distal line, the distal part of which is marked with small black vein-dots, and a single bent subterminal line; at the lower cell-end a very small black dot. Under surface silvery white, costal area of forewing for three quarters of its width smoky black; head, thorax, and abdomen all white. Described from 3 $\frac{3}{2}$ from the Khasia Hills in Assam.


Proboscis present; palpi very short, very small; antennae in both sexes bipectinate, the branches in the $\varphi$ short; middle tibiae with one, hind tibiae with two pairs of short spurs; wings semi-transparent with black or grey markings; forewing with a curved costal margin, an obtuse apex, and an oblique bent distal margin; vein 6 from the upper cell-angle, 7, 8 forked, 9, 10, 11 forked, 9, 10 anastomosing with 8 and forming an areola; 11 proceeds shortly before the end of the areola, 7 from the end, 10, 9, 8 bend towards the costa, at equal distances; on the hindwing 7 strongly anastomoses with 8. Type: *D. hyalina* Wkr.

*D. hyalina* Wkr. (48 b, and Vol. II, pl. 48 c). Wings hyaline grey; forewing with 3 proximal and 3 distal grey undulating bands; hindwing with only 3 distal ones; at the distal margin a fine dark line; head, thorax and abdomen dark brown, scantily clothed with light hairs. Expanse 44 mm. It occurs in the Penjab, in Sikkim, the Naga Hills, Manipur, and East Pegu in Burma.

*D. hidda* Suh. (= subhyalina Strand) (48 c). Smaller than *hyalina*, expanse only 34 mm; slightly greyer; costal-marginal area, the lines and transverse shadows somewhat brighter; of the 3 distal antemedian shadows only the distal one is distinct; of the three postmedian ones the most proximal one forms the most distinct grey shadow; all 3 being marked by dark patches on the veins; on the discocellular an angular black line; hindwing with a dark proximal line and 3 distal ones; at the distal margin a dark line; head, thorax, abdomen, and antennae dark grey. Sikkim, Jaintia Hills in Assam; Mao, Manipur in Burma.

*D. inconclusa* Wkr. (= maculata Mr.) (48 e). Forewing dull whitish; the markings dark greyish; near the base 3 angular bands, the first two terminating at the median, the 3rd and the proximal line extend obliquely to the subcostal; then they are marked by a dot on the median at the base of vein 2 and by a quadrangular spot at the hind-margin; on the discocellular two grey spots, the one at the upper end smaller, mostly coherent; above it a costal oblique streak; a broad subterminal band, distally dentate, between veins 3 and 5 broadly interrupted; at the distal margin a similar grey band; on the hindwing at the distal margin a grey band composed of 5 spots, one at the apex, one on each side of vein 5, and one on each side of vein 2; before the margin an indistinctly marked, narrow, grey band; on the under surface the dark markings show through; head, thorax and abdomen black. Expanse 40 mm. The type of *maculata* is from Masur; where *inconclusa* was found is unknown.

*D. concinna* sp. nov. (48 b) is smaller than *inconclusa*, the $\varphi$ has an expanse of but 36 mm, the $\delta$ 32; in the $\varphi$ the markings are of an almost identical position and colour, whereas in the $\delta$ the markings are much blacker; through the subterminal dark band we often see a light slate-coloured subterminal line; on the hindwing there are two thick grey postmedian bands and traces of a proximal one, marked by vein-dots. Head, thorax, and abdomen blackish, tinted with grey. In the Tring Museum from the Naga Hills in Assam, and from Mao, Manipur in Burma. The ground-colour of the $\varphi$ is bluish-white, that of the $\delta$ bluish-grey.

*D. phasma* Btlr. (Vol. II, pl. 48 e), from Japan, has about the same size as *concinna*: the markings in the $\varphi$ are blacker and in the $\delta$ much feebler; the white area between the subterminal and terminal band is much narrower, almost linear. The marginal band is not interrupted, but with an oblong grey filling between the veins; the distal margin of the dentate subterminal band forms a large black spot on vein 4.

Distinguished from **Leucodrepana** by the antennae being bipectinate in both sexes instead of being flat and thickened and densely serrate dentate. Type: *P. quinaria* Mr.

**P. quinaria** Mr. (48 c). Forewing of ♀ white, feebly powdered with grey, in the ♀ purer; both wings *quinaria*, crossed by undulating grey lines which are more distinct in the ♀ than in the ♂ being powdered with grey; palpi, frons, and antennal dents ochreous. North India.

**P. innotata** Hmps. (48 d). Both wings hyaline, feebly scaled and without any marking; head, thorax, innotata, and abdomen white. Penjab.

**P. verticata** Warr. (48 c). Forewing white, semi-transparent, crossed by 5 grey bands, all of which *verticata*, are almost parallel to the margin, on the veins with darker linear markings: 2 proximal ones, 1 distal one, the broadest of all, and 2 subterminal ones the distal one of which forms small crescents the dents of which touch the grey marginal line; fringes grey; at the cell-end a white crescent, around which there are grey scales; costal margin yellow. On the hindwing the three distal lines meet in the anal angle; head, thorax and abdomen white, the upper part of the face, vertex, antennae, and forelegs rust-brown. British New Guinea.

**P. inconspicua** Leech (48 c and Vol. II, pl. 48 a). Forewing whitish, crossed by numerous undulating, inconspicua, irregular, grey or greyish-ochreous lines; hindwing similar. Of this species described from China there are 4 specimens from the Khasia Hills in the Tring Museum. (Cf. also Vol. II, p. 198.)

**P. fulvicosta** Dudgeon. Quite similar to **Leucodrepana furvicosta** Hmps. (48 c). Forewing white, costal *fulvicosta*, margin light yellowish; 5 oblique grey lines, 2 proximal ones, the most proximal one of which is curved and 3 distal ones; costal-marginal area finely powdered with dark; hindwing with 4 lines. Bhutan and Sikkim.

**P. ruficosta** sp. nov. (48 c). Forewing white, rather narrow; costal margin dull yellowish, in the distal *ruficosta*, half broader; crossed by 5 grey lines; the subbasal and proximal ones vertical, forming small crescents. dentate; a roundish spot, bordered with grey, on the discocellular; distal line oblique, forming small irregular crescents, dentate, the crescents between the veins 2 and 4 distinct; 2 subterminal lines of small crescents, but the crescents are here almost extinct, whereas the dents of both lines are marked blackish on the veins. Hindwing with 3 distal lines and an indistinct short proximal line. Under surface without markings; costa dark brown with a subcostal more diffuse brown shadow showing through from above. Head, thorax and abdomen white, excepting the face which is above red-brown. One ♀ from Mt. Goliath in Central Dutch New Guinea, February 1911 (A. S. Meek). Type in the Tring Museum.

**P. auratifrons** sp. nov. (48 c). Larger and with broader wings than *ruficosta*; costal margin of a *auratifrons*, brighter yellow; the two proximal lines situate as in *ruficosta*; the spot bordered with grey on the discocellular is larger and irregular; the distal grey line is oblique, irregular, zigzag; the two subterminal lines grey and zigzag; completely marked, the dents in neither of them on the veins marked with blackish. Hindwing with 3 distal lines and a proximal one; under surface yellow, the forewing bright yellow; face above orange; forelegs and antennae yellow; vertex, thorax, and abdomen white. 2 ♀ ♀ from the Ninay Valley in the Central Arfak Mts., Dutch New Guinea, February till March 1909. Type in the Tring Museum.


Proboscis present; palpi delicate, porrect, projecting a little beyond the frons; antennae thickened and flat in both sexes; middle tibiae with one, hind tibiae with two pairs of spurs; forewing with a curved costa, the apex projecting, distal margin oblique; on the hindwing both the angles and the distal margin are well rounded; on the forewing 6, 7, 8 forked, 9, 10 forked, 8 anastomoses with 9, 10 forming an areola; 11 from the cell; wings glossy white with pairs of grey oblique lines. Type: *L. idaeoides* Hmps.

**L. idaeoides** Hmps. (48 c and Vol. II, pl. 48 a). Forewing of a pure white, glossy; near the base *idaeoides*, an indistinct dark line; both wings with double oblique proximal lines, and double, undulating, dentate distal lines which are angular below the costa of the forewing; near the distal margin a dentate line; at the distal margin a black interrupted line. Sikkim in North India; mentioned by Leech also from the Wa-shan in China.

**L. nivea** Hmps. (Vol. II, pl. 48). Forewing less glossy than in *idaeoides*, without the basal line; nivea, the pair of proximal lines more oblique; distal area with 3 undulating lines equidistant from each other. Sikkim in North India; described from a single ♀. Mentioned by Leech from the Wa-shan in China.

Proboscis present, palpi short, delicate; antennae in both sexes bipectinate, the dents in the ♂ shorter, those on the inside shorter in both sexes than those on the outside; middle and hind tibiae with one pair of spurs; forewing with a produced apex, the margin below it gnawed out and between veins 3 and 4 angular; hindwing with a dent on the veins 6 and 3, and an obtuse roundish projection behind vein 4, 5 with an indentation on each side; anal angle from vein 1 to 3 truncate; forewing with a non-angular discocellular; vein 6 from the flattened end of the subcostal; veins 7, 8, 9 forked, 10, 11 forked, 10 anastomosing with 8, 9 and forming an areola, veins 7 and 11 from this areola, 10 far behind 11. Type: E. trifenes-tra Swh.

E. trifenes-tra Swh. (= quadrangulus-♀ Swh.) (48 d). Forewing light greyish-ochreous; the veins are partly marked with brown; lines brown, double; the proximal line curved, before it a light space; the distal line obliquely outward as far as vein 6 where it is angular and obliquely inward, filled with light, the lower cell-end and the areas between the base of vein 2 and that of 5 hyaline, the veins wherever they cross these areas grey, marked with tiny black dots; subterminal line of small crescents, light, distally bordered with dark; hindwing similar. Under surface light fawn-coloured, with dark subterminal bands, the vitreous spots very iridescent. Described from Pulo Laut (North Borneo); a ♂ in the Tring Museum from Sandakan; also in the Coll. of the British Museum from Gaping, Perak.

e. semisecta Harpts. Forewing light ochreous, powdered with light brown, with brown lines, the proximal and middle one being indistinct, angular in the centre of the wing, and marked with blackish vein-spots; the distal line oblique, curved, likewise marked with dark vein-spots; anal angle filled with a darker brown, containing a round light spot; subterminal line indistinct; from the cell-end to the distal margin a brown streak below the apex; 2 tiny black dots on the discocellular. Hindwing much browner, with a straight double proximal and distal brown line and 2 rows of dark dots between them; subterminal line light, undulating, bordered with dark brown; all the dark and light transverse lines are visible on the abdominal dorsum. Type in the British Museum, a ♂ from Sarawak (Borneo). Distinguished from the typical species by the absence of hyaline spots.


Proboscis narrow, palpi short, delicate; antennae in both sexes bipectinate, the dents in the ♂ shorter, those on the inside shorter in both sexes than those on the outside; middle and hind tibiae with one pair of spurs; forewing with a produced apex, the margin below it gnawed out and between veins 3 and 4 angular; hindwing with a dent on the veins 6 and 3, and an obtuse roundish projection behind vein 4, 5 with an indentation on each side; anal angle from vein 1 to 3 truncate; forewing with a non-angular discocellular; vein 6 from the flattened end of the subcostal; veins 7, 8, 9 forked, 10, 11 forked, 10 anastomosing with 8, 9 and forming an areola, 7 and 10 rise near the end of the areola, 8, 9 anastomosing and forming an areola. Type: S. nigrimaculata Warr.

S. nigrimaculata Warr. (48 d). Forewing dull reddish-brown, with an indistinct marking; the proximal and distal lines in the centre of the wing nearing each other, irregularly curved and dentate, the space between them feebly darker, particularly at the costa; on the discocellular 2 very small black dots; subterminal line forming small crescents, dentate, with a dark spot above vein 6 towards the apex; fringes above the angle blackish, with light rays behind the ends of the veins; costa towards apex with 2 dark spots. Hindwing with a light costal area without markings; the median band encloses an oblong black spot at the hind-margin; at the lower cell-angle a black dot. Under surface lighter; distal line thick and black, angular on the forewing, curved on the hindwing; cell of forewing brownish. Described from a single ♂ from Gunong-Ijau, Perak (Malay Peninsula). In this species the angle of the distal margin at vein 5 is feeble on both wings.

S. placida Swh. (48 d). Forewing olive-grey with dark olive markings; lines finely darker; the proximal line projects above and below the median and extends obliquely proximad; distal line forming small crescents,
dentate, as far as vein 6 obliquely distally, then proximal; subterminal line undulating, light, forming a feebly lustrous crescent in the anal angle; at the costa above and below the hind-margin a darker cloud; marginal line dark; above the lower cell-angle a black dot; hindwing similar, with 2 black discal dots. Under surface monotonously lustrous grey, on the forewing darker. The type, a ♀, originates from Sandakan in Borneo; another ♀ from Padang-Rengas (Malay Peninsula) is in the Tring Museum. In this species the dent of the hindwing is distinct and that on the forewing well marked, the indentation above and below it deep; vein 6 on the forewing comes from the upper cell-angle.

S. affinis Warr. (48 d). Forewing greyish-ochreous, tinted with pink. Lines finely darker; the proximal and distal lines near each other in the centre of the wing, the distal line obliquely distally as far as vein 4, then proximal; the space between them dark with a yellowish-red tint; subterminal line of small crescents, light, between darker clouds; fringes at the indentations below a light terminal line dark; on each side of the discocellular a black spot. Hindwing similar; under surface white, the distal line thick and black, on the forewing angular, on the hindwing curved; upper half of forewing arched brownish. Described from a ♀ from Padang-Rengas on the Malay Peninsula. In this species the angle at the distal margin of both wings is strong, particularly on the hindwing.

S. pustularia Wkr. Forewing whitish, subhyaline, the markings greenish-brown; at the hind-margin before the centre 2 curved dark spots and a small one along the base of vein 2; discocellular light, before and behind it dark spots, the latter spot enclosing a white spot; distal line black, irregularly undulated; anal angle filled with dark; before the margin a chain of small crescents behind which there are dark marginal spots on both the folds. Hindwing with a dark spot at the cell-end and 2 oblique streaks below the cell as far as the hind-margin; the distal-marginal half of the wing is dark, crossed by a light subterminal line and lengthways crossed by the light lines. The type, a ♀, from Sarawak (Borneo). Forewing obtusely angled at the end of vein 3, and hindwing on vein 4 stronger; antennae pectinate. I place it provisionally to Strepsigonia.


Proboscis present; palpi very short; antennae in both sexes bipectinate, in the ♀ shorter; middle and hind tibiae with a single pair of spurs. Forewing broadly hyaline; costal margin curved, with a flat, obtusely rounded apex; distal margin curved, below the centre crooked; hindwing with a distinct though obtuse angle on vein 4; cell of forewing longer than half the wing; the upper and lower thirds of the discocellular vertical, the centre oblique; the 1st and 2nd median branches at the base bent downward; vein 5 from the lower angle of the discocellular; 6 forked with 7, 8, 9 from the flattened end of the subcostal; 10 and 11 from the cell close together, 8, 9 anastomosing with 10 and forming an areola, 10 separated close before the costa. Type: H. grisea Warr.

H. grisea Warr. (48 d). Forewing hyaline; basal area, costal area above the subcostal, and the marginal area clothed with scanty grey scales; proximal line dark, bordered with light, formed of crescents, on the veins distally dentate; in the grey marginal area a subterminal dark, dentate line of crescents extending from 3/4 of the costa and below the centre bordering on the hyaline spot. Between veins 3 and 4 a round marginal hyaline spot; marginal area below the apex subhyaline; marginal line dark, on the veins spotted; fringes light grey. Hindwing grey, the base, an angular postmedian band, and the marginal spot hyaline; beneath the hyaline spots are larger. Described from 2 ♀♀ from the Angabunga River in British New Guinea; also from Biagi, Mambaré River. The ♀ differs in all the grey places being rust-coloured on both wings, the projecting angle in the distal band of the hindwing being filled with black on vein 3.

H. arizona Wil. Wings hyaline with traces of grey transverse lines; at the distal margin some grey clouds; marginal line greyish, pierced by the whitish veins. 30 mm. Described from a single ♀ from Arizan (Formosa).

H. diaphana sp. nov. (48 c) differs from grisea in the narrower dark markings being dull light grey diaphana. and insignificant; the proximal grey band is quite thin and instead of the broad distal band there are two narrow bands; one, the distal band, dentate, the other near the margin interrupted by the light spot between veins 3 and 4. The hindwing shows similar differences. 1 ♀ from Mt. Goliath in Central New Guinea, at an altitude of 5 to 7000 ft. Found in February 1911 by A. S. Meek.

H. hyalinata Mr. Forewing hyaline, basal area with few small rusty yellow scales; an antemedian rusty red band, bordered by the proximal and distal lines, and angular at the lower cell-end; before the distal margin a dark rusty red band surrounded by black, distally angular above vein 6 and sharply proximally angled below vein 6, then distally almost to the margin near vein 4 and terminating in the anal angle. Marginal line and veins rusty red, on the hindwing the subterminal band is more regularly bent; along the hind-margin a few small rusty red scales. Thorax and abdomen grey, with a rusty red tint. 32 mm. North India: Penjab, Khasia Hills in Assam, Sikkim.
13. Genus: Teldenia Mr.

Proboscis present; palpi slender, upturned. Antennae of & bipecitate, of ♀ plain; middle and hind tibiae with 1 pair of terminal spurs. In the forewing veins 6, 7, 8 are forked, as well as 9 and 10; 8 and 9 anastomosing and forming an areola. Type: T. vestigiata Btlr. Cf. also Vol. II, p. 198.

**vestigiata.**

T. vestigiata Btlr. (= alba Mr.) (48 e). Forewing purely white; a distal row of ochreous spots in front of which there are dark lunulæ, the 4 upper spots arranged in pairs, the 3 lower ones extending towards the base; behind the spots 2 undulating lines, the proximal one below bent towards the base; marginal spots black. — Larva green with violet subdorsal spots and black lateral spots; the 2nd and 12th segments with dorsal tubercles, on the 4th a feeble appendage, and a long one turned backward on the 12th ring. — Through the whole of India, Ceylon, Burma, the Malay Archipelago, Java, Bntu, Sambawa, and Hainan.

**niveata.**

T. niveata Pag. (= fulvilunata Warr.) (48 e). Forewing white; distal line brownish-grey, as far as vein 4 irregularly distally dentate, then vertical as far as 3, then strongly incurred; before it a row of yellowish-brown lunulæ, proximally bordered with black (in the typical specimen these lunulæ are extinct between veins 5 and 6, only marked by two small black dots); the lunulæ at the hind-margin filled with black; subterminal line dark brown, obliquely distally, and regularly notched, composed of small crescents as far as vein 3, where it extends towards the distal line which it almost touches, and irregularly undulated to the anal angle. Marginal spots black; fringes white. Hindwing the same, the lunulæ before the distal line not interrupted. Vertex, thorax, and abdomen white, face brown, below lighter. Both the types originate from Celebes, from Bonthain in the Tring Museum, and also from Cebu.

**illunata.**

T. illunata Warr. (48 e). Forewing lustrous white; costal margin grey; a distal grey line with small crescents is notched, double, and almost vertical; subterminal line single, grey, between veins 6 and 7 indented and again between 2 and 3; small marginal stripes grey or ochreous, sometimes very dull. Hindwing similar. Thorax and abdomen white. Face, band of the head, and antennæ brown. Biagi (Ma’mbaré River in British New Guinea).

**moniliata.**

T. moniliata Warr. (48 e). Wings of a pure white, a distal and a subterminal chain of transverse ochreous lunulæ between the veins, between veins 3 and 5 excurved; fringes white. No marginal spot. Thorax and abdomen white, face, vertex, outside of palpi, and front tibiae dark bronze-brown. Salomon Islands: Guadalcanar and Choiseul.

**nigrinotata.**

T. nigrinotata Warr. (48 e). Forewing snow-white; a black subcostal spot behind the centre, from where the distal line bends round distally and then runs vertically, interrupted behind the cell and then extending right along vein 3, then again vertical; in front of it above and below the cell pairs of small black spots. and above the hind-margin 3 such spots; the two below the cell large and prominent; subterminal line dark grey, formed of small crescents, at the cell and below vein 3 inwardly flawed; marginal spots black. Before the apex 3 black costal oblique spots; fringes white. Hindwing similar. Face above as well as antennæ dark brown. Described from a small couple from Fergusson Is.; numerous specimens also from various places of New Guinea.

**nivea.**

T. nivea Btlr. (48 e). Forewing of a pure white, with an indistinct distal row of small grey diffuse spots; hindwing similar, face and antennæ black. Salomons Is.: Ahu, Guadalcanar.

**obsoleta.**

T. obsoleta Warr. (48 e). Forewing white; near the margin a pale ochreous undulate line formed of small crescents; below the costa and in the centre of the wing faint traces of small ochreous crescents indicating a distal line; distinct black small spots at the distal margin; fringes white. Hindwing without any traces of a distal line. Palpi and upper half of face reddish-brown; the rest of the body white. Dili in Dutch Timor; described from a single ♀.

**pura.**

T. pura Warr. (48 e). Body and wings quite purely white. Under surface lustrous; upper part of face brown, sometimes also the upper head, antennæ and palpi, front legs, and the extreme base of the costa. New Guinea, from different places.

**unistrigata.**

T. unistrigata Warr. (48 e). Wings white with a curved ochreous distal line, costa of forewing light ochreous, fringes white. Face, upper head, and palpi brown, all the rest white. Padang-Rengas (Perak), Gunong-Ijau, and Penang in the Malay Peninsula; in the British Museum also from Haiphong and Mysoł.

**ruficosta.**

T. ruficosta sp. nov. Wings and body white, at the ends of the veins a row of black marginal spots; fringes yellowish-grey; costa of forewing very fine yellowish-red. From the Oetakwa River, New Guinea. Type in the British Museum.

**geminata.**

T. geminata sp. nov. Smaller than nigrinotata (48 e) to which it is the most closely allied. All the markings very obsolete except two intensely marked small black lunulæ in the distal line in the forewing on
each side of vein 4. 1 females from the Mimika River in New Guinea, found in August 1910 by A. F. R. Wollaston. Type in the Collection of the British Museum.

**T. strigosa** Warr. (48 e, f). Forewing white, traversed by 3 brownish ochaceous, badly marked lines, *strigosa*, the proximal and distal ones slightly obliquely outwards, the subterminal line parallel to the margin. Fringes white. Hindwing with the two distal lines almost meeting at the anal angle. Face and palpi brown. The type is a female from New Guinea, between Holnicote Bay and the Owen Stanley Range.

**T. seriata** sp. nov. (48 f) superficially resembles *strigosa* Warr. from New Guinea, also in the size *seriata*, and the arrangement of the lines. Instead of the brown proximal line a row of 5 black dots, 2 in each fold and 1 at the hind-margin. The distal line, instead of the double row of brown spots, is composed of a row of black spots between the veins, followed by a yellowish-red line of brown contiguous triangles; instead of the double brown subterminal line a row of black small square spots, which is slightly indented on the two folds. At the distal margin a row of fine black spots. Fringes bronze-like grey. Hindwing the same, without the proximal line. Under surface pure white. Face, front legs and antennae bronze brownish-grey; the rest all white. 3 females from Goodenough Is. (A. S. Meek).

**T. aurilinea** sp. nov. (48 f as *curvilinea*). Forewing white; the proximal line only marked by a dark spot at the hind-margin; the distal line from veins 7 to 2 excurved, formed of small black internerval spots, from vein 2 to the hind-margin freely incurved; followed everywhere by a small black diffuse cloud, only on vein 2 another line; the subterminal line is a curved row of small black spots, the three towards the costa being the most distinct. On the hindwing the distal line and the subterminal line are close together, the former forming a feeble double line of small crescents. Fringes of both wings white; under surface white, the costal margin at the base brownish. Upper half of face, palpi, and front legs brownish-grey; all the rest white. 1 male from the Ninay Valley (Central Arfak Mts. in Dutch New Guinea), at an altitude of 3500 ft., from November 1908 till January 1909.


Proboscis present; palpi porrect, feeble, hardly projecting beyond the face. Antennae with single pectinations; hind tibiae with 1 pair of spurs. Forewing with curved costal margin, apex subacute; distal margin slightly flawed in the centre. Hindwing obtusely concave in the centre of the distal margin. No frenulum. On the forewing vein 6 rises from the cell-angle, 7, 8, 9 are forked, also 10 and 11; 8 and 9 anastomose with 10 forming an areola. In the hindwing 6 and 7 rise separately near the base. 7 remains united with 8 as far as beyond the middle. Type: *Z. tortricaria* Wkr.

**Z. tortricaria** Wkr. (= *sinuosa* Mr.) (48 d). Forewing white; costal margin with spots of dark brown; *tortricaria*, traces of 3 undulating proximal and 2 distal lines being the most distinct below the centre. 2 subterminal lines. Hindwing with 1 proximal, 2 median, and 2 subterminal lines. Palpi blackish; abdomen dark brown excepting the basal segment. Type from Borneo, but it also occurs in the Khasia Hills in Assam as well as in Tenasserim in Burma.


Separated from the preceding genus by the bipectinate antennae. Type: *Ps. plenicornis* Warr.

**Ps. plenicornis** Warr. (48 d). Forewing silky white; lines grey, the proximal and distal lines undulating *plenicornis*, and denticulate; between both a grey line on the discocellular, traversed by an indistinct grey line; near the distal margin a double row of grey lunulae; costal margin slightly darkened grey; at the ends of the veins small black marginal dots, those above vein 5 being connected by a dark line. Hindwing similar. Described from a male from Rossel Is. in the Louisiade Archipelago.

**Ps. fuscidisca** Warr. (48 d, misprinted into *fuscilisca*). Separated from *plenicornis* by a large dark *fuscidisca*, brownish-grey spot at and below the cell-end, 2 subterminal lines, the distal one being formed of small crescents which are filled with grey behind the fold at the distal margin. Described from a female from Mysol.


Proboscis present; palpi short, closely appressed to the face; antennae plain, with lamellae, rather long; hind tibiae with 4 spurs, legs smoothly scaled; on the forewing the costa is curved at the base, the apex is hardly produced; distal margin on vein 3 obtusely flawed, then excised to the anal angle. On the hindwing the projection at vein 3 is broader and curved, the excision longer. The female differs in the convex hind-margin
of the forewing. Hindwing as in *Ametroptila*, but not so small; its distal margin flawed in the centre, the anal angle angular, not excised; the cell-end with a rather large roundish area containing a depression with fluffy hair; the veins in the hindwing bent upward towards the distal margin and thickened. In the forewing vein 6 rises in the upper cell-angle; veins 7, 8, 9 forked, also 10 and 11 forked; 10 anastomoses with 8, 9 and forms an areola; veins 7 and 8 from the areola, 10 rises far behind it. Beneath between veins 1 and 2 of forewing, corresponding to the cell of the hindwing, a glossy area with a hollow membrane. Type: *P. abnormalis* Wan.

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**P. abnormalis** Warr. (48 f). Forewing light rusty brownish-grey; costal and subcostal marked with small silvery scales; a large hyaline spot behind the cell, bordered with black and then again by rusty yellow, at its base below vein 4 a small hyaline spot; distal line from the costa above the hyaline spot, forming the border of the rusty yellow margin, then straight and oblique to the hind-margin, with a light line; before the margin an undulating dark line forming a cloud in the submedian area; at the cell a tiny dot. Hindwing with a light costal-marginal area, with a light-edged median line and traces of a subterminal shadow; fringes of both wings black and brown. Under surface pearl-coloured ochreous, with a flesh-coloured tint; marginal area fawn-coloured. In the much greyer

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**A. semibrevis** Warr. (48 f). Forewing reddish ochreous, darkened by brown, with traces of several brown crooked lines right across the wing; in the centre a diffuse cloudy band containing a flat spot at the cell-end. On the hindwing the lines are only traceable at the hind-margin; the hair-tuft in the cell of the same colour; costal area light. Face and palpi apically dark brown. Described from a single ♀ from the Poeh Mts. (Borneo).

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**A. integra** Warr. (48 f). Forewing light mouse-grey, tarnished by a darker colour, costal margin at and beyond the centre with dark brown scales evidently representing the oblique beginning of a median band; there are also traces of a subterminal band marked at the costa and above the anal angle by brown scales defined by blackish; small marginal spots black. Hindwing without markings, the cellular tuft rather light against the rest of the wing. Under surface uni-coloured light drab. Face dark brown, body otherwise drab. Described from a single ♀ from Penang (Malay Peninsula). In this species the costa of the forewing is strongly gibbous near the base and the distal margin projects in the middle somewhat triangularly.

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**A. turbinifera** sp. nov. Forewing greyish fawn-coloured, from the centre of the hind-margin a narrow brown oblique band extends transversely, terminating in an infundiform spot behind the centre of the costal margin and being followed by an indistinctly marked subterminal line. Hindwing without markings. 2 ♀♂ from Pulo-Laut (North Borneo). Type in the Collection of the British Museum.

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**A. fragilis** Siew. Forewing lustrous pearl-grey, costal margin behind the centre lighter. Otherwise quite unicoloured; across the wings small silvery scales are scattered, which are only visible in a certain light. Distal margin darker, more glossy. Distal line darker, hardly contrasting, accompanied by small light oval spots; at the cell-end a red-brown streak; fringes lustrous yellow. Hindwing unicoloured grey, at the distal margin darker. Beneath the wings are lighter, the spot at the cell-end yellowish-white, the sexual mark on the hindwing surrounded with yellowish-white. Pulo-Laut (Borneo).

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**A. ossicolor** sp. nov. (48 f). Forewing bone-coloured, tinted with yellowish, across the wing single small lustrous scales are scattered. At the cell-end and behind it a cloud of deep brown scales enclosing a darker spot at the lower cell-end. Subterminal line curved, between the veins marked by deep brown small spots; (fringes damaged). Hindwing only with traces along the hind-margin of proximal, median and subterminal
lines; at the distal margin a deep brown line with lighter fringes; the hair-tuft in the cell yellow. Under surface hued with yellow; before the distal margin a dark brown band being broader on the forewing. Head and palpi brown. 1 ♀ from Mt. Poch (Sarawak), distinctly separated from *semibrevis* (48 f).

**A. fulvilauta** sp. nov. (48 f). Forewing yellowish ochreous, in some places with a pale reddish-yellow fulvilauta. hue; a yellowish-red median line bends round the cell, obliquely proximad to the hind-margin before its centre, behind it a pale yellowish-red band; subterminal line curved, marked by deep brown internerval spots; marginal area pale reddish-yellow; in the spaces between them a few small dark marginal spots; a row of large light dents touches the margin. Hindwing with a proximal and subterminal line being marked at the hind-margin: at the distal margin a row of brown spots; cellular spot pale yellow. Beneath the forewing is yellowish, at both the ends of the discocellular one dark dot each, and a postmedian brown band of small crescents, which however is only visible above the median. Head brown. 1 ♀ from Mt. Wuchi (Hainan), May 1903. As large as *semibrevis* (48 f), but much lighter.


Proboscis present; palpi feeble, upturned; antennae smooth and thickened, with appressed dents. Costal margin of forewing at the base gibbous, distal margin curved, in the centre ventricious; hindwing with a rounded distal margin, as much as one can see, in the ♀ as large as in the ♂. The ♀ hindwing exhibits above in the cell a depression containing a hair-tuft. Type: *G. specularis* Wkr.

**G. specularis** Wkr. Forewing violetish-grey with a greenish tint, with few, indistinct darker lines; *specularis*, a distal band being flawed and interrupted, composed of 5 contiguous subhyaline spots, is bordered with dark brown; a submarginal line of whitish spots, edged with dark; at the distal margin a dark line; fringes white speckled with brown. Hindwing with a feebly light, dark-edged median band; otherwise like the forewing. Hindwing of ♀ as large as that of the ♂, the neuration is apparently normal.

19. Genus: **Streptoperas** Hmps.

Proboscis present; palpi delicate, obliquely rising; antennae (of the ♂) thickened and flat with closely appressed dents; middle tibiae with one pair of spurs, hind tibiae with two pairs; forewing broad, the costa curved; apex fine and obtusely produced, distal margin curved; hindwing with a rectangular apex, distal margin straight as far as vein 3, where it is sharply dentate, and then excised as far as the anal angle. In the forewing vein 3 rises far before the cell-end, 6 from the very much depressed end of the subcostal; 7, 8, 9 forked, 10, 11 forked, 10 strongly Anastomosing with 8, 9 and forming an areola, 7 and 11 from this areola; in the hindwing 3 rises far before the cell-end, 6 and 7 separate at the centre of the cell, 7 for a short distance nears 8. Type: *S. luteata* Hmps.

**S. luteata** Hmps. (48 g). Forewing yellowish, densely spotted greyish yellowish-red and in some *luteata* places coated with that colour; the lines are darker, the subbasal and proximal lines extending obliquely and sharply from the costa to the subcostal, then indistinct, the proximal line in the cell sharply angled and obliquely proximad, the distal line oblique to vein 7, then angular and obliquely proximad, behind it a thick straight line obliquely from the apex, in front of this line below vein 4 a yellowish spot traversed by 3 or 4 dentate crescentiform lines of small brown scales; the space close at the distal line remains yellow; a submarginal brown dentate chain of small crescents, accompanied below vein 5 by yellow scales which entirely fill up the anal region; at both the ends of the discocellular one black dot each surrounded by yellow, the upper dot being larger and irregular; hindwing with a yellow subbasal band; a yellow band with 2 chains of brown crescents, and a broad brownish antemedian band which is bordered with a double violet median line; the spots at the cell-end are ring-shaped, the marginal half of the wing crossed by 3 or 4 undulating brown lines. Subterminal line irregularly notched, behind it between the dent and the anal angle powdered with blackish-brown. The type, a ♀, originates from North-East Bengal; specimens in the Tring Museum from the Kina Balu and from S. Celebes, likewise both ♀♀; the latter without brown powdering on the forewing.

**S. crenelata** Sick. Smaller than *luteata* (48 g), forewing light pinkish brown, the lines as in *luteata, crenelata*, but the light hyaline area below vein 2 extends from the distal line to the proximal line. Hindwing darker brown with a yellow spotted proximal line and 3 yellow spots in the distal line, 1 in the discal fold, the other two at the submedian; marginal area red-brown with a dark subterminal crescentiform line. Described from a single ♀ from Pulo-Laut (North Borneo). It may be the ♀ of *luteata*, since all the 3 specimens known of it are ♀♀.

20. Genus: **Phyllopteryx** Snell.

Proboscis present; palpi stout, smoothly scaled, porrect; antennae in both sexes quite plain; middle tibiae with 1 pair of spurs, hind tibiae with 2 pairs. Forewing long and narrow with a straight costal margin
and rounded apex; distal margin oblique. In the hindwing the apical angle is well rounded, the distal margin curved as far as a dent between the veins 3 and 4, then straight to the very prominent anal angle. Forewing with a very short cell, not even \( \frac{1}{4} \) of the length of the wing, the discocellular below curved outward; veins 2, 3 from before the lower cell-angle, 4, 5 on a short stalk from the angle, 6 from the centre of the discocellular, 7 on a short stalk with 8, 9 and 10, which separate right before the costa; 11 free, extending very close at the stalk of 8, 9, 10. Hindwing with a similarly short cell; 2, 3, 4, 5 rise all from below the cell-end; costal margin near the base ventricious and entirely fringed with hairs. Type: Ph. elongata Snell.

Ps. cristata Snell. (48 g). Forewing light brownish fawn-coloured, streaked dark brown, with dark brown lines, the proximal line obliquely excurved; the distal line composed of small crescents, dentate, nearing the proximal line on the submedian fold and only visible below the centre; an oblique line from the apex to the hind-margin shows through from beneath; in the centre of the discocellular a black dot and small brown spots at the lower cell-angle; in the cell a streak of whitish scales, indistinctly extending behind the cell to the apex; from the base of the cell along its centre almost to the distal margin a yellowish red-brown streak; fringes deep brown; at the costa before the apex 2 brown oblong maculae. Hindwing less streaked; discocellular with 2 black dots. Under surface pale yellow, both wings with black cellular spots and black subterminal lines. Face, palpi, and antennal shaft dark brown, thorax and abdomen whitish. Java, also from Penang and Northern Nias.


Probosciis present; palpi short, porrect; antennae thickened and flat. Forewing narrow, elongate; costa almost straight; apex obtuse; distal margin oblique with a feeble curve. Hindwing narrow, costal margin near the base lobate, throughout fringed with hairs; distal margin straight, from the apex to vein 3, where it is obtusely angular and straight to the tornus. Cell of forewing hardly \( \frac{1}{3} \) of the length of the wing, vein 6 from the upper angle; 10 and 11 extend close together from near the cell-angle, 8 and 9 forked with 10, separating right before the costa; 7 absent. Hindwing: 2, 3, 4, 5 close together' from the lower cell-angle. Type: Ps. cristata Snell.

E. nigridorsata Warr. (48 g). Forewing dull whitish with light yellowish-brown lines and powdered with that colour; a hazy greyish-brown stripe extends from the base through the cell, in the darker and extending to the costal margin; 3 fine, sharply dentate brown lines before the centre on the veins dotted dark: a black spot on the middle of the discocellular, before this spot an oblong light area; at the lower cell-end a small black dot; 3 strongly undulated distal brown lines, nearing each other below the centre, obliquely extending to the centre of the hind-margin, marked with a stripe on vein 7 extending to the distal margin, in front of it an irregular patch of the light ground-colour; before the distal margin an undulating brown line and at the distal margin a row of black spots. Hindwing with 2 dark proximal lines forming the continuation of the brown oblique stripe of the forewing; 2 light brown undulating median lines, nearing each other towards the hind-margin, separating above the centre and taking the two black cellular dots between them; 2 undulating distal lines, close next to each other, the rest as in the forewing. Abdominal dorsum with a broad
brown belt corresponding to the dark oblique stripe on the wings. Described from a couple from the Khasia Hills.


Proboscis present; palpi delicate, obliquely rising; antennae thickened and flattened, with appressed serrate pinnae. Forewing at the distal margin excised from the apex to vein 3, where it is angular, then very oblique to the tornus. On the hindwing the costal margin is uniformly curved as far as the end of vein 6, then straight and almost denticulate as far as the tornus. In the forewing vein 6 rises directly from the upper cell-angle; 7, 8, 9 stalked, and 10, 11 on a long stalk. 10 anastomoses with 8, 9 and forms a very long areola; 7 and 11 from this areola. On the hindwing 7 anastomoses with 8, and 5 with 4; 2, 3 rise separately at equal distances. Type: Ph. carnosa Suh.

**Ph. carnosa** Suh. (48 g). Forewing grey with a feebly flesh-coloured hue; lines dark, the proximal carnosa line indistinctly treble, in the cell strongly angular. The distal line likewise treble, composed of small crescents, dentate, the dents sometimes marked dark on the veins. In the cell a black spot and a dark cloud at the upper end; subterminal line undulating, light; hindwing with both lines treble and a black spot in the cell. Assam.

**Ph. semiprotrusa** Warr. (48 g). Forewing light ochreous brown; along the costal-marginal half a brown tint predominates; the lines are very indistinct, only those towards the distal margin with which they are parallel are clearer. From \( \frac{4}{5} \) of the costal margin to the centre of the hind-margin a grey line, behind it a light band distally bordered by a denticulate dark grey line. Subterminal line light ochreous, undulating; along the distal margin a row of conic black triangles; fringes ochreous speckled with brown; a black cellular spot and scattered small black scales towards the base below the median vein. On the hindwing traces of 4 straight transverse lines, the basal and distal ones of which are the darkest. Under surface dull greyish-ochreous with a feeble flesh-coloured tint; marginal band in both wings dark violettish brown, before it on the forewing a dark, flawed, distal line; fringes pale ochreous, speckled with violet. Face and palpi deep brown. Rest of body like the wings. 26 mm. Described from a single \( \delta \) from Sula Mangoli.


Proboscis present; palpi short, feeble; antennae thickened and flattened, with curved dents at a greater distance from each other and better visible than in the \( \Phi \); middle tibiae with a single pair, hind tibiae with 2 pairs of long spurs. Forewing with a straight costal margin being depressed at the apex, the apex itself with a short point; in the type the distal margin is uniformly curved. Hindwing on vein 6 with a dent, then straight to the anal angle. In the forewing vein 6 proceeds from the lowered end of the subcostal; 7, 8 stalked; 9, 10 stalked; 11 from the cell. 8 and 9 anastomosing and forming an areola. — Larva fusiform, with a broad head; lateral and dorsal bristles, and prolonged anal bristle-shaped stings. Pupa spun into a leaf, violettish-brown, coated with a white hue. Type: Ph. vidhisara Wkr.

**I. Section: Distal margin of forewing uniformly curved.**


**Ph. albilinea** Warr. (48 h). Forewing yellowish wood-coloured, finely spotted black; near the base a double dark line, centrally angular; the proximal and median lines are irregularly dentate, as far as the centre vertical, then oblique, nearing the hind-margin; the space between both light ochreous; the area before and behind them, and a cloud below the costal margin more brownish-grey; a double distal line of small humae, as far as vein 4 vertical, then oblique, bordered with black and below the centre filled with white; before the distal margin a strongly dentate line; below the apex from the distal margin to the distal line an oblique grey cloud; on each side of the discocellular a black dot. Hindwing lighter; median band light as in the forewing, but quite equally broad; before it a straight brownish band with dark borders; the extreme base is yellowish; near the distal margin a double distal straight blackish line and an undulating black dentate line; on the discocellular 2 black dots. Under surface whitish, powdered with grey; in the distal halves of the wings 3 undulating grey lines and 2 black cellular spots; abdominal dorsum with a brown belt. Described from a single \( \delta \) from the Khasia Hills. — The distal margin of the forewing is flawed directly on vein 4.
Ph. nigrilineata sp. nov. (48 h). Forewing yellowish ochreous and washed over with ochreous. In the basal area there are traces of 2 or 3 double curved light brown lines, the distal one being angular on the median directly before the cell-end; a distal double light brown line is rectangularly flawed below the centre, nearing the proximal line at the hind-margin; close at this line and parallel with it as far as vein 6 and upwards broken on 4 there is a double line, below 3 filled with white, as in albilinea Warr., with black darkening towards the centre of the distal margin above vein 4 and below the apex; an entirely indistinct angular subterminal line; marginal line black; from the base of the cell along the subcostal to the costa shortly before the apex a black streak; a black dot at the end of each cell. Hindwing with a double proximal black line; a median dentate light brown line of small lunae; a thick black distal line, inwardly broken above 6, before and behind it broadly coated with ochreous; before the distal margin an indistinct line and a thick black line at the distal margin; 2 black cellular dots. Under surface whitish ochreous, with dark cellular dots, a distal, subterminal, and terminal line. Head, thorax, and abdomen ochreous; thorax with a dark belt forming the continuation of the subcostal stripe. Abdominal dorsum with dark belts. 1 ♀ from Gunong-Ljau, between 2 and 3000 ft., in March 1898 (Butler). — Expanse: 34 mm.

Ph. rufa Hmps. Forewing yellowish-brown, costal-marginal area broad smoky brown like the lower half of the distal-marginal area. Subbasal and proximal lines fine, angular at the subcostal and median, then obliquely proximad; distal line black, of small lunae, dentate, the dents showing towards the base; behind it 2 other undulating lines; before the distal margin a row of black dents. Hindwing with a flesh-coloured ochreous base bordered by a thick straight brown line, and then a light grey line bordered with small black scales; 3 distal lines as in the forewing, and all the subterminal lines straight; head and thorax grey; abdomen brown, with dark belts. A large species from Ceylon; described from a single ♀.

Ph. ochrea sp. nov. (48 h) resembles excisa Hmps. (48 h), but the distal margin is smooth, not angular in the centre of the forewing, and the ground-colour is light ochreous with a dark grey marking. The base, a subcostal stripe, the lower half of an oblique median band and the marginal area are dark grey, a light ochreous stripe from the basal area through the cell as far as the subterminal line; at each end of the cell a black dot; the dents of the second distal line marked with black vein-dots along the distal edge of the light band following upon the dark median band. Hindwing with numerous dark grey transverse lines and a dark median band which contains 2 dark spots and is bordered by an inwardly dentate line of small lunae; directly before the distal margin a light undulating subterminal line marked with black. Beneath yellowish ochreous with distinct black markings. 1 ♀, 2 ♀♀ from the Khasia Hills. Type in the Tring Museum.

Ph. acutipennis Swh. (48 h) differs from ochrea as follows: the whole costal-marginal area is dark grey; the stripe from the basal area to the subterminal line is deep yellow; the veins are streaked with a bluish-white, and the subterminal line is bluish-white on both wings; ground-colour of both wings more yellow, and the lines and markings are darker grey. Under surface yellow instead of ochreous. Type from the Khasia Hills, Assam. The Tring Museum contains 3 ♀♀, 2 ♀♀, likewise from the Khasias.

II. Section. Distal margin of forewing dentate on vein 4, that of hind-margin on 4 and 6.

Ph. multilineata Warr. (48 h). Forewing ochreous, coated with greyish brown; proximal line dark, sharply distally angular on the subcostal and median, then obliquely towards the base. Distal line and subterminal line curved, parallel, composed of small lunae, dentate, proceeding from small black costal spots, the space between them lighter and forming a semi-transparent spot between vein 1 and 2; before the distal line below the centre a blackish spot rises from the hind-margin; on the discocellular a black oblique line; a submarginal row of small black and white spots terminating in a dark patch at the anal angle. Hindwing with a light base traversed by 2 dark undulating lines, the rest of the wings blackish-brown. A double dark curved postmedian line which is bordered and filled with ochreous; an undulating bluish-white antemarginal line. Under surface white, with three dark brown undulating distal lines, 2 black cellular dots and, only in the forewing, a diffuse central brown cloud from the upper to the lower cell-fold. Described from a single ♀ from the Khasia Hills. In my opinion it must prove to be the ♀ of strigata.

Ph. strigata Warr. Forewing ochreous, suffused with pale brownish; marking brownish as in multilineata, but very indistinct and incoherent; the 2 dark spots at the cell-end compose an oblique line; from the discocellular to the distal margin a dark brown streak; the distal and the subterminal lines are marked by black costal dots, and at the hind-margin there are on each side of the hyaline spot brown spots; the black and white marginal dots are distinct. Hindwing rather much browner; two curved and undulating proximal lines and three straight brown distal lines traversed by pale; subterminal line undulating, light, behind it a line of dark dots. Under surface light as in multilineata, but the markings less defined. Described from a single ♀ from the Khasia Hills. Larger and lighter than multilineata.
III. Section. Distal margin of fore wing dentate at vein 4, of hindwing at 6.

Ph. excisa Hupe. (48 h). Forewing greyish-brown, a band being marked light between the distal line excisa, and the terminal line on both the folds, the two lines inwardly bent and parallel, the latter line forming a chain of small crescents, dentate, the dents on the veins marked dark, behind it 3 dark lines close at each other; fringes dark grey with a pale ochreous line; before the proximal line a light curved band only visible below the centre; in the cell 2 black spots; on the hindwing the lines are straight and smooth, i. e. two proximal lines, 4 distal ones and the subterminal line which is shortly prominent, whereas the last line is light and undulating; 2 black cellular spots. Under surface brownish ochreous, the distal markings smooth. Sikkim.

IV. Section. The distal margin of the hindwing is dentate on veins 4 and 6, between them a small but deep concavity.

Ph. edentata Hupe. Forewing dull greyish ochreous, darkened by small dark scales; dark spots form edentata, a distal and a subterminal row; at the distal margin a row of dark striae; beneath the lower cell-angle a blurred dark brown spot. Hindwing with an oblique dark proximal line, on both the cell-angles one dark spot each; the rest of the wing like the forewing. Ceylon. A small species (26 mm) of which only the type is known.

Ph. kerara Szech. Forewing monotonously greyish ochreous; at the cell-end a diminutive black dot; kerara, through the centre a brownish band; small black lunae form a distal line; marginal area brownish, crossed by a light curved subterminal line; hindwing similar. Under surface dull grey, with a fine, darker distal band through both wings. Pulo Laut (Borneo). Described from a single ♀. In the forewing the distal margin is excised below the centre; in the hindwing the distal margin projects in the centre and is gnawed below.

Ph. tenera Szech. Forewing greyish-ochreous, monotonously coloured, traversed by many curved, tenera, more or less dentate grey lines, the two in the centre being the most distinct. At the costal margin before the apex a black mark, and at the apical margin a black line which is continued along the distal margin. At the hind margin before the angle a black stripe; on the veins many small grey dots and spots. On the hindwing some prominent lines near the distal margin, darkening the distal half of the wing. A submarginal whitish band. Under surface grey with a brown distal line on both wings. Pulo Laut (Borneo). Described from a single ♀.


Proboscis present, short; palpi delicate, upturned; antennae flattened, in both sexes thickened, with dense, short, curved dents. Middle tibiae with 1 pair, hind tibiae with 2 pairs of long spurs. On the forewing the costal margin is only feebly convex, the apex obtuse, the distal margin curved. Hindwing with both angles and a curved distal margin. In the forewing vein 6 rises below the cell-angle, on a very short stalk with 8, 9 and 10, 11 from the cell. In the larva of one species (? mitaria) the terminal joint ends in a forked appendage; each segment exhibits 6 small, bristly, glandular stings. It spins a cocoon in a rolled leaf and changes into a pupa coated with white. Type: D. mitaria Gn.

D. mitaria Gn. (= phytocerata Wkr.) (48 h). Forewing dull reddish-yellow, shaded with grey; from mitaria, the base to the apex an interrupted subcostal streak of a leaden gloss, continued before the distal margin to the anal angle; 2 indistinct dentate dark antemedian lines and 3 oblique, undulating and curved postmedian lines, nearing each other at the centre of the hind margin. The area directly behind the cell is coated with a somewhat purple grey colour, and a similar coating towards the anal margin, at each angle of the cell a dark dot. Hindwing with 2 subbasal dark lines; through the centre a broad purple grey band with darker borders; 3 undulating distal lines and an antemarginal lead-coloured line. — In vapida subsp. nov. (48 h) both wings are light ochreous, the dark markings quite dull and with little yellow; on the hindwing the markings are present, but indistinct; 2 ♀♀ from Calcutta in the Tring Museum. — Larva light salmon-coloured with 2 brown bands, the first 3 segments of the dorsum dull green, the 4th, 5th, 10th, and 11th dark brown, the sides of the 6th and 9th segments yellow; on the sides a row of 6 dark brown stripes. — North India: Sikkim, Penjab, Assam. Ceylon; Singapore.

D. fratercula Mr. (48 i) differs from mitaria in its smaller size; wings lighter; basal area of both wings, fratercula, apex of forewing, and marginal area of hindwing of a glaring light yellow; all the dark markings clearer. Ceylon. — In the form from Assam and Borneo, albidior subsp. nov. (48 i), the ground of the wings is white instead of yellower ochreous, the dull band in the hindwing is narrower, whereby the light area behind it becomes broader.

D. deumbatra sp. nov. (48 i) differs from mitaria in the absence of the usual grey tint above the anal deumbatra, angle of the forewing between the distal and subterminal lines; on the hindwing the median band is blank,
only the lines bordering on it being present. 1 $ from Bahi, captured in the lowlands by W. Doherty in March or April 1896.

D. croceago Hamp. (48 i). Forewing bright orange-yellow, with orange veins, 4 distinctly undulated orange antemedian lines; 2 curved distal and 2 dentate subterminal lines are orange; on both ends of the disco-cellular one black dot each; the disc is arched with dark brown; hindwing with similar brown clouds in the disc and black dots at the cell-angles; 1 central, 1 distal, and 2 dentate subterminal lines are orange; under surface pale. Described from 1 $ from Tenasserim.

D. magnifica Sck. Ochreous-brown; thorax and the 2 basal abdominal rings with light ochreous bands; forewing with a dark subcostal streak near the base and another one towards the apex, forming the parts of a band; from behind the centre of the hind-margin to the distal margin above the centre a broad dark band; at the cell-end a brown spot; at the distal margin a dark brown line, and fringes brown. On the hindwing a short subbasal band from the hind-margin with a white band at its proximal edge, and a broad discal band from the distal margin below the apex, touching the distal margin above the anal angle. All the bands are longitudinally streaked, with bright orange lunular lines. Beneath the wings and body are almost pure white, Singapore (Malay Peninsula).

D. nummulata Warr. (48 i). Forewing creamy white; the veins and the dentate transverse lines formed of small crescents are rust-brown; the distal line is double and more prominent; behind the proximal line in the cell an oval white spot, behind it an irregular rust-coloured spot covering the reniform macula; from the centre of the hind-margin to the centre of the distal margin a brown triangular shadow. Hindwing at the base and distal margin cream-coloured with rust-brown lines, between them broad brown with a median darker line and 2 black cellular dots. Type from Java; also from Borneo.

D. interlineata Warr. (48 i). Forewing brownish ochreous; hind-margin at the base and an oblique streak from the apex to the centre of the hind-margin ochreous; in the proximal area several brown streaks being angular in the centre of the wing. The light streak towards the apex crossed by 2 rows of sagittiform brown markings, followed by 6 broad white small crescents, the 3 last of which are situate in a line running obliquely to the hind-margin; at the anal angle a dark brown triangular area; on the disco-cellular 2 black dots. Hindwing with a yellowish basal area traversed by 2 brown lines; median area greyish ochreous, behind it a darker distal line; 2 black discal dots; marginal area grey, towards the anal angle widened, in front of it a row of large irregular yellow lunulæ, all of which are inwardly bordered by a lighter lunar spot; thorax and abdomen brownish ochreous; face and vertex light ochreous. Type from Java.

D. maliata Flbr. (= ? obliquifasciata Sck.) (48 i as obliquifasciata). Head, thorax, and abdomen white; wings white with broad flesh-coloured ochreous stripes bordered by chestnut-brown lines; the first stripe extends along the costa of the forewing, the second from the hind-margin of the hindwing near the base to beyond the centre of the distal margin of the forewing; the third across the centre of the hindwing from below the centre of the hind-margin to the costal margin before the apex; all these stripes are straight and smooth; the second has 2 white spots at the distal margin of the forewing and a white band in the centre of the hindwing; the third has a more distinct white band, dentate and below broadly bordered with brown; distal margin of both wings with a band of the same colour as the stripe, proximally bordered by a notched chestnut-brown band. Described by Swinhoe from a $ from Pulo Laut (Borneo); another $ is in the Tring Museum from the Khasia Hills in Assam. Felder's type is a $ from Java with whiter bands not being filled with brownish. Owing to the scanty material we cannot decide whether there is a sexual difference or whether the Indian $ differ specifically from the Javanese $.

D. circumscripta sp. nov. (48 i). Forewing yellow; costal area and distal-marginal area and the lines of a dull orange; 3 proximal lines, only recognisable below the centre and 3 undulating distal lines, the most proximal one being of a subdued colour; a black punctiform spot at both ends of the disco-cellular; a metallic bronze-brown streak extends from the base of the costa along the costal vein and is obliterated behind the centre, where it is replaced by another stripe from above the cell-end almost to the apex; the latter stripe is thickened there and is situate obliquely to vein 7, then it extends as a subterminal line of conspicuous bronze metallic lunulæ to the hind-margin. Hindwing with 2 straight proximal and 3 distal though somewhat
undulating orange lines; at the lower cell-angle a small black spot, and a spot at the upper cell-angle; the submarginal line of bronze-brown lunules as in the forewing. Under surface much lighter, with 2 brownish curved bands on the forewing and 1 straight and shortened one on the hindwing. Head, thorax, tegulae, and patagia light and dark yellow; abdomen ochreous, dorsum yellowish. 1 ♂ has an expanse of 33 mm. From Batang-Proepoe (Padang Highlands) in the western parts of Central Sumatra.


Proboscis not visible; palpi delicate, very small; antennae of ♂ bipectinate, of ♀ plain; middle tibiae with 1 pair, hind tibiae with 2 pairs of spurs; forewing with a bent costa; apex short and obtusely produced; distal margin below the apex slightly concave and in the centre convex; hindwing with a distinct anal angle, and the distal margin slightly angular at vein 4. In the forewing vein 6 rises from the upper cell-angle; 7, 8, 9 are stalked like 10 and 11; 10 anastomoses with 8, 9 and forms an areola; 7 and 11 from the cell, 10 from its end. Type: M. cupreogrisea Hmps.

M. cupreogrisea Hmps. (48 k). Forewing lead-coloured grey, at the base a faded bronze brown cloud; the proximal line is dark, obliquely distally to the lower cell-angle, then inwardly notched; distal line obliquely from the centre of the costa almost to the distal margin near vein 7, where it is angular and obliquely proximal to behind the centre of the hind-margin. Apex of ♀ orange, of ♂ whitish with an orange costal margin. Before the distal margin a dark bronze-coloured band with fine glossy edges, the distal edge forming the undulating light subterminal line; marginal line orange; at both ends of the discocellular a light dot. Hindwing with a dark proximal band and a subterminal band which are separated by a band being light grey in the ♀, a white one in the ♂. Beneath lead-coloured, the ♂ hindwing white. Found in the Khasia Hills in Assam; type from Tenasserim.

27. Genus: Thymistadopsis gen. nov.

Proboscis present; palpi delicate, very small. Antennae in both sexes bipectinate; the branches in the ♀ shorter. Middle tibiae with 2 spurs, hind tibiae with 4 spurs. Costa of forewing curved as far as the obtusely produced apex, distal margin at vein 4 angular, above concave; hindwing with a rounded distal margin, the hind margin excised above the anal angle, but not so deeply as in Thymistadopsis; veins 6, 7, 8, 9 in the forewing stalked, 10 and 11 stalked, vein 10 anastomosing with 8 and 9, forming an areola; 6, 7 and 11 from this areola, 10 rising directly behind it. Type: T. albidescens Hmps.

T. albidescens Hmps. (48 k). Forewing white, with a light ochreous line. Proximal line pale rusty yellow, on the subcostal and median distally angular, then inwardly broken, terminating into a black spot at the hind-margin; distal line proceeding from a large dark costal spot, extending obliquely distally and dentate on vein 7, where it is angular and inwardly oblique, dentate, of small crescents, behind it a brown cloud; subterminal line brown, proceeding from a dark brown costal spot before the apex; fringes ochreous, at the edge of the excision marked deep brown; at each angle of the cell a diminutive black dot. Hindwing white, with a short proximal and an intensely marked median black line, behind the latter a lead-coloured cloud; a broader antemarginal cloud; neither of the markings reaches to vein 6. Under surface with strong black distal lines and finer subterminal ones; veins towards the distal margin brown; upper half of forewing suffused with greyish brown. Sikkim and Khasia Hills. (Assam.)


Proboscis present; palpi very small; ♂ antennae with ciliary tufts; middle tibiae with 1 pair, hind tibiae with 2 pairs of spurs. Forewing with a falciform apex, the distal margin angular at vein 4; distal margin of hindwing slightly angular at vein 4; veins as in the preceding genus. Type: P. argyriatis Hmps.

P. argyriatis Hmps. Head, thorax, abdomen, and forewing blackish-brown. forewing strewn with argyriatis. small bluish silvery scales; proximal line indistinct, undulating and double; distal line behind the cell excurred. with a brown band at its distal border, behind it an irregular white band; at the distal margin a grey irregularly dentate band. Hindwing in the basal half dark brown. the proximal and median lines indicated by a doubly angular marking at the hind-margin; distal band broad, white; marginal band mottled, dark brown. Naga Hills (Assam).
29. Genus: **Leucoblepsis** gen. nov.

Proboscis present; palpi very small, porrect; antennae in both sexes bipectinate though shorter in the ♂. Hind tibiae of ♂ only with terminal spurs. On the forewing the costal margin is curved before the more or less produced apex; distal margin dentate at vein 4, above more or less deeply excised, below oblique. Hindwing with a rounded apex, anal angle angular, distal margin slightly curved (or with a small triangular tooth in the centre). In the forewing vein 6 mostly rises from the upper cell-angle, veins 7, 8 and 9, 10 being stalked, vein 8 and 9 anastomosing and forming an areola, vein 11 extending very close at 10, and in one case being stalked with it. Type: *L. carneotincta* Warr.

*L. carneotincta* Warr. (48 k). Forewing at the base and along the costal margin to the distal line a light flesh-coloured ochreous; from the base an orange line below the subcostal to the distal line; the proximal and distal lines are brown, obliquely from the hind-margin parallel with the distal margin, the proximal line ending at the lower cell-angle, the distal line being slightly dentate, above recurved to the costa; between veins 2 and 3 an angular hyaline spot, a smaller triangular spot above vein 3; marginal area dark brownish, traversed by a white subterminal zigzag line; the extreme distal margin from the apex to the centre whitish; fringes light, below the middle turning brownish. Hindwing white, the lines rusty grey, the proximal line straight, the distal line bending off from it above the middle; behind the subterminal line a grey band. Beneath the forewing is dark brownish grey and exhibits all the markings; hindwing white with a broad dark median band showing through above, and with a narrow subterminal band. Described from a single ♂ from Bukau (Sarawak).

The hindwing is not dentate in the centre, and it can therefore not be identical with *excisa* Hamps.; it is more closely allied to *neoma* Swh. from Singapore.

*L. neoma* Swh. Forewing white, in some places suffused with light chestnut speckles. Two almost straight brown lines from the posterior margin of the hindwing extend parallel through both wings, being suddenly convergent at vein 5 of the forewing, then running as a single line to the costal margin near its apex. Between them there is on the forewing a large hyaline spot; the rest of the wing is coated with a light colour, at the distal margin there is a very broad band of light flesh-coloured spots; marginal line brown; fringes light flesh-coloured, radiated with brown. Hindwing in the proximal area almost white, distal-marginal area behind the distal line suffused with dark; through the centre of the disc a dentate white line. Under surface white, the hyaline spot in the forewing prominent, outside bordered by a dark brown band; hindwing with a broad dark brown band occupying a third of the wing. Described from a ♂ from Singapore (Malay Peninsula).

*L. tristis* Swh. (= *renifera* Warr.) (48 k). Forewing white, with a broad dark brownish-grey median band from before the centre of the hind-margin to the upper cell-angle; a similar band at the distal margin from the anal angle to vein 6, traversed by a white dentate subterminal line. On the hindwing the bands are duller; on the median band on both wings there are a few markings of small white iridescent raised scales. Beneath as above. The type of *tristis* originates from Matang Road (Borneo) and is a ♂, the type of *renifera* Warr. from Gunong Ljau (Malay Peninsula) is a ♀.

*L. excisa* Hamp. (48 k) is larger than *carneotincta* Warr., the excision in the margin of the forewing is deeper; the flesh-coloured costal area is broader and more intense; in the hindwing the distal line is straight, but divergent, the space between it and the proximal line is more intensely grey; the distal margin with a strong dent in the centre. Naga and Khasia Hills in Assam.

*L. fenestralia* Mr. (48 k as *fenestraria*). Forewing whitish, in some places coated with greyish; 2 distinctly separated undulating brown lines from the hind-margin of the hindwing to the costa of the forewing before the apex, between which there is on the forewing a transparent spot from vein 2 to 5; a subterminal row of small white crescents, distally convex, and at the distal margin a row of proximally concave ones; marginal line brown. Sometimes the wings are coated with a light greyish ochreous colour as in the specimen described by Hampson, but such specimens are exceptional. North India.

*L. ostia* Swh. resembles *fenestralia*, also in its size, but it is invariably lighter, without grey or ochreous shades; the whitish hyaline spot in the forewing is prolonged above vein 5 into the upper and apical portion of the wing. Described from the Malay Peninsula.

30. Genus: **Ditrigona** Mr.

Proboscis present; palpi very small; antennae in both sexes bipectinate; middle tibiae with 1 pair, hind tibiae with two pairs of spurs; forewing with a sharp but not produced apex; distal margin almost straight; anal angle of hindwing produced to a short, obtuse tail; veins 6, 7, 8, 9 of forewing stalked, 8, 9 anastomosing with 10 and forming an areola; hindwing with a short cell. Type: *D. triangularia* Mr.

*D. triangularia* Mr. (48 k). Diaphanous white, costa of forewing ochreous. Forewing with 5, hindwing with 4 ashy grey lines; on the tail of the hindwing a black spot above which the 3 distal lines flow together. Fringes of both wings dark brown, Sikkim.
D. _regularis_ sp. nov. (48 k). Wings and body yellowish-white instead of white as in _triangularia_; the _regularis._ lines light brown instead of grey, fine and straight instead of diffuse and irregular; all the 3 lines parallel, the proximal one single, nearer to the base, the inner arm, which is rarely exhibited in _triangularia_, recognisable; median line straight, obliquely distally; subterminal line regularly undulated. Some specimens from the Khinsia Hills (Assam), quite different from the typical Sikkim form.


Proboscis present; palpi feeble, upturned. Antennae in both sexes bipectinate, in the ♀ far less strongly so. Middle tibiae with 1 pair, hind tibiae with 2 pairs of spurs. Forewing with a produced and falciform apex and a curved distal margin; hindwing with a rounded distal margin. In the forewing veins 6, 7, 8 are stalked, 9, 10 stalked, 8 anastomosing with 9, 10 and forming an areola; 10 rises far above the areola. Type: _D. falcularia_ L.

D. _pallida_ Mr. (48 l). Forewing whitish, in the ♀ powdered with light grey and in the ♂ with brown _pallida._ fringes; lines double, light with dark edges, the proximal line dentate and angular on the median, the distal line obliquely distally and on vein 7 sharply angular, then obliquely proximad and nearing each other, the proximal pair strongly dentate towards the base, the distal line straight, brown, bordered with whitish, an intense spot at the base of vein 10, another spot below it in the cell-fold; at the upper branch of the discocellular an angular mark and at the lower cell-angle a round grey spot; a submarginal light dentate line of small crescents with dark markings at the dents; hindwing lighter with a black spot at the upper and lower ends of the discocellular; the distal line is curved, uniformly double, dentate, composed of small crescents, the dents showing towards the base; median area of forewing in the ♂ more or less suffused with brown; in the ♀ only towards the costa with grey. Sikkim; in the Tring Museum also a small ♂ from West China.

— This species which was taken to be an aberration of _pallida_ seems to me to be entirely different.

D. _dispilata_ sp. nov. (48 l). Forewing greyer than in _pallida_ Mr., the distal portion of the double _dispilata._ proximal line much less angular, the space between the two arms darker. At the cell-end no black spots, but 2 round dark grey spots with deeper grey edges, one of them at the apex of the discocellular encloses an angular black mark, the other at the lower cell-angle; the distal arm of the distal line is much more bent; light rust-coloured, behind it no light line, the angle on vein 7 obtuse and not so near to the distal margin. The distal line in the hindwing is much plainer; before the dark marginal area there is no distinct light line. Sikkim.

— This species which was taken to be an aberration of _pallida_ seems to me to be entirely different.

D. _hyalina_ Mr. (48 l). Forewing whitish, slightly powdered with grey; 2 undulating grey proximal _hyalina._ lines and 2 distal ones; the distal arm at the hind-margin is expanded into a band; subterminal lines formed of indistinct grey dents; a dark spot at the lower cell-angle; hindwing with but 1 proximal line. Dharmsala (Penjab).

D. _subobsoleta_ sp. nov. (48 l) resembles _hyalina_ with which it was confounded; wings of a purer _subobsoleta._ white, with hardly visible markings. Apparently confined upon Kulu in the Penjab.

D. _rufosfasciata_ Hmps. (48 l). Forewing light brownish-grey with a broad diffuse yellowish-brown _rufosfasciata._ median band containing 2 whitish costal spots with a dark red-brown spot between them and 2 less distinct ones at the hind-margin. The angular discocellular is dark, at the lower cell-angle ending in a small round spot composed of 3 small spots; an antemarginal row of black spots and below the apex a yellowish-red marginal cloud. Hindwing less yellowish-red with a black dot at the lower cell-end; a dentate distal line of small crescents and a submarginal row of dark vein-dots. Under surface lighter, the reddish-yellow area of the forewing closed by a straight yellowish-red line parallel with the distal margin. Sikkim.

D. _ochreipennis_ Hmps. Forewing yellowish ochreous, very finely powdered with grey; towards the apex dull yellowish-red; the proximal and distal lines are brown, dentate, before the former and behind the latter white triangles filling the dents, the subterminal line formed of grey triangles; in the middle and at the lower end of the discocellular a small dark dot; at the distal margin a brown line. Hindwing lighter. Sikkim.

— A very small species.

D. _undulifera_ Hmps. Forewing light ochreous, feebly tinted with ochreous, with 2 dark lines, a proximal _undulifera._ and a distal one, the latter being angular behind the cell, composed of crescents, dentate; at each end of the discocellular a small dark spot; hindwing white.

D. _dentifera_ sp. nov. (48 k). Forewing whitish-yellow, speckled with brown atoms; proximal line _dentifera._ dentate, very indistinct, curved, formed of brown atoms, with whitish triangles in the dents. Distal line distally angled on vein 8, then inwardly, oblique and straight, the grey dents showing towards the base, distally filled with white triangles; right in front of the distal margin a dentate grey subterminal line; the base of the
D. corticata sp. nov. (49 a). Forewing brownish fawn-coloured with an olive tint, finely speckled with black. The oblique distal line is light, bordered with black, extending from two thirds of the hind-margin to the apex before which it is distally bordered with blackish; at the cell-end a black dot above a light spot. Hindwing with a whitish costal-marginal area; a dark antemedian band is edged with blackish lines and encloses an oval grey spot with an angular dark mark in the centre. Under surface yellow, on both wings black cellular dots. Head dark brown, thorax and abdominal dorsum brown, ventrum yellow. 1 ♀ from Darjeeling (Möller).


It differs structurally from Albara, as follows: in the forewing veins 10 and 11 are stalked, like 7, 8, 9; vein 10 anastomoses with 8, 9 and forms an areola, 11 rises from the centre of the areola and 10 from its end; middle tibiae without spurs, hind tibiae with but one pair of terminal spurs; antennae in both sexes bipectinate, in the ♀ shorter. Type: I. albonotata Mr.

albonotata. 1. albonotata Mr. (= ochrea Btlr. ♀) (49 a). Forewing chrome-coloured, costal margin dark; an indistinct proximal undulating brown line; a dark spot in the cell and 2 silvery white spots at its ends. The spot at the lower angle on a round reddish-yellow halo; the distal and marginal lines are indistinct, below the apex a brown marginal spot behind which the fringe is reddish-yellow; all the markings strewn with small silvery scales. Hindwing at the hind-margin with traces of a proximal, a distal, and a subterminal line. — ochrea. The form ochrea Btlr., in my opinion, only refers to ♀♀ which in their fresh state are invariably of a deeper colour than the ♀♀. Khasia Hills (Assam); Nilgiris, Madras, Ceylon, Malay Peninsula, Borneo, Bali, Hainan.

falcipennis. 1. falcipennis sp. nov. (49 a). Both sexes rather much larger than the preceding one; the yellow in the ♀ paler; apex of forewing much more produced; at the lower cell-end on oval, yellowish-reddish-grey spot containing a small black spot between the bases of the veins 3 and 4; the dark subapical shadow is narrow. 1 couple from Bhutan.

fulvata. 1. fulvata Snell. (= lunulata Btlr.) (49 a) resembles albonotata Mr., but the lines are more distinct, particularly the distal one which is dentate, composed of small crescents and bending round behind the cell; the spot at the lower cell-angle of the ♀ is composed in its upper end of an oval grey spot; the black lunulae in the brown terminal shadow below the apex are more intensely marked and behind them there are small white spots. Palpi, face, and antennae brown. The ♀♀ seem to be more deeply coloured than the ♀♀. Khasia Hills (Assam); Nilgiris, Madras, Ceylon, Malay Peninsula, Borneo, Bali, Hainan. Snellen's fulvata originates from Java, Butler's lunulata from Aue (Salomons Is.); also from Goodenough Is., Rock Is., and Guadalcanar (Salomons Is.), and from New Guinea.

fasciata. 1. fasciata Warr. (= fulvata ab. fasciata Warr.) (49 a) differs in the median area between the proximal and distal lines being almost entirely filled with red-brown, the basal and marginal areas remaining yellow; the white dot at the upper cell-angle is distinct, the spot at the lower angle with a dark marking obliquely below it. 2 ♀♀ from the Upper Aroa River and Biagi, Mambare River (New Guinea); 4 ♀♀ from the Upper Aroa and the Upper Setekwa (New Guinea) resp. from Goodenough and Rock Is.

olivacea. 1. olivacea Warr. (49 d). ♀ forewing dull olive brown without any trace of yellow, the markings as in fulvata, but the median band darker; under surface yellow except the cellular spot; the distal line at the costa and the fringes are olive brown; head, thorax, and abdomen olive dark brown. The only ♀ which can be placed to these ♀♀ exhibits the distal halves of the wing traversed by bands of dark brown crescentiform markings, those near the stigmata being the darkest; the two white dots at the angles of the cell are distinct. The ♀♀ from the Upper Aroa River in New Guinea; the ♀ from Goodenough Is.

semirufa. 1. semirufa sp. nov. (49 b). Forewing deep yellow, the lines and markings exactly as in olivacea Warr. Costal margin in the basal half grey, in the cell a brown, dark-centred spot, moreover at the upper end of the discocellularia, at its lower end a white spot encircled by brown, with a brown cloud below it; the space between the two lines is clouded greyish dark brown, extending along the costal margin, to the apex; a subapical brown cloud along the distal margin, in front of it 4 black small crescents with white tips. Hindwing quite yellow, with a proximal and distal undulating line and the subterminal row of spots being distinct; at the lower cell-end a long white spot. — In the typical form from the Upper Setekwa the distal margin of the forewing is almost straight and the anal angle sharply rectangular; in the specimens from the Octekwa the apex is...
more produced, the distal margin curved and the anal angle rounded; these may be separated as *elegans* subsp. nov. (49 b). — In ab. *diluta* ab. nov. (49 b) the dark greyish-brown shading is faded and sometimes hardly recognisable.

1. *examplata* sp. nov. (49 b). The ♂ resembles *acuminata* *elegans* (49 b) from which it differs as follows: *examplata*, the shadow filling the median area is brown and narrows down at the costal margin before the apex; the spots in the cell mostly all show a light centre, the distal line is generally thicker, particularly in the hindwing, where the white spot on the lower cell-angle is double and the lunulae of the distal line are partly like ocelli. The ♂ is much larger, quite yellow, except the brown subapical marginal marking in the forewing. All the lines and markings are clear and dark. On the hindwing the distal line and the cellular spots form a kind of entangled chain. In the Tring Museum there are 3 ♀♂ from Mt. Goliath (type) and Angabunga River (New Guinea) and Rock Is., and many ♂♂ from the Angabunga, Mambare, Biagi, Ninay Valley, and Mt. Goliath (type) from New Guinea; 1 ♀ from Rock Is. The couple from this island is much smaller and deeper yellow, with a more intense marking and colouring.

1. *cervina* sp. nov. (49 d). Forewing rosy fawn coloured with a slight violet gloss; a dull silvery marking *cervina*, at the upper branch of the discocellular and another one at its lower end, situate on a brown cloud; the proximal and distal lines are brown, feeble; below the costal margin 4 dark brown subterminal spots. On the hindwing the two lines at the hind-margin are darker; at the lower cell-angle a brownish cloud enclosing an indulating lustrous marking; costal area lighter, fringes of both wings brown; under surface quite dull yellow, u ♂ from Biagi, Mambare R. (British New Guinea), at an altitude of 5000 ft., captured by A. S. Mee in February 1906.

1. *tristigma* sp. nov. (49 d). Forewing olive-grey; the lines are not prominent as in *olvacea*. In the cell a brownish spot, and a large oval one at the upper end of the discocellular; at the lower end of the discocellular a somewhat 8-shaped cloud the upper part of which encloses a white centre. Costal margin between the lines clouded black; subterminal line distinct, particularly the uppermost 4 spots. Hindwing as in the ♂ of *olvacea*; also the under surface similar. 1 ♀ from the Upper Area R. (New Guinea), taken by A. S. Mee in March 1903. This might really be the ♀ of *olvacea*, but the exterior is quite different.

1. *sera* Warr. (49 b). Forewing dull yellowish ochreous, with indistinct markings; proximal line curved, *sera*, yellowish-red, only recognisable towards the hind-margin; a yellowish-red distal line from the costal margin to the centre, strongly excurved and undulating; a yellowish-red spot at the upper cell-angle and a white spot edged with yellowish-red at the lower angle; a submarginal curved row of blackish streaks between the veins, those behind the cell being larger and roundish; distal margin below the apex yellowish-brown. In the hindwing the 3 lines are only marked at the abdominal band. Head, thorax, and abdomen coloured like the wings, excepting the vertex and the upper portion of the face, which are of a bright reddish yellow. — *suffusa* ab. nov. *suffusa*, (49 b) is an aberration in which the whole forewing, sometimes also parts of the hindwing are coated with a dark red-brown. — Described from Fergusson Is., but occurring also in New Guinea. Distinguished by the absence of lustrous scales.

1. *septempunctata* Warr. (49 b). Forewing abundantly yellowish-brown excepting the base and aseptempunctata spot at the anal angle. Proximal line brown, forming a darker spot below the median; distal line directly behind the centre, excurred and bent, on the submedian fold notched towards the spot on the proximal line; 1 white spot in the cell and 2 at its end, the spot at the lower end being the largest. Before the margin behind the cell 2 large white oval spots, proximally bordered with black lunulae, 2 smaller white spots obliquely above them and 4 blackish dots below them. Hindwing quite yellow, with a basal and an undulating distal brownish line and a submarginal row of blackish dots; discal spot large, whitish, surrounded by brown. Under surface quite yellow; forewing with a brownish subapical spot and the dark apex of a distal line. Face, vertex, palpi, and forelegs of a bright yellowish-red; thorax and abdomen yellow, hued with reddish-yellow, Khasia Hills (Assam). — In a form from Travancore, *pervasata* subsp. nov. (49 b, by mistake as *pervasata*) the brown filling in the discal area of the forewing is continued through the hindwing though less intensely, the marginal area with the dark subterminal spots in the centre remaining broadly yellow. On the forewing there is before the subterminal line a distinct yellow band; on the forewing there is no white spot in the cell and on the hindwing only 1 instead of 2.

1. *rubromarginata* Leech (49 c and Vol. II, pl. 48 b). Forewing deep yellow with a broad brown marginal shadow occupying one third of the hind-margin and narrowing down towards the apex and enclosing at is proximal edge some dark spots above the hind-margin. Hindwing yellow. Described by Leech from Pu-tsu-fong in China, but occurring also near Yatong in Tibet and Tonglo in Sikkim.

1. *oblquitaeinia* sp. nov. (49 e). Forewing straw-coloured; lines free, yellowish-red, the proximal line obliquely distally and curved above and below the median; the distal line formed of small strong crescents, dentate, almost vertical; from the apex almost to the centre of the hind-margin a thick grey oblique streak which is met by a median line from the centre of the hind-margin, forming a bend with it after its angulation;  

X  

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the space between them, from the centre of the hind-margin to the apex, is dark brown; on the discoecellular
2 light dots; at the distal margin a brown subapical spot, inside with black lunulae. Hindwing with a straight
reddish-yellow line behind the first quarter, a yellowish-red dentate distal line of small crescents and a subter-
nmental row of black dots; at the lower cell-angle a dull brown mark. Under surface yellow, the distal line and
the subterminal line marked below the costa. Face and legs brownish, tegulae and patagia whitish; thorax
and abdominal dorsum yellow. 3 ♂♂♂ from the Kumasi River (type) and 1 ♂ from the Oetakwa (New Guinea).

Type in the Tring Museum. In this species the distal margin of the forewing is straight and the anal angle
angular.

sadana.  
I. sadana Mr. (49 c). Forewing yellow; a fine dark proximal, distal, and subterminal line composed
of small crescents; an orange spot in the cell and one at the end of the cell; at the lower cell-angle a rounded
violetish-grey spot on which there are two darker ones, edged with dull brown; indistinct subterminal dark
spots two of which are conspicuous below the apex, since they are situate on a chestnut-brown cloud at the
distal margin. On the hindwing the 3 lines are undulating. ♂ considerably smaller than the ♀ (in the plate
the sexual marks are confounded). Sikkim (North India).

adelpha.  
I. adelpha Swh. (49 e). Smaller and paler than sadana, with a more strongly falcate apex of the forewing.
Khasia Hills (Assam).

fulva.  
I. fulva Hmps. (49 d). ♀ bright yellowish-red; head and collar bright rust-coloured; forewing with
2 dark spots behind the lower cell-angle in the space between veins 2 and 4; fringes dark brown, with grey
tips. Hindwing unicoloured red. The ♀ is much browner. Sikkim.

flava.  
I. flava Mr. (49 e). Forewing bright yellow, in the marginal area deeper; proximal line grey,
undulating, excurred between veins 2 and 1; at the cell-end a black spot; distal line blackish, undulating,
of small crescents, above vein 3 bent inwards, then bent upwards to 4 and 5, then vertical to 3, along which it
extends again distally, almost touching itself above 3; a subterminal, dentate chain of grey crescents and another
one of dark grey lunulae, the 3 uppermost of which are filled with white; marginal area above vein 6 blackish.
Hindwing similar, at each cell-end a black spot, behind it 3 rows of small crescents between the veins. Under
surface yellow; the two lines of the forewing are jet-black, the distal line oblique to the apex. Sikkim, Assam.

postica.  
I. postica Mr. (= xanthoptera Hmps.) (49 e). Head, thorax, abdomen, and forewing brown, the
basal and anal-angular areas of the forewing remaining yellow; lines brown; the proximal line curved, indistinct;
the distal line oblique from the apex to the centre of the hind-margin; a submarginal row of small spots. Hindwing
pale yellow with a curved dark proximal and distal line and small subterminal spots. At the cell-end of both

ferrea.  
I. ferrea Hmps. (49 f). Forewing chestnut-brown with a violet reflection; indistinct proximal and
distal bands of dark brown spots and a submarginal row of quite indistinct spots; at the distal margin below
the apex a dark spot and a white dot bordered with dark at both ends of the discoecellular. Hindwing similar.
Ceylon.

melliflua.  
I. melliflua nom. nov. (= erocea Hmps. nec Leech) (49 d). Wings honey-coloured, without dark markings,
but all the usual lines and the spots are silvery, the fringes yellow. The ♀ is larger and somewhat paler yellow
than the ♂. New Guinea.

argentistri-

na.  
I. argentistriga Warr. (49 e, as angustistriga). Forewing pale yellow, along the distal line and towards
the apex and distal margin with a light red-brown hue; from the costal margin before the apex to the centre
of the hind-margin a straight red-brown oblique line; the subterminal line is formed of irregular brown crescents,
the latter above the centre distally with small silvery white lunae, distally angular on vein 7, and inwardly
curved behind the cell towards the distal line; fringes reddish yellowish-brown. Hindwing without yellowish-
brown shading; the oblique line of the forewing crosses it near the base; a much finer straight distal line; at the
lower cell-angle a silvery white spot situate on a round patch of deeper yellow scales; fringes yellow. Under
surface pale yellow, the forewing tinted yellowish-red, the oblique line marked above vein 2. Face, palpi,
forelegs, and antennae yellowish-red; thorax and abdomen pale yellow, abdomen with a brownish-yellow belt
connecting the basal lines of the hindwing. Described from a single ♀ from Mt. Mulu (North Borneo). Allied to
postica Mr.

quadripunc-
tata.  
I. quadripunctata Wkr. (49 e). Head red-brown; thorax and abdomen reddish-grey, like the forewing;
the proximal and median lines are close together, in the centre of the wing, formed of small crescents, dentate,
the median line only recognisable above the centre; at each end of the discoecellular one black dot; distal line
blackish, formed of small crescents, dentate, angular above vein 6, where we notice an erect black mark; subter-
mental line undulating, light between dark shadows. Hindwing brown with a proximal, distal, and subter-
mental line. Beneath the black dots and the postmedian line are indicated. Described from Borneo, occurring also in the Khasia Hills in Assam. Distinguished from diluta (49 e) by the smaller size of the
♂ and the darker grey colouring. Hindwing brown.
33. Genus: **Albara** Wkr.

**Proboscis** feeble; palpi delicate, upturned. ♀ antennae pectinate, towards the apex serrate, those of the ♀ plain. Forewing with a subconvex costal margin, the apex pointedly produced or obtusely rounded; distal margin almost straight. Forewing with an areola; vein 11 from the cell. Type: A. reversaria Wkr.

**A. specularia** Wkr. (49 h). Forewing red-brown, with lines of a deeper colour, though very indistinct; *specularia*. Proximal line curved, double, distal line blurred, subterminal line irregularly undulated. In the cell a round pale spot, and two very dull ones below the base of vein 2, at and behind the cell-end a spot which is transparent in places and paler between the bases of veins 2 and 5. Hindwing similar, the curved distal line more distinct, the whole hyaline spot larger. Under surface silky yellow, distal line and cellular spot dark. Sikkim.

**A. discispilaria** Mr. (= usta Btr.) (49 h as *discispilaria*). Forewing red-brown, duller than in the preceding species. The dark lines are more distinct; the proximal, median, and distal lines are undulating, the two former nearing each other below the centre, behind the distal line there is a dark spot between the
veins 3 and 4, and a smaller one on vein 1; subterminal line indicated by small vein-dots; in the cell a small
dark and grey spot, a larger one at the upper end of the disccellular and a large round one with a grey
centre at the upper end; the latter is invariably larger in the \( \varphi \). Hindwing similar. Under surface yellowish,
the dark cellular spots recognisable, the marginal area behind a curved dark line which is not marked above
darker. Sikkim.

\textit{A. magnadiscata} sp. nov. (49 h). Forewing brownish fawn-coloured, the lines slightly darker than
in \textit{discispilaria}; before the proximal line 2 darker ones; markings as in \textit{discispilaria}, but the spot at the lower
cell-angle is invariably larger, with a grey centre, and the small black veins are very distinct in fine black rings.
In darker specimens the marginal line and the bases of the fringes blackish. Hindwing like the forewing, only
the distal spot still larger, the under surface brownish yellow; the cellular spot is black and prominent; the
marginal area is scarcely darker. Sikkim. At once recognisable by the lighter purer ground-colour and larger
discal spots.

\textit{A. vinacea} Mr. (49 h). Head, thorax, and abdomen dark violetish-grey; forewing reddish-brown,
in the proximal and distal areas suffused with violet. A double oblique line from near the apex to beyond
the centre of the hind-margin, and before the distal margin an indistinct undulating line. Hindwing intensely
suffused with violet; the double line is medianly situate. Traces of 2 subterminal lines. Under surface ochreous
with a spot at the cell-end on both wings; behind the oblique line of the forewing violet spots; hindwing with
a curved median line. Darjeeling (Sikkim).

\textit{A. reversaria} Wkr. Forewing mouse-coloured, beneath somewhat lighter, wings with a straight rust-
coloured line extending from the apex of the forewing to the centre of the hind-margin on the hindwing.
Two distal dark brown lines, interrupted and indistinct, the second sharply angled below the costal margin.
Fringes rust-coloured. Forewing also with 2 indistinct dentate dark brown lines, a proximal and a median
one. Type from Sumatra; one specimen in the British Museum from Borneo.

\textit{A. muscularia} Wkr. (49 h). Forewing violetish-grey, costal margin reddish-yellow; the proximal and
distal lines are darker, undulating; subterminal line indistinct; in the lower half of the marginal area a dull
claret-coloured cloud; a dark spot at the upper end of the discocellular and a whitish dot at the lower end.
Hindwing with the two darker lines and a white spot at the lower cell-angle; the whole marginal area shows
a dull claret-coloured hue. Under surface glossy light grey, costa of forewing reddish; face dark brown, collar
yellowish-red. Sikkim (North India).

\textit{A. orphnina} Hmps. (49 e, f); in the \( \varphi \) the ground-colour is only feebly lighter than in typical \textit{orphnina}, but the \( \varphi \) is uni-coloured
quite light mouse-coloured, the lines and stigmata quite indistinct. In both sexes the fringes are yellowish
with a dark line close at their base. Like the typical form from the Khasia Hills.

\textit{A. opalescens} Warr. (49 f). Forewing light or dark mouse-coloured, the costal margin towards the
apex rusty brown, the lines chocolate brown; the proximal line indistinctly vertically undulated; the distal
line towards the distal margin acuate-angular, then obliquely inwards and towards the hind-margin thickened;
the apex is dark. A dark oblique line from the apex touches the distal line at the angle and is then continued
as a fine line to the hind-margin; the subterminal line is indicated by a vertical row of small black spots; at
the upper cell-angle a small dark indistinct spot and at the lower angle a light yellow tripartite spot.
Hindwing with a light costal-marginal area; the dark oblique line in the centre of the wing, before the distal
margin traces of a zigzag line. Face dark brown; under surface opalescent grey. Described from a few \( \varphi \) from
the Khasia Hills.

\textit{A. inaequidissecta} sp. nov. (49 f). The forewing resembles that of \textit{muscularia} (49 h) in the colour and
marking, but the cell-end is marked by a hyaline spot forming in the \( \varphi \) a roundish group of 5 spots, one at
the lower cell-angle and an oval one above and below it, and 3 oblong larger ones between 2 and 5. On the
hindwing all the spots are much smaller. In the \( \varphi \) there are only 3 spots, a large one between 3 and 4,
and 2 small ones at and below the cell-end; on the hindwing they are reduced to two minute dots. Khasia Hills.

\textit{A. perhamata} Hmps. (49 f). Forewing dark violetish-brown; the proximal and distal lines as in
\textit{muscularia}, but quite indistinct; behind the distal line a dull brown area widening below; fringes lustrous bronze-
brown; at the lower cell-angle 2 small white dots. On the hindwing the brown area is larger; the costal-marginal
area is flesh-coloured. In the \( \varphi \) the brown area behind the band is lighter and wider; head, thorax, and legs
dull reddish-brown. It occurs in the Khasia, Naga, and Jaintia Mts. (in Assam).

\textit{A. prunicolor} Mr. (49 g, and Vol. II pl. 48 f). Forewing dull greyish violet; the lines pale greemish,
the proximal line angular on the median, the distal line acuate-angular on vein 7 near the distal margin, proceeding
from the costa behind the centre; from the distal line at vein 5 to the hind-margin a fine straight submarginal
line. At the lower cell-angle a white spot. Hindwing with a curved proximal and median line, and a dull subterminal line ending in the anal angle. Under surface paler. Sikkim (North India). — The form from the Khasia Hills in Assam is invariably smaller and may be distinguished as subsp. flavilinea Leech (49 g, and flavilinea. Vol. II pl. 48 b) from China, from which it hardly differs except in the duller subterminal line.

A. leucosticta Hmps. (49 g). Forewing mouse-coloured, the apical area white; distal line white, distally leucosticta. bordered with dark, before the margin on vein 7 acute-angular; veins behind the cell white, the interspaces likewise with white streaks; a fine straight subterminal line is white, the narrow marginal area behind it darker; fringes with a white basal line. Hindwing with a white median line, before it a short white line from the hind-margin to the cell. Under surface glossy greyish-white with a diffuse darker subterminal cloud; apex of forewing white. Khasia Hills (Assam).

A. pallidior ab.nov. (49 h, i) resembles duplicata (49 i), which likewise originates from the Khasia Hills, but the lines are thicker, rust-brown, the proximal line strongly angled on the subcostal; costal-marginal area darker, the 3 spots longer and broader; distal line double, entirely shaded by a less distinct line, on the discocellular a fine angular line. On the hindwing the lines are only visible below the centre. 4 ♂♂, 1 ♀ from the Khasia Hills; type in the Tring Museum.

A. simulata Mr. (49 h and Vol. II pl. 48 d). Forewing pale lilac grey, the proximal and distal lines simulata. chestnut-brown, below the costal margin distally acute-angular, then obliquely inwards and convergent towards the hind-margin; subterminal line of small crescents which are filled with dark; along the distal margin below the apex a rust-coloured cloud; costal margin in the basal half yellow, towards the apex broadly rust-coloured; on the discocellular a fine angular line. Hindwing with a chestnut brown proximal and distal line being only visible below the centre; costal-marginal area lighter. Dharmsala in the Penjab, from where the type originates; also from Sikkim.

A. duplicata sp. nov. (49 i). Forewing with a lilac grey hue, of the colouring of the darker simulata duplicata. from the Khasia Hills, but the lines are thicker, rust-brown, the proximal line strongly angled on the subcostal; costal-marginal spot before the proximal line. This spot also occurs in duplicata, but it lacks a line proceeding from it. Ground-colour in simulata more uniformly light olive grey and along the costa and distal margin darkened by dark grey, not with a lilac grey hue as in duplicata. — A still lighter form of it is ab. pallidior ab.nov. (49 h, i) pallidior. without darker powdering, the ground-colour being a clear greyish ochreous in the ♀ and whitish grey in the ♂; proximal line here not double. — Both the typical and aberrative forms exhibit on the discocellular a rust-brown angular line. In the Tring Museum there are 5 ♂♂, 2 ♀ of the typical form and 2 ♂♂, 1 ♀ of the aberration, all from the Khasia Hills.

A. violacea Btbr. (Vol. II pi. 48 d). Forewing dull violetish grey, costal margin yellowish-red; violacea. proximal line quite dull, distal line well marked, the yellowish-red not so oblique as in the other species, but reaching the costa far before the apex; fringes with light brown tips. In the hindwing the yellowish-red line has a median course; face brown. From Dharmsala in the Penjab.

A. japonica Mr. (49 h and Vol. II, pl. 30 f) is similar to simulata, but larger, the lines are thicker, dark japonica. brown, on alternating sides margined with yellowish-red, the proximal line more oblique, the reddish-yellow colour extending along the costal margin to the distal line near the proximal line below, not straight, but broken in the centre of the wing. Marginal area with an intense dark grey tint and with the usual small subterminal black spots. Hindwing similar. Under surface dull yellowish fawn-coloured; forewing greyer with a yellow costal margin and a dark cellular spot. Head brown; thorax and abdominal dorsum like the wings. A specimen of this Japanese species was in Elwe's collection from Sikkim and has been mentioned by Hampson in his Fauna of Brit. India Vol. I, p. 337.

A. gracillima Warr. (49 g). Forewing light silky straw-coloured, with a greyish-brown tint towards gracillima. the costal margin and apex; costal margin yellow, the two lines brown and fine, extending as in simulata Mr. Fringes brown, towards the anal angle lighter; no dark line on the discocellular, but at both the cell-angles 2 white dots. Hindwing lighter, at the hind-margin a brownish distal line is visible; head and palpi dark brown. Collar rusty yellow. Thorax and abdomen light straw-coloured. Khasia Hills (Assam) and Sikkim; in a specimen from Sikkim the lines are thick and coarser.
argenticps. A. argenticps sp. nov. (49 g) resembles a small dark lilacina, but the frons is lustrous lead-coloured, the collar is yellowish-red, the distal line slightly curved and indistinctly double. Sikkim and Assam. Type in the Tring Museum, also in the British Museum.

bicostata. A. bicostata Hmps. (49 g) (as bicolorata). Costal margin near the base slightly projecting, distal margin concave; forewing purely sandy grey, the lines yellowish-reddish orange, proceeding from black costal-marginal spots, the proximal line vertical, the distal line angular towards the apex, in the angle a black spot; the light subterminal line marked with dark spots. Hindwing light yellow, along the hind-margin slightly discoloured. Khasia Hills.

vira. A. vira Mr. (= erpina Swek.) (49 g as vera). Forewing lilac green with a lustrous reflection; the lines dark brown, proceeding from dark brown costal marginal triangles; the proximal line straight and almost vertical, the distal line strongly distally angled below the subcostal with an acute angle towards the apex, then straight and obliquely inwards. Subterminal line whitish. Fringes deep brown; at the upper end of the discocellular a small white spot and 3 at its lower end, one at the cell-end and 2 behind it. Hindwing: costal-marginal half whitish, turning pearl-grey towards the hind-margin, with traces of the line. Face dark brown, collar yellowish reddish. Khasia Hills.

mimetica. A. mimetica sp. nov. (49 g) resembles lilacina (49 h and Vol. II pl. 48 d), but the discocellular is not marked with an angular line, but it exhibits 1 small white dot at the upper and 3 at the lower end, as in vira Mr.; the distal line is not quite straight, but erect from the hind-margin to vein 2, then oblique, the light subterminal line quite feeble. Hindwing as in vira; base of fringes dark, apically lighter. Khasia Hills.

humerata. A. humerata Warr. (49 g). Forewing greyish fawn-coloured; costal margin as far as behind the centre yellowish-reddish, behind it broadly rust-coloured; lines fine, rusty yellow, proceeding from oblique costal-marginal streaks, and distally acute-angular below the costal margin, the proximal line vertical, the distal line crooked in the centre; subterminal line of small crescents which are filled with black, behind the one at the apex a bright white spot; fringes rusty yellow; at the upper end of the discocellular a black spot and a heap of small black dots around a grey place at the lower end, which is often marked with whitish. Hindwing with a light costal area which is broader in the ♀; a distal curved dark line does not extend beyond the centre. Under surface with a dull yellowish reflection, in the forewing more or less coated with greyish. Besides yellowish reddish, vertex metallic black. A small species; separated by the costa of the forewing being very convex at the base. Khasia Hills (Assam).

34. Genus: Callidrepana Fldr.

Separated from Albara with which it corresponds in the neuration by the antennae being bipectinate in both sexes (in the ♀ longer). Type: C. argenteola Mr.

argenteola. C. argenteola Mr. (= saucia Fldr., scintillata Wkr.) (49 i and Vol. II pl. 30 f). Forewing light ochreous, strewn with small silvery scales, forming lines along and below the costal margin, as well as behind the distal brown line which extends near the distal margin; an oblique double brownish black cellular mark, often accompanied by small silvery scales. — In ab. metalenea B.-Bak. (49 i), from New Guinea, the forewing, particularly in the central area, is suffused with a pale brown. This is chiefly an insular species. Moore's type of argenteola was from Java; Felder's saucia from Ambon; Walker's scintillata from Ceram; also from Sula Mangoli, Suer, Mefor, Kirinini, the Fergusson Islands; Goodenough Is., Key Is., St. Aignan, Ron, Rock Is.; New Guinea, Salomons, and Queensland. — The form occurring in the Salomons is a subspecies, argenterifa Drc. (49 i) in which the under surface of both wings is marked with a distinct black thick distal line, whereas in the typical form this line is brownish and dull, mostly only recognisable towards the costa of the forewing. — Another form occurs in some (may be all) of the Salomons, which may be separated as ab, subfasciata ab. nov. (49 i) in which the black line of the hindwing is sometimes expanded into a broad subterminal band, in others it forms a complete black marginal band; but this formation seems only to occur in the ♀♀ which are also darker on the forewing above. The ♀♀ presumably never differ from the typical form. In some districts of New Guinea, on the Kumasi, Oetakwa, and Setakwa River the predominant ♀ form is grey powdered with ochreous, instead of the pure pale ochreous typical form which otherwise flies in the island; here the ♀♀ are neither different.

bracteata. C. bracteata Hmps. (49 k). Forewing pale or brownish ochreous; the proximal line extends obliquely distally to the median, then vertically, feebly undulated, this lower portion only visible in browner specimens; the reniform spot is a deep brown oblique line, often double; distal line double, its distal portion thick, brown, on vein 6 angular before the apex, then oblique, between its two portions a feebly greenish tint. Before the distal margin small feeble dark spots; fringes in the upper half dark brown. In the hindwing the double line
does not extend beyond the cell, the green tint is more prominent; distal margin behind the marginal line somewhat darker. Under surface yellowish ochreous; the distal line and subterminal line are marked in the costal half of the forewing. In the hindwing the line is marked by a coarse diffuse black shadow widening from the costal margin to vein 2, where it terminates. This is the usual colouring of this species which I denote somewhat darker. Under surface yellowish ochreous; the distal line and subterminal line are marked in the sporadically in all the species of the group. It seems hitherto to be confined to Ceylon; the lighter normalis occurs in the Khasia Hills in Assam, in Sikkim, the Malay Peninsula, Java and Dili. Expance of wings in the $ 44 mm, in the $ 52 mm. — In celebensis subsp. nov. the distal line is broad brown, not double, slightly distally convex instead of straight and with a dull brownish cloud around the angle. Hindwing beneath without a black band, the marking of the forewing as well as the brown line on the hindwing very feeble. A couple from Tondano (North Celebes); type in the Tring Museum. Size the same as that of bracteata.

C. praeusta sp. nov. (49 k). Forewing greyish ochreous, powdered with brownish, particularly at the distal margin; proximal line fine, blackish-brown, obliquely distally to the median on which it is acute-angular, and obliquely inwards; distal line double, blackish-brown, the proximal portion very fine, angular on vein 6, the apical area behind filled with blackish-brown; the black subterminal spots represent the dents of an acutely dentate line, and a dull lustrous line at the base of the fringes. Reniform spot oval, oblong, hardly noticeable. Hindwing traversed by all the lines, the costal-marginal area light ochreous. Under surface yellow; cellular spot of forewing, the distal and subterminal lines the oblique shadow, and the thick band of the hindwing are all black. 1 $ from Pulo Laut (Borneo), June 1891, captured by Doherty. Type in the Tring Museum; expanse: 44 mm.

C. patrana Mr. (= biocularis Mr. $) (49 k). Forewing dark greyish-brown, the markings blurred. patrana. Much blown and damaged specimens are paler, but fresh light specimens seem not to occur. biocularis Mr. is apparently only a dark $ of it. This species lives in Sikkim and Assam (North India).

C. obliquistriga sp. nov. (49 k). Forewing yellowish brown, crossed by 5 dark brown stripes obliquely extending distally. Moreover, the species corresponds with brown specimens of the preceding patrana. All the specimens are from Assam, so that it might be a local form of patrana, but I have not seen any specimens from Sikkim, where patrana also occurs.

C. gelidata Wkr. (= argentilinea Wkr., argentilinea Snell.) (49 i). Forewing bone-white, a very dull gelidata. brownish proximal, median and subterminal line; a silvery pearl-coloured, somewhat raised stripe along the subcostal vein and on the submedian fold to the hind-margin before the anal angle; marginal line before the apex broad silvery; from the base along the centre of the cell almost to the subterminal line a silvery streak; a short similar one at the base of the submedian fold; a raised oval lead-coloured spot with a black edge on the upper half of the discocellular, followed by 2 brown obliquely situate spots at the lower half. Hindwing with a feeble brownish subterminal line above the anal angle, marked with small silvery scales which also occur at the distal margin. Type of gelidata from Borneo; that of argentilinea Wkr. from Singapore, of argentilinea Snell. from Java. In the Tring Museum there are specimens of Moulmein in Burma as well as from Celeutta.

C. splendens Warr. (49 k). Forewing creamy white, tinted with olive; costal margin deep red-brown, splendens. fine, the proximal margin decorated with small silvery scales; cellular spot large, ear-shaped, deep chestnut-brown, bordered with small silvery scales; a brown spot at the lower cell-angle; a spot of silvery scales at the base of the cell, from which a line extends through the centre of the cell and the cellular spot, widening behind it and terminating in a kind of dingy spot; a silvery subterminal line parts from the subcostal behind its centre, being incurred behind vein 5, then parallel with the distal margin. Marginal line silvery, broad, crossed by the light veins; fringes yellowish-red. Hindwing with a short silvery line from the hind-margin at 3/4; marginal line below the centre silvery; fringes yellowish-red. Under surface unicoloured pale creamy. Face and palpi deep brown; thorax and abdomen creamy. The silvery scales in this species show a fiery steel-like exterior, unlike the more lustreless silver of gelidata; besides it is smaller and is at once recognisable by its dark costal margin. Type from Tawaya in the north of Palos Bay (Celebes); also from Sula Mangoli in the Tring Museum. A form from Africa is very closely allied to it and might be identical with it.

C. nana sp. nov. (50 a). Forewing light fawn-coloured, traversed by diffuse, glaring, fawn-coloured nana. bands being partly laterally contiguous. Costal margin tan-coloured, underlined by a bronze streak which is set with small metallic scales in the centre; a spot of similar scales on the subcostal before the centre; behind the centre on the subcostal a dark bronze line set with small metallic scales, bending round before the apex and turning to the subterminal line, indented above vein 5. A similar metallic line at the distal margin, crossed by light veins; fringes tan-coloured; costal margin before the apex reddish. A line of small metallic scales extends from the base through the cell to a darker spot behind it. The cellular spot is a lead oval, with a brown spot at the lower cell-angle. Hindwing lighter, particularly in the costal half; the hind-margin with traces of a subterminal and terminal line; under surface dull whitish. In the shape this species resembles Alb. humerata
C. sublimbata sp. nov. (50 d). Forewing light greyish fawn-coloured, the vertical and dentate proximal lines duller and interrupted. It may be separated as ab. ab. nov. (50 a). In the Tring Museum there was a single aberration: chaetica ab. nov. (50 a) occurs, in which the falcate apex is quite obtuse, the forewing appearing entirely shortened; the proximal line and the ring-spot are black and indistinct, separated from the black reniform macula by a spot of white hair-scales. From Biagi (Mambare R.), captured together with typical specimens.

C. pulcherrima Hn/lps. (50 a). Head bright chestnut-brown; thorax and abdomen ochreous-brown; forewing light olive green coated with chestnut-brown particularly towards the base of the hind-margin. Proximal line indistinct, undulating and angular, black, distal line chestnut-brown, obliquely from the costa before the apex to behind the centre of the hind-margin; before it an indistinct dark line being inwardly angled below the costal margin; a submarginal row of black spots; along the costal margin, at the proximal basal area, and on both sides of the oblique line small silvery and black scales. Hindwing chestnut-brown, strewn with silvery scales; costal-marginal area broad yellow, without markings; proximal and distal lines black, behind the latter a red-brown and blackish-brown band; a red-brown marginal band encloses at the anal angle small yellow lunae; both wings with a silvery line at the distal margin; fringes red-brown, apically silvery. Under surface yellow, a black median band traverses the hindwing. Burma, Tenasserim Valley.

C. micacea Wkr. (50 a). Forewing rust-brown, speckled with small metallic scales; costal margin blackish. Proximal line blurred, feebly darker, oblique to the median, then vertical. The narrow, obliquely elliptic ring-macula almost directly in front of it; the reniform macula is a slanting oval of the ground-colour with a dull darker border; distal line double, its proximal portion with a few black scales; the distal portion brown, angular before the apex. Subterminal line of small crescents, dentate, the dents black; before the deep orange fringes exhibiting small black tips a metallic marginal line. In the hindwing all the lines extend straight through; costal-marginal area ochreous. Under surface fawn-coloured, on the hindwing where there is a diffuse thick black line lighter; forewing with a feeble cellular spot and 2 fine distal lines. — A ♀ from Kuching (Borneo), from where the type of micacea originates, is much darker, both the ring-macula and the reniform macula being black; hindwing with a broad yellow costal-marginal area. Under surface much more yellow, all the lines dullest interrupted. It may be separated as ab. stigmatias ab. nov. (50 a). In the Tring Museum there is a typical ♀ from Perak in the Malay Peninsula.

C. sublimbata sp. nov. (50 d). Forewing light greyish fawn-coloured, the vertical and dentate proximal line quite indistinct. The reniform macula is a large oblique oval, rather much darker than the ground-colour; the whole wing is strewn with small feebly lustrous scales; the distal line is broad blackish-brown, on vein 7 broken, then feebly bent and obliquely proximad, distally bordered by a lustrous blue line, the apex and distal margin above the centre black dark-brown; on the veins subterminal black patches. Terminal line lustrous bluish; fringes dark brown. Hindwing with a double median line and subterminal patches; almost the costal half of the wing is yellow. Under surface yellow, with a broad blackish-brown subterminal band on both wings, which dies away on the forewing towards the apex and before which there is a curved distal line as far as vein 3, as well as a small dark cellular spot. Head, thorax, and abdomen fawn-coloured; face reddish-brown. Expanse: 40 mm. 1 ♀, near the Octakwa River, Snow Mts., in Dutch New Guinea, taken by A. S. MEEK between October and December 1910.

C. fulvilausta Warr. (= plana Sieh.). Forewing yellow, washed over with reddish orange, the whole upper surface speckled with small lustrous silvery scales, not accumulated along the veins as in argenteola Mr. (49 i) and other species. A straight dull yellowish-red line from near the apex to the third quarter of the hind-margin; fringes yellowish-red, with a costal line and small silvery scales. Hindwing similar, but the costal area lighter; under surface quite reddish-yellow, without any marking; head, thorax, and abdomen quite orange-yellow. 1 ♀ from Sandakan (Borneo) in the Tring Museum. SWINHÔE's type of plana from Borneo is likewise a ♀.

C. morosa sp. nov. (50 d). Forewing dull greyish dark brown strewn with small lustrous scales forming a kind of stripes below the costal margin and in fact forming the marginal line and a dentate subterminal line of small crescents; on the discocellular a large irregular, round, grey spot; traces of a dark proximal and distal line proceeding from dark costal-marginal spots; on the veins a row of subterminal black sagittiform
spots; fringes blackish. Hindwing dull whitish with lines being only visible at the inner margin and exhibiting a small blackish cloud between them. Under surface light olive green with a dark grey outer line. Face brown; thorax like forewing; dorsum of abdomen like hindwing; collar whitish. 2 ♀♀ from the Upper Setekwa River in New Guinea.

**C. chionopepla** sp. nov. Forewing creamy white with a fine oblique distal line being incurved, but indistinct before the costal margin, close behind it a thick smoky brown line which is tinted with greenish, extending into the apex which it fills up; below the costal margin between the two lines a white spot. Hindwing with a median line; the margin smoky grey with traces of a subterminal zigzag line. 1 ♀ from Fakfak in Dutch New Guinea. Type in the British Museum.

**C. albiceris** Swh. Forewing pale ochreous with traces of an inner and outer line composed of grey spots; the median line is excurred around the cell; the dents on the veins marked dark; in the cell a black dot; outer line treble, the innermost being fine and blackish, on the veins towards the base dentate, returning towards the costal margin; the median line is greenish grey, thick and diffuse; the outer line composed of grey and blackish spots, extending into the apex which it fills up; between the lines below the costa a white spot; an antemarginal indistinct line being above notched, beneath on the veins marked by black dots; before the margin a double line of grey scales. In the hindwing the treble line is median and broader, at the lower cell-angle on the innermost of the 3 lines a large black spot; traces of an inner line. Sumatra.

**C. superba** Warr. (491). Forewing pale ochreous, without spots; an olive brown oblique band of 3 superba, lines from the inner margin beyond its centre almost to vein 7, before which the inner dark line recedes far to the costal margin and disappears; the outer line forms a broad, dull, red-brown costal spot with a light centre; subterminal line represented by a row of olive brown wedge-shaped spots on the veins; marginal area especially towards the apex of a deeper tint; discocellular above marked by a broken line of silvery scales and a spot at the lower end. In the hindwing the band is central, the small subterminal spots are more distinct, the area behind it distinctly olive-brown. Beneath the band is umbr-brown, very thick, at the costa of the forewing widened and enclosing 2 light spots. Described from a single ♀ from the Angabunga River in Brit. New Guinea.

**C. fasciata** Hmps. Forewing creamy white, the inner and outer lines greenish dark brown; fringes fasciata, yellowish-brown; behind the outer line a row of black blotches on the veins. Described from a single ♀ from Fakfak in Dutch New Guinea. This species being otherwise rather dissimilar to the other species is the most closely allied in its shape and colouring to albiceris Swh., chionopepla Warr., and superba Warr. (491).

35. Genus: **Cilix** Leach.

Probosces very feeble; palpi porrect. very small; antennae of ♀ bipectinate with short dents, in the ♀ only serrate-dentate; hind tibiae with 2 pairs of spurs. In the forewing veins 6 and 7 from the cell-angle; 8, 9, 10 stalked. In the hindwing 7 strongly anastomoses with 8. Type: C. glaucatus Scop. — This diagnose corresponds with the typical species from Europe and America. In C. depalpata Strand occurring in the Pendjab (North India) the palpi are not visible, the hind tibiae only exhibit 1 pair of spurs, and vein 7 of the forewing is bent upwards and almost anastomoses with the stalk of 8, 9 and 10.

**C. depalpata** Strand differs from glaucatus (Vol. II, pl. 48 d) in the median band the base of which depalpata, is reduced to a blackish demi-ellipse: the oval grey, somewhat ear-shaped ochreous spot above is hardly noticeable; silvery markings present though not coherent; the marginal line representing in glaucatus a series of grey lunulae is here a plain grey line. Hindwing all white, without any greyish coating. 4 specimens from the Pendjab, all females. Type in the collection of the British Museum.

36. Genus: **Hemiphruda** gen. nov.

Probosces present; frons smooth, but slightly convex; palpi upturned close at the face, delicate, with a short terminal joint; antennae of ♀ with one row of long pectinations. ♀ with shorter pinnae which are more remote from each other. Hind tibiae with 4 spurs; abdomen with a white ring at the base of the 5th segment, as in the following Monoprista showing also the same shape of the wings. In the forewing the cell is of less than half the length of the wing; vein 6 from the upper angle; 7, 8 stalked, 9, 10 the same, 8 anastomoses with 9, 10 and forms an areola; 10, 9, 8 diverge close at the costal margin; hindwing normal. Type: H. mecasa Swh.

**H. mecasa** Swh. (50 d). ♀: forewing brown, lines darker, inner line double, undulating, in the centre of the wing angular; at the upper cell-angle a tiny black dot, at the lower angle a large spot. Outer
line double, angular on vein 6, then obliquely inwards, undulated; behind it a third line; the latter two extend as a dark shadow into the apex; before the margin a light undulated line with black lunular spots between the veins; the whole median area is dark below the centre. Hindwing with an inner and an outer band of undulated lines; subterminal line and cellular dots as in the forewing. Under surface light grey, all the lines darker. Face and forelegs black; vertex snow-white; thorax and abdominal dorsum like the wings. 2 feelly lighter than the ♀. Khasia Mts.

37. Genus: **Monoprista** gen. nov.

It differs from *Leucodrepana* (p. 449) in vein 6 of forewing rising from the upper cell-angle. Of a stouter structure; colouring olive-brown; the outer line not undulated. Type: *M. nudobia* Swh.

*M. nudobia* Swh. (50 d). Forewing olive-brown, partly with a yellowish tint; 2 black dots at the two cell-angles; in the forewing the cell and a subcostal streak are darker; 3 dark oblique lines from the apex, the two inner ones of which form a narrow band expanding at the centre of the inner margin; behind the third follows a dark marginal band being broader at the inner margin. In the hindwing the basal area is dark, then follows a yellowish band; the dark band, outer line and marginal area as in forewing. Under surface grey with 3 grey distal lines. Khasia Mts.

38. Genus: **Spica** Swh.

Proboscis present; palpi obliquely upturned, 2nd joint well scaled; antennae of ♀ short, serrate-dentate. Middle tibiae with 1, hind tibiae with 2 pairs of spurs; Forewing elongate with an obtuse apex and a smooth curved distal margin; veins 7, 8, and 9, 10 of forewing stalked, 8 and 9 anastomosing and forming an areola, divergent at their ends. Type: *S. luteola* Swh.

*S. luteola* Swh. (50 d). Forewing yellow with rosy-orange irroration. Lines rusty red, the inner line centrally angular, the middle line straight, the outer line curved, met by an oblique streak from the apex. Reniform macula surrounded by orange. Hindwing paler yellow. Sikkim.


Proboscis present; palpi delicate, upturned, reaching the vertex; antennae bipectinate, the dents in ♀ longer; middle tibiae with 1, hind tibiae with 2 pairs of spurs. On the forewing the apex is bent down and produced, sickle-shaped; margin on vein 3 angular, above indented, below slanted off. Hindwing with a rounded apex and almost straight margin as far as vein 4, here dentate, the anal margin above the anal angle with a concavity into which veins 1 and 2 extend, whereby the anal angle appears to be lobate. In the forewing veins 6, 7, 8 are stalked, 9, 10 also stalked, 8 and 9 anastomosing and forming an areola. Type: *T. tripunctata* Wkr.

*Th. tripunctata* Wkr. (= cervinaria Mr.) (50 b). Forewing of ♀ dark violettish-brown, of ♀ lighter and brownish; dark inner, outer, and subterminal lines in fresh specimens with small grey scales at their distal borders; on the discoecellular 3 dark spots. Fringes black, at the tips light. Hindwing lighter, a dark spot at the anal angle with a broken line of small white scales on it. Sikkim.

*Th. undilineata* sp. nov. (50 b). Forewing drab, traversed by dark grey, waved lines; 2 of them being indistinct through the basal area; inner line obliquely outwards, incurred below the centre; outer line above excurred, below the centre incurred, approaching the inner line on the submedian fold; the space between them rather much darker with a small black dot at each end of the discoecellular; 3 undulating lines behind it, the first on a lighter band, the outermost bordered by the light subterminal line which proceeds from a light costal dot; before the dark brown fringe a distinct light line; hindwing grey, towards the margin darker; at the anal margin and before the concavity spots of small black scales. Under surface monotonously light grey; head, thorax, and abdomen drab. Khasia Hills (Assam). Type in the Tring Museum. — The concavity in the forewing is low in both sexes.

*Th. nigritincta* sp. nov. (50 b). Forewing sand-coloured grey, traversed by darker dentate lines. This ground-colour is only shown in the distal half of the wing; basal half, costal area, and marginal area filled up with blackish; the lines along the costal margin intensified by oblique glossy stripes, the subterminal line of small glossy scaled dents at the costal margin and inner margin; discal spot oblique, blackish; fringes behind a fine light line blackish. Hindwing dark grey, more violet and marked with small silvery scales towards the anal angle. Fringes from the apex to vein 3 yellowish grey, then with a black line bending round into the
conceivably. Under surface dark glossy grey; both wings with 2 dark parallel transverse lines in the centre; apex of forewing yellowish-red. Head, thorax, and abdominal dorsum dark grey. Khasia Hills in Assam. Type in the Tring Museum. — The concavity in the forewing of the $ is deep and slanting; $ unknown.

Th. rafa. sp. nov. (50 b). Forewing of $ yellowish-red, in the $ coated with dark. On the discocellular rafa, an oblique black transverse spot, inner line indistinct, irregularly dentate and indented; outer line of small crescents, dentate, above excurred, below incurved, approaching the inner line on the submedian fold; distal margin and apex behind the light subterminal line considerably darker; fringes with a black line behind the feeble reddish-yellow basal line. Hindwing light grey, at the anal margin with traces of a dark median and subterminal line; anal area in the $ with a yellow, in the $ with a grey tint; under surface yellowish-grey in the, $ grey in the $; both wings with 2 dark parallel lines. Khasia Hills (Assam). Type in the Tring Museum.

— The concavity of the forewing is deep in the $, low in the $.

40. Genus: Monurodes gen. nov.

Separated from the Thymistidae, to which they seem to allied, by the absence of the concavity on the hindwing, the gradually excurred anal margin terminating into an obtuse point or tail. Costa of forewing at the base curved but not forming a bow; distal margin more oblique, with a dent on vein 4. Type: M. trigonoptera Warr.

M. trigonoptera sp. nov. Forewing yellowish-red, lines brownish, inner line curved, outer line from trigonoptera, the costal margin obliquely outwards, on vein 6 strongly angular, then as a dentate chain of small crescents obliquely inwards; at each end of the discocellular a small black spot; fringes brownish. Hindwing red-brown, coated with greyish-brown, particularly towards the distal margin; the outer dentate line and the 2 black dots at the discocellular distinct. 1 $ from Pegu, from the Coll. Moore; type in the collection of the Brit. Museum.


Proboscis not to be seen; palpi extremely short; antennae in both sexes bipectinate; hind tibiae (of the $) with but 1 pair of spurs. In the forewing the costal margin is strongly curved, flaved at $; apex produced, distal margin curved; in the hindwing both the angles are rectangular, but obtusely rounded, the distal margin almost straight. Veins almost as in Campylopteryx, but in the forewing vein 11 is sometimes stalked with 9, 10. Type: C. curvaria Wkr.

C. curvaria Wkr. (49 l). Forewing greyish fawn-coloured, before the outer line and again narrowly curvaria, before the distal margin darker brown. All the veins, folds, and the discocellular light: a diffuse broad blackish shadow from the costal margin to vein 2, bordering on the inner line; outer line whitish, proceeding from the flaw of the costa, before vein 7 angular, then oblique, between the veins curved and on them feebly inwardly dentate. On the hindwing the line is straight and median; costal-marginal and distal-marginal areas light. Walker's type, a $, was from Mysol; in the Tring Museum there is a $ from Guizo 1, and 1 $ from Florida 1, Salomons, being without the black shading at the inner line; 2 $ from the lowlands. 1 from the Kumasir R., the other from the Ninay Vally (Arfak Mts. in New Guinea) correspond with the Mysol type.

C. specularis Mr. (= obtruncata Warr.) (49 l). Forewing dull ochreous, almost entirely suffused specularis, and speckled with greyish-brown, and with dark brownish, before the outer line which is light, in the centre slightly flaved, on vein 7 angular, and at the costal margin retrated: before the distal margin a series of dark spots, the veins before the outer line light; hindwing at the base and towards the distal margin lighter; before the median line there is a more defined dark brown band; behind the median line a double hyaline spot on each side of vein 5. Anal area darker. Under surface pale yellow; outer line blackish, on the hindwing it forms a diffuse cloudy band. Sikkim and Ceylon.

C. duplexa Mr. (49 l). Forewing dull greyish ochreous, in some places with a brown and dark tint; duplexa, veins dark, the spaces between them with coarse brown and dark striae. Two indistinctly marked dark inner lines; a double dark straight oblique line filled with grey, from the apex to the centre of the inner margin; a short yellow costalapical spot before which 2 oblique dark streaks proceed from the costal margin, forming the upper portion of the double line; marginal area coated with brown and with numerous dark coarse striae; subterminal line badly marked, before it a lighter patch. Hindwing with a yellowish base, before the centre a broad violetish-grey band with a dark somewhat curved distal margin; the whole distal half ochreous, very much streaked brown and dark; fringes dark. A large species. From Sikkim.

C. miranda sp. nov. (49 l). Forewing ochreous, suffused with a greyish brown, without the striation; miranda, the whole exterior half of the wing except the yellow costal spot before the apex is dull violetish-black which colour extends along the costal margin to the inner line. The lines as in duplexa; marginal area speckled with
blackish-brown excepting the distinct subterminal line or the space before it; the distal third of the cell is lighter. Hindwing pale light yellow, the line bordering on the dark antemedian band is straight; marginal area with an irregular grey line through the centre and a finer undulating line before the margin, as well as a few grey streaks towards the apex. Described from 4 \( \delta \delta \) from the Khasia Hills. A species quite different from \( \delta \delta \) from Sikkim.

42. Genus: Campylopteryx Warr.

Proboscis present, palpi very short; antennae of \( \delta \) strongly bipectinate; hind tibiae with but 1 pair of spurs. Forewing with a very convex costal margin which is slightly geniculate in the centre; apex obtusely produced; distal margin oblique with an obtuse dent between veins 2 and 3 and a concavity above and below it. Hindwing with an almost straight distal margin. Cell of forewing of half the length of the wing; discocellular acute-angular, the upper and lower portions vertical; veins 5 and 6 proceed from these angles. Veins 7, 8 stalked. From the upper cell-angle, 9, 10 stalked: 11 free; 9 anastomoses with 6 towards the costal margin, forming a long areola. Type: \( C. \) sublignata Warr.

\( C. \) fleximargo Warr. (50c). Forewing ochreous, speckled and coated with greyish-brown; costal-marginal area light, the outermost costal line light and indistinct, on the veins outwards dentate; behind it a deeper brown shading; cellular spot round, black; outer line light ochreous, delicate, straight, as far as close before the apex, where it is acute-angular and extends parallel with the veins and again angular, before it reaches the costal margin; veins before the line all pale ochreous; marginal area brownish, with a spot of grey admixture and small black scales above the anal angle. Hindwing darker, costal-marginal area ochreous, speckled with dark. The outer line in the forewing is median, undulating, before it dark shading crossed by the light veins; marginal area deep brown, speckled with black, with a hyaline spot behind the cell, being composed of 2 contiguous ovals which exhibit tiny, raised small black scales. Face and palpi of a bright red-brown; vertex and antennal shaft white, the small pinnae red-brown. Under surface pale yellowish ochreous with coarse dark speckles and reddish and dark brown coating towards the margin; outer line of forewing thick and dark. Described from a single \( \delta \) from Fergusson I.; it also occurs in Isabel I. (Salomons).

\( C. \) sublignata Warr. (50d). Very similar to \( C. \) fleximargo, but only of \( \frac{2}{3} \) of its size, distinguished as follows: hindwing not brown, but just as light as or even still lighter than the forewing which is below dark wood-coloured. Hindwing before the median line and behind the hyaline spot tinted with brown; thorax and abdomen quite ochreous, not partly brown. Described from a \( \delta \) from Kissoet (Watubela).

43. Genus: Spectroreta Warr.

Proboscis absent. Palpi almost absent. Antennae with stiff pinnae which are at the extreme tips flawed and thickened. Legs hairy. On the forewing the apex is bent down and obtusely produced; distal margin in the centre with a dent and a slight concavity above and below it; hindwing with a dent in the centre of the distal margin, below it with a very short concavity. Forewing with a large hyaline spot in the centre; hindwing with small hyaline spots. On the forewing the discocellular is curved, not inwardly angular; vein 5 from the distal angulation of the discocellular, close at 4; 6 from the deflected end of the subcostal vein; 7, 8, 9, 10 all stalked from the cell-end, 11 separate; 9, 10 stalked from 7, 8, at \( \frac{1}{3} \) of the cell; 9 anastomoses at \( \frac{2}{3} \) with 7, 8. Type: \( S. \) hyalodisca Hmps.

\( S. \) hyalodisca Hmps. (50c). \( \delta \) forewing red-brown, often mixed with yellow, the most intensely towards the apex; inner line indistinct; outer line dark brown obliquely outwards from the costa, on vein 6 angular. Distal margin obliquely inwards, followed by a line of small lustrous scales; in, below and behind the cell a large irregular hyaline spot with an obtuse appendage distal between veins 4 and 5, and with a small round spot below vein 2 near its base; below the costal margin towards the apex a stripe of small glossy scales; before the distal margin some small yellow spots, and above the anal angle small dark clouds; fringes dark brown with a deep yellow line at the base. Hindwing red-brown, sometimes very much mixed with yellow and orange; the black line with a lustrous border is median; behind it a black ring surrounded with yellow, and below it a round white spot. \( \varphi \) much lighter with small hyaline spots, either yellowish straw-coloured with \( \delta \delta \) indistinct maculae. \( \black \) flava \( \delta \) \( \varphi \) \( \delta \) \( \varphi \). (50c), or in typical specimens yellowish grey. — An aberrative form occurs in the \( \delta \delta \) in which both wings are yellowish-red, the distal line intensely white; this is ab. \( \mathit{rufa} \) ab. \( \varphi \) (50c). Apparently very common in the Khasia Hills (Assam).

44. Genus: Neoreta Warr.

Proboscis absent. Palpi quite small; antennae in both sexes strongly bipectinate. Forewing in the centre of the margin angular, above concave. Hindwing concave between the anal angle and vein 3, where the margin shows a slight dent. Type: \( N. \) olga Swh.
45. Genus: **Cyclura** Warr.

Proboseis absent; palpi quite short; antennae flattened with closely appressed dents; hind tibiae with one pair of terminal spurs. Forewing with a very much curved costal margin; apex obtusely produced. Distal margin curved, below the apex incurved and below the centre bossy. Hindwing with a rounded apical angle; distal margin straight or slightly curved as far as vein 3, where it forms a hook; below the latter a semicircular concavity. In the forewing the discocellular is inwardly angular and incurved; vein 6 from the cell-angle (in *confusa* on a short stalk with 7); 8, 9, 10 stalked. 11 from the cell, 10 nearing it or shortly touching it near base; 8 anastomoses with 7 shortly before the apex, forming an extremely long, bent, narrow areola from which 10 and 9 proceed. Type: *C. excisa* Warr.

*C. excisa* Warr. Forewing reddish fawn-coloured with a few brown striae; lines dark brown; the inner *excisa*, line from the costa, a little before the centre, sharply angled close at the costal margin, then obliquely based; outer line from right behind the centre, obliquely distad, on it 2 deep brown spots, distally acute-angular; a very small white cellular spot. Hindwing with a whitish costal-marginal area; a fine, feebly bent, central, brown line on which there is a dark brown cloud. Under surface light rosy grey, with a reddish hue towards the centre of the margin on both wings; face, thorax and base of abdomen reddish; the rest of the abdomen is light silky ochreous. Described from a single from Penungah (North-Eastern Borneo).

*C. confusa* Warr. (50 c). Forewing drab, traversed by numerous irregular dark lines arranged in pairs *confusa* and forming indistinct bands. Behind and below the cell-end and above the anal angle dingy brown spots; fringes brownish-black. Hindwing similar; the whole apical area dingy brown. Under surface rusty yellow mixed with blackish grey and dark streaks; outer line on both wings thick and black. Described from a single *confusa* from Laiwni, Obi. 1 larger than *excisa*.

46. Genus: **Gonoreta** Warr.

Proboseis absent; palpi hardly visible; antennae of *olsa* with long, knobbed dents being thickened at the tips. Forewing with a curved costal margin, apex obtusely produced, distal margin at vein 4 angular, above it concave, below it oblique and straight. Hindwing with a well rounded distal margin, anal margin near the base concave, at the anal angle rounded and slightly lobate. In the forewing vein 5 rises at the lower cell-angle, together with 4, vein 6 at the upper cell-angle. Veins 7, 8 are apparently coalescent, from the cell-end; 9, 10 stalked, 11 free, from the cell; 9 anastomoses more than 5/4 with 7, 8, forming a very long areola. Type: *G. ansorgei* Warr.

*G. subrosea* Warr. (50 b). Forewing dull red, at the base coated with deep brown, also in the cell *subrosea*, and subcostally towards the apex and above the anal angle along the distal margin; at both ends and in the centre of the cell small white dots; from vein 4 to the anal angle a few glossy terminal blotches. Hindwing velvety brown, before the margin yellowish internerval spots; before the violet fringes a glossy line. Under
surface brick-red, the deepest on the forewing. 1 ☀ from Limbang (Borneo). Separated in the veins from the African species: vein 10, 11 stalked, 9 stalked with 7 and 8; 10 anastomoses with 9 and forms a long areola.

47. Genus: Urogonodes Warr.

Proboscis absent; palpi very short, porrect; antennae in both sexes with closely appressed, knobbed, dents. Hind tibiae only with terminal spines. Forewing with a curved costal margin towards the apex which is obtusely produced; distal margin feebly concave above and below an obtuse dent on vein 3. Hindwing with a rounded apex, the distal margin curved or straight as far as a dent at vein 3, then feebly concave to the anal angle which is well developed, rectangular. In the forewing 6 on a short stalk with 7, 8, from the upper cell-angle; 9, 10, 11 on a long stalk rising directly before that angle; 9 which otherwise forms the areola by its anastomosis with 8, is absent, since it is fused with 10, so that there is no areola. Type: U. scintillans Warr.

U. scintillans Warr. (= inconspicua Warr.) (50a). ☀ forewing violettish-grey; the inner and outer shadows indistinct, in the ♀ darker, marked nearer together by black costal shadows; the outer shadow is nearing the inner one on the submedian fold, if it is visible; below the centre a deep purple brown marginal spot enclosing a few pale lilac scales; sometimes traces of an inner line. Abdomen monotonously reddish or violet. Under surface on the forewing bright red, the inner margin and a large spot before the apex yellow. Hindwing quite bright red with some yellow along the costal margin and anal margin. Face and fore legs bright red, thorax and abdomen dark. Shoulders invariably pale grey. Discal spot of forewing not prominent; ♀ larger, dull lilac grey or olive ochreous. All over strewn with a darker colour; this irrotation is intensified and forms near the base a curved shadow and in the centre a diffuse shadow which is swollen at the cell-end and surrounds the white cellular spot. Before the distal margin a row of small dark spots. Hindwing similar, though darker, beneath pale dull greyish ochreous. Forewing with a blackish oblique streak from the inner margin to 3/4 towards the apex. Face brown; thorax and abdomen like the wings. The type of scintillans, a ♀, from Fergusson I.; type of inconspicua, likewise a ♀, from St. Aignan; also from the Upper Aroa R. (New Guinea).

U. flavida Warr. (50a). Forewing pale yellow, towards the base diffusely flesh-coloured brownish; inner line curved as in colorata (50b), red-brown, below the costal margin, where it is smooth, angular; outer line only indicated by a brown spot at the costa and a short line at the inner margin; costal-marginal area between the lines flesh-coloured olive; distal margin edged with reddish brown which does not quite reach to the inner margin. Hindwing yellow with 2 straight flesh-coloured lines inside and in the centre, the area between them paler flesh-coloured; marginal band red-brown; under surface yellow, marginal band in both wings hemochrome. Bases of both wings bright flesh-coloured pink. Face and fore legs bright red; vertex brown, thorax pinkish-grey. Described from a single ♀ (not a ♀ as the original description says) from Biagi (Mambare R. in British New Guinea).

U. colorata Warr. (50b). ☀. Forewing dull red-brown, lines and shades deeper brown; the small scales at their apices whitish, whereby the wings show a hoar-like exterior, particularly in their distal halves. The lines proceed from 3 dark brown costal-marginal spots; the inner and median lines turned back in the cell, then thickened and forming a blotch towards the inner margin. Outer line on vein 6 acute-angular, then obliquely inwards. all very indistinct; cellular spot of small lustrous scales, surrounded with brown; a red-brown spot at the anal angle, in which there are small white scales; behind the angle of the outer line a spot of small white scales. Fringes red-brown with glossy white tips; hindwing dull red-brown; costal-marginal area flesh-coloured; at the inner margin traces of 2 dark lines. Under surface red; at the distal margin of the forewing before the concavity a line of small glossy mother-of-pearl scales; a dark outer line on both wings; a scarlet marginal line on both wings before the dark fringes. — Another ☀ is much redder and might be separated as perrula ab. nov. (50a). Face, palpi, fore legs and chest bright red. Thorax and abdomen coloured like the wings. 3 ☀; Biagi, Mambare R. (Brit. New Guinea); the ♀ which was at first reckoned to this species belongs to another species, to flaviplaga Warr.

U. flaviplaga sp. nov. (= colorata Warr. only ☀) (50a) resembles colorata, but it is redder with a paler ground-colour, particularly behind the outer line towards the costal margin, where the under surface exhibits a large olive yellow spot showing through above. In colorata the whole under surface is red. 2 ☀; 1 ☀ from Biagi, Mambare R. in Brit. New Guinea.

U. cervina sp. nov. (50a). Both wings olive red-brown without any darker shading; 2 small dark costal-marginal spots, but the lines hardly traceable; anal angle with a red-brown marginal spot; under surface quite red, as in colorata. These 3 latter species are distinguished by the much feeble br dent at the distal margin of the hindwing.

U. macrura sp. nov. (50a) resembles a small cervina Warr., but the ground-colour is not so pure, since it is darker speckled and tinted; in the hindwing the distal margin is much straighter from the apex.
to the tail; the tail itself more prominent and the concavity below it stronger. Forewing beneath yellow, the area below the cell and the marginal area pink; outer line in the lower half dark pink; sometimes black and thick. Hindwing beneath quite pink, except the base of the costa and the abdominal margin. — In ab, *seminigra* ab. nov. (50 a) the hindwing above is entirely suffused with blackish-brown, whereas the ground-colour of the forewing is a lighter grey; these specimens are from the Xinay Valley; those from the Aroa R. are smaller, with darker forewings; the black hindwings are mixed with reddish.

**U. practica** sp. nov. (50 b). Forewing olive fawn-coloured, intensely tinted reddish; costal margin with 2 usual small dark-spots, but the lines proceeding from them very indistinct; marginal area as usual darker red-brown; before the apex a dull yellow spot; fringes with white tips. Hindwing deep red, slightly speckled with brown, with some lustrous scales along the margin; before the black, white-tipped fringes a bright red line. Margin of hindwing straight from the apex to the small tail which is very prominent. Under surface of forewing rosy flesh-coloured with a diffuse golden yellow spot before the apex; margin and outer line with small violet and glossy scales; between veins 4 and 5 three blackish-brown spots in one line; hindwing quite pink with black fringes. 1 ♀ from the Octakwa R. (Snow Mts. in Dutch New Guinea), at an altitude of 3500 ft., October till December 1910, captured by A. S. Meek.

**A. fumosa** sp. nov. (50 b). Forewing olive-brown with a darker striaion; costal margin with 2 black spots; the whole inner margin and the centre of the wing covered by a smoky violetish-brown cloud; a silvery white spot on the cross-vein, accompanied by small black scales. Towards the distal margin a few small glossy scales; fringes brown, at the indentations with white tips. Hindwing with a cloud occupying the basal half of the wing, the distal half being fawn-coloured speckled with black. Under surface red, clouded and speckled with black; costal margin of forewing appearing grey, before the concavity a streak of small glossy scales. Face and fore legs red; thorax and abdomen cloudy black; 1 ♀ from the Angabunga R., Brit. New Guinea, at an altitude of 6000 ft., taken by A. S. Meek between November 1904 and February 1905.


Proboscis and frenulum absent. Palpi very small, antennae pectinate in both sexes; middle and hind tibiae without spurs; legs fringed with hairs; forewing: apex produced to an obtuse point, distal margin curved. Hindwing with a rounded margin, the anal angle well marked. In the forewing vein 6 rises from the upper cell-angle; 7 and 8 stalked from the angle, 9, 10, 11 stalked; 9 anastomoses for a short distance with 7, 8 and forms an arcule. Type: *P. extensa* Wkr. — The wings of this genus and of the allied genera are more densely clothed with hair-like scales than in the others to which they exhibit similar relations as the genus *Striglina* (cf. Vol. II, p. 273) and its group to the other Thyrididae.

**O. fulvata** Warr. (50 e). Forewing dull yellowish with scanty reddish-yellow streaks along the basal fulvata, half of the costa, before the apex and at the anal angle tinted with pink. lines dull yellowish-pink; inner line curved, and below the median distinct, distal line oblique to the apex before which it is sharply angular and bent back to the costal margin; cell-end spot angular, dull red with a dot of small white scales at the angle. In the hindwing the cross-vein is angular, with 3 white dots, followed by a rosy yellowish-red line terminating into a yellowish-red spot at the anal margin; traces of an inner yellowish-red line; marginal half of the wing coppery reddish-yellow with 2 or 3 rows of small dark spots between the veins; fringes pink. Under surface pale yellow, the oblique line of the forewing and a diffuse stripe along the submedian fold pink; marginal half of hindwing pink. Face, palpi, chest, and fore legs bright pink; thorax and abdomen yellow, tinted with pink. Described from a ♀ from the Key Is.; also 2 ♀♀ from Kiriwina marked with brown instead of pink, as well as 1 ♀ from Woodlark I.

**O. unilinea** Warr. (50 e). Forewing dull yellowish-red with a feeble lilac tint, the angular cross-vein unilinea, marked with small light scales forming dots at both ends. A yellowish-red, slightly curved line, outside bordered with light yellow, from the centre of the inner margin to the apex; fringes brown. Hindwing with deep yellowish-red median and terminal shadows, costal-marginal area light. Under surface more yellow: the yellowish-red lines are finer and brighter; face and palpi of a bright scarlet; thorax and abdomen coloured like the wings. Shoulers flesh-coloured white. In this species the apex of the forewing is only slightly produced and obtusely pointed; distal margin slightly curved; forewing more oblong. Described from a ♀ from Roon I. (New Guinea). Allied to *singapura* Sckh. and to *continua* Warr.

**O. continua** Warr. (50 f). Forewing brownish-ochreous, speckled with dark brown, costal margin continua, bright red; the whole upper surface glossy; cross-vein narrow silvery white with a white dot at the lower end, followed by a narrow yellowish-red spot; an oblique outer line being double above the centre extends from the centre of the inner margin into the apex and is filled with scales of a mother-of-pearl gloss; apical and marginal areas tinted with brown; at the distal margin between veins 1 and 4 there are three small silvery white triangles. Hindwing with the brown antemedian line; cross-vein with 2 small white spots; at the apex a reddish spot. Under surface more yellow, more speckled; on the forewing the costal-marginal and apical areas, fringes, and the upper half of the outer line are of a bright pink; in the hindwing only the apical
fringe is pink. Face, palpi, chest, and fore legs bright red; vertex yellow, shoulders and patagia whitish. Abdominal dorsum yellow with a red-brown belt which continues the outer lines of the wings. A $\gamma$ from Milne Bay in Brit. New Guinea, allied to unilinea Warr. from Roon I. and to singapura Swh.

**O. singapura** Swh. Fawn-coloured; head, chest, and forewing purple, here and there finely streaked with brown, not striated as in most of the other species of this genus. An accumulation of small, pure white, raised scales at the cell-end of the forewing; a straight line right through all the wings, on the forewing outside indistinctly marked with white; at the inner margin of the forewing near the anal angle a black spot with a few white scales thereon. Under surface more or less suffused with reddish and feebly streaked with brown. Described from a single $\varphi$ from Singapore.

**O. rubrifumata** sp. nov. Forewing dull olive-reddish with rows of small dark internerval dots; a yellowish line obliquely from the apex of the forewing to $\frac{1}{4}$ of the inner margin, traversing the hindwing near the base; 2 fine, small, silvery white dots at the cross-vein; fringes orange with brown tips. 1 $\varphi$ from Singapore in the Malay Peninsula. Type in the British Museum.

**O. jaspidaea** Warr. (\(\delta =\) erminea Warr.) (50 c). Forewing dull dingy red, basal and marginal areas mixed with a lighter yellowish. Inner line at $\frac{1}{2}$ broken on the subcostal and bent inwards, basal area intermixed with ochreous and reticulated dark; towards the costal margin pink, outer line at $\frac{3}{4}$ towards the apex sharply angled distad, then obliquely to the inner margin, dark violet bordered with small whitish scales; discocellular mark angular, red with a few small light lustrous scales. Distal margin below the apex marked with black; hindwing redder. Cross-vein marked with small glossy white scales, behind it a deeper red broken mark; disc and anal margin spotted whitish, and the apical and marginal areas between the veins black. Fringes of both wings deep red. Under surface yellow, striated with dark brown; anal angle of forewing darkened; oblique line of forewing reddish dark brown; face, palpi, and fore legs deep red. Abdomen the same; thorax yellowish. Described from a single $\varphi$ from Cedar Bay, Queensland. In another $\varphi$ from North Queensland the red tints are replaced by violetish-brown. Two other $\varphi\varphi$ from Goodenough I. and 2 from New Guinea. Of these 1 $\varphi$ each corresponds with the lighter yellow typical form, the other with the dark red-brown form; in both couples the edge of the basal spot, the prepapillary streak, the distal edge of the central line in the hindwing and the anal margin are intensely powdered and spotted with white scales. — The $\delta$ (= erminea Warr.) shows the forewing dull dark brown with still darker transverse striae; basal area flesh-coloured ochreous, speckled with small grey and silvery scales, edged with a brown dark line or a shadow from the costal margin at its first third; from $\frac{1}{4}$ of the inner margin an indistinct dark line runs straight and oblique to the apex, most acutely angled on vein 6 and bent back to a brown streak at $\frac{3}{4}$ of the costal margin; excepting these two brown streaks, the costa is throughout light; marginal area considerably lighter with transverse dingy spots; on the cross-vein 2 silver grey dots. Hindwing unicoloured brown with a curved deeper brown postcellular band; across the wings few small silvery scales are scattered. Under surface of forewing dull red, speckled with blackish, and towards the margin suffused with blackish; distal line traceable; hindwing beneath bright red, along the costal and distal margins spotted black. Face, vertex, palpi, legs, and abdomen beneath of a glaring red; shoulders almost white; thorax grey; abdominal dorsum like hindwing. Type of erminea from St. Aignan; also obtained from the Key Is., Salomons, New Guinea, and Queensland. — rubicunda Warr. (50 e) is a form of the $\delta$ from the Salomons, in which the costa of the forewing is filled with brown between the lines; the two lines themselves are very strongly marked, and the hindwing beneath shows a brighter red. — In hepatica subsp. nov. (50 f), from New Guinea, the $\delta\delta$ are deep violet liver-brown or dark brownish-grey, the costal area between the lines black; they are larger than the usual specimens occurring also in New Guinea and may correspond to the large red-brown form of the $\varphi$. — ab. nigrostigma ab. nov. (50 e. f), finally, differs from typical jaspidaea-$\varphi$ and erminea-$\varphi$ in the hindwing exhibiting a large black spot from which a curved black line at the cell-end proceeds. Of this form there are 4 $\delta\delta$ and 2 $\varphi\varphi$ in the Tring Museum from New Guinea.

**O. subvinosa** Warr. (50 f). Forewing light yellow; inner line badly marked, very strongly excurred from $\frac{1}{4}$ of the costal margin to $\frac{1}{2}$ of the inner margin, almost touching the 2 white dots of the cross-vein; outer line deep brown, from a dark costal spot straight to the centre of the inner margin, on vein 6 united with a short.

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curved brown marks from the costal margin; the space between the two lines is of a deep chestnut-brown; the yellow basal and marginal areas are speckled in a brownish grey; at the anal angle a dull reddish-brown; fringes red-brown with lustrous tips; at the apex a silvery white spot. Hindwing with a reddish antemedian band which is proximally bordered by a thick, straight, red-brown line, its distal border being irregularly undulate below the apex a grey cloud; between the veins in the distal area 2 or 3 rows of small dark spots. Forewing beneath of a deep wine-coloured brown, except along the proximal margin; costal-marginal stripe rosily-red, the margin at the base yellow. Along the distal line from the apex to vein 3 mother-of-pearl shading. Hindwing of a bright yellow, the-basal half, except along the proximal margin, claret-coloured; a red apical spot. Face, palpi, chest, and fringes on the legs of a bright red; shoulders whitish. Mount Etna in Dutch New Guinea; also from the Upper Aroa River, Biagi on the Mambaré, on the Upper Setekwa River and Mount Goliath. — In ab. griseata ab. nov. (50 f) of which I only saw 2, the red scaling has turned dark olive-grey. griseata. In the Tring Museum there are 2 2 from the upper Setekwa and 1 2 from the Upper Area. — Another aberration, ab. olivata ab. nov. (50 f) has the whole forewing and the discal and marginal band of the hindwing suffused with deep olive-brown or dark brown, the basal area on both wings shows traces of the yellow ground-colour; the distal line is deep yellowish-red, distally bordered with yellow; the costal margin of the forewing is yellow as far as the proximal line, then of a bright red or yellowish-brown; the costal-marginal area of the hindwing is broad flesh-coloured pink, the marginal band which otherwise extends to the anal angle, but in one case terminates right before vein 5, exhibits the proximal edge on the veins regularly notched by the light yellow ground-colour. Thorax and patagia of a deep olive-grey, the shoulders remain whitish. 4 2 from the Upper Setekwa River. Type in the Tring Museum. This may be a distinct species.

O. amblyptila sp. nov. (50 f, g). 2 forewing brownish-red; a diffuse triangular shade of yellowish-red at the proximal margin before the border; proximal line brown, above and below the median like in subvinosa distally angled; basal area somewhat lighter; at the middle and the lower end of the transverse vein 2 white dots; the distal line is deep orange-brown, from the darkened apex straight to the middle of the proximal margin; fringes dark brown. Hindwing yellow, the antemedian band like in subvinosa, and the marginal band from the apex to vein 5 brownish reddish-yellow; basal area watered with red; on the transverse vein 2 white dots. 2 brownish flesh-coloured, costal margin pink behind the proximal line which is for a short distance brown; the oblique line is brownish-pink, right above the middle indented; fringes pinkish brown. In the hindwing the brownish-red areas of the ip are brown flesh-coloured, the terminal band extends into the anal angle. Beneath the forewing in the 2 is brownish-yellow, the hindwing yellow, in the basal half and the apical band bright yellowish-red; in the 2 all the colours are bright yellowish-red, the discal line in the forewing broad black; head, chest, legs and ventrum bright scarlet, vertex and shoulders yellowish, thorax and dorsum of abdomen like the wings. 1 2 from the Upper Setekwa and 1 2 near the Octakwa (Snow Mountains) in Dutch New Guinea, collected by A. S. Meek in September 1910.

O. mollita sp. nov. (50 g). Forewing dull light yellow, in some places tinted grey and red, and with dark grey and brown black streaks. Basal area lighter, particularly before the proximal line; the proximal line which is followed at the costal margin by a dark, curved shade, projects above the middle, below it is bent inwards; the distal line is oblique and almost straight yellowish-red-brown, distally bordered with yellowish, extending into the apex and on vein 7 connected with a bent streak from the costal margin; fringes dark brown; on the discocellular 2 small white dots. In the hindwing the base, median band and marginal band are red, the yellow space tinted grey and red, in the 2 it leaves free more a yellow, subterminal zigzag line; Under surface yellow, traversed by rows of small red-brown spots; in the 2 the forewing is almost entirely suffused with reddish-brown, in the 2 only slightly; the distal line on both wings clearly marked. Head, chest, forelegs and ventrum bright scarlet; thorax and abdomen like the wings; shoulders yellowish. 1 2 from the Upper Setekwa (Snow Mountains) in Dutch New Guinea, taken by A. S. Meek in September 1910. — A form of the 2, castaneata subsp. nov. (50 g) shows all the dark markings above and beneath deep chestnut-brown; it originates from Mt. Goliath; one specimen is besides in the basal area of the forewing and in the marginal band of both wings spotted black: nigritacta ab. nov. (50 g).

O. perfida sp. nov. (50 g). Forewing yellow, in the discal area and along the margin suffused with a light flesh-colour; the proximal line is followed from the costal direction by black shading which reaches to the median and encloses 2 white dots on the transverse vein, basal area dusted with small black scales and speckled with spots of such scales; similar black decoration in the lower half of the marginal area; the distal line is distally yellow, slightly outwards concave from right behind the middle of the proximal margin into the apex where it recedes a little at the costa. Hindwing yellow with few dark small dots; before the middle a band proximally bordered by a flesh-coloured line, distally badly defined, and the apical band flesh-coloured; towards the anal angle some black blotches. Forewing beneath bright red with some dark speckling in the cell, and traces of the distal line; proximal margin whitish. Hindwing beneath yellow, costal margin, a discal band, and the marginal band red. Head, legs, chest, and sides of abdomen with the anal tuft bright red, patagia and abdomen yellow; shoulders whitish, thorax reddish; basal joint of abdomen above with a black transverse stripe. The type, a 2 from near the Setekwa River (Snow Mountains) in Dutch New Guinea, collected by A. S. Meek October to December. A second 2, more greyish flesh-coloured, from the Upper Setekwa; a third from the same habitat is much greyer and without black spots at the base or margin of the wings; it may be distinguished as ab. semiornata ab. nov. (50 g). But whether the two following specimens are aberrations as semiornata.
which I mention them here, or separable species, the future must show. They agree with the 3 typical specimens in exhibiting the costal margin very much flawed at two thirds, like in the Genera Canucha and Campylopteryx into which they might be inserted. But the characteristic marking so exactly agrees with that of the preceding species that I range them here for the present. The first, ab. cervina ab. nov. (50 g) is quite fawn-coloured with scattered dark dots, both lines extinct; the proximal line, at the costal margin, is followed by a dull dark shade. Hindwing with a flesh-coloured ochreous costal-marginal area; near the base a light line and at the margin some small dark spots. Beneath both wings deep carmine; the distal line of the forewing is black; along the submedian space on the forewing and along the costa of the hindwing some black little strokes. Head, legs, chest and ventrum bright red; thorax and dorsum of abdomen coloured like the wings. 1 ♂ from the neighbourhood of the Octakwa River. — The second specimen, ab. variegata ab. nov. (50 h) is in the discal area of the forewing and the whole hindwing deep red-brown. The basal area of the forewing is lighter, brownish-ochreous marked with a dark streak, and the costalpical area is similarly streaked; the marginal area behind the distal line is greenish-grey, marbled darker; the distal area with red-brown longitudinal spots between the veins. Hindwing with a deep pinkish flesh-coloured costal-marginal area; the proximal and distal lines are light yellow. Subterminal line dentate, flesh-coloured, before it black shading; fringes of both wings blackish-brown. Under surface as in cervina. Head, legs, chest, and ventrum bright red; shoulders whitish, thorax and patagia olive-brown; dorsum of abdomen red-brown, its base with a brown knob. 1 ♂ from the Octakwa District. Thus the typical specimen as well as the two aberrations have been captured at the same habitat.

O. sublustris sp. nov. (50 h). Forewing olive-fawn coloured with a slight red shade; the interstices are speckled dark; costal margin narrow red; no proximal line, except traces exhibited by a small dark oblique streak at the costal margin. At each end of the transverse vein a white dot; distal line red or brown, distally bordered with a light yellow; the line close before the apex angular and bent back towards the costa where there is sometimes a dark spot. On the hindwing the dark line is extinct near the base, except in the brown-lined specimens. Under surface dull dark red with blackish spots; the distal line and the lower half of the forewing blackish except below the submedian fold; upper half of the distal line with a broad, lustrous streak; fringes of hindwings bright orange-red. Head and legs bright red; thorax and dorsum of abdomen like the wings. Some specimens are darker than the type, one is much redder. — A single specimen, ab. nigristriata ab. nov. (50 h) has the black streaks particularly well developed; the basal area of the forewing is full of small black spots forming curved lines, those at the anal angle of both wings are formed by spots; costal-marginal spots of forewing blacker and larger; discal area browner. The type as well as the aberration from the Octakwa River, the darker brown specimens from the Upper Setekwa River, the redder form from the Biagi, Mambare River, New Guinea. Smaller than cervina Warr. (50 h); all the specimens are ♂♂.

O. cervina Warr. (50 h). Forewing fawn-coloured. Colouring with a distinct olive tinge and short dark transverse dashes. No distinct proximal line; the distal line is reddish-orange, slightly curved from the apex to the middle of the proximal margin; apex filled up with small black scales; fringes dark brown; white dots on the middle and at the ends of the angular transverse vein. Hindwing with the orange line at ⅓; costal-marginal area flesh-coloured, the rest like the foregoing beneath a bright deep red with rows of dark spots in the interspaces, and the distal lines thick and black; face, chest, and forelegs bright scarlet; vertex brown. Thorax like the forewings. Shoulders light grey; dorsum of abdomen olive, tinted red; ventrum and legs scarlet. The ♂ is above redder, beneath less red. Biagi (Mambare River, British New Guinea). This species varies likewise. In 2 ♂♂ from the Upper Setekwa, 3 ♂♂ from the Ninay Valley, 2 ♂♂ from the Octakwa, and 1 ♂ from Mt. Goliath the ground-colour varies from olive-fawn, olive-green to olive-brown and olive-red-brown; the distal line from broad to narrow brown, and in some cases only its light yellow distal half is to be seen; the apex filled up with black, as described in the type, is rare. — 3 other forms of the ♂ must be separated. In purpurissa ab. nov. (50 h) from the Upper Setekwa the whole upper surface of both wings is violettesh slate-coloured, the distal line broadly edged with dark brown, with a whitish line, crossing the hindwing at ⅔; the costal margin of the hindwing is deep flesh-coloured; thorax and abdomen coloured like the wings. — ab. rubicunda ab. nov. is deep red-brown, all the lines and markings hidden, costa of forewing behind the middle pink; 2 ♂♂ from Mt. Goliath, both somewhat oily. — ab. rufula ab. nov. (50 h) is light reddish fawn-coloured, the lines fine. — Another ♂-form is worth being mentioned; ab. rufibrunnea ab. nov. (50 h). Much redder than the type and more streaked; basal area traversed by 5 or 6 bent lines of confluent dashes; the distal line thick and diffuse, deep brown, distally edged by a flesh-coloured line. The area behind the middle is filled up with brown between the proximal line and distal line. In the hindwing the brown line forms the proximal border of a band the distal border of which is dentate in the middle, like in the preceding species; this ♂ originates from the Octakwa River.

O. dissimilis sp. nov. (50 i). ♀. Forewing light olive-grey with a yellowish shade, covered with small, tenuous, lilac scales almost forming a lustrous line below the red costal margin; no trace of the proximal line, distal line double, filled up with dark violetish-brown and lustrous small scales, extending straight from the proximal margin to the costal margin close before the apex which is filled up with black. The whole
Owing to the differences between and taken at the same place and time with dissimilis.

reddish, vertex reddish-yellow, thorax grey, patagia flesh-coloured grey; metathorax blackish-brown; abdominal costal margin purer; a diffuse spot at the base, leaving free a yellow boundary before the black proximal line; it seems to be impossible that these are the which are yellow beneath.

9 f continua Warr.

distal line in the shape exactly like in dissimilis; the apex hued with light brown. Under surface like in dissimilis; a small square spot of blackish or white small scales; the area from the base to the distal line spread with

at the costal margin; transverse vein with a fine silvery angular streak or small crescent in the centre and at

distal line finely tinged brown and flesh-coloured, extending like in the 9 of dissimilis, and pushed black at the costal margin; transverse vein with a fine silvery angular streak or small crescent in the centre and at the lower end, followed by a slightly darker spot. On vein 1, midway between the distal line and anal angle, a small square spot of blackish or white small scales; the area from the base to the distal line spread with small lustrous scales; marginal area of a deeper yellow. Hindwing at 1/4 with a flesh-coloured line, the distal line in the shape exactly like in dissimilis; the distal one yellowish or flesh-coloured, in the shape exactly like in the 9. Under surface like in the 9, but much more yellow. Thorax, patagia and abdomen coloured like the wings. The sexes also differ by the contours of the wings. The 9 has the apex obtusely extended, the margin below indented and slightly flawed on vein 3; the 9 shows almost a square apex, the margin almost vertical as far as vein 3, then obliquely inwards. Beside these differences, however, the sexes exactly agree on the under surface of both wings as well as in the course of the distal line on the hindwing.

O. aurata sp. nov. (50 i). Forewing deep yellow, streaked light brown, without a distinct proximal aurata, line; distal line finely tinged brown and flesh-coloured, extending like in the 9 of dissimilis, and pushed black at the costal margin; transverse vein with a fine silvery angular streak or small crescent in the centre and at the lower end, followed by a slightly darker spot. On vein 1, midway between the distal line and anal angle, a small square spot of blackish or white small scales; the area from the base to the distal line spread with small lustrous scales; marginal area of a deeper yellow. Hindwing at 1/4 with a flesh-coloured line, the distal line in the shape exactly like in dissimilis; the distal one yellowish or flesh-coloured, in the shape exactly like in the 9. Under surface like in dissimilis, but yellow without any flesh-colour. Head, thorax and abdomen yellowish, like the wings. 2 9 taken at the same place and time with dissimilis. Owing to the differences between 9 and 9 dissimilis, it seems to be impossible that these are the 9 of continua Warr. which are yellow beneath.

O. ustimacula sp. nov. (50 i). The 9 with dull yellow forewings spotted and speckled with black; ustimacula, costal margin purer; a diffuse spot at the base, leaving free a yellow boundary before the black proximal line; in and below the cell some smaller spots; on the transverse vein an angular, silvery scaled line; distal line of variable thickness, blackish, broadly bordered with yellow, before the apex bent towards the costal margin; marginal area below with diffuse, irregular, black spots, and quadrangular black marginal spots below the apex. Hindwing with a yellow basal area and 2 black lines. At 1/4 a dark line and a distal one shaped as in dissimilis; the median space between them filled up with black spots between the veins; marginal area with black spots between the veins, those at the apex being larger, and a large blackish spot at the anal angle. Under surface similar, the whole black markings reduced; the distal black line is twice broken. Face, palpi and legs reddish, vertex reddish-yellow, thorax grey, patagia flesh-coloured grey; metathorax blackish-brown; abdominal dorsum olive-grey, tinted brown. — Another specimen, ab. fulvata ab. nov. (50 i) is entirely flesh-coloured fulvata, and orange, except the basal area of the hindwing remaining purely pale yellow; the black spots are very much reduced, whereas a third specimen, ab. lilacina ab. nov. (50 i) has the forewing lustrous flesh-coloured as far as lilacina, the distal line, with a large black spot behind the proximal line which is distinct. Base of hindwing pale yellow. All 3 from the Octakwa River, taken at the same time with the two preceding species. Types in the Tring Museum.

O. triumbrata Warr. (50 i). Forewing yellowish-red; costal margin broad lighter, more flesh-coloured, triumbrata, and interspersed with small blackish scales; at 1/4 an oblique, diffuse, deeper yellowish-red shading, and another one at 3/4 of which reaches to the costal margin. A broad, deep yellowish-red marginal band containing an extinct dentate subterminal band, at the anal angle distinct, where it forms two dark spots on the veins 1 and 2. Fringes yellowish-red, on both folds marked blackish-brown, and here in front of them a lilac-grey streak. Discocellular angular, upper half with a silvery line, the lower with a dot at the cell-end. Hindwing yellowish-red, the lines indistinct; transverse vein as in the forewing. Under surface more yellow, the striae
of a bright yellowish-red; yellowish-red clouds at the apex of the hindwing and at the anal angle of both wings; apex of the face, palpi and forelegs of a bright purple; the rest like the wings. Described according to a single ♀ from Penang (Malayan Peninsula).

**rubromarginata** Swh. *rubromarginata* griseotincta. (50 k) is subsp. nov. *nucicolor* nucicolor. Forewing with a lustrous reflection, violetish-grey, in the basal half and along the costa hued olive-brown, with a ditto small anal spot; costal margin lighter, flesh-coloured with very few small dark scales. Transverse vein marked with 3 pearl-white dots; fringes red-brown; hindwing towards the margin of a deeper shade; before the fringes a lustrous line; on the transverse vein 2 small white dots. Under surface of forewing reddish-grey, that of hindwing red; fringes of both wings of a bright flesh-coloured. Face, band of the head, forelegs, and ventrum purple; thorax and abdomen flesh-coloured grey. A single ♀ from Mt. Dulit (Borneo). The apex of the forewing is very much drawn forwards, the margin below it excised and gibbous below the middle.

**obtusa** Wkr. (= vatama Mr.). Head and legs of a bright scarlet; thorax and abdomen yellow. In the ♀ the wings are yellow, uniformly striated brown; forewing with a bright chestnut-brown, bent line from the apex to the centre of the proximal margin, the area within suffused with brownish flesh-coloured, except a spot at the base of the proximal margin, bordered by an indistinct, dark, proximal line; along the centre of the margin a brownish flesh-coloured spot; apex dark with some small white scales at the origin of the line. Hindwing with a flesh-coloured median band of variable width, sometimes with darker margins. Discocellular on both wings with a white line. Fringes of forewing and at the apex of the hindwing flesh-coloured. The ♀ (this sex is apparently rare) more intensely suffused with brown, the line of the forewing less curved. Sikkim, Bhutan, Pendjab, and Assam.

**suffusa** Wkr. Forewing brownish fawn-coloured; the basal area (and less conspicuously also the marginal area) lighter, dull like-grey; the lines as in *extensa*; the darker discal area distally bordered by a light line which extends straightly and obliquely; near the anal angle a dark spot. Hindwing lighter, the dark median band narrow. Described according to a single ♀ from Ceylon; the type is so far apparently unique.

**extensa** Wkr. Head and legs bright orange-red; thorax and abdomen yellowish, tinted rosy. In the ♀ the wings are yellow, suffused with flesh-coloured brown except the basal area of the forewing and the marginal area of the hindwing except its apex, the transverse lines are represented by rows of small dark inter-nerval spots which are clearer in the light areas; on the discocellular 2 small silvery white dots. Forewing with an extinct, crooked, proximal yellow line; and an oblique, distal, straight line of the same colour from the apex to behind the centre of the proximal margin; before the anal angle a dark brown dot. The ♀ is much duller, of a more uni-coloured violetish brown, except the hindwings which are of a pure yellow in Ceylon specimens. It occurs in the Khasia Hills in Assam, and in Sikkim and Bombay in India, in Ceylon and Burmah.

**perfusa.** In ab. *perfusa* ab. nov. the ♀♀ are more reddish, and the hindwing does not exhibit any yellow.

**figlina** Sch. (50 k). Forewing brownish-red, costal-marginal stripe lighter, dotted dark; basal area rather much lighter; proximal line bent, indistinct; distal line fine, lighter, straight to vein 6 where it is angular and pressed down to a brown costal-marginal stripe, on the discocellular a white angular line. Hindwing redder. Under surface reddish with blackish dotting on the forewing, hindwing of a bright pure red; the ♀ has much more yellow in the hindwing. Java. — This seems to be the Javanese form of *extensa* and of its form *perfusa*.

**carnea** Btlr. Forewing light red-brown with dark speckling. Proximal line bent, distal line straight into the apex before which it is bent back; olive-green, above the centre bordered with whitish, somewhat lustrous, small scales; on the transverse vein a dark angular line; marginal area more speckled, in some cases with traces of a dark subterminal line. Hindwing with a curved, cloudy distal line; on either end of the transverse vein a light lustrous spot. Under surface reddish, speckled blackish, traces of the distal line; cellular spot black. Singapore on the Malayan Peninsula. — The Indian form *nucicolor* subsp. nov. (50 k) is nut-brown, the distal line black. 1 ♀ (type) from the Khasia Hills; 1 ♀ from Calcutta (Bengal) is darker; the type in the Tring Museum.

**rubromarginata** Sch. Forewing yellow, at the base and along the margin hued with red, behind an extinct subterminal line; hindwing almost entirely red. Type from Borneo. Forewing apparently angular on vein 3. The position of this species is doubtful.

**olivacea** Dudy. Forewing smoky olive-grey, faintly speckled dark; the median area between the proximal and distal lines darker; the latter on vein 6 angular and bent back to the costal margin, the apical area behind it whitish; at the anal angle a dark dot. 2 lustrous white dots on the transverse vein. Hindwing uni-coloured grey. Sikkim.

**griseotincta** Hmgs. (50 k). Palpi and legs scarlet; head, thorax, abdomen, and wings dull reddish-brown; forewing slightly strewn with silvery grey, particularly along the costa; the proximal and distal lines dark brown, proceeding from dark costal-marginal spots, below the costal angular and nearing each other towards the proximal margin; behind the distal one follows only a whitish spot reticulate in a sombre tint; before the apex a blackish spot represents the origin of the subterminal line which is above the proximal margin.
marked by small black spots on the veins 1, 2 and 3; on the transverse vein a grey angular mark. Hindwing with a dark, bent proximal and distal line, and 2 small spots on the transverse vein. Beneath the forewing and the costal-marginal area of the hindwing are rather bright red; the distal line only traceable on both wings. Sikkim (North India),

O. berenice Sieh. Palpi and legs purple red; body red, tinted grey and scantily striated black. Wings berenice, marked but very little; near the costal margin some small black dots and few here and there on both wings; at the cell-end of the forewing an indistinct, blackish, dingy spot, and a blackish streak upwards from the proximal margin before the anal angle. Under surface light flesh-coloured grey with few dark striae. Singapore (Malayan Peninsula). It differs from the North Indian griseotincta Hmps. (50 k) by the absence of the lines.

O. hepatica Warr. (50 l) is smaller than the two last species, dull grey, without any red tint. At hepatica, and behind the cell-end some brown scaling; of the two lines we only see the beginning at the costal margin, the distal line is followed by a light costal-marginal spot like in griseotincta. Above the anal angle, on veins 1 and 2 a dark spot; on the transverse vein a grey angular mark. Hindwing without markings except 2 white small dots on the transverse vein. Beneath the forewing is dark brownish-grey, the hindwing light grey; thorax and abdomen whitish-grey. Described according to 1 from Sandakan (Borneo).

O. cardinalis Warr. (50 k). Forewing deep brick-red, with some deeper red and towards the margin cardinalis, blackish striae; traces of an oblique, dark distal line being angular behind the cell; an angular, dark grey cellular spot; hindwing red, at each end of the transverse vein a grey small spot. Beneath lighter and duller, the dark striae clear, the cellular spot black. Forelegs of a bright red; face dark brown; thorax reddish; abdomen light grey, above hue red. Described according to a from Penungah (North Borneo). The 4 species mentioned above are undoubtedly closely allied, but I do not see any reason for considering them to be identical. griseotincta Hmps. is from North India; berenice Sieh. from Singapore, hepatica Warr. and cardinalis Warr. both from Borneo, but smaller; hepatica is grey without any red, cardinalis red without any grey.

50. Genus: Psiloreta gen. nov.

Distinguished from Oreta by the antennae exhibiting dense, knobbed pinnae, and not being bi-combed. Type: Ps. sanguinea Mr.

Ps. sanguinea Mr. (51 e). In the forewing the basal 2/3 are purple, then follows a broad yellow band sanguinea, with irregular margins; marginal area dull purple, at the apex and anal angle tinted dark greyish-brown. Hindwing yellow, the basal half and the apex dull purple; both wings speckled with dark striae, the forewing with an angular, white cellular mark; found in Sikkim, Assam, and Yatong (Tibet).

Ps. obliquilinea Hmps. (50 k). Forewing pale yellow; the discal area between the proximal and distal obliquilinea, line, a broad diffuse marginal shade and an irregular cloud at the base of the wing fawn-coloured. Proximal line bent, curved, extending very near to the base; the distal line is dark brown, faintly curved to vein 8 near the apex, where it is angular, and below the costal margin recurved to a brown spot; fringes dark brown, before them an orange-red hue in the upper half of the wing; discocellular with a white angular line in the centre, before it a dot in the cell, and another one at the lower cell-end. Hindwing with 3 fawn-coloured basal spots; before the middle a band with a straight proximal border and a diffuse, twice angled distal border; at the apex to vein 6 a fawn-coloured mark with a round spot below 6, in which there are small black scales. Forewing beneath orange-red with dark striae; distal line blackish, apex yellowish; subapical area lustrous lead-coloured. Hindwing yellow, the basal third and an apical spot orange-red. Face, legs, and ventrum red; tegulae cream-coloured; thorax and abdominal dorsum brown, in the ♀ more yellow. North India: Khasia Hills, Sikkim, and the Pendjab.

Ps. loochooana Sieh. (50 k). Forewing flesh-coloured on a yellow ground with a lustrous reflection, loochooana, particularly along the costa. Basal area yellow, suffused and striated with a dull flesh-colour; proximal line yellow, diffuse; distal line straight yellow, angular on vein 6 before the apex, marked with black and recurved to the costal margin; the space between the lines redder; on the transverse vein a white angular line; marginal area redder, as far as right at the centre of the margin; at the anal angle a black spot. Hindwing dull yellow, base and apical spot flesh-coloured, the yellow part speckled dark. Beneath as above, but the apical spot of the hindwing very bright flesh-coloured. Loochoo Islands, Heinan.

Ps. aequitermen sp. nov. (50 l) is much smaller than obliquilinea Hmps., the fawn-coloured markings aequiter- men, are replaced by pinkish-brown ones; distal line broader of a deep brown, the antemedian band of the hindwing narrower. 3 ♀♀, 2 ♀♂ from the Malayan Peninsula, and 1 ♀ from Sumatra. Type in the Tring Museum. The margin of the forewing is almost straight, not gibbous as in obliquilinea.
Ps. inconspicua **sp. nov.** (501). Forewing olive-grey or olive greyish-brown with darker striae and transverse lines; the lines and markings as in *obliquilinea*, but there is no yellow on any wing. Basal area of both wings and costal-marginal area of hindwing exhibit merely faint yellowish hues. Under surface as in *obliquilinea*, but the hindwing without any yellow. 1 ♀, 1 ♂ from Masuri, types; 1 ♂ without the habitat being stated in Felder's collection. — Type in the Tring Museum.

Ps. brunnea **Wlk.** Forewing fawn-coloured, striated and suffused with dark brown; the area between the proximal line and distal line darker brown; basal area traversed by 3 bent brown lines, the most proximal one defines a brown band. Proximal line dark brown, from the costal margin to the median obliquely bent, then obliquely inwards. A black costal streak above the discocellular which is marked with a white angular mark in the centre and a small white dot at either end. At the proximal line in the cell a white dot; distal line dark olive-brown, with a lighter border, distally concave from behind the centre of the proximal margin almost to the apex before which it bends round short to the costal margin on vein 8. Marginal area olive-brown with a lilac reflection; costal margin yellowish red-brown with a line of flesh-coloured lilac scales. Hindwing redder brown, speckled along the costa. At the centre of the proximal margin an oblong dark blot; marginal area rosy-red; transverse vein with 2 small white apices. Under surface of forewing dull red, along the costa brighter; margin with a violet-grey lustre; distal line and spotting black; hindwing bright orange-red with faintly dark speckling, along the costal margin black. Head, legs and ventrum red; tegulae cream-coloured; patagia, thorax and abdominal dorsum olive-brown; abdominal dorsum behind reddish. As Wileman's description is not very exhaustive, I have described it according to a specimen in the Tring Museum from Arizan (Formosa).

Ps. bicolor **Warr.** (501). Forewing greyish-brown, strewn with dark towards the costal margin in the distal half of the wing; from the proximal margin behind the centre slightly bent a red and a yellow streak extend into the apex. Marginal area with few small dark spots. In the hindwing the costal-marginal area is yellowish, turning orange-red; between the veins subterminal rows of small dark spots. Under surface deep red, the distal lines dull blackish; face, vertex, chest, legs, and sides of abdomen of a bright red; thorax and abdomen brown; shoulders pale lilac-grey. Described according to a single ♀ from Gunong Ljau (Malayan Peninsula).

Ps. pavaca **Mr.** (51 a as *pedacea*). Forewing red-brown; basal, costal-marginal and particularly the distal-marginal areas covered with small silvery white scales; distal line dark, before the apex angular and recurved to the costal margin; proximal line scarcely traceable; transverse vein marked with a fine silvery line which is sometimes angular at the lower end and recurved along the median. Hindwing feebly covered with small silvery scales along the proximal margin; transverse vein with a silvery angular line; the dark line is median. Under surface bright purple, in the interspaces densely speckled dark. Proximal area of hindwing yellowish; head and frons red-brown, vertex red-brown, thorax and abdomen the same, the latter towards the end reddish. Sikkim. — The subspecies *purpurea* **subsp. nov.** (51 a) from the Khasia Hills is smaller, dark violet-brown instead of reddish, the subterminal white line is stronger; on the transverse vein 2 or sometimes 3 dots, but no coherent line or angle; the flesh-coloured costa of the hindwing is more prominent owing to the deeper violet of the rest of the wing; fringes of hindwing violet-brown. Under surface the brightest scarlet without any yellow on the hindwing; below the apex of the forewing a pale grey spot; thorax and dorsum of abdomen black. — *olivacea* **subsp. nov.** (51 a), likewise from the Khasia Hills, of about the same size as typical *pavaca*, is olive-brown, the marginal area with an intense lilac reflection which likewise appears as a subcostal stripe and expands across the wing. Transverse vein of forewing only with small dots; at the anal angle of the forewing a large brown spot. Under surface dull reddish, hindwing faintly yellowish. 1 ♀, 3 ♂♂ in the Tring Museum. — *flavida* **ab. nov.** (51 a) is larger, of a paler red, the yellow of the under surface showing through; otherwise like the typical form. 2 ♀♀, 2 ♂♂ from Sikkim in the Tring Museum.

Ps. violacea **Hmps.** (51 a). Forewing violetish-grey, basal area and a broad line or band bordering on the distal line light cream-coloured with a greenish tint, distal line angular quite in the apical area and recurved to the costal margin. Between the veins some dark subterminal spots and a spot at the anal angle; on the hindwing the median band only appears below the middle; apex with a brown shade; thorax and abdomen whitish; the 3 basal segments above dark grey. Described according to 1 ♀ from the Nilgiris; a very small species.

Ps. albipuncta **Hmps.** (51 a). Forewing reddish with black striae; distal line angular behind the cell, deeper red, with a lighter border. Proximal line quite indistinct, a diffuse reddish median shade; a thick white mark at the cell-end; marginal area at the apex and ground yellowish. On the hindwing a distal line; costal-marginal area light. Head, thorax and abdomen light reddish-brown. Described according to a single ♀ from Trincomali (Ceylon). Expanse 26 mm.

Ps. rotundapex **Hmps.** (51 a as *rotundapex*). Forewing dark brownish-grey, the deepest in the discal area. Marginal area between the veins spotted black; apex black, broadly rounded; the median dark space defined with a straight brown line and traversed by 3 or 4 dark lines. On the hindwing the band is more interrupted; on the transverse veins a white oblique patch. Described according to a single ♀ from the Nilgiris.
Ps. castanea Hmps. (51 a). Forewing reddish brown with dark brown striae; 2 dark lines angled below castanea. The costa proceeds from a median and a distal costal-marginal streak; above the angle of the distal line a dark spot from which a dark brown streak proceeds. On the transverse vein a white oblique streak and a dirty spot behind it; costal margin and fringes tan-coloured. Hindwing lighter, the line central. Described according to a $ from the Nilgiri Hills. Expanses 28 mm.

Ps. patiens Warr. (50 l). $ forewing fawn-coloured grey, more or less completely shaded with red-brown, patiens. with numerous darker transverse striae and small spots, the costal margin and apical area remaining of the ground-colour; 2 black costal spots, one almost in the centre, one at 1/4. From the former a diffuse, dark median shade proceeds, being reverted at the cell-end; from the second a fine, dark, sometimes very indistinct line being angular on vein 6 and then extending obliquely inwards; a short line of small lustrous blue scales denotes the transverse vein; on vein 5 a light brown streak extending to the subterminal line which is here oblique and whitish; at the anal angle a dark spot covered with small flocks of white scales; fringes deep brown with small lustrous scales. Hindwing redder with a dark median band and marginal band; between the veins rows of dark small spots. Costal-marginal area flesh-coloured ochreous. Under surface of both wings of a deep dull red, between the veins coarsely spotted black; the distal black in the forewing well developed, continued across the centre of the hindwing. $ much larger and lighter, greyish-brown, without a reddish tint; the lines more uniform. Under surface light fawn-coloured with a black distal line and spots in the interspaces. The $ is dark violetish-brown, dusted with a lustre, all the small scales showing a lustrous tip; apex irregularly dotted white; the 2 lines very extinct. Along the cellular fold a red streak, thickened behind the transverse vein which is marked by few small white scales. Hindwing browner, but with a dark median line and spotting between the veins. Costal-marginal area flesh-coloured ochreous-yellow. Under surface like in the $ but somewhat more yellow; the $ according to which the original description (Novit. Zool. XIII, p. 62) was supplied belongs to the form sobria described below. 1 $ with an expanses of 30 mm from the Angabunga River, and 2 $ from Biagi; 1 $ of 40 mm from Biagi (Mambare River, New Guinea). — In ab. rufula ab. nov. (501) rufula. The ground-colour is reddish without any violet tinge; the $ with a white dot surrounded by dark reddish on the transverse vein, the subterminal line marked with a wedge-shaped spot below the centre. In the $ the distal line is well marked, thickly bordered with a bright flesh-colour; only the apical area is tinted violet; costal-marginal area of hindwing whitish. 1 $ (type) from Mt. Goliath, 1 $ of 40 mm from Biagi (Mambare River, New Guinea). — ab. sobria ab. nov. (= patiens $ Warr.) (51 b) is olive-grey, with dark striae between the veins, the $ lines dark and distinct; under surface lighter, the lines and striae blacker. 1 $ from the Angabunga River (New Guinea). In ab. ochracea ab. nov. (51 b), finally, the ground-colour is yellowish fawn-coloured on the forewing and greyish flesh-coloured on the hindwing; the lines are distinct and brown, the spotting scanty and fine. Under surface yellowish with a red shade, the distal line conspicuously dark, and some dispersed dark spots. 2 $ from Biagi (Mambare River).

Ps. sulphurata Warr. (51 b). $ forewing pale yellow, base of costal margin reddish; 2 light brown sulphurata, lines from the proximal margin to vein 6 and the subcostal vein, obliquely outwards, parallel to the margin, the distal one above bent outwards; margin violetish-grey, before it bright brown spots on veins 1, 2 and 3; fringes dark brown. Hindwing with a pinkish-yellow proximal and median line not extending beyond the cell; apex violetish-grey. Under surface with diaphanous lines; margin of forewing and apex of hindwing bright red-brown. Face, elyse, and forefoot deep red, thorax and abdomen yellow. — In ab. fasciata Warr. fasciata. (51 b), likewise a $, the space between the two lines is filled up with a dark flesh-colour, on both wings, ending right before the cell; the forewing has a white cellular spot; — in a third form, ab. obsoleta ab. nov. (51 b) obsoleta. the lines are scarcely noticeable; the grey margin is almost extinct above the centre, below bright tan-coloured like the apex of the hindwing. The $ is quite different, flesh-coloured grey with an olive tint, the lines are violet, reaching to the costal margin, the proximal line very much bent, from 1/4 of the costa, the distal line extending into the apex, mutually bordered with yellowish-white; on veins 2 and 3, in the course of the subterminal line, 2 dull spots. In the hindwing the costal-marginal area is yellowish, the lines straight, not extending beyond the cell. In both sexes, but more distinctly in the $, the forewing shows a yellow horizontal streak from one line to the other between the veins 6 and 7, and white dots on the transverse vein. Biagi, Mambare River (British New Guinea).

Ps. pusilla Warr. (51 b). Forewing pale yellow; in the cell a red dot towards the base and a red shade pusilla, before its lower end. From the apex to the proximal margin a fine red postmedian oblique line; 3 somewhat wedge-shaped red-brown spots before the centre of the margin on veins 2, 3, 4; fringes yellow. Hindwing yellow with a proximal and a distal straight red line not being continued beyond the middle. Under surface yellow, the costa at the base and a cloud along the middle of the margin which encloses 3 red-brown spots, are red; face and legs deep red; thorax and abdomen yellowish, shoulders whitish, collar yellowish-red. Described; according to a single $ from Yeppoon in Queensland. — In this species the apex of the forewing is hardly extended, the margin oblique and straight; in the forewing 6 is on a short fork with 7, 8 and 9; also 9 and 10 are forked, 11 being separate; 9 anastomoses with 7 and 8 and forms a very long areola. This will probably prove to be the $ of Ps. fuscimargo Warr. (51 b), likewise from Queensland.
**Ps. fuscimargo** Warr. (♀ = pusilla ♀ Warr.) (51 b). ♀: Forewing yellow, in some places tinted rosy brown; at the cell-end a reddish hue with a dull white dot at the upper end; an indistinct, fine, reddish line from before the apex to behind the centre of the proximal margin; margin tinted red-brown, enclosing 2 black spots on veins 2 and 3, with small grey scales around them. Hindwing with a reddish proximal and distal line, the area between dull reddish; at the apex a reddish hue. Under surface lustrous yellow with a red-brown marginal band of the forewing. Face, chest, and forelegs red, thorax and abdomen yellow. Described according to a single ♀ from Duaringa in North Queensland.

**Ps. roseola** Warr. (51 b). Forewing uni-coloured light flesh-coloured; a darker oblique line from the costal margin right before the apex to ⅔ of the proximal margin; ♀ spot of small whitish, black-speckled scales in the apex, and 2 blackish small lunae bordered with white on veins 2 and 3 before the margin; fringes of the same colour. In the hindwing the proximal and distal lines are darker, parallel, neither of them reaches to the costal margin. Under surface lighter; forewing with a grey cloud along the margin. Face dull deep red; legs pink, thorax and abdomen like the wings, shoulders and antennae whitish. Queensland. 1 ♀.

### 51. Genus: Procampsis gen. nov.

Proboscis and palpi are absent. Frons smooth; antennae thickened and flattened, with adjacent bent teeth. Tibiae very much covered with hairs, costa of forewing flawed before the middle, then straight, parallel to the proximal margin, so that the wings are prolonged and narrowed instead of being triangular. Apex obtusely produced, margin dentate on vein 4, in the ♀ more so, in the ♀ merely gibbous. ♀ and ♀ differ in the exterior and colouring. Type: *P. trogoptera* Warr.

**P. trogoptera** sp. nov. (51 b). ♀: forewing blackish-brown, the fawny ground-colour is only shown along the distal costal-marginal half and on a spot between the two lines, which extends from the upper fold to the lower. Proximal line a thick black shade; distal line black, angular on vein 6, then obliquely inwards; above the cell a diffuse black streak from the proximal line to the distal line. Hindwing black, costal-marginal area ochreous. Under surface uni-coloured pinkish ochreous, towards the base more pink. Face red, forelegs flesh-coloured pink, thorax and the two basal rings of the abdominal dorsum black, abdomen otherwise above light ochreous, sometimes with a slight flesh-coloured tint. ♀ rather bright light brownish fawn-coloured, covered with darker brown striae between the veins; costal-marginal area redder; proximal line interrupted by a darker costal spot, forming a darker red spot from one cell to the other; the triangular space between the folds from the base to the lighter line considerably lighter with small lustrous scales between the striae; distal line brown, on vein 6 distally angular, then oblique and straight proximally; behind the angle a dark dirty spot; fringes deep brown; at the upper cell-end a white spot. Hindwing with a bright flesh-coloured costal-marginal area; a black median line from the cell to the proximal margin; marginal area with few striae; fringes blackish-brown. Under surface dull flesh-coloured, the marginal area tinted blackish. Head, palpi, and forelegs reddish; vertex, thorax, and abdominal dorsum brown like the wings. In both sexes the costal margin of the forewing is geniculate a little before the centre. 2 ♀♀, 1 ♀ in the Tring Museum. The ♀♀ from Mt. Goliath and the Oetakwa River (Dutch New Guinea), the ♀ from the Lower Oetakwa River (A. S. MEER). Expanse of wings: 34 mm. One specimen is also in the collection of the British Museum.

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**Alphabetical List**

with reference to the original descriptions of the forms of the Indo-Australian *Drepanidae*.

*) signifies that the form is also figured at the place cited.

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priacosa Irid. Warr. Seitz, Macrolep. 10, p. 479. *
priacostica Call. Warr. Seitz, Macrolep. 10, p. 471. *
purpurea Psil. Warr. Seitz, Macrolep. 10, p. 486. *
purpurisa Or. Warr. Seitz, Macrolep. 10, p. 482. *
regularis Ditr. Warr. Seitz, Macrolep. 10, p. 453. *
rubahonda Or. Warr. Seitz, Macrolep. 10, p. 482.
rubrifronsata Or. Warr. Seitz, Macrolep. 10, p. 480. *
rufa Thymistada Warr. Seitz, Macrolep. 10, p. 145. *
rufibrunnea Or. Warr. Seitz, Macrolep. 10, p. 482. *
rufieosata Perid. Warr. Seitz, Macrolep. 10, p. 149. *
rufieosata Teld. Warr. Seitz, Macrolep. 10, p. 452. *
rufa Or. Warr. Seitz, Macrolep. 10, p. 182. *
13. Family: Callidulidae.

This rather isolated family which has already been dealt with at large in Vol. II, p. 207, can up to this day not yet be definitely ranged. The behaviour of the imagines is entirely like that of diurnal lepidoptera, so that Cramer who obtained specimens without antennae, ranged them as „Argusjes“ with the Rhopalocera. The names „lycaenoides“ and „erycinoides“ by which single species were called by later authors, make this error excusable. Accordingly, they were later on placed sometimes near the Castniidae, sometimes to the Geometridae. Pagenstecher in his monography on them thought it to be the „simplest way“ to range them near the Agaristidae, which, however, is morphologically only commendable owing to the (very feeble) thickening of the antennal shaft in its distal part. Hampson considers them to be allied to the Dreaeidae, which opinion is undoubtedly the most correct of all, although his view of dealing with both groups as the direct descendants of the Pyralid branch remains hypothetical.

The Callidulidae form a very homogeneous group, if we separate the (palearctic) genus Schistonitra. We have already stated (Vol. II, p. 207) the latter genus to be presumably incorrectly ranged and have joined its figure with the genera Nossa (= Atossa aud.) Psychostrophia and Oberväur (Vol. II, t. 48) to which it seems to belong. But we do not want to pronounce here a definite decision as to its position, the less so since also the arrangement of these latter genera in a group with Uriana, Nyctalemon and Alcidis is not yet a final one.

About 50 forms of the genuine Callidulidae are confined to South Asia and the northernmost parts of Australia, in the boundaries stated in Vol. II, p. 207. Their flying power is considerable, in spite of the delicate structure of these small imagines, and for this reason they are scarcely absent in any larger island of the whole South Asiatic archipelago. Particularly the Moluccas and Philippines are inhabited by a great number of forms, whereas the Continent (India, Indo-China, and North Australia) are less inhabited by them, nor have New Guinea and the Large Sunda Islands yielded as many species as would correspond to the great extent of these islands.

The Callidulidae are rather small lepidoptera of a delicate structure, with a slender body, broad wings, rather stout legs, and generally long palpi which, however, are very easily broken off. The colouring is nearly in all the genera above dark brown with oblique or transverse, more rarely longitudinal orange bands. The under surface is in some genera exactly as above, but often also decorated with fine striae, small spots, or chain-markings.

Head of medium size with large eyes, broad frons and long palpi. Eyes bare, not ciliated. No accessory eyes. Proboscis strong, rather long. Palpi with a small root-like and pad-like middle joint; the last joint is like a nail, of different length. Antennae plain, without bristles, behind the centre generally very slightly thickened. Thorax oval, beneath with rather appressed scales; legs strong, middle tibiae with 1, posterior tibiae with 2 pair of spurs. Abdomen slender, in the ♂ it terminates into a large, almost wing-shaped anal valve. The wings are distinguished by the open discal cell, as the hindwing is always without the transverse vein, whereas on the forewing it is hardly traceable or not at all present.

1. Genus: Herimba Mr.

Of this genus only 1 species is known, of about the size of a Comella laeitica (51 i), distinguished from most of the other Callidulidae by more pointed forewings, smaller hindwings, and by exhibiting not a honey-coloured, but a whitish and interrupted discal band of the forewing. Palpi much shorter than those of the next genus, the antennal shaft in its distal part not noticeably thickened. In the veins it differs from Pteropecta by the absence of the areola in the forewing; the second and third subcostal veins rise close together, right before the upper cell-angle of the forewing. Frenulum long, retinaculum in the ♂ proceeding from the subcostal of the forewing. — In the shape of the head and wings this genus very much resembles certain Dreaeidae, for which reason we have placed it here, but the subcostal system of the forewing is different and lacks the areola being so common in the Dreaeidae.
PTERODECTA; CLEOSIRIS; AGONIS; CALLIDULA. By Dr. A. Seitz.

H. atkinsoni Mr. (57 c). Blackish-brown, with a slight golden reflection; through the forewing a band of white spots interrupted by the median; a minute white punctiform spot before the apical quarter of each wing. From Sikkim and Burmah; apparently not common.


Recognizable by the stunted apex of the forewing. For further particulars comp. Vol. II, p. 207. Of the two palearctic species dealt with there, one also occurs in the Indo-Australian region.

P. anchora Bttr. (51 d). To the figure of the upper surface in Vol. II, t. 22 f, we add here that of the under surface. In the palearctic part of Cashmir and also in the Indian Himalaya. The specimen figured is from Sikkim.


The only species of this genus having formerly been denominated Tetragonus Hbn.-G. which name is older, but has become obsolete, is somewhat larger than the Pterodecta, but it has quite similar hindwings, being angular in the centre of the margin, and the forewing is not gnawed out at the apex but pointed, in the $ sometimes a little ensiform.

C. catamita Hbn.-G. (51 d). Above quite uni-coloured dark brown, or with more or less distinct races of a yellowish, dark dusted, often hardly noticeable oblique band extending from the costa behind the cell of the forewing to the anal angle, but dying away before the submedian fold. Under surface honey-coloured or greyish-yellow, with a white-centred discal dot and greyish-red transverse chains of minute hooks and shades.

major. — ab. major Mr. (51 d) refers to larger specimens being common in North India, but singly met with also in other parts of the range. — ab. fasciata Mr. (51 d) are specimens with a particularly well developed oblique band of the forewing, which are common in Borneo and the Philippines. — From Ceylon and Sikkim across the Nicobars and Andamans through Indo-China to the Philippines, and in the Sunda Islands; mostly common.


Chiefly distinguished from the Cleosiris by the forewing being rounded at the apex, and the absence of the tooth in the centre of the margin on the hindwing. Both wings beneath with a white-pupilled 8-mark in the centre.

A. lycaenoides Fldr. (51 d) above uni-coloured brown, only the cell-end of the forewing somewhat darkened, and the ground-colour around it somewhat lighter yellowish. Under surface orange-yellow with 3 dark dentate lines and a white-pupilled 8 at the cell-end; in the cell of the forewing besides 2 single, white-pupilled dots. Malacca, Sumatra, Borneo, Celebes; I captured the species in Singapore, at the end of January, on an open space surrounded by dense brushwood, where the insects were swarming in numbers.

5. Genus: Callidula Hbn. (Dutunga Hew.).

Forewing with a feebly angular apex, hindwing with a rounded margin sometimes feebly projecting in the centre of it. From the preceding genus it chiefly differs by the very short last palpal joint and by the 1st and 2nd subcostal veins of the forewing running separately, whereas in Agonis the 2nd is forked with the 3rd and 4th. About half a dozen species are known, with a mostly very characteristic under surface, distributed from the Himalaya through Indo-China and across the Malayan Islands to the Philippines.

C. petavia Stoll (51 c). Easily recognizable by the purple colouring beneath only leaving free the broad orange band of the forewing. The $ hindwing shows a black scent-pad. From the Moluccas where the species is common in some places. — minor Mr. is the Malaccan form, much smaller, and the purple colour beneath is replaced by a duller yellowish-red. The orange band of the forewing is mostly narrower. — sakuni Horsf. has beneath a quite honey-yellow ground-colour faintly speckled with black; from the Himalaya, Java and Borneo. — abisara Bttr. is still somewhat smaller than sakuni, darker, the band of the forewing still narrower, more regular, and at its posterior end more rounded; the under surface is more brightly speckled with black, and darker. Malacca. — niasica Pag. (= sumatrensis Pag.) (51 e), from Nias, also has a darker, more reddish-yellow under surface with more abundant dark striae, and the band of the forewing is much broader than in abisara. — luzonica Pag. (= petavia var. Smp.) (51 c) has the band in the $ forewing much narrower and at both its ends somewhat pointed; in the $ the hindwing beneath is very much intermixed with whitish spots; Philippines, Celebes. — batjanensis Pag., from the Island of Batjan, is still larger and more variegated.
than the typical form (which we have figured 51 c from Ceram); the hindwing beneath is deep brown, so that the purple red ground-colour only shows through in dots, only the base of the wing being more intensely reddish-yellow. — celebensis Fig., finally, flying in the Minahassa like luzonica, looks above very much like batjanensis, beneath more like minor; the band of the forewing is broad and of a bright reddish; hindwing with a bluish-white discal spot and a yellowish margin. — The imagines are local, though mostly numerous at their habitats; the ♂♂ briskly fly about in the sunshine and like to settle, with their wings half opened, on grass and dwarf-bamboo; their flight is a little like that of Chrysophanus. When at rest they sit, with their wings closed as in the diurnal lepidoptera, in an attitude similar to that of the Hesperid Korutiaidae zavaites (Vol. IX, t. 170 c) which flies at the same places (as minor) and which they are told to resemble then.

**C. nemoga** Suec. The forewing, like in the preceding, shows a broad, orange discal band from the middle of the costa to the anal angle. But beneath this band is continued as a narrow costal-marginal stripe along the costa towards the base, and at the anal angle of the hindwing there is a small darkened ochraceous spot. New Guinea.

**C. erucinoides** Wkr. (51 f). So called from the resemblance of the colours to those of certain Erycinius erucinoides, (from the sospita-group of the genus Abisara) flying partly at the same places. Above dark brown with a dark yellow oblique band of the forewing, which extends before the apical third close to the anal angle; beneath on the ground being marbled red-brown there are central white punctiform and comma-like spots. In the Himalaya.

**C. attenuata** Mr. (51 f) resembles small specimens of the preceding species, but the oblique band of the attenuata, the forewing in its course is more distant from the anal angle. North India and Formosa; the Sikkim-specimens have a somewhat narrower and shorter oblique band than those from Formosa (= formosana Wil.), but this formosana, marking varies individually a great deal.

**C. jucunda** Fldr. (51 f). Here the band of the forewing is expanded into a large wedge-shaped spot jucunda, extending from the base almost to the centre of the margin of the forewing and being interspersed with black dots which may flow together into stripes. In the ♀ the colouring of this band is lighter, more yellow. The under surface is somewhat like that of similis. Java, Sumatra, Malacca, and Borneo.

**C. similis** Pag. (51 f) is above coloured like a small Agonis lycaenoides (51 d), but beneath very much similis, like the small forms of *C. petavia* (such as niassicus), though lighter yellow with a red discal patch and a white-pupilled central dot. Philippines. It flies in July and October till January.

**C. mindanensis** Pag. (51 f) has a very characteristic upper surface: the wedge-shaped spot like in jucunda from the base almost to the centre of the margin, enclosing a small blackish-brown wedge-shaped spot. Under surface very intensely honey-coloured with a bright white-centred discal dot, red patches, dark striae, and peculiar, lustrous silvery spots in the disc of the hindwing, as well as a large lustrous silvery spot above the proximal margin near the anal angle. Philippines, the figured specimen from Panaon. — As there are only ♀♀ of this species and only ♂♂ of similis, SEMPER considers that these two may be the sexes of one species.

**C. lutensis** Suek. (= lutescens Pag.). Expanse of wings: 28 mm. Upper surface uniformly cinnamon-brown. Under surface pale yellow, at the cell of the forewing 2 silvery white small spots surrounded with a dark red-brown, at the distal end of the cell a silvery white larger reniform spot, before and behind which there is a small roundish spot. All the spots are surrounded with reddish-brown. Hindwing beneath with whitish spots encircled with dark at the proximal cell-end, accompanied by a median row of similar spots through the wing, being situates in a deep dark brown band; across the wing reddish dots are scattered, growing denser from the middle of the said band towards the centre of the margin. Fringes dark brown. Ceram, Ternate. As in spite of a plentiful return from these two islands there are no such specimens before me, the species is apparently rare or very local.

### 6. Genus: Cleis Guér.

This genus being better known by the name of Damias Bsd., of which 24 forms have been described, is by far the most polytypical genus of the whole family. It is easily recognizable by its colouring, as most of the species exhibit on a deep dark brown ground broad bright orange oblique bands in the forewing, distal bands in the hindwing, the extent and shape of which, however, varies a great deal not only in the species and races, but also individually. The palpi, being bent upwards with a rather short last joint, project somewhat beyond the head; the wings of the usual shape exhibit rounded angles and margins, in the forewing the sub-costal veins 2 to 4 are forked. The species seem mostly to occur in great numbers at their habitats.

**C. evander** Stoll (= evandrus Wkr., externa Kirsch) (51 g). The typical specimens of this species evander, lying before me from Ceram and Ambonina have a very bright orange-red band of the forewing, being continued at the costal margin to the base of the wing and being towards the apex stunted or slightly indented. The hindwing exhibits this band above covered with brown scales, but beneath of a bright and pure orange. There occur, however, also specimens with a much broader band of the forewing, exhibiting also on the hindwing above
CLEIS. By Dr. A. Seitz.

...a broad orange band. Such a specimen (unfortunately no habitat stated, but probably from New Guinea) lying before me I have figured and denominate it owing to its quite different exterior: ab. *palatinesis* ob. nov. (51 g). — But there are also specimens without the yellow band of the hindwing on both sides, which were already mentioned by Pagenstecher from Ambon: ab. *postnigra* nom. nov. — Intermediary forms may be without the band above, but distinctly show it beneath. The forewing varies to such an extent that it is difficult to find two quite equal specimens, and Pagenstecher mentions specimens in which this band is pierced by the blackish-brown ground-colour. — In ab. *gilolensis* Pag., described from Halmahera, the orange bands are on both wings more remote from the distal margin, and the band of the hindwing ends obtuse in the centre of the costal margin. — Widely distributed in the Malayan Archipelago, from Celebes, Aru and New Guinea as well as the Key Islands across Waigeu, the Sula Islands, and the Moluccas.

**C. lata** Pag. (51 g) is very much like the preceding species, but the orange bands are almost equally broad on all the 4 wings, ending obtuse on both sides, and the band of the forewing does not extend along the costal margin towards the base. Under surface like the upper, the orange slightly darker. Batjan, New Guinea, and Bismarck Archipelago.

**posticalis.**

**C. posticalis** Guér. (= melaxantha Bsd.) (51 g as *postica*) is easily recognizable by the orange band of the forewing being reduced to a spot at the anal angle. The species varies in a similar way as the other species of *Cleis*; the orange band of the hindwing may be entirely absent (= ab. *aurantiaca* Pag.), the spot of the forewing may be of the shape of a triangle (= ab. *anan* Pag.) or be otherwise different. Beneath the spot of the forewing may extend as a straight band to the costal margin, but it may also be of the shape and size as above; then sometimes a yellow cord from the base of the forewing may extend along the costa to the cell-end, where it breaks off. — These aberrations, however, are not bound to geographical boundaries, and the names having at first been established as species were later on cancelled again as such by their author. Aru and Key Islands, Celebes, Bismarck Archipelago.

**aurantiaca.**

**C. arantica** Pag. (51 g) is very much like the preceding species, but the orange bands are almost equally broad on all the 4 wings, ending obtuse on both sides, and the band of the forewing does not extend along the costal margin towards the base. Under surface like the upper, the orange slightly darker. Batjan, New Guinea, and Bismarck Archipelago.

**anan.**

**C. atata** Swh. On the forewing the yellow anal-angular spot extends to the costal margin and the costal stripe ends in the centre of the costal margin in a yellow spot below the costa. The yellow band of the hindwing is so broad that it almost covers half the wing. As the species flies in the Key Islands thus together with *posticalis*, it is, owing to the extraordinary variability of this species, not impossible that it is a form of that species.

**aurora.**

**C. aureola** Swh. from Obi is easily separable from *atata* by the forewing beneath showing a rather broad discal band, so that the colouring approximates some specimens of *evander*.

**lunigera.**

**C. lunigera** Btlr. (51 g). Forewing above with a large, obtusely triangular orange spot almost occupying the whole distal half of the wing; the hindwing above mostly with faint traces of a band only noticeable in the anal part, but beneath with a distinct distal band. Bismarck Archipelago.

**arctica.**

**C. arctica** Btlr. (= angustifascia Röb.) (51 h) from the Key Islands where it is very common, is at once to be recognized by the forewing being much narrower towards the costa. The hindwing shows above and beneath a bright orange band.

**dichroa.**

**C. dichroa** Bsd. (51 h). According to the short description (fitting several species), the specimen of this species has an orange band on both wings, and *romana* having been formerly described by Pagenstecher is placed hereto by himself. The transverse band of the forewing has parallel margins and extends from the centre of the costal margin to behind the 2nd median vein and the proximal and distal edge of which is irregularly dentate, leaving free an apical third. Band of hindwing broad, its proximal edge somewhat indented; it extends from the anal angle to the costal margin, where it ends pointed. Ceram, Ternate, Halmahera, Aru Islands. — This is probably merely an aberration, as the characteristic mark — dentate edges of the bands — occurs in aberrations of very many species of *Cleis*. Amongst the numerous material of *Cleis* lying before me from Ternate, Aru, and Ceram, there is not one specimen exactly agreeing with Butler's description.
C. plagalis Flbr. (51 h) is easily recognizable by the very dark orange bands being expanded into plagalis, enormous spots. That of the forewing follows from the anal angle for a short distance the short distance the convex proximal margin. Ara Islands. — sobah Pag., from the Moluccas, New Guinea, Buol and Waigeu is probably only a form sobah, of this species with somewhat narrower bands, which, however, is not sharply definable according to the author himself, since the shape of the bands is not constant. Here the colouring of the bands is mostly more orange-red than orange-yellow.

C. plioxantha Kirsch. (51 h), from the Island of Mysol (Moluccas), has the band of the forewing above plioxantha, oviform, whilst beneath it forms a large triangle with its base on the proximal margin. Hindwing above quite yellow except narrow dark margins.

C. erycinoiides Flbr. (51 h). Band of forewing club-shaped broad from the centre of the distal margin to the anal angle, where it ends pointed; its proximal edge is concave, the distal edge extending near the margin of the wing, parallel to it. Band of hindwing narrow, parallel to the margin. Beneath the bands are brick-red. Ternate, Halmahera, Batjan.

C. nigrescens Bltr. Forewing with a broad, oval, orange-red oblique spot reaching neither to the nigrescens, costal nor proximal margins. Hindwing above before the discal cell with a reddish spot being proximally faded. Forewing beneath dark chocolate-brown transversely striated in a light red, with a very bright yellow spot shaped like that of the upper surface, distally bordered with black. Hindwing beneath just as brown with a semi-circular, proximally faded median stripe, likewise bordered with black. Hindwing in the 2 above unspotted, beneath with a complete row of silvery blue spots. Expanse of wings: 33 mm. Salomons.

C. nenia Drc. (51 h) resembles the preceding, but the hindwing above is uni-coloured blackish-brown, nenia, beneath only with a silvery grey marginal band. Salomons.

C. scotti Me L. The spot of the forewing is here split into two, the upper one of which is near the scotti, apex, the lower at the proximal margin. Band of hindwing broad. Beneath the wings are lighter, posteriorly with 3 undulate brown stripes. Cape York. (This species is not before me; perhaps a Cleis ?).

C. versicolor Flbr. (51 h). Upper surface with large orange discal spots, on the forewing more oval, versicolor, on the hindwing rounder. Under surface honey-coloured with a brown marginal band bordered with black; forewing with a black oblique band enclosing small white dots. New Guinea, Salavatti.

C. hypoleuca Bltr. (51 i). Upper surface entirely like that of versicolor, but beneath bright yellow hypoleuca, with a brick-red marginal band and without the black oblique band of the forewing. Salomons.

C. biplagiata Bltr. (= biplagata Pag.). Like hypoleuca (51 i), but the orange spot on the forewing biplagiata, above pear-shaped. Beneath in the cell of the forewing instead of the fine dots of hypoleuca larger black spots, similar ones also at the cell-end of all the wings; the red marginal band of the hindwing beneath scantily strewn with black. Very much like the preceding. Salomons.

C. miokensis Pag. (51 i). Forewing yellow with a broad dark distal margin, and in the 2 with a miokensis, yellowish apical diffuse patch; under surface similar, the dark marginal band tinted red with a row of small whitish marginal spots. Bismarek Archipelago.


This genus being better known by the (obsolete) name of Tyndaris Flbr., presumably only contains 1 species; it is easily recognizable by the scent-organ of the exhibiting a vesicular elevation at the convex proximal margin of the forewing. The cavity of this vesicle is on the under surface covered with hairs, and corresponding to it on the hindwing above a reflecting lustrous surface along the costa.

C. laetifica Flbr. (= erycinata Whr.) (51 i) is in the 2 on both surfaces honey-coloured, towards laetifica, the margin darker; at the apex of the forewing a blackish burn. Beneath the hindwing exhibits 3 lustrous silvery transverse chains edged with orange, the forewing shows some similar small spots. New Guinea, Ara Islands, Salawatti, Mysol, Waigeu, Bismarek Archipelago, and Key Islands. — In ab. astigamata ab. nov. (51 i) astignama, which I figure from German New Guinea, the 2 is without the black apical spot of the forewing, and in ab. masculina ab. nov. (51 i) from the same habitat this spot is also present in the 2 which, however, is without masculina, the dark margin of the hindwing. — Not rare.

Alphabetical List

with reference to the original descriptions of the forms of the Indo-Australian Callidulidae.

*) signifies that the form is also figured at the place cited.

[Partial listing of species with references]

astignama Com. Seitz, Macrolep. 16, p. 495. *

atkinsoni Her. Mr. Lepid. Atkins. p. 21. *
attenuata Call. Mr. Lepid. Atkins. p. 21.
aurantia Cleis Pag. Iris 1, p. 43. *
Alphabetical List of the Indio-Australian Callidulidae.

ercyinoides Cleis Fldr. Reise Novara Lep. (2) 2. *
evander Cleis Stoll. Cran. Papil. Exot. 4, p. 83. *
formosana Call. Will., Entomologist 43, p. 290.
laetifica Com. Fldr. Reise Novara Lep. (2) 2. *
luteola Cleis Fldr. Reise Novara Lep. 2 (2). *
masculina Com. Seitz, Macrolep. 10, p. 495. *
masculina Com. Seitz, Macrolep. 10, p. 495. *
minor Call. Mr. Lepid. Atkins, p. 21. *
palathineus Cleis Seitz, Macrolep. 10, p. 494. *
plagolis Cleis Fldr. Reise Novara Lep. (2) 2. *
plioxanthera Cleis Kirsch Mitteil. Mus. Dresden, 1, p. 130. *
pseudalis Cleis Giesel. Voyage Coqu. Insect. *
pseudigra Cleis Seitz, Macrolep. 10, p. 491. *
scolii Cleis Mc Leay, Trans. Ent. Soc. N. S. Wales 1, p. LiV.
versicolor Cleis Fldr. Reise Novara Lep. (2) 2. *

On reviewing vast numbers of Saturniidae we notice that the boundaries which one has tried to draw between the different genera and even groups of genera, disappear. The falcate shape of the wings does not only vary in the sexes, so that the ♀♂ almost invariably exhibit more projecting apices of the forewings than the ♀♂ belonging to them, but it also varies in the races and even individually. The same is the case with the remarkable occurrence of tails on the hindwings, which we discover to be of a monstrous length in the ♀♂ of Actias (Argema), but much shorter in the ♀♀, and in certain forms (altius, artemis) moulded into a tooth-like form. In the Coscinocera the ♀♀ are without the long ensiform tails, whereas species of the genus Attacus already show an enormous prolongation and even distortion of the hindwings, thus the two genera which are similar in structure approach each other in the separating moments. By domestication and transplantation, forms exhibiting the abdominal dorsum set with flocks arranged in rows evolved into forms with streaked, and even unicoloured, unmarked abdomina, so that not even these distinctions can be used for the separation of groups or even of species.

The Saturniidae undoubtedly represent a phyletically old group. There is hardly any other group to be found among the Heterocera adhering to certain characteristic marks with such unfailing persistency as the Saturniidae adhere to the centre spot which, mostly modified into an eyespot, lies between an antemedian and a postmedian transverse stripe. From the great consistency exhibited in this mark, even in different genera, which are already beginning to deviate structurally, we may assume that external motives could not bring about a great variety of shapes among the Saturniidae. Actias dubernardi, Platysamia cecropia, Actias tau, or Saturnia pyri wear their own unborrowed clothes, and it seems to us that with the Saturniidae lack even those cases which are not uncommon in other old families, in which single formations of the apices exceed beyond the average of those of the other members of the family and have been transformed into more variable shapes. In the Brahmaea which are closely allied to the Saturniid family, we even notice the strict adhesion to such a complicated and most curious pointing that the members of a species hardly differ from one another, and those of a genus but very slightly, although in most of the individual specimens the marking on the left and right sides differs in detail. Thus adhesion to an entirely original colouring is characteristic of the Saturniidae and their nearest allies.

Our assumption of the great phyletical age of the Saturniidae is also in accord with the peculiarities of their range. Even the species themselves are mostly very widely distributed, but still more so the genera, resp. their colourings. The resemblance of the purely Asiatic Actias selene to the purely American A. luna is just as remarkable as the recurrence of the image of Attacus atlas in the exclusively American Rothschildia of which the larvae as also the structure exhibit a much greater disparity than might be expected from their great habitual resemblance. Neither mimicry nor adaptation can have effected this external likeness, but probably only a highly pronounced impulse of development in a very positive direction.

As in most of the old lepidopteran families, adaptation to surroundings is highly developed in very many cases. In fact, it is rather difficult to discover an Actias sitting amongst the leaves of bushes. Only freshly hatched specimens resting on trunks or posts in order to stretch their wings are more easily found. In a valley of Ceylon, where I daily collected without ever seeing any Actias, one day, after the leaves of the small trees had been singed black by a plantation-fire, I was surprised to see the great number of Actias selene which sat in the burnt foliage, now visible from afar as so many green spots their protective colour rendered ineffective. The resemblance of some Atheraea to a dry leaf is hardly less striking than that of the butterfly Kallima which is everywhere quoted as the best example of protective similarity. The imitation of the middle rib of the leaf by the white stripe extending from the left apex to the right in the resting lepidopteron becomes more plastically pronounced by unilateral shading, and in Criocola we even see at that place, where the fallen leaves usually rust
through owing to the moisture accumulated in their curvatures, imitative holes, i.e. hyaline spots replacing the customary eyespots.

This adaptation, however, as in all old families, is only expressed by copying equally old formations, such as leaves or bark; nowhere are traces of mimicry to be seen. Neither the larvae nor the imagines of the *Saturniidae* imitate any other animal. Considering their shape and size, the imitation of snakes' heads by the *Saturniid* larvae would not have been in any way more difficult than it was for the *Sphingid* larvae, but no such example is to hand.

Nor do the *Saturniidae* represent good models, for it seems quite certain that all of them are eatable. Both larvae and imagines are devoured by birds if they are discovered and are not so large that the attackers are afraid of them. In the Indian Tussah silk-nurseries, where the larvae of *Antheraea* are bred in the open air, guards must keep off the birds which menace the larvae, by means of rattles, arrows, and long rods. The *Saturniid* larvae are also greedily attacked by large insects, such as hornets and other beetles of prey, and at Darmstadt, where, in the middle of the last century, experiments were arranged for the wholesale production of Tussah silk, the breeding was frustrated by wasps attacking the larvae of *Antheraea*.

Like all the insect species which are very much exposed to the persecution by other animals, *Saturniidae* are protected by other, external means which afford them a certain safety. We have already mentioned protection by adaptation. A further protection is their size which is often very considerable. From a verandah, where I let fly newly emerged *Platysamia cecropia* and *Samia cynthia*, I could observe that sparrows were terrified by a *cecropia* settling down near their nest on the wall of the house. Quite a number of the sparrows flew in front of the lepidopteron, opening their beaks with cries and flapping their wings, without daring to approach the insect. *S. cynthia* darting about were not molested by any *Muscicapa* which otherwise pursues every Noctuid or Notodontid.

Moreover, the flight of the *Saturniidae* is rather swift and extremely restless. An *Agilia* on being pursued frequently doubles, and *Eudia poronnia* mostly only flies in a straight line when it is not disturbed. The unwieldy *P. cecropia* being prevented by their structure from such flying-tricks fly at night, even those species the *S. cynthia* of which swarm in the daytime in the sunshine, such as *Agilia tan*.

Of a much greater value, however, is the protection bestowed by Nature on some larvae. Certain larvae of this family cannot be caught hold of without the hand sustaining very great burning pain. In fact, the hand touching some larvae from the American genus *Automeris* (*Hypercldria*) feels as if it had been put into a nettle-bush, and the pain lasts for a long time. The ramulous thorns by which the insect is protected on all sides contain regular nettle-threads, the poisonous sap of which is stored up in tube-like expansions beneath the dorsal skin and is secreted by specially adapted glands. F. HELM proved the burning effect of the *Saturniidae* upon other assailants even in those cases, where the human skin is not effected. Should such hairs, as for instance those of the larvae of *Eudia poronnia*, be pressed at the base, they immediately break off, and at the broken place we notice a drop of liquid, the acid character of which could be ascertained by litmus paper.

Most of the *Saturniid* larvae live on trees and prefer wood-plants. The colour of the adult larvae is adapted to that of leaves, but that of the young larvae is frequently black, and in the species protected by burning effect the colour itself seems to be of no great consequence, since some species occur in the most varied colours. Thus for instance in the strongly burning African *Eudia smilia* larvae have been observed with pink and blue spots, as also with black and red rings, and greenish-yellow larvae occur speckled with black, so that the colouring of the insect cannot be of any vital biological importance.

The pupae are generally oviform, but by no means uniform. In many species (*Attacus, Actias* etc.) they appear to be shortened by the abdominal rings being shoved one into another; in *Eudia* they are flattened. In the South-African *Gynanisa maja* behind the eyes are coniform cephalic points, similar to those in the genus *Nudaurelia*; in *Pseudaphelia apterias*, from Cape Colony, there is beside the cephalic points a thorn-shaped caudal spike which may be more than 5 mm long. The skin covering the pupae is usually thicker in proportion as they are less protected otherwise. The pupae of many species (especially in Africa) lie unprotected in the ground, but they have an extremely tough chitinous casing which is as smooth as porcelain and, I presume, affords full protection against the ants whose maxillae would slip off the smooth covering. On the contrary, the coverings of the species spinning cocoons, such as *Actias*, is not much more solid than soft paper. Webless pupae which like the *Bunaea* are almost like hard nuts to the touch, can also move but slowly and with difficulty, whereas the *Samia; Actias, Saturnia* etc. are able to perform quick circular movements with their abdominal parts. The fact that larvae and pupae are able to produce a sound (*Rhodinia*) has already been reported in Vol. II, p. 213.

The cocoons themselves are of a very different kind and utility. In contrast with the entirely unserviceable webs of the Indian *Actias*, some *Antheraea* are distinguished by their ability to produce reelable silk. Great hopes had been placed on the webs of the *Samia* species (Eri-silk) for the production of a coarser, cheaper
Eastern Asia, the culture of Saturniidae-silk could not get a firm footing in Europe and America, where likewise kept off by glutinous rings around the trees. Let us add that neither this Tussah-silk nor that of other Saturniidae the breeding of silk-worms is particularly imperilled by birds which are chased away or killed by the guard by means of a snare of thread, which he fastens on to a rod and draws around the neck of the lizard. Before the last moult, the breeding of silk-worms is particularly imperilled by birds which are chased away or killed by the guard by means of a bow or pea-shooter. Other enemies of note are the Redruiidae and Tachinidae or Ichneumonidae, which the guard must touch with a rod at the end of which is placed some adhesive substance. The ants are kept off by glutinous rings around the trees. Let us add that neither this Tussah-silk nor that of other Saturniidae comes up to that produced from Sericaria mori.

Most of the Saturniid larvae are polyphagous, so that they may be given leaves of trees from very different families of plants. There are some exceptions, however, e.g. G rerrella isatellae which has already been dealt with in Vol. II (p. 212) and is only found on certain conifers, and chiefly only on such trees in certain districts. Saturnia itself is known to live on plants from the family of Pomaceae, though in North Africa it is also to be found on olive-trees. The food of Attacus atlas is stated to be trees and shrubs from the families of Berberideae, Simarubaceae, Cupuliferae, Salicineae. Every European collector knows the great number of various kinds of food with which the larvae of Eudia pavonia can be bred, and for American Saturniidae (such as Platyamia cecropia) a bill of fare is given, the bounty of which is almost unequalled. We find the following cited as food: apple, pear, cherry, white thorn, sloe, Spiraea, lime, maple, elder, syringa, currant, elm, oak, beech, birch, hazel, hornbeam, alder, willow, poplar, barberry, Ceanothus, ash, raspberry, bilberry, tulip-tree, Virginia creeper, hickory, Gleditschia, — i.e. plants from 20 different families.

In no Saturni have we hitherto met with an organism that might be regarded as a real scent-organ. The great inactivity of the ♀♀ which mostly await their fecundation sluggishly and only seem to wake up, when the deposit of eggs begins to take place, is evidently paralleled by a great indifference to external stimulations, so that all external excitants remain ineffective. One of our most thoughtful natural philosophers, ERICH HAASE, presumes that the first condition for the development of ♀ scent-organs is that both sexes fly at the same hours of the day. This is, however, not always the case in the Saturniidae, but only occasionally. In the American Heliconis, for instance, the ♀ ♀ which when flying look like Parnassius, fly in daytime according to Zikan, whereas the ♀ ♀ sit in the grass quite motionless; the same is the case with Eudia pavonia the ♀ ♀ of which swarm in the afternoon sun, and the Aglia-♀ ♀ which are particularly active even in the forenoon. The Saturnia, Attacus, Actias, Sarnia, and most of the other genera both swarm together at night as is shown by the catch on the lantern. But their ♀ ♀ presumably fly only after the copula, until which time they remain entirely passive. Often before the wings are altogether developed, they will sit at a place from which the wind carries their alluring scent far away; in forests without underwood close to the ground, in bushes and mixed woods at an altitude of 1—2 m, often clinging to the deserted pupal cradle, and all at once the ovipositor is seen extended far from the abdominal opening and sometimes performing small movements which presumably serve for putting forth alluring scents.

As to the geographical distribution of the Saturniidae over the earth, 4 or 5 species occur in most of the districts with a warm climate, 2 or 3 species in the colder districts, whereas in tropical Africa and in the torrid zones of America there is a certain increase which does not occur in the torrid zones of Asia. In the temperate zone the west is more abundant than the eastern hemisphere, the western part of which, however, seems to be particularly poor. In the palaearctic region the warmer eastern part shows a slightly increased number of Saturniidae, whereas Japan, as far as it is palaearctic, cannot boast anywhere of more than 7 species, since the Hokkaido lacks the southern forms and the main island is without the genus Aglia. In the whole Indo-Australian Region the Saturniidae are distributed in such a way that the forms of the genera Attacus, Sarnia, Antheraea, Actias etc. represent one another, so that at hardly any spot in the world are more than 1 species of every genus to be found. In the same way that we ascertained the presence of the Antheraea-representative Perisoma coecigena in South-Western Europe, we find in India Anther. mylitta, in Ceylon A. cingalesa, in Java A. larissa, in the Andamans A. andamana, in Assam A. annam, at greater altitudes of the Himalaya A. frithi or helferi, in China A. pernyi, in Japan A. yamamai, in the Philippines A. semperi, in Australia Catig, eucalypti or Syntherota janetta; across the Ocean Teela polyphemus shows an exterior similar to the Antheraea, although the wings are held differently. We may assume that the genus Attacus, in spite of the great number of its forms which have been described and denominated, is nearly everywhere represented by but 1 single form,
and that in quite a similar way all the forms of *Sania* exclude each other everywhere, where definite races have not been introduced by mercantile or cultural interests. Thus the whole Indian Region exhibits a very homogeneous distribution, since nearly every district shows but 1 *Attacus*; 1 *Sania*, 1 *Cricula*, and generally also only 1 *Actias* and *Antheraea*; wherever several such genera are reported from the same country, they mostly turn out to be specimens not flying in the same district.

Nearly all the Indian *Saturniidae* are large lepidoptera. The smallest size is exhibited by species with an expanse of at least more than 6 cm, such as the *S. discans* of *Solus* and *Cricula* which yet attain the size of *Aglio tau*. Species with an expanse of hardly more than 3 cm, such as *Ceroplaste fraterna* in America or *Ludia delegorguei* in Natal, do not occur in the Indo-Australian Region. — For further particulars on the family cf. Vol. 2, p. 209 and 210.

1. Genus: *Actias* Leach.

To this genus which is characterized in Vol. I, p. 210, we reckon the almost unicoloured Nile-green *Trophea Hbn.*, the quite monotonous *Plectropteron Hutton*, and the *Argema Wallyr*, which last are provided with very long spatulate tails and may be considered to be the tropical species, whereas the others belong chiefly to the temperate zone. Altogether we know about 12 palaeartic forms (to which some add the European *Graellsia isabellae* as the congeneric 13th form), about 4 Americans (presumably belonging to but 1 species), 3 closely allied inhabitants of Tropical Africa, and 3 or 4 Indians.

The large oval, smooth eggs are deposited in groups on the twigs or the trunk of the food-plant; frequently on such small bushes that the foliage is hardly sufficient for feeding the larvae. The result of this is that the adult, mostly bright green larvae lie on the stripped twigs like large green pods, being visible from very great distances. The larvae are equipped either with knobs or high dorsal cones from which corona or tufts or bristles issue. The pupa is extraordinarily short, with a very thin shell, the abdominal segments are so much compressed that the whole abdominal portion looks like a small appendix attached to the thoracic portion of the pupa; nevertheless the pupa is able to make short swift movements with the abdomen. The pupa always rests in a cocoon which in *Plectropteron* is paper-like and thin, whilst in *Argema* it consists of a dense felt and exhibits a smooth, glossy exterior, with a corona of stigmata at the end of the head. Most of the species of the genus are now also frequently bred in Europe. The emerging imago bores through the integument at the base of the wings in a unique fashion, by means of a horn-spoke. As we have already mentioned in Vol. II (p. 210), the threads of the web are not cut through, but, with a sawing noise which is to be heard far away, the imago scratches the softened threads asunder by means of the thorax, until it pierces the cocoon. The imagines fly from late in the evening until night, but on being scared also in the daytime, in which case they may rise to an enormous height beyond the range of sight. In tropical towns, during the swarming period, numbers of them often fly round the lamps in the streets, where they then attract the attention of the layman by the long appendages of their wings. They are easy to breed; they feed chiefly on fruit-trees, such as Juglans, Mango, Carya, but also on many shrubs of most varied kinds. In the tropics the species mostly have two or more generations.

A. Imagines with long-stalked tails, the ends of which are widened like flags. Larvae with high dorsal cones; pupae in a felt-like web which is mostly encased in leaves (= *Argema* Wallyr.).

- *Actias maenas* Dbl. (*♂ = leto Dbl.) (53 b as leto). The figure makes the description of the ♀ superfluous; we merely remark that the brown spotting varies even in specimens of the same breed. The ♀ is typically light yellow, towards the base with a Nile-green tint; behind the basal area of the forewing is a slightly curved darker transverse line, before the marginal area a line inwardly curved at the costa and inner margin and showing alternately longer and shorter dents. These transverse lines, however, may disappear nearly altogether. — *Actias rosenbergii* Kaup is a lepidopteron from Amboina, the figure of which exhibits rectilinear stripes of 1 cm width across all the wings; Sonthonnax, however, already in 1897 explained this to be the effect of paper-stripes, beneath which the original honey-colour of the spanned lepidopteron had been kept from the light. The colours having been bleached for a long time, these traces have now disappeared on the type which I examined. Of greater importance is the entire absence of the eyespots on the hindwings, which, however, may be only an aberrative character. In the type (Mus. Darmstadt) which broke in the meantime and was repaired again the ocelli of the hindwings really seem to be absent, which fact is less noticeable in the specimen that is entirely bleached white today, than in the very finely coloured figure of *Plötz* from the year 1866. — *Actias diana* Mssn. & Weym., is founded upon *♂♂* from Java; the brown parts of the wings exhibit here more intense sulphur-coloured embeddings, particularly in the basal area below the costal stripe of the forewing and within the dark bordering *♀* of the hindwing. They are aberrative forms hardly worth being denominated. — *saja van Eecche*, the Sumatran
orm, is said to be larger, but otherwise to differ little from *maenas*, and as both the latter and *diana* are also reported from Java, it may be merely a generation-form or a casual form. — *ignescens* Mr., from the Andamans, *ignescens*. which Rothsch. Hamp. and others consider to be a distinct species, on the contrary exhibits the brown colour increased to such a degree that it occupies the greater part of the wings and the dark basal spot is confluent with the postmedian band; the basal brown of the hindwing is likewise increased and distally irregularly defined. — *latona* van Eecke, from Celebes, shows the brown colour increased in the $\jmath$ as in *ignescens*, the yellow colour being embedded in it at various places forming spots, especially around the central lunae, before the apex of the forewing and in the basal area, also the yellow colour forms a postmedian notched band through both the wings. — *isis* South (54 a) is in the male above quite dark brown with but scanty, yolk-coloured embeddings, likewise dusted with dark; light yellow are only the last two thirds of the tail-flag. The notching of the postmedian transverse line is discerned only in the costal half of the forewing, otherwise but very little.

A. *heterogyna* Mell (55 B a). The $\jmath$ is easily recognizable by the dark purple red distal-marginal stripe *heterogyna*. of the hindwing beginning below the apex and extending into the base of the rather long tail of the hindwing; this stripe is double owing to its centre being of a brighter tint. Moreover, the brown colour of the costal stripe in the forewing extends to the upper edge of the central eyespot. Colour of $\jmath$ yellow. The $\Omega$ is pale Nile-green, at the thorax and base of the wing almost white; the marginal stripe of the hindwing and the brown colour right above the eyespot of the forewing are absent, whereby the $\Omega\jmath$ resemble those of *selene*. *heterogyna* is most similar to the palaearctic *sinensis* which it seems to represent in the Indian Region and in which we also often notice traces of the antemarginal stripe of the hindwing and the brown bridge from the costa of the forewing to the eyespot.

Southern China.

A. *rhodopneuma* Rob. (55 C b) is a southern form of the palaearctic *A. dubernardi* Obth. (Vol. II, p. 211), *rhodopneuma*. likewise exhibiting in the $\jmath$ a pinkish-red distal margin of 10—12 mm width in both wings. The eyespots of the hindwing are recognizable, but very feebly and indistinctly defined, as is also the case in the South Chinese *dubernardi*. The only remarkable differences are exhibited by the shorter though broader tails of the hindwing of *rhodopneuma*; moreover, it shows the distal transverse stripe of the forewing more intensely developed, closer to the distal margin and curved upwards above the inner margin; it is also continued just as strongly through the hindwing, as far as the base of the tail; moreover the antemarginal dark transverse stripe is intensified in both wings, whereas in *dubernardi* it has disappeared except for very faint traces. From the Naga Hills.

B. Tails of the lepidoptera sabre-shaped, shorter than the costal margin of the forewing. Larva set with roundish knobs. Pupa in a paper-like web. (Plectropteron Hutton.)

A. *selene* Hbn. (= *luna* Cr. n. *diana* Hutt.) (55 C b). As to the great number of palaearctic forms *selene*, cf. Vol. II, p. 211, pl. 33. — *ningpoana* Fibr. (= astarte Hssn. & Weym.) presumably passes over to the Indian *ningpoana*. Region, since it also occurs in Formosa. The chief difference from typical *selene* stated by Felder — i.e. the smaller central eyespot — is apparently not constant, as also South Chinese *selene* from Hongkong, where I often found this species very abundant, vary in this respect. The $\jmath$ figured in Vol. 2 I took on the 4th of May in Shanghai, where the form seems to be most typical. — *calandra* Jord., exhibits in the $\jmath$ a yellowish ground-colour, the central eyespot of all the wings are smaller; in the $\jmath$ the cross-vein of the forewing is bordered inside with black, outside with red, and the tail-appendages are without pink, but the interior border of the marginal area and the exterior border of the basal area are a blackish olive. From the Andamans. — Larva green with a broad light yellow lateral stripe, the knob-shaped tubercles on the 2nd and 3rd segments are yellowish-green, thick, the others in the adult larva smaller, reddish-yellow. Head and anal spot blackish. On fruit, particularly Mango, Juglans, cherries, apples, but also on willows and other foliage trees and ornamental bushes in gardens. — Common; the species is now much imported into Europe and bred every year in large zoological gardens. In captivity the first generation is most advantageously fed with Juglans regia or Caraya. In the 2nd generation it is recommended to feed them with willow from the beginning, because there may be a lack of food in the beginning of October, when the leaves of the Juglans fall off. It is also advisable to avoid not only changing the kind of food but even the food-tree itself, as the larvae are very sensitive in this respect.

2. Genus: *Coscinocera* Btlr.

The *Coscinocera* exhibit the long sabre-shaped tails of the preceding genus, though only in the males, and the colouring, the uncommon size and almost the same shape of the forewings as in the following genus. The genus is unique in the shape of the $\varphi$ hindwings, the anal portion of which terminates in an obtuse lobe which is strangulated to a neck. We find traces of this strangulation of the anal portion of the hindwing already in the *Attacus*-form *lorquini* the $\varphi$ of which shows an indentation behind the centre of the margin, corresponding with a slight concavity of the inner margin, above the termination of the distal transverse band. In fresh specimens we may easily notice that also in *lorquini* the wing is arched, for which reason it makes a fold in the centre of the margin, if the wing is flatly pressed down in spanning the insect. This distortion of the wing of *Attacus lorquini* may be regarded as the first step in the longitudinal extension of the wing of *Coscinocera*, but
3. Genus: **Attacus** *L.*

This genus comprises the largest lepidoptera in the world. Although their expanse is excelled by the Brazilian Noctuid *Thysania agrippina*, also some ♀♂ of *Ornithoptera* (*goliath, alexandrae*) measure more from one apex of the forewings to the other, yet the extraordinary surface of the wings, at least in well developed, large specimens of *atlus*, is unmatched in the whole lepidoptera and insect kingdom together. A ♀ of the *borquini-form* has an expanse of 22 cm and also measures from the vertex of the costa (before the apex of the forewing) to the anal angle of the hindwing 18 cm, and the ♀ belonging to the *borquini-form caesar*, figured on pl. 54 a (denoted as *lorquini*), has not only an expanse of 24 cm, but it also measures 20 cm from the apex of the forewing to the tornus of the hindwings. The scheme of markings of *Attacus* is very similar to that in the allied genera *Coscinocera* and *Samia* and it is very uniform in the different forms of the genus. The very great exterior resemblance between *Attacus* and the American *Rothschilidia*, with which *Attacus* was formerly classed, might appear rather more conspicuous, but they differ structurally in important points. In both the genera (though also in *Callosamia, Platysamia*) the cross-vein is absent in all wings. The subcostal system of the forewing, however, is opposite in the two genera. The first branch extends in *Attacus* unforked into the costa, whereas in *Rothschilidia* it bifurcates a few millimeters before the apex in which it terminates. In the ♀ antennae of *Attacus* the branches uniformely decrease in length as far as the antennal apex, in *Rothschilidia* they are suddenly shortened in the last quarter. The larval tubercles increase with the age in *Attacus* and are transformed into a thick cone, in *Rothschilidia* they decrease and often disappear except for faint traces (*orizaba, jacobaeae*) etc. Besides the two genera are geographically strictly separated. The Indian *Attacus* have been divided by branching off the genus *Archeoattacus* Wts., the species with banded abdomina having been opposed to the species with unicoloured abdomina. In the genus *Samia*, however, which is closely allied to *Attacus*, it has been proved that, already by process of domestication, tufted hairing may be changed into band-marking, and the latter by the expansion of the bands into the unicoloured abdominal dorsum. We even suppose that, although nearly all the forms of *Attacus* have been regarded as distinct species, very few are entitled to this claim and nearly all the forms represent one another geographically.

**A. atalas** *L.* (= cethra *Oliv.*.) is the South Chinese form which, hardly and only occasionally modified (as *sithetica* Hlf.), also occurs in the Himalaya and in almost the whole of British India. The ground-colour is a bright deep red-brown, and only the marginal area of the ♀ shows larger yellow embeddings. The exterior transverse band of the forewing has a slight S-shape, the hyaline spot is more triangular in the ♀, whilst in the ♀ it is larger and more roundish, particularly at its interior border. The two first abdominal rings exhibit broad white transverse bands, the others narrow ones. North Indian specimens almost invariably show another small accessory hyaline spot in an apical direction from the hyaline spot of the forewing, whilst in the likewise

optionally different Ceylon form — **taprobani** *Mr.* — it is usually absent or replaced by a mere dot. The central hyaline spots are also mostly very small. But already the southern *atlus* from the Nilgiri Hills are not to be distinctly defined from the Ceylon specimens; the Andamanic specimens have likewise been denominated

separately (≡ *macmullen* Wts.). — Javanese specimens, particularly females, mostly show a more yellowish-brown ground-colour, though also dark ♀♀ occur there. — In *simulurana* Wts., described from Celebes, the distal transverse stripe of the forewing is strongly indented towards the base below the hyaline spot, and the distal stripe of the hindwing is more deeply arched between the veins. — **erebus** *Fruhst.*, is allied to this form, but it shows a very deep brown ground-colour. — **gladiator** *Fruhst.*, from Sumatra, is also similar to *simulurana*, but it differs in that the dark edging of the hyaline spots does not appear such a deep black. Moreover, the

Sunda specimens vary rather considerably, particularly in the shades of the ground-colour. — **aurantiaca** *Rothsch.* (= *atlantis* Str.), (52 a as *atlantis*) is a very large form from the Key Is., without larger accessory
hyaline spots, of a fallow ground-colour, at the margin intensely marked with honey-colour; the postmedian stripe is inside bordered with black, outside with red, and behind this red margin there is another broad, white transverse band dusted with a greyish blue. — The larvae of *atlas* which I observed in Hongkong, Singapore, Metupalayan, and Colombo, almost exactly resembled one another, as far as can be judged without holding one up to the other. They also correspond with the Javanese form, except that the dark brown dotting is not always so distinct. The larva is otherwise leaf-coloured green, the head, ventral sides, ring-indentations, and ventral feet being darker, the anal valve with a violettish-grey spot. Each segment with 6 green obtuse cones and the transverse band extending behind the red exterior border of the postmedian band is still broader, more washed out, and dusted with red instead of blue. From Java. — Farther to the east the species varies more strikingly.

A. *staudingeri* Rothsch. (55 A b as *dohertyi*) is smaller, the two transverse stripes are very thick white, *staudingeri*, and the transverse band extending behind the red exterior border of the postmedian band is still broader, more washed out, and dusted with red instead of blue. From Java. — Farther to the east the species varies more strikingly.

A. *crameri* Flbr. (= *atlas* Cr.) shows the central hyaline spots reduced to mere slits on all the wings; *crameri*. This form originates from Amboina. Still farther eastward the *Attacus* of the Philippines exhibit remarkably elongated hindwings. In *torquini* Flbr. (55 C a) the shape and size of the central hyaline spots is yet similar *torquini*, to those of typical *atlas*, and it has no accessory hyaline spots; in the 2 the transverse bands and the bordering of the hyaline spots are thickly edged with black. — In *caesar* Mssn. & Weym. (= 54 a as *torquini*) *caesar*, the 2 mostly shows 3 hyaline spots, the accessory ones of which often rest on the postmedian band; from Mindanao. — *imperator* Ky. (= *caesar* Mssn. & Weym. part.) (54 b as *imperator*) has small round spots in the *imperator*, foremost, only a few, the accessory ones often only representing light-centred dots, the spot on the hindwing being irregular and divided. From Bohol.

A. *edwardsi* White (56 A a) exhibits a considerably darker total colouring, with a more olive tint, the *edwardsi*, antemedian stripe is inside dark, outside white, thus in opposition to most of the *atlas*-forms; the hyaline spots on the forewing do not touch the distal transverse stripe which is broader than in most of the forms of *atlas*; in the hindwing the black marginal band-spots are larger. Besides the species is to be recognized by the unicoloured dark brown abdomen only exhibiting a white belt at the base, but no other light transverse bands. North India, in many valleys of the Himalaya not rare; also in the Khasia Hills.

A. *dohertyi* Rothsch. (55 C a) likewise shows a darker though more sepia-brown ground-colour than *dohertyi*. *edwardsi*. Abdomen neither with light transverse rings. The hyaline spots of the wings are triangular, their margins somewhat drawn in; the white transverse bands are darkened; in the forewing there are traces of small accessory spots. Flores, Timor.


This genus being also known as *Philosamia* Grt. contains about 7 forms distributed over India and is represented in the Ethiopian Region by the genus *Diepanoptera* with almost as many forms; with the latter genus it had formerly been united. The lepidoptera are throughout of a more or less yellowish-green colour; the wings show a narrow crescent instead of the otherwise usual *Saturnia*-eyespots. The larvae are very similar to those of *Attacus*, covered with a white bloom which can be wiped off; each segment shows 6 fleshy thorns, which, however, do not terminate in a knob as in *Argema*, but are pointed as in *Attacus*. The pupa is very plump as that of *Tropica*, in front stout, with a very much compressed abdomen, the cocoon outside grey, silky, often enveloped in leaves, inside brown and polished; it is often suspended by a long strong silk cord, particularly from the lower branches of the trees, so that most of the pupae are within easy reach. The imago has 3 or 4 generations; it starts flying in summer at 9 p.m. and is attracted by the lantern. All the species are easy to breed and are in some places in America and Europe of erratic occurrence. For further particulars cf. Vol. II, p. 212.

Ph. *cynthia* Drury (= *aylanti* Motsch.) (55 C b). As the typical form of this species we may regard *cynthia*. specimens from South China, which are very common in Hongkong, and which had been transplanted to North America, where they became erratic, so that their pupae in the United States are constantly exported to European collectors. As the typical form has been differently expounded, I have copied here the figure of a
normal specimen bred by myself from the registered pupa in Hongkong. This rather large form (American
erratic specimens are mostly somewhat smaller) is recognizable by the bright moss-colour; the abdomen exhibits
white woolly filamentous hair-tufts arranged in longitudinal rows. The shape of the wings is not constant,
since I found at the same time 52 with rather elongate wings and square built 62 with broader wings. Specimens
introduced into North America and Europe are said invariably to exhibit obtuse wings, which together with
the somewhat darkened colouring led to the denomination: adelena Wts. — walkeri Bkr., is likewise a form with
somewhat obtuse wings, replacing the typical cynthia in the palaearctic region and neither showing the bright
green of typical cynthia. The other palaearctic forms also have more olive colour than colourensia Wts. from
Tsitanu with an intense brownish tint and pryperi Bkr. (Vol. II, pl. 33 a) with a dark olive tint, a very extensive
apex of the forewing and the margin of the hindwing being mostly broken in the centre. — Of this group only
typical cynthia seems to occur in the Indian Region, canningii Htt. (= cynthia Mr.) (52 c as walkeri), however,
is distributed very far in Southern Asia. Ground-colour brownish, the margin of the hindwing not angled, the
transverse band crossing both wings broadly filled with purple pink. — This band may be also particularly
broad and of a very bright white as in more pointedly winged specimens from Assam (= ab. jole Wv.), from
where, however, also the figured specimen originates. — In fulva Jord. (= fusea Wts.), from the Andamans,
the proximal angular stripe is narrow and grey instead of white, inside more broadly bordered with black. —

**cynthia.** In insularis Volt. (= cynthia Ky. nee Drc., radiata Closs) (55 A b) the transverse stripe is very much broader,
proximal irregularly though distinctly defined, despatching light tongues towards the margin. — The Javanese
form has a loamy yellow ground-colour with a slight olive tint, whereas the Sumatran race (vaneeckei Wts.)
is said to be larger and of a darker colour *). — An intermediary between the lighter Javanese and the darker
Sumatran forms are the Celebes specimens with a somewhat more intense loamy yellow tint: = vanderbergii
Wts. — luzonica Wts. ( = ricini Semp.) (56 A b) is the name for Philippine specimens which we figure
from Luzon. More fawn-coloured, the distal transverse stripe less convex with a very distinct, anteriorly
white border, the central crescents more elongate than in the preceding forms; in the Philippine Is. — tetrica
Bkr., reported from Malacca; its marking seems to me to correspond rather exactly with certain specimens
from Padang of the insularis-form „vaneeckii“, which are before me; the form is said to be of a dark fawn-colour,
and the grey proximal angular band being more white in Sumatra is described to be grey here, whilst the distally
convex posterior stripe is outside bordered with a „dull peach-blossom colour“, the central lunae being more
open, bordered with jet-black, that in the hindwing much more enured. Types in the Vienna Museum, bought
from a dealer. — mindanaensis Bkr. is reported to be smaller, paler than tetrica, the crescent of the forewing
very elongate, in the / not touching the distal transverse stripe which is neither distinctly noted for this
reason, the protruberances of this stripe showing towards the margin are less distinct. — borneensis Bkr. has
the same ground-colour as mindanaensis, but the white distal transverse stripe is narrower and is bent outward
at the costa and inner margin, the pink stripe behind it being more distinct, the crescent of the forewing very
narrow; from the Kina-balu **). — ricini Bkr. (= arrindia Milne-Edw., gurin Mr.) (52 c) is a mostly stunted
form of domestication, easily distinguished from the forms of cynthia and insularis by the rows of small woolly
flocks on the abdomen being replaced by white transverse belts. In the figured specimen (in the Senckenberg
Museum), which is said to originate from a culture at Montevideo, the proximal angular band, with the vertex
below the almost uncurved, oval crescentiform spot, broadly terminates in the distal transverse stripe. Especially
do increased breedings often yield small specimens entirely lacking the crescents in the centre of the wings,
or they are reduced to diminutive centre-spots **); these are stunted forms which do not deserve any scientific
denominations, although certain breedings may yield numbers of quite homogeneous aberrative forms. In the
figured specimen from Uruguay (there are quite homogeneous other specimens, presumably from the same
breeding) the abdomen is quite uniformly white-haired. — REBEL presumes obscura Bkr. (= arrindia Andr.)
to be the original race of this production of breeding. Larger, more sepia than fawn in ground-colour, on the
whole darker, with longer and narrower crescents; the angular band does not flow into the distal one, but it
only sends out 2 dentiform points touching this band. Assam, Himalayan districts etc. Since the wild cynthia-
race of Assam seems to be the form canningii, this form may be a new production of introduced breedings or
a result of change by domestication, because specimens easily escape from the breeding establishments. —

**cynthia.** REBEL figures as lululoides an Assam form which is undoubtedly degenerated by domestication with very
broadly washed out and confluent transverse bands in which the widened centre spots are entirely embedded.
— As we include all the forms of cynthia in one species, we cannot regard the interbreeding of races as hybridation.
Nevertheless HENRY WATSON, following TUTT’s example, has distributed a number of names, such as:

cynthia n x canningii q = xanthroxylon Wts.
cynthia n x ricini q = wallacei Tutt; the reverse copula, ricini n with (a transplanted) cynthia
q = vesta Wkr. or russelli Wts.

*) Specimens from Padang and from Batavia in my collection differ but very little.
**) The distinctions of insularis from the various Malay districts and the Philippines seem to me to be rather insigni-
ficant, and besides they may be the results of domestication.
***) Such a specimen is figured by SONTHONNAX (Classifie, Lépid. Soie Pl. VIII, fig. 2).
Another form has been recently (June 1928) described by Bouvier: *ceramensis* from Mansuela, Central *ceramensis*. Ceram, strongly recalling *tetricea* and *minutanaensis* Bkh., though it is larger than the latter two species; apex of forewing broader and rounder, before the black apical spot rosy red; of the two black maculae behind this spot one is straight and extended to the exterior mouth of the 1st median branch, the other being triangular between the 1st and 2nd median branches. The two parts of the interior transverse stripe at their junction almost form a right angle which in the other races mentioned does not exceed 45°. Beneath there is no interior transverse stripe.

Note: Specimens of *cynthia* with white bodies which may frequently occur in domesticated forms, have been denominated *alboabdominalis* Schössler in the meantime.

5. Genus: **Parahodidia** Cock. (*Eurhodia* Cock.)

Only two species belong to this genus, the original name of which had to be altered owing to its having been used before. Of *P. gyra* only the ♀ is described. Antennae bipectinate to the apices; the exterior pinnae are about more than half the length of the proximal ones. The 4th joint of the anterior tarsus ventrally on each side with a thin spine. The stalk of the two first radial branches in the forewing is almost as long as the 2nd radial branch. Median branch 1 separates midway between the base of the wing and the apex from the 3rd radial which is much longer than the first radial. Cell in all the wings open. Allied to *Rhodinia* (Vol. II, p. 213).

**P. gyra** R. & J. Above cinnamon-brown, towards the base more yellow, with pale orange vein-strips. *gyra.*

On the forewing an olive band runs through the cell, being curved behind the 2nd median branch; a second black arcuate band between the cell and anal margin. Vitreous spot quite round, inside edged with a claret-coloured crescent, outside a black demi-ring; behind it a dark olive band from ⅔ of the costal margin to ⅔ of the inner margin. From the latter band outwards a whitish grey stripe, parted by olive embeddings, from a whitish apical spot. Hindwing similar, with a small, similarly edged vitreous spot. Smaller than *meeki.* British New Guinea.

**P. meeki** R. & J., likewise from British New Guinea, is considerably larger (length of forewing 20 mm), *meeki.* ochreous, but the whole upper surface is suffused with fawn-colour, excepting the distal half of the forewing. The 3 dark transverse lines are blackish, dentate, often indistinct; costa of forewing nut-brown, dusted with grey; central eyespot of forewing nut-brown with a fine white thorn, and entirely or half finely surrounded by white. At the margin a nut-brown band. Hindwing with a small central eyespot in a white ring.

6. Genus: **Loepa** Mr.

This genus composed of 8 or 9 similar, almost unicoloured yellow forms has been described at large in Vol. II, p. 214. Beside the very short palpi it is also characterized by the marking which consists of a great number of notched lines traversing the disc and sometimes also the marginal areas of the wings. In the central eyespot there is no real hyaline area. The female abdomen is invariably more slender than in *Antheraea.*
katinka.

L. katinka Wve. (53 a). This species is very similar to the Chinese damartis (Vol. II, pl. 32 d), but the forewings are more tapering, the apex more projecting, the colouring brighter, more honey-coloured yellow, the markings more intense, particularly in the apex of the forewing, the central eyespots are larger. As to further differences cf. Vol. II, p. 214. — Moreover, it is probably only the southern representative of damartis. Widely distributed over Northern India and Southern China, and very common; to the north as far as Central and West China, to the range of damartis, thus extending across the southern frontier of the palaearctic region.

miranda. — miranda Mr. exhibits a colouring between katinka and damartis; but it is larger; the central spots of the wings are larger than in damartis, but those in the hindwing are often more oblong and flatter than in katinka. Apex of forewing more intensely spotted than in damartis, and in the forewing there are two not three black transverse notched lines. — sikkima Mr. is smaller than katinka, the yellow colour of the wings is intensely covered with brownish. All the forms occur together, sometimes one being more common than the other. — The larva with 6 rows of small red tubercles exhibiting small thorns; ground-colour brown, shaded with dark. The cones are purple red, below them sulphur-coloured lateral spots; on Cissus and Leea, probably also on vine; it pupates in a blue-green or brownish cocoon tapering on both ends.

megacore.

L. megacore Jord. on an average is larger than katinka (53 a), of a brighter yellow, the subbasal line of the forewing above black, rarely partly red, proximal not bordered with red, or the red is considerably reduced. The black ring on the inside of the eyespot is thicker on the proximal side than in katinka from Northern India; apex above and beneath somewhat less red, Subbasal and postdiscal lines of hindwing above at the anal margin not red. From the Padang Bowenlands in Sumatra.

nevara.

L. nevara Mr. is considerably larger than katinka (53 a), recognizable by its being intensely strewn with greyish brown and pink scales, and in the centre of the inner margin and in the discal area the yellow ground-colour is purer. Before the centre of the forewing a grey and brown line being angled on the median vein; at the cell-end a triangular, large vitreous spot; behind the centre a feebly curved oblique line. Before the apex a white ensiform spot being above bordered with black, below bordered with red; from this spot the undulating submarginal line proceeds. At the margin itself an olive band. Nepal, Sikkim; already inclined to the genus Rhodinia.

anthera.

L. anthera Jord. is much larger than the preceding ones, very similar to the Chinese oberthuri (Vol. II, pl. 32 d). The eyespots of all the wings are likewise indented on the outside, and the central crescent is above very convex; beneath there is only a central crescent to be seen. The dents of the zigzag lines traversing the disc are flatter, not so long, however the distal dentate line of the forewing, which in oberthuri only extends from the inner margin to the middle radial, is here continued to the costa. Indo-China: Assam, Tonkin.

7. Genus: Salassa Mr.

This genus likewise extends beyond the southern frontier of the palaearctic region to the Indo-Australian region and has been dealt with at large in Vol. II (p. 214). Of the 7 forms known 4 are confined to the Indian region. In most of the species the hindwing exhibits a large, conspicuously coloured eyespot which is absent in the forewing, so that the genus is paralleled to a certain degree by the African Bunaea and the American Automeris. Moreover it is also very similar to the Rhodinia.

lola.

S. lola Wve. (56 A c). Extremely similar to thespis Leech which it represents in the Himalayan district (Sylhet), where the Chinese thespis seems to be absent. The chief difference of these two species consists in the feeble interior transverse line of thespis being very distinct dark in lola and towards the base edged with white. I do not find in lola the small white spots at the distal transverse stripe being so very common in thespis, but this transverse stripe is composed of regular dark crescents. Moreover, the dark undulate line traversing the marginal area extends in thespis much nearer to the margin, in lola nearer to the distal transverse stripe. —

megastica. megastica Sech. is an intermediary form between lola and thespis; the interior transverse stripe is said to be nearer to the base and more curved, the convexity showing towards the margin. In the ante the hyaline spots are larger and the brown bands darker. Cherra-Punji. — The cocoon of lola is spun together out of small pieces of leaves and twigs. — In the Eastern Himalaya.

royi.

S. royi Else. This species dealt with in Vol. II, p. 215 also occurs in the Indian Himalayan district. Similar to the preceding forms, but the forewing is dark purple brown, the hyaline spot larger and round. Ψ lighter. Widely distributed in the Himalaya.

mesosa.

S. mesosa Jord. (= episcopalis Kaiser). Size between lola (56 A c) and megastica, in structure and habitus nearer to the latter. Antennae somewhat darker. In the forewing the bright rusty red colour is more reduced than in megastica, and the central hyaline spot is smaller; only about as large as in lola; in the forewing the central spot looks like a reverse comma, the black ring at the eyespot of the hindwing is more extensive than the hyaline spot. From the Khasia Hills in Assam.

iris.

S. iris Jord. is larger than the preceding species; the light ring of the eyespot in the hindwing is at least partly yellow. In the male the reddish yellow colour of the wings is paler than in lola. The apical antennal
branches are longer in the $ than in lola, megastica and mesosa. On the under surface the discal transverse line is more S-curved than in the other species. In the $ the antemedian transverse band of the forewing is broadly edged with white, the hyaline spot is almost round, but outside indented, about 6—7 mm in diameter. Sikkim.


This genus is one of the most remarkable genera, since it combines a great resemblance of the imagines with an extraordinary difference of the larvae. Imagines the larvae of which were regarded as brown clothes-moths deposited eggs which yielded green bare larvae, and it was only by these differences that the forms belonging to this genus were correctly arranged. — The Cricula are middle-sized, quite unicoloured lepidoptera, the male forewings strongly falcate, with 2 or 3 small hyaline spots in the centre of the forewing and a but very small punctiform hyaline spot of the hindwing. At the costa before the apex a very straight streak starts, extending to the centre of the anal margin of the hindwing. There are no formations of eyespots. In the neuration the extraordinarily long discal cells are remarkable; especially on the forewing the middle discocellular is three as distant from the base as it is from the margin. — Quite a number of forms of this genus seem to differ from one another in a way not to be recognized externally, merely in an anatomical differences of the male genitals, owing to which they have been specially denominated.

C. trifenesnata Hlfr. (52 a b). Reddish greyish-brown, but densely dusted with ash-grey and sooty trifenesnata. grey, especially behind the oblique streak of the forewing. Whilst the $ shows in the forewing three tiny, angularly arranged, punctiform hyaline spots, one or the other of which is sometimes even only indicated, the hyaline spots of the $ are much larger and are more arranged in one row. — The larva distinctly resembles that of Lasioscampa quercus; it has a yellowish-brown fur, dark ring-indentations, each ring with 6 tufted small tubercles; neck and anal shield reddish, legs red-brown. On various trees such as Canarium commune, Mangifera, and other Anacardiaeeae such as Anacardium occidentale and orientale, as well as on species of Prunus. The pupa rests in a wide-meshy yellowish-brown net. The species extends in different forms from India and Ceylon through South Asia to the Philippine Is. and is local, but in places very common; the pupae are brought alive to Europe in great numbers. — The form birana Sceh. is not constantly different as imago from typical Javanese specimens, but the larva spins a different compact cocoon. — Of luzonica Jord., from the Philippine Is., the $ differs from ochreous specimens of trifenesnata merely in the genitals. — andamanica Jord., is a large form occurring in both sexes in a dark and a light variety. In the $ the costal margin of the forewing is more curved and the apex of the wing less projecting, the hyaline spot small, the blackish postdiscal line straighter than usual; in the $ the posterior half of the margin of the wing is rounder, the 3 hyaline spots are larger, in the cell there is always a fourth (smaller) hyaline spot, the postdiscal line is situate a little more outward; the two lines of the hindwing are anteriorly convergent, but not contiguous. Andamans. — bornea Wts., from Sarawak, bornea. in both sexes shows less falcate forewings than all the other forms of trifenesnata; the dark line is posteriorly curved towards the base and broader, the hyaline spots are reduced. — Specimens from Java are said to be of a more reddish tint in the female sex and invariably without supernumerary hyaline spots (= jaeuna Wts.). — The larva is dark, with brown hair, the cocoon in the typical form with very wide meshes, so that the pupa is visible therein; otherwise as described above.

C. andrei Jord. (53 c). The marking is rather exactly as in the preceding species, but the colouring andrei. is characteristic, so that here a bright brick-red colour of both wings before the discal oblique line contrasts with the marginal area which is yellowish-grey in the $ and violetish-grey in the $ . Moreover the apex of the forewing is extended into a longer point than in trifenesnata, and the costal margin in the apical portion in the $ somewhat truncate, thus producing a shape of the wings very similar to that of the Drepanid Camacha miranda (49 l.) — Some specimens are of a particularly bright purple colour and in their marginal area violet with a distinct pink lustre (= vinoea Wts.). — ab. afenesnata Wts., are specimens being unicoloured above and beneath, lacking the hyaline spots or with but very faint traces of them. — eiaozia Jord., is ranged here owing to the examinations of the genitals. Olive slate-colour without any red tint. Forewing in the disc darker; before the round central hyaline spot a series of 3 small hyaline dots. Beneath the grey scales and lines are more prominent than in trifenesnata. But one specimen from Preanger (Java) is hitherto known. — Larva of andrei entirely different from that of trifenesnata; it is above apple-green, beneath somewhat darker; below the stigmata a yellowish-green oblong torus; head greenish brown; across the dorsum series of tiny rosy-red tubercles set with small dark hairs which may have a burning effect on the skin. On the ventral feet there are small pink spots and on the penultimate ring a conform fleshy cone with a yellow tuberecle. The whole upper surface is irrorated whitish, anal region brown. Pupa in a wide-meshy cocoon closed like a bow-net. Easily bred with various fruit-leaves (cherry, apple etc.).

C. drepanoides Mr. (53 d). Shape almost exactly like that of the preceding species, but in the $ the$ margin of the hindwing exhibits a short, blunt tooth below the apex; besides the upper surface is more marked; particularly before and behind the centre of the forewing there are dark, whitish-edged costal spots. Colouring
dust-grey, mixed with yellowish-grey and brownish. In the Himalaya; in Sikkim in places not rare. — In this way Watson has founded the genus Solus, chiefly owing to the absence of the cross-vein in both wings.

9. Genus: Syntherata Mr.

Larger than the preceding ones; wings broader, forewing in the ♂ not so strongly falcate. Already very similar to the habitus of an Antheraea where the few species might also be ranged. All the 4 eyespots are small; before the centre a strongly notched line, behind the centre a double undulate line. Probably all the forms known belong to one species which is closely allied to the Antheraea.

janetta. S. janetta White (= purpurascens Wkr.) (54 b) is very similar to a small Antheraea, but the ♂ forewings are considerably more pointed. The central eyespot of the forewing is a small, roundish hyaline spot which is sometimes darkened by reddish; in the hindwing it is generally absent altogether. In the typical form almost the whole forewing of the ♀ is covered with dark purple brown, excepting the somewhat lighter marginal area; the hindwing in its anal half likewise of that colour, whereas the costal half is yellow, in the ♂ more golden yellow, in the ♀ more honey-yellow. — In disjuncta Wkr. (= insignis Wkr.) the forewing shows a bright red-brown tint in the apical portion and around the centre of the costa. — melvilla Ww. has a bright sulphur-colour on the wings. The band of the forewing is angular, towards the base dark, the central eyespot is small, round, with a hyaline pupil and a double flesh-coloured bordering. A broad greyish transverse band inside shows a dark rust-brown undulate stripe and it is outside enclosed by a row of similar spots. Hindwing with a very small blind pink ocellus; the greyish transverse band disappears towards the costal margin and is similarly bordered as in the forewing. Described from 1 ♂ from Melville I.; in the habitus similar to Mexican lavendula both by the yellow colour and by the small central ocellus. — The species is Australian and the typical form is widely distributed on the continent, wherever there are trees. The larva lives on various (also imported) foliage trees, to the trunk of which it fastens a mussel-shaped cocoon. Although the form disjuncta has been described from Queensland and melvilla from Melville I., yet these forms are not confined to these districts. —

weymeri. S. weymeri Maass. (55 b) differs more from the typical form and was ranged as a species for a long time. In the ♂ the whole basal and marginal areas of the forewing and almost the whole hindwing are golden yellow, so that in the forewing only a broad median forked band and in the hindwing a narrower one in the anal half are dark brown; the ♀ is almost quite unicoloured dark brown with a light catenary band before the marginal quarters of all the wings and a white central dot in the forewing. Likewise from Australia.

apicalis. S. apicalis Bow. „Colouring quite uniform, of a brownish grey, distally, from the exterior transverse stripe of the forewing, passing over to red; smaller and a little yellowish on the hindwing. The transverse stripes are of a deeper, slightly reddish brown, the exterior one of the forewing very broad and deeper than the others; fringe red-brown. Under surface of a bright rust-colour, with numerous small grey scales as far as the submarginal streak which is indicated by a series of black triangular spots which are prominent on the hindwing, the other transverse stripes are brownish though less distinct, because they are covered by small grey scales. Antennae yellowish-red with 32 joints, the twelve last of which are either reduced to a pair of short rudimentary branchlets or absent; apical joints hardly 7 or 8 in S. janetta. — Stripes and markings as in the latter species, though with the following differences: 1) The exterior transverse streak of the forewing, though indented as in janetta, is rectilinear without being curved towards the base in the costal area. 2) The submarginal stripe of the forewing is broad, continued on its whole length, slightly bent towards the apex which it almost reaches at its costal mouth, whilst it is straight, remote from the apex, incoherent and formed by a series of small crescents or spots as in typical janetta. 3) Beneath the wings are without the marginal rays between the veins, which are generally found in janetta. 4) The interior transverse stripe of the hindwing is not thin, very much notched, in its whole length inwardly withdrawn, to the level of the ocellus, as is the case in janetta; it is almost as broad and thick as the exterior transverse stripe of the forewing, very little indented, touching the ocellus and forming a small angle slightly receding as far as before the ocellus. Another remarkable difference: the wings are strongly falcate, the apex more projecting, slightly stunted, and the margin of the forewing very concave. Expanse: 120 mm.” — The species is quite unknown to me. The description is entirely different from the figure, in which the expanse of the wings is only 95 mm. The patria is stated to be Nomnaghé, at an altitude of 2000 ft., in Dutch New Guinea.

godeffroyi. S. godeffroyi Btlr. represents the very closely allied janetta in New Britain; it may be that dahli Weyn. is its normal ♀. Above orange-ochreous, the central area of the forewing in the ♀ fleshy red, the costal margin darkened by grey; the ocellus of the forewing is better marked than in the forms of janetta and more distinctly ringed. In the notches of the postmedian band of the hindwing olive-grey rhombs are embedded. dahli from New Pomerania is said to differ chiefly from godeffroyi in the flesh-coloured area above, the not lighter stripe of the ground-colour between the two postmedian notched stripes, and in the border of the eyespots. In godeffroyi the inner ring of the ocellus of the forewing is said to be black, the outer ring grey, whereas in dahli the inner ring is greyish-brown, the outer one dark brown. In the hindwing of godeffroyi the ocellus is invariably somewhat triangular edged with flesh-colour, whilst in dahli it is an oval brown kernel surrounded by an interior
white and exterior brown ring. *dahli* differs from *janetta* in its larger size, larger eyespots, and the noted transverse stripe.

*S. loepoides* Blr. (54 b) exhibits on the orange ground of the hindwing a deeply notched zigzag line *loepoides*, which is continued in double dark crescents on the forewing as far as the costa, as it is also exhibited by the genus *Loep*, whence the name is derived. A central eyespot is already to be recognized in both wings. In the forewing the basal area is intermixed with thick dark catenary bands, often also entirely covered with dark red-brown. Type said to be from Borneo.


The genus has been described at large on p. 215 of Vol. II, but how very unnatural it is, we can easily see from the incessant mistakes having been made both among the various species themselves and with the members of the allied genera. The delimitation of its species is rendered still more difficult by the numerous hybridisms having been undertaken with the partly domesticated species that were brought to the most different countries. In addition there is a great variability, since one and the same breed may yield the most various colourings. The most reliable are the larvae known of many species, because they often exhibit great differences, whereas the imagines can hardly be distinguished one from another. On p. 499 we have given an account of the silk produced from *Anth. mylitta* *v.*. In the palaearctic region no locality has yet been found, where more than one species of *Antheraea* occurred. In the tropics, however, there are districts in which presumably 2 or 3 species occur beside each other. But that more than half a dozen forms of *Antheraea* which have been described both from Java and Sumatra are all to be good species existing independently beside each other, we shall only be able to prove when the differences of the early stages and a minute examination of the genitals will have been published. For the present, however, we have separately quoted the forms, as they have been described.

*A. paphia* L. This extremely variable insect is distributed from India and Ceylon to Southern China, *paphia*, and mostly common. It is rather similar to (the palaearctic) *pernyi* (Vol. II, pl. 34 d), so that some *paphia* look like gigantic *pernyi*; but the hyaline spot in the forewing occupies almost the whole central ocellus which is invariably and distinctly surrounded by dark and parted by the cross-vein. Moreover, the *paphia*-forms almost invariably exhibit a distinct, inside red, outside white postmedian line; on the under surface there is a dark antemedian stripe and a postmedian Nebulous streak, analogous to the reddish-yellow transverse stripe on the under surface of *pernyi*. Such a great number of names have been distributed among the variations of colours, that it is often very difficult to separate the forms. Many authors unite even *paphia* with *mylitta*, disregarding the marks of distinction mentioned here (and referring to the specimens before me). — *mylitta* *mylitta*. 

Drury (53 a, b) shows a marking quite similar to that of *paphia*, but the colouring is mostly rather monotonously yellowish-red in the ♀, yellowish-brown in the ♂. Some authors also regard the orange-yellow specimens as genuine *mylitta*; besides distinguished from *paphia* by the antennae being somewhat stronger in both sexes. The central eyespot on both wings is a little farther remote from the exterior transverse stripe; this mark, however, varies by the fact that the central eyespot may sometimes be larger, whereby its distal border approaches the distal margin of the wing. India, widely distributed and mostly common. — The larva is thick, green with small red bristly tubercles, a blackish-brown head and a yellowish lateral stripe; in the anal region a large blackish-brown spot. On various foliage-trees; imported *mylitta* are most practically bred with oak in Europe; in India they live on numerous trees, such as Ficus, Gnidia, Terminalia, and the „Chinese date-tree” *Ziziphus jujuba*. — Whilst typical *mylitta* only occurs on the Asiatic continent, it is represented in the islands by a great number of very similar lepidoptera, many of which were treated as distinct species, though they certainly are merely local races.

A. *paphia* L. This extremely variable insect is distributed from India and Ceylon to Southern China, *paphia*, and mostly common. It is rather similar to (the palaearctic) *pernyi* (Vol. II, pl. 34 d), so that some *paphia* look like gigantic *pernyi*; but the hyaline spot in the forewing occupies almost the whole central ocellus which is invariably and distinctly surrounded by dark and parted by the cross-vein. Moreover, the *paphia*-forms almost invariably exhibit a distinct, inside red, outside white postmedian line; on the under surface there is a dark antemedian stripe and a postmedian Nebulous streak, analogous to the reddish-yellow transverse stripe on the under surface of *pernyi*. Such a great number of names have been distributed among the variations of colours, that it is often very difficult to separate the forms. Many authors unite even *paphia* with *mylitta*, disregarding the marks of distinction mentioned here (and referring to the specimens before me). — *mylitta* *mylitta*. 

Drury (53 a, b) shows a marking quite similar to that of *paphia*, but the colouring is mostly rather monotonously yellowish-red in the ♀, yellowish-brown in the ♂. Some authors also regard the orange-yellow specimens as genuine *mylitta*; besides distinguished from *paphia* by the antennae being somewhat stronger in both sexes. The central eyespot on both wings is a little farther remote from the exterior transverse stripe; this mark, however, varies by the fact that the central eyespot may sometimes be larger, whereby its distal border approaches the distal margin of the wing. India, widely distributed and mostly common. — The larva is thick, green with small red bristly tubercles, a blackish-brown head and a yellowish lateral stripe; in the anal region a large blackish-brown spot. On various foliage-trees; imported *mylitta* are most practically bred with oak in Europe; in India they live on numerous trees, such as Ficus, Gnidia, Terminalia, and the „Chinese date-tree” *Ziziphus jujuba*. — Whilst typical *mylitta* only occurs on the Asiatic continent, it is represented in the islands by a great number of very similar lepidoptera, many of which were treated as distinct species, though they certainly are merely local races. — In ab. *fasciata* Mr. the median shadow, which is generally very feebly, is intensified to a distinct dark stripe. — *nebulosa* Hutt. exhibits irregular cloudy shadows darkening the greenish-brown median area as far as the postmedian line. — *olivescens* Mr. is a dark greyish-green form particularly common in the female sex. — Some specimens, chiefly ♀♀, are most variegated, exhibiting a red-brown ground of the forewing, a grey margin separated by purple lines, a dark median shadow, and honey-coloured embossings below the costal stripe, especially in the apical portion. Such variegated specimens may be separated as ab, *versicolor* Mr. or *pulchra* Mr.; in case of the honey-coloured coverings being increased and the ground being brownish ochreous the name *ochripicta* Mr. may be applied. — Cocoons of *paphia* and *mylitta* shaped like a nut suspended on a long silk thread have recently been imported to Europe in great masses, and they often yield series of such aberrations and transitions by which they are connected with each other, so

*) Since the publication of the Palaearctic Volume, a few more forms of this genus have become known from the south-western parts of this region, such as *chenugiana* Wts. from Szechuan near to *anamensis*, and *franki* Wts. near to *roylei*. 
that the value of the forms and the justification of the names is often rather doubtful. The names denoting geographical races are likewise untenable, because among great numbers of specimens examined the forms that were at first taken to be constant proved to aberrate individually. Thus sinatlica Mr. and fraterua Mr. are synonymous with paphia, according to Hampson. — cingalesa Mr. is the form from Ceylon, the specimens of which are frequently regarded as genuine mylitta, but which, according to Hampson, invariably show a dark brownish-yellow ground-colour. — It is from this species, especially its mylitta-form that the Tussah or Tussur silk is derived; we refer to what has been said about Indian silk-culture on p. 499.

A. rumphi Flkr. is very closely allied to paphia, but according to Rumph it is said to vary in fact constantly and distinctly, which fact however, as Felder states, is not shown by the figure furnished by Rumph (Herb. Amboin. 3, pl. 75). Wings above intensely yellow, forewing with an almost elliptical, anteriorly somewhat truncate, vitreous eyespot which is traversed before the centre by the cross-vein and surrounded by 3 coloured rings with the usual transverse stripes, the outer one of which is broad purple, in the forewing oblique, coherent; at the apical anterior portion there is a black macula bordered with white; the transverse stripe of the hindwing is hardly undulate, feebly curved, the other one before it indistinct, black and undulate; beneath pale brownish-yellow, with the 3 usual indistinct stripes, the first of which is reddish-yellow, extending near the eyespot; the others are grey. Body reddish-yellow, thoracal margin in front grey. Amboina. — celebensis. celebensis Wts. differs in relatively larger ocelli with a paler yellowish-red ring. The inner undulate line, which is distinct in rumphi, is absent here, the exterior yellowish-red border of the postdiscal dark line is much feebler than in rumphi; from Celebes. — buruensis Bouv., from Buru, is said to differ from rumphi from Amboina in its red-brown colouring, a more produced apex of the forewing and the distal margin of the forewing being slightly sinuate below the apex, the exterior stripe of the forewing not being straight but outwardly concave. — subcaeca. subcaeca, from Java, is coloured like buruensis, but the distal margin of the forewing is almost straight, hardly sinuate, and the exterior stripe on the forewing is less concave; the vitreous spot in the ocellus of the forewing is almost extinct, in the hindwing greatly reduced. Aurivillius takes this species to be the real paphia of Linné whereas Hampson presumes paphia to be melitta and Kirby an African Saturnid. Linné's very general description does not supply us with any information on this subject.

gephyra. A. gephyra Niep., of an unknown patria, is said to be intermediary between typical mylitta and frithii (53 b). From the figure of mylitta (53 b) it chiefly differs in the much smaller eyespots, and in the submarginal stripe of the forewing being removed farther towards the margin, as well as in the very feebly marked stripe of the hindwing. From frithii it differs in the quite obsolete disal chains of crescents on both wings.

pastorei. A. pastorei Bouv. is distinguished from gephyra by the more deeply gnawed margin of the forewing, the brownish-black, much less undulate median stripe, the red discal transverse stripe being outside scaled rosy, and the entire absence of transverse bands beneath, safe for the median stripe. Antennae brown. Expanse of wings: 111 mm. Java.

raffrayi. A. raffrayi Bouv. resembles gephyra and jana, but the colouring is rather monotonous yellowish-yellow, and the eyespots are dull and blind with greyish-brown rings almost of the ground-colour. Transverse stripes feebly, the exterior stripe of the forewing as far as the posterior radial straight, whereupon it bends downward. In the distal portion of the hindwing a double chain of crescents, almost parallel to the margin; the distal margin of the forewing is oblique. Under surface hardly with any marking, only the median stripe being present, the ocelli hardly recognizable. Expanse of wings: 126 mm. From Java.

jana. A. jana Stoll. On the forewing, beside the red line defining the marginal area, only a median faint nebulous stripe is distinct, traversing the eyespot. The $ shows a very characteristic marking: the forewing shows a cinnamon-brown basal portion and a pale yellow costal portion occupying almost the whole costal third or even more. Java. — fusca Rothsch., from Kuching, represents the species in Borneo. $ dark brown, darker than the jana- from Java or the following Burmah-form. The discal nebulous line is almost entirely confluent with the median nebulous stripe; it is expanded to larger spots which are separated from the median shadow only by feebly lighter patches. The line distal to this undulate line is distinctly marked and straight, only its upper half somewhat irregular. On the hindwing these two lines are distinct, the ocelli large, that of the forewing with a large vitreous spot, that of the hindwing with a small one. Beneath the median band is narrow, the postdiscal rows of spots are distinct on both wings. — jana is also represented on the continent; specimens from Burmah are said to exhibit broader forewings than the insular forms; the discal notched line is very distinct and separated from the median nebulous band. The yellow eyespot-lines are quite indistinct. Apex and distal margin of hindwing much rounder than in the other forms. Beneath the white line of the eyespot is distinct, the antemedian line sharply marked, particularly on the hindwing. This continental form plateessa is plateessa Rothsch.

andamanana. A. andamanana Mr. The $ shows the colouring of roylei (55 B a). On the forewing the dark postmedian line is particularly prominent; the submarginal line is dark, before it an undulate line. Hindwing with 3 undulate lines; one at the ocellus, the two others being postmedian. Under surface greyish-brown, the inner bands brown, the outer ones composed of large triangular spots. Andamans.
A. semperi Flfr. (55 A c), from the Philippines, is much smaller than mylitta, scarcely as large as pernyi semperi. (Vol. II, pl. 34 d), but the second forewing much more falcate than in the latter. The central ocelli of the wings are very much smaller, also in the $ which otherwise entirely resembles mylitta-$ and generally shows quite a yellow ground-colour; recognizable by the very much smaller ocelli on the hindwings.

A. cordifolia Weym. is similar to semperi and still more to pernyi (Vol. II, pl. 34 d), but at once discernible by the difference of the ocelli on the forewings, the vitreous spots of which are not round but cordiform; the apex of this heart shows towards the centre of the costal margin. In the mm long antennae of the $ the pectinations being arranged in 2 rows on both sides are equally long on each joint, but in the centre of the antennae $ mm long, quickly decreasing in front and behind. Owing to this shape of the antennae, the $ recognizable by the difference of the ocelli on the forewings, the vitreous spots of which are not round but cordiform; the very much smaller ocelli on the hindwings.

A. knyvetti Hmps. (55 B b) is very similar to roylei (55 B a), but it is distinguished by its reddish or knyvetti. olive yellow colouring which is similar to that of papbia; moreover the costal portion of the antemedian transverse line in the forewing is somewhat nearer to the central eyespot. — The larva differs from that of roylei more than the imago; it shows sepia-brown stripes on the head; at the lateral stripe there are silvery spots only at the rings 4 and 5, and the pointed tubercles on rings 2 and 3 are not green but blue. It was found on wild cherry and other trees. Sikkim.

A. roylei Mr. (= confucia Mr., shervillei Mr.) (55 B a). Recognizable by the delicate colouring and roylei. the very much extended apex of the forewing particularly in the $ Transverse lines red and whitish, in the $ distally purple pink, in the $ edged with brownish-red; a transverse stripe near the base from the lower cell to the inner margin, a small similar band across the cell of the forewing. Central ocelli outside blackish-brown inside bordered with purple pink. — Larva of a bright apple-green colour with a flesh-coloured, dark-spotted head. Ring 1 with a bluish lateral spot, the other rings with paired dorsal protuberances on which there are bristly tubercles; a yellow lateral stripe starts from the 4th ring; on the 4th to 7th rings lateral silvery spots; on the 8th to the 11th blue spots. On different foliage-trees, such as oak, birch, and others. Distributed in the Himalaya, but also in the Khasia Hills in Assam. — A slightly different form of this species was also found in Borneo (= borneensis Mr.). roylei were also found in Sumatra; Bovier states them to differ hardly from typical Indian specimens, though he denominates them as var. korintjana. In the $ the expanded apex is larger, in the $ the white border of the exterior transverse stripe is more prominent; in both sexes the vitreous spots of the ocelli show more intense and deeper, often almost orange borders. The $ has a much larger expanse than the $ (the opposite is the case in roylei). — According to the figure, the antennae are also quite different from those of Indian roylei, though it is not mentioned in the description. — During the last decades, numerous live pupae of roylei were imported into Europe.

A. assamensis Ww. (= assama Ww., mesankooria Mr.) (55 B b) is extremely similar to helferi (53 d), assamensis but the eyespot of the forewing is quite yellowish-brown, and the ground-colour of the wings is chestnut to yellowish ochreous brown. On the hindwing the exterior stripe is straighter, not undulate, and the connection between it and the proximal transverse line is absent. — The form perrotetti Guér., from Pondicherry, exhibits perrotetti. the interior and exterior transverse lines flatly undulate. — Larva green with a brown and yellow lateral stripe and red tubercles on the dorsum, on the last segment lateral brown rings; the head and thoracic parts being brown; on numerous species of trees and bushes. — yongei Wtis. is still darker than typical assamensis and yongei, besides of a bright claret tint, the apex of the forewing in the $ somewhat rounder, the ocelli above rather large, and it lacks the distal band beneath being invariably distinct in assamensis. Described from Borneo. — This species is called "Muga" in silk-culture.

A. compta R. & J. (55 B c) is very similar to assamensis, but the colouring, especially of the $, is not compta. so dark, the forewing not so pointed, the costal stripe more yellowish-brown, the eyespot of the hindwing more oval. The stripe before the marginal area also on the hindwing not undulate. However, the antemedian transverse stripe of the hindwing is always distinct, often beautiful red, and the median shadow is distinct in compta, whereas in the dark ground-colour of assamensis-$ it is quite inconspicuous. Assam.

A. helferi Mr. (53 d) has the same marking as compta, but it is mostly tan-coloured yellow, not dark helferi. brown, and it is easily separable by the eyespot on the hindwing being usually somewhat distorted and showing a comma-shaped or C-shaped spot above its upper border. The double stripe before the marginal area of the hindwing is neither as straight as in assamensis, but at least in the $ always slightly undulate. Himalaya.

A. pratti Bone., from Sumatra, is compared with helferi, but it is distinctly separated by a median dark pratti. nebulous stripe through the forewing meeting the central eyespot in its distal half. Judging from the figure, the eyespot of the $ hindwing is also differently shaped, compared to that of helferi.
A. imperator Wts. is similar to helferi (53 d) but larger, the eyespot of the forewing without the vitreous spot, with an inner brighter reddish-yellow and outer yellow ring, the distal margin in both wings brown, the submarginal double line nearer to the margin; that of the hindwing more deeply arched. In the ♀ the submarginal stripe is very broad white. From Java; a smaller specimen from Borneo.

A. brunea v. Eecke, from the Padang Bovenlands in Sumatra, shows the approximate shape of mylitta (53 a), but the eyespot of the forewing (in the ♀, only this being known) is much smaller and with a dull border; the eyespot of the hindwing is smaller, too, the proximal third filled with blackish. Near to imperator Wts. from Java, but the total colouring is dark reddish-brown with a brownish orange. The eyespot of the forewing is more dark orange-brown, and the hyaline median streak is not broad. Under surface more grey. Only the type is known; in the Museum of Leiden.

A. frithii Mr. (53 b). Habitus similar to helferi (53 d), but easily discernible by the 3 strongly undulating nebulous chains of crescentiform spots extending through both the wings. Moreover, instead of the costal brightening before the apex of the forewing of helferi there is here a distinct, honey-coloured spot, and also the transverse stripe before the eyespot of the hindwing is distinct here, whereas in helferi there are but rarely traces of it. The eyespots are similar as in paphia, rather regular and with large vitreous spots. Himalayan countries. — insularis Wts. represents this unmistakable species in the Andamans. This form differs from typical frithii (53 b) from Assam in its bright orange-red colouring; on the forewing the stripe extending from before the apex from the marginal area towards the inner margin is thick brown, towards the costa very broad, whereas the other crescent-lines through the disc are much feeble. The slight concavity exhibited in the centre of the eyespot of the hindwing in typical frithii ♀ is entirely absent in insularis. — javanensis Bow. shows a larger vitreous spot in the ocellus of the forewing, the median shadowy stripe is quite absent or hardly recognizable, the outer transverse stripe is more oblique; from Java. — Many authors refer the name fraterna, which Hampson combines as a synonym with paphia L., to frithii.

A. billitonensis Mr. Upper surface pale rosy rust-coloured, at the margin suffused with grey, with oval ocelli being finely surrounded with dark, without a central vitreous spot, outside with a narrow yellow line and a central transverse line. In the forewing there are bright reddish-yellow patches in and below the cell; apex yellowish. Through the disc extends a narrow light rusty yellow oblique band composed of small crescents, inside bordered by a dark undulate stripe; a blackish nebulous stripe traverses the centre of the cell, and another one from its base to the inner margin. Hindwing at the base of a brighter reddish-yellow; right through the disc a pale yellow, dark-edged, curved stripe. Most similar to frithii (53 b). Billiton.

A. larissa Ww. represents frithii in Java; it is of a brighter colouring, but by far not so variegated as on Westwood's figure (Cabin. Orient. Ent. pl. 24). The 3 rows of crescents traversing both the wings are very distinct, but the wings are more pointed, their margins not so straight, but in the ♀ a little more undulate, the yellow antecapal spot in the forewing more reduced. According to SEMPER, there occur specimens in the Philippines, quite similar to the Javanese.

A. ridleyi Mr. is allied to larissa; above the interior area is dark ochreous, clouded in reddish ochreous; distal margin broad violetish-brown. Eyespot in both wings large, round, with a large light centre, inside with a purple border traversed by white, outside bordered with olive brown, the ring-line being black. Through the disc of the forewing 2 reddish-tinted curved stripes, the interior one being broader and touching the ocellus. A broader band through the centre, and 2 angular ones near the base. North Borneo. — From larissa it differs in the darker colouring in the ♀, broader transverse stripes, and larger ocelli.

A. prilirissa Bow. is quite similar to frithii (53 b) though somewhat larger, the central eyespots of both wings are smaller, the median stripe is intense and dark, the other nebulous chains of crescents somewhat feeble, particularly on the hindwing, and here somewhat closer together. The inner transverse stripe of the forewing is proximad bordered with a somewhat brighter white. From larissa it likewise differs in the duller chains of crescents and in the apex of the forewing being less falcate and the extreme apex not being truncate; besides the total colouring is dark red-brown. From Java, at altitudes of 3—6000 ft.

A. larissoides Bow. differs from frithii (53 b) in the exterior transverse stripe being also in the hindwing divided into distinct incoherent crescents; from prilirissa it is distinguished by very vitreous ocelli. The ♀ is pale yellow, entirely darkened by a dingy brown, especially at the margins, the ocelli of the forewings being transversely oval. Tonkin.

A. surakarta Mr. Above ochreous brown with a rosy tint. Costal stripe of forewing dusted with white, before the apex of the forewing a broad brown spot. Subbasal nebulous stripe narrow, excurved; a similar stripe through the cell, incurved; a similar discal stripe begins below the apex and is in front composed of small crescents, behind undulate; behind them a grey almost straight line bordered with pink. Ocellus small, obtusely oval, outside surrounded by black; the light centre is narrow. Hindwing with an indistinct, angular subbasal nebulous line turning around at the costal margin and running back curved through the disc; behind the latter line another, exterior discal line extends being mostly bordered with pink. In the ocellus the light centre is tiny. ♀ much larger, ground-colour ochreous. Java.
A. mylittoides Bow. likewise originates from Java and differs from surakarta in the central eyespots mylittoides, being elliptical.

A. delegata Suh. is of a brighter ochreous red; antennæ pale red-brown, collar and costa of forewing delegata, steel-grey. In the ♂ the ocelli are narrow, in the ♀ large and round, surrounded by brown, then with a pale yellow line and bordered with blackish. Interior of both wings covered with yellow spots which are of a bright ochre colour in the ♀; 1 triangular spot in the cell near the base; 2 distally angled, discal thin brown bands through both wings are close together, the exterior one outside edged with grey, the space from this band to the margin monotonously dark reddish ochreous. Near the apex of the forewing a yellow subcostal streak.

The marking above is similar to that in frithii where, however, both sexes are similarly coloured and marked; besides, the hyaline eyespot is here narrow also in the ♂, not round as in frithii: it is also allied to larissa.

A. fickei Weitm. is unknown to me in nature. It is said to resemble frithii Mr. (53 b), but to be easily fickei, discernible by a brown longitudinal stripe through the forewing, extending from the base of the forewing about 2 mm broad along the median vein, widening distally and then gradually passing over into the brownish ochreous ground-colour. Described from Sawangan (North Celebes).

A. pristina Wkr. is ochreous. Thorax in front blackish-grey. Wings with 3 oblique purple brown pristina, dentate transverse stripes composed of crescents, the first stripe being narrow, the second broad, the third interrupted. Eyespot surrounded by dark brown with a moderately large hyaline centre; before the apex a dark purple brown costal spot. Hyaline spot in the ocellus of the hindwing small. New Guinea. — Described as Antherea, but probably it is rather an Opodiphthera.

A. sciron W. (♂ = inversa Roths., ♀ = alephostra Suh.) (56 A a). Ochreous orange, in places with sciron, an intense red tint; in the forewing 4 thick nebulous streaks dusted with brown; the first of them cuts the basal quarter, the second traverses the central eyespot and touches the 3rd behind the centre of the inner margin, the third extends from the apex obliquely through the wing; the 4th is broad, undulate, and separates the marginal area from the disc. The eyespot of the forewing is a large round vitreous spot surrounded by dark. Hindwing with 3 stripes: the first cuts off the basal half of the wing towards the marginal half and extends across the inner edge of the somewhat oval ocellus; the second is arched, distinct: the third undulating, indistinct. Papuan; described from the I. of Waigee.

A. saccopoea Trnr. Spanat. 85 (♂)–105 (♀) mm. Apex of forewing strongly curved, rounded rectangular. Viollettish reddish. Eyespot small, circular, feebly surrounded by viollettish brown, inside finely edged with white, then with purple. Centre slit-shaped, hyaline. Subterminal line whitish, on both sides bordered with violet, almost straight, from before the apex to 2/5 of the inner margin. At the apex a dull purple violet spot. Hindwing coloured like forewing, but the eyespot without the hyaline central slit, subterminal line curved and undulating; an antemedian dark nebulons stripe. — The larvae pupate in large, loose webs in which each spins its own cocoon, about 20 in one nest; they feed on a tree called „wild pear“. — From the description we cannot decide whether it belongs to Caligula or Opodiphthera. The species is unknown to me.


This genus containing but few species from the Indo-Australian Fauna can hardly be separated from Antherea and at the same time forms a connection with the following Caligula. The insects are chiefly distinguished from the mostly heavy Antherea by their more graceful structure, nearly all the males being light yellow, the ocelli usually smaller than in Antherea, not very prominent. The genus differs the most from Antherea in the larvae which, as far as they are known, are variegated. Type: varicolor Wlkgr. (= astrophela Wkr.)

O. astrophela Wkr. (= simplex Wkr., varicolor Wlkgr.) (56 A d) is a most variable species the different astrophela, forms of which, however, can hardly be regarded as geographical races. Forewing of ♀ shorter than in eucalypti, helena, or janetta. Colouring mostly light chrome colour, both wings with a distinctly marked purple black transverse band, the antemedian band of the forewing pierced midway and the anterior portion distally removed. Ocelli on all the wings reddish-yellow, pupilled with white, towards the base with a reddish and white crescent, the whole surrounded by black. Costa and patagia dark grey, head, antennae and abdomen yellow. ♀ reddish brown, in the marginal halves of both wings longitudinal rows of small light oval spots being also recognizable in the ♀ though less distinct. — Larva on Elaeocarpus obovatus and Podocarpus elata, in some places in masses: black with yellowish-green, parallel longitudinal bands and whitish tubercles. For the pupation the larvae gather and spin their narrow-meshed cocoons close together, so that in some places, e.g. on the Richmond and Clarence Rivers, they cover the bushes in heaps. The pupae, though being frequently parasitized, are said to be eaten by the natives. The imagines fly very swiftly though unwieldily and often collide.

O. fervida Jord. ♀ orange yellow, of a much brighter colouring than astrophela, and with longer fervida, antennal branches. In the forewing the veins are more intensely marked brown between the cell and the exterior
transverse line, the white border of this transverse stripe is more conspicuous, the exterior ring around the ocellus reddish, proximad thicker than distad. On the hindwing there is a straight violetish-brown oblique line before the ocellus; the exterior transverse line is thicker than in *astrophela*, the exterior ring of the round ocellus is stronger than in *astrophela*. — Larva black, without the yellowish-green bands of the preceding species. Queensland.

*O. strigata* B.-Bak. Head and face orange; collar above broadly edged with white, below chocolate with a deep purple shoulder-spot; thorax and abdomen salmon-yellow. Wings tan-coloured yellow with a feebly undulated brownish oblique line from before the apex through the wing and a small central ocellus at the cell-end, with a fine yellowish pupil and surrounded by violetish-brown, then yellow and again brown. Before the apex a small white, black-centred costal spot; base of costa broad violet. Hindwing with a dark undulating postmedian line, except the said oblique line. Expanse of wings: 72 mm. Mafalu, British New Guinea.

*O. papuana* R. & J. (56 A a) is quite similar to *astrophela*, but the brown costal-marginal stripe is considerably broader and the brown iroration of the costal area extends to the apex of the forewing. Astrolabe Bay and British New Guinea.

*O. albicera* R. & J. (56 A b) is considerably smaller than *papuana*, paler yellow, but the brown oblique streak through the wings thicker. The antemedian transverse streak is more distinct, too, whereas the brown iroration is only broader in the basal half of the costal area; in the apical half only the costa itself is fine brown. British New Guinea.

*O. venusta* R. & J. (56 A d) has the size of the preceding species, but a bright fox-red ground-colour which is only suffused with violetish-brown in the costal area and around the cell. Ocelli red-orange, with white pupils and rings, the ocellus of the hindwing distally filled with black. British New Guinea. In the habitus somewhat like a small *Cal. helena*.

*O. joicyi* B., from Geelvink Bay in Dutch New Guinea, cannot be mistaken for any other species owing to the dense blackish-brown stripe extending in the ♀ from the apex to the inner margin before the tornus of the forewing and being continued right through the hindwing. It is inside accompanied by a chain of small whitish crescents, bordered somewhat dark. Ocelli very small; the colouring otherwise yellowish-brown, the ♀ darker. The ♀ with an expanse of almost 18 cm is the largest of the genus and belongs to the largest Saturniids of the faunal region. Its exterior transverse stripe is almost quite straight and thickly edged with white, and the central ocelli on both wings are large though with small light centres.

*O. foucheri* B. (? ♀ = grisea B.), from Yule I., belonging to New Guinea, is quite similar to *joicyi*, excepting the ocelli being longish, extended in the longitudinal direction of the wings.

*O. talboti* B., resembles *foucheri*, but the ocelli are rather longer than broad, more like those of *joicyi*. It resembles *foucheri* in its shape, total colouring and that of the veins and transverse stripes. The colour of the outer ring of the ocellus is almost the same in its whole extent. The falcation of the apex of the forewing is just as large, and the white apical spot just as much developed. From *foucheri* it differs in the entirely straight outer transverse stripe reaching close to the ocellus of the forewing, in the distal transverse stripe on the hindwing being quite irregular and touching the ocellus. 79—82 mm. Dutch New Guinea.

*O. intermedia* B. The ♀ only differs from *joicyi-♀* in the quite rectilinear interior and exterior transverse stripes on the forewing and in the ocelli: that of the forewing being almost quite round with a large round vitreous spot, that of the hindwing being only little distorted. Dutch New Guinea. It may be a genuine *Opodiphthera*? *.*

*O. ceramensis* B. and *intermedia* I only know from the photographic figures supplied by the author; these figures do not correspond with the description at all. The specimen figured is a ♀ (in the text a ♀) of an expanse of 65 mm (in the text 102 mm), pale ochreous with very small round ocelli and an almost linear outer transverse stripe of the forewing being very remote from the margin. Behind the exterior transverse streak of the hindwing there are a few dark dots. From Ceram.

12. Genus: *Caligula* Mr.

The exact description of the genus is to be found in Vol. II, p. 217. Whilst some forms, such as *helena*, still exhibit the characters of the *Antheraea* or *Opodiphthera*, others, such as *zuleika*, *anna*, *lindia*, by the distal deeply notched undulate lines already show a habitual resemblance to the genera *Saturnia* and *Eudia*, which is still more remarkable in the palaeartic *C. boaishwali*. The larvae likewise prove the genus to be composed of intermediate forms of other groups. Thus the larva of *C. eucalypti* is still quite a green larva of *Antheraea* with short tubercles bearing a wreath of bristles, whereas that of *Cal. japonica* exhibits a long soft hairy fur. The cocoons frequently show a pierced network. Some species, such as *C. loranthi*, spin heaps of cocoons together like the *Opodiphthera*.

*) A ♀ is figured as ♀, but it seems improbable that this ♀ belongs to the ♀ described.*
CALIGULA. By Dr. A. Sertz.

I. Group.

The species form a connection with the very closely allied Anthoeraea.

C. eucalypti Scott (55 A a). The oblique line of the forewing begins directly in the apex and extends eucalypti, quite straightly lacking the centre of the inner margin, after having touched the ocellus. The postmedian line of the hindwing is neither undulate nor dentate and extends in a uniform curve around the broadly black-edged ocellus and terminates above the anal angle. — Larva green with a yellow lateral stripe and a large dark spot on the sides of the anal joint. Out of the dorsal cones threads may be turned out. Originally it probably fed exclusively on Eucalyptus, but after other plants that are not allied with Eucalyptus had been introduced, it got accustomed to them, for instance to Schinus molle (pepper-shrub). Like many other species of Caligula, eucalyptus also shows rosy red and yellowish-grey specimens of which we figure the males. No local form can be founded upon such coloristic aberrations, nevertheless they were denominated. Eastern Australia and Tasmania.

C. helena White (J = banksi Leech) (56 A c, d) is at once discernible by the much broader wings and helena, by the J likewise lacking the white triangular spot before the dark transverse spot at the cell-end. Otherwise most variable; the black edge of the ocellus on the hindwing is very broad and thick, but sometimes also hardly broader than on the forewing. The antemedian transverse stripe is mostly very feebly continued on the hindwing, and it is entirely absent in the form: carnea South. (52 c). In the latter form it has sometimes also carnea, disappeared altogether on the forewing, and the exterior arcuate stripe of the hindwing is but feebly marked, too; the ground-colour shows a slight reddish tint, and the eyespots are entirely filled with purple pink, whereas in typical helena with orange, helena proceeds far to the south of Australia, as far as Tasmania, and is also found in Western Australia (Perth); South-Australian specimens even seem to be mostly larger than those from Queensland. — Between these two forms there also occur transitions, such as intermedia Luc. from Victoria, intermedia. This form is still extremely similar to eucalypti occurring more to the north (from Sydney to Cooktown), but the collar, which is of a dingy grey in eucalypti, is of a snow-white gloss in intermedia, and the eyespot of the forewing is more remote from the exterior transverse band, whereas in eucalypti-J it touches it. Larva not so variegated as that of eucalypti and the cocoon is more silky, softer, more lustrous. Gippsland. For this species and those closely allied to it the name Austrocaligula Pack. & Cock, was proposed.

C. loranthi Luc. is a large species. Expanse: $12—14\frac{1}{2}$ cm, $\varphi$ almost to 16 cm. Body and wings from loranthi, golden yellow to reddish orange. Ocellus of forewing round, of middle size, dark red, in front at first broadly bordered with white, then again dark red; behind narrowly edged with white and then with black, with a narrow hyaline or very scantily scaled central streak. Along the costa of the forewing, above the collar a dark brown stripe ending at $\frac{5}{6}$ of the length of the forewing before the apex; before the apex a blackish subcostal spot surrounded by white; from this spot a broad brownish line extends to the inner margin which it touches behind the second third. Hindwing: ocellus as on forewing; before the distal area a dull-marked, dark stripe parallel to the margin. — Larva gregarious on Loranthus, mostly on those high up on Eucalyptus trees; they pupate in lumps. Queensland, to the south as far as Brisbane. — engaea Tkr., from Jandowae and Charleville engaea. (Queensland) is much smaller, paler, more pale ochreous, the wings more scantily scaled; thorax in front net brown; on the forewing a broad nebuliferous band extends from before the apex to the centre of the margin, where it widens; on the hindwing a similar band passes directly behind the central ocellus. It is probably only a form of loranthi the larva of which also lives on Loranthus; it is mentioned, however, that the larvae of engaea do not pupate in lumps, but solitarily.

II. Group.

The species of this group form the transition to the Saturnia.

C. zuleika Hope (56 A b $\sigma$, 55 A b $\varphi$) slightly resembles bieti Obhth. figured in Vol. II (pl. 32 a), but it zuleika, is much larger, more variegated and at once discernible by the crescentiform eyespots. The $\varphi$ is of a much deeper and darker colour, but hardly ever as dark on Maassen & Weymer's figure (55 A b). Moreover, the specimens from different districts vary a great deal; for instance, specimens from the Naga Hills are said to have more roundish-ocelli, whilst those from Sikkim have longer, narrower and straighter eyespots (= orites orites, Jord.). — Typical zuleika come from Silhet and the Khasia Hills in Assam.

C. thibeta We. (Vol. II, pl. 34 a) is of a much duller and more monotonous colour than zuleika and has thibeta, oval, not crescentiform ocelli. A brown band before the margin is separated by a double dentate line from an ochreous basal portion on all the wings. — From typical thibeta which in the North-Western Himalaya proceeds but little on to the Indo-Australian Region, the Indian form extensa Bltr. from Sikkim and Assam, differs extensa, in its more pointed wings and greyer under surface.

This genus being separated by furry larvae, a net-cocoon and only 2 subcostal branches in the forewing contains but few species which seem to represent each other geographically. As to more detailed differences in the structure of the antennae and pupae cf. Vol. II, p. 218. The imagines usually fly late in autumn.

**simla.**

*C. simla* Ww. (55 A c) represents the eastern-palaearctic *japonica* Bllr. in North-Western British India, where it touches palaearctic regions in Cashmir. It is much larger than *japonica*, mostly also of a darker and deeper colouring so that the ♀ of *simla* is almost as variegated as the ♂ of *japonica*. As to further differences cf. Vol. II, p. 218.

**cachara.**

*C. cachara* Mr. (55 B b) represents *simla* in Assam. The ♀ differs from *simla* in the brown basal spot of the forewing being absent, the small vitreous spot in the forewing being surrounded by a flesh-coloured circle which is outside bordered with black. In the eyespots of the hindwing the red and black rings are broader, the undulate lines before the marginal area darker. — The eggs are deposited in irregular heaps not in mosaic-like layers. It was tried to feed the larvae with white thorn (by *Watson*), but they perished only half grown. It will be more advisable to give them *Juglans regia*.

14. Genus: **Neoris** Mr.


**huttoni.**

*N. huttoni* Mr. (Vol. II, pl. 31 d). By the habitus of the only species of this genus a transition is formed from *Caligula thibeta* being likewise palaearctic to the *Saturnia*-group. Like the species of *Caligula* it varies in the ground-colour very much. The typical form is widely distributed in the North-Western Himalaya and

**stoliczkana.**

It also comes down into the hot plains of North-Western India. — *stoliczkana* Fldr. (= *stoliczkae* Mr., shadulla Mr., shahidula Mr.) (Vol. II, pl. 31 c) is the large, unicoloured form occurring to the north of the range of typical *huttoni*, but only touching the Indian region in Cashmir, where it occurs yet at great altitudes near Yarkand. Other forms of the species, such as *galerope* Püng. and *secheni* Stgr. are purely palaearctic and do not reach the Indo-Australian Region anymore. Cf. Vol. II, p. 219.


Still nearer to the genuine *Saturnia* than the *Neoris*: also in the colouring and marking they are very similar to this genus, but chiefly separated by a posteriorly club-shaped abdomen terminating in a large dense hair-pad.

**pyreorum.**

*E. pyreorum* Ww. (= *cidosa* Mr.) (Vol. II, pl. 31 a). The species inhabiting palaearctic districts in the Amurland (cf. Vol. II, p. 221) exhibits an eastern, lighter, larger race with a white ground of the hindwing (*pyreorum*) und a darker, smaller, western race (*beutlera* Jord.). The former is distributed on the Pacific coast as far as the I. of Hainan, the latter more in Central China. The larvae are in many places very common, for instance in the I. of Hongkong. — Moreover, beside the rare *cognata* Jord. (pl. 31 a) having been described in Vol. II and passing over to Indo-Australian districts in Central China, another exclusively Indian form has been detached: *pearsoni* Wls. According to the description, its interior white transverse band on the forewing is narrower than in North Chinese specimens, but on the figure added to the description this is not the case. Besides the brown colour above is said to be darker, the second red apical spot of the forewing larger, the anterior line of the forewing more remote from the eyespot. From Hainan where, however, the species is said to be less...
common than in Kuang-Tung. There the larvae ripe for spinning are drowned, the spinning gland softened in vinegar and extended to threads which are highly appreciated as fishing-lines; this has been the custom in China for many thousand years, thus longer than the working up of the cocoons into silk threads. — The larva itself has longer and more strongly bristled tubercles than the larvae of Saturnia and lives on various foliage-trees.


I add here a lepidopteran which is unknown to me in nature and which was probably either wrongly listed or the patria of which was incorrectly stated. The genus Micrattacus is otherwise purely neotropical and it is quite improbable that a genuine Micrattacus should exist in Borneo.

M. sesostris Vuill. Expance: 33 mm. Forewing above brownish-black with very indistinct ash-grey sesostris. spots, the distal margin and the region around the anal angle being of a lighter red. Hindwing chocolate-brown, apex of dorsal margin more red, fringe darker brown than the rest of the wing. Beneath the same, but the marking on the forewing is still hazier, the colouring of the hindwing still lighter. Body and antennae chocolate brown, apex of abdomen somewhat lighter. Labuan (Borneo).

Additions

to the Indo-Australian Saturniidae.

The imago figured as simplicia on pl. 53 a is an African species which Maassen & Weymer by mistake stated to originate from Asia. The figure represents a form of the purely African persephone-group (cf. Vol. 14, p. 324, pl. 52).

P. 500. From the Sumatran form of Actias maenas, soja v. Eecke, Bouvier detaches another Sumatran form (North Korintji Valley) with more pointed forewings and a quite rectilinear distal margin of the forewing in the . In the the interior transverse stripe of the forewing is said to be much nearer to the base of retra. the wing; = recta Bouv.

P. 502. From the Coscinocera likewise new local forms are being continually detached and denominated, titanus. for instance a form allied to hercules, titanus (*) Niep., from New Pomerania. — eurysthenes antheus Bouv. differs antheus. from our figure of eurysthenes (pl. 52 a as hercules) particularly in the very bright white-edged postmedian transverse stripe and larger vitreous spots. On the expanded end of the tail there are black spots in the . The female hindwing is not quite so long extended posteriorly as in other forms of hercules. New Guinea (Weyland Mts.).

P. 502—503. The number of Attacus-forms has in the meantime increased to more than 20. One form in Oberthür’s collection, which is not yet described, is even said to be palaeoarctic (from „Tibet“). It is very questionable whether all these new forms can be maintained as separate local races. Hundreds of atlas-pupae, which I had collected in China and India, yielded extraordinarily deviating forms, even those pupae that had been collected in the same garden. Moreover, we may state here that Hampson assumes for the whole of British India but 2 Attacus-species (beside the Stania which he includes in the Attacus): atlas and the alpine form edwardsi. Nevertheless we add here the forms having been described in the meantime.

A. atlas burmaensis Jur. & Lind. Here the exterior transverse stripe is removed far from the margin burmaensis. of the wing, so that it is almost situate in the centre of the wing, whereby the darker discal area exhibiting the hyaline spot is greatly reduced. Abdomen brownish-red with fine white transverse lines at the segmental margins; between the thorax and the abdomen 2 broad white belts. From Burmah, about 50 km to the north Rangoon. — talas Hbn. (= talus Ky.) resembles standingeri (55 A b as dohertyi) in the vitreous spots, but the ground-colour is generally not darker than in typical atlas among which this form seems to occur aberratively. — The Javanese specimens of A. atlas described on p. 502 as slightly different have already been given separate names, and there were even differences made between West-Javanese specimens (roseus Frühst.) and East-Javanese (triumphator Frühst.) — From these forms such specimens originating from the I. of Bali were detached as baliensis Frühst. All these separations are without foundation, and they might just as well be done with Chinese or Singhalense specimens, if great numbers of them were collected. — A form described by Frustorfer from Sumatra and denominated sumatratus I chanced also to take in the Botanical Gardens in Singapore. — minnus Frühst. is described from the Kina-Balu, but it is said to occur also in Palawan; it is

(*) The author has denominated this form only in case of the New-Pomeranian race deviating from the typical of umphale which has not yet been described.
probably only an alpine form of the common Borneo-atlas of which such great numbers of pupae have been imported into Europe during the last decades. — **rotundus** Jur. & Lind., from Batjan, is said to have particularly short hindwings and also a „short“ apex of the forewing. The proximal transverse stripe is strongly broken at the lower cell-wall *). — **inopinatus** Jur. & Lind., from Flores is like crameri from Ambon, but somewhat smaller (length of forewing 10 cm in contrast with 12 cm of CRAMER'S figure [pl. 381 c]), the proximal stripe is proximally convex in its costal branch and then pointedly broken on the median vein. The forewings are somewhat narrower. — **bijenesstratus Gschw.** and **bijenesstratus Gschw.** have been denominated owing to the number of small accessory vitreous spots, which varies in nearly all the forms. — **intermedius Jur. & Lind.** from Roma and Dammer, is a dohertyi-form in which the upper branch of the interior band in the forewing is proximally convex, and the distal stripe in the hindwing is more deeply dentate, so that the white crescents forming it in dohertyi (55 A b) are somewhat flatter. — From Tenimber *riigeri Gschw.* corresponds to this form.

**wardi.** — The Australian dohertyi-form is *wardi* Rothsch, which differs from dohertyi (55 A b) in the hyaline triangles of the wings being inside rounded; the yellow spot behind the hyaline spot of the forewing is absent, the proximal transverse stripe is strongly broken, the submarginal line of the hindwing is not violettish red but black. Port Darwin. We add here a zoogeographical list of the *Attacus*-forms.

**Geographical distribution of the Attacus-forms.**

<table>
<thead>
<tr>
<th>Name</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>talas</td>
<td>Hna. Kwangtung.</td>
</tr>
<tr>
<td>atlas</td>
<td>L. North India to South China</td>
</tr>
<tr>
<td>silhetica</td>
<td>Hn. Himmulaya, in low districts</td>
</tr>
<tr>
<td>edwardsi</td>
<td>White North India, in the alpine districts</td>
</tr>
<tr>
<td>laprophyanis</td>
<td>Mr. South India, Ceylon</td>
</tr>
<tr>
<td>macpuleliuni</td>
<td>Wts. Andamans.</td>
</tr>
<tr>
<td>banyanu</td>
<td>Jur. &amp; Lind. Siam.</td>
</tr>
<tr>
<td>gladaifori</td>
<td>Frad. Singapore.</td>
</tr>
<tr>
<td>sumatraa</td>
<td>Frad. Sumatra.</td>
</tr>
<tr>
<td>similana</td>
<td>Wts. Simulur.</td>
</tr>
<tr>
<td>roeseus</td>
<td>Frad. West Java.</td>
</tr>
<tr>
<td>triumphator</td>
<td>Frad. East Java.</td>
</tr>
<tr>
<td>staudingeri</td>
<td>Rolsch. Java, on the mountains.</td>
</tr>
<tr>
<td>baliensis</td>
<td>Rolsch. Bali.</td>
</tr>
<tr>
<td>mannsus</td>
<td>Frad. Borneo, Palawan</td>
</tr>
<tr>
<td>banghaasi</td>
<td>Gschw. Philippine Is.</td>
</tr>
<tr>
<td>caesar</td>
<td>M. &amp; W. Southern Philippine Is.</td>
</tr>
<tr>
<td>lorquinii</td>
<td>Frad. Northern Philippine Is.</td>
</tr>
<tr>
<td>inopinatus</td>
<td>Frad. Flores.</td>
</tr>
<tr>
<td>erebus</td>
<td>Frad. Celebes.</td>
</tr>
<tr>
<td>rotheris</td>
<td>Frad. Tenimber.</td>
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<tr>
<td>ramaei</td>
<td>Frad. Ambon.</td>
</tr>
<tr>
<td>dohertyi</td>
<td>Rolsch. Timor.</td>
</tr>
<tr>
<td>aurantiaae</td>
<td>Rolsch. Key Is.</td>
</tr>
<tr>
<td>wardi</td>
<td>Rolsch. North Australia</td>
</tr>
</tbody>
</table>

**Alphabetical List**

of the original descriptions of the Indo-Australian *Saturniidae.*

*) signifies that the species is also figured at the place quoted.

<table>
<thead>
<tr>
<th>Name</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>assama</td>
<td>Anth. Mr. Cat. Ent., p. 11. *</td>
</tr>
<tr>
<td>astaria</td>
<td>Act. Mas. &amp; Wm. Berl. Schmett. 2. *</td>
</tr>
</tbody>
</table>

*) This mark varies considerably in different individuals. Of two *lorquinii* before me, from the Coll. SEMPER, captured at the same place and presumably of the same breed, the interior band of one specimen is so obtusely broken that an obtuse angle of at least 120° is produced; in the other the angle of this band is not even 90°, thus acute, so that at the vertex the flaw accompanies yet the median vein for some distance. In the one case the upper branch of this band is quite straight, in the latter case proximally very convex etc.


walkeri Sam. Flfdr. Wien. Ent. Mon. 6, p. 34.


weymerii Synth. Mssn. Beitr. Schmett. 3, Fig. 42/3.


15. Family: **Brahmaeidae**.

Of the three groups of this originally wide-spread family one inhabits Africa to the south of the Sahara, the second a very disjunct area in palaearctic Asia (Cilician Taurus; Caucasus; eastern Central and North China as far as the Russian sea-coast inclusively), the third being the most specialized inhabits South-Eastern Asia from the Eastern Himalaya to the Philippine Is. in the east and Japan in the north-east (*japonica* Btlr.).


The two Asiatic groups of the genus are to be valued as subordinate genera. The palaearctic one, *Brahmaea s. str.* is characterized as follows: larvae monophagous for Oleaceae, in all stages dark, the thoracal horns (segm. 2—3) at the ends rolled up like spirals, tergit 12 also in the early stage without horns, in the last (4th) moult all the appendages disappear. Pupae: metathoracal horns intensely lustrous, cremaster small. Imagines: hindwing with a connecting vein between the subcostalis and the cell; forewing: the 1st radial invariably from the upper cell-angle, veins 2 and 3 and veins 4 and 5 always on a separate stalk; the large postmedian band never with ocellate dots; uncus of ♀ slightly notched or straightly cut off. — In the Indo-Australian region only the second subordinate genus occurs: *Brahmophthalma*.

#### Subordinate genus: *Brahmophthalma* Mell.

The range has been stated above. **Morphological marks:** *Larvae*: latest from the first moult light and with a porcelain-like gloss; tergits 2—3 and 11—12 with long, black, chitinized horns, those on 2, 3 and 12 being paired, whilst on 11 there is a single median horn, and all excepting those on 12 are turned like corkscrews. In the last moult they are all suppressed.

**B. hearseyi** White (= whitei Btlr.) (56 C a). Vein 1 from the upper cell-angle, the exterior edge of the median cellular band deeply concave below the costal margin. The details of the complicated marking are to be seen on the figure. Hitherto known from Sikkim, Assam, Bornea, Borneo, West China (Sze-chuan), the southern part of Central China (Hunan, Kwei-chow) and South China (Kwang-tung). — Egg large, seen from in front circular, seen from the side flat semiglobular, yellowish. Egg-stage of medium duration (61/2—101/2 days). — *Larvae*: it develops twice as quickly as the other Asiatic lepidopteral larvae of a similar size. The pronotum of the larva is coloured like the body, and the horns on the 11th and 12th segments of the young larva are turned back like the horns of chamois, pectoral legs green with black transverse shields. It has 4 moult and is ready for pupation after 16—21 days, which is unique for such a big insect which is 88—126 mm long and may weigh from 12 to 20 g. A maximal growth of 63% and an increase of weight of 31/2 g were ascertained in 24 hours, and an extension of the dorsal horns by 50% in one moult. It rests sphinx-like, its head being slightly rolled up towards the ventrum; the crackling noise of the mandibles is produced, in a similar way as in the *Acherontia*, on being disturbed (or frightened?); the last defensive position is expressed by its vigorously striking sideways, which is also done when it hears high whistle or violin notes. Pupation in a widened underground hole. — **Pupa**: more or less covered with a plum-like bloom, the covers of the hindwings as far as the stigma of segment 4, thoracal stigma capable of function; metathorax with a median sting-hole and lateral lustreless tori, cover of proboscis shorter than 1st leg, cremaster large, rough with 2 (rarely 1) apical spines. In the imago the hindwing is without the connecting vein between subcostalis and cell; forewing: vein 1 not always from the upper cell-angle, veins 4—5 not always on a special stalk, uncus of ♀ plainly pointed. In both sexes the antennal covers are 2—3 1/2 mm shorter than the covers for the proboscis and forelegs. — This species and the other Indo-Australian species of the subordinate genus inhabit (subtropical) mountain-forests at altitudes of 500—2200 m. In the south of their range they probably go still higher up and seem to be adapted to the...
continental distribution of warmth by the day. The moment of emerging is between 5 and 7 a. m.; for which reason freshly emerged insects, which without any instinct for shelter climb up anything their tarsi get hold of, are more frequently seen in the day-time than any other Heterocera, sitting freely and visible from afar. The imago which has already been flying takes its rest in the day-time on the soil, rarely on trunks. It rests with its wings spread, somewhat like Geometrae; its repose is not very tight; on being disturbed, the insects do not fly away, but spread their wings and are flapping with them backwards. The copula takes place between 8 and 9½ p.m., thus relatively early. The short proboscis (8—11 mm) looks like a diminutive proboscis of Acherontia and probably suffices for drinking. Duration of life: 10 (♂) — 20 (♀) days. They do not propagate much (44—131 eggs).

wallichii. B. wallichii Gray (= spectabilis Hope, conchifera Btlr.) (50 C a) is discernible from the preceding one by vein 1 of the forewing bending off about midway between the upper cell-angle and the distal margin, the marginal bow of the median ocellated band below the costal margin being convex, returning proximad in small undulating bows. — In the larva the pronotum is in all stages yellow with black longitudinal streaks, in the early stage the horns of the 11th and 12th segments are erect. Pectoral legs glossy red-brown, with black shields. In the pupa of either sex the cover of the proboscis is as long as that of the forelegs. — Whether rufescens. rufescens Btlr. is an individual variation or a geographical form, cannot be decided owing to the inaccurate labelling of the specimens at hand. The author states them to be paler, the undulate lines above to be more delicate and therefore more remote from each other; the central belt much narrower, particularly in the centre with a thinner black edge; the black vein-spots are stated to be less numerous. — The Japanese japonica Btlr. is the northernmost isolated and very small vicarious form of wallichii (cf. Vol. II, p. 228, pi. 35 c).

Alphabetical List

of the original descriptions of the Indo-Australian Brahmaeidae.

* signifies that the form is also figured at the place quoted.


As to the general description of this lepidopterous family we refer to Vol. II, p. 229—231. The presumable age, the descent, and the natural allies of the family have been dealt with at large in Vol. XIV, p. 253—257.

More than 250 forms, thus about one fourth of more than 1000 Sphingid forms, occur in the Indo-Australian fauna.

In Vol. XIV we pointed out the eminent flying power of the Sphingidae to be one of their most remarkable characteristics and stated that this geographical mobility prevents the stabilization of local races, because of the constant interbreeding of typical straggling lepidoptera from the original patria with the newly created races, whereby the consolidation of the newly acquired qualities is frustrated. This has been stated in dealing with the African fauna, the vast and compact area of which district easily enables the lepidoptera to fly from one country to the next. In the Indo-Australian fauna there is another fact to be considered, which may be apt to transform the effect of the flying power and perseverance into the reverse. Such specially favoured flyers as the Sphingidae are also inclined to migrate, and since in just that Asiatic zone, which abounds most in insects, the Malay-Papuan district, the native land is cut up into a great number of frequently distantly-separated islands, all the migratory insects are liable to be driven to another patria, and on being dispersed to isolated islands which are not easy to reach for any later followers, single females bearing broods may very easily found permanent colonies. This, however, is frustrated again to some extent by the Sphingidae exhibiting sudden sterility on their having deviated away from their natural frontiers, so that most complicated ecological conditions result therefrom.

These circumstances may have contributed to the remarkable fact that also the cosmopolitan Sphingidae have produced well distinguishable modifications of the original forms in but very rare cases. Herse convoluli is distributed over almost the whole Old World and exhibits in four parts of the world great individual, though very few geographical variations. Moreover, Celerio lineata which is distributed over five parts of the world, is the same on almost the whole globe, and only very insignificant deviations of it occur in Europe and certain districts of Australia.

We have spoken about the presumable phylogenetic age of the Sphingidae already in Vol. XIV (p. 354) and have mentioned the great uniformity of their exterior structure, which is contrasted by a great variety of colouring. The extremely pointed abdomen is to be found in nearly all the Sphingidae known, and wherever it appears broad, as for instance in the Macroglossum and the Trochilium, the way of widening by extendable scales shows that this deviation from the pointed structure of the abdomen is only external or rather apparent, and has nothing to do with the morphological disposition. Even in those cases where mimicry forces a widened abdomen on Sataspes thoracica (64 d) imitating the vehemently stinging Hylocoeta aestuans, the original pointedness of the abdominal end has not been really lost, but only disguised by lateral hair. Thus of the great number of Indo-Australian Sphingidae only the genus Acherontia exhibits a certain roundness of the abdominal end, but on having removed the hairy cover even this proves to be paltry and brought about more by the abdomen being bent down than by a widening of the last tergit.

The structure being rather complicated, the antennae exhibit a very uniform shape. This is the more important since the structure of the Sphingid antennae dots not reoccur in the whole lepidopterous kingdom.
Even a beginner, on the antenna of any Sphingidae being shown to him, might most certainly and directly identify this organ to be that of a Sphinx.

In the same way as the antennae, which exhibit differences only in the finer details of their structure and often only in the apical joint, the wings also show a great consistency in the veins and their robustness or shape. It is only the adaptation to dry leaves, which the resting imago imitates in some groups, that has produced denticulations and indentations in the distal margin, which are completed by the way the wings are held. Moreover, nearly all the Sphingidae known have lanceolate, narrow forewings and triangular hindwings with convex or curved distal margins.

As the large eyes, the palpi (being stretched out into coniform snouts), the strongly spined legs, the uniformly smooth and appressed clothing of the body, are common to nearly all the Sphingid forms, the authors *) of the most exhaustive treatise on the Sphingidae were forced to make use of a great number of histological and micro-anatomical momenta for the sake of the argumentation and support of the system applied by them. As to these details we must refer the readers to the said fundamental monography. This work, however, has been accomplished in such a model way, and such vast material has been employed in it, that probably no revision is to be expected before long and we may follow here this fundamental work even to the details.

The close internal relationship of all the Sphingidae is evinced not only by the homogeneity of their coarse structure but also by a great similarity of the larvae, frequently even in their behaviour and way of moving. The uniformity of the presence of a caudal horn in all the species of Sphingidae hardly reoccurs in any other lepidopteran family composed of so great a number of members. The few cases in which this horn is absent show, by the remains of it, that it was lost only in the very latest epochs.

It is solely the protective adaptation and mimicry that have to a certain degree influenced the differentiation of the Sphingid larvae, and since a great number of larvae have imitated the same model — green leaves of trees —, the adaptation has not even led to great changes of the external appearance. Numerous species from very different Sphingid groups have bare, green larvae with lateral oblique streaks copying the ribs of a leaf. By these streaks as well as by the exact copy of the green shade of the food-plant, the larvae of some species such as Marumba dyros cannot be seen at all by human eyes, and as we already stated with the larva of Mar. quercus, the twig on which the larva must be sitting according to the traces of their feeding and excrements, has to be gently felt for with one’s fingers in order to find the insect.

Another disguise exhibited by the resting larva which is not protected by interior saps, is the very characteristic carriage of the Sphingidae. The front part of the body is raised, though in very different ways by the various species. But few Indian Sphingid larvae, such as Compsogene panopus (61 a), take up a position characteristic of Sphinges, i.e. they raise the front body to about a right angle. Acherontia lachesis and medusa mostly only bend down the head. Larvae of Polyptychus trilineatus bend the front body downwards and stretch the vertex forwards. An extreme of this carriage is shown by the larvae of the Australian Coequosa triangularis which, without the caudal horn, bend over the anterior half of the body hindwards, so that the vertex, ending in a long point, is stretched forward like a horn. In doing so the head is hardly discernible from the rest of the body; but as the larva has eye-like spots at the anal end, it looks as if the head were at that place, or a head at each end, so that these larvae are commonly called „double heads” in their patria. Some larvae curve the anterior half of the body inward, but extend the head and neck upward, thus producing an S-shaped curve. Others inflate their chest without thickening the dorsal segments; the head of the larva is stretched forward (not downward as in Pergesa), however not with the vertex as in the preceding ones but with the mouth in front, as for instance in the larva of the palaearctic Acosmeryx sericen (63 c). The larva of MacroGLOSSUM PASSALUS lays back the anterior part of the body over the dorsum like the larva of the palaearctic Lophonteryx camelinus, so that the vertex rests on the 6th ring, whereas the larva of Rhodosoma triopus (64 e) raises its body to the 8th segment and bends it over hindward in such a way that the 7th ring touches the apex of the caudal horn which is enormously developed here.

Quite different is the behaviour of those Sphingid larvae which are mimetically changed, by copying an animal. With the origin of this mask and the transition-forms to this mask in African larvae I have already dealt at large in Vol. XIV (p. 355). I have also written there about the larva of a Theretra, which I discovered in Singapore and which not only exhibited the exact marking of a snake on its body, but the lateral false eye of which had the lustre of a snake’s eye; it glittered like enamel, so that also a structural mimetic change of

the upper surface had taken place, in a similar way as the larvae of *Pergesa* are able to inflate their front body like a snake's head, which requires a very peculiar muscular system.

Very much has been written about the origin, purpose and advantage of this snake-mimicry of the Sphingid larvae. Aug. Weismann in his „Studien zur Deszendenztheorie“ has scrutinized the reasons why in some larvae of *Celerio*, the variegated spotting is more developed than in others, and therefrom wanted to conclude phylogenetical differences of age. But as the effect of poisonous and unpoisonous food-plants was unknown to him, he drew quite wrong conclusions from the different colourings of *C. euphorbiae*, *gallii*, *hippophaes* etc. The lack of the horn in the larvae of *C. vespertilio* he considered to be a separating deviation from the other *Celerio*-larvae, because he evidently did not know that the larva of *vespertilio* is the only Sphingid larva which conceals itself beneath sharp-edged rubble-stones through the crevices of which a horned larva could not squeeze itself. He attached importance to the fact that the larva of *Pergesa elpenor* shows a greater resemblance to a snake than that of *porcellus*, because he had probably not observed himself, that the larva of *porcellus* being a nocturnal insect hides itself in herbs in the daytime, whereas *elpenor* usually sits very conspicuously on *Epilobium*, Vine, *Balsamine* etc., and he had no notion whatever, why the green protective colour in the larva of *Pergesa elpenor* is so very common, whilst in *porcellus* it is never or but very rarely noticed. Thus Johannes Schilde, being opposed to the mimicry-theory, succeeded in his refutation: „Check to Darwinism“ in raising very remarkable and striking objections to Weismann's statements, which of course were used for declaring the whole doctrine of the disguise of the Sphingid larvae to be disputable or disproved.

The food of the Sphingid larvae mostly consists of the leaves of highly developed plants, in but very rare cases also of Monocotyledons, such as *Gramineae* (*Leucophlebia*); quite a number of larvae live on the most modern cultivated plants. Numerous species live on fruit-trees (*Prunus*, *Malus*), many on *Vines* (*Theretra*), others on tobacco and potato plants (*Acherontia*), or beans. Some are absolutely monophagons, and their range is thereby confined to the occurrence of their food-plant (*Celerio*). Others again strictly and persistently keep to the family of plants, within which the food may be chosen ad lib.; like the palaearctic *Proserpinus prosperina* which may be easily bred with any kind of *Oenotheraea* (either with evening-primrose, willow-herb (*Epilobium*), or *Fuchsia*), but which generally perishes a short time after having been fed with plants from another family. Some very voracious species live on kitchen-plants, such as the North-Indian *Clanis bilicinata* on beans, and may often do considerable harm; this latter species, however, are eaten in China; and even the dogs in China are seen running about the fields and eating the fat larvae of *Clanis* (Klapheck).

The pupae of the Sphingidae nearly all live underground, either in a burrow which may sometimes be polished inside, or also directly below the surface of the soil, covered with a web. They mostly have a hard shell, the upper surface is rarely rough, mostly as smooth as porcelain, so that ants cannot get at live pupae with intact covers, whereas crippled pupae with vulnerable outer shells are eaten up as a rule. The tenaciousness of the pupae against exterior assaults is quite different. Whilst the pupae of *Celerio* endure the severest contusions, loss of blood, changes of temperature and of moisture without being harmed, whole breeds of *Marumba* or *Acherontia* species perish sometimes in spite of their being most carefully attended to. Pupae of Indo-Australian Sphingidae that had been sent to Europe mostly yielded very unfavourable results. The change of climate often produces an excessive pupal stage; thus a breed of *C. pinastri* do in the pine woods of the plains of the Rhine on hot days in June.

A most remarkable pupal stage is that of *Leucophlebia*; *L. Lineata* (Vol. II, pl. 37 c), which is widely distributed in India and China, was stated (by R. Mell) to have a pupal stage of only 11 days, after having remained in the ground unpupated for three weeks.

In India, excepting perhaps the alpine districts with their cool nights, the development of the imago seems almost invariably to take place at night, particularly in the early hours. Anyhow the degree of temperature presumably brings about the emergence; yet I cannot remember of having observed anywhere in the Indian region freshly emerged Sphingidæ sitting about in greater numbers, stretching their wings, as for instance the *Sph. pinastri* do in the pinewoods of the plains of the Rhine on hot days in June.

The way the imagines of the Indo-Australian species hold their wings is mostly quite the same as that of their palaearctic brothers. The *Acherontia*, *Herae*, *Hyloicus* etc. in this respect differ in no way from the European species of the same genera. The *Oxyanthlyx*, *Clanis*, *Marumba*, *Deilephila*, *Theretra* etc. hold their wings somewhat spread out, away from the body, in which case the anal portion of the hindwing, not being covered by the forewing, is mostly of the same colour as the forewing. Many Indian Sphingidae bend the abdomen upward, particularly the *Langia* which always tightly claw on to a twig in a suspended position, with their wings steeply stretched hindward, the upturned abdomen resembling an irregular chip of wood.
Other species again most peculiarly bend the abdomen downward. In *Panacea losiris* (64 a) the head is inclined on the resting place of the imago, the dorsum is raised high up, and the abdomen as far as the middle bent down, then again stretched hindward; the wings stand far off hindward, since they cannot be appressed to the S-like curved body (*Mell’s* so-called „boomerang-position“). Owing to this distorted exterior and the covering and shape of the wings and body being absolutely like a chip of wood, the insect can hardly be taken for a living being. Whilst in the preceding cases the abdomen of the imago is bent downward by adaptation, it is mimicry in *Sataspes thoracica* (64 d), which induces the disturbed imago [exactly resembling a carpenter-bee (*Hylocopa aestuans*)] to bend the abdominal end in the very same way as its model, when it stings. The excellent observer *R. Mell* has succeeded in photographing this remarkable moment in *Sat. infernalis*.

The geographical distribution of the Indo-Australian *Sphingidae* on the whole corresponds to the general zoogeographical rules. In spite of the great flying power the frontiers are not all effaced, because the *Sphingidae* being relatively young lepidoptera are rather strictly confined to the climate and, moreover, many species are monophagous and cannot exist in regions, where their food-plant does not occur. By the above-mentioned sterility of the ♀♂ when they leave their range they are prevented from passing over to other countries. Recent researches have proved the temperature to be an essential influence upon the procreative faculty of the *Sphingidae*: this assumption is the more probable since *Sphingidae* from the palaeartic plains reappear in the Indo-Australian region as alpine insects at altitudes the temperature of which corresponds to that of palaeartic countries. *Haemorrhagia fuciformis* which in the palaeartic region inhabits more often the plains, lives in India only at the greater altitudes of the north-western district. *Pergesa elpeuor* being widely distributed in the palaeartic lowlands reappears in Assam as a decidedly alpine insect, whereas in the north it hardly goes beyond the mountain-region. Otherwise the Indo-Australian *Sphingidae* are not remarkable, but correspond to all our expectations if we stick to the assumption that the *Sphingidae* are a relatively young lepidopterous tribe which quickly expands owing to their great flying power. Nor is the division into a great number of genera, that are difficult to delimit, corroborated by the great conformity of the larvae, and therefore the separation into so many genera is to be regarded more as a means of facilitating the survey than for the foundation for the outline of a pedigree. In all the cases where the imagines seem to justify a generic separation (e. g. in *Smerinthus* and *Aporrhina*) we miss every distinct difference in the larva, and on the contrary, wherever there are different larves, as in *Celerio euphorbiae*, *hippophaes* and *vespertilio*, the imagines are too conformable to induce us to try a separation. We may, on this occasion, also remind the readers of the remarkably easy hybridism among the *Sphingidae* of different genera, which also speaks in favour of the fact that the alienation of such genera, having been thus far separated, has apparently not yet been very prosperous. Thus it is to be recommended to regard the following system of the *Sphingidae* merely as a provisional arrangement and, at any rate, to be sceptical towards any further separations, particularly of such monotypical genera.

In accordance with *Jordan’s* statements in Vol. II, p. 231, we divide also the Indo-Australian *Sphingidae* into 5 subfamilies, the two first of which (*Acherontiinae* and *Ambulicinae*) are reckoned to the *Asemophorae*, the three others (*Sesiinae*, *Philampelinae*, and *Chaeocampinae*) to the *Semanophorae*. The characterization of this group has been stated in Vol. II.

a) Tribus Acherontiace.


Recognizable by the thick short proboscis which is unfit for feeding on flowers and probably serves for licking other saps. On the dorsum a death’s head marking. Every year great numbers, according to the warmth of the year, immigrate to the palaeartic zone, but they only propagate in the southern countries, whereas in the north the females remain sterile, at least in most of the cases. One species, *atropos* (Vol. II, p. 232, pl. 36 b) is otherwise Ethiopian. In the Indian region two species occur, but as they go far into the eastern palaeartic districts in North China and Japan, they have been described in Vol. II (l. c.) and figured there (pl. 36 a).

* A. lachesis. = morta *Hum.*, satanas *Bst.*, lethe *Ww.*, circe *Mr.* (Vol. II, pl. 36 a) is at once discernible from the other forms of *Acherontia* by the hindwings being quite black excepting feeble yellow macular bands. The distorted face on the dorsal part of the dorsum is darkened. Particularly blackened specimens (ab. *atra*) from Java, probably occur in the whole region. — Adult larva green, yellow, or brown, with thick white oblique stripes bordered with blue, not being contiguous, however, on the mesodorsum. Extremely polyphagous, preferably on Solaneae (*Datura*, *Nicotiana*); in China especially on Cleorocephal canescens and

*) R. *Mell*, Biologie und Systematik der südchinesischen Sphingiden, pl. 27, fig. 14.
thomsoniae, and on account of these garden-plants the species chiefly occurs in towns and villages, frequently coming to the lantern in the evening; it was observed between 8 and 11 p.m., once even already after 7 p.m. On being captured the imagines chirp in the same way as A. atropos. — Distributed through the whole of India (excepting the north-western parts of it), Indo-China to China, to the north as far as Peking, but not in Japan. As Chinese ♀♂ often showed empty abdomina (Mell), the northern (palaearctic) specimens as well as many A. atropos are presumably sterile. Mell stated the greatest number of eggs from one specimen to be 279. Eggs deposited in the open air are frequently found to have been stung.

A. styx Ww. (= medusa Mr., ariel Bd., satanas Cuis, nec Bd.) (60 a) is very near to atropos, but styx, according to the anatomical examination it is different. Easily discernible by the under surface of the abdomen, which in atropos shows black bands, whilst in styx it is yellow, decorated with few dark nebulous spots. — In the typical form, the range of which extends from Sikkim to South India, Ceylon to Ceram and Malacca, the dark forewings are in places covered with dark red-brown; in the northernmore form crathis R. & J. (= medusa crathis. auct., styx auct.) (Vol. II, pi. 36 a) which is particularly common in China and Japan, but also extends from Malacca to the Sunda Is., the forewing is more uniformly dark, excepting the light central spot almost quite monotonously blackish-brown. — ab. interrupta Closs are specimens in which the exterior dark band of the hindwing is interrupted yellow between the veins. — Larva green or brownish-yellow, the oblique stripes often only shadow-like, but broad and accompanied by light lateral streaks. In South China, according to Mell, especially on Clerodendron inerme and fortunatum, as well as on Sesam and Ligustrum lucidum, and therefore not to be found near human habitations. In many districts common, the larva often found in wandering, betraying itself by cracking with its mandibles, which noise the death’s head larvae produce, when danger is imminent. Most of the varieties of bands on the hindwing above stated in A. atropos (Vol. I, p. 232), which have quite unnecessarily been denominated by Tutt, also occur in crathis, but do not deserve special names. For instance, the interior black band of the hindwing may be absent, it may be as thick as the exterior one, or widened, the central spot of the fore wing is more monotonously blackish-brown. — ab. tahitiensis auct. are specimens in which the discal area of the fore wing is of a deep dark brown colour (as in Herse fasciatus 60 a), whilst in ab. suffusa Tutt this deep brown colour covers the whole forewing save for feeble lighter transverse streaks. — In ab. distans Bith. (= roseofasciatus Koch) the rosy red colour of the abdominal bands is particularly bright, whilst in ab. alilca Newbr. it turns reddish brass (faulty colour). — In ab. variegata Tutt the centre of the forewing is tinted dark grey; in ab. variegata Tutt not only the discal area but also the marginal area is very much darkened, whereas the basal area remains light. — ab. tahitiensis Tutt is a form of a smaller average size and often very pale pink hindwing; it came from the South Sea, though it is not characteristic of it. — extincta Gehlen is founded upon a single male from New Mecklenburg, which is rather small (expans 80 mm); its marking on the forewing is altogether washed out, and on the hindwing only the marginal band is feebly and indistinctly developed. — The larva is no less variable than the imago, green or brown. The brown specimens may superficially resemble the brown form of the Acherontia-larva, but they are always recognizable by the thin, retroucerved small horn which is never bent like an S; they usually


The genus is allied to the preceding one as well as to the Ethiopian Coelonia (Vol. XIV, p. 358). As to the genus itself cf. Vol. II, p. 233. In the Old World four predominantly grey Herse-species are opposed to one more pink-coloured species in the New World. The Indian species, above all convolvoli are known as wanderers also in Asia, flying every year far into the palaearctic region. They appear in the evening especially on Ipomoea and Petunia, as well as on Mirabilis jalapa, although this flower has been introduced from America. They require a great deal of food, and in Southern China where they are extremely common they sometimes come from the verandahs into the rooms, swarming about flower-stands and bouquets; sometimes they even try to drink from picked flowers which one holds in one’s hands, and in doing so they most cleverly dip the apex of the proboscis, which is often more than 8 cm long, into the calyx. Their eyes are shining very bright in the dark. In my garden at Kauloon (Kwang-Tung) the Herse often were the only Sphingidae visiting the flowers in the evening (August), however in great numbers.

H. convolvoli L. (= abadonna F.) (Vol. II, pl. 36 a). Pretty nearly all the forms of this species, that convolvoli, have been ascertained for the palaearctic region, may also occur in the Indian region, where we distinguish particularly large specimens (being especially common in Indo-China) as ab. major Tutt, those with an expanse of less than 75 mm as ab. minor Tutt, very small specimens which are little marked as ab. pseudocconvolvoli Schaul. (= batatae Christ.), large Eastern-Asiatic ones predominating in Hongkong as f. orientalis Bith. orientalis. (= ichangensis Tutt. patates Men., large, wings almost quite uniformly greyish-brown); such insects, however, also occur now and again in the Sunda Is., and I also took some of them near Port Said in Egypt. — ab. nigricans Cuvac., on the contrary, are very dark marked specimens, ab. obscura Tutt very black marked ones, nigricans, and ab. fascisignata Tutt are specimens in which the discal area of the forewing is of a deep dark brown colour (as in Herse fasciatus 60 a), whilst in ab. suffusa Tutt this deep brown colour covers the whole forewing save for feeble lighter transverse streaks. — In ab. distans Bith. (= roseofasciatus Koch) the rosy red colour of the abdominal bands is particularly bright, whilst in ab. alilca Newbr. it turns reddish brass (faulty colour). — In ab. variegata Tutt the centre of the forewing is tinted dark grey; in ab. variegata Tutt not only the discal area but also the marginal area is very much darkened, whereas the basal area remains light. — ab. extincta Gehlen is founded upon a single male from New Mecklenburg, which is rather small (expans 80 mm); its marking on the forewing is altogether washed out, and on the hindwing only the marginal band is feebly and indistinctly developed. — The larva is no less variable than the imago, green or brown. The brown specimens may superficially resemble the brown form of the Acherontia-larva, but they are always recognizable by the thin, retroucerved small horn which is never bent like an S; they usually
show a few ochreous punctiform spots on feeble light subdorsal lines; these spots may also be darker than the ground-colour; in the sides mostly dark oblique shadows, but the whole larva may also be dark blackish-brown. The green larvae are dorsally marked dark brown. The face has vertical frontal stripes. On Convolvulaceae, according to Mell in China also on a Papilionaceae, Dolichos lablab. — The imagines occur throughout the year in the Tropics, in the northernmore districts preferably in autumn, rarely in spring. The $\varphi\varphi$ are frequently sterile.

**H. fasciata** Rothsch. (60 a), from the South Sea Island of Lifu. Dark brown instead of dark grey; the black abdominal belts are widened so much that they also cover the red places of convolvuli, so that they are only separated by narrow whitish transverse belts.

**H. lucifera** Wkr. (= schildtz Wkr., lixi Rothsch., triangulairis Holl., concolorata K.) (60 a), from the Moluccas, Key Is, and New Guinea, chiefly differs from fasciata in the bright white central dot of the forewing and more effaced markings, so that the bands on the hindwings are no more distinct.

**H. godarti** Me Leay (= abadonna Ky., distincta Luc., cremitus Wkr.) (60 b) is a small form from Northern Australia; wings almost exactly as in convolvuli, but the abdomen without any rosy red, which is replaced by a dingy white.

3. **Genus: Megacorma** R. & J.

This genus contains but 1 large, grey South-Indian species at once discernible from the preceding genera by the pointedly produced anal angle of the forewing, whereby it also approximates the very similar *Meganoton analis*. The species is distinguished by an excavation in the scaling on the outside at the end of the 1st palpal joint.

**M. obliqua** Wkr. (= nestor Bsd.) (60 b). Grey, shaded with brownish, forewing with undulate transverse bands and a somewhat curved black stripe from the centre of the costa to the margin above the anal angle. Very similar to *Meganoton analis* (60 c), but the transverse streaks in the forewing are differently situate from what the figure shows. India and Ceylon, from Burmah and the Sunda Is. to New Pomerania and presumably New Guinea, though rare; I only captured once a specimen near Colombo, which had settled on the trunk of a fig-tree. — In *remota* Jord., from Bougainville, the upper surface is more of an olive tint, and below the oblique streak through the forewing there is, between the 1st and 2nd median branches, an oblong black spot.

b) **Tribus Sphingicae.**

Here all those Sphingid genera are united, that are grouped around the genuine „Sphinx“; they most typically show the Sphinx shape.

4. **Genus: Meganoton** Bsd.

The genus contains three species all of which are from the Indian region. A fourth species, from Japan (scribae Aust.), is questionable. They resemble the preceding species *M. obliqua*, but do not exhibit the indentation in the scaling of the 1st palpal joint. Type: *M. nyctiphanes* Wkr.

**M. analis** Bldr. (= grandis Bldr., tranquillaris Bldr., diseistriga Hmps. nec Wkr.) (60 c; Vol. II, pl. 36 c). Very similar to *Meganoton obliqua*; larger, the distal transverse stripe of the forewing composed of a chain of small, parallel, longitudinal spots. — Larva mostly unicoloured green excepting a yellow central dot of the forewing and a chain of small light spots through the centre of the hindwing are conspicuous. — Larva mostly unicoloured green excepting a yellow lateral oblique stripe which extends from the base of the last pair of abdominal legs broadly into the yellow, long, quite straight caudal horn. Sometimes there are brownish saddle-markings on the mesosordum; on Sassafras (S. tsumu). Pupa with a moderately long, semicircularly bent sucker-nose. — Distributed in the palæarctic south-east, from Shanghai through Central and South China across the Himalaya to Assam.

**M. nyctiphanes** Wkr. (= cyrtolophia Bldr.) (60 b) is much smaller than *analis*; upper surface deep dark brown, so that the transverse streaks of the forewing are indistinct. Only the white central dot of the forewing and a chain of small light spots through the centre of the hindwing are conspicuous. Abdomen almost spotless. — Larva grass-green with a white dorsal stripe from the 2nd ring to the horn; beside the yellow oblique stripe extending into the horn there are some more from the 5th to 9th rings. — India and Indo-China, Andamans, Ceylon, Borneo, and Palawan.

**M. yunnanfuensis** Clark. Apparently near to *rufescens draconomontis*, but with more distinct wavy transverse stripes, of a darker tint, the habitus more similar to *nyctiphanes*; Yunnan-fu in South China.

**M. rufescens** Bldr. (= rubescens Bldr., cocytioides Rothsch.) (60 c) is very similar to the preceding species, but still darker sepia-brown, and discernible by the absence of the row of light spots in the disc of the hindwing. North
India, Andamans, Philippines, and Sula Is. — *dracomontis* Mell is smaller, lighter, the ground-colour more *dracomontis*. brownish-grey, the fringe more distinctly speckled (as in *nyctiphanes*), the base of the hindwing more grey-haired, abdomen beneath without the grey discal spots on the posterior rings; China. — Specimens from Ceram are intermediate forms between *rufescens* Btlr. and *dracomontis* Mell, and are much smaller than the Australian *severina*; they were denominated: — *joachimi* Clk. — *severina* Misk. is the form from Queensland with intensely olive forewings, especially in the proximal halves; hindwing at the costal and anal margins lighter, the light distal band more distinctly marked, especially at the anal angle. — Larva green, the adults with broad white oblique stripes in the sides, brown pectoral feet, and a very long, green, straight horn. On *Melodorum oldhami* (Anonaceae). — The species is not common and has two generations in China.

**M. hylooides** Roths. (68 a). Exterior similar to that of a dark *Hyl. francki* (cf. fig. in Vol. VI). Head and tegulae black, their edges and the palpi cinnamon-coloured. Thorax and patagia light yellowish-brown, with a broad black central edge. Abdomen dark brown with a brown median band and dark ring-margins. Forewing with a tan-coloured base; basal third blackish-brown, with 5 or 6 irregular, brown and grey zigzag transverse bands; the rest of the wing with white, brown and grey bands and spots. At the apex a mud-coloured costal spot. Hindwing in the interior three quarters cinnamon-brown, near the inner area indistinct blackish spots. Distal quarter blackish, dusted with yellowish-grey. Fringe cinnamon-red, mixed with whitish. ⊙ considerably larger than the ⊙. Dutch New Guinea.

A few more forms of this genus have been described, being mostly based upon a single specimen. As I am unable to examine the forms myself, I cannot decide whether they are distinct species or whether they are geographical representatives of *analis*. One of them is *subalba* Clk. referring to South-Chinese specimens. *subalba*. Smaller than *analis* from Shanghai figured in Vol. II, pl. 36 c; distinguished particularly by the whiter under surface of the body. — *clossi* Gehlen, from Borneo, is rather larger, the upper surface lighter, particularly the *clossi*. hindwing in the anal region almost white. The forewing lacks the brown stripe which extends from the stigma to the inner margin before its centre. — *sumatranus* Clk. is a form entirely like Borneo-specimens; it represents *sumatranus* the species in Sumatra.

5. Genus: **Leucomonia** *R. & J.*

The genus contains but 1 Australian species, the size and exterior of which is about between that of *Hyl. pinastri* and that of *Herse convolvuli*. The proboscis is still longer than the body. The first anterior tarsal joint has no prolonged spines.

**L. bethia** Ky. (= *distinctum* Roths.) (60 c). Forewing quite light grey beside a very dull brown *bethia*. transverse shadow, only the central dot and the apical boundary line, which is only short in *Hers*., long and extends almost to the central dot. Hindwing blackish-brown, at the anal margin lighter. North and West Australia.

6. Genus: **Psilogramma** *R. & J.*

From this genus which has been accurately described in Vol. II, p. 234, only 1 common species was known, the palaearctic representative of which is figured on pl. 36 b of Vol. II. Later on another species was found in a South-Sea island.

**Ps. menephron** Cr. (= *discistriga* Wkr., *abietina* Bol., *darius* Men.) (60 d) almost looks like an *M. analis menephron*. being one third smaller, but the white dentate line defining the basal area is more distinct, and the dent at the anal angle of the forewing is only marked by a slight convexity. Colouring and marking most variable. Very pale specimens with a grey tint have been described as ab. *vates* Btlr. — *ahrendti* Pug. are specimens *vates*. from Ambon; the type considerably exceds even the *casuarinae*; it has an expanse of 120 mm. Forewing almost unicoloured dark ash grey with a white central dot; hindwing with bright bands, abdomen on ring 2 with an uninterrupted white lateral edge, whilst on the rings 3—6 it is interrupted; fringe speckled as in *casuarinae*, though this form is just as little geographically definable as *macromera* Btlr. for Borneo-specimens and *melanomera* Btlr. for North India. — *nebulosa* Btlr., from Australia and the Papuan Is., already form a transition to the Australian *casuarinae* Wkr. (60 d); the rather bright ground of the wing shows a large blackish-brown costal-marginal spot in the median area, in which the bright white central dot is situate, which is not so distinctly prominent in typical *menephron*. — It may be that the Australian form turns out to be a distinct species, like *inctra* which has been dealt with in Vol. I as a form of *menephron* and which occurs together with typical *menephron*, but has a different larva and pupa. — ab. *eburnea* Closs is merely a West-Chinese variation, in *eburnea* which the small light spots of the forewings are very much widened, forming two yellowish-white dentate bands, the distal one of which flows out into a large similar subapical spot. Hindwing with a yellow costal margin and anal spot. Abdomen above yellowish-grey with a black median line; the lateral spots are sharply defined.

— *lifuense* Roths. has the remotest patria: Lifu I. (of the Loyalty Is.); described from a single ⊙. — *fasciatus* *lifuense*. *fasciatus*.
Close, according to the author, already makes the impression of a distinct species. It is larger and marked with a brighter black and white; particularly the postmedian whitish ocellated band and the light anteterminal spots are brighter and on the thorax there are behind the middle of the collar as well as at the posterior margin bright yellow spots; the lateral spots of the abdomen are dark chestnut instead of lighter grey. — strobi Bdl., by mistake stated from North America, seems to be founded upon a small aberration of menephron which was not identified owing to a mistake of the patria; Oberthür informed Clark that the insect originates from Asia. — The range of the species extends from South China across India to Australia in the south and to the Malay Is. in the east; in South China they are very common (e. g. in Hongkong). — Larva green, not spotted brown, only before the pupation with a violet-brown dorsum. It is more coarsely granulated than the following species, the white oblique stripes are broader, especially the hindmost stripe terminating below the horn is several times as broad as the others. On Clerodendron inerme.

Ps. increta Wkr. (Vol. II, pi. 36 b). This species being common in Japan and having been dealt with in Vol. II, p. 334, also occurs on the continent with a wide range extending from Korea to Formosa and the Linchot Is. and in the south (according to Mell) to New Guinea and Australia. — The larva is similar to that of the preceding species, but the last oblique streak is not so much widened; the granulation of the dorsal skin is finer, and therefore the upperside smoother, with a porcelain-like gloss, the green colouring almost invariably interrupted by brown spots. On Vitex negundo.

Ps. jordana B.-Bak. (56 c, d) is another species described from the remote Fidji Is. It is somewhat smaller than menephron, and has an expanse of 100 mm. At once recognizable by the ground-colour of the forewing being almost white, strongly contrasting with the dark brown colour of the hindwing.


The only species known of this genus lives in North India and its habitus to a certain degree resembles that of the American Euryglottis aper from which, however, it is at once discernible by the thoracal covering being quite scrubby and somewhat ruffled in the American species.

A. velox Btlr. (60 d) is at once recognizable by the whitish-yellow streak parting the apex of the forewing and the areuate band before it, which is proximad accompanied by a white crescentiform line. Otherwise similar to the preceding species. It occurs in the mountains of Sikkim and Assam.


Rather small insects of the habitus of North-American Dolba, for which reason it had also been described as a Dolba; the relationship to the preceding genus has been chiefly ascertained by anatomical marks. The first hind palpal joint is shorter than the tibia, not longer than joints 2—5 together. Penis-cover with a single, long and pointed tooth which is directed to the right side.

Ps. fo Wkr. (= veloxina Rothsch.) (60 e). Forewing dark brown with 10 rather parallel black, mostly notched or undulate transverse stripes and a white central spot encircled by a black ring. Hindwing lighter brown with two faded dark submarginal bands. Recognizable by the bright golden yellow abdominal sides which are intersected by black stripes on the segments. An alpine lepidopteron as the preceding species; Sikkim, Khasia Mts. — celator Jord., from Dharmasa, differs from Sikkim and Assam-fo in the harp showing a ventral tooth near the apex; no other differences have been ascertained.

Ps. aequalis R. & J. is a rare insect from Assam: similar to the preceding ones, but the upper surface of the wings and body with an olive-greenish tint which, in fresh specimens, shows a yellow lustre; the space between the black transverse stripes before the median area filled with black.


This genus is composed of a rather small, strongly built imago likewise resembling Dolba. Proboscis feeble and not long; middle tarsi without long basal bristles.

C. eremophila Luc. (= minimus Miskl.) (60 e). Considerably lighter greyish-brown than Ps. fo; forewing with but 3 or 4 distinct, strongly angled transverse bands. Abdomen laterally not golden yellow. — Larva green, across the dorsum and along the sides rows of orange spots. Head, horn, and claspers black. On Pholidia, a Myroporacea. From Queensland (Dawson R.); rare. — A larger species has lately been described from Ceram maximus L., but it has remained unknown to me: — maximus Clkl.
10. Genus: **Sphinx** L.

This genus being otherwise called *Hyloicus* is nowadays mostly regarded in the catalogues as the typical genus of the family. It shows the typical Sphingid shape with a pointed abdomen and pointed wings in the most pronounced way. Most of the approximately 30 species are known from America; only about half a dozen occur in the palearctic region, and but few grey species living on conifers penetrate to the northern parts of the Indian region. In Australia the genus is not represented at all.

*S. caligineus* Btlr. (= caliginosus Ky., *pinastri* Leech) (Vol. II, pi. 36 d). Our figure shows that the species resembles a *Sph. pinastri*, in which the slate-blue dusting of the body and forewings has worn off by flying. The most essential difference is the almost uniformly brown colouring of the abdominal dorsum which is banded black and whitish-grey in *pinastri*. The proboscis of *caligineus* is entirely stunted, whereas in *pinastri* it is about as long as the body. — Typical *caligineus*, however, inhabiting Japan, does not reach the Indian frontier; nor does the form *sinicus* R. & J. inhabiting the part of China that is opposite to Japan (cf. Vol. II, *sinicus*. p. 236) traverse the northern frontier of the Indian region very far, and it is soon replaced by the form *brunnescens* *brunnescens*. *Mell* which is intermediary between the type and *sinicus*. It exhibits a more brown than grey colouring, the inner-marginal area of the forewing above is dusted with rust-colour as far as below the oblique band, like the hindwing; the abdominal dorsum shows faint traces of bands. — Larva separated from that of *pinastri* by the whole dorsum being dark red-brown and only the sides of the body showing two green stripes of about 1 mm width, being edged by brown longitudinal lines. Found on Pinus massoniana. The form is known from Hunan and Kwang-Tung.

*Note*: This form is allied to *S. oberthueri* R. & J. (cf. Vol. II, p. 236*, pi. 36 d*) which most probably traverses the palearctic southern frontier over to the Indian region in Szechwan.

*S. jordani* *Mell*. Very near to *caligineus*, but still more inclined to *pinastri*. Thorax and forewing pale *jordani*. grey with a brownish shade. Tegulae inside sharply defined by dark brown, abdomen greyish-brown, the blackish-brown lateral band broad, the dorsal stripe narrower and feebler than in *caligineus*. Forewing above without the cellular streak, the other streaks distinct; hindwing pale grey. — Larva extremely similar to that of *pinastri*, the violetish-red dorsal stripe is narrow, the green sides are traversed by 3 white stripes. Head yellowish-brown, face striped; horn and feet dark red. On Pinus massoniana. Yunnan.

*S. uniformis* Btlr. (= concolor Hmps.). Like the preceding ones a representative of *S. pinastri*, but *uniformis*. owing to the absence of the proximal pair of spurs on the hind tibiae separated as genus *Thamnoecha* R. & J. It differs from *pinastri* (Vol. II, pi. 36 d) in the upper surface being quite unicoloured grey; collar and tegulae feebly marked black; through the grey forewing extend traces of a rusty-reddish band which is most distinct above the inner margin; between vein 2 and 4 two black streaks. Hindwing reddish-brown with grey fringe. Considerably smaller than *pinastri*, expanse only 50 mm. North India: Simla.

c) Tribus Sphingulicae.

A group of genera only comprising 10 species, altogether confined to the Old World, but entirely absent in Europe and Africa. They differ from most of the species of the preceding tribe in the short or even abortive proboscis, which also brings about the absence of a proboscis-nose in the pupae. Larva granulated.


Here the proboscis is still present, but it is hardly half the length of the body. The genus contains but one genus which is easily recognized by the fox-coloured hindwings.

*T. edwardsi* Olliff (= variegatum Rothsch.) (60 e). Forewing dark brown, before the apical portion *edwardsi*. white patches; hindwing fox-coloured, inner-marginal area yellowish-grey, with black bands. Queensland and New South Wales; rare.

12. Genus: **Synoecha** R. & J.

Only 1 Australian species apparently forming the connection with the *pinastri*-group of the genus *Sphinx*. Palpi small, proboscis short and feeble. Anterior and middle tibiae spined; anterior tibiae with a long terminal spike. In the hindwing the second subcostal branch is long-stalked with the 1st radial.

*S. marmorata* Luc. The grey-marked forewing broader than in *Sph. pinastri* and *caligineus*; fringe *marmorata*. with black dots. Easily recognizable by the transverse, white oviform spots extending along the sides of the abdominal dorsum from the base to the apex. Expanse of wings: 64 mm. Dawson District in
Queensland. — ab. *dumigani* Ckl. is based upon a melanotic specimen from Clermont in Queensland, which, particularly on the abdomen, shows intensified dark and reduced white bands.


Allied to the following genus, but more slender, the antennae less than half the length of the costa, without distinct terminal hooks. Legs roughly scaled, anterior tibiae with some terminal thorns beside the terminal spike, from which the name of the genus is derived.

- *H. brachycera* Low. (= *melanoleuca* R. & J.) (60 e). A small lepidopteron with dark brown forewings which are crossed by 4 transverse lines, and almost white hindwings. West Australia; rare.


The genus which is briefly characterized in Vol. II (p. 237) lives on the palaearctic-Indian frontier and may therefore also occur in the warmer valleys of Kashmir in the Indian region.

- *D. grisea* Hmps. differs from *Dolbina inexacta* (61 a) in the head, thorax and abdomen showing a grey ground-colour; the black lines are similar, but without white on the thorax. Forewing similarly marked, but with grey ground-colour. Hindwing dull blackish-brown; fringe not speckled, but grey, only with dark dots at the ends of the veins. Kulu in Kashmir. Only the male has been described; apparently very rare. As to further particulars we refer to Vol. II, p. 237.

15. Genus: **Dolbina** Stgr.

As regards the genus we refer to Vol. II, p. 237. The 3 species known are all Eastern Asiatic; a peculiar fact is that the larvae do not resemble those of *Sphinx* or *Acherontia*, but so much those of *Smerinthus ocellatus* that they are often difficult to distinguish from them.

- *D. inexacta* Wkr. (= *khasianum* Rothsch.) (61 a). Habitus and marking exactly like that of the palaearctic *exacta* Stgr. (Vol. II, pl. 36 e), but easily discernible by the abdomen beneath showing large black central dots on the segments. — Larva bluish-green, head narrowed upwards, with a blue, slightly bent horn and dark green lateral oblique stripes being below bordered with whitish. Adult larva very similar to that of *Smer. ocellatus*; on Fraxinus and Ligustrum. South China to Bombay and Assam.

**d) Tribus Ambulicini.**

Like the *Acherontiini* this Sphingid division also contains about 140 species distributed over all parts of the world; they attain, however, the largest size in Australia where *Coepusosa triangularis* has an expanse of almost 20 cm, the body being more than 6 cm long and more than 2 cm thick, thus numbering among the biggest lepidoptera. The disunion of the tribe *Ambulicini* from the *Acherontiinae* and the other Sphingid groups is presumably of a relatively recent date, so that no differences whatever can be stated referring to all the members of this tribe. On the whole the *Ambulicini* mostly exhibit strongly curved and often even dentate distal margins on the forewings, the forewing being frequently falciform, not so equally lancet-shaped as in the *Acherontiinae*, and the distal margins are often notched or undulate. The wings are kept more spread out, the abdomen of the resting insect is often more upturned than in the preceding ones; the larvae are generally crenulated and their heads are pointed upwards. Moreover the group is well connected with the *Acherontiinae* by the *Sphingulicae*.

16. Genus: **Compsogene** R. & J.

One large species composes this genus. Forewing with a straight costal margin and a still smoother distal margin as if it were cut off with scissors. The median area is quite straightly defined inside and outside. Separated from the allied genera by the apex of the forewing being so much truncated that the distal margin is directly below it flattened and even very slightly drawn in, whereupon it projects in a very obtuse angle. Larva like the enlarged larva of *Marumba*, but with a long, thin horn which is almost straightly extended hindwards.

- *C. panopus* Cr. (= *pavonica* Mr.) (61 a). Forewing pinkish-brown or brownish yellow, parted by 2 straight dark brown stripes into 3 areas. Hindwing inside pink, outside brown with 5 transverse stripes. — *celebensis* R. & J. On the forewing above the space between the subbasal dark stripe and the cell-end stripes at the costal margin is narrower than in Malay and Continental-Indian specimens. The proximal oblique streak of this
cell-end figure is straighter and thicker; the brown marginal band uniformly tapers off at both its ends; the black line bordering on it lacks the tooth above the centre; the olive brown proximal shadow of this marginal band is much broader and more uniformly rounded, the black discal band is obliser, almost parallel to the margin, crossing the subcostal system before the 5th subcostal branch. From Tondano (Celebes). — Another form or species, *mousoni* Ckr., has remained unknown to me. — Larva green or pink, on the dorsum yellowish, with thin yellow lateral oblique stripes the last of which passes over into the very thin, somewhat S-shaped horn of 2 cm length. On Mango, according to MELL more frequently on *Dracunculum mangiferum*, Rhus, or Garcinia. Pupa large and thick, somewhat like that of an *Ach. atropos*, the cover of the probosces extends to the end of the wing-cases, though it does not project. — From Southern China through India to Ceylon and the Andamans, to the east over the Sunda Is. to the Philippines. I found the species in Hongkong and in Kandy (Ceylon), but not frequently. — The imagines sit with their wings spread, so that the anal third of the hindwing is to be seen. The frequently lighter median area of the forewing extends like a broad stripe across the insect, whereby it is hardly to be recognized *), the abdomen being upturned. I took the lepidoptera only by the lantern round which they circle in a slow, floating flight, as the European *Marumba* do. Although the 3 cm long probosces might penetrate even into flowers with deep calyces, I never saw a specimen on blossoms.

17. Genus: **Oxyambulyx** R. & J.

The genus is easily recognized by the slender structure, the long forewing terminating in a falciform apex, and the hindwing showing a somewhat irregular margin. All the species are very much alike, so that the various forms have often been mixed up; they vary from brown to yellow, before the margin of the forewing there is an antemarginal stripe proceeding from the apex, and in the submedian area there is almost invariably near the base a dark round spot. The larvae are very much alike; they have a large head which is above very pointed and is attached to a neck which is bent like a snake (S-shaped) in the resting insect; they are mostly green, more rarely yellowish-brown, with lateral oblique stripes and from the head to ring 4 with stripes on the sides; they are relatively thin and feel hard; they live on trees and are mostly monophagans or oligophagans. Pupa of about the shape of that of *Sueninthus*, but the abdominal part is somewhat thinner, flatter; the cover of the probosces extends to the end of the wing-cases. The imagines rest with somewhat laterally spread wings on trunks, boards, or leaves; they come to the light, though not so frequently as their American representatives, the *Amblypterus*. I never found them on flowers, but according to MELL they also visit certain kinds of blossoms, though rarely.

*O. sericeipennis* Blr. (= *substrigalis* Hmps. *p. p.* (61 a). Forewing greyish-brown, somewhat variable, hindwing as in most of the *Oxyambulyx* orange, darkened by red-brown and greyish-brown. The subapical stripe of the forewing is very near to the margin which it approaches at the lower median branch as far as 2 mm, and withdraws again a little from it on the submedian vein. Beneath this is more distinctly prominent; about 1 cm from the base of the wing above usually a flat costal dark spot and a roundish submedian one. The ground-colour of the forewing is mostly dusty greyish-brown. — In *brunnea* Clark, which name presumably refers mostly to summer-insects, the colour of the forewing is darker brown, and the shadow-like dentate stripe through the centre of the wing is strong and conspicuous. — *reducta* MELL are lighter insects in which the costal subbasal spot and the one in the submedian area are greatly reduced, the latter even being often entirely absent. — Larva light bluish-green with broad, whitish, above green-shaded oblique streaks and a straight thin horn; on *Myrica rubra*, *Elaeocarpus chinensis* and species of *Quercus*. — The lepidoptera are distributed from South China through India and Indo-China to Malacca, being not particularly rare in many districts, e. g. in Sikkim.

*O. citrona* J. & T. is allied to *sericeipennis* (61 a) from which it forms the transition to *schauflergeri* citron. (Vol. II, pl. 37 a). In the forewing the central dot is rather distinct, like the four lines before the interior angle. Hindwing pale yellow, marginal shadow-like band distinct and also a spot right before the apex very conspicuous. Abdomen with a dull dorsal line. *Sabathu* in North-West India.

*O. placida* Mr. (= *substrigalis* Hmps. *p. p.* (61 b). Extremely similar to the preceding ones, but the *placida* apex of the forewing more produced; the subapical stripe is more remote from the margin, especially right below the apex and above the anal angle. The dark spot in the submedian area is often very large, whereas the costal subbasal spot may disappear save very faint traces. Hitherto only known from North India.

*O. bina* R. & J. This species is unknown to me in nature. Judging from the figure of the only specimen *bina* from Sumbawa the subapical stripe extends as in *sericeipennis*, but the forewing is more fawn-coloured, the marking softer, more faded, and the subbasal spots are both very large.

*As the centre of the body, i. e. the dorsum of the abdominal rings 1—1 harmonizes with the central area of the forewing and is likewise coloured sometimes lighter and sometimes darker, the resting insect looks as if a more than 1 cm broad streak had been put across the body and wings. On this light area the cell-end figures look like the eyes of an animal. The upturned abdomen then represents the snout belonging to that animal.*
maculifera. — O. maculifera Wkr. (= consanguis Btlr., schauffelbergeri Leech nec Brem. & Gray) (61 d) is much smaller, its wings are shorter, squarer, the apex of the forewing is less pointed, the anal angle of the hindwing less produced. The submarginal stripe of the forewing is more curved than in sericeipennis, above the centre of the margin more remote from it, but nearer to it at the submedian area. Hindwing more uniformly ochreous. Sikkim.

kwangtungensis. — O. kwangtungensis Moll. is quite similar to maculifera, the transverse bands of the forewing are feeble, only at the costal and inner margins more distinctly marked. The antennal stripe is only distinct from the apex to the centre of the margin, then it vanishes in the darkened anal area of the forewing. — Larva more or less green, sometimes with rusty spots; horn long, curved. On Poupartia fordii. — Described from a valley in North-Western Kwangtung. The species is unknown to me.

belli. — O. bellii Jord., is somewhat smaller than maculifera (61 d), otherwise similar to it; the exterior antemedian transverse line of the forewing meets the posterior edge of the cell at some distance from the lower cell-angle, extending less obliquely than in ochracea (Vol. II, pl. 37 a). Veins in the distal area of the forewing less broad dark. North Canara; it also resembles substrigilis aglaia.

lahora. — O. lahora Btlr. (= semifervens Hmps. p. p.). Of this species but one male in the British Museum is known, from North-West India, quite similar to the preceding ones, but of a more reddish tint. The dark line which in maculifera extends across the abdomen, is expanded in lahora on the abdominal end into a spot; the submarginal stripe of the forewing is indistinct, but the subbasal spot large and strong.

schauffelbergeri. — O. schauffelbergeri Brem. & Gray (= trilineata Rothsch.) (Vol. II, pl. 37 a) which is common in Japan and North China and was therefore dealt with in Vol. II, p. 239, penetrates to the south as far as Kwang-tung, thus also to the Indo-Australian region. — Larva yellowish-green, tinted darker, on the sides long light oblique lines which are above bordered with dark green, horn green; the colouring may also vary in yellow and reddish-brown and exhibit rusty spots, like those of Amarpho populi; it lives on Pterocarya stenoptera and presumably also on other Juglandaceae. It seems to be not so common in the Indo-Australian range as in the north.


litorata. — O. litorata Btlr. (61 b). Quite similar to sericeipennis (61 a), but easily discernible by the antennal stripe being more remote from the margin and the abdomen exhibiting a distinct dorsal line; separated from the otherwise similar maculifera (61 d) by the absence of the costal subbasal spot. — In johnsoni Cll., from the Philippine Is., the forewing is much more yellow; more ochreous, and the dark transverse bands are narrower and more distinct on both wings, especially on the hindwing; on the forewing the submarginal stripe is removed a little more to the margin, and the whole insect being smaller. — obliterata Rothsch., from Benkulen in Sumatra, differs from the continental type in the much paler colouring, the forewing is less marked and the marking of the hindwing is also very much reduced. Body more tan-coloured yellow, not so much tinted in chest-colour; the yellowish-red-brown bands on veins 4, 6 and 7 of the forewing are entirely absent, and the other veins are less prominent. — CLARK states that specimens from Selangor differ anatomically from Sumatrans. — Larva similar to those of the preceding species, the longitudinal stripes of the rings 2 - 4 the same, but the lateral stripes more variegated, terminating in white spots of a red tint. On oaks. The typical form is not rare in Sikkim, but as far as Assam.

substrigilis. — O. substrigilis Wre. (= philemon Bsd.) is a most variable and widely distributed insect; from the other members of the genus it is best discernible by the basal part of the hindwing being shaded with dark brown. The dorsal line on the abdomen is as distinct as in maculifera (61 d), but in the latter the costal subbasal spot is absent. Typical specimens originate from North India, Assam and Hainan. — auripennis. — auripennis Mr., from Ceylon, is deeper yellow than North-Indians, the bands on the wings are less prominent; the antennal stripe is above only traceable, beneath quite absent; in Ceylon the species is rare. — eteocles Huir (= moorei Bsd.) is the Javanese form differing from the following pryeri only in the male genitalia. — pryeri. — In pryeri Dist. (61 b) the submarginal stripe is less curved than in the North-Indian specimens; it is straighter and the subbasal spot in the submedian area is much larger and thicker than in typical substrigilis. Malacca, Sumatra, Borneo. — staudingeri Rothsch., from the Philippine Is., is a very large race in which the submarginal stripe does not extend to the anal angle, but terminates into the margin already at the lower median branch. — aglaia. — aglaia Jord., from North Canara, is similar to bellii, almost like the North-Indian form of substrigilis, but in the male the under surface of the wings and body as well as the upper surface of the hindwings are of a much deeper orange. — matti Jord. is intermediary between bellii and aglaia, but less fawn-coloured than bellii. Hindwing narrower than in substrigilis, the ground paler yellow, the dark brown basal spot smaller. North Canara. —
sumatr anus Roths ch. differs from pryeri in the presence of a distinct, notched median band and an angular sumatr anus. antemedian line from the cell to the inner margin. The black basal spot and the black transverse band in the hindwing are better developed. Sumatra. — In tattina Jord., from the Battak Mts. in Sumatra, the subapical tattina, triangular spot at the costa is broader and less oblique than in typical substri glis; the marginal band is less expanded before the middle, the same being the case beneath, and the submarginal line bordering on it is not so distinct here. — wilemani R. & J., from the Philippines; both sexes with a distinct round subbasal spot wilemani, on the forewing above, being absent in the other forms of substri glis. Marginal band of the forewing before the middle somewhat broader than in the other races. Manila. — The larva (of the form pryeri) is said to live on Plumeria.

In the meantime also the specimens from Ceram have been treated as a separate species (ceramensis ceramensis. J. & T.); they may already belong to the following form, but they exhibit a larger round subbasal spot and a more intensely marked under surface 

O. wildei Misk. (61 c) is a relatively small species with a very much curved margin of the forewing, wildei. close along which the antemedial stripe extends. Hindwing, as in subocellata, suffused with brownish. New Guinea and North-Eastern Australia.

O. phalaris Jord. (= wildei R. & J. nec Misk.) (61 c) is one of the darkest forms; forewing deep bark- phalaris, coloured, an irregular postmedian band inside light as the ground-cover and bordered by undulate darker marginals. The black spot in the submedian area is large; hindwing in the basal half quite sooty black, before the margin 2 black notched bands; New Guinea. — carycina Jord., from Rook I., is similar though paler, more carycina. ochreous; the costal antemedian line extends before the posterior cell-angle.

O. meeki R. & J. (61 c) is very similar to phalaris, but the submarginal stripe of the forewing is more meeki. remote from the somewhat convex margin; forewing darker than in the other species and traversed by two close, deep-coloured and somewhat olive-tinted transverse stripes. Isabel I. — pyrrhina Roths ch., is the same species pyrrhina, from Choiseul I.

O. canescens Wkr. (= argentata Drc.) (61 d) has a light or silvery grey ground-colour and looks like canescens, a very pale specimen of another species. Between the two usual subbasal spots there are yet a few others embedded. Andamans, Borneo, South Indo-China.

O. subocellata Fldr. (= nubila Hve., thwaitesi Mr., turbata Mr.) (61 d) is not larger than the preceding subocellata, ones, but with much brighter bands on both wings. Abdomen without a dorsal line. — Larva leaf-coloured green, in front and behind whitish, with few indistinct white lateral stripes; sometimes these appear large, yellow-edged rust-spots on the sides of the dorsum, sometimes also the whole dorsum is red-brown. On Canarium album and pinem. — From Southern China over North India to Java, Sumatra, Borneo, Ceylon, and the Andamans, mostly not rare.

O. semifervens Wkr. (= amboynensis Roths ch.) is very similar to subocellata, but the stripes on the semifervens. thoracal dorsum which are of a fine olive tint in subocellata, are not prominent here. Moreover the forewing is broader, the margin more convex. Below the discal cell of the forewing above there are yet 2 or 3 subbasal spots. Moluccas. — celebensis Jord. has narrower forewings, coloured as in subocellata, but the margin is straight celebensis. in the middle, the diffuse spot above the apex is large, the submarginal line above and beneath blackish olive. South Celebes.

O. dohertyi Roths ch. (61 d) is like the preceding species, but beside the subbasal spot at the costa and dohertyi. the one in the submedian area there are no other spots below the cell. Forewing more pointed and hindwing with a more produced anal angle. Hindwing in the apical portion of the t bright orange, in the basal half intensely shaded with brown. New Guinea. — 1 male from Guadalcanar has not the olive green thoracal stripe salomonis. and a somewhat different under surface (= salomonis R. & J.).

O. jordani B.-Bak. (61 c) is another species from New Guinea, much larger than the others; very similar jordani. to O. placida (61 b); forewing much more pointed, the anal angle not produced, but somewhat truncate. Antemedial stripe somewhat faded, but in its lower portion quite straight, very near to the margin.

O. cyclasticta J. & T. Forewing reddish-ochreous; a dark basal spot; an olive square spot at the costa, cyclasticta. A dark marginal shadow ending in the apex and in a dot before the inner angle. Between this shadow and the exterior transverse line the ground-colour is darkened. Hindwing ochreous with a straight oblique band directly behind the cell, and a very much curved and dentate line between this oblique band and the margin. From Burma; unknown to me.


A very large species (expanse: 14—15 cm), exclusively found in Australia. Proboscis strong, but quite short. The imago has about the shape of Oxyambulyx, but the apex of the forewing is truncate, so that below the apex the margin projects in an obtuse-angled notch.

*) JORDAN, owing to recent anatomical examinations, states that both pryeri and staudingeri must be regarded as separate species.
M. australasiae Don. (= banksiae Btlr.) (66 d). Forewing earth-coloured brown, mixed with grey and loam-colour. From the costa a large dark triangular spot extends, its apex reaching to the submedian; a similar quadrangular spot is opposite to it on the inner margin. Hindwing golden yellow; in the anal portion and at the margin dark brown with grey embedments. More to the south of the Australian continent, in South Queensland and New South Wales. Not common.


Separated from the preceding genus by the hind tibiae having but 1 pair of spurs, whilst in *Metamimas* there are 2. The imagines are still larger than *Metamimas*.

*C. triangularis* Don. (= castaneus Perry) (66 d). Larger, stouter than *M. australasiae*, with rounder forewings, the margin hardly projecting below the apex. Hindwing relatively larger. Forewing darker brown, the triangular spot on the costa deep umber-brown; on the inner margin there is not such a spot. Hindwing dark brown, only at the base and costa orange. — Larva extremely large and stout, green, shagreened, with 7 lateral oblique stripes. Head small and very pointed, frons prolonged, so that the larva seems to end in front in a somewhat curved cone. On the hornless posterior end the larva shows above the claspers two black, pearl-or button-shaped lustrous ocelli. On being disturbed it peculiarly moves its anterior part in a swinging or striking way, so that one is inclined to consider the hind part with the sham eyes to be the head of the insect. On *Banksia*, *Acia*, and *Persoonia*. Eastern Australia, from Queensland and New South Wales, in many districts not rare.

20. Genus: **Clanis** Hbn.

The seven species of this genus (for further particulars cf. Vol. II, p. 239) all occur in the Indian Region; five are confined to it, whereas two, owing to their chief distribution, are palaeartic. Large insects partly of a very squat structure, with a short proboscis which, however, is able to take up liquid, and long wings.

*C. phalaris* Cr. (= cervina Wkr., pagana F., nicobarensis Schz.) (66 a). Shape most similar to that of *Oxyambulyx* to which this genus is allied. Apex pointedly produced, distal margin of forewing rectilinear. Colouring earth-brown, with a more or less reddish tint; forewing with 5 or 6 distinct, darker, parallel transverse stripes. Thorax with a dark median line which, however, is no more distinct on the abdomen. — Larva green, granulated, oblique stripes white. — North India to the south as far as Ceylon and the Andamans.

*C. stenosoma* R. & J. (66 c as stenosoma) is much larger than *phalaris*, with broader hindwings. In the forewing a light triangular spot rests with its broad base on the costa, the hindwing is deep blackish-brown excepting the margins. From Nias.

*C. brooksi* Rothsch. is still larger than *stenosoma* (the male of *brooksi* as large as *stenosoma*). The light area extending from the costa inwards is much longer than in the otherwise quite similar *bilineata* (Vol. II, pl. 37 c), but not quite so long as in *stenosoma* (66 c), not reaching to the 2nd line; 1st and 2nd lines much straighter, not angular nor notched. In the hindwing the black colour does not reach so far to the apex. Sumatra.

*C. undulosa* Mr. (= bilineataLeech nec Wkr., gigantea Rothsch.) (Vol. II, pl. 37 b). Shape and wings similar to *brooksi*, but the forewing without the costal triangle and crossed by numerous chains of crescents.

*C. pallescens* Mell is a pale form in which the transverse markings are almost reduced. — Larva green or yellow with reddish mouth and pectoral feet, the lateral oblique stripes quite dull and thin, the horn in the adult insect is merely a stump 1 mm long. On the Papilionaceae Lespedeza viatorum. — From the banks of the Yangtsekiang R. to the east as far as Formosa, to the south as far as North India and Assam, local though in some places in great numbers. For further particulars cf. Vol. II, p. 239.

*C. deucalion* Wkr. But very few specimens are known, from North-West India. Quite similar to *undulosa* and perhaps only a form of it (the male genitalia have not shown any differences). It chiefly differs in the shorter margin of the forewing, a smaller black spot on the hindwing, and in the costal area of the forewing not being lighter; the spurs of the hind tibiae are also shorter, and the 1st foot-joint on the hind leg is shorter, too.
C. bilineata Wkr. (Vol. II, pl. 37 c). The Chinese bean-sphinx or "Duchung", is smaller than the preceding species (denunciation), the apex of the forewing is not produced, and both the middle and hind tibiae are here white above, whereas in undulosa the middle tibiae are brown above. For further particulars cf. Vol. II, p. 239. From North India across South China to North China and Japan. — North-Chinese specimens are said to be smaller, the body and forewings of a more yellow and olive tint (= tsingtauica Mell.). — Larva green, separated from the preceding species by the horn being short though well developed until the pupation and by the much more distinct lateral oblique stripes. On Milettia, Pueraria, Mucuna, and presumably other Papilionaceae. The larvae are in some places very common, particularly in the Chinese bean-fields, where they are not only devoured in large numbers by crows, magpies and small beasts of prey, but also collected by children. The larvae are speared on to thin wooden sticks, tilted over, so that the interior of the body is turned outside, then washed off and baked in oil (Klapheck).

C. pratti J. & T. is very near to bilineata, but distinguished by the more distinct greyish-white, pink-tinted triangular spot at the costa of the forewing, and the hindwing being uniformly dull ochreous save the darker shaded base, whilst in bilineata the greatest part of the hindwing is chocolate brown. Described from a just emerged male from Central Ceram. — The larva was green, granulated, with 5 lateral stripes along the whole body.

C. titan R. & J. (= cervina Wkr., phalaris Btlr. nce Cr., gigantea Rothsch. p. p.) (66 c) was formerly titan, regarded as a gigantic phalaris, but it has not so pointed forewings. In the colouring it is rather similar to steosoma (66 e), but the hindwing is more uniformly dark brown, not black, at the margin a little lighter. The shape of the wings is most similar to that of bilineata. It is the largest species, having an expanse of up to 17 cm; Sikkim, and Khasia Hills in Assam. — eurca R. & J. is perhaps a distinct species, but it at any rate eurca represents titan in Timor from where this form originates. It differs from titan in its smaller size, the head being black in front, and the transverse bands on the wings beneath being almost obsolete.

C. hawkeri J. & T. is the smallest species with an expanse of less than 60 mm, thus only about as hawkeri, large as the following species Leucophlebia emittens (62 c). This species being unknown to me is reported to be also in other respects dissimilar to the other Clenis. Apex of forewing not pointed, margin somewhat rounded. Forewing van Dyke brown, with darker bands, in the disc and basal area suffused with whitish-grey. The interior transverse lines are proximad bordered with greyish white, a third line across the origin of vein 3 is widened in cell 2; of two more postdiscal lines the proximal one is distinct, the distal one indistinct. Hindwing dull red-brown with a greyish-brown, anteriorly darker marginal band. Described from 1 ♂ from Indo-China.


As to the genus we refer to Vol. II, p. 239, and Vol. XIV, p. 364. Owing to the rosy red forewing which is parted by a yellow, branched longitudinal ray, the insects are not to be mistaken for any other genus. The genus is more at home in Africa and in the palaearctic region. The larva live on Gramineae, which food is quite uncommon with Sphingidae.

L. lineata Wkr. (= lusleri Bsd., rosacea Btlr.) (Vol. II, pl. 37 c) is the largest and finest species of the genus. The yellow central ray on the forewing is shaded with brownish. From Shantung across China and India to Calebés, and from Ceylon to the Philippines. To what has been said in Vol. II (p. 240) we may add that the proboscis is stunted and cannot be used by the insect, for which reason the imagines are not to be captured on blossoms but on the lantern. — Larva green with a rosy red head and horn and a thick white longitudinal lateral stripe, without distinct oblique stripes. The shape and habitus is somewhat similar to that of a larva of Macroglossum stellatarum. On sugar-cane, presumably also on other Gramineae. It grows very slowly and, before the pupation, it lies motionless for a long time in a curved position, before it changes into the smooth yellow pupa.

L. emittens Wkr. (= bicolor Btlr., damascena Btlr.) (62 c) has been dealt with already in Vol. II, p. 240; emittens, but as it occurs in the whole of India as far as Burmah, we have figured it here.


Of the approximately 50 species of this genus only 2 or 3 occur in the Indian region, all the others are Ethiopian and have been dealt with in Vol. XIV, p. 364—369. In Vol. II, where the genus has been characterized (p. 240) we had already pointed out that the 3 only Asiatic species two of which penetrate also into the palaearctic region, will probably have to be separated later on as a separate genus.

P. trilineatus Mr. (= dentatus Hmps.) (Vol. II, pl. 37 c). In Vol. II the North-Indian form undatus trilineatus R. & J. has been figured (as-trilineatus), occurring in North-West India on the palaearctic frontier. It is almost exactly like the type, whereas luteatus R. & J., from Ceylon, is much lighter, either red, darkened ochreous, luteatus.
complacens, in 2 forms (pi. 37 d, e) probably does not occur typically in the Indian region, but a darker form of it: \textit{complacens nialayana} malayana.

To the north the species was found yet in Kwang-tung, the form being indicated (=R.6aJ.). — \textit{M. spectabilis} Btlr. (66 a). This species initiates a group of very similar Sphinges which show dark \textit{Mell}). \textit{chinensis}. \textit{chinensis} j. is the palaearctic form from North China; it differs more in the costa and in the centre convex, below the apex and above the anal angle concave. Middle and hind tibiae and tarsi above white. — Larva young with a horn on the head, which may be almost as long as the anal horn. Head of adult larva above pointed, intensely and coarsely granulated, often variegated, quite rosy red or with rosy red dorsal streaks with green spots between them. On Boraginaceae, Ehretia, or Cordia myxa. On being disturbed it rolls its anterior part downward.

draconis. \textit{P. draconis} R. & J. is quite similar to the preceding species (Vol. II, pl. 37 e), but greyer, the wings more dentate, the forewing with a more pointed apex, the two exterior lines not intensely yet distinctly marked, not angular, „Thibet‟; but the authors did not state whether in the palaearctic part; still we presume that the species comes from the southern parts of West China and thus occurs on the frontier of the two faunal regions.

dentatus. \textit{P. dentatus} Cr. (=timeus Stoll, modesta F., denticulatus Hears.) (66 a) differs from the preceding species in the longer hindwing and in the 3 transverse lines of the forewing extending straight and almost parallel to each other. — Larva quite light blue-green, across the dorsum yellow, like the horn. Stigma large, black; sometimes there are rusty spots; on Ehretia acuminata and Cordia sebistena. Pupa lustrous red-brown. The imagines take up a resting position similar to that of \textit{Amorpha populi}. The genus being rather rare is distributed from China to the south through India to Ceylon and to Karachi in the west.

23. Genus: \textbf{Marumba} Mr.

About half of the 16 species of this genus (cf. Vol. II, p. 240) have been met with in the palaearctic region, the rest being purely Indian. One European species (\textit{quercus}) is geographically isolated.

\textit{M. gashkewitschi} Brem, & Gray which has been treated upon in Vol. II, p. 241 and also figured there in 2 forms (pl. 37 d, e) probably does not occur typically in the Indian region, but a darker form of it: \textit{complacens Wkr.} was discovered yet in South China (Kwang-tung). — \textit{trata} J. & T. may be appended as a palaearctic form of \textit{complacens}; it chiefly differs from the latter as well as from the forms figured in Vol. II, pl. 37 d, in the transverse lines of the distal half of the forewing not being parallel and disappearing towards the inner margin, but all of them extending towards the posterior angle, where they terminate. — Larva green, with white lateral oblique stripes, the head being pointed above, and with a blue horn, thus very much like the larva of \textit{oeccatula}. On Rosaceae, particularly Prunus persica. The young larvae on being disturbed only hold fast with the last pair of ventral feet and the claspers; the imagines come to the light (also the \textsection) and are common in most of the districts of their range. The various forms are distributed over large parts of China and Japan, but not any form seems to penetrate into India proper.

cristata. \textit{M. cristata} Btlr. (= dyras \textit{Hmps.}, nce \textit{Wkr.}) (Vol. II, pl. 42 e). Dark brown; forewing more unber-brown, hindwing more of a chestnut tint. Forewing with 3 dark transverse lines which are convergent towards the inner margin, and with a feeble light punctiform spot in the disc. — Larva very much like that of a European \textit{M. quercus}, dark green with a straight thin horn and yellowish oblique streaks, but so finely granulated that it almost looks smooth; on various Lauraceae (\textit{Litsea elongata}, \textit{Machitus ichangensis}, \textit{Phoebe blepharopus}). West and Central China and Sikkim. — From the (typical) Sikkim-specimens the South-Chinese differ a little, for instance in the course of the lines; besides the spring-generation with a paler ground-colour exhibits the inner-marginal area powdered with metallic lilac, the hindwing beneath being cinnamon-brown; this form is \textit{ochrea} Mell. — The summer-form — \textit{jodeides} Mell, however, shows the whole upper surface more intensely suffused with metallic, the lines are more distinct, mostly also broader, the hindwing beneath being of a rosy-red tint.

ochrea. \textit{jodeides}. \textit{ochrea} Mell. — The summer-form — \textit{jodeides} Mell, however, shows the whole upper surface more intensely suffused with metallic, the lines are more distinct, mostly also broader, the hindwing beneath being of a rosy-red tint.

spectabilis. \textit{M. spectabilis} Btlr. (66 a). This species initiates a group of very similar Sphinges which show dark spots in the anal region on both wings, mostly in lighter surroundings. In \textit{spectabilis} the forewing shows bright darker and lighter bands, the anal spots in the forewing surrounded by ring-like lines. Described from Sikkim, but later on also ascertained from Sumatra. These Sunda-specimens differ in the more pointed apex of the hindwing from North-Indian specimens, and on the forewing beneath the orange apical spot is only feebly indicated (= \textit{malayana} R. & J.). — To the north the species was found yet in Kwang-tung, the form being lighter with an ochreous tan-coloured ground-colour: (= \textit{chinensis} Mell). — Larva on Meliosma rigida, green, strongly granulated, the collar being red-brown, edged with yellow; the oblique lateral stripes, and in the young larva the horn are red, too. The lepidoptera are rather rare, so that we may assume that they have not yet been discovered in many districts where they occur.

ochrea. \textit{jodeides}. \textit{jodeides} Mell. — The summer-form — \textit{jodeides} Mell, however, shows the whole upper surface more intensely suffused with metallic, the lines are more distinct, mostly also broader, the hindwing beneath being of a rosy-red tint.

ochrea. \textit{jodeides}. \textit{jodeides} Mell. — The summer-form — \textit{jodeides} Mell, however, shows the whole upper surface more intensely suffused with metallic, the lines are more distinct, mostly also broader, the hindwing beneath being of a rosy-red tint.

ochrea. \textit{jodeides}. \textit{jodeides} Mell. — The summer-form — \textit{jodeides} Mell, however, shows the whole upper surface more intensely suffused with metallic, the lines are more distinct, mostly also broader, the hindwing beneath being of a rosy-red tint.
is the European *quercus*. In the marking the same, and also in the colouring similarly variable, but the anal-angular spots on both wings more intense and darker; the tint of the forewings is either earth-brown or bark-coloured, the hindwings are cinnamon-coloured. — On the whole the total colouring varies between sand-colour and a deep smoke-brown; particularly pale specimens in which the marking is also rather inconspicuous were called: *plana* Clark. — Specimens from Java and the Philippines, presumably also from other Sunda Is., as a rule are deeper dark brown, with less grey on the forewing; this is *javanica* Blbr. (= dryas Mr., dryas Hmps., *javanica* Pieg.). — Larva likewise quite similar to that of *quercus*, varying from a dull green or brownish-grey to yellowish-brown, coarsely granulated, with very straight oblique streaks which may be lighter or darker. Recognizable by a light stripe on the sides of the head, extending from the vertex to the mouth. On Sterculiaeae (*Sterculia, Büttrneria aspera, Pterospermum heterophyllum*); also on Grewia microcos. The imagines are rather common near the light.

**M. andamana** Mr. (62 a) is so closely allied to the preceding species that it was often regarded as the geographical form of it; it chiefly differs in the augmentation of the transverse stripes on the forewing, which is produced by the broad transverse bands of *dryas* not contrasting by the colour against the ground of the wing and exhibiting merely contours, which doubles their number. But also the ground-colour is more constant than in *dryas*, the forewings are darker and the hindwings more of a chestnut than cinnamon colour. Andamans.

**M. amboinicus** Fldbr. (66 b) is likewise only a geographical representative of *dryas*; more unicoloured dark brown, with a yellow tint; the dark distal area of the forewing is more extensive, the postdiscal transverse line above the anal-angular spot produced towards the margin and forming another sling. Southern Moluccas. — A female from Celebes in the Tring Museum. — *celebensis* R. & J. —, which presumably belongs to this species, shows a dentate margin of the forewing. — *rotischildi* Huwe, from Batjan, is somewhat smaller, the costal margin is more curved towards the apex, the distal margin somewhat more distinctly notched; the transverse lines through the disc — judging from the figure — seem to be more convergent towards the inner margin.

**M. nympha** R. & J. is closely allied to *amboinicus*; slate-coloured, with a light clay-coloured hue; forewing with 4 transverse lines between the base and the apex of the cell, all rather straight, the 3rd and 4th nearer together than in the preceding species, with a white central spot, but without a dark streak on the cross-vein as *gigas* and *juvencus* show. The 4th line is not double, parallel to the 3rd; the anal median spot is surrounded by a line. Hindwing umber-brown, behind the darkest, in the anal portion with a grey hue. The subanal spots are separated. Beneath similarly coloured as above. From Karwar near Portuguese Goa in India.

**M. timora** R. & J., from Timor, resembles the following *sperchius*, but it is smaller, deeper coloured and without the dark median stripe across the body. The distal transverse stripes through the forewing are also less prominent. Typical specimens from Timor show a more ashy grey base of the forewing, and the marginal area is darker than the space between the discal and antemedian transverse lines. — *laotensis* R. & J., has quite unicoloured forewings, and the hindwings are broader and have a rounder apex. — The species is still rare in collections.

**M. sperchius** Men. (= *piccpeniss* Blbr., michaelis Oberth., *dryas Orza*, *dryas Hmps*. nec Wkr.) (Vol. II, pl. 38 a). The species described in Vol. II, p. 241 chiefly occurs in the palaearctic region, but also in North India and South China; in Kwan-tung in the form *handelli* Mels., which however may be only an aberration; it lacks the dark oblique streak at the anterior edge of the tegulae, the outermost transverse line in the disc is in front double, and the hindwing beneath exhibits between the thick antemedian line and the postmedian line another dull double line. — North-Indian specimens are considerably lighter owing to their bright whitish tint; these are *ablicans* Blbr. — *gigas* Blbr. (= *dryas Wkr.*) (66 b), from Assam, is considerably larger than palaearctic *sperchius* and of a greyer tint. — Adult larva stout, beneath dark green, on the dorsum whitish, very coarsely granulated white, with long thin light yellow oblique stripes in the sides. On oaks and chestnut-trees. — Apparently not common in the Indian region.

**M. scotti** Rothsch. is most similar to *gigas* (66 b), but smaller, grey, without the sand-coloured or tan-coloured tint. Besides another transverse stripe extends from the costa of the forewing across the stigma, meeting the 4th stripe on the submedian vein, where it stops short. The dark brown colour of the hindwing is suffused with grey, and the margin of the wing is less strongly notched. — Larva green, often very light, almost whitish, granulated white, sometimes with red-brown spots. On the front part whitish lateral stripes, on the segments 5—11 lateral oblique stripes. On chestnut and oak trees; the larvae were often found covered with flies which, however, had not infected them, since they yielded sound imagines. Assam.

**M. juvencus** R. & J. (66 b) is very similar to *sperchius*, particularly to its form *gigas*, but smaller, and the outermost transverse line of the forewing extends almost quite straight from before the apex into the distal margin below its centre. Borneo (Sarawak).

**M. poliotis** Hmps. Described from a single male. Larger (54 mm); head and thorax whitish-grey; *poliotis*. head and tegulae tinted yellowish-red; metabolorum with 2 feeble black scaled spots. Abdomen with a fine
black dorsal line terminating behind in a spot. Forewing grey, suffused with red-brown and strewn with black; basal and marginal areas browner, postmedian area whiter. The whitish antemedian line, which is inside slightly shaded, is outside bordered with black and extends obliquely from the costal margin to the median vein, being introangular in the submedian area, then excurved, and at the inner margin again introangular. Median line from the costal margin to the median vein excurved, then incurred to the antemedian line. A small light central dot feebly bordered with black; postmedian line dark, subterminal line indistinctly double. The subcostal spot extends as a streak to the margin; at the places where the veins terminate into the margin there are feeble dark spots. Hindwing grey, suffused with brown, postmedian line curved, indistinct, in the anal region a whitish spot. Ganjam.

**M. decoratus** Mr., from Sikkim, is a doubtful species; it is said to be somewhat similar to *M. tiliae*; it is remarkable for having a narrow angular stripe before the apex of the forewing and a marking like a reverse comma below the centre of the forewing. There exists only a pencil-drawing of it by Moore; nothing is known about the type.


This genus containing but one Indian species only differs from the *Marumba* in the stalk of the 2nd subcostal branch with the 1st radial on the hindwing being long, whereas in *Marumba* it is short. The distal margins of the wings are more equal, the forewing not notched and the hindwing less curved.

**D. ocellaris** Wkr. (*= fruhstorferi Huwe, oculata Bsd., orbifera Wkr.*) (62 a). At once recognizable by the ocellate marking above the inner margin of the forewing before the posterior angle, the shape of which is somewhat similar to the ocellus on the hindwing of *Smerinthus ocellatus*. From Assam through Indo-China and across the Sunda Is. to the Philippines. — *ailanti* Bsd. is said to have a somewhat convexer margin of the forewing and slight differences in the course of the transverse lines; denominated according to 1 specimen which is said to originate from Hongkong. In Hongkong I have seen neither the larvae nor the imagines of *Daphnusa* which I found quite frequently in Singapore (twice in cobwebs). This form seems to me to be doubtful, as also R. Mell could not ascertain the lepidopteran in spite of having collected in Kwang-tung for 14 years.

— The Indian *ocellaris* vary much in the colouring which may be from ochreous loam-colour to dark greyish-brown. — Larva green; intensely granulated with a long horn and rust-brown spots above the feet and on the sides of the dorsum; the 4th segment is almost quite purple brown. — Upon a somewhat aberrative, damaged specimen of this variable species a new genus was founded: *Allodaphnusa Huwe* (type: *fruhstorferi*).

25. Genus: **Langia** Mr.

This genus is founded upon a most conspicuous lepidopteral species: a very large Sphinx with an expanse of 140—150 mm, with grey forewings marked like wood, the colouring of which to some degree resemble immensely enlarged wings of *Hybocampa milhauieri*. The forewings are very pointed, the margin being notched, the abdomen quite short. The larva has the approximate shape of a *Smerinthida*, but no lateral oblique stripes, the head is pointed above, but there is only a small crooked horn. Shape of pupa quite different from all the Sphingid pupae.

**L. zenzeroides** Mr. (*= zeuzeroides Gott.*) is distributed from Japan to North India. The palaearctic form — *nina* R. & J. — is somewhat smaller than most of the Indians: fig. Vol. II. pl. 38 b. It seems to be only more common in the Japanese Island of Hondo, being rare in Kiusu and apparently not found in the

**nina.** Lu-chu Is. In the continental form — *nina* Mel. — the forewing is more darkened grey, particularly the costal half exhibits hardly any white; also typical specimens (from Sikkim) show a darker ground-colour which is often loamy yellowish in Assam-specimens from the Khasia Hills (*= khasiana Rothsch.*). All the forms exhibit on the last abdominal segment above alternately white and dark grey longitudinal stripes which are not visible in our figure (of *nina*). — Larva green, elongate, with a yellow head and horn and an often indistinct yellow subdorsal line; on fruit-trees (cherry, apricot); on being disturbed it gives a hissing sound. Pupa very peculiar: the end of the head and the anal end very round, almost truncate, the latter without a cremaster. The abdominal segments are thickly swollen, particularly on the dorsum they project like thick, rough tori. Colouring dark iron grey or bluish grey, the dorsal tori black. — The lepidoptera are apparently nowhere common; they clutch fast to hanging over boards or branches, and in doing so they curve the abdomen upwards. They cling very tightly to the wood they are resting on and cannot be shaken off by beating or the like, and on being disturbed they give forth distinct chirping or squeaking sounds.

This genus contains but one lepidopteron being more remarkable for its colouring than for its shape, with very stunted palpi and proboscis, whilst the lower portion of the eyes is covered by a short though dense lateral curl of hair. Shape of wings in *Marumba*.

*Rh. fleralis* Blr. (= *florella* Blr. i. tab.) (62 a). Hitherto only found in Sikkim, very rare. Body and *floralis*. wings of a bright dark green, the basal two thirds of the hindwing dull purple red.

27. Genus: **Clanidopsis** R. & J.

Allied to the *Marumba*, but the forewing much obtuser; palpi stronger than in *Rhodoprasina*; hind tibiae with 2 pair of spurs; paronychium and pulvillus absent, whereby the only species of this genus is distinguished from *Clanis*. As to further particulars about the genus cf. Vol. II, p. 242.

*C. exusta* Blr. (Vol. II, pl. 37 c). This plainly coloured and marked species lives in Kashmir and *exusta*. North-West-India, where it also penetrates to the palaearctic region (cf. Vol. II, p. 242). The larva has not been described, though it is stated to live on poplars. Apparently not rare at its habitats.

28. Genus: **Agnosia** R. & J.

A small Sphinx of the size of a *Perg. porcellus* forms this genus which differs morphologically from *Clanidopsis* in the presence of the anal claw and pulvillus.

*A. orneus* Wkr. (= *pudorina* Blr.) (56 C a). Expanses hardly 50 mm. Unicoloured reddish earth-coloured *orneus*. brown; central area of forewing somewhat darker. The antemedian transverse line is rather straight, the median one in the submedian area sharply angled outwards, the distal lines dull, partly only marked by rows of dots. Base of hindwing bright cinnamon red. Ceylon, apparently very rare. It was taken close by Kandy, the well-known town of Ceylon.

*M. microta* Rothsh., described from a single male, has an expanse of 44 mm. Body red-brown, head *microta*. excepting palpi somewhat lighter. Forewing greyish-brown, suffused with a yellowish-brown pink and slightly strown dark. On vein 1 a black and yellowish-red spot near the base; in the centre of the wing a brown, outside indistinct oblique line, the postmedian area behind somewhat greyer; below the margin an indistinct, feebly curved line with 2 contiguous red-brown spots at the inner margin. A small dark brown dot below the apex at the margin, inside bordered by a small grey lunula, and with a very indistinct brown triangular shadow below it from the margin to the submedian line. Hindwing violet red-brown with an indistinctly darker marginal shadow at the anal angle. Godavery District (Madras).

29. Genus: **Parum** R. & J.

These species have formerly been grouped with *Daphnusa ocellaris* (62 a), but they have nothing to do with it. The apex of the forewing is rounded, the distal margin in one species quite rectilinear, in the other very slightly undulate. Directly at the apex a light-edged dark spot and below it the marginal area is similarly bordered by a basally convex arcuate line as in the *Oxyambulyx*. Two species. As to further particulars cf. Vol. II, p. 242.

*P. colligata* Wkr. (Vol. II, pl. 38 b) is the larger one of the two species of this genus; chiefly palaearctic *colligata*. and therefore described in Vol. II, p. 242. — *saturata* Clark are specimens with a deeper colouring, and ab, *saturata*. *bieti* Oberth. such with brighter spots; in the latter form an interrupted though distinct black stripe extends *bieti*. from the small apical spot through the forewing across the central dot towards the base. — The larva is very similar to that of *M. tiliae*, being likewise quite different, sometimes tinted reddish, but its vertex is rounded above, and the oblique stripes are paler, thinner; on Broussonetia papyrifera and kaempferi. The image is not common in most of the districts of its range, but in some places, according to R. Mell, the larvae may be collected by hundreds. At such habitats they also appear regularly every year. It occurs in the Indo-Australian region (where *saturata* predominates) in Southern China; otherwise palaearctic.

*P. porphyria* Blr. (62 c as *porphyrina*). Much smaller, but otherwise not dissimilar to *colligata*, the *porphyria*. light transverse bands duller, with fewer blackish spots; the margin of the forewing is feebly undulate, the margin of the hindwing more curved, all the wings on the whole shorter. Sikkim; hitherto still rare. — In South China there occur specimens similar to the Sikkim-specimens in size, colouring and marking, but different anatomically and also in the larvae, so that R. Mell not only separates them as species, but also as genus: *Graspedorhia inapicalis*.

30. Genus: **Cypa** Wkr.

This genus having been divided there remains but one small brown species. The lepidoptera have an irregularly notched margin of the forewing, a slightly produced apex and inner angle of the forewing and a
very much curved distal margin of the hindwing. The total colouring is somewhat similar to the American *Perigonia*, which resemblance is increased by the similar shape of the wings and the abdominal end being somewhat like a fish-tail. In the colouring this genus and the following genera likewise resemble the said American genus.

**C. decolor** Wkr. (62 c). Unicoloured dark red-brown, forewing with a fine dark central dot and behind it a faded dark transverse shadow. Between the latter and the marginal shadow the centre of the marginal area is feebly lighter. North India. — From the North-Indian form specimens from Masuri on the southern slopes of the Himalaya have been separated as: **pallens** Jord. Large, body, and interior half of forewing wood-brown with a faint rust-coloured tint; distal half of forewing with a pale sepiatint. Marking as in typical *decolor*, but the total colouring much lighter. — In Southern China and the Shan States the more monotonous form **uniformis** Mell occurs, in which there are hardly any traces of the transverse lines and shadows of the forewing. — I cannot decide whether **formosana** Wil., which is unknown to me and is doubtfully combined with *Cypa* by its author, belongs to this place. It is described to be violetish-grey, intermixed with brown scales, with 5 dark brown transverse lines, the fifth of which is undulate. Somewhat larger; described from Castanopsis hystrix. Kwang-tung, apparently local.

**S. terresita** Huwe. — **quadripunctatus** Huwe (56 C d) is very closely allied to **dohrni** as well as to the following species which it represents in Java. Separated from **dohrni** by the hindwing above being more brick-red than iron-grey. Sumatra.

**S. terranea** Btlr. (56 C a). From Borneo; similar to **quadripunctatus**, but the margin of the forewing is not so deeply indented. Beneath the hindwing and the centre of the basal area of the forewing are rust-coloured. It occurs also in Malacca.


Very near to the preceding genus with which it was formerly united. Separated by the proboscis not being hunched at the base, by the short last joint and the longer penultimate joint of the antenna, as well as by the more strongly developed lateral hairtufts at the abdominal end, owing to which the tricepspid shape of it is more distinctly visible.

**S. perversa** Rothsch. (♀ = olivacea Rothsch.) (62 c) is somewhat larger than *Cypa decolor*; the anal angle of the forewing is more pointed. Marking brighter, hindwing cinnamon-red, with a blackish submarginal band. Sikkim, Assam.

**S. pallidus** Mell. Size and shape very similar to that of **perversa**, but much more variegated; forewing light ochreous with darker brown antemedian and postmedian bands which are connected in the middle by a broad shadow. The marginal area of the forewing is also marked in a bright brown colour, and the hindwing exhibits beside the black submarginal band a dark spot at the cell-end. — Larva dull greyish-green or discoloured reddish, with a very long frontal apex and dull, light green oblique streaks; horn long and thin, straight. — On Castanopsis hystrix. Kwang-tung, apparently local.

**S. chinensis** R. & J. (62 c) is still smaller than **dohrni**, the expanse being hardly more than 40 mm. Forewing bright red-brown, with a yellowish rust-coloured tint and a darker median area before which there is a light band bordered by the dark transverse lines. Before the anal angle a small dark spot bordered with light. Hindwing blackish or dark iron-grey. Sumatra.

**S. terranea** Btlr. (56 C a). From Borneo; similar to **quadripunctatus**, but the margin of the forewing is not so deeply indented. Beneath the hindwing and the centre of the basal area of the forewing are rust-coloured. It occurs also in Malacca.

### 32. Genus: Degmaptera Hmps.

Separated from the preceding genus by the hindwing being produced near the apex into a round lobe. Only two species are known.
D. mirabilis Rothsch. (62 c) is similar to the preceding species in the colouring, but the margin of the mirror, forewing is more indented; besides recognizable by the lobe of the hindwing near the apex. North India; rare.

D. olivacea Rothsch. From Borneo; apparently extremely rare. Shape like that of mirabilis, but the olivacea, costal margin of the hindwing is here straight as far as beyond the middle, whereas in mirabilis it is sinuate. Colouring of forewing greenish brownish grey.

33. Genus: Callambulyx R. & J.

Recognizable by the green forewing mostly beautifully contrasting with the purple colour of the hindwing. For further particulars cf. Vol. II, p. 243.

C. rubricosa Wkr. (= superba Mr.) (62 b as rubiginosa). Forewing dark blue-green, covered with brownish, sometimes with a very brown tint. Hindwing beautifully purple pink, with a dark submarginal shadow-like band; anal-angular area and interior margin broad yellowish-grey. Sikkim and Assam. — The Javanese form, piepersi Su., which is still rarer than the North-Indian, differs in the central dot of the forewing being very feebly marked, the hindwing showing more black and the under surface being more yellow than in the typical form. — In ananda R. & J. the lines on the yellow under surface are brown, whilst in the North-Indian specimens they are red. Besides the brown oblique stripe of the forewing is distinctly angular on the 2nd median branch; from Malacca and Borneo (Kinabalu).

C. junonia Btlr. (56 C e) is quite similar to rubricosa, but the hindwing exhibits an ocellate marking junonia, as in Smer. ocellatus. From the Himalaya (Bhutan) and the Naga Hills; apparently very rare.

C. poecilus Rothsch. represents the palaearctic tatarinovi (Vol. II, pi. 38 b) in Murri in North-West India, thus on the palaearctic frontier; it differs from that species only in the forewing being more falcate and the base showing a red tint instead of green; the red colour of the hindwing does not extend so far to the margin, but the whole distal half of the hindwing is darkened brown. Little known. Larva probably on elms.

34. Genus: Anambulyx R. & J.

Separated from the preceding genus by the straight costa of the hindwing, the shorter frenulum, the absence of the retinaculum, and the absence of the anterior pair of spurs on the hind tibiae. Only 1 North-Indian species.

A. elwesi Drc. (62 b) looks like a blackened, small Coll. rubricosa. Particularly distinct nebulous spots elwesi, near the base of the forewing. From Sikkim and the Khasia Hills in Assam; rare.


The species has been so minutely described in Vol. II, p. 244 that there remains but little to add. The six species known belong to the northern hemisphere and hardly penetrate into the Indian region of which not any species is characteristic.

S. planus Wkr. (= argus Mén.) (Vol. II, pl. 38 e) which represents the European ocellatus in East Asia, planus, is the only species penetrating farther into the Indo-Australian region. It crosses the frontier in China, where the spring-form distinctus Clk. is apparently confined to Kwang-tung, whilst to the west it is replaced by the form jinianus Clk. In the former the light areas of both wings above and beneath are dullest, the dark places are more olive, In the latter the light costal stripe of the forewing beneath is faded. — The name kuangtungensis Clk. refers to the summer generation in North Kwang-tung in which province the insects may wander as far as Kanton in cool summers, whereas in Hongkong I could not discover them. kuangtungensis is described to exhibit the light areas on the forewing of a tan-coloured yellow with a claret-coloured tinge, whereas the dark areas of the forewing are sepia-brown. — meridionalis Cls. denotes an inbred form. — From typical planus which is very common in Shantung, the spring-form has been separated as clarissima Mell; but it does not belong any more to the Indo-Australian fauna.


This genus which is very similar to the North-American Cressonia jughlandis Abb. & Sw., but also closely allied with Amorpha, has been described at large in Vol. II, p. 246. The only species, Ph. dissimilis, is chiefly palaearctic.

Ph. dissimilis Kren, probably does not occur in the Indian region in typical specimens (Vol. II, pl. 39 b). The only species, which was found near Kiukiang at the frontier between the palaearctic and Indian regions, already shows the rosy-red tint of South-Chinese specimens; this is the form sinensis Jord. — perundulans Sck. sinensis, perundulans.
HAEMORRHAGIA; CEPHONODES. By Dr. A. Seitz.

is the Indian form from the Jaintia Mts. in Assam. It is dark brown, not distinctly tinted pink, the dark discal spot of the forewing between the two median branches concave, the portion behind the cell somewhat less extended downward, the brown marginal area extending obliquely to the lower cell-angle. — The species seems to be very rare in the Indian region and, being a palaearctic immigrant, presumably confined to the mountains. Moreover, I also rarely found dissimilis in palaearctic Eastern Asia.

Here begins the series of Sphinges with the palpal spot mentioned on p. 247 of Vol. II, comprising a twice as large number of Sphingidae as the Asemanophorae described since. They are the Semonophorae. Cf. p. 526.

We enumerate here as the first subfamily of the Semonophorae the Sesiinae which, however, are represented in the Old World by but few species from altogether 3 genera. In the Indo-Australian fauna only small species belong to them, mostly flying by day and exhibiting habits very much resembling those of Macroglossum.

a) Tribus Sesiinae.

37. Genus: Haemorrhagia G. & R.

This genus being better known as Hemaris Dalm. appertains to the northern hemisphere, chiefly to its palaearctic and nearectic parts. As to the description of the genus cf. Vol. II, p. 247.

H. venata Fldr. (56 C a). At the time when Rothschild and Jordan published their monography on the Sphingidae only the type of this species was known, which is said to originate from Ambon. According to Felder's figure the species chiefly differs in the unicoloured dark olive tint of the body and the margins of the wings from the red- or yellow-belted species. Its size is that of a moderately large Cephonodes hylas which the flying insect presumably resembles owing to the very narrow margin of the hindwing.

H. saundersi Wkr. (= curtisi Bst.) (Vol. II, pl. 40 c) resembles a large H. fuciformis L. (Vol. II, pl. 40 b) with a more green than yellow anal portion of the abdomen and narrower, darker margins of the wings; as it prefers the mountains, it penetrates to the hotter districts of Northwest India.

H. staudingeri Leech (Vol. II, pl. 40 d). This palaearctic species has likewise a southern form, kuang-tungensis Mell, appearing as a mountain-form in North Kwang-tsung (according to Mell at altitudes of 450—750 m). It differs from typical staudingeri in the hind tibiae being black as far as the bases (as in ottonis R. & J., Vol.II, pl. 40 c), from ottonis in the abdomen being coloured as in typical staudingeri. — In West China this species is represented by beresowskii Alph. (Vol. II, pl. 40 b) which presumably in some places crosses the frontier of the Indo-Australian region to the south.

38. Genus: Cephonodes Hbn.

This genus replaces in most of the tropical districts of the Old World the preceding genus from which it differs in the hindwing (often also the forewing) showing no scaled dark marginal band; whereas the Haemorrhagia before their first flight exhibit dark scaling also on the places which are later on hyaline, the emerging Cephonodes are very thinly covered with whitish-grey or yellowish scales which fall off already when the imago starts flying and moves the wings in a vibrating manner.

C. hylas L. (Vol. II, pl. 40 d). The species, as we remarked in Vol. II, p. 249, is distributed over 3 continents. Specimens from Africa and Madagascar differ from Indians to a certain degree in the armature of the male genitals, whilst the exterior does not justify a separation in species or also geographical races. On the contrary, the colouring of the species is rather constant, whereas the larvae vary a great deal both locally and individually *); they may be green, yellow, or red, sometimes with blackish, orange-spotted sides, or the larva is green with yellow sides and a blue dorsal band; on Rubiaceae, particularly Gardenia, Adina, and Randia in China (in Africa also on Kraussia lanceolata). The pupa has the approximate shape of that of Celer, euphorbiaceae, but it is dark brown with lighter segmental folds. — The imagines are common almost in the whole range, preferably flying in the sunshine and settling in a buzzing way on the blossoms of Lantana; not in a floating way as Macroglossum, but clinging to a hold as Haemorrhagia. — In the Indo-Australian region the typical hylas flies in the whole of India, to the north far into the palaearctic region, whereas it is absent in the Malay region; but to the south of it, from Timor and Flores to Queenstown, it occurs again; such specimens do not constantly differ externally from the Indians, but they are said to differ in the genitals, owing to which fact the southern form was named cunninghamei Wkr.

*) Fawcett, in Trans. Ent. Zool. Soc. Lond. XV, pl. 18, figures five differently coloured types of the larva of hylas.
**SATASPES. By Dr. A. Seitz.**

**C. picus** Cr. (= hylas oval.) (62 d). Above quite similar to typical hylas, but beneath the abdomen picus is black with white spots. The colouring of the body and head is besides invariably of a brighter green, and the red dark belt is narrow. Southern India with Ceylon; Queensland, New Guinea; Java and Malacca to Christmas I.; Marshall Is. — It varies a great deal and may become so very similar to hylas that the species is only discernible by the anterior tibiae ending in a strong thorn.

**C. kingi** Me Leay (= bucklandi Blr., cunninghami Blsl, nee Wkr.) (62 d). Smaller than hylas, forewing kingi with a dark brown apical band which taperingly extends down to beyond the centre of the margin. At the abdominal end fine orange colouring which is particularly conspicuous when the anal tuft is spread out. — Larva green or brown, with a (variable) blackish subdorsal line which sometimes gets comb-shaped by lateral spots touching it. Head of the dark larval form usually red. — In North and North-Western Australia, mostly common.

**C. woodfordi** Blr. (62 d) is one of the largest species, like a large hylas, abdomen with a broad red belt, woodfordi, behind it yellow, beneath black with yellow spots. In the typical form the tail is black, above slightly intermixed with yellowish; Salomons. — luise R. & J. is a form from the Louisiads, in which the tuft of the tail is above greyish ochreous, only at the base black; the chest is deeper yellow than in specimens from the Salomons Is. Described from 1 ♂.

**C. janus** Wisk. (= cunninghami Schouf., nee Wkr., unicolor Rothsh.) (62 d). Head, thorax, and abdomen janus, light olive green, without coloured belts; only the anal tuft is black and yellow. Queensland. — **austrosundanus** austrosundanus. R. & J., from Flores, differs from typical Australians in the narrower dark margin of the margin; — simplex Rothsh., from the Loyalty Is., shows towards the end of the abdomen a darker colouring than in front. — The typical form is in some places of Australia from Brisbane to Rochhampton not rare; of the others only single specimens are known.

**C. armatus** R. & J. is very similar to janus (62 d) in the colouring, but on the sides of the 5th and 6th abdominal rings it shows a small reddish spot. From the Fidji Is. — **marianna** R. & J. is a form from the Marianne Is., in which the red lateral spots on ring 5 are connected by a rust-coloured transverse belt across the abdomen, whilst the ring 6 exhibits small spots on the centre and on the sides.

**C. lifuensis** Rothsh. (62 d) is easily discernible from janus by the 5th abdominal ring exhibiting a lifuensis, narrow red transverse belt; but then also the apex of the forewing is much more broadly margined with black. From Lifu, one of the Loyalty Is., in the north of New Caledonia.

**C. novobudenensis** Clk., from the New Hebrid Is., resembles lifuensis, but the thorax and abdomen are above instead of ochreous orange more yellow, on the 5th ring there is a similar red band, but the 6th ring instead of the reddish lateral spots likewise shows a narrow reddish transverse band. The anal tuft is more uniformly brown; abdomen beneath in front bright yellow, laterally more white and black fringed, instead of yellow and black as in lifuensis. The dark marginal band of the forewing is narrower in novobudenensis than in lifuensis.

**C. xanthus** R. & J. is very similar to the preceding species, on the whole more robustly built, the apex xanthus of the forewing a little broader black, the body especially the abdomen likewise unicoloured, but more ochreous, with a but faint greenish tint; body beneath orange. From the Lu-chu Is. (Okinawa).

**C. titan** Rothsh. is the largest Cephonodes-species and at the same time the only known from the titan. Moluccas. Body and bases of wings blackish; abdomen beneath also blackish. Anal tuft beneath brownish orange; chest orange; palpi greyish-yellow. Amboina.

**C. rothschildi** Blr. (62 e), from New Guinea, is a large, quite unicoloured brownish olive green form rothschildi, with a black costa of the forewing; in spreading the anal tuft orange lateral hair appear.

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39. Genus: *Sataspes* Mr.

Whilst the *Cephonodes* already show the tendency of assuming the exterior of a spined hymenopteron, without a specific mimesis being recognizable *), we find in the *Sataspes* an unmistakable copy of the ♀♀ of *Xylocopa*-bees developed. It consists not only in the dark bluish-black colouring, but also in the assimilation of the thoracal hair to the carpenter-bees flying in the same district, in the shape of the wings being exactly like the wings of bees, the abdomen being similarly widened and flattened as in *Xylocopa* and being bent downward in the resting insect, as if it were ready to sting, and also in the flight. Neither MELL nor myself succeeded in observing *Sataspes* drinking from blossoms, but I do not doubt that they visit flowers and merely

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* The *Cephonodes* are not at all shy so that, if one takes a little care, one may catch them just as easily with one's hand as a *Macrogl. stellatarum*. The Chinese children however, who caught harmless insects with their hands, did not dare to touch the *hylas*, but beat them down with bamboo-rods, taking them to be *Aculeatæ*. X
owing to their disguise cannot be discovered from among the *Xylocopa* swarming about everywhere in great numbers. Mell frequently observed them drinking like other *Sphingidae* from pools on the water of which they settled down. In flying they put forth a loud humming sound similar to that of a carpenter-bee.

**S. infernalis** Wie. (Vol. II, pl. 40 e) is the northernmost species occurring in North India as well as in China, where it penetrates into the palaeartic region (cf. Vol. II, p. 249). It is recognizable by the yellow transverse stripes (distinctly shown in our figure) on the neck, base of abdomen and anal end. — **uniformis** Bth., from Sikkim, shows hardly any yellow on the abdomen, and is thus very dark. — **glossatris** R. & J. seems to be the southernmost form, from Borneo. It shows no yellow whatever on the abdomen; wings beneath at the base lighter whitish-yellow, forewing above in the discal area with a bright bluish-green metal gloss. — Shape of larva very similar to that of *M. tiliae*, head likewise pointed above, but not so triangular, because it is laterally rounder; the lateral oblique stripes more whitish than yellow, the horn feebler. On the 6th and 7th rings there is mostly a large, red-brown spot, or also a red-brown saddle-spot across the dorsum. On Papilionaceae, such as Lespedeza or Albizzia. Pupa uniformly brownish-red, the broadest on the thorax, but posteriorly pointed, so that the pupa does not show anything of the carpenter-bee-like widening of the abdomen which is more effected by lateral hair-tufts in the imago. — The imago appears in the north in 1 generation (June-July), farther to the south in two, one of which hibernates: it flies in the sunshine and, when at rest, it stretches the antennae out like a carpenter-bee.

**S. tagalica** Bsd. This species is most peculiarly divided into a number of structurally similar, but externally very different forms. The exterior of the forms presumably varies according to the most suitable models of their habitat. — **thoracica** R. & J. (64 d) shows a magnificent steel-blue or steel-green gloss on the abdomen and wings, whereas the thorax exhibits a yellow fur, whereby the exact copy of *Xylocopa aestuans*—**hauzwelli**. being very common in its range is effected. North India, not rare. — **hauxwelli** Wie., the ♂ of which may be

**S. thoracica** Bsd. — **S. tagalica** Bsd.

**S. collaris**. — **S. collaris** R. & J. (64 e) shows on the body and wings a blue metal gloss which is particularly distinct at the base of the forewing. The body, however, is quite dark with a bright yellow, narrow collar. Burma. — **cerberus** Smpr. (65 C a), from the *Philippines* Is., has a blue through dull lustre on the head, body and wings. The transverse bands on the wings are rather indistinct; the body shows no yellow whatever, except very faint traces of small yellow scales at the pronotum. The basal yellow of the hindwing beneath, however, is more extensive. From the *Philippines* Is. *). — **protomelas** R. & J. (64 e) has been established according to a female with a very broad abdomen which is of a very dark steel-green reflection like the wings; only in the centre of the segments 2–6 there are feeble yellow brightenings. Whether it is the ♀ of one of the preceding forms or whether it is not rather quite a different species, I cannot decide, because I have not seen a male belonging to it. — Larva difficult to distinguish from that of *infernalis*; on the whole probably more yellowish-green, adapted to the lighter leaf-colour of its food-plant, a Dalbergia. Frons not so light as in *infernalis* (where it is sometimes almost white), but rather darker than the ground-colour. The rusty red lateral spots may also be absent as in *infernalis*.

**S. scotti** Jord. Body and wings brownish-grey, without a brighter metal gloss; only in a certain exposure to light the upper and under surfaces show a dull violet reflection. Forewing less long than in *infernalis* (Vol. II, pl. 40 e), margin shorter and more concave. Dehra-Dun in North-West India.

**S. ribbei** Rb. Similar to the preceding species, front part of abdomen beneath light yellow as in *thoracica* (64 d), but the 6th abdominal ring above with a yellow transverse band, similar to *infernalis*. Distinguished from *tagalica* also by the duller metal reflection. Celebes.

**Philampelinae.**

This group containing about one fourth of all the Sphingid species is divided into the *Philampelinae* composed of about 20 American species, and the *Nepheleceae* containing the other (about 250) very heterogeneous species. The former are distinguished by a very typical Sphingid shape; in the Old World, however, they are not represented. The *Nepheleceae* exhibit relations both to the *Sataspes* and to the *Choerocampinae*. Thus the *MacroGLOSSA* are unmistakably allied to the *Sataspes* and *Cephonodes*, whereas the *Ampelophaga* — food-plant: vine — are related to the *Choerocampinae* genera (*PERSEUS* etc.). As to the *Nepheleceae* in general we notice the same peculiarity as in the other Sphingid groups, i.e. wherever the imagines are classified in separate genera already owing to structural differences, the larvae still exhibit close relations. — Between the (American) *PHALUS* and the *Nepheleceae*, which are also well represented in the Old World, is the genus *TINOSTOMA*.

*) The only specimen before me, the type in Coll. SEMPER, is not well preserved: the antennae are absent.
a) Tribus Philampelicae.

40. Genus: **Tinostoma** R. & J.

This tribe is quite American except one species found in the Sandwich Is. When the species was published, only 1 specimen was known, having been captured at an altitude of 2000 ft.; it is in the collection of the British Museum.

**T. smaragditis** Meyr. Shape similar to that of *Deilephila* or *Gelerio*; thorax, forewing and anterior portion of the abdominal dorsum green, hindwing purple brown with a slight violet reflection. From the northeastern Sandwich I. Kauai. A male. Judging from the habitus the insect belongs to the American fauna.

b) Tribus Nephelicae.

In contrast with the preceding tribe, the *Nephelicae* are almost entirely confined to the Old World; only in the north a few small species also invade the boreal parts of America, but without reaching to South America. The group is very well represented by the genus *Nephele* in the Ethiopian region, and the polyphtallic genus *Macroylossum* is distributed over the entire Old World, as far as the temperate and warm climate reaches.

41. Genus: **Chromis** Hbn.

The *Chromis* exhibit the elegant structure of the *Sphingidae* in the most typical form, the smoothly margined, equable shapes of the wings and the fish-shaped, posteriorly tapering body. But few forms belong to it, being confined to the South-Asiatic and Australian islands, where they prefer the sea-coasts and fly to the lights of ships; they were even caught on very small, low atolls.

**Ch. erotus** Cr. (andamanensis Ky.) differs from the figured *eras* Boul. (= *erotus* Wkr. nee *Cr.*, *erotoides* erotus. Wilgr., sapor Koch, eroides Koch) (62 b) chiefly in the broader marginal band of the orange hindwing which varies individually, though in eastern specimens it does not attain the width of the western *eras*. Moreover, the underside of the wings and body is mostly more reddish brown in the easternmore *eras* than in typical *erotus*. The range of the latter form extends from Ceylon across the Andamans and Sunda Is. to Celebes and Sumba. Farther to the east it is followed by the form *eras* extending from Australia across the South Sea to the Philippines and Marshall Is. in the north and the Society Is. in the east. — Larva either green or brown, with a slightly curved horn of medium length. From the 3rd to the 10th rings there are on the sides 8 equally sized ocelli being blue in the green larvae and green in the brown ones, with white centres. On the sides light oblique shadows, and from the 4th ocellus to the last segment a light lateral line. Presumably on species of *Vitis*.

**Ch. meeki** Bothsch. (62 e) is quite similar to *heliodes*, but the body and forewings are more of a greenish meeki. tint, the marginal band of the hindwing inside irregularly defined. New Guinea.

42. Genus: **Deilephila** Lasp.

This genus being composed of 7 very graceful species is purely Indo-Australian save one species. As to the genus itself we refer to Vol. II, p. 249—250.

**D. nerii** L. (Vol. II, pl. 39 e) varies but very little in spite of its enormous range extending from Central *nerii*. Europe to the south as far as the Cape of Good Hope and in the east as far as India and Ceylon; it varies noticeably only in the size and in the tint of the discal oblique band which may turn from light grey and whitish to yellow and even to a beautiful pink shade; besides, the shade of the ground-colour may also differ slightly according to the season. — ab. *infernoluta* Saanm. are specimens with a bright honey-coloured under surface; from Madagascar, but they also occur in other places. We refer also to Vol. II, p. 250 and Vol. XIV, p. 371.

**D. hypothous** Cr. (63 a) is at once discernible from *nerii* by the much darker colouring, the beautiful green of *nerii* being darkened into an olive-tinted brown. The light antemarginal stripe of the hindwing above is almost straight. It is distributed from North India to Ceylon in the south, and across the archipelago to the Key Is, and the Timor-Laut group; in Ceylon *) and the Sunda Is. it is in some places and years extremely

*) When in the Boer-war in 1901 the camps of prisoners in Ceylon were surrounded by arc-lamps, numerous Sphinges (but chiefly *D. hypothous*) appeared in such swarms that the masts of the lamps on to which they settled were so crammed with them that the newcomers seeking a resting-place pushed away those that had already settled down.
numerous, whilst to the north their number decreases, so that in Kwang-tung they are already very scarce. — *pallescens*. Like *nerii* also the hypophonus may occasionally wander in China to the north. — *pallescens* Btlr. (= magnifica Blbr., gloriae Rothsch.) is the mostly larger form from Australia, New Guinea, the Bismarck Archipelago, and the Salomons. The distal area between the median branches of the forewing is almost as dark as the deep olive green median area; the whitish lines in the submedian area are obsolete, and the bordering of this green area is less light; besides the light transverse lines before the antemedian oblique band are indistinct. — Larva light green with a yellow, posteriorly brown subdorsal stripe below which there are sky-blue spots; horn and anal region dark brown; in the sides darker green oblique stripes which, however, extend in the opposite region, compared with the other Sphingid larvae, i.e. from in front and above to behind and below. It lives on Cinchona (china-bark) and presumably also on *Katechu* (*Uncaria*) and is probably protected by the bitter substances of these plants. The pupa has the slender shape and the ochre-brown colour of that of *nerii*; it is able to strike out very vehemently. (According to R. Mell this mobility is different in Chinese specimens.) The imagines come frequently to the light and also visit blossoms; they leave the pupae in the evening.

**D. layardi** Mr. (63 a) is considerably smaller than the preceding species, the wings are similarly coloured but more plainly marked; the anteterminal stripe in the hindwing is curved; the median transverse stripe in the forewing is posteriorly distinctly defined, but proximad hazy. Ceylon, rather rare.

**D. placida** Wkr. (63 a). The light median transverse band of the forewing is neither outside nor inside distinct and straightly cut off. The forewing of this species also lacks a tiny white spot at the apex, which is exhibited by the two preceding species. In typical *placida*, which are nearly everywhere common from the Andamans across the Sundas Is. to the Philippines and New Hebrids, the inner border of the olive green discal area is above deeply indented, and the antemedian line is distinct; only from the Fidji Is. specimens are brought, in which that proximal border of the median olive spot extends straightly and the antemedian line of the forewing is entirely or almost entirely obsolete; this is the form *tornaia* Drc. (= rosacea Rothsch.).

**D. dohertyi** Rothsch. (63 a) is hardly larger than *placida*, but it has more pointed wings, and is easily recognizable by the light tooth penetrating into the dark oblique band of the forewing from the direction of the marginal area. New Guinea, Bismarck Is. — *callusia* R. & J., from the Salomons Is., is smaller and the grey submarginal line of the forewing is almost entirely absent.

**D. minima** Btlr. (63 b) is very similar to the preceding species in the colouring and marking, but at once recognizable by its small size which hardly excels that of *Macrogl. stellatarum*. This species also lacks the grey submarginal line of the forewing, and on the hindwing the white belt at the base of the abdomen. South India. — *ernestina* Mr. is the Ceylon form; slightly larger and darker particularly at the base of the forewing and on the hindwing. Known from Pundaloya; I took *ernestina* once near Kandy. — The species is apparently very rare.

**D. protrudens** Fldr. (= *neriastri* Bsl.) (63 b) is as large as *nerii*, but dark brown, tinted reddish and with yellowish or whitish brightenings. The lighter median band has expanded into a large brightening in the median area, suffused with reddish and parted by a somewhat oblique thick dark line. At the apex a dark marginal spot, but no white macula. Australia and Salomons Is.; also from Halmahera.

### 43. Genus: Philodila R. & J.

This genus has been founded on a lepidopteron of the approximate shape of *Ampeloeca myron*, but coloured as the American *Darapsa pholus* (cf. the figure in Vol. VI), though with a more falcate apex of the forewing. The lepidopteron is labelled with "Mexico". *Rothschild* and *Jordan* however, take it to be Indo-Australian. I can only supply the copy of the insect from the Sphingid work of these two authors. The species *astyanor* was named: (*Everyx*) *astyanor* Bsl. (56 C a).

### 44. Genus: Dahira Mr.

The genus contains but 1 species from North India und China, which had formerly been ranged with the genus *Ambulux* which has now been cancelled again. It belongs to the most graceful *Sphingidae* known; the forewing and abdomen are particularly pointed and are stiffly erected by the resting imago.

**D. rubiginosa** Mr. (= *rubescens* Btlr.) (56 C b). Forewing with a slightly falcate apex, dark brown, in places covered with light or darker scales; the apex of the forewing is parted by a whitish streak; white is also the slightly produced interior angle. Hindwing dark golden yellow, the inner-marginal area dark brown. Size about that of *Perg. elpenor*. For a long time only the one specimen in the British Museum had been known; now R. Mell has profoundly examined into the natural history of the species.

### 45. Genus: Micracosmeryx Mell.

The name of this genus is extraordinarily expressive and at once supplies the right idea of the only species known. The imago in fact looks like an *Acosmeryx sericeus* reduced to the size of a *Macrogl. stellatarum*. Thorax, abdominal dorsum, and forewing are intermixed with light, lustrous, irregular, and frequently
interrupted transverse bands, the median band of the forewing (which is also continued across the abdomen) is straightest and most distinct. Most peculiar are the pupae which show coniform protuberances above the eyes, similar to certain pupae of butterflies, and which show a similar processus laterally anteriorly from the apex of the cremaster.

**M. macroglossoides Mell.** Forewing, abdomen and the whole under surface similar to an *Acosmeryx macroglossoides* of the size of *Macroplectrum*, but the hindwing above yellow with a broad, black marginal band which is narrowed towards the interior angle. — Larva green, on Vitis; the imagines fly in the day-time. In South China.

**Note:** Another, somewhat larger species is hitherto only known in the larva and pupa. Cf. R. MELL, Biology and Systematics of the South Chinese Sphingidae, p. 215.

### 46. Genus: **Ampelephaga** BREM. & GREY.

Closely allied (especially the larva) to the *Dahira*. Seven forms have been described, all of which are Indo-Australian save two species extending into the palaeartic region or touching it. They are allied to the American *Ampheloeae* (cf. Vol. VI) likewise living on Ampeleae. As to the description of the genus cf. Vol. II, p. 250.

**A. rubiginosa** BREM. & GREY (= romanovi STR., ienoba HOLL.) (Vol. II, pl. 39 d). The range of this lepidopteron which is mostly not rare in the palaeartic region extends from Japan and North China to the Pendjab in the west and Assam in the south. The specimens from the Indo-Australian region are of a duller colouring and exhibit duller, more extinct transverse bands of the forewings than palaeartic specimens and have therefore been separated as *fasciosa* MR. Whilst in North-Chinese specimens the light areas of the forewing are hued with quite pale flesh-colour, they are tinted with elaret-colour in South-Chinese specimens; the larvae of the latter, according to MELL, also feed exclusively on the Saxifragea Hydrangea paniculata, and as also the male genitals exhibit small differences from North-Chinese specimens, they were separated as *hydrangeae* CK. *hydrangeae* alticola MELL, from Yunnan, are above more lustrous, beneath of a brighter red, the marginal area being more distinctly marked and the apical oblique stripe likewise more distinct. — Adult larva light yellowish-green with an oval, somewhat longitudinally striped, green head, a subdorsal longitudinal stripe above bordered with dark green, below with white, and terminating into the horn; below this stripe there are, from the 4th to 10th rings very flat light oblique streaks. It lives on *Ampheleae* (Vitis, Ampeleopsis). — Pupa of a shape somewhat similar to that of *nerii*, but obtuser at both its ends; behind red-brown, with a slight gloss; in front brownish-grey, marked darker. — The species is not common in South China.

**A. khasiana** ROTHSEH. (63 b) being chiefly Indo-Australian was also taken near Mupin in West China khasiana. at the palaeartic frontier and therefore mentioned in Vol. II, p. 250. The transverse stripes of the forewing are more regular and equable than in *rubiginosa*, of a brighter red tint, the longitudinal stripe extending across the head and body is darker. From Assam, North India, and western Central China.

**A. dolichoides** Fldr. (63 b). Apex of forewing distinctly produced, longitudinal line of body bright. *dolichoides*. Ground-colour somewhat lighter, with a slight reddish-grey tint; the antemedian, median and postmedian transverse stripes are very straight and distally shaded with dark. Hindwing rather monotonously sepa brown. Sikkim, Assam.

**A. linigera** Bol. was described from a 5 in OBERTHUR’s collection, from Luzon; in SEMPER’S Philippinie linigera. collection not present. Similar to *dolichoides*, but the under surface considerably redder. On the forewing the proximal transverse lines are indistinct, the 2nd distal line is removed farther to the margin. Unknown to me.

### 47. Genus: **Elidia** WKR.

Only 1 larger Sphingid species distinguished by thick, projecting palpi belongs to this genus. The eyes are also particularly large and protruding; the abdomen is pointed and very long.

**E. dolichus** WIE. (67 a as *dolichos*). Unmistakable; thick light, dark-shaded and double stripes very *dolichus*. Flatly extend from the apical portion of the forewing to the inner margin; above the upper stripe a large punctiform central spot. Hindwing black with a bright blue basal portion and light shades before the margin. From Sikkim through India to the large Sunda Is., to Palawan in the east and the Natuna Is. According to SEMPER, Palawan-specimens do not differ from Indians. — In most of the districts not common, but according to FRUITSTORFER for weeks nearly every day fresh specimens appeared in a house in Java.

### 48. Genus: **Acosmerycoidees** MELL.

The only species of this genus was described as a *Rhagastis*, but the pupa discovered by R. MELL proved it to be a species very near to the *Ampelephaga*. The food-plant itself (Ampeleae) does not speak directly against *Rhagastis*, since the latter do not live on vine but on plants that are preferred by larvae feeding
on vine-leaves (Hydrangea which the larva of Ampeloph. rubiginosa feeds on, and Balsamineae on which the larva of Pergesa alpenor feeds). The exterior of the larva, however, save some oblique stripes and the horn, is exactly that of a larva of Acosmeryx or Ampelophaga.

A. leucocraspis Humphs. The large brown imago of an expanse of about 80 mm chiefly differs from a large Ampelophaga in the absence of the median stripe across the head and body, which is not absent in any genuine Ampelophaga. Forewing dark brown, especially in the basal portion; instead of the parallel darker transverse stripes there are irregular, small costal clouds. The marginal area is proximal bordered by a chain of small dark crescents. Head and thorax bordered with white. Assam. — Insignata Mell is a northern form in which the markings are duller or die away; of the chain of crescents before the marginal area only the middle portion is distinct, the costal portion disappears in the brightening of the apical third of the wing. South China. — Larva similar to that of Ampeloph. rubiginosum, with a light subdorsal stripe and dull oblique stripes below it, distinguished by the very thin and above curved horn of 20 mm length. On Vitis. — Only few specimens are known of this species.


About 14 forms are known today of this genus which has been characterized in Vol. II, p. 251. It is quite Indo-Australian except few species penetrating into palaeartic regions.

A. naga Mr. (= metonaga Btvr., shervilli Bsd., anceus Leech p. p.) (Vol. II, p. 39 c). At the time when we dealt with this genus in Vol. II, p. 251, this species which is not rare in Japan, was not yet known from China where it has been ascertained by R. Mell in the meantime; Jordan’s statement in that volume is to be supplemented accordingly. It is very similar to castanea (Vol. II, p. 39 c) though distinguished by its greyer colouring and more distinct marking. As to further particulars cf. Vol. II, p. 251. — Larva very similar to that of Ampelophaga, dark green with a yellow subdorsal stripe and lighter or darker green, hardly noticeable oblique stripes below it. The 4 first rings are defined on the dorsum in the shape of a thoracal shield which is bordered by yellow and behind it by red-brown. The horn of the grown-up insect is small, green, curved below. On Actinidia fulvicoma, perhaps also on vine. North India, South China, Japan.

A. anceus Stoll (= cinnamomea H.-Schäff., daulis Bsd., meskini Mauw., mixtura Wtr.) (63 c). Much lighter than naga, more of a pale ochre colour, the irregular transverse lines more indistinct, the transverse shadows only marked by their borders. Under surface ochreous loam-coloured, the darker marginal band badly defined. North Australia, New Guinea and the neighbouring islands, as far as the Moluccas. — subdentata R. & J. is the form representing the species in the north and extending from Sikkim to the Sunda Is.; here the forewing is more elongate and the margin projects more on the third radial, where it forms a sharper angle. — Larva similar to the preceding species. The species is common nearly everywhere in its range.

A. socrates Bsd. has a shape similar to anceus, but the colouring is dark greyish-brown. Forewing with a dark, distinctly light-centred median spot. — In the form cinerea Btvr. (63 d) the forewing is covered with lustrous whitish-grey scales especially above the centre of the inner margin and in the apical third. This form occurs from Sikkim to Java, whereas the typical socrates extend from the Khasia Hills, Sumatra, Borneo to the Philippines. Small specimens of socrates were ascertained in South China. — Larva (according to Semper) dark green with a blue-green head, an anteriorly yellow, posteriorly white subdorsal stripe which is above bordered with red-brown. below it there are small blue spots and flat yellow oblique stripes shaded with green. Horn and pectoral feet violettish-red. On Cissus pedata and acida. — Semper’s figure of the larva is strangely similar to that of a Deilephila hypochous, and as Moore figures the larva quite differently, Semper may have made a mistake. — The species is considerably rarer than anceus.

A. miskini Murr. (= sericeus Misk. p. p.) (63 c) is quite similar to socrates, but the apex of the forewing is gnawed out, so that there is a conavity below the apex of the wing (being deeper in the ) The margins of the hindwings are slightly angular, too. The marking is quite similar to that of anceus, but with a central dot. Australia and New Guinea.

A. sericeus Wkr. (= anceoides Bsd., ancea Humphs.) (63 e). Forewing with very irregular bands. The scaling is of a bright silken gloss, and the apex of the forewing is gnawed out as in miskini. From North India to the Philippines. — Rufescens Mell is a South-Chinese form which is lighter on the whole than Indian specimens, browner, with a more intense red or copper tint and more distinctly defined lighter areas of the forewing. — The larva may look almost exactly like our description of socrates, except that the blue spots below the subdorsal stripe are absent; but the horn and ventral feet may also be green and the longitudinal stripe unicoloured yellow. On species of Vitis and Actinidia fulvicoma. — Apparently not common.
A. onissa R. & J. (63 c). Shaped exactly like the preceding species, but the forewing much less marked, *omissa.* especially with fewer transverse bands; hindwing distally with a more rust-coloured tint. North India: Sikkim and Bhutan. Probably not rare, but mostly mistaken for the preceding species.

A. pseudomissa Mell exactly resembles *omissa,* but the margin in both wings smooth, not gnawed out below the apex, but only slightly projecting. Oblique stripe of forewing produced as a distally directed streak. In the large preapical light costal spot the median one of the 3 dark undulate lines (which are distinct in the otherwise similar *castanea* [Vol. II, pi. 39 c]) is present, sometimes also the outermost, whereas the innermost is absent. Northern Kwang-tung.

A. castanea R. & J. (= anceus Leech p. p.) (Vol. II, pl. 39 c). Recognizable by the very slight indenture *castanea.* of the margin of the forewing below the apex. The ♀ is somewhat more similar to *sericeus* in the marking and colouring than the ♂. As to further particulars we refer to Vol. II, p. 231. Typical specimens are from Japan. — *kuangtungensis* Clk. are specimens from Kwang-tung with a lighter under surface; the white spotting at the costal margin of the hindwing is more intense, and the anal area and centre of the hindwing beneath are lighter. too. — ab. *conspicua* Clk. are ♀♂ of the summer form, in which the forewing shows rust-coloured layers. — *conspicua.*

A. yunnaniana Clk. Above similar to the form *subdentata,* beneath more like *castanea* or *omissa.* The greyish patch at the costal margin at the subapical area extends to the 2nd radial, and somewhat duller at the margin as far as the 3rd. In this brightening there are, between the costal margin and the 5th subcostal branch and between the latter and the 1st radial, double rows of proximally concave lunulae. Hindwing above unicoloured dark brown: only from the angle towards the centre of the wing there is a feeble brightening. Described according to a single ♀ from Yunnan.


The genus is founded on a single species in the Coll. Oberth’s, looking like a stunted *Acosmeryx.* The eyes are smaller than in the latter, with brows, the last antennal joint not filiformly prolonged, the tibial spurs shorter, the middle tarsus without a basal comb.

L. tridens Oberth. Unknown to me in nature. Of the size of *Perg. elpenor.* Forewing at the margin *tridens.* dentate, with a point at the apex, one below it, a projection in about the centre of the margin; margin of hindwing curved. Forewing above violet-grey, traversed by velvety brown lines and spots. Three of these lines extend parallel to each other from the costal margin to the inner margin, behind it a triangle with the apex towards the costal margin. In the cell a distinct ochreous spot. Darjeeling.


The species of this genus are mostly very much alike, their colouring and marking strikingly resembles bark, and when at rest they take up so strange a position that they can hardly be recognized as insects. Still more stupefying is the larva which was minutely observed by R. MELL. It presses close against its resting place, and does not move in the least on being disturbed, thus resembling a shoot of the food-plant. 'The insect may be pushed and pinched, it remains motionless.' — The imago is characterized by its very large head and the uncommonly slender and pointed abdomen of the male. Palpi very large, antennae rather plain, in the ♀ bristle-shaped, in the ♂ feebly clubbed, last segment narrow, long conical, not filiformly prolonged, not scaled, with long bristles. Tibiae spineless, middle tibiae with almost equally long spurs, the spurs of the hind tibiae very unequal. Pulvillus and paronychium present. — The genus is purely Indo-Australian.

P. pulchella R. & J. (64 a) is the most beautiful species. Forewing with 2 white longitudinal lines, *pulchella.* the upper one branching off net-like. Hindwing deep orange-red with a blackish marginal band. New Guinea.

P. michoiti R. & J. (64 a) is another New Guinea species. The upper white line of the forewing forms *michoiti.* no meshes, but only 2 strangulations towards the apex. Hindwing lighter, more dark golden yellow.

P. excellens Rothsch. Head and thorax, as well as the first abdominal rings above dark olive green *excellens.* like the forewing, however, shows a yellowish flesh-coloured spot near the base, which is divided by black spots into 3 parts: apical third silvery grey, scantily dusted olive. The median transverse band of the forewing is pink, outside bordered with orange-red. Hindwing in the basal two thirds orange, marginal third dingy brown. Octakwa (New Guinea).

P. busiris Wkr. (64 a). Thorax and forewing as far as the marginal area green, shaded with brownish; *busiris.* marginal area wood-brown and disfigured like a chip of wood by a double indenture below the apex. Hindwing dark brown. The imago is unmistakable. When it rests, it keeps its snout and abdominal end pressed upon
its resting-place, whilst the centre of the body remains raised in a high bend, the wings being steeply raised. —

Adult larva above green, in front and laterally brown; on the 4th ring behind a neck-like stranglelution a vertical longitudinally oval ocellus which, however, is so distorted that it resembles more the place from which a branch has fallen off. On the Araeac Pothis seminani, in some places common. — From North India to the north as far as Southern China, to the south as far as the Nicobars, in the west to Borneo and in the east to Annam.

P. splendens Roths. (= automedon Misk. nec Wkr.) (64 b). Size of busiris, but somewhat more squatly built, also the ♀; as in the following species the whole forewing is here wood-coloured brown, in Australasian specimens often covered with a beautiful moss-green; the dent above the centre of the margin of the forewing is by no means so prominent as in busiris. Hindwing with an ochreous, proximally dentate postmedian band which may also be divided into spots by the dark veins. North Australia, New Guinea to the Moluccas. —

In the typical form the apical portion of the forewing invariably shows a number of hyaline spots dimmed by whitish, whilst in the form from the Salomons Is., salomonis Ckr., these small hyaline spots are much narrower, and the thorax and forewing are more variegated and more contrastingly coloured.

P. malayana R. & J. (64 a). Body and wings very plainly nut-brown. Forewing with a blackish oblique stripe and central dot. dark lines in the marginal and basal areas. Hindwing towards the apex smoky blackish. Sunda Is. Rare.

P. automedon Wkr. (64 a) is very similar to malayana and not larger, but the oblique streak through the forewing also in the ♀ distinct, and the inner-marginal portion of the hindwing as far as the base yellow. Some of the finer discal lines of the forewing invariably reach the costa, which is not the case in malayana. From North India to Java and Borneo.

dohertyi.

P. dohertyi Roths. (64 b) is as large as automedon, but considerably darker; forewing with a black central dot in the yellowish-brown halo, the margin more obtusely angled, the wood-marking above more darkened; hindwing dark brown, with a much inferior yellowish antemarginal band. Malacca across Borneo to Nias.

tiridates.

P. tiridates Bsl. (56 C b) is like dohertyi. The discal lines of the forewing are in front less curved. On the outside of the bifurcation of the subcostal vein at the costa there is a black spot, behind it a small costal dot. The 2nd white spot before the apex is triangular, not so regularly angled as in dohertyi. — Larva of the shape and size of Cel. obelentia, dark green, the thoracal rings laterally below, and the penultimate ring with the horn quite brown, the 4th ring with an ocellus; on Pothis pinata, Philippines. Rather rare; only 4 specimens are before me.

variolosa.

P. variolosa Wkr. (= busiris Suh. nec Wkr., hamiltoni Roths., vagans Btlr.) (64 b) is very similar to tiridates and separated from dohertyi by the non-angular margin of the forewing; the two principal oblique streaks of the forewing are almost exactly straight, parallel to each other and roundly incurved before the costa; hindwing with a very dull antemarginal band which is broken up into spots. North India to Java and Borneo. Apparently very rare like most of the Panacea.

sinuata.

P. sinuata R. & J. (64 b), from Sikkim and Assam, is quite similar to variolosa, but discernible by the slight indentation of the margin of the forewing below the apex; fringe distinctly dotted dark. In the forewing a bundle of 5 discal lines, the two proximal ones of which form stripes.

metallica.

P. metallica Btlr. (64 c) is of a much lighter colour, particularly on the body and the distal half of the forewing. The oblique lines on the forewing are decidedly steeper and disappear, before they reach the costal margin. Beneath not so completely brown, basal portion of forewing lighter. Sikkim, Bhutan.

perfecta.

P. perfecta Btlr. (56 C b) is extremely similar to metallica, but the distal 3 oblique lines are quite equidistant from each other. Lines straight, the submarginal stripes are not interrupted, in the hindwing the antemarginal yellow spots are confluent, forming an equal curved band. North India to Tonkin. — tsckou Ckr., from southern West China is described from a damaged ♀ in the Coll. Oberthür: it is said to be lighter above, the oblique lines of the forewing less prominently marked, and the darker area in the centre of the inner margin less prominent.

mydon.

P. mydon Wkr. (= arachthus Bsl., frena Suh., ♀ = scapularis Wkr., jason Bsl.) (64 c). This is the most common species of the genus in collections, recognizable by the steeper course of the oblique lines, all of which distinctly extend near to or even into the costal margin. The lines in the basal portion of the forewing are also distinct. Sikkim and Bhutan to Assam and Tonkin. — Whereas in continental Indian specimens the upper surface is rather uniformly tinted dark brown, the somewhat smaller form elegans H.-Schef. (= regularis Btlr., variegata Roths., perakana Roths.) (64 c) is above brighter and more contrastingly marked; the dark places at the centre of the costa, the centre of the distal margin, and before the end of the inner margin are much more prominent. Particularly in the Sunda Is., also in Malacca and as far as the Philippines.

septentrionalis Mell is the northernmost form, from South China. The tint of the thorax and forewings is less red, the yellow antemarginal band of the hindwing extends nearer to the apex, so that the margin and the discal
area are but very narrowly confluent at the apex. — pallidior Mell is a name for the lighter coloured, hibernating South-Chinese specimens. — Adult larva green, similarly to tiridates the first 3 or 4 segments are laterally brown, the 4th ring with a feigned eye on the side, the rings 5 to 10 with a brown lateral stripe and similar dorsal spots which may be so large that the brown colour predominates over the green colour. On Aracea (Pothos scemannii, Anomorphophallus variabilis), species of Alcaecia and Colocasia, also on Phellodendron, Caladium, and on Vitis. If the larva is irritated, the lateral eye which was invisible before, suddenly appears with an enamel glitter, and the thickened anterior end of the larva looks like a snake’s head being swollen with rage. The imaginés are not rare in some habitats (e. g. in Java).

52. Genus: Angonyx R. & J.

Only three species compose this genus which is recognizable by a slight indentation in the margin of the forewing, below the apex, a slight angulation or convexity below the centre of the margin, and a slightly produced anal angle of the forewing. The forewing is more or less tinted green and divided into two almost equally long halves by an almost vertical transverse stripe. Purely Indo-Australian. The imaginés are rare almost wherever they occur.

A. testacea Wkr. (= emus Bsd., emilia Bsd., ella Blr.,) is the darkest brown species; thorax and forewing with a dark olive tint; hindwing outside reddish cinnamon-brown. Transverse band of the forewing whitish, only few mm broad. North India to Ceylon and the Molucças. — papuana R. & J., from Queensland to Tenimber and the Salomons, differs hardly in the exterior, but more distinctly in the male genitals. — The imaginés sometimes swarm on blossoms in bright sunshine.

A. boisduvali Rothsch. (64 c) is considerably larger than the two other species, of a lighter colouring, the boisduvali, forewing with a broad whitish median band which is only proximad distinctly defined. Distal third of hindwing light red-brown, shaded at the margin. Distal margin of forewing very convex, with a pointedly projecting interior angle. Salomons.

A. meeki R. & J. (64 c) is distinguished from the two other species by the linear transverse stripe meeki, through the centre of the forewing, which is narrowly edged with white only on the outside. Disc of hindwing in the ♂ orange, in the ♀ deep dark red-brown. Salomons.

53. Genus: Enpinanga R. & J.

Separated from the preceding genus by the smaller head, shorter antennae and short tibial spurs. The imaginés exhibit a pointed apex of the forewing, below which the margin is distantly gnawed out: Only 4 species all of which seem to be rare.

E. vigens Blr. (= virens Smpr.) (64 d). Forewing silvery grey with a very irregular margin, with a median transverse stripe and a thick central dot before it; hindwing blackish, towards the anal angle lighter. Inner margin light grey. Beneath the forewing is loamy yellow near the median band. Malacca and Borneo to the Philippines. Rare.

E. assamensis Wkr. Only a badly preserved ♂ is known. Similar to the preceding species, but in the assamensis, distal area of the forewing there is another line, and beneath the loam-colour is absent. Silhet.

E. borneensis Blr. (64 d) is near to assamensis and was even regarded as a form of it. Forewing beneath borneensis likewise without the loam-coloured spot. Above with a large central spot, but without the strongly marked brown dark median transverse stripe. Malacca, Borneo; rare.

E. labuana Rothsch. Forewing not so deeply gnawed out below the apex; hindwing at the apex and anal angle pointed. Median transverse stripe of forewing indistinctly darker; the shade of the forewing is more a violetish grey, suffused with purple. From Labuan in Borneo; rare. — oceanica R. & J., from the Andamans, oceanica, exhibits the interior half of the forewing above more distinctly contrasting with the exterior half, the discal lines are more distinctly marked, and the whitish-grey place in the marginal area extends to the anal angle. Under surface much brighter red.

54. Genus: Cizara Wkr.

The very neat two species are at once discernible by the shape of the body. Particularly in the Australian species the abdomen is short and stout, but at the end extended into a long point. Besides a straight white bar extends right across the forewing.

C. ardeniae Leivin (= ardenia auct.) (63 e). Dark olive brown, abdomen with lighter belts and markings, ardeniae. In front of the margins of the forewing a bone-white thick stripe extends, in some places tinted with pink, the costal-marginal and inner-marginal portions of which are connected by the quite straight, white median transverse stripe. Near the shoulder, at the base of the forewing a black dot in a bone-coloured halo. — Larva brown, with a light subdorsal stripe, finely dotted whitish; the anterior segments below the longitudinal line deep blackish-brown; the other rings laterally with oblique shadows; horn large, rough. On Grevillea (exclusively Australian Proteaceae) in the east of Australia, Queensland, and New South Wales, in some places not rare.
C. sculpia Fbr. (63 e). Smaller, more slender than ardeniae, and the abdomen not so pointed. On the
forewing the white border-stripe is not so distinct, particularly darkened at the costal margin, and its sub-
terminal branch is deeply sinuate and more remote from the margin. Hindwing with a golden yellow basal
and anal-marginal portion. Siam, rare; also in other parts of South Indo-China.


Most of the species of this genus numbering about 30 forms are exclusively Ethiopian and therefore
described in Vol. XIV, p. 372—73. In the Indian region only 4 forms occur, which are easily discernible by
their white spot on the forewing. The Nephele strongly recall the large Macroglossum of the jaro and passalis
group, and some have also been noticed sucking by day in the sunshine. — The adult larvae are generally
green or brown, in front thinner, on the metathorax thickened, with a strong horn.

N. didyma F. (= morpheus Cr., quaterna Charp.) (63 d). Deep earth-brown with alternately lighter
and darker transverse bands of the forewing. Marginal area greyish-brown, proximal irregularly defined. Cen-
tral dot silvery white, irregularly comma-shaped. — In ab. hespera F. (= eiron Cr., peneus Wkr., oblitterans
Wkr.) the central silvery spot is reduced to a small dot or entirely absent. — North India to Ceylon, Malacca
and Java, in some places very common.

N. subvaria Wkr. (= antipoda Wkr.) (63 d) is at once discernible from the preceding ones by the cinna-
mon-brown hindwing. The under surface of both wings is also tinted rusty yellow save the costal parts of the
wings. — Here the typical form likewise shows a central silvery spot in the forewing, which is absent in ab.

metapyrrha. metapyrrha Wkr. (= dali Newm.). — Eastern Australia; not rare.

56. Genus: Gurelea Ky.

Of the three species known of this genus which was described in Vol. II, p. 254, one (masuriensis Btlr.)
is chiefly palaeartic, the other (hyas Wkr.) however predominantly Indo-Australian, though it traverses the
southern frontier of the palaeartic region to the north. The lepidoptera are at once discernible by the orange
hindwings and the angular forewings, as well as by their small size.

G. hyas Wkr. (= geometricum Mr., macroglossoides Wkr.) (64 d and Vol. II, pl. 40 g). Body and fore-
wing dark brown, with irregular lighter markings, the orange hindwings uniformly margined with blackish-
Brown. For further particulars see Vol. II, p. 251. — Larva very similar to that of Macroglossum stellatum,
green or brown with a dark subdorsal line which is bordered with whitish, and a straight dark horn. In
the brown specimens the dorsum between the two longitudinal lines is darker brown than the sides and the ven-
trum. Below this line there are usually distinct oblique stripes. In sunny places on the Rubiaceae Paederia
tomentosa; from Cashmir, the Himalaya, the Yangtskiang Valley through India to the south as far as South
consipica, India and Java, to the east as far as Formosa and the Philippines. — consipica Mell, from South China,
on the whole shows brighter colours than the Indian form, and the ground of the hindwings is more fiery golden
yellow; from Kwang-Tung the imagines preferably fly in the dawn, sometimes also in daytime in the sunshine.
According to Mell, they are found in numbers on blossoms (Cucurbitaceae, Asclepiadeae, Labiatae etc.), but also
on the wet ground; in Kwang-Tung I often saw them sucking from burst fruits that had dropped from trees.
The species seems to be common in the whole range.

G. masuriensis Btlr. (= erubina Btlr., himachala Btlr.). From the figured form sangaica Btlr. (Vol. II,
pl. 40 g) the Indian form is separated by its darker total colouring and a still broader blackish-brown margin
of the hindwing. — Larva brown, similar to the brown larvae of hyas, but mostly darker, the longitudinal
stripes more distinct, the lateral oblique stripes more distinct, and the horn of the tail longer and thinner.
Like the preceding species on Paederia tomentosa. — masuriensis is distributed from Cashmir and the Hima-
laya to the south as far as Burmah, sangaica to the north across South China to Korea and Japan; the South-
Chinese specimens are somewhat like the masuriensis, but still more similar to the sangaica. — purpureosignata
Closs, with purple red on the palpi, head and collar has been described from Japan: it has not yet been as-
certained that this colouring occurs also in Indian specimens.

G. montana Jard. (= saturata Mell) differs from the two others in the more notched margin of the fore-
wing. Body and forewing above more ash-grey, without the red-brown shadows and patches of the other species.
The marginal band of the hindwing as is saturata posteriorly narrower, but less distinctly defined. Yunnan, at
great altitudes (2000—2400 m), on grassy places, taken when drinking from Labiatae.

57. Genus: Sphingonaepiopsis Wkr.

This genus being very closely allied to the preceding genus has been characterized in detail in Vol. II,
p. 251—52 and also dealt with in Vol. XIV, p. 377. It is chiefly palaeartic and Ethiopian, and but one species
occurs in the Indo-Australian region. It contains the smallest Sphingidae known; for instance, wama and gorgon
have an expanse of hardly 2 cm. The larvae, however, attain a length of 5 cm; their shape is somewhat like that of *Macroglossum*. An Ethiopian species, *nana* Bsd. (= *gnoilipes* Wilgr. (Vol. XIV, pl. 66 b), approaches the frontier of the Indian region in Southern Arabia, but it has not yet been ascertained in that region itself.

S. *pumilio* Bsd. (= *pusilla* Blr., *minima* Blr.) (64 d). The shape and size is that of Eastern-European *pumilio*. *goron* (Vol. II, pl. 40 g), but the hindwing showing an orange yellow basal half is like that of *Gurelca*. — Adult larva 5 cm, violetish-brown or green with a long, straight, thin horn, an ochreous-brown head and a bone-coloured lateral stripe. On Galium gracile and Oldenlandia. Pupa lustrous bone-coloured. The imagines are not rare in some places, flying in the early dawn, drinking from Labiatae. The range of the species extends from North-India to the South as far as Malacca, to the north through South and Central China, where it also enters into the palaearectic region (near Shanghai).

58. Genus: **Eurypteryx** Bsd.

This genus containing only 4 species is already very closely allied to the *Macroglossum*. It is exclusively Indo-Australian. Head large. Palpi projecting in a long snout and already recalling the following genus. The forewing of the ♂ exhibits at the margin below the apex a semicircular indentation, and the margin of the hindwing projects tooth-like above the anal angle.

*E. bhaga* Mr. (63 e as *bagha*). Unicoloured dark sepia brown, marked blackish; a deep dark shadow *bhaga*. extends behind the centre of the costa to the anal angle and is continued on the hindwing. It is distally bordered by a light arcuate line, proximad it gradually brightens up. Some more light transverse lines cut off the basal and apical parts of the forewing. From North India to Nias. — *obtnmcata* R. & J. Margin of fore-wing more convex; antemedian band without a distinct light interior margin; the black basal spot is intense. Hindwing: the costal margin which is straight from the base to the centre, then suddenly recedes, so that the apex of the hindwing appears slightly truncate. From the Minahassa (Celebes).

*E. molucca* Fldr. (= *biovatus* Oberth.) (63 d). Here the margin of the ♂ forewing is linear, not drawn *molucca*. in below the apex. At once recognizable by the dirty white costal spot before the apex. On the intensely pink tinged under surface the light costal spot is smaller. New Guinea to the Louisiad Archipelago and Moluccas. — In *obiiana* Huwe which hardly deserves to be denominated the inner margin of the forewing is a little more *obiiana*. convex in the centre of the wing, the anal angle projects more pointedly, and beneath the oblique partition-streak from the apex is continued a little farther (to the median vein). From Obi I.

*E. shelfordi* Rothsch. (♂ = *pendleburgi* Clk.) is considerably larger than the preceding ones, recognizable *shelfordi*. by the abdomen being flattened as in *Macroglossum* and by the white stigma and the white dot before it. Colouring of forewing dark sooty brown with a few small dispersed whitish scales and a darkened central area. In the ♀ the white stigma is large and distinct, in the ♀ tiny. Malacca, Borneo.

*E. falcata* Gehl., from New Guinea, only described in 1922, is distinguished from the others more by *falcata*. the shape of the wings than by its colouring and marking. Particularly the apex of the forewing is more produced.

59. Genus: **Giganteopalpus** Huwe.

The only species of this genus is very near to *Eur. bhaga* and shows the anal tuft expanded already very much like *Macroglossum*, as in the ♂ of *bhaga*. Recognizable by the grotesquely thickened and prolonged palpi, in the colouring and marking similar to the preceding ones.

*G. mirabilis* Rothsch. (♂ = *capito* Huwe) (63 e). The female differs from the figured male in the whiter *mirabilis*. and larger stigma of the forewing; the light yellowish-brown spots in the forewing and hindwing are brighter and more prominent. The pencil-shaped anal tuft is exhibited also by the female. Sunda Is.

60. Genus: **Sphecodina** Bth.

This genus being composed of two species (one of which occurs in North America) has already been described in Vol. II, p. 252. It is allied to the European *Proserpinus*, and the adult larva has no tail-horn, but instead of it only a knob-like protuberance.

*S. candata* Brem. & Grey (Vol. II, pl. 39 e). Recognizable by the clumsy, posteriorly truncate abdomen and the light yellow hindwings bordered with dark. Colouring otherwise dark coffee-brown. — Whilst the typical *candata* seems to be purely palaearectic, a brighter coloured form occurs in South China: — *meridionalis* Mell, *meridiona-lis*. 
61. Genus: **Rhodosoma** Btr.

Almost exactly like *Macroglossum*, abdomen flat, broad, laterally fringed, with extendible hair-tufts; margins of wings smooth; abdomen variegatedly spotted.

**Rh. triopus** Wt. (64 e). Dark brown, abdomen in the centre with red lateral spots, at the end with yellow ones. Forewing with a very large, white, somewhat quadrangular central spot; hindwing with white spots at the costal margin and inner margin. — Larva green, behind the head thin, but then on the 4th ring thickened, the anal joint with the horn very much enlarged and extended, so that the large, rough tail-horn is not turned hindward as in the other *Sphinxidae*, but forward over the dorsum. On the Rubiaceae *Adina globiflora*. Pupa shaped like that of *Macroglossum*, but a little clumsier. The imagines swarm in the sunshine on blossoms, preferring *Barleria cristata L.* in South China. They swarm more steadily, not so jerkingly, as *Macroglossum*, and without buzzing. From the Himalaya to South China in the north and Assam in the south, in some places not rare. — It is difficult to breed the larvae.

62. Genus: **Macroglossum** Scop.

This very characteristic genus which is represented in Europe only by 1 species, in the whole palaeartic region only by six, is chiefly tropical, and about 60 species are confined to tropical Asia and Africa. Nevertheless there are in the real tropics hardly any places where we notice such great swarms of *Macroglossum* as in the subtropical parts of China, probably because they are not so conspicuous there among the swarms of other insects flying around the bushes, such as the *Hesperidae* and *Lycaenidae*. In the town of Kauloong (Kwang-Tung) I could often count as many as 20 and more specimens which, intermixed with single *Cephalonia*, were drinking from the blossoms of Lantana-shrubs in front of me. They belonged to 4 or 5 species which were altogether absent during a great part of the year and suddenly occurred in enormous numbers in October. — The shape of all the species is very uniform and so unmistakable that it is unnecessary to characterize the genus here; we refer to the short characterisation by JORDAN in Vol. II, p. 252, and by HERING in Vol. XIV, p. 378. — In America genuine *Macroglossum* do not occur; they are replaced there by *Euphyrhyglossum* and *Sesia*.

**M. stellatarum** L. (Vol. II, pl. 40 f). This lepidopteron occurring throughout the temperate palaeartic region has a very remarkable range since it is apparently only in Baluchistan that it wanders directly from the palaeartic part of Afghanistan into the Indian region. Save this single occurrence near Quetta, this lepidopteron might almost be regarded as a landmark of the palaeartic region; for though it is still so common in the Atlantic islands of this region that I found it in some places of Java as the most common lepidopteron, it does not reach America any more, nor does it reach the (Indo-Australian) Linehot Is. in Eastern Asia, being still common in Shikok, but already absent in Okinawa. In Sze-chuan it also reaches its southern frontier and it was no more found in Kwang-Tung. However, it is mentioned again in „South India“ and „Cochin-China“, whereas in vast, intermediate districts it must be absent again; neither in Singapore nor in Ceylon or the Nilghiris I have been able to discover *stellatarum*. If these specimens here or in Quetta should prove to have only been brought over from northern countries, the species could be eliminated from the Indo-Australian fauna.

**M. bombylans** Bsl. (= walkeri Btr.) (Vol. II, pl. 40 f). Recognizable by the quite blackish-brown hindwings showing orange spots only in the inner-marginal area. Near the abdominal end two silvery white transverse streaks at the anterior margin of the 6th segment. Forewing like that of *stellatarum*, body in front with an olive tint. In the Indo-Australian region from the Yangtse R. to the south as far as North India and Assam; besides also in North China and Japan. — Adult larva light green, with darker longitudinal stripes and fine transverse lines. On the sides of the dorsum two white longitudinal stripes; horn black. On Rubia cordifolia. The imagines are common in many places; single specimens occur in Hongkong, whereas in the opposite Kauloong it is the most common *Macroglossum*, particularly in the afternoon from 2 till 6 p.m. in numbers on the blossoms of Lantana hybridra.

**M. avicula** Bsl. (= obscuripennis Btr.) (65 e) is smaller than *bombylans*, the hindwing without any orange band or spots. Abdomen laterally bright golden ochreous. From Java and Palawan. — Very variable; HuWE presumes this species to be a form of *bombylans*.

**M. regulus** Bsl. (= fervens Btr.) (65 e) is quite similar to *avicula*, but the hindwing is cinnamon-red, towards the margin darker; forewing with a broad dark median transverse band. South India, Ceylon.
M. gyrans Wkr. (= bombus Mab., burmanica Roths., zena Bsl.) (65 f). Coloured almost like regulus, gyrans, but nearly of double size; instead of the median transverse band in the forewing numerous black undulating lines; 6th abdominal segment with a white belt interrupted on the middle of the dorsum. Distributed from North-West India across the whole of India and Ceylon to the Sunda Is.

M. vacillans Wkr. (= approximata Wkr., pseudogyrans Roths.) (65 f) is like gyrans, but the abdomen vacillans. from the 3rd to 5th rings with lateral orange spots. North-Eastern Australia, to the north as far as Sumbawa, Timor and Tenimber.

M. affiectitia Bltr. (= vialis Bltr.) (65 a). Forewing wood-brown, with a lighter broad median transverse affiectitia, band, the proximal border of which is obtusely angled, the distal border being curved. Hindwing orange, base and marginal band dark brown. Abdominal sides with dull reddish ochreous spots. South India and Ceylon.

M. particolor R. & J. (65 a) differs from affiectitia in the marginal band of the hindwing quickly widening particolor, from the apex posteriorly and narrowing again in the submedian area so much that the orange of the centre of the wing reaches the margin near the anal angle. Southern India.

M. belis Cr. (= opis Bsl., pyrrhula Bsl.) (65 a). Similar to particolor, but the orange band of the hind-belis wing narrower, particularly the blackish-brown colour of the base of the hindwing increased, the orange-red lateral spots on the 3rd to 5th abdominal segments clearer. — Larva black with reddish lateral spots. — Widely distributed, from Karachi through India and Ceylon to South China, Formosa and the Lu-Chu (Riu-Kiu) Is. Oddly enough, however, it seems to be absent in Hongkong and the other parts of Kwang-Tung.

M. assimilis Swns. (= bengalensis Bsl., gilia H.-Schäff., taxicolor Mr., belia Huws.) (65 a). From the assimilis, very similar belis it is discernable by the orange band of the hindwing being more slanting, so that the blackish-brown marginal band in the costal portion of the wing is broader and more proximally removed. — Larva brown or green, on the dorsum a row of dots. on the sides of the dorsum a row of small brownish blurred spots hindward, followed on the 9th ring by a lighter line extending to the horn. — Madras, Nilgiri, to the south as far as Ceylon; it is said to have been found also in Java, unless it was mistaken for

M. fruhstorferi Huwe representing assimilis in Java (and to the east of it). Smaller than assimilis, forewing dark chestnut, the marking hardly recognizable in the deep dark total colouring. On the hindwing of the form latifascia R. & J. (66 C, b) the basal blackish-brown has almost disappeared, the dark marginal band, latifascia, however, is very broad in the middle, the orange band of the centre, however, still 5 mm broad, whereas in the typical form (from Java, particularly the volcano-district of Gedeh) it is narrowed down to such a degree that it is almost interrupted. — latifascia occurs in the Obi Is.

M. calecsens Bltr. The confused marking of the forewing consists of lustrous silky violet-terra white small bands calecsens, and spots. Median band of hindwing of a lighter yellow tint, irregularly defined and in the centre almost interrupted. Abdomen with small yellow lateral spots on the 3rd and 4th rings. New Guinea and New Brittany.

M. castaneum R. & J. (65 b) is extremely similar to M. belis, but the forewing so deep dark brown, that castaneum, the marking is sometimes hardly noticeable; particularly the precaphal lighter spot at the costa is hardly indicated. Easily discernable from calecsens by the non-interrupted transverse bands on the forewing and hindwing. Salomons Is.

M. caldum R. & J. (65 a as calecsens) is quite similar to the preceding species, but the transverse bands caldum, of the forewing are not so well performed, the dark antennal band is neither proximally so smooth and regularly defined, distally vanishing in the lighter ground-colour, and the anal portion of the yellow band of the hindwing is removed towards the margin; from calecsens it is almost discernable by the genital organs.

M. pyrrhostica Bltr. (= catapyrrha Bltr.) (Vol. II, pl. 40 f). Distributed in the south-east of the palaearctic region, and therefore described in Vol. II, p. 253. Similar to the preceding species, but discernable by the equal scheme of markings; in the forewing the median transverse bands are straight, and in the hindwing the orange band is more sharply defined than in the otherwise similar belis (65 a). The abdomen shows lateral dull orange spots, ring 6 an interrupted silvery white anterior margin. — In the winter-form albifascia Mell albifascia, the light median transverse band of the forewing is almost white. — ferrera Mell shows before and behind the median band of the forewing rust-coloured tints which may be the only marking on the forewing even in otherwise monotonously coloured specimens. — Larva green or brown, the green form similar to the larva of stellatarum with a long, pointed, rather straight horn and a light, dark-shaded subdorsal line below which there are long, narrow oblique shadows. On Puederia tomentosa. The imagines fly throughout the day, preferably in the afternoon-sun, and in Kwang-Tung they are especially fond of the blossoms of Lantana. Near Hongkong they are common, and in South Kwang-Tung there may be as many as 8 generations a year. — Their range extends to the south across North India, Annam, Tonkin to Lombok; to the north as far as North China and Japan.

M. troglodytus Bsl. (56 C e) is very near to pyrrhostica, but smaller, the marking of the forewing more troglodytus. confused, the bands of the forewing more irregular and less sharply defined. the band of the hindwing narrower
and its border likewise less distinct. — Larva with a white apex of the horn, quite similar to the preceding and following species, sometimes green and sometimes brown. On Hedyotis macrostemon. The imagines are very common throughout the year and are distributed from North India to the south as far as Ceylon and Java and to the north as far as China near the palaeartic frontier.

**poeiium.**

*M. poecilum* R. & J. (56 C c) is very near to the preceding and following species, but the dark median transverse band of the forewing is only in its lower portion filled up with dark, in the costal portion it is blank or blind. Body and wings are above dusted with reddish; on the abdomen the dark dorsal spots are distinct, the yellow lateral spots reduced. — In the green larva the subdorsal lines are indistinct and pierced, but the lateral oblique stripes distinct, dark and long. Found on an unknown plant which is presumed to be an Euphorbiacea. — Known from Kwang-Tung and the Lu-Chu Is.

**insipida.**

*M. insipida* Btlr. (= limata Sweb.) (65 a) is one of the smallest *Macroglossum* known; the dark median transverse band of the forewing twice as broad as at the inner margin as at the costa, and flanked on the median: the yellow band in the hindwing is swollen towards the inner margin. From North India to the Andamans, Ceylon, Java, and Borneo; also from Malacca. — *papuanum* R. & J., from Queensland to the Louisiads, has a broader yellow band in the hindwing, a non-angular dark median band of the forewing, and bright golden yellow lateral spots on the 3rd and 4th abdominal rings. — *sinensis* Mell are specimens from Kwang-Tung, with a lighter yellow band in the hindwing, a non-angular dark median band of the forewing, and bright golden yellow lateral spots on the 3rd and 4th abdominal rings. — *sitiene* Mell are specimens from Ivwang-Tung and the Lu-Chu Is. — Around Canton the most common Macroglossum-larva” (Mell).

**vicinum.**

*M. vicinum* Jord., from North Canara, presumably represents *insipida* there; forewing darkened, so that the marking is less conspicuous: tegulae not so distinctly edged with grey, on the under surface at the base of the wing no yellow.

**alcedo.**

*M. alcedo* Bsd. (65 b) has broader wings, particularly the forewings are not so pointed, the forewings with rather uniform transverse bands. Band of hindwing as before, the dark marginal band of the hindwing below the anal angle rather suddenly narrowed. Abdomen laterally with dull yellowish, spot-like brightenings. Queens¬land, Key Is., New Guinea.

**ungues.**

*M. ungues* R. & J. (65 d) is likewise small, with short and broad wings. ♂ with hardly any, ♀ with an intense black basal spot of the hindwing. In the forewing the antemedian line is straight, the postmedian band with a strong dent distally angular. Abdominal dorsum laterally with few yellow scales. From Java to the east as far as the Moluccas and Philippines. — Very near to the following species.

**sitiene.**

*M. sitiene* Wkr. (= sinica Bsd., nigri-fasciata Btlr., orientalis Btlr.) (65 b) is easily discernible from the preceding species by the great regularity of the bands. In the forewing the antemedian line extends quite straight through the wing and bends around at the inner margin towards the base of the wing, it almost reaches; the postmedian band is angular as in *ungues*; the yellow band of the hindwing is indistinctly defined, but it extends rather regularly. Abdominal scales on the side a little mixed with yellow. — Larva distinguished from that of *pyrhosticta* only by the absence of the lateral oblique streaks; on Rubiaceae (Paederia tomentosa, Morinda umbellata). — From South India across Ceylon and Indo-China to South China and the Philippines. — „Around Canton the most common *Macroglossum-larva*” (Mell).

**stigma.**

*M. stigma* R. & J. (56 C c) is larger than the preceding species, forewing in the centre brightened up in the shape of a band, so that a dark central dot is distinctly visible. The yellow band of the hindwing is angularly indented. The postmedian transverse stripe of the forewing is here remarkably far removed to the margin. Dorey, Dutch New Guinea.

**fringilla.**

*M. fringilla* Bsd. (= heliophila Bsd., kanita Sweb., loochooana Rothsch.) (65 b and Vol. II, pl. 40 e). This lepidopteran of which there are no specimens known from the palaeartic districts occurs in such masses near the palaeartic frontier that it is certainly met with as an occasional wanderer on the Yangtsekiang R., for which reason probably it was described in Vol. II, p. 253. Very easily recognizable by the straight dark antemedian band which is uniformly thickened downward and which is distally followed by a rather light median band. Beneath the palpi and central chest are all white, whereby it is distinguished from *sitiene*; from the similar *melas* it differs in the less deep dark colour of the abdomen. Besides distinguished by the distinct black median streak across the head and thorax. — Larva green or brown. The subdorsal stripe which is distinct in nearly all the larvae of *Macroglossum* is here only developed on the last rings; on the other rings it is merely indicated by a separation of the shades in the colouring; on Psychotria elliptica.

— The imagos are extraordinarily common near Hongkong, especially in October, when you may take dozens in an hour on blossoms of Lantana. — From South India through Tonkin to South China, the Lu-Chu Is., Formosa, and the Philippine Is., to the south as far as Java, Borneo, and the Moluccas.
M. melas R. & J. (65 b) is as large as fringilla, but of a darker shade, the band of the hindwing is very melas, much reduced, not so golden yellow as in fringilla (which is not so distinct in our figure). The lateral spots on the abdominal dorsum are paler yellow, too. As to further differences cf. fringilla which it represents in the south-east. Queensland, Key Is., and New Guinea.

M. moriolum R. & J. represents melas (65 b) in the Salomons Is. and is separated from it by the antemedian band of the forewing the distal margin of which is behind very much flawed proximad, as well as by the double postmedian band which is densely filled with black.

M. divergens Wkr. Of this species only 1♀ was known, from Ceylon, where it may represent fringilla. divergens. The first discal line of the forewing is only indented, the second thick and outside expanded between the two first radial branches, a distinct black line distally to the grey postdiscal line as broad as the second discal line.

M. mediovitta R. & J. (65 c) is at once recognizable by the quite straight and equable course of the light mediovitta median transverse stripe of the forewing. Okinawa.

M. albigutta R. & J. The typical form is easily discernible from the quite similar form floridense R. & J. (65 c) floridense. by the reduction of the yellow band of the hindwing, which in typical albigutta from Guadalcanar is only preserved at the costa and inner margin, but interrupted by thick black in the centre of the wing. — floridense from Florida I. (Salomons Is.)

M. dohertyi Rothsch. (56 C e). In this species there are instead of the median interspace and the grey dohertyi postdiscal line two narrow ochreous-white bands which are distinctly defined. New Guinea and Amboina.

M. hirundo Bscl. is distributed almost across the whole of the South Sea, and on the remote groups of islands quite a number of local forms have developed. — vitilense R. & J. (65 b) is the form from the Fidji Is.: vitilense. forewing unicoloured dark brown, without a distinct median transverse band; abdominal dorsum without a yellow lateral spot on the 4th ring, or with but faint traces of it. — samoanum R. & J., from Samoa, to which the likewise Samoan navigatum Clk. seems to be closely allied, is intermediary between hirundo and vitilense; samoanum. the blackish-brown straight median band of the forewing is distinct, but the grey band of the forewing is absent. — confinis R. & J., however, forms the transition to lifuense; the antemedian band is broader, contiguous with the median band. The yellow band on the hindwing is broader than the blackish-brown basal area. — lifuense Rothsch., however, shows a distinct yellow lateral spot on the 3rd ring, and on the 3rd and 4th rings also the black spots are well and distinctly marked. The antemedian and discal bands of the forewing are both distinct, New Caledonia and Loyalty Is. — errans Wkr. (= scintilium Blkr., belinda Pog.) (65 c) has a broad errans. median transverse band being widened towards the inner margin, and with an uniformly broad yellow band on the hindwing. Also recognizable by the invariably well developed dark dorsal spots on the abdomen, — cinerascens Blkr. is presumably the remotest form, from the Caroline Is. The upper surface of the thorax cinerascens. and forewing is suffused here with a peculiar reflection, excepting a marginal band of the forewing, which is 5 mm broad at the costa and narrows down towards the interior angle. — The species is distributed in the different forms over the principal islands of the said archipelagos, but in many islands it occurs but very rarely. — A continental form has also been described: — interrupta Cross, from Queensland; here the light median transverse band of the forewing is interrupted in the middle.

M. rectans R. & J. (65 c). The species resembles errans by the remarkably light median transverse streak rectans. of the forewing, but it is easily discernible by this streak not extending vertically to the centre of the inner margin, but obliquely outward. Queensland, Key Islands, and New Guinea.

M. prometheus Bscl. (= arenatum Mr.) is a large species. The dark antemedian stripe of the forewing prometheus extends in a curve from before the costal margin to the base of the inner margin; the light median transverse stripe is absent and the yolk-coloured median band in the hindwing is distally rather smoothly defined and convex towards the anal angle. Before the apex there is a lighter, somewhat grey costal spot, similar to that of melas (65 b). Abdominal sides intensely spotted yellow. From Ceylon across Malacca, Nias and Java to Borneo and the Philippine Is. — insularis Steh. (= approximata Mrk. nec Wkr., approximans Luc., Linneater Luc., inconspicua Rothsch.) is the smaller Papuan form, from Queensland, New Guinea, and the adjacent islands, with a grey under surface. This Australian form resembles those specimens of M. hirundo errans, in which the light median transverse stripe is darkened.

M. nubilum R. & J. (65 d) is recognizable by the grey oblique patch cutting off the apex of the forewing. nubilum. The yellow band of the hindwing is considerably feebler than in most of the prometheus. New Guinea and adjacent islands.

M. variegatum R. & J. (65 d, as variegata). Most closely allied to fringilla (65 b), but the yellow band of variegatum. the hindwing is narrower than in most of the fringilla: the spots on the hindwing, especially the black ones on the 3rd to 5th rings are smaller and more distinct; sides of palpi and central chest more loam-coloured, without the whitish-grey spots on the anterior rings. Antemedian band of forewing not so distinctly marked. India, Indo-China, South China, and Borneo; probably also from other districts, but identified as another...
species. — According to Mell neither the larva nor the pupa are to be distinguished from those of *M. troglodytes* (56 C c).

**M. saga** Blr. (= pyrrhosticta Leech nec Blr., kinshuensis Rotschh., *glaucoptera* Hmps.) (Vol. II, pl. 40 f) is a very large species, the body dark brown with a black median line on the head and thorax, abdomen with yellow lateral spots on the 3rd and 4th rings (on the 2nd only traces of them). Forewing very uniformly darker and lighter banded, the yellow band of the hindwing straight, mostly of medium width. Beneath the chest is greyish wood-coloured, and above the 6th abdominal ring shows the anterior border on the sides white. — The larva was found on an Euphorbiacea (Daphniphyllum). — The imago occurs in Sikkim, Central China and South Japan. For further particulars cf. Vol. II, p. 253.

**M. godeffroyi** Blr. is unknown to me in nature; it was described from a single male in the British Museum and is hardly to be found in other collections. The species is recognizable by long hair on the middle and hind tibiae, looking almost like a scent-organ and apparently not reoccurring in any other *Sphingida*. Duke of York I.

**M. fritzei** R. & J. (56 C e). This lepidopteron which Adolf Fritze discovered in Okinawa (Lu-Chu Is.) in 1891, but which also occurs in South China, is easily discernible by the quite flatly extending oblique band of the forewing, from behind the centre of the costal margin to the basal portion of the inner margin. The yellow band of the hindwing is broad and the yellow spots of the abdomen are large. — Larva similar to the well-known *MacroGLOSSUM*-larvae, green or light rust-brown, probably living on Adenosacme. The imago seems to prefer the mountain districts.

**M. glaucopera** Blr., (= obscureceps Blr., lepsha Blr., fuscata Hmps.) (65 d) is recognizable by the hindwings, in which the yellow median band is very narrow, mostly interrupted in the middle, or covered by the blackish-brown, ground-colour save faint traces (as in the figure). Body and forewing dark brown, thorax and head with an olive tint. Ceylon, Malacca, Java.

**M. vidua** R. & J. (56 C e). Described from a single female from the I. of Waigen. Abdomen very much rubbed off, it probably had been spotted yellow on the sides. Forewing with a straight dark median band which is widened towards the inner margin, hindwing with hardly any; of the median band there are only faint yellowish-grey traces left.

**M. joannisi** R. & J. is very similar to *vidua*, larger, the hindwing likewise only with traces of a median band, but the forewing traversed by 2 strong dark antemedian and postmedian bands. Abdomen with bright yellow spots on rings 2—5. Hindwing beneath light cinnamon with a broad yellow base. Described from 1 ♀ from Queensland.

**A. semifasciata** Hmps. (= faro Piep. nec (C.) (65 d). Body and forewing dark chestnut-brown, so that of the marking almost only the darker antemedian band, which is widened downward, remains visible. Abdominal rings 3 and 4 laterally spotted black and yellow. The yellow band of the hindwing is narrow, downward slightly widened. — Adult larva dark brown with a green dorsum, a feeble median line and distinct subdorsal line. Borneo to Java and Java. Apparently very rare.

**M. nigillum** Rotschh., from Java, described from 1 male, is similar to *semifasciata*: the diffuse blackish-brown subapical spot extends from the costa to the 1st radial branch, and the clouded white-grey scaling is more intensely marked than in typical *semifasciata* (65 d), but the yellow colour on the hindwing beneath is not so extensive.

**M. adustum** R. & J., from the Salomons Is., likewise resembles *semifasciata* (65 d) and it has quite the same marking, but the body and forewing are of a decidedly deeper colouring. In the hindwing the band is only marked by a yellow cloud-spot in front at the inner margin and by a yellowish brightening behind the upper cell-angle.

**M. spilonotum** R. & J. is likewise somewhat similar to *semifasciata* (65 d): from Mt. Goliath in New Guinea. Olive brown, head and thorax with a blackish-brown band which is posteriorly indistinctly widened; the patagia are also blackish-brown. Abdomen above with 2 rows of well developed black spots, the sides marked with 2 yellow and 3 brown spots. Forewing with dark transverse lines and a dark triangular marginal area: hindwing with a narrow, yellow, distinct band. Under surface chestnut brown, hindwing at the inner-marginal area beautifully yellow.

**M. aquila** Bed. (= interrupta Blr.) (65 d) resembles the preceding species, but it is smaller, the brown colour on the body and forewing less deep, so that the marking of the forewing is more distinctly prominent. The yellow band on the hindwing is very narrow, in the middle as far as the interruption narrowed; sides of hindwing very much spotted. Indo-China across Malacca to Borneo and Manila.

**M. sylvia** Bed. (= obscura Blr., proxima Hmps.) (64 f). A large species, with a strong, stout and long, little spotted body. On the forewing alternately dark red-brown and grey-brown broad bands. The yellow band of the hindwing is faded, in the inner-marginal area it flows into the anal angle. From Ceylon and Assam across Malacca to Java and Formosa.
M. eichhorni R. & J. (65 f) is at once recognizable by the yolk-coloured anal tuft and the very crooked eichhorni yellow band in the hindwing. Salomons.

M. corbythus Wkr. (= proxima Wkr. nee Humps.) is a most variable species of a vast range and deviates corbythus considerably, above all in the yellow colouring; to some extent constant are the bands on the deep dark brown forewing in which the first dark transverse stripe extends rather close to the base, the second distally very straightforwardly, the most distal, light one being convex towards the margin. South India and Ceylon. — xanthus R. & J. has a broad yellow anal tuft. Palpi and chest with an ochreous tint and a particularly bright grey touch. Tenimber Is. — fulviceuda Bitr. (65 e) likewise shows an entirely yolk-coloured anal tuft, the abdomen being very intensely spotted yellow, the narrow dark yellow band of the hindwing being indistinctly defined. Bismarck Archipelago and Salomons. — novobudensis Cr. Bsr., from the New Hebrides, is a transition from fulviceuda to fusiceuda; the light antemedian band of the forewing is less conspicuous than in the following form, but more distinct than in the latter. The yellow band of the hindwing is narrower than in fusiceuda, but not so much pierced by blackish-brown as in fulviceuda. The anal tuft is not quite as far yellow as in fusiceuda. — fusiceuda R. & J., from Lifu (Loyalty Is.) shows the anal tuft still less extensively yellow, sometimes quite brown or above only with an ochreous tip. The yellow band of the hindwing is above broad, the margin narrower blackish-brown than in the following form. — pylene Bitr. (= phlegeton Bsr., motacilla Bsr., cyniris Bsr., volucris Pag., approximans Luc., lineata Luc., labrosa Sieb.) is a very variable, but mostly small form; the type has quite yellow hindwings with a crescentiform blackish-brown marginal spot which, however, hardly touches the anal angle and does not reach to the apex at all. Abdomen laterally with bright yellow spots. Anal tuft at the apex mostly bright yellow; from Queensland and New Guinea to the Moluccas. — lutata Bitr. (= sylvia Smpr. nee Bsr.) (65 e) is distributed from Sikkim to the Andamans and in the south-east to the Sunda Is.; in the north-east to South China, Formosa and the Philippines. A large form; the yellow band of the hindwing is strongly curved, the abdomen intensely spotted yellow, but the anal tuft mostly without any yellow tip or only the apical hairs ochreous. — plathyxanthum R. & J., from the Lu-Chu Is., is similar to lutata, but the yellow band of the hindwing is broader, the dark marginal band narrower particularly analwards; the basal area beneath shaded with yellow, but less deeply than in lutata. The yellow spots of the abdomen are variable. Brought from Okinawa by ADOLF FRITZE in great numbers. — Larva in front and above yellowish green, beneath more blue-green, the two colours separated by the dark subdorsal stripe melting away beneath into white. Pectoral sides and the long curved horn red. On Paederia tomentosa. A larva from Luzon was figured by SEMPER with a violet horn and a lateral stripe melting away beneath into reddish; larvae of lutata were also found on other Rubiaceae (Morinda, Psychotria), but they are said to live also on a monocotyledon creeper (the Pandanaceae Freycinetia luzonensis). The imagines are very common at nearly all their habitats. According to MELL they only fly towards evening. The different forms are sometimes interosculant.

M. multifascia R. & J. is very similar to corbythus lutata (65 e), but the yellow colour on the abdominal multifascia sides and on the hindwing is quite dull ochreous, almost brownish; the forewing is crossed by many parallel, somewhat undulating dark stripes; the apical portion of the forewing is somewhat darker in the typical specimen. Borneo; perhaps also in Java.

M. tinnunculus Bsr. is very similar to hemichroma (65 b), but the forewings are striped more like those tinnunculus of the other Macroglossum; an oblique band from near the centre of the costal margin to the inner margin before the anal angle, parting the wing into two halves as in the following hemichroma, but this line of partition is not so distinct, and the distal half of the forewing is intensely shaded with grey, so that it does not contrast so dark with the interior half. From Saigun.

M. hemichroma Bitr. (= tinnunculus Smpr. nee Bsr.) (65 e). As in tinnunculus the forewing is divided hemichroma into a darker exterior half and a lighter interior half by an oblique median transverse line. Abdomen with bright dark dorsal spots. Differences from tinnunculus stated above. North India to Java, Borneo, and the Philippines.

M. passalus Dry. has often been mistaken for the forms of corbythus; it is divided into two local forms: passalus. the typical one (= pandora F., sturnus Bsr.), from Eastern Asia (Lu-Chu Is., Formosa, and the opposite South China and Cochín-China), distinguished from the figured western form — rectifascia Bitr. (65 e) by the much rectifascia narrower yellow band of the hindwing and the less bright median band of the forewing. From South India and Ceylon. — Larva light yellow, with a greenish touch, with a shorter straight horn, a finer dorsal and thick brown longitudinal stripe on the sides of the dorsum. On Daphniphyllum calycinum (Euphorbiaceae). On being disturbed it bends the front part over the dorsum, like the larva of Lophopteryx camelina. The imagines chiefly fly in the dusk.

M. augarra Roths. (65 f as angarra), from New Guinea, is a large dark form with only narrow, somewhat augarra lighter transverse bands through the deep dark brown forewing. The band in the hindwing is likewise narrow, of a bright golden yellow colour, of a slanting position and sharply defined.

M. faro Cr. (64 f) is one of the largest Macroglossum. Forewing divided by a very straight transverse line faro in the middle into a darker proximal portion and a lighter banded distal one. Hindwing with a rather
narrow yellow band which may grow still narrower towards the inner margin. Abdomen slightly spotted. South India, across Malacca to Java, and across South China to the Lu-Chu Is. The species is apparently not common and presumably occurs chiefly in mountainous districts.

**M. meeki** R. & J. (56 C c) is very similar to *furo*, but the darkened interior area of the forewing contrasts still more intensively with the much lighter centre. The dark submarginal area likewise contrasts much with the lighter distal area. The yellow band of the hindwing is strongly interrupted by dark. Milne Bay (New Guinea).

**M. mitchelli** Mén. is the Javanese form of the species *imperator* Blr. (65 f) which is distributed over the whole of India and Ceylon and is characterized by the distinct median transverse stripe, the light, wood-coloured marginal area of the forewing, and the elegant and distinct marking of the body. From the figured form, *mitchelli* differs in the much paler yellow, narrowed yellow band of the hindwing, which is often covered in the centre by dark.

**M. phocinum** R. & J. (64 f) has quite blackish-brown hindwings without any yellow; the abdomen is also without yellow spots. On the forewing the 3 transverse bands are expanded into spots; the outermost occupies the apex. From the Salomons Is.

**M. buini** Cik. Black. Body above quite black excepting a small narrow white band at the margin of the penultimate abdominal ring. Forewing quite blackish-brown with very little black transverse lines; hindwing the same, only a thin costal-marginal stripe light brownish. Bougainville. Expans: 46 mm.

**M. buruensis** Holl. (56 C d) is somewhat similar to *buini*, the ground-colour above likewise quite dark blackish-brown, but the forewing crossed by 3 jet-black bands, and the dorsum of the second abdominal segment is of a golden yellow tint in the middle.

**M. micacea** Wkr. (= *nox* Newm., *ethus* Bstl.) (64 f) is very similar to *buruensis*, likewise above black except a white ring at the abdominal end and a light stripe at the costa of the hindwing. Queensland, rather common; also from the Louisiads.

**M. splendens** Blr. (= *nox* Blr. nec Newm.) (64 f) is larger and stouter than *micacea*, likewise unicoloured blackish-brown, but the body and wings with a bright steel-blue metal reflection which is particularly bright in the discal and marginal areas of the forewing and on the abdominal dorsum. Queensland to New Guinea, New Pomerania etc. as far as the Moluccas (Ceram, Buru), in some places common, particularly in Australia.

63. Genus: **Rhopalopsyche** Blr.

Shape, colouring and also habits exactly as in *Macroglossum*. It has been separated merely by the differences in the antennal structure; the antennae are more club-like, at the base still thinner, and neither in the ♀ nor ♂ with prolonged cilia. Hitherto only 2 forms are known, both of which are Indo-Australian; one penetrates into the palearctic region in West China, perhaps also in Cashmir, for which reason it was mentioned already in Vol. II.

**Rh. nycteris** Koll. (= *volucris* Wkr.) (Vol. II, pl. 40 f). The marking and colouring of the forewing is as in a small *Macroglossum saga* with which the species is certainly closely allied in spite of the different antennal structure. The abdomen is of the same colouring, too, but in the hindwing the black marginal band does not extend to the anal angle. From Cashmir through India, West and South China to the Lu-Chu Is. — **bifasciata** Blr. (65 f) represents *nycteris* in South India and Ceylon. It may be a distinct species, but it chiefly differs in the deeper golden colouring of the band of the hindwing and the lateral spots on the abdomen, and the rust-brown under surface. — *nycteris* is rather common at nearly all its Indian habitats, but apparently much rarer in China.

**Choerocampinae.**

This subordinate family derives its name ("pig's larvae") from the formation of the larval front portion (in *epenor*, *porcellus*) which was compared with a pig's head, and Grote's spelling *Choerocampa* is a mistake. This division is occupied by the rest of the *Sphingidae*, the v i n c e h a w k m o t h s and their relations. Most of the lepidoptera are of medium size; gigantic or squat forms do not occur in the subfamily, and even the largest *Choerocampinae* exhibit the graceful, slender exterior characterizing the group. The larvae mostly exhibit lateral spots on which, on the fourth ring, is transformed into a fictitious eye, whilst the others are obliterated or, in order not to disturb the scaled exterior of a fictitious reptile, disappear altogether. They are mostly monophagans or oligophagans: nearly all the imagines visit blossoms and some, though generally flying in
the dusk, may be seen on blossoms in the daytime and even in the burning sunshine, compelled by hunger. Single rather immune species living on strong poisons may sometimes breed in masses, and as Celerio euphorbia did in Algeria in 1904, the larvae may unite for migrations, in order to seek new feeding-places. Other species again have remained very rare up to this day.

64. Genus: Celerio Oken.

The 14 species forming this genus are distributed over the tropical and temperate countries of the whole world, and particularly well represented in the palaeartic region, for which reason the genus was minutely described in Vol. II, p. 254.

C. calida Blr. (67 a) on the whole shows the same marking as the common European species (euphorbiae calida. etc.) do, but the otherwise variegated colouring is subdued by a greyish-brown cover in all shades. Sandwich Is. — Another similar form has been found in the Sandwich Is. : *hawaiensis* Rothsch.

C. wilsoni Rothsch. (= pyrias Meyr.) (67 a). As large as calida or somewhat larger; the dark cover of wilsoni. the wings is still more intense on the forewing than in calida. body marked as in calida. Sandwich Is.

C. euphorbiae L. Of all the numerous forms of this species only nervosa R. & J. (Vol. II, p. 254) has nervosa. hitherto been ascertained in the Indian region (Simula, Cashmir).

C. gallii Rott. (Vol. II, pl. 41 d). Larvae of this species were found in West Yunnan.

C. nicenea Praun. Of this species the small form lathyrus Wkr. (Vol. II, pl. 41 d) is at home in North-West India (Kumaon-Himalaya).

C. lineata F. The typical form is confined to America. In the Indo-Australian region, however, the form livonica Esp. (= koechlini Fussely) (Vol. II, p. 257, pl. 41 e) occurs, which is dispersed across the southern part of the palaeartic region and is even rather common in many of its Indian habitats. — *livonicaides* Luc. *livonicaides*. (56 C d) is a stunted form of scarcely more than half its size; from Australia, where it is sometimes very common in the unvegetated central and western districts; much rarer in the damper east. Beside the small size and paler colouring it differs but little from the European form.


This genus comprises to-day the palaeartic species elpenor L. and porcellus L. which many authors had assigned to various genera, which was a mistake already owing to the resemblance of the larvae of the two species. The genus is quite palaeartic except one species which has Indian forms. Cf. Vol. II, p. 257.

C. elpenor L. The Indian form is macromera Blr. (67 a) chiefly differs from European elpenor macromera. in the increased black of the hindwing, which extends farther down especially at the inner margin. Moreover, the great material shows that this black basal area is neither quite constant in Europeans. Even in the Indian region there occur, according to MELL, transitions to typical elpenor resp. to its Eastern-Asiatic form lewisi (Vol. II, pl. 42 a). — Larva in South China found on Balsamineae, green or greyish-brown as in Europe; the green form, however, is not so monotonously sap-green as most of the European larvae, but it shows a distinct brown subdorsal stripe extending along the whole insect.

P. rivularis Bsd. (= fraterna Blr.) (Vol. II, pl. 42 a) is chiefly at home in the palaeartic (cooler) rivularis. districts of Cashmir, but to the south it penetrates to Karachi, thus to the Indo-Australian region. As to its distinction from the forms of elpenor cf. Vol. II, p. 257.


About 30 forms, the exterior of which is on the whole rather similar to that of the cosmopolitan *H. celerio*, form this genus. From the *Pergesa* they are distinguished by the smoother scaling of the body and particularly of the palpi, owing to which the insect looks particularly graceful. The abdomen is mostly extraordinarily pointed and frequently decorated with silvery longitudinal stripes. For further particulars we refer to Vol. II, p. 258, and Vol. XIV, p. 380, where 26 African forms have been described.

H. velox F. (= vigil Guér., lignaria Wkr., phoenix H.-Schaff., swinhoei Mr., yorkii Bsd., rosea Rothsch., velox. lifuensis Rothsch., grisola Rothsch., pseudovigil Rothsch.) (67 b). This very widely distributed lepidopteron
varies enormously, as we see from the numerous synonyms. The silvery white streaks across the body and obliquely through the forewing may be very lustrous and, together with the pink tinge covering the hindwing, produce a great resemblance to *H. celerio*, which the mostly dark greyish-brown insect does not exhibit otherwise (= *rosea* Rohs.). The white bristles on the sides of the head and thorax may also be more distinct and the marking on the forewing above much more wood-like. The size may be less than that of *echclus* (67 b), but also larger than that of the figured ♀. — Larva green or brown, marked like a snake, with a large, lustrous eye-spot on the 4th ring; from the 3rd ring to the horn which is long and pointed a very fine subdorsal stripe extends. It was found (in the Philippines) on *Pisonia* (Nyctaginaceae), but presumably it also lives on numerous other plants. — The species is distributed from North India, where it does not reach the palaeartic frontier any more, to Australia and often very common (the larva being often the most common Sphingid larva), and goes from Ceylon and the Andamans to the east across the Sunda and Moluccan Is., New Guinea and the Philippines as far as Christmas I.; its variability, however, has not led to geographically founded forms.

**CELERIO**


This lepidopteron having been described in Vol. II, p. 258 has a still much larger range than *velox*, for it penetrates much farther to the north and south, frequently migrating — not only in hot years — beyond the frontiers of its range and appearing sometimes in very remote islands of the South Pacific, where it disappears again for a long time. It forms nowhere local races that might be geographically founded. In the desert tiny, stunted forms may be sometimes found, but also normal specimens, and also in other districts there occur stunted specimens together with particularly large ones. A few superfluous names of aberrations, such as *pallida*, *brunnea*, *unicolor*, *augsani*, have been established by Tett and others; cf. Vol. II, p. 258. — The larva seems to occur tolerably constantly in the various faunal regions, at least the figures of Ethiopian, Indo-Australian, and palaeartic specimens show them green or (mostly) brown, with a blue, dark (not enamel) eye surrounded by yellow, and a light, dark-edged subdorsal stripe. On *Araceae* (Caladium, Philodendron), *Rubiaea*, *Vitis*, and other plants. The imago swarms in the evening on various blossoms and is very common in many districts.

**ECHCLUS**

*H. echclus* Bdr. (= *elegans* Bhr.) (67 b as *echclus*) is similar to *celerio*, but the abdominal dorsum lacks the silver stripes, the oblique stripe of the forewing is narrower, not so lustrous, the hindwing all red except the margins. This is the Indian representative of the Ethiopian *eson* Cr. (Vol. XIV, pl. 67 a). The species is distributed from South India across the Sunda Is. to the Philippines. Not so common as the preceding ones.

**RAFFLESI**

*H. rafflesi* Bdr. (= *theylia* Cr., *vinacea* Wmps.) (67 c) is very similar to *echclus*, but smaller, in the forewing the oblique stripe is steeper and not so distinctly composed of 4 dark lines, but more massive, towards the inner margin distinctly widened and more shaded (in contrast with the following one). Hindwing uniformly red and uniformly margined with dark brown. Under surface mostly redder than in *boerhaviae* in which the hindwing above mostly neither shows the brownish-yellow nebulous spot which is almost invariably present in *rafflesi*. — Larva extremely similar to that of *celerio*, but the fictitious eye of the 4th ring, which is more round in the latter, is transverse oval in *rafflesi*, compressed from above, like the analogous lateral spot on the 5th ring, which is very distinct and filled with red here, whereas in *celerio* it is mostly quite indistinct. On Balsamineae, especially Impatiens. From Ceylon and North India to the north as far as Southern China, to the south as far as Java and Celebes, in some places very common; Mill ascertainment 12 specimens at the same time on a spot 6 square meters large, in South China. In Ceylon I sometimes found several specimens together on one are-light.

**BOERHAVIAE**

*H. boerhaviae* F. (= L. *thyelia* Mr., *eson* Wkr. nec Cr., *vampyrus* F., *octopunctata* Gmel., *rosetta* Srek., *rafflesi* Wmps.) (67 c). Often very difficult to distinguish from *rafflesi* with which it is often confounded in the collections. The imago is generally somewhat paler and more unicoloured, the oblique line of the forewing is only indicated by its margins, not filled up, the abdomen neither shows the median stripe of *rafflesi* so distinctly; above all, the lateral stripe extending from the palpi along the thorax is not so lustrous white as in *rafflesi*. — Larva likewise similar; it seems that the lateral spots which are almost totally obliterated in the larvae of *rafflesi*, are preserved here on all the rings, not only on the 4th and 5th, but this may also sometimes occur with those of *rafflesi*. It lives on the Rubiaceae Morinda umbellata. In many districts the imago flies together with *rafflesi*. From Ceylon and North India to China and the Salomons Is. Not so common as *rafflesi*, and at other habitats, which may be due to the difference of the food-plant.

**BRENNUS**

*H. brennus* Stoll (67 c) is similar to *boerhaviae*, the forewing decidedly darker, more profusely marked, and the bands transverse, without the long oblique streak from the apex. Abdomen laterally with silvery white, small dots arranged in short chains. — In typical *brennus* the thorax shows a white median stripe which is absent in the form *johanna* K. (= *maculiventris* Misk.). — *funchris* Gehlen, from the Kaiserin Augusta R. in New Guinea, lacks the white median streak on the thorax, as well as the red band on the hindwing. — Queensland and New Guinea to the Moluccas and Salomons Is. In Australia not rare.
**67. Genus: Theretra Hbn.**

More than two thirds of this genus, which has been described in Vol. II, p. 258, are Indo-Australian. 9 or 10 forms also occur in the palaeartic region, one third being Ethiopian. It contains larger and mostly more strongly built species than the preceding genus, and many number in their patria among the most common Sphinxidae.

**Th. nesus** Dry. (= equestris F.) (Vol. II, pl. 42 c). Forewing light olive, hindwing black, in the distal nesus portion of a bright light yellow; at once recognizable by the lustrous golden yellow abdomen exhibiting an olive dorsal stripe which is posteriorly spotted whitish. — Adult larva very large and stout, pale bluish-green or rusty earth-brown, finely strewed, with a large though blind (not pupiled) fictitious eye on the 4th ring. On the leaves of Dioscorea batatas and other Dioscoreae. The imago is common in many districts of India and China, where it is often met with in gardens and streets; but in the daytime it is shy and flies away, as soon as one tries to capture it. From Ceylon and North India across Malacca, New Guinea and the Sunda Is., to the Louisiads, and across China and Japan to the Philippines, as well as in North-East Australia. The insects vary much, though not in a geographically limited way.

**Th. boisdvali** Bugnion (= clotho Bsd. p. p., punctivenata Blr., sumatrensis J. & K., butus Hmps. boisdvali. p. p.) (Vol. II, pl. 42 d). This Sphingida occurring also in the south-eastern palaeartic districts has been described in Vol. II, p. 259. It is intermediary between the two preceding species; forewing striped as in rhesus, but the hindwing with large pale yellow spots in the anal region. Beyond the palaeartic frontier: across the whole of India and Ceylon, from Sikkim to the Sunda Is., and on the continent to the east as far as Assam.

**Th. polistratus** Rothsch. (56 C d), from New Guinea, is a species quite similar to boisdvali which it represents in the Papuan district. The stripe on the forewing extending from the apex obliquely to the inner margin is narrower and less prominent, as we easily see from the figure. The species is apparently very rare.

**Th. queenslandi** Luc. (= potentia Drc.) (67 c) is near to the two preceding species, but in the forewing there is but one dark, thick oblique stripe from the apex; hindwing slightly brightened up in the inner-marginal and distal-marginal areas. On the sides of the thorax a thick white stripe. North-East Australia (Brisbane).

**Th. clotho** Dry. (Vol. II, pl. 42 d). Like queenslandi, but even the last oblique stripe in the forewing clotho is but feebly marked. Only the central dot is still distinct. Anal spots on hindwing light yellow, as in boisdvali. — manuselensis J. & T. differs from typical clotho in the oblique line through the forewing being incurved near the apex (more distinctly so in the $), so that a sharp angle is produced with a short oblique branch from the costa. Under surface more reddish. Central Ceram. — Larva green or brown. On the 4th ring a fictitious eye with a horizontal slit-pupil, behind this on each ring a blind eye below which there is a dark oblique shadow. On Ampelideae, in South China especially on Vitis vinifera, tenuifolia and inconstans; also found on Hibiscus and Cissus. The imago visits blossoms only in the late dusk, strongly humming in its flight. The specimens from the Indian and eastern palaeartic faunae are the typical clotho; their range extends from Ceylon and North-West India to Japan and the Philippines.

**Th. celata** Blr. (= luteocineta Luc., cloacina Misk., queenslandi Misk. nee Luc., lifensis Rothsch.) celata. (67 d). Separated from clotho (Vol. II, pl. 42 d) by its dull, dingy yellowish-brown coating; the whitish lateral stripe on the thorax is dingy light grey; the oblique streak of the forewing is more distinct, proximally bordered with light, the hindwing brightened up in the whole marginal portion. From Queensland across New Guinea and the Moluccas to the Salomons and Loyalty Is. — Specimens from Timor and Sumba are intermediary between clotho and celata. In Ceram and Dutch New Guinea celata and clotho fly together.

**Th. gnoma** F. (= butus Cr., gonograpta Blr.) (67 d) entirely resembles celata excepting the course of gnoma. the oblique line before the distal area; this line does not run into the apex, but almost parallel to the margin, then bending towards the costa before the apex, whilst in the latter there is a partition-streak. South India and Ceylon.
incarnata.

**Th. incarnata R. & J.** (67 d). Recognizable by the thick black central dot and the thick black transverse stripe before the marginal area of the forewing, which extends into the apex in a slight bow, and above all by the bright claret-coloured coating of the forewing, which is particularly conspicuous in the region of this antennomarginal streak. From Sumba.

papuensis.

**Th. papuensis J. & T.** may be more allied to incarnata than to clotho. The black spot at the base of the abdomen is extinct or absent. Forewing of either dull greenish-grey or pinkish loam-coloured, and as in manuselenensis the oblique line of the forewing is separated from the apical line and is followed by a short costal line. Anal spot of hindwing more rosy than in the forms of clotho. From the Wandammen Mts. in Dutch New Guinea.

inornata.

**Th. inornata Wkr. (= pallida Misk.)** (67 c) is almost exactly like the preceding ones, but without the claret reflection in the forewing and without the bright yellowish-brown area in the marginal portion of the hindwing, which is only very little lighter brown than the rest of the wing. The oblique stripe of the forewing is duller. Queensland.

latreillei.

**Th. latreillei Mc Leay (= comminuens Wkr., amara Sich., deserta Bttr., walducki Bttr., luteotincta Luc.)** (67 e) is extremely similar to the following tryoni, but it has quite a different shape of the wings; both the wings are more pointed, narrower, their distal margins curved, whereby the apex of the forewing is produced. Parallel to the submarginal transverse stripe on the forewing there are still duller stripes. On the sides of the head and thorax white fur. This is the Papuan form; it is distributed from Queensland across New Guinea, from there across Indo-China to Malacca and the Sunda Is., to the north as far as China and the Philippines. —

lucasi.

**Th. lucasi** Wkr. (= leucasi Mr., spliota Mr., proce Clem., velox Sn. nec F., tenebrosa Mr.) differs from typical latreillei in the more distinct dorsal line across the abdomen, a dark, frequently insignificant basal spot at the inner margin of the forewing, and 6 discal lines, the first of which is almost invariably expanded at the apex of the cell. India and Andamans, as well as Ceylon; from there across Indo-China to Malaca and the Sundas Is., to the north as far as China and the Philippines. —

montana.

**Th. montana** Mell are summer insects from the mountain-districts of Kwang-Tung, with particularly distinct lines, the postdiscal area beneath being of a bright yellow showing through above. —

distincta.

**Th. distincta** Mell, from South China, exhibit the postdiscal punctiform line on the hindwing beneath prolonged into tiny streaks which are sometimes confluent, forming small dents. — Larva green or brown; on the 4th ring laterally a very large, almost round fictitious eye; on the body especially in the brown form dark, light-edged oblique streaks. Horn not large, in the adult insect strongly curved. The fictitious eye is of a very fiery red and blue iridescence, with a strong enamel glitter (according to Anna SEMPER and Otto KOCH: "diamond-like"). It has a somewhat erect position, contrary to the mostly transverse-oval position. The imitation of a snake is here particularly obvious; an adult specimen which I found in Singapore also made snake-like movements with its head. On species of Vitis, Balsamineae, Begoniae, and Saurauja tristyla, as well as on Cissus acida. Imago nearly everywhere common, where it occurs.

tryoni.

**Th. tryoni** Misk. (67 e). The differences from latreillei have been stated above; most conspicuous is the broad, very black hindwing, the straight margin of the forewing with fringes that are dotted black at the ends of the veins, and the absence of the light thoracic coating. From Australia across New Guinea to the Salomons and Moluccas.

alecto.

**Th. alecto** L. (Vol. II, pi. 42 f). The much deeper coloured typical form presumably does not cross the palearctic frontier; it chiefly occurs in China, to the south as far as the Sundas Is., Tenimber and the Key Is. To the east it goes as far as Formosa and the Lu-Chu Is., but to the north of the Linchot Is. it has no more been found, whereas it occurs yet in the Philippines. In the palearctic region it is represented by the form cretica Bsd. (cf. Vol. II, p. 259) which is of a considerably paler colour. Indian alecto also frequently exhibit the black scales strewn on the forewing, which often occurs in Celerio euphorbiae and nicaea. — Larva varying from green to brown; on the sides of the rings 4—10 there are dark eye-spots surrounded by yellow; that on the 4th ring hardly differs in the somewhat deeper colouring, sometimes not at all, and it by no means represents such a deceptive snake's eye as in latreillei; on vine, moreover on Paederia, Psychotria and Morinda; more rarely on the Euphorbiacea Glochidion. Pupa slender, 6-8 cm long, with a proboscis-case being raised like a beak, though not forming a nose, earth-grey with bone-coloured eyes. The imagines swarm in the evening between 6 and 7 p. m. on blossoms and also come to the light; they are common nearly everywhere in their patria, and the pupae of the Anterior-Asiatic form are frequently exported to Europe.

suffusa.

**Th. suffusa** Wkr. (= hector Wkr.) (67 d) is distinguished from alecto by the forewing and abdomen being traversed by a broad light, dark-edged stripe. Hindwing purple pink with an oblique deep marginal band and base, but the black-white inner-marginal area of alecto is quite absent here; hindwing red as far as the inner margin. — Larva lighter or darker green, separated from latreillei by the eye on ring 4 not differing essentially from the analogous spots on the 5th to 10th rings. All the lateral spots are more or less dark bluish-green,
surrounded by yellow and then finely by black. On Melastoma sanguinea. Pupa similar to that of alecto, but the proboscis-case is flatter with a sharper edge. Imagines in the evening on blossoms; they occur in Indo-China to the north as far as South China, to the south as far as Sumatra and Borneo. — Larva difficult to breed.

**Th. japonica** Orza (Vol. II, pl. 42 b). This species having been minutely described in Vol. II inhabits, japonica, beside the paleaeartic region, also China to the south of the Yangtskiang R., and Formosa. Similar to firmata, paler; for further particulars vid. Vol. II, p. 259. — Larva also described there; on Cissus and species of Vitis, and on the Saxifraga Hydrangea paniculata. Imago not rare, swarming in the evening on blossoms of Mirabilis, on melon-blossoms etc.

**Th. lycetus** Cr. (= japonica Piep, nec Orza, prunosa Bltr., rosina Bltr.) (68 d) differs from japonica lycetus, in the dark yellowish-brown coating which overshadows the light oblique stripes on the wings and body. From the Himalaya and North India to the south as far as Ceylon, Malacca, and Java.

**Th. oldenlandiae** F. (drancus Cr., argentata How., gortys Hbn., puellaris Bltr., proxima Aust.). The northern form, the typical one, has been figured in Vol. II, on pl. 42 b and described on p. 259. It is characterized by the broad white oblique stripe of the forewing, which is proximally bordered by a black oblique stripe being strongly thickened towards the inner margin. From North-West India through China to Japan, and to the south from Ceylon across the Sunda Is. and Malacca to New Guinea and the Key Is.; to the east as far as Formosa and the Philippines. — olivacens Mell are specimens from South China, exhibiting a more intensely golden brown body, the dark oblique band in the costal portion of the forewing not being sharply defined proximally. — firmata Wkr. (68 c) from Australia, is strongly coated with brownish. — Larva deep dark brown, almost black, peculiarly dotted light in the sides. On the rings 4 and 5 there are lateral fictitious eyes, on the following rings only yellowish lateral spots. Horn very long and thin. On species of Vitis, Arum decurrens, Caladium, Colocasia, on Balsamineae and other plants. The caudal horn is very agile and may be raised and lowered (SEMPE). Pupa brown, marked with black; it has no projecting proboscis-case, but a conform snout. Imagines common in most of the districts of their range, though more in the plains.

**Th. pinastrina** Mart. (= silhetensis Wkr., bisecta Mr.). The species occurs in 2 forms which, however, pinastrina, cannot be strictly separated. In the typical form the space between the 4th and 5th lines on the forewing above is broad, and line 5 thicker than 6; from North India to Ceylon and across Indo-China and Malacca, Java, Sumatra, Borneo to China, Formosa, the Lu-Chu Is. and Japan, where the species passes over to the paleaeartic region (cf. Vol. II, p. 259 silhetensis). In the second form, intersecta Bltr. (68 e) the space between lines 4 intersecta, and 5 is narrower than in pinastrina, and line 6 is not thicker; this form occurs in the Papuan region and extends from Australia (Queensland) across New Guinea and the Bismarck Archipelago and Sumba to Ambon, Celebes, and the Philippines. — Larva green or earth-coloured with lighter lateral stripes, on the 4th to 10th rings dark-centred eyes surrounded by dark; horn small. It chiefly lives on Taro (Colocasia antiquorum), also on Jussieua. Imagines common nearly everywhere, where Taro is grown.

**Th. margarita** Ky. (= marginata Swek., phoenix Misk.) (68 e) is mostly smaller than typical pinastrina margarita, which it entirely resembles otherwise; also similar to oldenlandiae, but the white, dark-edged oblique stripe of the forewing is duller and narrower; the median stripe across the abdominal dorsum is not so bright silvery white. Australia; distributed in Queensland, though not very common.

**Th. brunnea** Sapr. (= buruensis Rothsch.) (68 d). Body as in the preceding species dark brown with brunnea, a white median line. Wings also dark brown; forewing so very much darkened that there are only traces noticeable of the oblique stripe through the wing. Separated from the following species particularly by the absence of the white median streak on the tegulae. New Guinea, Buru, Philippines; type from South-East Mindanao.

**Th. turneri** Lue. (= mira Swek.) (68 e) is smaller; forewing similarly coloured and marked as brunnea; turneri, recognizable by the brighter white marking of the body showing on the tegulae a white median stripe, on the abdominal dorsum small white spots on the 3rd to 5th rings. Queensland.

**Th. insignis** Bltr. (= jordani Huve) is at once recognizable by the undulate silvery white line extending insignis, from the apex through the whole forewing to the centre of the inner margin and from there to the base of the wing. The typical form comes from the Andamans and differs from the figured kuehni Rothsch. (= insignis kuehni. Sf. nec Bltr.) (68 e) not only in its larger size but also in the forewing being more pointed and the light stripe on the forewing less curved. Java, Dammer, Larat, Tenimber.

**Th. griseomarginata** Hmps. is evidently a very rare lepidopteron from Sikkim; only very few specimens are known. Antenna long, extending beyond the end of the cell of the forewing. The white dorsal line on the abdomen is plain. On the forewing a whitish submarginal band extends from the apex almost to the anal angle.

**Th. pallicosta** Wkr. (= callicosta Men.) (68 b) is a very elegant lepidopteron; the costal and posterior pallicosta, margins of the beautifully purple brown forewing are bordered with bone-white, at the cell-end there is a white central dot. The thorax also shows lateral white borders and a purely white median line. — Larva brown or
green with a very short, crooked caudal horn, on the 4th ring a dark-centred fictitious eye being three times surrounded, rings 5 to 10 with oblique, creamy-white, black-edged oval spots. On the Euphorbiaceae Aporosa leptostachya. Pupa with a proboscis-snout projecting like aistle, though not forming a nose; imago rare compared with the common larva *), presumably because many larvae are stung by a big wasp and because the imagines emerge irregularly. From Ceylon and India through Assam and Burmah to South China.

**Th. castanea** Mr. (= hyporhoda Hmps.) (68 d). Similar to *pallicosta*, but plainly nut-brown, not purple brown; the broader forewings are without the white costal and inner margins, with a black central dot, and traversed by 2 red-brown bands. South India.

68. Genus: **Rhyncholaba** R. u. J.

This genus contains but 1 unmistakable green and brown species separated from all the *Sphingidae* known by a very peculiar shape of the 2nd joint of the palpi forming a long double snout.

**Rh. acteus** Cr. (= butleri Rothsch.) (68 d). Yellowish-brown, thorax and base of abdomen beautifully marked green, through the forewing a bright green oblique band from the apex, growing very broad at the inner margin. Under surface intensely spotted reddish. — Young larva green, later on often dark brown, in front very pointed; on the 4th ring a very large, expressive fictitious eye, surrounded by yellow and above shaded with dark; on the other rings lateral light ovars and below them dark oblique patches. Horn very small. On various plants, especially Araceae and Amplelieae; particularly on Alocasia macrorhiza and Vitis tenuifolia; also on Taro (Colocasia) and Amorphophallus variabilis, on Caladium and other plants. Pupa with a long proboscis-nose which is bent down in a circle, very slender. Imago not rare, distributed from India and Ceylon across Indo-China and the Sunda Is. to Buru, to the north across South China as far as the Lu-Chu Is., to the east as far as the Philippines.

69. Genus: **Rhagastis** R. u. J.

All the forms (about 20) composing this genus occur in the Indo-Australian region; only one is also distributed in the palaeartic region, and another species touches it in West China. As to the characteristics cf. Vol. II, p. 259. The various species of the genus are very much alike, and some are difficult to separate, often only by anatomical comparison. But little is known of the early stages, i.e. the observations stated in the excellent work of R. Mell on Chinese Sphingid larvae, and the figures and notes of Nagano on Japanese *Sphingidae*. Accordingly, some resemble the larva of the European *Perq. porcellus*; others are remarkable for the specially developed lateral oblique stripes which sometimes cross three segments.

**Rh. mongoliana** Btbr. (Vol. II, pl. 42 f) and the following species *jordani* are the only ones hitherto known from the palaeartic region. *mongoliana* has the same almost olive-brown dirty colour as most of the others; for further particulars cf. Vol. II, p. 259. — **pallicosta** Mell are South-Chinese specimens with a lighter under surface than palaeartic ones, the costal margin of the forewing is here lighter, greyish-yellow, and the golden brown of the anterior body is duller. — Larva dull earth-brown, the anterior portion with a loamy tint; on the 4th ring laterally a slightly prominent brown fictitious eye surrounded by yellowish-brown. On the sides of the 5th to 10th rings there are small yellowish spots and below them greyish-yellow, darker reticulated brightenings similar to the scales of a snake. On vine, Cissus, Impatiens, and Berberis vulgaris, perhaps also Polygonum aviculare. The imagines are very common in Japan, but decidedly rarer in the south of China; for further particulars cf. Vol. II, p. 259. The various species of the genus are very much alike, and some are difficult to separate, often only by anatomical comparison. But little is known of the early stages, i.e. the observations stated in the excellent work of R. Mell on Chinese Sphingid larvae, and the figures and notes of Nagano on Japanese *Sphingidae*. Accordingly, some resemble the larva of the European *Porq. porcellus*; others are remarkable for the specially developed lateral oblique stripes which sometimes cross three segments.

**Rh. velata** Wkr. (68 d) is dark nut-brown. The forewing in the marginal area slightly tinted loamy yellow. Three basal transverse lines in the basal area and 4 oblique undulate lines in the disc, which however are not always so distinctly and completely visible as in the figured specimen. Sometimes there is also in the hindwing a more remarkable yellowish brightening in the inner-marginal and distal-marginal parts. Hitherto only known from the Himalaya and the Khasia Hills in Assam.

**Rh. jordani** Oerth. has been described in Vol. II, p. 259 (as *jordana*), because it was hitherto only taken in Siao-lu, thus in the palaeartic part of West China. This place, however, is situated so near to the frontier of the Indo-Australian region that the species will very probably be found in the latter region in a very short time, for which reason we mention the species here.

**Rh. acuta** Wkr. (68 e). Similar to *velata* (68 d), but the transverse lines of the forewing are less distinct, often having disappeared altogether save very feeble traces. Easily recognizable by the rather strongly dentate margin of the hindwing. Himalaya, Khasia Hills, and Malaeaca.

*) R. Mell sometimes succeeded in collecting up to 50 larvae a day.
Rh. aurifera Blr. (= castor Bsl. nec Wkr.) (68 e). The typical form with a fallow darker colouring aurifera. and intensely hirsute golden brown abdominal sides likewise occurs in North India and Assam. — sumatranus sumatranus. Clk. is the Sumatran form which, however, exhibits a still larger and more distinct median spot of the forewing *

— chinensis Mell is smaller than the North-Indian form without or with much less brown and more olive on the wings and thorax, the ochreous-brown abdominal stripes being paler, sometimes, especially in the insects of the latter part of summer, much less extensive and dense; beneath the chest and abdomen are less light, dotted dull red; from Kwangtung. — formosanus Clk. approaches sumatranus by the darker colouring, but the stigma of the forewing is smaller than here, the distal-marginal band is more distinctly marked than in aurifera and chinensis. Formosa. — Larva green, in the sides the oblique stripes are so broad that their white colour predomi¬nates; the sham-eye on the 4th ring is large; horn graphite-grey, very thick; probably on Polygonum japonicum.

Rh. rubetra R. & J. (47 f). Thorax and forewing considerably darker than in aurifera; head and thorax rubetra. edged with a whitish band extending above the eyes to the palpi. On the forewing sooty black clouds excepting only the distal area and the distal portion of the median area. Hindwing, except the abdominal area, deep blackish-brown. I. of Nias.

Rh. confusa R. & J. (= albomarginata Hmps. nec Roths.). (68 e) is one of the larger species, forewing confusa. rather monotonously nut-brown, marginal area scarcely lighter in the apical region, with a large stigma which, however, is often covered by a nebulous band; hindwing in the basal half black, but before the centre of the nut-brown marginal band lighter yolk-coloured. Sikkim and Khasia Mts. in Assam.

Rh. castor Wkr. nec Bsl. (68 e) is one of the more variegated species, the apex being very falcately castor. produced; very similar to olivacea (68 e), but the forewing narrower, the distal margin not so long as in olivacea. Body and forewing olive, abdomen with golden brown sides though not so bright as in aurifera (68 e). Between the undulate oblique lines of the forewing and the margin there are whitish layers, before the margin of the hindwing golden yellow ones. From Java.

Rh. olivacea Mr. (= castor Mr. nec Wkr.) (68 e) is quite similar; beside the differences mentioned in olivacea. castor there are two red oblique stripes on the forewing instead of 3 or 4 blackish brown, strongly notched ones. — Larva leaf-green, with a large yellow-edged sham-eye on the 4th ring; from this eye to the head a yellow longitudinal line. In the sides white oblique stripes alternating with green triangles. On Impatiens, Balsamina etc. — North-West India, Himalaya, and Khasia Mts., to the north as far as Southern China, in many places common.

Rh. lunata Roths. (47 h). Above and beneath still more variegated than the preceding ones; forewing lunata. with a greyish-yellow brightening in the apical area, hindwing with an orange red macular band. Stigma of forewing large, but not very conspicuous in the dark ground of the wing. Beneath bright rusty red, the marginal areas of both wings violet, proximad irregularly defined. The typical form occurs in the Khasia Mts. in Assam. — sikkimensis R. & J. differs from the type in the absence of red-brown spots at the metanotum, the abdomen sikkimensis. is laterally less bright red, and the wings are broader. From Sikkim.

Rh. gloriosa Bslr. (47 g). Forewing magnificently purple brown with uniform light chestnut transverse gloriosa. bands; hindwing with an orange band parted by dark. On the whole very similar to lunata. From Sikkim, Bhutan, and the Jaintia Mts. in North India.

Rh. swinhoei Clk. described according to a single s from Siam (?), is said to be still more beautifully swinhoei. coloured than gloriosa. Forewing Morocco-red, behind the middle strewn with small purple scales. Stigma small, black. The wings are traversed by 3 fine darker antennae, median and postmedian lines. In the marginal band the Morocco-red remains on the veins as far as the margin. Hindwing dark red-brown, along the veins and margin darker.

Rh. albomarginatus Roths. (47 e) is easily recognizable by the distinct white costal stripe of the forewing. Otherwise very similar to rubetra (47 f), but without the white metathoracic edge and with a brighter ochreous spot on the hindwing. From Sikkim and the Khasia Mts. in Assam. — everetti R. & J., from Sumatra and Borneo, has differently shaped palpi; the white costal stripe is not distinctly prominent. — dichroae Mell. dichroae. From South China, is smaller, more olive and with hardly any brown on the wings and thorax. The coppery brown on the metathorax and chest as well as the lateral stripes on the abdomen are lighter yellowish-brown. Stigma mostly indistinct. Southern China **). — Larva grey, sham-eye on the 4th ring not so large as in the other larvae known of Rhagastis. On the sides very thick and long white oblique stripes, the last of which begins at the horn and extends to the last prolegs. The horn itself is slightly flawed and with an insignificant swelling above the base. On Dichroa febrifuga or Hydrangea and other plants. Imagines not rare at most of their habitats.

*) Beside this Sumatran form another Rhagastis being unknown to me was described from Sumatra and deno¬minated; Rh. mjobergi Clk.

**) It may be that Rh. leucorapinis Hmps. described from “India” and being unknown to me belongs to this or a neighbouring form.
70. Genus: *Cechenena* R. & J.

The 13 forms of this genus have been described by very different generic names. The flat oblique stripes crossing the forewing, which are often noticeable in the *Sphingidae* from all parts of the world, are very conspicuously developed in some species of this genus. Very little is known of the larvae. Of *C. lineosa* has a particularly large and complicated sham-eye and uses to draw in its head with the 3 first segments very deep into the strongly inflated 4th segment, so that an entirely round, thick, large-eyed animal’s head is copied. The genus was characterized in Vol. II, p. 260. Only 1 species (*minor*) touches the extreme south-eastern part of the palaearctic region.

**mirabilis.**  
*C. mirabilis* Blkr. (68 b) entirely lacks the usual oblique stripes; at once recognizable by the dark bluish or greyish green forewings traversed by irregular and divided blackish cross-bands. Thorax likewise green laterally covered with a reddish-white fur. Abdomen and hindwing earth-brown, hindwing in the basal half and before the margin black. From North-West India, but not yet taken in palaearctic districts.

**aegrota.**  
*C. aegrota* Blkr. (= catori Rothsch., chimaera Rothsch., velata Hmps.) (68 b) is considerably larger, the forewing brown instead of green, otherwise like *mirabilis* with dark cross-bands which, however, are duller, more indistinct; hindwing black with a curved, proximally notched, dull ochreous submarginal band. Widely distributed, from North India across Malacca to Java and Borneo. — *transpacific* Clik., described as *XYLOPHANES*, is probably a distinct species, but very near to *aegrota*, though of a lighter and brighter colouring, the bands on the forewing more distinct. — *aegrota* is not common.

**helops.**  
*C. helops* Wkr. (= orientalis Fldr.). In this beautiful species white transverse markings are inserted between the very dull dark transverse bands of the forewings, and the stigma of the forewing is visible, whilst it is absent in the preceding species. Hindwing quite black excepting the duller tinted margins, only the anal portion being dingy white. It differs from *papuana* R. & J. (68 a), from New Guinea and New Pomerania, particularly in the darker fringes and the undulate oblique streak through the apex of the forewing being black instead of white. Besides, the margin of the forewing in *papuana* is somewhat notched (in *helops* smooth) and the apex is more pointed and more produced. — *interposita* J. & T., from Ceram, resembles typical *helops* above, but it shows the ochreous, pink-tinted under surface of *papuana*.

**minor.**  
*C. minor* Blkr. (= striata Rothsch.) (Vol. II, pl. 42 d) is the only species penetrating into the palaearctic region and is remarkably similar to *Theretra*-forms from the *japonica*-and *pinasirina*-groups, though its abdomen is not laterally golden as in these forms. The median (white) oblique stripe of the forewing is expanded in the apex into a distinct large white apical spot, whereby the species is somewhat similar to *Th. nessus* with which it flies, but which is mostly considerably larger (often almost twice as large). — *olivaceus* Meill, from Kwangtung, shows a clear olive colouring of the head, thorax, palpal apex, and costal area of the forewing; the light oblique band and marginal area of the forewing and the dorsal stripe of the abdomen are more distinctly outlined. — Larva young green, full-grown brown with a very much thickened 4th ring into which the very pointed anterior portion is drawn in, when the insect is disquieted, so that the frightening eye, the pupil-spot of which is somewhat cross-eyed, assumes a threatening expression. Below the subdorsal line darker oblique shadows. On *Ampelopsis* and *Actinidia*. The imagines visit blossoms in the evening. From North India across Siam and China to Japan and Formosa, at some places in India common.

**lineosa.**  
*C. lineosa* Wkr. (= major Blkr.) (68 a) is similar to *minor*, but larger, across the thorax a white median stripe, the dull white oblique streak through the forewing in the apex so distinctly expanded, the ochreous band of the hindwing in the typical form expanded towards the costa. From the Himalaya and Assam. — *subangustata* Rothsch., from Sumatra, the yellow band of the hindwing is not so much expanded towards the costa. — Larva chocolate-brown with a large sham-eye squinting forward and a reticular marking similar to the skin of a snake, the longitudinal and oblique stripes being indistinct. On *Ternstroemiinae* such as *Actinidia*. The imagines visit blossoms in the evening. From North India across Siam and China to Japan and Formosa, at some places in India common.

**scotti.**  
*C. scotti* Rothsch., from Massuri in the Himalaya, is unknown to me in nature. It is unlike any species known. Head deep green, edged with pinkish-white. Thorax and base of abdomen deep green, abdomen itself more pale olive; on the dorsum two broad, pinkish silver-grey bands and a broad green median stripe. Forewing reddish greyish-green, basal half below the stigma flesh-coloured pink; basal portion of wing dark green as far as 3/4, stigma a black dot. Below the green area there are two indistinct, partly obsolete, dull olive oblique stripes, from the inner margin to the apex an intense double oblique olive band, and behind it in the marginal area several dark green, faint undulate lines. Hindwing inside black, towards the margin pinkish-yellow, darkened by black. —
Additions and Corrections

to the Indo-Australian Sphingidae.

P. 528. A genus closely allied to *Meganoton* is *Poliana* B. d. J., which, however, was only known from the Ethiopian region. Cf. Vol. XIV, p. 359 and pl. 61 c. Lateron another species has been described from Cambodja:

*P. leucomelas* B. d. J. This species resembles the African *P. buchholzi* Plätz (Vol. XIV, pl. 61 c), but it has more elongate forewings, the white patch in the apical part is proximad to the dark apical area and larger, the dark area situate proximad to this white area is coherent with the dark area in the centre of the margin, and the white inner-marginal spot is larger than in *buchholzi*. The genitals of the ♂ also differ from *buchholzi*.

P. 532. *Hopliocnema*. This formerly monotypical genus has been supplemented by another species:

*H. marmorata* Trnr., from Duaringa in Australia, with much lighter forewings; it was taken together *marmorata*.

P. 533. For *Compsogene mousoni* read: *mansoni*.

*Oxyambulyx*. According to Clark, *sericeipennis* occurs also in the Philippine Is. in a somewhat different form which he names: *luzoni*. — Another form of this genus he denominates: *immaculata*. — From *canescens* (p. 535) the pale yellowish-brown specimens are separated as *flava*; *charlesi* Clk; is another southern form of this genus, and *felixi* a form from Buru. — From Southern China and Sumatra 2 other forms have been denominated by Clark: *brooksi* and *joiceyi*.

P. 538. *Marumba cristata* is now also known from the Sunda Is. by a large form: *titan* Rothsch. — Of *spectabilis* (66 a) a Formosan form was described with a notched, flat margin of the forewing; the latter without a distinct dot in the basal portion and without a stigma; the spots of the anal angle in the forewing are very small; Matsumura denominates it *formosana*.

P. 544. *Cephonodus banksii* Clk., closely allied to the widely distributed *Ceph. hylas*, was discovered in the *banksii*. Philippine Is.

P. 548. *Deilephila gigantea* Röber, from South-Western New Guinea, is a species near *hippopothous* resp. its form *gigantea*.

P. 549. *Ampelophaga*. From Formosa Matsumura describes 5 new forms of this genus, all of which are presumably allied to the very variable *rubiginosa*: — *formosana* Mats. shows the postmedian stripe *formosana*.

of the forewing widened, shortened, and extending from the centre of the costa towards the tornus; in the hindwing the discal arcuate bands are extinct. — In *marginalis* Mats. all the discal bands are very distinct, *marginalis*.

particularly the 3 parallel stripes in the hindwing are very conspicuous. — In *takamueki* Mats., *takamueki*.

the bands of the forewing are only indicated by costal shadowy spots; the stripes on the hindwing are not recognizable, but in the hindwing the interior margin is broad light like a large spot proximad to the posterior angle. — *horishana* Mats. (harishana i. tab.) is the largest form, very similar to the ♂ figured *horishana*.

in Vol. II, pl. 39 d, merely separated by duller markings on the body and a slight brightening at the anal margin of the hindwing. — *baibarana* Mats., is a very small and very brightly marked form. — *baibarana*.

Of the North-Indian *A. khasiana* the range of which extends to China, later on also South-Indian specimens were discovered and described as *f. malayana* R. d. J.; they have broader wings, the ante-
median band of the forewing is much broader at the costal margin, the 4th band narrower than in typical *khasiana*. Perak, taken in September and October.

In the genus *Elibia* we add to *dolichus* (67 a) the form *linigera* Oberth. Nut-brown, the dull whitish-
*yellow longitudinal stripe across the body very distinct. Forewing with 2 slightly curved, almost parallel oblique stripes proximally bordered with light; before the interior one a light-central median dot. Hindwing rather uniformly nut-brown. Much smaller than *dolichus*. Manila.

P. 550. *Acosmeryx*. Clark separates from the Australian *miskini* (63 c) the New Guinea specimens as: *brooksi*. *brooksi*.
Additions to the Indo-Australian Sphingidae.

marina. P. 551. Panacra. Of the widely distributed P. busiris (64 a) two more forms are known: marina R. & J.; smaller than most of the busiris. Margin of forewing less angular, upper surface duller green, the median area smaller, particularly the narrow posterior portion, at the line distally bordering on the green area intensely shaded with blackish-olive, also the distal portion of the forewing more intensely dark brown; from the Andamans. — adina R. & J., from South India (rainy season), with a less green upper surface and a still narrower median area, the two lines bordering on the latter more separated. Under surface of a brighter and more unicoloured rusty yellow.

angulata. P. 555. Cizara. A third species is known of this genus: — C. angulata Clk., though only 1 specimen the patria of which is unknown.

psaltria. P. 552. To the forms allied to mydon we may add the form belonging to automedon (64 a): — niasana Clk. from the I. of Nias, and angulata Clk., from Sumatra. — psaltria Jord., from the Volcano of Kina Balu in Borneo, is similar to malayana, but the forewing is narrower, the brown apical spot is continued towards the base by an olive stripe dying away in the olive disc; from the marginal angle a broad dark diffuse streak extends horizontally to the base of the costal margin, and 2 more streaks enclosing a lighter triangle. Under surface brighter as in splendens (64 b). Length of forewing: 28 mm.

schausi. P. 554. Cizara. A third species is known of this genus: — C. schausi Clk., though only 1 specimen the patria of which is unknown.

modestum. P. 558. Macroglossum. From M. poecilum (56 C c) a form modestum R. & J. was separated. — P. 559, in M. hirundo read: navigatorum Rbl. not Clk. — A number of newly described species must be added, such as M. lepidum R. & J. nearing fruhstorferi (p. 557), though it is smaller, the hindwing being quite yellow, only at the extreme base and at the margin more narrowly black; from Nias.

lepidum. M. oceanicum R. & J. is somewhat like corythus (p. 561), but the forewing has a more obtuse apex and a more convex margin, the submarginal band from the costal margin to the posterior margin being broadest at the costa and half as broad at the inner margin. The yellow band of the hindwing is sharply defined, anteriorly as far as the base and apex of the costal margin, in the centre reduced to \( \frac{3}{4} \) of the width of the marginal band. Salomons.

nigellum. P. 560. For Macr. nigillum read: M. nigellum Rothsch.

amoenum. amoenum R. & J., from Banka, similar to parsalus, but smaller, the lateral hair of the 3 segments before the tail-tuft with white tips, and the antemedian band of the forewing is more oblique; the distal border of this band at the inner margin just as far away from the distal margin as at the costal margin.

stenoxanthum. M. stenoxanthum Trnr., from Queensland (Kuranda), is similar to meeki (56 C c) from New Guinea, but the forewing shows before the margin a grey shadow without the broad blackish subterminal band, on the hindwing the posterior border of the orange band is straight, the abdomen without the white spots on the dorsum of the 3rd ring.

tenimberi. Another species was described from the Timorlaut Is.: tenimberi Clk.; this species as well as the species doddi Clk. from Queensland, and haslami Clk. from the Philippine Is. have remained unknown to me.

doddi. P. 563. Celerio. Another form similar to C. wilsoni (67 a) has been discovered in the Sandwich Is.: — C. perkinsi Sveev. — From the very remote Christmas I. a species of Hippotion was described: —

noel. Celerio. perkinsi Sveev. — From the very remote Christmas I. a species of Hippotion was described: —

noel. Another species was described from the Timorlaut Is.: tenimberi Clk.; this species as well as the species doddi Clk. from Queensland, and haslami Clk. from the Philippine Is. have remained unknown to me.

manilae. P. 568. Theretra. Another species was described from the Philippine Is.: — manilae Clk., as well as radiosa R. & J., which is extremely similar to rhesus Bol. (67 b). The abdomen shows bright stripes, but it lacks the mediodorsal line; on the hindwing the 4th line is broad and connected at the posterior margin with the black basal macula. New Guinea, Fergusson I.
Alphabetical List

of the Indo-Australian Sphingidae with references to the original descriptions.

*) signifies that the species is also figured at the place quoted.
Alphabetical List of the Indo-Australian Sphingidae.

triangularis Coequ. Don. Insect. N.-Holl. Tab. 33. *
xanthus Ceph. R. & J. Revis. Sphing., p. 405. *
yunnanfuensis Megan. = yunnanfuana
17. Family: Epiplemidae.

In Vol. II (p. 275), Vol. XIV (p. 387 and 390) as well as in this volume (p. 93) we have sufficiently pointed out the untenableness of the family of Uraniidae for all the divisions contained therein according to the scheme formerly in use, and called the readers’ attention to the great advantage of dividing the family. Accordingly we have, at least in this volume, separated the two most heterogeneous components — the Urana on the one hand, the Epiplema on the other. Neither of these two genera exhibits the very least alliance in the larvae, pupae, or imagines. Magnificent, large, heliophile lepidoptera flying in the daytime, of a strong though graceful structure, were packed together with the most insignificant, heliophobic and frail moths being anything but gracefully built and hiding in the bushes. In the course of time, this mistake had led to all kinds of absurdities and caused the Urana to be placed in catalogues near the Geometridae to which the Micronia as well as the Epiplema, many of which were described as Geometrids, seemed to form the transition. On the other hand, genuine Geometrids had been temporarily catalogued among the Uraniidae, and some, such as Palaeomystis amabilis Pouj., are to be found quoted twice, i.e. in both the groups.

Since the second volume of this work has been published, the different groups of the Uraniidae have now also been separated in the catalogues, though the authors by no means agree in respect to the caesurae. We do not intend to discuss these differences of opinion here, but merely mention them so that the readers may understand our new division. In these differences of opinion, according to which the family is to be divided now here now there, its loose connections are expressed. It is for this reason that we have enumerated the distinctly highly specialized groups in the first part of this volume (Uraniinae, Microniinae), whilst the more primitive genera (Epiplemidae) have been left in their original place.

The Epiplemidae likewise contain heterogeneous elements, and in the future yet more divisions may be expected. The Chatanula and Nossa as well as the Amana deviate far from the real Epiplema, and it is only a certain external resemblance to certain Geometrids that unites the various groups, although it refers to quite different Geometrid groups. We had already stated in the family of the Microniinae (p. 93) that the actual resemblance of Urapteroides (pl. 72 a) and Urapteryx (Vol. IV, pl. 71 c—e) cannot be explained by oecological connections; nor between the Epiplema and Sterrhinae or Larentiinae. Here it is merely a matter of convergencies. The only matter to be doubted may be the resemblance of certain forms of the Chatanula (tricolor) to the Geometrids of the genus Dysphania (Vol. XII, pl. 6, 7) flying at the same place. This latter group of Geometrids, unlike nearly all the other groups, is protected, and they evidently serve as models for certain unprotected moths (such as the Chalcisina Psaphis enscheroides (5 d)). Moreover, we find that the Nossa being allied to the Chatanula copy Pierids, which fact has already been stated in Vol. II (p. 277). This habit of copying proved by the latter example in the Epiplemidae, together with the protectedness of the double, makes it also likely that the resemblance of Chatanula-Dysphania is correctly explained by genuine mimicry. Another explanation can be substantiated by the fact that the exterior of nearly all the Epiplemidae resembles that of certain Geometrid genera which are not compelled to have recourse to mimicry. Even minute details in the contours of the wings in which certain Geometrids, such as the Sarcinodes, differ from the usual shape of the wings, recur in the Epiplemid genus Decetia or Anzea, and the names of some Epiplemia, such as barmiata, simulans etc., show that such resemblances have already been used by the early authors for denominating species.

Moreover, the ground-colour as well as the marking of the Epiplemidae are almost throughout dependent on mimicry. The behaviour of the insects in life is due to this adaptation, and in this they follow the very
same rules as small Geometrids. White colouring, unless it be quite inconspicuous in very small species, such as some Acidalia, always involves a greater fugacity and the endeavour to hide in the dense foliage. The conspicuously coloured species, such as E. himala, mozur, restricta, must be beaten out of the hedges; the greyish-brown species which generally hide on the underside of the leaves of herbs and exhibit the very common colouring of the family (also found in American species), as that of E. cossmponicola Strd. (59 h), adjutaria Wkr. (59 h), falsamamata Hmps. (59 f), obscainaria Mr. (59 a) and many others, are more difficult to discover, unless they are settled on rocks or trunks. But hardly any of all these insects fly farther than a few yards, and almost every specimen chased up may easily be taken, unless it chances to creep into the brushwood.

The discovery of the Epiplema is rather difficult owing to the peculiar habit many of the species have of rolling up their wings when at rest in the shape of tubes, so that their exterior is entirely unlike that of lepidoptera. This is in some way similar to certain Pterophoridae which in settling take up an attitude resembling more a crossed or split blade than an insect.

Some Epiplemidae are distinguished by a most peculiar organ, as for instance the common E. birostata Gn. from Tropical America. There the inner-marginal area of the hindwing has been turned over to form a capsule which contains a large number of the very finest hairs. On opening this fold, the contents gush forth in thick whitish curls and flocks. The hairs are long, very soft and extremely thin, thus belonging to a class of the finest hairs known in the animal kingdom. Their thickness amounts to not even 1/20 of the caliber of the finest larval hairs. The fine hairs at the margin of the hindwing in many Notodontidae, the tail-hairs of the Phalera are very much thicker, even the fine dorsal hairs of Aglia tau are much coarser. A fine hair on the head of a man is nearly a hundred times, and the hair of a beard several hundred times thicker than the hair-plait in the fold of the hindwing of those Epiplemidae.

The abnormal shapes of the margins of the wings are almost universal in the Epiplemidae. Sometimes the anal margin of the hindwing is gnawed out, then again lobate and dentate before the lobe, as in the South-American Syagria druidaria. Indian species generally exhibit an irregularly dentate distal margin of the hindwing and sometimes also, corresponding to it, indentations in the distal margin of the forewing, as for instance in E. suisharyonis Strd. (59 1). The sharp marginal dents then often mark the places where the wing is turned over when being rolled up in the peculiar way mentioned above. These strange formations of the wings are accompanied by coloristic transformations, since in the places where the wings are folded up the colouring disappears, so that pale longitudinal areas extend between coloured ones, as for instance in E. nigella (59 k).

The number and geographical distribution has already been dealt with in Vol. XIV, p. 387 and 390, where we also find statements about the early stages which as yet are little known. — We may mention yet that certain palaeartic species are remarkably similar to those from America; considering the poor flying ability of these mostly frail lepidoptera, we may infer from this universal range the considerable phylogenetic age of the Epiplemidae, which we have already stated before.

Subfamily: Epipleminae.


A. angulifera Wkr. (58 d). Dark brown, with yellow bands in the forewing, one from the base of the wing to the anal angle, and a submarginal one, both narrow. A broader one from the costal margin behind the middle, also to the anal angle. Hindwing somewhat lighter, with a few yellow spots at the apex and anal angle. 60 mm. India.

2. Genus: Chatamla Mr.

Ch. flavescens Wkr. (58 e). Head and thorax black, abdomen with yellow rings. Forewings black with 3 yellow spots near the base, 5 white ones behind the cell and 7 submarginal ones. Hindwing yellow with an interior and exterior black band, margin black. — In nigrescens Mr. the hindwing is white, but the black ground-colour of the forewing and the bands of the hindwing are much more extensive. — In tricolor Btlr. (58 d), on the contrary, the light spots on the forewing are more intense than the ground-colour, and in the hindwing only the interior dark band is preserved. 50—60 mm. India.

Antennae short, in the $^5$ bipectinate. Apex of forewing in the $^5$ little produced, that of the hindwing strongly produced. On the forewing and hindwing vein 5 rises in the centre of the cell. In the cell of the forewing a basal ray. In the hindwing vein 7 before the cell-angle. Type: *nelcinna* Moore.

**N. nelcinna** Mr. (= *nelcynna* Leech) (Vol. I, pl. 48 c) which has been treated as a palaearctic lepidopteron in Vol. I, p. 277, occurs also in the hot districts of Kashmir and thus reaches the Indo-Australian region. — The form *chinensis* Leech which was found at the palaearctic southern frontier (Chang Yang) probably also occurs in Indo-Australian districts in South China.

**N. moorei** Eliv. (58 d). Similar to *nelcinna*. Thorax with orange margins, abdomen with yellow and black rings. Forewing yellowish-white with an irregular dark brown median band. Distal area brown with a pale submarginal band. Hindwing yellowish-white with a submarginal band of spots. 75—85 mm. North India.

**N. nagaensis** Eliv. Forewing pale brown, at the base lighter streaks, feeble light postmedian spots and more distinct submarginal ones. On the hindwing the submarginal dark band is quite indistinct. 75 mm. North India.


Costa of forewing bent, apex pointed, produced; distal margin straight. Palpi short. Antenna with one row of pectinations. Veins of forewing: vein 5 above the middle of the cross-vein, veins 6 + 7 on a long stalk, and 8 + 9 + 10. Vein 10 and 11 anastomosing with 12. In the hindwing vein 5 above the middle of the cross-vein, 6 before the angle, 7 and 8 parallel. Type: *subflavata* Warr.

**A. subflavata** Warr. Forewing yellowish ochrous with dark transverse striae. A small pale spot at the cell-end. An oblique brown line from the centre of the inner margin to the darker brown apex, below it a submarginal row of brown spots. On the hindwing the line is continued from $\frac{1}{2}$ of the costal margin. Costal margin straw-coloured, before the distal margin indistinctly brown. 40—44 mm. Java, Balabac, China.

**A. pallida** Mr. Pale ochreous. Forewing with a dark ring at the cell-end. An oblique brown line from the apex of the forewing to the inner margin of the hindwing before the middle. On the forewing an indistinct notched brown submarginal line. 36 mm. Calcutta.

5. Genus: **Auzea** Wkr.

Palpi short, porrect. Antennae slightly thickened. Apex of forewing produced, below it the distal margin is incised, veins 6 + 7 and 8 + 9 stalked, 10 absent. In the hindwing veins 6 and 7 from the upper cell-angle. Type: *rufifrontata* Wkr.

**A. rufifrontata** Wkr. (= *rectata* Wkr.) (58 c). Forewing greyish-brown with a very oblique interior brown line, and exterior brown line, both sharply angular close below the costal margin. Costal margin at the apex dark brown. A row of white spots behind the exterior line. Hindwing in the anterior half whitish, behind greyish-brown with the rest of the exterior line. 45 mm. North India.

**A. arenosa** Bltr. (58 c). Wings yellowish-brown. At the costal margin of the forewing the sharp angles of the two brown lines and the dark brown stripes near the apex are absent. Anterior half of hindwing not white. 42 mm. North India.

**A. hyperythra** Hmps. Similar to *arenosa*, but more reddish-brown. On the forewing behind the exterior line a series of black and white spots. On the hindwing behind the oblique, nut-brown interior line white streaks on the veins, behind them a row of black spots. In both wings the marginal line is white. 54 mm. North India.


Palpi short, antennae short and thick. Apex of forewing little produced, distal margin somewhat angular at vein 5. Hindwing at the apex rounded, at the anal angle rectangular. Neuration of forewing; veins 3 + 4 and 8 + 9 stalked; 5 from below the middle of the cross-vein also in the hindwing. Type: *rufescens* Bltr.

**Br. rufescens** Bltr. Dark flesh-coloured; suffused with grey except at the costal margin of the hindwing. On the forewing a chocolate brown streak from the apex to the centre of the inner margin. At the apex a small square black spot. Hindwing with a dark red streak on $\frac{1}{2}$ of the length of the wing. A row of black spots in the disc. 40 mm. Borneo.

D. numicusaria Wkr. (= capetusaria Wkr., circulitaria Wkr.) (58 e). ♀ pale ochreous brown, ♂ browner with a very oblique rusty yellow line from the apex of the forewing to the inner margin of the hindwing near the base. Some white submarginal spots at the apex of the forewing. 36—40 mm. Nort India. — In sinelinea Warr. the line is absent; at the apex black submarginal spots.


D. subobscurata Wkr. (58 e). Pale olive brown, ♀ more reddish. Apex of forewing brown. A dark spot at the cell-end of both wings. A brown line from the apex of the forewing to the inner margin of the hindwing near the base. Submarginal spots in the ♂ dark, in the ♀ lighter. 45 mm. Nilgiris, Ceylon.

D. hypopyrata Sn. Forewing and hindwing of ♀ olive greenish, at the base darker; with a greyish-white line from the apex of the forewing to the centre of the inner margin of the hindwing, bordered by dark olive, Distal area of forewing somewhat lighter, at the apex whitish. On the cross-vein a light grey spot, before it in the cell dark brown. Hindwing behind the cell striated dark. ♀ dark violettish greyish-brown. Transverse lines greyish-white, only at the apex of the wing distinct. Interior angle dusted with violettish-grey. 38 to 49 mm. Sumatra.

D. violacearia Leech. Violettish-grey, at the costal and distal margins brown, with a dark brown oblique line from the apex of the forewing to the middle of the inner margin of the hindwing, being inside edged with pale violet. On both wings a black discal spot. 33 mm. West China.

D. argentiniaearia Leech (Vol. II, pl. 48 a). Olive brown with a silvery grey oblique line on the forewing, angular below the costal margin, incurved above the inner margin. Within this 2 or 3 fine undulate lines. Distal area golden brown. Hindwing with 2 silvery grey median lines and 3 undulate lines in the distal area. 30 mm. Japan, from Jess to Formosa. — In Vol. II (p. 196) placed as Mimozaethes to the Drepanidae.

D. lilacinaria Leech. Dark brown, forewing dusted with lilac, in the distal area golden brown, with 2 fine lilac transverse lines. The exterior one below the costal margin of the forewing angular to the centre of the inner margin of the hindwing, distally bordered with golden brown. On both wings a black discal spot and an indistinct dark submarginal band. 36 mm. West China, probably chiefly palaeartic.

D. dichromata Wkr. (= insignis Btlr.). Similar to numicusaria (58 e). Forewing yellowish-brown, hindwing reddish-brown, at the base light greyish-yellow. With a rusty brown line from the apex of the forewing to 1/6 of the inner margin of the hindwing. On the forewing an indistinct discal spot. — fuscibrunnea (♀) Warr. is violettish brown, striated dark. The margins of the wings are dark smoke-brown. Cellular spot and transverse line hardly visible, but the white submarginal spots of the ♀ are present. 45 mm. Mysol, Russel Is., Salomons Is. — Some other forms have been denominated ochracea, grisea, and nigromaculata by Warren, their names explaining the various colours.

D. uniformis Warr. Forewing yellowish-grey, densely dusted with lead-grey, with a dark spot on the cross-vein. Sometimes a rust-coloured oblique line is visible, similar as in dichromata. Hindwing of the same colouring. 45—48 mm. Salomons Is.

D. moestaria Wkr. Blackish, with a rusty red line from the apex of the forewing to the centre of the inner margin on the hindwing. Perhaps a dark form of dichromata. 45 mm. Sumatra.

D. unilineata Wkr. Mouse-coloured with a rusty red line from the apex of the forewing to a little behind the centre of the inner margin on the hindwing. Forewing with an indistinct bent brown interior line and a black discal spot. 45—50 mm. Sumatra, Celebes.

D. pallidaria Pag. (= bilineata Hamp.) (58 e). Wings reddish-brown with dark undulate lines and black central dots edged with white. Interior line angular at the upper and lower cell-margins. A double exterior line filled with dark, behind it black submarginal dots. The latter also on the unmarked hindwing and before them white dots. 50—55 mm. Palawan, Halmahera, Burma.

D. torridaria Mr. Forewing greyish-brown with a dark discal spot. Interior line rust-coloured oblique to 1/6 of the inner margin, median line formed of black dots. Exterior line from the apex to 4/5 of the inner margin, behind it white and black dots. Hindwing with a rust-coloured basal line and two indistinct other lines. 46 mm. North India, Tonkin.

D. posticata Wkr. Mouse-coloured with 3 pale brown lines, outside margined with ash-grey, and a fine brown marginal line. 45 mm. Singapore.

D. chalybeata Wkr. Rusty red with 2 lines of black dots edged with white. An irregular white spot at the apex. Sumatra. I doubt whether the 3 species mentioned last belong to this genus. They were not before me.


P. albistellaria Wkr. (58 e). Pale ochreous with a rusty yellow line from the apex of the forewing to the aninternitergial, centre of the inner margin on the hindwing, where the line is somewhat more reddish. Apex of forewing and distal area of hindwing, except at the costal margin, somewhat reddish, with 4 white spots. 35—40 mm. North India.

P. vicina Suh. pale mouse-coloured with a violet tint. Transverse line shaped as in albistellaria, carmine, vicina. the spots on the hindwing and the cellular spot on the forewing white. 36 mm. West China.

P. myra Suh. Ochreous brown, dusted with brown. A white cellular spot in both wings. Transverse myra. line brown, distal area of hindwing darker brown with 4 white spots. 36 mm. West China.


Palpi short, porrect, antennae with short dents ($). Forewing only curved at the apex which is rounded; distal margin straight, oblique; inner margin straight. Hindwing with a rectangular apex, anal angle obtuse, with a small dent at vein 4. Neuration of forewing: vein 5 from the upper cell-end, veins 6 + 7 and 9 + 10 stalked. Veins 8, 9 + 10, and 11 almost in the centre of the cell, 9 anastomosing with 8. Type: cometijera Warr.

C. cometijera Warr. (58 e). Forewing violetish-grey, dotted dark, costal margin whitish, striated cometijera. dark; lines smoke-brown from $\frac{1}{4}$ and behind the centre of the costal margin to $\frac{2}{5}$ and $\frac{3}{5}$ of the inner margin. Before the first and behind the second somewhat lighter. A brown indistinct cellular spot and some submarginal spots. Hindwing with a double brown exterior line from $\frac{3}{5}$ of the costal margin to $\frac{4}{5}$ of the inner margin, obtusely angled below vein 4. An oblique brown cellular spot below vein 5 prolonged black. At the anal angle darker brown. 30 mm. New Guinea.


Palpi short, delicate, antennae with short dents ($\overline{5}$). Forewing only curved at the apex which is rounded; distal margin projecting at veins 7 and 4. Hindwing tailed at veins 3 and 4. Neuration of forewing: vein 5 from the upper cell-angle, veins 6 + 7 and 8 + 9 + 10 stalked, the latter from the cell. In the hindwing veins 3 + 4 stalked. Type: protheclaria Wkr.

O. protheclaria Wkr. (= luctifera Sn.) (58 e). Wings brown with dark brown lines. On the forewing protheclaria. an interior and a median line obliquely distal, submarginal line somewhat feeble. On the hindwing a double interior line, an exterior and a marginal line. Between the small tails a black spot. Anal angle yellowish, 24—32 mm. India, Burma, Malacca, Sunda Is.


Palpi porrect, coarsely scaled. Antennae of $\overline{5}$ filiform. Forewing with an obtuse apex, distal margin angular at vein 5, inner margin somewhat convex. Hindwing at the apex obtusely rectangular. Distal margin uniformly bent, anal angle somewhat produced. Neuration of forewing: vein 2 near the lower cell-angle, 3 and 4 from the angle, 5 close below the upper angle, strongly curved, veins 6 + 7 and 8 + 9 stalked, 11 far inwards. Below the cell and at vein 4 as far as the distal margin a strong fold. In the hindwing vein 2 from near the base, 3 and 4 from the lower cell-angle, 6 + 7 on a long stalk. Type: fleximargo Warr.

M. fleximargo Warr. (58 f). Forewing yellowish, dusted with rusty brown. Traces of a brown line from the inner margin near the base to the centre of the wing parallel to the costal margin. A smoke-brown
line from \( \frac{1}{4} \) of the costal margin obliquely outwards, apex striated brown. Below vein 5 a brown marginal spot. Hindwing yellow, dusted with rust-brown, without marking. 25 mm. Lombok.


Palpi short, antennae of \( \delta \) strongly dentate, hind tibiae with 4 long spurs. Costal margin of forewing slightly incurved in the centre, apex somewhat produced. Distal margin excised from the apex to vein 4; at veins 4 and 3 slightly angular, below it excised. Hindwing rounded below the apex, anal angle pointed. Neuration of forewing: veins 5 and 6 + 7 from the upper cell-angle. Veins 8 + 9 + 10 and vein 11 arise far basad. Type: simplex Warr.

**Ch. simplex** Warr. Forewing lilac grey, lines claret-coloured, the interior line from \( \frac{1}{4} \) of the costal margin, oblique, slightly bent, touching the black cellular spot; the exterior line from \( \frac{1}{4} \) of the costal margin partly interrupted, bent. Marginal line rusty red, fringe brownish-red. Hindwing with a red interior and exterior line. Cellular spot and marginal spot reddish. — f. diversipennis Warr. greyer, lines less distinct. 22 mm. Ambonina.

**Ch. striolata** Warr. Very similar to casbiata. Forewing reddish-grey. Lines marked by black spots. Cellular spot faded, 4 black spots at the apex distinct. Hindwing with a light cellular spot. The lines also only composed of dots. The exterior line with a double spot at the inner margin as in casbiata, but more remote from the distal margin. The spot below the lower dent plainly black, not glossy. Dents at veins 4, 6, 7 feeble. 30—32 mm. New Guinea.

**Ch. parvidens** Warr. Very similar to casbiata. Forewing reddish-grey. Lines marked by black spots. Cellular spot faded, 4 black spots at the apex distinct. Hindwing with a light cellular spot. The lines also only composed of dots. The exterior line with a double spot at the inner margin as in casbiata, but more remote from the distal margin. The spot below the lower dent plainly black, not glossy. Dents at veins 4, 6, 7 feeble. 30—32 mm. New Guinea.


Forewing concave at the apex. Distal margin slightly dentate at veins 4, 6, 7, anal angle sharp. Inner margin curved, excised before the anal angle. Hindwing excised at the costal margin, dentate at veins 4, 6, 7, with a hair-pencil at the inner margin. Neuration as in Epiplema. Type: horrida Warr.

**Ch. candidaria** Wkr. (58 f). White. Costal margin of forewing somewhat brownish. Interior line only a black cellular spot, exterior line marked by a spot behind it and near the inner margin. At the margin fine black dots. Hindwing with a black discal spot. A curved ochreous median and exterior line near the lower dent united there by another black spot. 30 mm. New Guinea.

**Ch. sulphurata** Warr. (58 f). Yellowish-white, at the base grey. Interior line fine, pale brown, curved. Cellular spot in a pale yellow area. Exterior line broad, dark brown from \( \frac{1}{4} \) of the costal margin to vein 4, then incurved to the centre of the inner margin. Behind it lilac grey, from the apex to the centre of the distal margin dark brown, marginal line yellow. Hindwing proximal half yellow with a brown line on the cross-vein. The broad distal band margined with black, sharply angled on vein 4. Distal margin lilac brown, before it lighter. At veins 4 and 7 large dents, at 6 a feeble dent. 25 mm. New Guinea.

**Ch. transnigrata** Warr. (58 f). Similar to the two preceding species. Ground-colour greyer. Lines brown, more distinct, with black dots. Exterior line scarcely double. Apical spots large. In the hindwing the exterior line is surrounded at the angle at vein 4 by black shadows. 32 mm. New Guinea.

**Ch. horrida** Warr. (58 f). Forewing reddish-brown. An indistinct dark basal line. Median band dark brown broad, in the middle narrower, margined with black; a narrow dark marginal band from the apex to vein 4.
Hindwing dusted with rusty red. Exterior line rusty red, sharply angled at vein 4, connected with a dark streak from the base. 32 mm. Queensland.


*Rh. xylinopis* Trnr. Pale brown, dusted with greyish-violet. Lines ochreous brown, indistinct. On the *xylinopis* forewing the interior line marked on %. The exterior line from below % of the costal margin to % of the inner margin, dentate, not excurved. Marginal area at the apex dark brown. Hindwing corresponding to forewing in colour and marking. 20 mm. Queensland.

15. Genus: **Dysaethria** Trnr.

Palpi delicate, porrect, antennae bipectinate, the interior row only short, the dents distally separated. Neuration of forewing: vein 5 near the upper cell-angle, veins 6 + 7 and 8 + 9 stalked. Hindwing at veins 4 and 7 somewhat dentate. Type: *pasteopa* Trnr.

*D. pasteopa* Trnr. Forewing triangular, apex rounded, dusted with pale greyish brown. A fine interior *pasteopa*, and exterior line indicated by denser dusting, fringe pale grey. Hindwing probably of the same colour, since it has not been described. 20 mm. Rosewood (Queensland).


*D. longipennis* Warr. Forewing dark smoke-brown; lines faded, composed of black and rusty-red scales. *longipennis*. The interior line angled on %, in the middle, the other in the middle only bent. Submarginal line undulate, indistinct. On the hindwing a rusty red exterior line from % of the costal margin, parallel to the distal margin, also angular at vein 4. 20 mm. Queensland.


Palpi porrect, antennae of mostly thickened, flattened. Neuration of forewing: veins 5 from the upper cell-angle, veins 6 + 7 and 8 + 9 stalked, 10 mostly from the cell. Hindwing: veins 3 and 4 from the lower cell-angle, 6 and 7 from the upper one. Type: *acutangularia* H.-Schöff. from Brazil. Of this genus about 140 species are described from the Indo-Australian region, an unlikely great number. But as a great many have been described according to but one specimen, it cannot be decided whether they are all distinct species.

Forewing angular at the distal margin.

E. *arcuata* Warr. (58 g). Forewing at the distal margin excised from the apex to vein 6 and from 6 to 4. *arcuata*. Hindwing angular at vein 7, at 4 with a tail. *arcuata* dark red-brown. Forewing with a slight spot on the cross-vein. Exterior line red-brown, slightly angled at vein 6, more so at 4, outside edge pale. Marginal spot from the apex to vein 4 blackish-brown. Hindwing with a red-brown band at the median vein. Exterior line red-brown, outside light-edged, sharply angled at vein 4, behind it towards the anal angle ochreous brown. Paler. 26—34 mm. Khasis.

E. *flavistriga* Warr. (58 g). Pale ochreous brown. Forewing with a curved brown exterior line, terminating in 3 black spots above the inner margin. Two connected red-brown lunar spots at the excision below the apex. Hindwing with tails at veins 4 and 6. A yellow radial band through the cell to the exterior line, with a black diffuse spot at the upper cell-angle. Exterior line double, brown, at vein 4 strongly angled, with a black costal spot. 30 mm. Khasis.

E. *vacuata* Warr. Forewing with an angle at the apex and vein 6, hindwing angular at 4 and 7. Chalky *vacuata*. Hindwing dusted with rusty red, sharply angled at vein 4, connected with a dark streak from the base. Above the centre of the inner margin. A cellular streak, a streak before the apex, and the distal margin above the middle brown. Apex spotted black. Hindwing with a brown spot at the middle of the base, in the centre of the submedian fold and at the apex. 15—20 mm. Salomons Is.

E. *columbaris* Btr. (58 g) has already been figured in Vol II, pl 48 i. Brown with 2 indistinct stripes *columbaris* on the forewing and hindwing. 27 mm. North India. In Cashmir on palaearctic soil.
Forewing deeply excised at the distal margin, hindwing with two indentations between the anal angle and vein 3.

**E. edentata** Hmps. (58 g). Forewing white, basal area dusted with smoke-brown. A double oblique line from below the apex to the inner margin, smoke-brown, behind it dusted dark. Hindwing at the base somewhat darker. A smoke-brown broad median band, behind it purely white. Both the bands curved. Distal margin broad smoke-brown. 24 mm. Sikkim.

**E. albipunctata** Warr. Dark brown. Interior and exterior lines of forewing strongly excurved. Interior line at the costal margin bordered with black, exterior line with 2 light spots above the inner margin. A dark subapical spot and luna at the excision. Hindwing with an incomplete dark interior and light exterior line which is strongly angular at vein 4, with 3 white subapical spots. 26 mm. Khasis.

**E. tabecula** Seh. Forewing below the apex, hindwing at the anal angle fluted. Forewing pinkish-grey, dusted with brown, with a brown spot at the base, at the cross-vein and above it at the costal margin. Hindwing in the marginal area densely dusted brown with a brown narrow median band. 14 mm. Pulo Laut.

**E. rectimarginata** Hmps. (58 g). Distal margin of forewing strongly excised below the apex, hindwing undulate at the anal angle. Forewing violetish-brown. Interior line olive brown, incurved at the costal margin, the almost straight subterminal line likewise incurved. Hindwing with an indistinct curved brown median line with white spots. 26 mm. Canara.

Forewing at the distal margin scarcely excised, hindwing with many points.

**E. reticulata** Mr. Whitish, densely dusted brown. Forewing with a pale oblique interior and curved exterior line. Hindwing with a curved exterior line. Veins pale. 28 mm. Sikkim, Khasis.

**E. delicatula** Warr. (58 h). White, finely dusted with brown. Forewing with a straight brown interior line from the subcosta to the inner margin. A streak on the cross-vein and an oblique distal line to the anal angle. Margin undulate from vein 4 to the anal angle. Hindwing with a fine interior and exterior line, dark brown from the costal margin to vein 2, where they are sharply angled. Distal margin angled at veins 2, 3, 4, 7. 26 mm. Khasia Hills.

Forewing excised below the apex, hindwing tailed at veins 4 and 6.

**E. carmona** Seh. Distal margin of forewing with two indentations below the apex. Forewing brown, dusted with pink, lines dark brown. Interior line undulate, distally bent, the exterior line almost vertical, near the inner margin introangular. Margin brown. Hindwing with an indistinct interior line, strongly angled in the centre. Exterior line edged with light. Marginal line brown. 28 mm. New Guinea.

**E. moza** Btlr. (= flavigutta Warr.) (Vol. II, pl. 48 i). Forewing reddish-brown, dusted with dark. Interior and exterior lines strongly angled in the middle. Exterior line with a dark spot at the inner margin. On the hindwing both lines strongly angled in the middle, bordered with nut-brown. Besides a dark subbasal line. 20—30 mm. Khasia Hills.

**E. pseudomoza** Strd. (58 h). Similar to the figure of *moza* in Vol. II, pl. 48 i. More intensely dusted with brown. At the apex of the forewing not darkened. Interior line absent, exterior line more curved. Hindwing scarcely different from *moza*. 20 mm. Formosa.

**E. grisea** Warr. Similar to *moza*, but violetish-grey instead of reddish-brown. Lines black. On the hindwing only the exterior line is present, extending from the upper dent to the anal angle. 24 mm. Trobriand Is., New Guinea.

**E. rhacina** Seh. Below the apex somewhat less excised than *moza*. Olive brown. In the forewing an infinite-shaped spot in the cell, a spot at the cell-end and below it. Basal half finely striated brown. Traces of an excurred brown interior and median line. Both wings with an exterior line. The line in the forewing anteriorly very much excurved. On the hindwing double, undulate, slightly excurved. Brown submarginal spots on both wings. Tails on hindwing obtuse. 25 mm. Assam.

**E. sreapa** Seh. Dark leaden grey. Distal margin of forewing slightly produced below the apex, below it excurred. Interior and exterior lines slightly undulate, the former angular below the costal margin, the latter bent. From the apex to vein 3 dark submarginal lunar spots. Hindwing with a dark subbasal line and ochreous brown spots below the cell. Exterior line pale; inside bordered with black, outside with red-brown, at vein 4 strongly angled and with 2 black dots, besides a submarginal spot. 30 mm. Khasis.

**E. polei** Hmps. (58 h). White, finely dusted with brown, lines blackish-brown. Median line from the centre of the costal margin to the lower cell-angle, then obliquely inward. Exterior line slightly bent, behind the cell somewhat impressed. Dark subapical spots and marginal line. Interior line of hindwing strongly notched, exterior line obtusely angled at vein 4. 20—24 mm. Hongkong.
E. atrifasciata Warr. (58 h). Forewing greyish-brown. Interior line indistinct, bent. Exterior line atrifasciata, oblique, inside with a broad black shadow a far as vein 4 where it is obtusely angular. Traces of an undulate subterminal line. Hindwing with an angular streak at the lower cell-angle. Broadly dusted black before the whitish exterior line which is distally angled in the middle. 24 mm. Khasias.


E. caligata Warr. Forewing flattened at the apex, dusted dark with grey. A curved median band with caligata. dark edges. Inner margin of the band dark brown, sharply angled at vein 4, then to $\frac{1}{3}$ of the inner margin, the anterior portion indistinct. Outside undulate from $\frac{2}{3}$ costal margin to $\frac{3}{4}$ inner margin; anteriorly convex, posteriorly concave; in front inside broad brown. On the hindwing both the edges of the band obtusely angled at vein 4. Fine lunae between the dents. 28 mm. New Guinea.

E. aequisecta Warr. (59 k). Forewing rounded at the apex, distal margin from there to vein 6 straight, aequisecta, then incurved. Forewing dark brown. First line indistinct in the $\frac{3}{5}$, black and excurved in the $\frac{2}{5}$. Basal area blackish-brown. Exterior line blackish-brown, straight, from behind the centre of the costal margin to $\frac{2}{3}$ inner margin. Interior line of hindwing twice angled, black. Discal spot black, with a ray at vein 5. Exterior line orange dark, margined, obtuse-angled at vein 4. Below the submedian fold ochreous. — flavicata Warr. has flavicata. the same marking, but the colour is a dingy yellow. 18—20 mm. New Guinea.

Distal margin of forewing behind the cell slightly concave. Hindwing with small tails at veins 4 and 7.

E. foedicosta Warr. (59 k). Forewing whitish, slightly dusted grey, costal margin with black dots, foedicosta. lines blurred. The first bent near the base. The exterior line vertical, undulate, to a brownish spot at the inner margin. Submarginal line indistinct. A black spot at the centre of the distal margin. Hindwing with a black basal and cellular spot. Exterior line obtuse-angled at vein 4. At the apex and inner margin clouded dark. 20 mm. New Guinea.

E. sordida Warr. (59 l). Dingy white, dusted with brown, some brown spots near the apex. The first line sordida, on the forewing indicated by brown dots. The second by an oblique shadow from the costal margin. Some spots before the excision at the distal margin. Exterior line of hindwing pale brown, only the posterior portion present, angled in the middle, then double. Distally to it dusted with brown. 22 mm. Fergusson Is.

E. taminata Warr. (59 k). Dingy white with a bluish reflection. Lower half of forewing pale brown, taminata. Lines violetish-black, interrupted. The first on $\frac{1}{3}$, in the middle obtuse-angled. The second from a dark costal spot on $\frac{2}{3}$, incurred below vein 4. Submarginal area dusted with brown below vein 6, with black dots. Hindwing dusted with brown. The two lines black, curved, interrupted. The exterior line angled on vein 4. On the cross-vein 2 black dots. Margin blackish-brown, with a white line at the lower dent. 14 mm. New Guinea.

E. falcata Warr. (59 l). Pale grey, dusted darker. Lines of forewing thick, blackish. The first on $\frac{1}{5}$ falcata, bent in the middle, in front faded. The second from $\frac{2}{3}$ costal margin obliquely inward to the median vein, then bent to $\frac{1}{3}$ inner margin. From the base to this place dusted dark. A bent line from the apex to the median fold, enclosing an oval dark marginal spot. Hindwing brown, with a darker brown, light-edged exterior line, not angled, only bent near the inner margin. Basal line only distinct at the costal margin. A thick black basal, radial streak from the base on vein 4, with a white central spot. Below vein 6 a white marginal spot. 20—22 mm. New Guinea.

E. guttata Warr. Forewing drab, dusted dark. Cellular spot and a small one below it dark. Exterior guttata, line brown from $\frac{2}{3}$ costal margin, excurved at vein 4, with 3 black spots. Margin brownish, with 3 black dots. On the hindwing a similar exterior line, 2 black spots between the dents. 22—24 mm. Salomons Is.

E. cincerecella Warr. Forewing ash-grey, dusted dark. Lines darker, indistinct, interrupted. The cincerecella, first on $\frac{1}{3}$, bent in the middle. The second from $\frac{2}{3}$ costal margin to $\frac{3}{4}$ inner margin, incurved below the middle. A black marginal spot from the apex to vein 3, projecting inward on vein 5. Hindwing with indistinct bent lines. 15 mm. New Guinea.

E. fulvihamata Hmps. (59 l). Forewing pale brown. Interior line composed of a few spots. Exterior fulvihama-
by a black spot. A fine dark subterminal line. Hindwing at the costal margin rusty brown, at the inner margin greyish-brown. Interior and exterior lines parallel, strongly angled. Before the tails a light line. 22 mm. Pulo Laut.

**E. canibrunea** Warr. Liver-brown, dusted with bluish-grey. Lines of forewing fine and pale. The first line excurred from \(\frac{1}{4}\) of the costal margin to the median vein, then straight inward. Second line from behind the middle of the costal margin straight to the centre of the inner margin. Between the lines darker brown. A dark brown subapical spot edged with light. Hindwing with two bent parallel lines and a bluish-grey submarginal band. 16 mm. New Guinea.

**E. triangulifera** Warr. (59 f). Forewing brownish, dusted with grey, lines dark brown. The first indistinct on \(\frac{1}{4}\) costal margin, the second thick on \(\frac{3}{4}\), and the third submarginal. Cellular spot brown, linear. Exterior line of hindwing obtuse-angled, with pale edges. On the median vein and cross-vein a brown line. At the dents dusted with brown. 18 mm. Salomons Is.

**E. suffusca** Swh. Forewing dingy brown, not marked. On the hindwing traces of a dark brown median band. Marginal line pink, inside edged with dark. 15 mm. Fergusson I.

**E. ambusta** Warr. Forewing rounded, hindwing somewhat undulate, otherwise as the preceding species. Forewing reddish ochreous, dusted with grey. Interior line rusty brown, twice angled. Basal area greyish-brown. Exterior line from behind the middle obliquely distad, then less distinct to \(\frac{3}{4}\) inner margin. There a rusty brown spot. Submarginal line also rusty brown. Hindwing violetish-grey. Basal line twice angled. A pure white triangular discal spot. Exterior line dark rusty brown, bent in the middle, outside lighter edged. From the upper dent to the anal angle somewhat yellowish. 16 mm. Banda.

**E. argiloides** Trnr. Distal margin of forewing somewhat excised below the apex. Greyish-white, dusted brown, marking dark brown. A spot below \(\frac{1}{4}\) costal margin and above \(\frac{3}{4}\) inner margin forms the rest of the interior line. Exterior line marked by one dot each on \(\frac{3}{4}\) costal margin and \(\frac{3}{4}\) inner margin. Below the apex a distinct spot, continued as a dark marginal line. On the hindwing traces of an interior line at \(\frac{3}{4}\) inner margin. Exterior line distinct, from below the costal margin to \(\frac{3}{4}\) inner margin, in the \(\frac{3}{2}\) more indistinct. 20—26 mm. Queensland.

**E. basipunctata** Warr. Dingy white, dusted with grey, lines dark grey. The first from \(\frac{1}{4}\) costal margin, in the middle obtuse-angled to the centre of the inner margin. The second from \(\frac{3}{4}\) of the costal margin obliquely distad to vein 4, incurred on vein 2, then to \(\frac{3}{4}\) inner margin. Before it a pale brown shadow. A dark submarginal line to vein 2. Distal margin dark grey. On the hindwing both the lines are ochreous grey, sharply angled at vein 4. Marginal area pearl-grey. Distal margin of forewing slightly incurred below the apex, projecting below the middle. Hindwing with sharp dents at the apex, vein 7 and 4. 15 mm. New Guinea.

**E. bipunctigerata** Warr. Greyish-brown, dusted bluish. A pale bent oblique band from \(\frac{3}{4}\) costal margin, inside edged darker. Exterior band excurred from \(\frac{3}{4}\) costal margin to vein 4. Apex and marginal shadow brown, on the cross-vein 2 black dots. Hindwing brown. Exterior line thick, dark, angular at vein 4, before and behind it incurred. Apex and marginal line darker. Cross-vein with 2 dots. Distal margin of forewing as in *basipunctata*, hindwing with dents at veins 7 and 4, a small one at 6, towards the anal angle undulate. 24 mm. New Guinea.

**E. dobrooensis** Pag. Similar to *instabilata* (desistaria, 59 e), but the distal margin of the forewing excised. White with punctiform and strigiform markings. Forewing at the apex and excision blacxious. In the centre of the wing 2 rows of black dots. On the hindwing the latter are more distinct at the inner margin. 12 mm. Aru.

Forewing at the distal margin from veins 7—4 more incurred. Hindwing with a dent at veins 7 and 4.

**E. suisharyonis** Sted. (59 l). In the forewing similar to *quadricaudata* p. 587, but the excision stronger. The interior line distinct, rectangularly angled, exterior line not interrupted. On the hindwing both lines sharply angled, light-edged, interior line with a white V. Above the lower tail white submarginal dots. 30 mm. Formosa.

**E. stigmatalis** Warr. Pale wood-coloured with undulate brown streaks. Lines indistinct. The first as a brown streak and cellular spot. The exterior line from a blackish-brown spot at \(\frac{3}{4}\) costal margin outwards, obsolete at vein 4, terminating as a large blackish-brown spot at \(\frac{3}{4}\) inner margin. Before the excision, and a spot at the anal angle brown. Hindwing with a fine basal line and a nut-brown exterior line which is obtuse-angled at vein 4. Costal margin and cell violetish brown, in the cell a brown ring-spot. Between the dents deeply excised. 25 mm. New Guinea.

**E. eupeplodes** Warr. (59 l). Pale pearl-grey with a brown cloud before the centre of the distal margin on the forewing. Lines red-brown. The first on \(\frac{3}{4}\), sharply angled below the costal margin, then undulate to the inner margin, with brown spots. Exterior line from before \(\frac{3}{4}\) costal margin, below it bent and undulate to \(\frac{3}{4}\) inner margin, parallel to the first line. At the excision a brown streak, and 2 black dots above it, in the cell 2 black dots. Hindwing whithish with 3 short black lines at the base near the inner margin. Exterior line pale, edged with brown, sharply angled at vein 4. Cross-vein with a black double dot. Margin lilac-grey. In the forewing the apex is somewhat rounded, on the hindwing all the veins angled, a dent at vein 4. 24 mm. New Guinea.
E. funesta Warr. Dark grey, dusted with brown. A fine curved black line from 1/3 costal margin, almost funesta, touching the black cellular spot. Exterior line broad, from 2/3 costal margin, excurred in the middle, distally black-edged. Hindwing blackish. A black basal line; exterior line obtuse-angled at vein 4. — subrufa Warr. subrufa, spotted reddish-brown, the lines very indistinct. On the hindwing also a small dent at vein 6. 25—28 mm. New Guinea.


Forewing with a dent at vein 4, above it hollow, below it excised. Hindwing with a dent at veins 4 and 7.

E. warreniana dalla Torre (= lignicolor Warr.) (59 a). Wood-brown, dusted blackish-brown. Lines warreniana, marked by brown scales. The first on 1/3 costal margin, angled in the middle. Exterior line from a broad spot at 2/3 costal margin, angled at vein 5, then parallel to the distal margin. Both lines in front black, behind red-brown, composed of spots. Margin with black dots. Hindwing reddish-grey, costal margin violet-tinted brown. Exterior line red-brown, parallel to the distal margin. Traces of a basal and median line. At the anal angle violet-tinted brown. 22 mm. Ross I.

E. umbrimargo Warr. (59 a). Ochreous brown, at the costal margin darker; lines rusty brown, interrupted. The first on 1/3 costal margin, strongly excurred to an oblique rusty brown cellular spot. The second from a brown spot at 1/3 costal margin, twice angled, to a brown spot behind the middle of the inner margin. A brown line from the apex to vein 2, and 3 brown apical spots. Hindwing brown. Exterior line obtusely bent, between the dents a dark shadow. 22 mm. Salomons Is.

Forewing uniformly bent at the distal margin Hindwing with small tails at veins 4 and 7.

E. multistrigaria Mr. Greyish-yellow, densely dusted dark brown. Forewing with 2 black apical spots, multistrigaria, hindwing with spots near the inner margin. 22 mm. North India.

E. latifasciata Mr. (59 a). Forewing brownish-grey with a broad brown median band, the inner edge latifasciata, of which is twice angled, its outer edge strongly excurred at vein 4. A brown band at the centre of the distal margin of the forewing. On the hindwing the band does not extend to the inner margin. 20—26 mm. Ceylon.

E. rhagavata Wkr. (59 a). Greyish-brown, dusted with brown. Interior line bent, indistinct. Of the exterior line only the lower portion is preserved, rusty brown. Before the centre of the distal margin black dots. Hindwing similar. A brown line on the cross-vein. Exterior line double, brown, strongly angled at vein 4, and before and behind some other brown lines. — palaca Wkr. (= bidens Fldr.) shows on the forewing a complete palaca, exterior line which is twice angled like the interior line. 28 mm. India. Ceylon.

E. pseudobidens Strd. Similar to bidens. Both wings brownish, lines as in bidens. Hindwing dusted pseudobidens, bluish. 35 mm. Ambôima.

E. quadricaudata Wkr. Pale brown. Forewing with a blackish-brown exterior line, angled at veins 6 and 4, then interrupted, ending at the inner margin as an intense spot. On the hindwing the exterior line is fine, uniformly undulate. Distal margin black. 26 mm. India, Ceylon, Palo Laut, New Guinea. — supproximans supproximans Warr. The exterior line of the hindwing does not extend into the anal angle, but into the distal margin halfway to the lower dent. Fergusson I.

E. tenebrosa Hmps. (59 a). Dark greyish-violet. Middle and exterior lines dark red-brown, excurred, tenebrosa, a black submarginal line from the apex to vein 4. On the hindwing a subbasal and median line, both strongly angled, especially the interior line. 16 mm. Ceylon.

E. obscuraria Mr. (59 a). Pale brown, dusted darker. Forewing: a rusty brown interior line straight, obscuraria, obliquely outwards to vein 2. Exterior line as in quadricaudata. Some black submarginal dots. On the hindwing a subbasal line and a V-shaped streak at the cell-end blackish. Exterior line rusty brown, at vein 4 strongly angled. 22 mm. Ceylon.

E. retracta Hmps. Similar to tenebrosa (59 a). Costa and distal margin with ochreous brown spots. retracta. Interior line nearer at the base, strongly angled in the middle. Exterior line ochreous brown, strongly incurred at the costal margin. 18 mm. Sikkim.
**E. fucina** Sęk. Violetish-brown, dusted with pink. Interior line of forewing indistinct, exterior line blackish, edged with pink, similar as in *quadricaudata*. Submarginal line pale pink. Hindwing with a blackish spot on the cross-vein. Exterior line undulate, white, inside edged with black. A black spot at the lower small tail with a white streak. 20 mm. Pulo Laut.

**E. configurata** Warr. Pinkish ochreous brown. At the base of the forewing dusted with grey. Central band and inner margin blackish. Interior line velvety black on 1/3, in the middle sharply angled, inside edged with rusty brown. Exterior line from 3/4 costal margin to 1/4 inner margin, twice angled, outside finely rusty brown. Distal margin anteriorly black. Hindwing black, lines edged with rusty brown. Interior line twice angled; exterior line at vein 4, with white dots. In the submedian fold and near the anal angle whitish. Also a short dent at vein 5. 25 mm. New Guinea.

**E. vialactea** Warr. (59 a). Forewing liver-brown with 2 darker shades on 1/4 and from 3/4 costal margin to 3/5 inner margin. Costal margin and veins spotted white. A large white submarginal lunar spot in the centre of the margin, beside some white dots. Hindwing similar. The spots behind the cell and near the anal angle larger. A complete row of white marginal spots. Only feeble dents at veins 4 and 7. 24 mm. New Guinea.

**E. angulata** Warr. Greyish-brown, dusted dark. Interior line of forewing indistinctly curved on 1/2, exterior line at 3/5. Below the costal margin obtusely angled outward, behind the cell more sharply inward, then almost vertical to the inner margin near the anal angle where it is double. Before the middle of the distal margin a dark lunar spot. Hindwing with an angled basal line and streak on the cross-vein. Exterior line double from the costal margin near the apex to the inner margin near the anal angle, before the latter angular. — In larger. A complete row of white marginal spots. Only feeble dents at veins 4 and 7. 24 mm. New Guinea.

**E. illitifera** Warr. the ground-colour is a pale grey. Exterior line of both wings more indistinct, rusty brown. 22 mm. Fergusson, Trobriand Is.


**E. planilinea** Sęk. (59 a). Whitish-brown, dusted dark. On the forewing a faded dark streak on the cross-vein. Exterior line white, in the middle sharply angled, edged with dark. Marginal band dark brown, bordered with yellowish. On the hindwing a dark streak at the base and in the cell. Exterior line yellowish-white, angled at vein 4, then undulate, bordered with a darker colour. 30 mm. Philippines.

**E. ochreofumosa** Warr. (59 b). Forewing pale violetish brown with a rusty brown spot on the cross-vein. Exterior line dark, bordered with rusty brown, angled on vein 4. Submarginal brown streaks. Hindwing yellowish-white, at the base brown. Exterior line red-brown, terminating at vein 4 near the margin into a rusty brown spot. 26 mm. Khasis.

**E. diversipennis** Warr. Forewing bluish-white, dusted with greyish-brown. The base of the costal margin, a broad curved postmedian band and the marginal band greyish-brown. Hindwing at the base and apex whitish. Exterior line pale, strongly projecting at vein 4, inside and outside of it dark brown. Interior line dark, double and indistinct. In the middle of the inner margin yellowish. 22 mm. Jobi I.

**E. simplex** Warr. Forewing greyish-brown. Median line brown, strongly bent, exterior line angled at veins 6 and 4, before and behind it incurved. A subterminal lunar spot above the middle. Hindwing with an oblique brown interior line, angled at vein 2. Exterior line outside white-edged, obliquely distad to vein 3. 28 mm. North India.

**E. particolor** Warr. (59 b). Similar to ochreofumosa. Dustied with greyish brown. Lines rusty brown and blackish. The first on 1/3, in the middle sharply angled outward, with a black spot in the submedian fold. The second from a dark spot at 3/5 costal margin, obliquely outward to the centre of the wing, then to a blackish-brown spot at 3/5 inner margin. Submarginal line rusty brown as far as vein 4. Hindwing pale straw-coloured. With 2 dark basal lines. Cross-vein rusty brown, before it straw-coloured. In the cell a nut-brown streak. Exterior line undulate, brown, outside edged with grey. 20 mm. New Guinea.

**E. quadristrigata** Warr. (= oxytypa Trnr., pulverea Hmps.) (59 b). Forewing whitish ochreous brown, dusted with dark. Interior line very oblique to the centre of the wing. Black. Exterior line blackish brown, outside edged with white, curved in the centre of the wing, then parallel to the distal margin. Black submarginal dots and streaks near the inner margin. Hindwing with a dark interior and exterior line, bent on vein 4. 18 mm. Ceylon.

**E. nana** Warr. Whitish, dusted with grey and brown. Forewing with a violetish-grey median band, margined similarly as in *quadristrigata* (59 b), outside bordered by a white and grey line. A dark brown spot before the middle of the distal margin. Hindwing as far as 3/5 dusted dark brown, bordered by a curved shadow. 10 mm. Tenimber.
E. ruptifascia Warr. (59 b). Forewing whitish, partly dusted with ochre. Median band shaped as in ruptifascia. nana, greyish-violet, interrupted between veins 2 and 4, edged with brown. Behind it a fine brown line and black submarginal spots. On the hindwing only the margins of the median band are distinct, the interior one being blackish. A row of grey marginal lunae. Antennae thickened and strongly dentate. 12 mm. Bali.

E. scissata Wkr. Greyish-brown, dusted with brown. Forewing with 2 indistinct brown lines. Near scissata, the apex a white costal streak, marginal dots black. On the hindwing the costal margin is excavated before the middle and apex. 25 mm. Mysol.

E. conflictaria Wkr. (= exprimataria, diffinaria, secutaria Wkr., lilacina Mr.). Violettish-grey, dusted conflictaria, with brown. Interior line of forewing marked by dots. Exterior line rusty brown, expanded like a spot in the centre of the wing and at the inner margin. Before the middle of the distal margin a rusty brown line. Hindwing with a radial rusty brown band as far as the cross-vein, where we notice a V-shaped blackish-brown streak. Exterior line undulate, strongly angled at vein 4, with brown spots near the inner margin and at the lower small tail. — lactata Warr., from the Fergusson Is., is a large form; — perpolita Warr. (59 b), from Banda, is not dusted brown, the dark spot at the exterior line is absent at the inner margin in both wings; — parvula Mr., from Ceylon, is smaller and dusted much darker. In specimens from the Sunda Is. (= f. plicata Sr.,?) the costal margin of the hindwing is sometimes very light. 18—26 mm. India, Ceylon, Sunda Is., New Guinea.

E. subflavida Sw. (59 b). Forewing greyish-brown, the lines as in conflictaria. Subterminal line obliquely distad as far as vein 3. Hindwing with a subbasal line; the V-shaped streak at the cell-end brown. Exterior line brown, angled at vein 4, distally light-edged, inside at the inner margin dark brown. 24—28 mm. India, Ceylon, Java.

E. sponsa Sceh. Grey, dusted with dark brown. Basal half of forewing and of hindwing dusted with sponsa, yellowish-brown. Forewing with an undulate interior and exterior line nearing each other in the middle; the space between darker grey except in the middle. A black streak on the cross-vein and a few submarginal spots. Hindwing with a grey radial streak below the cell. The indistinct interior line below the black streak at the cross-vein distally angular. In the centre of the distal margin 4 black lunae. 22 mm. Khasis.

E. catenigera Warr. (59 b). Lilac grey. Very similar to conflictaria-lilacina. Distinguished on forewing catenigera, by a somewhat more distinct interior line and especially the continuous row of brown submarginal spots as far as the anal angle. 20 mm. Salomons Is.

E. cretistriga Warr. Very similar to catenigera, but all the dark marking margined with ochreous brown; cretistriga, especially distinct on the hindwing at the dark marginal shadow from the upper dent to the anal angle. Hindwing not dusted dark. 18—20 mm. Salomons Is.

E. signifera Warr. (59 b). Larger and whiter than conflictaria. Lines of forewing as in the latter. On signifera, the hindwing the exterior line begins at a dark spot at the costal margin, very fine, angled behind the cell, then undulate to the inner margin. At the distal margin 5 dark grey lunae spots. 28—32 mm. Salomons Is.

E. subalbata Gmü. (59 b, c). White, finely dusted dark, the marking rusty brown. Interior line of forewing subalbata, represented by 2 spots. Besides one spot at the base of vein 2. Exterior line interrupted, from 2/5 costal margin excurred to vein 4, then indistinct. At 2/3 inner margin a more intense spot. Behind it at the costal margin and in the submarginal area dark spots. Marginal line dark. Hindwing with a basal and median line of spots beginning from the centre of the wing. Exterior line strongly angled, at the beginning and end broad. Towards the anal angle a brown line. 24 mm. Borneo.

E. bellissima Warr. Pale lilac grey. On the forewing an oblique interior line from 1/4 costal margin to a rusty brown cellular spot. A dark oblique line from the centre of the costal margin, bordered with rusty brown, as far as vein 4. At the inner margin near the anal angle a double upright spot. Margin dark grey, bordered with blackish brown. Hindwing with a nut-brown radial streak. Exterior line nut-brown, in the middle obtuse-angular, before it lighter. Between the dents dark grey with a pure white dot at the margin. 20 mm. Penang.

E. oculifera Warr. Forewing ochreous grey. First line brown, indistinct on 1/3. The second from 2/3 oculifera, costal margin oblique, bent near to the middle of the distal margin, where it is angled, then as a brown spot to 3/4 inner margin. A straight brown subapical line as far as below the centre of the discal margin. Hindwing with a red-brown ring on the cross-vein. Exterior line pale, inside edged with dark, ending at a spot at the lower dent. Below it a brown and white spot. 20 mm. Timor.

E. curvilinea Warr. reddish-grey, dusted with brown. The first line of the forewing on 1/3, reddish, curvilinea, indistinct. The second from before 3/4 costal margin, blackish-brown, bent, in the middle less strong, ending in a spot at the inner margin. A brown line from below the apex to above the anal angle, distally to it red-brown. Hindwing with a sharply angled basal line, behind it a brown radial stripe. Exterior line obtuse-angled, dark brown, light-edged. 16 mm. Ambama.
E. unangulata Warr. Greyish-brown, dusted darker. The first line on the forewing almost vertical from the centre of the costal margin to the centre of the inner margin, rusty brown. The second from $\frac{2}{3}$ costal margin, angled in the middle, above and below it incurred. A submarginal row of black dots as far as below the centre of the wing. Exterior line of hindwing bent, undulate, rusty brown. A fine black submarginal line. Hindwing with a dent at vein 3, the margin above it excised. 22 mm. Batjan.

E. facilis Warr. (59 c). Brownish grey, dusted dark. First line of forewing almost straight from $\frac{1}{4}$ costal margin. Exterior line from $\frac{2}{3}$ costal margin excurred to vein 2, then straight to $\frac{3}{4}$ inner margin. Lines dark brown, outside edged with rusty brown. Cellular spot and 3 subapical dots black. Hindwing similar. Exterior line obtusely bent at vein 4. 27 mm. New Guinea.

E. niveipunctata Warr. Forewing grey with dense vertical lines of dark scales. First line on $\frac{1}{3}$ black, inside rusty brown, the second behind the centre, outside rusty brown, excurred towards the middle. Submarginal line indistinct, blackish. On the hindwing the lines are more distinct. A rusty yellow spot above the anal angle, a triangular snow-white spot before the upper dent. 14 mm. Manila.

E. sparsipunctata Warr. Ochreous grey, dusted dark. The lines of the forewing only marked by a few black dots from $\frac{1}{4}$ and $\frac{2}{3}$ of the wing; 2 black marginal dots between veins 7 and 5. On the hindwing only the exterior row of dots. 20 mm. Isabel ls.

E. innocens Warr. Whitish lilac grey. Lines of forewing somewhat darker, indistinct. The first on $\frac{2}{3}$ uniformly bent. The second from $\frac{1}{3}$ costal margin to $\frac{3}{4}$ inner margin, excurred below the costal margin. Distal margin somewhat darker, sharply edged. On the hindwing the first line near the base, the second projecting far at vein 4. Black marginal lunae between the obtuse dents. 16 mm. New Guinea.


E. despecta Warr. (59 c). Pale grey, dusted with greyish-brown. Lines of forewing dark brown, distinct. The first on $\frac{1}{3}$ uniformly bent. The second from behind the middle of the costal margin to $\frac{2}{3}$ inner margin, twice angled. At the margin greyish-brown with a few black spots. On the hindwing a brown basal line; exterior line undulate, lighter edged, bent on vein 4. Median vein ochreous brown. Hindwing besides with a blunt dent at vein 6. 22 mm. New Guinea.


E. albida Hmps. (59 c). Viellowish-grey, dusted with brown. Lines of forewing indistinct, brown. Interior line strongly angled. Exterior line excurred below the costal margin, nearing the interior line below the cell. Hindwing more densely dusted. Both lines angled at vein 4. 24 mm. India, Ceylon.

E. stereogramma Trnr. Greyish-white, dusted with brown. Forewing with a brown median band. Its interior edge from $\frac{1}{3}$ costal margin to $\frac{2}{3}$ inner margin, strongly angled. Its exterior edge from behind the centre of the costal margin to $\frac{3}{4}$ inner margin, slightly incurved, outside edged with white. On the hindwing the exterior line is whitish, inside edged with brown, strongly excurred. A dark submarginal line, inside white and interrupted by 2 white streaks. 16 mm. Queensland.

E. ruptaria Mr. White. On the forewing traces of an interior and exterior yellow-brown band. Marginal band from the apex to vein 4 brown, before it a black dot. Hindwing marked just as indistinctly. 16 mm. Calcutta.

E. amoena Suh. White with a chocolate marking. On the forewing 2 short streaks on the cross-vein. Exterior line double, excurred. A spot at the costal margin before the apex, one each in the middle of the distal margin and at the anal angle. Hindwing with a spot at the cell-end. Exterior band double, strongly angled at vein 4, then vanishing in the black dusting near the anal angle, where we notice 2 black spots. 18 mm. New Guinea.

E. nivosaria Wkr. (= paucifera Wkr.) (59 c). White. On the forewing a black spot on $\frac{1}{3}$ costal margin. Median band in front black, interrupted below the cell, then orange. Exterior line composed of orange spots. Margin similarly coloured. On the hindwing traces of 2 yellow bands. The marking may also be almost absent. 20 mm. Mysol, Sula.

E. hyperbolica Suh. (59 c). Both wings inside reddish-grey, outside yellow. Forewing with a double interior and median line, and a single exterior line, all of which are reddish-brown. In the median line a white transparent spot. Hindwing with a double brown median line, filled with white. 25 mm. Karrachi.
E. denigrata Warr. White. On the forewing traces of 4 bands of ochreous spots on 1/3, 1/2 and 2/3 of denigrata. the wing, the last being submarginal. On the hindwing the same, but still less distinct. No black marking. 24 mm. Trobiand Is.

E. inquinata Warr. (59 c). White. On the forewing with 2 or 3 fine greyish-brown bent lines, at the inquinata. inner margin somewhat wider, on 1/4, behind the centre, and on 3/4. The last 2 excurred in front, the 3rd ending in a black spot at the anal angle. On the hindwing only the two exterior lines and the lower half of a marginal line. A black spot near the base of the cell. 22 mm. New Guinea.

E. concinula Warr. (50 d). Chalky white. Lines of forewing pale brown. The first on 1/2, sharply angled concinula. in the middle. The second from 3/4 of the costal margin to 2/3 inner margin, slightly excurred below the costal margin, between them dusted with brown. Hindwing with an interrupted interior and bent exterior line. Before the latter a brown spot at the inner margin, 2 black lunae between the dents. 17 mm. Woodlark I.

E. lacteata Holl. (59 d). White. Forewing with a few black spots. A small one at the cell-end, a large lacteata. one behind it between the veins 4 and 5, as well as above vein 1. Traces of a fine marginal line more near the anal angle. Three fine black dots below the apex. Hindwing with a black spot at the cell-end. A fine bent brown line from the centre of the costal margin to vein 2 at the cistal margin; from there a pale line to the centre of the inner margin. A second line from the apex to vein 2 and then to the anal angle. At vein 2 a black spot. 24 mm. Buru.

E. buruana Holl. Forewing at the apex pointed. Grey with black dots. One in the centre of the cell, buruana. at the cell-end, above it 3 at the costal margin, 3 at the apex, below it 4 at the distal margin. Hindwing darker with dark brown spots in the cell and at the cell-end. A similar band from the anal angle to the centre of the wing, then as a double line farther to the apex; outside finely edged with white. 16 mm. Buru.

E. cretosa Siek. Forewing chalky white with red spots. An interior and an exterior spot instead of cretosa. lines, and 4 subapical ones. The costal margin is dusted red. Hindwing at the distal margin somewhat red and a fine dark red streak near the base at the small upper tail. 13 mm. Fidji Is.

E. fulvilinea Hmps. (59 d). Similar to ruptaria but whiter. Forewing with an interior and exterior fulvilinea. yellow double line. At the costal margin some dark spots. At the distal margin not ochreous brown. Hindwing the same. The exterior double line strongly angled. 19 mm. Khasia Mts.

E. fulvata Warr. (59 d). White. On the forewing a black basal spot in the cell and a few at the costal fulvata. margin. An irregular orange band from the centre of the costal margin to the anal angle. Such spots at the costal margin and distal margin near the apex. Hindwing with an orange spot below the base of the cell, distal area similarly coloured. Exterior line black, double, extending to vein 4. 16—18 mm. Khasia Mts.

E. ustiplaga Warr. White, dusted with brown. On the forewing traces of an interior line on 1/4. An ustiplaga. interrupted line in the centre of the wing, enclosing a dark cellular spot and inner-marginal spot. At the costal margin before the apex and at the inner margin before the anal angle a brown spot. Subapical spot black, below it brown. Hindwing white, distal area yellowish, in the middle dusted with black. Traces of a median line. 17 mm. Hainan.

E. exsanguis Warr. is similar to fulvilinea (59). Forewing with 3 reddish-yellow transverse lines. The exsanguis. first on 1/3, thick and interrupted, bent. The second in the middle, double, twice angled, on its inside above vein 1 a black spot. The third composed of a spot at the costal margin and angle, between them only a shadow. Lines on hindwing the same, but the second without the black spot. The third accompanied by dark dusting. 15—17 mm. Hainan.

E. paradeicta Warr. (59 d). Similar to exsanguis. White. On the forewing in the middle a double paradeicta. yellow band. On its inside between the veins 2 and 3 a brown spot. Anal angle dark. Subapical spot fine and black. Hindwing with an ochreous basal spot. A faded yellow shadow from the costal margin near the apex to the centre of the wing, which it emanates from the basal spot to the distal margin. A dark yellow spot behind the cell. 20 mm. Celebes.

E. apicalis Hmps. White, finely dusted with ochreous brown. Wings with traces of an interior, median apicalis. and exterior band. Forewing at the distal margin as far as vein 4 violetish-brown with black dots. Hindwing with a dark spot at the exterior band. Black marginal dots at the small tails. 20 mm. India, Burma.

E. bicaudata Mr. Forewing white with antemedian black dots. Exterior line nut-brown, undulate, bicaudata. angled at vein 4; behind it smoke-brown, excepting the apex and anal angle. Hindwing similar. Near the anal angle blackish. — In rufimargo Warr. (59 d) the distal margin is reddish brown. — fuscifrons Warr. (59 d) rufimargo. is somewhat larger. On the forewing the apex and anal angle are of a pure white. On the hindwing the distal fuscifrons margin is rusty brown. Head and palpi dark brown, in the type white. 22—24 mm. Sikkim, Khasis.

E. restricta Hmps. (59 e). Similar to bicaudata, with dark streaks at the costal margin of the forewing restricta. and a more irregular exterior band. Distal area quite smoke-brown, but the anal angle as far as vein 3 white. On the hindwing the exterior band is more irregular, apex white. 25 mm. Sikkim.
E. enthearia *Seh.* White. On the forewing a bent exterior orange band from below the costal margin to the lower cell-angle, where it is widened. An orange spot at the costal margin before the apex. Subterminal area brownish. Hindwing with a large yellow marginal spot from vein 5 to the anal angle, with branches to the costal margin, in the middle dusted with blackish. 20 mm. Sikkim.

E. alabastria *Warr.* (59 d). Chalky white, marking violetish greyish brown, distinct. A spot at the base of the cell and at vein 2. A broad median band of grey streaks, edged with brown spots and interrupted below the cell. A spot at the costal margin and near the anal angle, forming the remainders of the exterior line; behind them 5 dark marginal spots. Hindwing with a dark radial line and spot in the cell. Exterior line fine, partly double, bent at vein 4. A black spot before the apex and a blackish brown spot with an ochreous streak near the anal angle. 20 mm. Isabel Is.

E. sulcata *Warr.* White, dusted with grey. On the forewing a dark cellular spot and behind it a broad vertical dark band the interior edge of which is faded, projecting outside at vein 5. This band at the costal margin grey, at the inner margin light brown. Submarginal line vertical, greyish-black, interrupted. Hindwing with an interior and exterior line, both being bent above vein 5, rusty brown in the ♀, dark brown in the ♂. Ground-colour of ♀ reddish-grey, of ♂ violetish brown. Between vein 1 and the submedian fold white, not scaled. On both wings a somewhat lighter furrow in and behind the cell. 20 mm. New Guinea.

E. nigropunctulata *Warr.* (59 c). Chalky white. At the costal margin of the forewing a black spot near the base and in the middle. From this spot an undulate black line, incurred on vein 6, and behind it a broad brownish yellow shadow. At the distal margin 3 black spots, before them somewhat yellowish. Hindwing with a yellow spot at the base and a yellow median band with a partly black margin. Behind it greyish-brown. 20 mm. Obi.

E. amygdalipennis *Warr.* Forewing white, with 3 black spots at the costal margin, on 1/6, 1/3, and 1/2. A short horizontal dark postcellular streak. Hindwing with a black spot near the base at the cell, one each at vein 3 and near the anal angle. Costal and inner margins of forewing strongly curved, apex rounded. 15 mm. Samon.

E. desistaria *Wkr.* (= *instabilata, insolita Wkr., conchiferata Moore, semibrumnea Pug.*)(59 e). Forewing white, densely dusted brown and black, excepting the inner margin. A white dot at the cell-edge and black submarginal dots. Hindwing at the costal margin white, the rest dusted black and brown. — In *semifulva*.

E. sulcata *Warr.*, from the Khasia Mts., the hindwing is spotted light reddish yellow, in *fuscata* *Warr.* somewhat more intensely dusted brown. 20 mm. India, Ceylon, Sunda Is., Salomons Is.

E. poecilaria *Seh.* Similar to a large desistaria. White. In the forewing the distal area is densely dusted pinkish brown. A white spot parted by black in the cell and at the end. An indistinct pinkish-red band from the centre of the costal margin excurved, obsolete below the middle, outside edged with white. Marginal line pale pink. Hindwing in the costal-marginal third pure white, the rest pinkish brown. A short white band, edged with black, before the centre of the inner margin. A white spot on the cross-vein. 26 mm. Sumatra.

E. caesia *Warr.* Pale bluish-grey, dusted with yellowish brown. On the forewing near the costal margin a dark bent median line. Distal margin spotted iron-grey. Hindwing at the costal margin white, below it dusted with black and brown. At the centre of the inner margin a white spot. 20 mm. Manila.

E. quadruplicata *Wil.* Forewing at the inner margin white, otherwise densely spotted brown. Exterior band ochreous brown and black, with 4 black spots below the apex. Hindwing only at the costal margin white, otherwise spotted brown. A spot on the cross-vein and at the centre of the distal margin black, traces of a median band. 20 mm. Formosa.

E. inlarata *Wkr.* Ochreous brown. Wings with 2 rows of black dots, the exterior one being submarginal, more distinct. Forewing with a white spot behind the centre of the wing, and a white inner margin. Hindwing at the costal margin white, parted there by an ochreous brown line. — *perlarata* *Warr.* is whiter. On the forewing only the costal margin, cellular spot and subapical lunule grey. Hindwing with a faded line, anal angle white. 12 mm. — Siam, Salomons Is., Queensland.

E. spissata *Warr.* Greyish-brown, dusted dark, especially at the base of the forewing. Lines brown, indistinct. The first on 1/3, bent below the costal margin. The second from behind 1/2 costal margin oblique to vein 6, vertical to vein 4, hollow to the submedian fold and vertical to 3/4 inner margin, where it is thicker. A nut-brown spot edged with black, from the apex to vein 3 at the margin. Hindwing darker grey. Basal line twice angled. Exterior line brown, sharply angled on vein 4, before and behind it concave. Near the anal angle lighter. Discal spot pale brown. Median vein dotted black and white. 25 mm. New Guinea.

E. vinculata *Warr.* Bone-coloured, striated brown. First line dark brown, distinct, near the base, incurred in front and behind. Exterior line behind the centre twice angled and indistinct to 3/4 inner margin, behind it a blackish-brown spot at the inner margin. Distal margin greyish-brown. Hindwing brown except at the anal angle. Interior line as on forewing, exterior line obtusely projecting at vein 4. Between veins 5 and 3 at the margin steel blue scales. A broad pale radial streak at the cell-margin and cross-vein. Hindwing with blunt dents at veins 4, 5 and 6. 24 mm. New Guinea.
E. himala Bibl. (= auroguttata Pouj). White. Forewing with 3 brown lines extending obliquely distad, and a fine submarginal line. Hindwing with a line parallel to the inner margin, angled before the anal angle. Below the angle a large black marginal spot, above it a yellow stripe. 30 mm. Sikkim, Khasia Mis.

E. nivea Hmps. (59 e). Similar to himala. Lines of forewing steeper. On the hindwing the anal spot nivea is rusty yellow, the patch above it narrower, brownish. 26 mm. Tibet.

E. aurata Pag. White. On the forewing at the costal margin and in the centre of the wing a black aurata dot. Two golden yellow curved, somewhat interrupted lines and 2 similar ones on the hindwing which shows sharp dents. 17 mm. Ambon.

D i s t a l m a r g i n o f f o r e w i n g u n d u l a t e.

E. argentinispara Hmps. Leaden grey, dusted with silvery grey. Forewing with a curved interior and undulate exterior and submarginal line. Lines red-brown and black. Hindwing: interior line composed of spots, exterior line angled at vein 4, with black and brown spots. 26 mm. Bhutan.

E. adornata Warr. (59 e). Chalky grey, marking dark brown, composed of a median band and a subapical adornata spot at the distal margin. Interior edge of the band curved from below 1/4 costal margin to 1/5 inner margin. Distal margin from below the middle oblique to vein 4, then incurved, undulate to 2/5 inner margin. Behind it a brown line. Hindwing whitish between veins 1 and 4, the rest as on forewing. 20—23 mm. New Guinea.

E. nictitans Warr. Whitish, dusted with ochreous brown. Basal area of forewing dark grey, behind it paler. From 1/2 costal margin an oblique dark line to vein 4, where it is sharply angled, then curved to 2/5 inner margin. Before the angle a black patch with a white dot. Behind the line at the inner margin whitish. Before the apex and above the distal margin black dots. On the hindwing the lines are the same. A white spot at the base of the costal margin. Dents blunt. 16 mm. Malacca.

E. thoicosma Trnr. Distal margin of forewing undulate and slightly excised below the apex and above thoicosma. the anal angle. Forewing of 3 grey, of 2 ochreous grey. Marking rusty brown. Interior line only composed of 2 spots. Exterior line, more distinct in the 2, from 1/2 costal margin to 1/5 inner margin, in the middle outwardly angled. Subterminal line at the anal angle indistinct. Hindwing dark greyish-brown, with a dark basal spot, behind it paler yellow. Exterior line pale yellow, strongly angled. Hindwing of 2 darker grey, before the centre of the inner margin yellowish, a triangular white spot before the centre of the distal margin. 18 mm. Queensland.

D i s t a l m a r g i n o f f o r e w i n g p r o j e c t i n g b e l o w t h e a p e x a n d b e l o w t h e c e n t r e, i n n e r m a r g i n e x c i s e d n e a r t h e a n a l a n g l e, a n a l a n g l e l o b a t e.


E. coeruleodisca Warr. 3 blackish-brown, 2 greyish-brown. Lines curved, rusty brown edged with black. The first regularly curved on 1/3. The second from before 2/3 costal margin excurred to the middle, then vertical to 3/4 inner margin where a black spot is before it. Margin of 3 red-brown, submarginal line of 2 black. Discal spot small, white. Hindwing with an angled basal line and a curved exterior line, rusty brown. A large oval cellular spot rusty brown. In the cell and in the marginal area blue scales. 24—26 mm. New Guinea.

E. coeruleotincta Warr. Forewing dingy greyish brown, dusted dark. Above the middle of the inner margin paler brown, behind it smoke-brown, neither of them reaching the costal margin. Distal margin narrow blackish-brown. On 2/3 costal margin a triangular blackish-brown spot and behind it 3 smaller ones. Anterior half of hindwing dark brown with numerous blue-white dots, and 2 yellowish-white spots in the middle. Posterior half paler brown. Distal margin narrow dark. 25 mm. Queensland.

E. formosibia Strd. (59 e). Forewing blackish-brown. Interior and median bands almost black, uniformly bent. A marginal luna and some dots below the apex black. On the hindwing both lines rusty brown and black. Interior line bent, median line obtuse-angular at vein 4, then undulate. A light radial stripe in the cell and whitish blue spots before the anal angle. 19 mm. Formosa.

E. schematica Trnr. Distal margin of forewing projecting at veins 7—6 and 4—3, 4—6 hollow. Forewing pale, brownish-grey, dusted brown. Interior line absent. Exterior line fine dark brown from 2/3 costal margin, intraangular in the middle, to 1/5 inner margin, where it is thicker. A blackish-brown spot at the centre of the distal margin. Hindwing somewhat darker. A fine basal line, 3 blackish-brown spots in the centre of the wing. Exterior line on 1/5, outside edged pale, slightly angled. 22 mm. Queensland.
Forewing at the distal margin with two angles.


E. brunnea Warr. (59 f). Forewing angled at veins 6 and 3. Greyish-brown, lines thick dark brown. The first on 1/3 only marked in the cell. The exterior line from 2/3 costal margin almost straight, slightly excurred at vein 4. An undulate submarginal line as far as vein 3. These two outside edged with rusty brown. Distal marginal paler. On the hindwing the exterior line is angled at vein 4, outside light-edged. A brown radial streak on the median vein and cross-vein. 24 mm. New Guinea.

E. pallidistriata Warr. Forewing dentate at veins 6 and 4. Brownish-grey, spotted dark, between them light radial streaks. First line from 1/4 costal margin to 1/3 inner margin pale, outside edged with black, twice angled. Exterior line from 2/3 costal margin to 1/3 inner margin strongly excurred in the middle, pale. Before it a black line, behind it a brown one. Before it a black shadow, widened at the middle of the inner margin. Apex grey with 3 black streaks. Submarginal band rusty brown. Hindwing with an undulate black basal line. In the cell ochreous brown, below it grey scales. Exterior line bent from 3/5 costal margin to 4/5 inner margin, strongly excurved, 1/3 inner margin, angled at vein 4, yellowish-white, outside edged with brown. At the apex violetish-brown, at the anal angle pearl-grey. At vein 4 a little tail, at 7 a hook. 25 mm. New Guinea.

E. focilloides Pag. Forewing dentate at veins 6 and 4. Greyish-brown with a reddish-violet reflection. Forewing between the angles at the margin and anal angle darker, 2 notched lines feebly marked. On the hindwing a dark line parallel to the distal margin to the anal angle. From there a second distinct line in the beginning parallel, then in an obtuse angle to the costal margin. Between these two lines dusted with grey. Basal area lighter. 18 mm. Ambonina.

Antennae of $ dentate. Distal margin of forewing slightly angled at vein 7, hindwing with 2 tails.

E. irrorata Mr. (59 f). Grey, dusted with brown. Forewing with an indistinct interior, exterior and submarginal line, brown, outside edged with ochreous. Hindwing similar, with a white luniform spot on each little tail. 15 mm. India, Ceylon.

E. inhians Warr. Separated from irrotata by the dark brown ground-colour. Forewing in the apical area reddish-brown; exterior line on both wings sharply angled, edged with black. Hindwing with an oblong white cellular streak. 16 mm. North India.

Antennae of $ dentate. Forewing uniformly bent at the distal margin. Hindwing with an inner-marginal fold and a hair-pencil.

E. scopocera Hmps. Similar to tenebrosa, but the submarginal line of the forewing more irregular, incurved between veins 5 and 6. On the hindwing the exterior line is straight and oblique as far as vein 4, where it is sharply angled. Marginal lunae more distinct. 16—20 mm. Ceylon.

Antennae of $ with two rows of pectinations. Hindwing angled at veins 4 and 7.

E. nigfrons Hmps. Whitish, dusted dark brown, especially in the distal portion at the costal margin of the forewing. An indistinct rusty brown line from 2/3 costal margin strongly excurred below the costal margin. A dark submarginal band from veins 7 to 4. Hindwing more uniformly dusted. Subbasal line marked. Exterior line double, at vein 4 strongly angled, inside edged with red-brown in the lower portion. A spot on the cross-vein and the marginal band black. 28 mm. Burma.


E. clathrata Warr. (59 f). Forewing pale greyish-brown. The two lines pale, angled at the centre of the wing. Behind the interior line and before the exterior line brown spots. Marginal line blackish. Before the excision black. Hindwing similarly coloured. Interior line sharply angled, connected with a brown radial line through the centre of the wing. 18 mm. Khasis.

E. castanea Warr. (59 f). Forewing produced at vein 7, then deeply excised as far as vein 3. Hindwing excised at the middle of the costal margin. A small tail at vein 4. In the $ veins 2, 5, 6 and 7 are absent. Antennae foliated. Wings grey. Forewing with a broad violetish-brown median band, edged with dark brown.
Both the edges at the costal margin and in the middle introangular. Hindwing the same. Median band near the inner margin bent inwards. 28 mm. Khasis.

E. flavida Warr. Quite different, recalling the Geometrid genus Platodes. Pale yellow. A pale grey flavida, basal spot edged with red, prolonged at the upper cell-margin. A similar spot before the distal margin extends to vein 2. On the hindwing the marginal spot is narrower, interrupted. At the centre of the inner margin a violet spot. Cellular spot black. 25 mm. Malacca.

E. nigromaculata Pag. is likewise very different. Forewing brownish, costal margin blackish. A black nigromacu¬

We append some species of Epiplema described by Rothschild in the account of the Ornithologist’s Union Expedition to New Guinea. As there are no statements about the shape of the distal margin, they cannot be ranged. The two species figured look like a Gathy reia (warreni) or a Chaetoceras (boarmiata).

E. wollastoni Roths. Wings pale wood-brown. Forewing somewhat paler. In the cell an indistinct wollastoni, brown spot. A curved dark brown band behind the middle of the costal margin to vein 4 and a dark brown spot above the inner margin. Hindwing darker, more faded, with postmedian dark brown spots and some at the little tails. Some specimens are very dark. 28—32 mm. Dutch New Guinea.

E. warreni Roths. (59 f). Forewing pale cinnamon brown and red-brown. An interior, median and warreni, exterior band between veins 2 and 8 brown. Hindwing with a subbasal and median band and a marginal line, all 3 brown. The median band is interrupted by a radial streak. 20 mm. Dutch New Guinea.

E. boarmiata Roths. (59 f). Forewing yellowish-red, dusted with red-brown, the least at the disc. boarmiata. An angular row of dark spots from the apex to vein 2. Hindwing similar but with dark spots at the anal angle, at and above vein 2 at the margin. 52 mm. Dutch New Guinea.


Antennae of ♂ bipectinate. Forewing of ♂ with a scaled spot at the base above vein 1, short and broad, costal margin and distal margin bent. Hindwing slightly dentate at veins 4 and 7. Neuration as in Epiplema. Type: acuteptica Warr.

P. acuteptica Warr. (59 f). Forewing whitish grey, densely dusted brown. Lines brown. The first near acutepica, the base, bent, enclosing the scent-spot. The second in the centre, running across the cross-vein, then indistinct. The third at the margin, inside with black dots, introangular on vein 7. Hindwing without a marginal line. 18 mm. New Guinea.


Hindwing with but one angle, otherwise scarcely different from Epiplema. Type: erosioides Wkr.

Ph. erosioides Wkr. (= kohistaria Sck., undulata Warr.) (59 g). Forewing white, dusted with iron erosioides, grey. Interior line absent, exterior line rusty red from 3/4 costal margin to a little before the anal angle, in the centre with a feeble dent outwards, then strongly incurved. Submarginal line of fine black dots. Hindwing paler, at the costal margin smoke-brown. A dark curved interior line and a double exterior line. Submarginal line of black lunae. 22 mm. Borneo, Andamans, Ferguson Is.


Palpi short, delicate, proboscis absent, antennae thick, flattened. Forewing narrow, costal margin somewhat concave in the middle, apex and distal margin rounded, with a slight excision above the anal angle. Inner margin excurred near the base. Hindwing round, broad, distal margin undulate, with sharp dents at veins 3, 4, 6 and 7. Neuration of forewing: vein 4 from the lower cell-angle, veins 5 + 6 + 7 and 8 + 9 stalked, 10 and 11 anastomosing. In the hindwing vein 3 arises shortly before 4. Type: rotundipennis Warr.

P. rotundipennis Warr. (59 g). Forewing white, dusted with greyish-brown, with 2 dark grey spots in the centre of the inner margin. Lines indistinct. The first from 3/4 costal margin to the first spot, the second, dark grey from the centre of the costal margin, excurred in the middle, to the second spot. In the anterior half a grey marginal streak. On the hindwing the interior line near the base, the exterior line rusty red, interrupted, bent. Behind it black spots. Submarginal line rusty brown, interrupted. 22 mm. Ferguson Is.
P. albipennis Warr. (59 g). Forewing white, dusted with red-brown. Brown dots near the base, a brown spot in the centre of the inner margin, met by an undulate white line extending from the centre of the costal margin and being edged with brown. Some brown submarginal spots. Hindwing with a double brown exterior line, angled on vein 4, bordered with brown spots near the inner margin. 20 mm. New Guinea.


Forewing slightly concave at the costal margin. Distal margin below the apex very concave, undulate; hindwing at the distal margin undulate. Neuration of forewing: vein 5 below the cell-angle. Veins 6 + 7, 8 + 9, 10 + 11 stalked, 11 anastomosing with 12. Forewing of ♂ with a large double scent-spot at the base. Type: lugubris Wkr.

Ch. lugubris Wkr. (= assimilis Warr., farinosa Warr., maculata Warr.) (59 g). Forewing pale grey. A black spot at the base. Interior line grey from 2/3 costal margin, slightly excurved, marked with three black dots. Second line from 2/3 costal margin, more curved, at the costal and inner margins with black dots. A black subapical spot and one before the centre of the distal margin. Hindwing with a brown median band, near the inner margin with 2 black dots; exterior line plain, undulate, dark. A black spot before the centre of the distal margin. The lines and dots may almost disappear. 15 mm. Borneo, New Guinea, Queensland.

Ch. fulvilunata Warr. Forewing lilac grey, dusted with greyish-brown. Lines indistinct, interrupted, composed of rusty red scales, from 1/2 and 2/3 costal margin. Distal margin nut-brown, narrowing down towards the anal angle, edged with black. Hindwing with a parallel interior and exterior rusty red line, more densely dusted. 15 mm. New Guinea.

Ch. phacospila Trnr. Forewing at the distal margin at veins 3 and 4 angular, greyish-white, dusted with brown. Marking dark brown. A small cellular spot, a spot at 2/3 inner margin, and one above it. Traces of a fine interrupted, strongly bent line from 2/3 costal margin to 2/3 inner margin, and a small spot before the centre of the distal margin. Hindwing at the centre of the distal margin hollowed out, with fine lines on 1/2 and 2/3 and 2 spots before the centre of the distal margin. 17 mm. Bathurst I. and Australia.


Palpi upturned, antennae of ♂ thickened flattened. Forewing broad, distal margin uniformly bent. Vein 5 below the upper cell-angle, veins 6 + 7 and 8 + 9 stalked. Hindwing with tails at veins 4 and 7; 6 and 7 sometimes stalked. In the ♂ there is at the inner margin a fold with a long hair-pencil and veins 1 b and 2 thereby removed laterally. Type: theclata Gn. (Vol. XIV, pl. 67 h) from Africa.

D. unicauda Hmps. (59 g). Violettish-greyish brown. Costal margin of forewing darker brown. At the costal margin a large triangular brown spot and at the inner margin a small one. Marginal hume dark brown. Hindwing with a bent brown median line. The ♂ of it, according to HAMPSON, is lampella Hmps., with an interior and exterior red-brown line in both wings, being rather close together and filled with dark brown. 19—22 mm. India.

D. nubila Hmps. (59 h). Pale reddish-brown, finely dusted with black. Forewing with an indistinct exterior line from 3/4 costal margin to 2/3 inner margin; slightly curved, inside faded, bordered with dark brown from the centre of the wing to the inner margin. Fine black submarginal dots. Hindwing darker, the curved median line outside bordered with lighter. 30 mm. Ceylon.

D. lituralis Warr. (59 g). White, dusted with brown and black. Forewing with a broad blackish median band which is angled in the centre of the interior side. Its exterior edge is bordered by a curved red-brown line. Apex brown, submarginal spots black. Hindwing with traces of a sharply angled interior dark line and a curved red-brown exterior line. 16 mm. Khasis.


D. adjutaria Wkr. (= binotata Wkr., verticaria Fltr.) (59 h). Forewing violettish greyish-brown with a large triangular spot at the costal margin and a smaller one at the inner margin, both edged with double brown lines. Hindwing inside violettish-grey, outside ochreous brown. In the ♂ both wings equally coloured. 20 mm. India, Ceylon.

D. aleuensis Bltr. Similar to adjutaria (59 h), ♂ claret-coloured brown. Costal margin of forewing blackish. A semicircular black spot behind the centre of the inner margin and an oblique subapical black patch.
Submarginal line interrupted black, light-edged. Hindwing in front light coppery red, behind grey, with a white median line, before the inner margin angled. Inner-marginal fold white. In the hindwing the median line is angled more in the middle, the costal margin darker. Inner margin near the base black. 18—20 mm. Solomons Is.

D. leucopephala Wkr. (= stolida Blr.). Similar to adjutaria. Larger, paler, more slyver grey. The spots plainly edged with white, not besides enclosed by a brown line. Without submarginal spots. Brownish grey. 22 mm. Australia. According to Turner, Epipola lugens Warr. is synonymous with it.

D. conifera Mr. (59 h). Similar to adjutaria. More uniformly red-brown. On the forewing the border conifera. of the spot at the costal margin is indistinct. The spot at the inner margin larger. On the hindwing the median line begins nearer at the apex. 22 mm. Ron Is.

D. erectionata Warr. Like conifera, but greyer. The dark chocolate spot at the inner margin more erectionata. pointed, reverted to vein 2. Scent-hairs in the hindwing silky ochreous brown. 22 mm. Ron Is.

D. integra Warr. Forewing grey, both the lines fine pale ochreous brown. The first from 1/2 costal integra. margin to 1/2 inner margin, strongly angled outwards in the middle. The second from 3/4 costal margin to 1/3 inner margin. Below the costal margin strongly excurred, at vein 4 incurred, then straight to the inner margin. Median area darker. Submarginal spots dark greyish-brown. Hindwing at costal margin pale. Interior line indistinct, exterior line bent in the middle. At the cell-end a rust-coloured spot. Submedian fold whitish. Hindwing with 2 dents. 17 mm. Lombok.

D. kosemonica Strd. (59 h). Greyish brown, somewhat violet. Interior line of forewing strongly kosemonica. bent, to a large semicircular spot at the inner margin. Exterior line at the costal margin strongly excurred as far as vein 3, rust-brown, outside bordered with white. On the hindwing the exterior line is undulate, rounded; inside bordered with black, outside with brown. 20 mm. Formosa.

D. columbaris Warr. Forewing dove-coloured, dusted with dark, lines brown. The first on 1/3 costal columbaris. margin, sharply angled in the middle. The second obtuse-angular at vein 6, incurred on vein 4, outside finely bordered with white. Marginal lunae brown. Interior line of hindwing twice angled, exterior line obtuse-angular at vein 4, outside edged with white. 2 distinct dents on the hindwing. 28 mm. Penang.

D. pendula Warr. Grey, dusted with reddish. First line black, from 1/2 costal margin to the centre of pendula. the inner margin to a black spot. Second line from 1/6 costal margin excurred, incurred at vein 4, then straight to the inner margin before the anal angle, expanded into a thick spot at veins 4 and 5. Fine black submarginal spots. Exterior line of hindwing yellow, bent in the middle, bordered with black at the costal margin and at the inner-marginal fold. Fine black marginal lunae. 16 mm. Bali.

D. strigulicosta Strd. (59 h). Light grey, dusted with brown, median band bent, dark-edged with strigulico¬sta. horizontal lines. Distal margin dark. Hindwing with a similar median band and a black central dot. 18 mm. Formosa.

D. alikangensis Strd. (59 h). Similar to conifera, but more uniformly brown. On the hindwing the two alikangen¬sis. lines at the inner margin are a little bent towards each other. 18 mm. Formosa.

D. tridentata Heyl. Light brown. Forewing with bands of rust-brown spots, inside and outside bordered tridentata. with white. Median area whitish. Costal margin of hindwing concave in the middle, with small tails at veins 4, 6 and 7, and 3 transverse lines similar to those of forewing, the two first bent in the middle, the third almost straight along the dents. 17 mm. Java. It is doubtful, whether it belongs to this place.

D. crepuscularis Hmps. (59 h). Violetish-brown. Forewing with an indistinct, strongly angled interior crepuscu¬laris. line. Exterior line rust-brown from 1/3 costal margin slightly bent to 1/3 inner margin. On the hindwing the interior and exterior lines are rust-brown, more bent near the inner margin. 18 mm. Ceylon.

D. funebris Hmps. Forewing greyish-brown. First line in the middle, indistinct, blackish, below the cell bent obliquely inwards. Exterior line below the costal margin obliquely outwards, incurred below vein 4, inside bordered with black. Distal area lighter. Hindwing greyish-brown with 2 indistinct interior lines near the inner margin, and faded dark bent lines in the middle and behind it. Marginal dots fine black. 28 mm. Bombay.

D. hepaticata Warr. Dark violetish grey. On the forewing 2 delicate ochreous-brown lines. The first hepaticata. on 1/3, in the middle rectangular, outside bordered with blackish. The second on 3/4 straight, inside black. Behind the cell a dark spot. On the hindwing the first line is sharply angled, the second feebly produced. 15 mm. Khasian.

D. latibrunnea Warr. Dark brown. The first line in the centre of the wing obtuse-angular, the second latibrunnea. from 1/3 costal margin to the inner margin near the anal angle, dark red-brown. At the inner margin between the lines blackish. Apical spot and a dot below it black. Hindwing with a spot on 1/3 inner margin. Exterior line dark brown, angled at vein 4, edged with white. White submarginal spots. Distal margin of forewing vertical as far as vein 6, then bent, inner margin hollow. Hindwing at veins 7 and 4 with strong dents, a feeble det at vein 6. 20 mm. Lifu.

Similar to the genus *Dirades* Wkr., but the antennae of the ♂ strongly bipectinate. The hair-pencil at the inner margin of the hindwing very strong. Type: *perfallax* Warr.

D. *pygmeata* Warr. White, dusted with grey. A curved dark brown line on \(\frac{7}{5}\) of the forewing and a fine dark marginal line from the apex to the centre of the distal margin. In the cell and below it at the inner margin a large dark spot. Hindwing with 2 curved dark lines. A black spot at the cell-margin and before each dent.

D. *plumbea* Warr. is darker, dusted with lead-grey. 20 mm. Batjan.

D. *subdentata* Wkr. (59 i). Forewing yellowish-brown, with a distinct exterior line from \(\frac{7}{5}\) costal margin to \(\frac{7}{5}\) inner margin, slightly excurred in the middle, inside with a reddish-brown shadow. On the hindwing a curved median line of black dots. Marginal area reddish brown. 24 mm. Mysol.

D. *semicarnea* Warr. (59 i). Whitish-grey, dusted darker. Forewing before the dark cellular spot somewhat lighter. Exterior line blackish, light edged, from \(\frac{7}{5}\) costal margin, below it excurred, incurved in the cellular fold, then to the centre of the inner margin, where it ends in a horseshoe-like spot. Submarginal dots black. Hindwing of ♀ flesh-coloured, with an exterior line which is bent at vein 3. Inner margin with black scales. Fold and hair-pencil white. Small black submarginal dots. In the ♀ hindwing grey, costal margin blackish, the 2 lines whitish, bent in the middle, between them black. 26 mm. New Guinea.

D. *exangulata* Warr. Greysish-brown with a dark cellular spot, behind it the pale interior line. Exterior line from \(\frac{7}{5}\) costal margin obliquely outwards, then parallel to the distal margin to \(\frac{7}{5}\) inner margin, both bordered with dark brown. Hindwing with 2 light curved lines, between them darker. Apex somewhat tapering, hindwing with slight dents at veins 4 and 7. Expanse: 16 mm. North Borneo.

D. *prunaria* Mr. Violettish red-brown. Forewing with large dark spots at the costal margin and inner margin behind the centre, edged with rust-brown. A narrow straight dark marginal band. A similar band on the hindwing from vein 7 to 2. Distal margin angled at veins 7, 6 and 4. 18 mm. Ceylon.

D. *albitinea* Warr. (59 i). Forewing brownish grey, dusted dark, inner margin darker, at the anal angle with a black spot and a submarginal row of black spots. Hindwing browner with a conspicuous white undulate line from \(\frac{7}{5}\) costal margin to \(\frac{7}{5}\) inner margin, behind it olive brown. 18 mm. New Guinea.

D. *corrasa* Warr. Forewing pale grey, dusted dark. A dark cellular spot and a larger one above vein 7, a submarginal row of black lunae from vein 8 to 2, marginal line dark. Hindwing dark brown above vein 4, white below it, costal margin silvery white. Through the centre a double dark brown line. Distal margin from vein 7 to 4 bluish-grey. Hindwing with a dent at vein 7, lobate below vein 3, below the cell a hyaline fold. 22 mm. New Guinea.

D. *brunnea* Warr. Brown. On the forewing the ground-colour is divided into 3 oblong stripes by 2 dark grey radial bands. A dark brown, black-edged median line only in the brown areas; 2 fine black subapical spots. Hindwing brown with a snow-white costal spot. Inner-marginal fold grey, hair-pencil ochreous brown. Centre of distal margin dark grey, angled at veins 7 and 4. 20 mm. New Guinea.

D. *bidentata* Heyl. Light ochreous-brown. On the forewing a basal and interior line, marked by reddish brown spots. Exterior line white, double, intensely edged with red-brown in the centre of the wing; some submarginal dots and streaks. On the hindwing the interior and exterior lines strongly angled, the latter outside and inside bordered with white. Marginal line outside white. 20 mm. Java. Correctly placed here?


Palpi delicate and obliquely porrect, antennae in both sexes thickened, flattened. Forewing broad, distal margin rounded. Vein 5 from a little above the middle of the cross-vein, 6 and 7 from the cell-angle or on a short stalk, 8 + 9 and 10 + 11 stalked. Hindwing at the costal margin excised, with hair-pencils. Distal margin angled at veins 6 and 4. ♀ with an inner-marginal fold enclosing a long hair-pencil. Type: *miraria* Wkr.
G. miraria Wkr. Forewing pale smoke-brown with an ochreous subapical spot, outside edged with miraria. black, with a fine dark submarginal line. Hindwing in the median area and inner marginal fold pale, with yellowish interior and blackish exterior lines, which are interrupted in the pale places. 26–28 mm. India, Ceylon.

G. ferrugata Wkr. Forewing dark brown with a lighter spot in and behind the cell, as well as at the ferrugata. apex. Traces of an interior and a submarginal line. Hindwing in the inner-marginal fold and below the cell whitish. Interior and exterior notched lighter lines indistinct. 24 mm. Ceylon.

G. hunicosta Warr. (59 i). Forewing greyish ochreous-brown. Costal margin violetish-grey. Distal hunicosta. margin grey. A reddish-yellow streak below the grey costal streak as far as the exterior line and a similar one at the inner margin. A yellow apical spot with 2 black dots. Lines smoke-brown. The first from 1/4 costal margin to 3/4 inner margin, sharply angled in the middle, the arms straight. The second from 3/4 costal margin, excurred and ending near the anal angle. Hindwing pale straw-coloured with 3 reddish-yellow lines. The first also sharply angled, the second obtuse-angular, the third at the margin with 4 black spots. A rust-brown radial streak through the whole wing. Inner-marginal fold grey. 22 mm. Khasis.


G. albibasis Warr. (59 k). Ash-grey, dusted darker. First line from 1/3 of the costal margin of the albibasis. forewing, slightly bent; the second from 2/3 costal margin slightly bent to the anal angle; the first inside, the second outside edged with yellowish. A thin black submarginal line below the apex sharply introangular. Hindwing at the base and costal margin white, the rest ash-grey, with 2 curved dark lines, edged with yellow. — In seminigra Warr. only the base is white, the rest of the hindwing all black. 20–22 mm. Fidji, Ferguson Is. seminigra.

G. niveicosta Warr. Similar to albibasis. Forewing ash-grey; lines smoke-brown, interrupted. Exterior niveicosta. line somewhat thickened below the middle. Three black apical lunae. Hindwing similar. At the costal margin with a broad silvery white streak from the base to the exterior line, enclosing 3 black spots. The 2 last spots belong to the interior and exterior lines. A marginal row of bluish-grey lunae. 20 mm. New Guinea.

G. longipennis Hmps. Forewing excised at the inner margin, hindwing with a longer point at vein 6, longipennis. Dark violetish-brown, both wings with traces of a dark exterior line and an indistinct marginal line. 24 mm. North India.

G. nigrescens Warr. Similar to longipennis. Forewing dark grey, lines bronze black. The first from nigrescens. 1/4 costal margin, angled in the middle, the second from behind 2/3 costal margin almost straight to the anal angle. Both edged with yellowish. On the hindwing the rounded exterior line is composed of dots, at the base yellowish. 22–24 mm. Ferguson I.

G. cythera Siek. Forewing greyish-brown, in the middle blackish brown. Two brown median bands cythera. rather close together. At the distal margin pale pink dots. Hindwing with a large white costal spot, outside straightly cut off, below it blackish, inner margin whitish pink. 22 mm. Fidji Is.

G. fasciaria Siek. Forewing brownish with a dark median band, inside denticulate and edged with fasciaria. ochreous brown. Hindwing darker, with a blackish spot at the inner margin near the base and a dark median line with a light edge. 16 mm. Korea.

G. pernigrata Warr. (59 k). Forewing anteriorly pale brown, posteriorly reddish-brown. A broad pernigrata. violetish-brown oblique median band, spotted white in the middle, edged with blackish-brown. In the basal and apical areas one blackish spot each. Hindwing yellowish-brown, with a white spot in the cell-end. Two bent dark lines and a strongly dentate submarginal line. 26 mm. North India, Ceylon.

G. lignata Warr. Forewing reddish-brown with a blackish postmedian band extending outside almost lignata. parallel to the distal margin of the forewing, interrupted below the centre, forming a somewhat semicircular spot at the inner margin. A narrow dark marginal shadow from the apex. On the hindwing both lines dark brown, bent, in the middle somewhat dentate. 15 mm. Bali.

G. vinosa Warr. Forewing reddish brown with an indistinct dark subbasal line. Exterior line brown, vinosa. edged with rust-brown. From 3/4 costal margin obliquely outwards to the middle, then sharply incurved to the apex of a brown triangle behind the centre of the inner margin. Hindwing with a curved brown light-edged exterior line. 18 mm. Timor.

G. cesena Siek. Violetish brown, the darkest at the costal margin. Only a blackish median line, cesena. outside edged with white, slightly bent. Hindwing with a large white costal spot, median line as in front. Black spots at the distal margin in both wings. 16 mm. Pulo Laut.
G. nigella Warr. (59 k). Forewing at the costal margin broad velvety black, the rest faded grey, divided into 2 areas by a brownish-black triangle between the cell and submedian fold. Inner margin narrow black. Traces of 2 dark transverse lines. Costal margin of hindwing blackish-brown, 2 short black thick lines behind the cell. Inner margin black, the fold white with an ochreous brown hair-pencil. 22 mm. New Guinea.


Forewing short and broad. Costal margin bent before the apex, distal margin bent, inner margin straight. Hindwing projecting at the apex, then straight to a little dent at vein 3. In the cell the space below the submedian fold is distorted, without scales, with a long hair-pencil as in Didaeis, in the cell bent to the anal angle. Neuration as in Epipleura. Type: planimargo Warr.

L. planimargo Warr. Forewing violetish-grey, lines olive brown, fine and sharp. The first from 3/4 costal margin bent to the centre of the inner margin. The second from 3/4 costal margin to 3/4 inner margin with an outward beak on vein 4, then incurved and parallel to the first. On the hindwing only the exterior line is distinct, slightly bent. The fold in the cell a whitish. Hair-pencil ochreous brown. 20 mm. New Guinea.


Forewing with straight margins. Costal margin of hindwing only bent, not excised, at the base and apex with hairs. Distal margin excised below the apex. In the cell the anal angle is broadly lobate, in the cell a blunt tooth at vein 4. Neuration of forewing: vein 2 near the base, 3 before the cell-end, 5 in the centre of the cross-vein, 6 + 7 on a long stalk, 8 + 9 stalked. In the hindwing vein 2 arises near the base. Between it and the cellular vein in the cell a hyaline spot. Type: interrupta Warr.

L. interrupta Warr. (= radiata Lucas). Dark grey, at the costal and inner margins dusted with dark brown, in the centre a radial ochreous brown stripe. Dark grey spots at the costal margin on 3/4, 1/2 and 3/8. On the hindwing the light surface is more extensive, traces of an angled dark exterior line. Iron-grey marginal line, — In despecta Warr. the lines are distinct from 3/4 and 3/8 costal margin excurred to 1/2 and 3/4 inner margin, the latter below the cell incurred. A third line from 3/4 costal margin to the anal angle. All interrupted in the middle and submedian fold by brown radial stripes. On the hindwing the exterior line fine black, anteriorly edged with white. 20—25 mm. Queensland.

27. Genus: Macrostylodes Warr.

Forewing with rounded margins, hindwing finely dentate at veins 4 and 7. Neuration of forewing: vein 2 near the base, 3 + 4 on a long stalk, cross-vein absent, veins 5 + 6 + 7, 8 + 9 and 10 + 11 stalked. In the hindwing veins 3 + 4 and 6 + 7 stalked, 5 absent. Type: deformis Warr.

M. deformis Warr. Forewing white, dusted with dark brown. First line at 3/4 costal margin, indistinct, second line at 3/5 somewhat curved, almost vertical. Before the latter at the inner margin more densely covered with dark brown scales and a brown streak from the centre of the inner margin, terminating erect into a spot. Marginal area at the anal angle darker; 2 black subapical spot. Hindwing with 2 distinct lines, the second excurred before the lower dent. 12 mm. New Guinea.


Forewing obtusely produced at the apex, distal margin bent, anal angle lobate. Hindwing at the costal margin strongly incurved, without a hair-tuft, apex produced, with a large dent at vein 7, especially in the cell. Neuration of forewing: veins 2, 3 and 4 near the cell-end, 5 a little above the centre of the cross-vein, veins 6 + 7 on a long stalk, 8 + 9 + 10 stalked. In the hindwing veins 3 + 4 and 6 + 7 stalked. Type: subfalcata Warr.

M. subfalcata Warr. Forewing grey, slightly dusted with red-brown, with a broad dark grey band the interior edge of which is strongly hollowed out from 3/5 costal margin to 3/4 inner margin; its exterior edge from 3/5 costal margin to 3/4 inner margin, below the middle strongly excurred; margins somewhat lighter. At the anal angle a dark shadow. On the hindwing the inner margin of the median band is indistinct, the exterior margin more distinct. 20—25 mm. Queensland.

M. ustimacula Warr. (59 k). Forewing ochreous brown, dusted with grey. From the inner margin an erect blackish-brown antemedian shadow, not reaching the costal margin, and a thick black line from 3/4 inner margin erect almost to vein 6. Close behind it another rust-brown and black line. Hindwing blackish-brown, with an ochreous-brown radial streak through the centre of the wing and 2 parallel bent black lines. 18 mm. New Guinea.
M. rectifascia Warr. Forewing dark bluish-brown. The two lines are darker. The first from 1/4 costal margin very indistinct, strongly excurred in the middle, to 1/3 inner margin, the second broader, faded from 1/3 costal margin to 3/4 inner margin, straight. At the margin a rusty brown line extending around the apex. Hindwing somewhat paler. Only the exterior curved dark brown line is visible. 22 mm. Mefor.

M. pallens Warr. Forewing pale grey, lines rusty brown, similar to rectifascia. On the hindwing the forewing line is less curved. Both the exterior lines nearer to the distal margin than in rectifascia. 22 mm. Woodlark I.

M. fuscinbrunea Warr. Forewing whitish, in the anterior portion densely dusted with bluish brown, in the posterior portion brown. The lines as in the two preceding species, behind the exterior lines is a pale spot at the costal margin. Hindwing grey (?), the median band brownish. In the ♀ the whole hindwing is more brownish. 22—24 mm. New Guinea.

M. schistacea Warr. Forewing dark brown, lines black. Interior line from 1/4 costal margin, angular schistacea. in the middle, exterior line from behind 3/4 costal margin centrally incurved in the direction of the angle of the interior line which is only distinct in the posterior portion. Marginal line black, at the apex broader. Hindwing with a black continuous median line. Inner-marginal fold bluish white, hair-pencil yellowish white. 24 mm. Salomons Is.


Antennae of ♀ with one row of broad pectinations. Neuration of forewing: vein 5 close below the upper cell-angle, veins 6 + 7 and 8 + 9 stalked. Hindwing of ♀ rounded, its inner margin rolled, forming a bag in which veins 2 and 3 are concealed. In the ♀ fine dents at the margin near veins 4 and 7. Veins 3, 4 and 6, 7 from the cell-angles. Type: platyphylla Trnr.

B. platyphylla Trnr. Forewing whitish or pale grey. A dark faded line at the beginning of the costal platyphylla. margin. Interior line quite irrecognizable. A fine black discal spot. Exterior line fine rusty brown, outside edged with white, strongly excurred from 3/4 costal margin, then strongly inward to 3/4 inner margin, where it is blackish. A subterminal row of black spots. Hindwing of ♀ angular at vein 7, coloured and marked as on forewing. Exterior line in the ♀ delicate, uniformly bent, in the ♀ angular, more distinct. A dark discal streak in the ♀. 25 mm. Queensland.

B. microthyris Trnr. Whitish-grey, densely dusted with a darker grey. Two greyish ochreous lines microthyris. from 1/2 and 3/4 costal margin. Interior line obliquely distal, the other line excurred, both extending to the centre of the wing. Fine dark submarginal dots. Hindwing with a broad dark median band. The ♀ is distinguished from platyphylla by the scaled spot near the base above vein 1 on the forewing. 20—25 mm. Thursday I. — According to Turner, annullifer Warr. is synonymous to this species.

B. mutans Btr. (= annullifer ♀, rhombifera ♀ Warr., leucocera Hwps.) (59 k). Similar to Divides mutans. adjutaria Wkr. (59 h). Forewing pale brown, with a dark brown semicircular spot at the centre of the inner margin, to the edges of which two fine brown lines are bent from the costal margin before and behind the middle. A light curved line from the centre of the costal margin to the anal angle. Hindwing dark brown, with a lighter bent median band. In the ♀ (rhombifera) the exterior line on the forewing extends on vein 4 inwards to the interior line. The excelled area is darker than its surroundings and tonishes the spot at the inner margin. Hindwing uniformly dark brown, only the edges of the median band lighter. 22—25 mm. India, Salomons Is., Ahu, Trobriand Is., Timor.

B. seminigra Warr. Forewing greyish-brown. First line only indicated by the margin of the somewhat darker basal area before the centre. Exterior line reddish-brown, outside lighter and edged with grey, from 3/4 costal margin obliquely distal, in the middle angled, to 2/3 inner margin, where it touches a blackish-brown triangle. Hindwing blackish-brown with a broad brown radial stripe across the centre of the wing. Interior line composed of black dots, exterior line reddish-grey, angled. 26 mm. Queensland.

B. cyclocrossa Trnr. Near mutans (leucocera Hwps., 59 k) and Dir. leucocephala (p. 597), but separated cyclocrossa, from them by the absence of a distinct postmedian line in the forewing. Antennae and legs white, excepting the brown forelegs. Queensland (in the Bunya Mts.), found in January. ♀ 22—26 mm.

B. albula Warr. Very similar to seminigra. Forewing greyish-white, both lines indistinct. At the inner margin between them a high triangular dark spot. Hindwing with a light radial stripe in the centre and at the inner margin, as well as two rusty brown lines, both obtrusely angled at vein 4. 15 mm. Queensland.

B. acutilinea Warr. Likewise similar to seminigra. Forewing pale brownish-grey. Both lines indistinct. acutilinea. Interior line angled in the middle, exterior line excurred close below the costal margin, then straight as far as vein 3 and continued almost to the centre of the inner margin. These lines and a submarginal line greyish ochreous. Hindwing nutbrown, in the marginal area grey. Interior line of brown dots, angled; exterior line greyish ochreous, bent. 22 mm. Penang.

B. decorata Warr. Forewing grey, without distinct lines. A dark spot on the cross-vein and a blackish-brown vertical shadow from 3/4 costal margin. Black submarginal dots from the apex to the centre of the wing.

B. ambiguа Warr. Forewing brownish grey, lines rusty brown. The first from $\frac{1}{3}$ costal margin to the centre of the inner margin, strongly excurved. The second from $\frac{2}{3}$ costal margin also excurved in the middle, then inwards to $\frac{3}{4}$ inner margin. The space between the lines somewhat darker. At the distal margin behind the cell a rusty brown triangular spot with 3 black dots on its inside. Hindwing similar to forewing with 2 isolated black submarginal spots on the 2 small tails. Forewing at the distal margin behind the cell somewhat concave. 18—22 mm. India, Queensland. According to Turner not a species of Dirades, but belonging to this genus.


Antennae of $ with one row of pectinations. Neuration of forewing: vein 5 a little above the centre of the cross-vein, veins 6 + 7 on a short stalk, 8 + 9 stalked. Hindwing with a strong dent at vein 7, especially in the $\varnothing$. Costal margin excavated in the middle, with a subapical hair-tuft. Inner margin in the $ rolled up, so that veins 2, 3 and 4 disappear in this bag. In the $\varnothing$ veins 3 and 4 from the same place, in both sexes 6 and 7 from the same place. Type: euthysticha Tmr.

euthysticha. A. euthysticha Tmr. Grey, dusted with rusty brown, with a dark rusty brown median band. Its inner margin excavated, its distal margin from $\frac{3}{4}$ costal margin to $\frac{3}{4}$ inner margin straighter, more distinct. A dark apical streak and a rusty brown marginal line. On the hindwing the median band is reduced to a series of spots. 20—22 mm. Queensland.


In the forewing the neuration and shape is as in the genus Epiplema, but the hindwing of the $ corresponds with Dirades in the neuration and the presence of an inner-marginal fold with a hair-pencil. Inner margin shortened, distal margin irregularly undulated, with a dent at vein 7 as in Monobolodes. Costal margin uniformly bent. At the base of the abdomen a very long hair-tuft on the sides. Type: bilineaia Warr.

bilineata. Pt. bilineaia Warr. Forewing lilac grey. Lines rusty brown, from $\frac{y}{3}$ and $\frac{2}{3}$ costal margin, below the latter somewhat excurved, then vertical and parallel to each other to $\frac{1}{3}$ and $\frac{2}{3}$ inner margin, the exterior line with a projection below vein 4. Some brown marginal spots. Hindwing similar. Exterior line margined with brownish ochre, bent at vein 5, both the lines terminating at vein 2. Yellow-black marginal spots at vein 4. Inner-marginal fold white, hair-pencil yellowish. 20 mm. New Guinea.

32. Genus: Metorthochilus Hmps.

Distal margin of forewing cut out below the apex. Neuration of forewing: vein 5 from the centre of the cross-vein, veins 6 + 7 on a long stalk, 8 + 9 stalked. In the hindwing 6 + 7 on a long stalk. Type: emarginatum Hmps.

emarginatum. M. emarginatum Hmps. Pale violet-tish-brown. Forewing with traces of a curved interior and exterior line, as well as a submarginal line. Fringe at the indentation of the distal margin white. Hindwing similar, lines straighter. $\varnothing$ on the forewing with a faded brown spot behind the cell. 20—22 mm. India, Ceylon.

excisum. M. excisum Hmps. Violet-tish-brown. Both wings with an indistinct exterior and marginal line, the former curved. Fringe of forewing not spotted white. 20 mm. North India.


Apex of forewing produced, distal margin of hindwing rounded. Neuration of forewing: vein 3 before the cell-angle, 6 and 7 from the upper angle, veins 8 + 9 on a long stalk, 11 anastomosing with 12. In the hindwing vein 3 before the angle, 6 and 7 from the upper cell-angle. Type: rubra Hmps.

rubra. Ps. rubra Hmps. Reddish-brown. Both wings with a dark cellular spot and traces of a rusty brown interior and exterior line. Fringe golden yellow. 24 mm. North India.
Alphabetical List of the Indo-Australian Epiplemidae.

* signifies that the form is also figured in the place quoted.

The family of the Notodontidae undoubtedly numbers among those families the forms of which have become known mostly in the last 3 or 4 decades. Although the number of the species known, which according to Kirby's Catalogue was 626 at the end of the last century, decreased at first owing to the fact that not all the forms quoted there are regarded as genuine Notodontidae today, the number of species has now increased extraordinarily by new descriptions, so that already in 1914 their number was stated to be 1900, and in the "Macrolepidoptera" even more than 2100 species and besides them several hundreds of named subspecies have been dealt with. It is especially the Indo-Australian and American faunae that have supplied most of the species lately described, so that the total number of forms commented upon here has enormously increased; in the Indo-Australian region the number of 200 quoted by Kirby in 1891, and of 300 quoted by Rebel in 1913 has reached more than 450, thus 50 percent more than was estimated last. The number will grow even larger, if this family will become elaborated as thoroughly as the Papilionidae, Sphingidae, and few others have been studied of late.

The reason why so many Notodontidae have remained unknown for such a long time is that they are mostly very difficult to discover. In Europe their biological and bionomical peculiarities are well known and thus it is rather easy to trace most of their species in the open air, whereas in the tropics it is sometimes hardly possible to discover these remarkably well hidden insects, and considering the general monophagy of the larvae it is also very difficult to breed them. If we think of the great difficulties of procuring specimens e. g. of Ptilophora pluminiger which, in most of the districts, can only be discovered on Acer campestre and the imagines of which copy so marvellously the tiny pendent winged nut of the food-plant, that a non-connoisseur is only by chance able to notice the insect, we understand that the capturing of Notodontidae in foreign faunae is almost exclusively confined to the lantern. In the eastern tropics, where we are uninitiatedly opposed to the deceptions by means of adaptation, they are most effective; I refer to my observation quoted by Grünberg in Vol. II, p. 317, concerning a Norraca longipennis; holding in my hand the branch with the imago dangling from it, I could only ascertain by fingering it that it was not a small yellow bamboo-leaf swinging in the wind, but a well developed insect.

It is a most striking fact that the distortions of shape of the Notodontidae copying fruits, barks etc. are almost exclusively produced by a certain way of holding and placing their wings, without influencing the shape itself of the wings. On the contrary, the shape of the wings is rather uniform in the whole family; the inner-marginal lobe of the forewing, from which the family has derived its denomination, is at the same place in nearly all the species, and it is merely an atrophy of it or an elevation, often only produced by more developed fringes, which forms the difference between numerous genera or species. Many of the resting Notodontidae are distorted more by hair-tufts of the body, especially of the abdomen, than by the shape of the wings.

In India the Tarsolepis (79 a) and Dudusa, in America the Crinodes, exhibit in the male a penicilliformly branched anal tuft which can be spread out and which, on being raised, projects out of the wings, which are closely appressed to the body, and together with the inner-marginal lobe of the forewing increases the irregularity of the exterior shape of the resting insect. Seen under the microscope the elements forming the tuft prove to be prolonged bristle-like scales, the stalk of which being as long as 1 cm terminates into a plate shaped like a tennis racket, distinctively showing the morphological equivalence of the hair of the body and the scales of the wings. These rackets may (in the tail-pencil of Crinodes besecki) exhibit as many as 100 fine longitudinal veins and whilst most of them terminate with a smooth edge, others end in 2 or 4 sharp notches or points, thus showing the very same structure as the hair-scales which form the tower-like thoracic tuft of the Crinodes.

When the wings are opened, the Sphingid shape of the larger Notodontidae, already mentioned in Vol. XIV is unmistakable. The long, lanceolate forewings, the relatively small hindwings, the exactly circular, rather long
increased by a peculiar defensive position, raising the front body in a Sphingid-like way and, at the same time, larvae are green and adapted to leaves, or brown and similar to a branchlet; some of them, such as the part of the Papuan region and represented in the Indo-Australian fauna by more than 20 forms have larvae later on, which are absent in their youth, but appear when they grow larger. The dorsal notches of the “zigzag-larvae” are known from the northern temperate zone and may, as in the American *Nerice*, develop into serrated-dentate dorsal combs. The *Stauropus* which are distributed over the whole oriental region and the northern part of the Papuan region and represented in the Indo-Australian fauna by more than 20 forms have larvae of the peculiar shape of the palaeartic *St. fagi*, and their tropical representatives are often of a still thinner, spider-like and ghostly shape than the well-known European larva of *fagi*. However, most of the Notodontid larvae are green and adapted to leaves, or brown and similar to a branchlet; some of them, such as the *Cerurinae*, offer resistance as soon as they are discovered and seized. The larva of the American *Anuroconampa* is known to spirt a corrosive liquid against its aggressor with an astounding accuracy of aim, for which reason it was named “*mingens*”; a similar peculiarity is known of the larva of the pussmoth in all the faunae.

Another group of larvae being evidently defenceless nevertheless exhibits conspicuous warning colours; but these larvae, in contrast with the otherwise mostly smooth Notodontid larvae, are covered with scanty though probably not quite harmless hair. This group approximates the genus *Phaleria*. The larvae of the palaeartic and neartic allies (*Datana*) are frequently bright yellow and black, and their striking character is increased by a peculiar defensive position, raising the front body in a Sphingid-like way and, at the same time lifting the anal segments. The larvae of the Indian *Tarsolepis*-group number among the most conspicuous insects that exist; the dorsum being snow-white in some specimens borders on brightly orange and black spotted sides; the head and the pectoral legs are yellowish-brown, the whole insect scantily haired. But behind the head, where there are yet 2 thick black collars, and the anal segments are studded with club-shaped purple hairs. The thick, thorn-shaped hairs look as if they were filled, and it may be possible that they exert an inflammatory effect which would explain their peculiar shape and colouring.

All the *Notodontidae* are nocturnal, though some of them excitedly react by day upon being alarmed. Many come to the lantern at a very late hour of the night, and they probably fly exclusively for the sake of propagation, since the family seems entirely to lack a functional proboscis, at least in the genera occurring in the Indo-Australian region. They are very able flyers, though the ♂ are almost invariably lazier and clumsier than the ♀; however, no species of the family is known hitherto with stunted wings of the ♀.

The districts chosen by the *Notodontidae* for their patria are of rather different characters, but it is a fact that, as mentioned in Vol. II, p. 282, in the palaeartic region the plains are preferred, whereas in India they preferentially inhabit the mountain districts. Thus, for instance, the level parts of Continental India contains very few *Notodontidae*, whereas in the Himalayas about 80 percent of all the species of this family known from British India occur, a great many of them even exclusively. As the alpine districts of South India have not yet been thoroughly explored by entomologists, we may expect to obtain a great many new forms, especially from the mountainous parts of New Guinea.

A very strange fact is that the Australian Continent is inhabited by relatively few members of this family. At the time when our 2nd volume was published, hardly one dozen species were known from Australia, and in New Zealand they are totally absent, which fact, however, is not to be wondered at, since this island contains very few lepidoptera anyhow. The Australian species are remarkable for the great development of anal wool exhibited by many species from there and even occurring in the Australian *Cerura*-species (*australis*), whilst no other species of *Cerura* is provided with it.

The largest of the Indo-Australian *Notodontidae* is *Tarsolepis fulgurifera* (79 a) with an expanse of 12 cm at most; the smallest are some insignificant species of *Pygaea* (80 h); most of the forms are of medium size. On the whole, the tropical species are smaller here, whilst towards the palaeartic frontier and farther to the south, in Australia the larger forms occur. In many cases the species are characterized by the antennae being pectinated as far as about ¾ of their length, after which they pass over into a bare whip. The palpi

*) The exception in *Cerura argentina* Schultze in Africa and the strange influence of its habits on its exterior has been commented upon in Vol. XIV, p. 403.
are very unequally developed and may, for the sake of adaptation, be abnormally prolonged, as in Pterostoma, where they help to copy a chip of wood. The median tibiae mostly have 1, the hind tibiae 2 pairs of spurs. In the forewing the submedian vein is forked at the base, vein 5 proceeds from the centre of the cross-vein; in the hindwing 5 is rarely absent, it almost invariably proceeds from the centre of the cross-vein, and vein 8 is frequently near the upper cell-wall which it often touches; sometimes the costal vein of the hindwing is connected with the anterior cell-wall by a short bar.

The Notodontidae are not characterized by a special marking. A dark spot in the anal angle of the otherwise light-coloured hindwing is rather inconspicuous in the Indo-Australian fauna, and preferably only in those genera having their main range in the palaeartic region. It is situated on the small piece of the hindwing, which, in the resting insect, is not covered by the forewing adapted to the surroundings and would therefore shine forth white. Pydna, Noracea, Antiegra, Nigama, and Taracea exhibit an unmistakable canecolour, for which reason the larvae presumably live on Monocotyledons, which is said to have been ascertained of the unicoloured green, black-headed larva of Dinara combusta Wilr.; it may be that Anthaea also belong yet to this division. Otherwise the Notodontidae-larvae seem chiefly to live on trees or high shrubs in the whole world, so that they are usually seen only when they rest on young wood-plants. That is the reason why our knowledge of the Indo-Australian larvae is very insufficient in spite of their frequent occurrence; it is a remarkable fact that, as we have mentioned elsewhere, the Australian Danaina banksiae is yielded from a larva which every unexperienced collector would take to be a Sphingid for its shape, the lateral row of eye-spots and the well developed tail-horn; transitions to the Sphingid horn are also found in other faunae*).

In some (especially American) Notodontidae (Heterocoampa and others) K. Jordan found on the 4th abdominal ring of the imago on the sides a movable valve situate above a convexity in the interior of which there is presumably a gland. This often corresponds to pads of erect wing-scales on the hindwing beneath, but also to a certain hairy cover composed of modified bristles on the tibiae, so that this organ was assumed to serve for producing a scent.


Antennae of $ different. Palpi short. Abdomen long, at the end with spoon-shaped hairs. Femora with a strong hair-pencil. Forewing at the distal margin somewhat notched. Veins 3 and 4 almost from the same place, 6 from the upper cell-angle, 7 and 10 + 8 + 9 from the apex of the accessory cell. In the hindwing veins 6 + 7 on a short stalk, 8 connected with the cell by a bar. Type: sommeri Hbn.

I. Antennae of $ plain. In the forewing vein 10 not stalked with 8 + 9.

T. fulgurifera Wil. (79 a). Thorax and forewing dark red-brown, costal margin broad lighter, with fulgurifera. some light radical lines and before the margin light and dark lines. Hindwing and abdomen blackish. 85—105 mm. North India.

II. Antennae of $ on 2/3 of their length well pectinated.

T. sommeri Hbn. (= remicandi Blr.). Forewing dark violetish brown, costal margin yellow wood-colour, behind and below the cell with one triangular silvery spot each. Hindwing dark brown. 80—85 mm. North India. In Vol. II, pl. 48 g a specimen is figured as sommeri, representing the form japonica Wil., which was separated since 1917. In typical sommeri the interior side of the lower silvery spot is elongate and rectilinear. — In dinawensis B.-Bak., the hair-tufts on the femora are ochreous, not red. New Guinea. — rufo- brunnea Rothsch. only differs from sommeri in the shorter combed antennae. 80—100 mm. Assam, Travancore. — rufobrunnea.

T. javana Swb. (= sommeri Swpr.) (79 a) is smaller, the hindwing lighter. It may also be merely the winter generation of sommeri. 60—70 mm. Java, Philippines. — The larva is 5 cm long, dorsally black, laterally yellow with red dots, below them black spots edged with white. The blackish-brown pupa without a web in the soil.

III. Antenna of $ very strongly pectinated, the bare apex shorter.

T. taiwana Wil. (79 a). The light costal margin extends to the anterior silvery spot. The posterior taiwana. spot is connected with a small one above vein 2, and besides there is at the inner margin another narrow spot, though these two accessory spots may also be absent. 60—65 mm. Formosa.

T. kochi Swpr. (79 b). Forewing dark violet-brown. Costal margin narrow, distal margin broader kochi. light with 2 small silvery spots which are still smaller in the figured $ from Tonkin than in the type. 75 mm. Philippines, Tonkin.

*) The protuberance on the anal segment of the European Pheosia tremula already represents a slight beginning of the Sphingid horn, which is distinctly developed in Ph. dictaeoides, whilst in the allied American Ph. dimidiata it represents a well developed horn showing its greatest length in the 3rd moult and being also distinctly present in the grown insect.
2. Genus: **Stigmatophorina** Mell.

Similar to *Tarsolepis*, but the antennae of the ♀ pectinated to the tips. In the forewing vein 5 is not quite so far in front, in the hindwing veins 6 + 7 on a short stalk. Type: *hammamelis* Mell.

**St. hammamelis** Mell. (79 b). Pale red-brown. A dark band from ⅓ inner margin to the cell-end and a dark triangle from the cell-end almost to the inner angle. Apical area radially striped. Hindwing red-brown. 48—60 mm. Kwangtung.

**St. sericea** Rothsch. Thorax and forewing chocolate brown and cinnamon-brown, also at the base dark. The light submarginal line farther inward than in *hammamelis*. A light median line vertical on the centre of the inner margin more distinct. Hindwing greyish-brown. ♀ 65 mm. Java.


Antennae, palpi and abdomen as in *Tarsolepis*. In the forewing vein 6 from the upper cell-angle, 7 and 8 + 9 from the apex of the accessory cell, 10 from its anterior edge. Type: *nobilis* Wkr.

**D. nobilis** Wkr. (= *vethi* Sn.) (79 b). This species distributed from North China to the Sunda Is. and Formosa has been dealt with already in Vol. II, p. 284, but not yet figured. It is easily distinguishable by the cross-band traversing the forewing. The species figured as *nobilis* in Vol. II, pl. 44 a is the following species.

**D. sphingiformis** Mr. (Vol. II, pi. 44 a as *nobilis*). This species has already been dealt with in Vol. II, p. 284 (figured as *nobilis*) and actually also occurs in North China. 80—90 mm. South India.

**D. fumosa** Mats. from Formosa, is similar to *nobilis*, but the thick dark oblique stripe seems to be absent.


Body strong. Palpi obliquely erect. Antennae strongly pectinated. Abdomen very long, with a hair-pencil. Front legs densely haired. Forewing long, dentate at the distal margin, with a lobe at the inner margin at the base. Neuration not stated.

**C. cucullodes** Wkr. Forewing reddish-yellow, with fine black subcostal streaks and 3 oblique black zigzag lines near the violettish-brown distal margin. Inner margin with black and white spots near the base. Hindwing greyish-brown, at the anal angle white with an oblique spot. ♀ 32 lines. Java.

5. Genus: **Hyleora** Dbl.

Palpi porrect, projecting beyond the frons. Thorax in front with a tuft. Antennae of ♀ like those of *Lasiocampa*, in the ♀ plain. Distal margin of forewing notched, vein 6 from the upper cell-angle, 7 and 10 + 8 + 9 from the accessory cell. Hindwing also somewhat notched. Type: *eucalypti* Dbl.

**H. eucalypti** Dbl. (= *sphinx* Flr.) (79 c). Forewing violettish-brown and greyish-brown. At the base a short white streak. Interior line represented by 2 short streaks below the cell, pink with a black edge. Exterior line black, double, notched; behind it more or less greyish-white, and beginning from vein 6 a blackish band to ⅔ inner margin. 85—100 mm. New South Wales.

**H. inclyta** Wkr. (= *lacerta* Drc.) (79 f) may be only a form of the preceding species. From the base above and below the median vein a white patch to the base of vein 2; shortly before the end parted with a black oblique streak. Exterior line single, the black marginal band separated from it by a white stripe. 75—110 mm. New South Wales, South Australia.

**H. dilucida** Flr. (79 f). Forewing still more notched than in the 2 other species, blackish-brown. Interior line double, black, indistinct, exterior line composed of black sagittae, filled with brown, behind it narrowly lighter. The black band as in the other species. Hindwing whitish hyaline, distal margin red-brown, inner margin orange. 75—100 mm. New South Wales, South Australia.


Palpi short. Antennae of ♀ long-combed almost to the tips. Thorax in front with a high tuft. Distal margin of forewing more or less notched. Vein 6 from the accessory cell, 7 and 10 + 8 + 9 from its apex. In the hindwing vein 8 near the cell almost to its end. Type: *gibbosa* Abb. from North America.

**N. cristata** Bttr. (Vol. II, pl. 47 a). This form having been dealt with in Vol. II, p. 316, is before me also from Maymyo (Burma) and must therefore be mentioned here.
In the two other species the distal margin is more notched.

darkened, exterior line feebly, dark. Hindwing pale yellow. ♀ 90 mm. North-Western Himalaya. — *occidentalis* occidentalis.

**N. gigantea** Dre. (= magnifica Rothschr.) forms a transition to the genus *Gangarides*. Antennae of gigantea.
♀ pectinated as in the ♀. Body orange red, at the end violetish-brown. Forewing at the base orange, gradually brick-red and then violetish-brown at the distal margin, with numerous undulate lines. Hindwing orange, margin brownish. ♀ 105 mm. New Guinea.

7. **Genus: Shachihoka Mats.**

Sh. *formosana* Mats. It can only be said that the wing-contours correspond to the genus *Ndala formosana*.

Wkr. *As niveiceps* Wkr. is mentioned in the description, *formosana* is presumably different.

About *Eushachia auripennis* Mats. and *Ceira (Pydna) horishana* Mats. nothing can be said, because the figures are too indistinct. All the 3 species have been described in Japanese.

8. **Genus: Gangarides** Mr.

The thickly haired palpi project beyond the frons. Antennae in both sexes pectinated almost to the tips.

Forewing with a pointed apex, distal margin feebly notched. Vein 7 a little below the apex of the accessory cell, 10 + 8 + 9 or 10 and 8 + 9 from the apex in the typical species. Type: *roseus* Wkr.

**G. roseus** Wkr. (= *vittipalpus* Wkr.) (Vol. II, pl. 29 c) has already been dealt with in Vol. II, p. 311. *roseus*.

Distributed in India and as far as Sumatra.

**G. dharma** Mr. Without an accessory cell in the forewing. It is probably a distinct species, since the interior line on the forewing is at the costal margin much nearer to the subbasal line than to the exterior line. Moreover, the bend of the single (in *roseus* 2 or 3 fold) exterior line is at the base of vein 4, thus lower down. The apical line is sharply bent at vein 7, instead of being bent at vein 6. Forewing with a white, not black, central dot. Ground-colour greyish-yellow, hindwing brownish-red and greyish-yellow. 70—75 mm. North India. — *puerariae* Mell (80 a) shows the hindwing uniformly pinkish, and at the inner margin of the forewing, *puerariae*.

**G. vardenae** Soeh. (79 c). Body and forewing pinkish brown. Interior line double, very indistinct, central *vardenae*.
dot distinctly black, the threefold exterior line more distinct. Apical line straight or slightly undulating. Hindwing pink, — *pusculata* Mell only differs in a black spot between the apical line and undulate line above vein 6. 65—80 mm. Madras, Borneo, Sumatra.


Palpi thick, erect. Antennae of ♀ strongly pectinated. Forewing slightly cut out below the apex. Vein 5 very far in front, 6 + 7 + 8 + 9 stalked, 10 and 11 free in the typical species. Hindwing without vein 5, 8 connected with the centre of the cell by a bar. Type: *aurosigna* Hmps.

**Pl. aurosigna** Hmps. Thorax and forewing deep chocolate. At the base a golden double spot, on the aurosigna.

vein 7 a dot and proximad to it a spot similar to a horizontal interrogation mark. The space behind it from the costal margin to the anal angle somewhat lighter with a curved undulate exterior line and traces of a sub-marginal line. Hindwing paler. ♀ 38 mm. Tenasserim.

**Pl. transsecta** sp. n. (79 b). Extremely similar to *aurosigna*. Palpi somewhat shorter. Forewing with an *transsecta*.

accessory cell, vein 6 from its centre, 7 + 10 + 8 + 9 from its apex. The metal spots are yellowish-white. The interrogation mark is divided into an oblique triangular spot and an oblique streak beside it. Exterior line straight, vertical on 3/4 inner margin. ♀ 36 mm. Omei-shan (China). Type in the British Museum.


Palpi erect. Antennae pectinated as far as 2/3 of their length. Patagia expanded, thorax behind with a tuft. Abdomen at the base with one median tuft and two lateral tufts each. Neuration in forewing: veins 3 and 4 separated, 5 from the centre of the cross-vein, 6 from the accessory cell, 7, 8 + 9, and 10 from its apex, 11 near the accessory cell. In the hindwing vein 5 above the centre of the cross-vein, 6 and 7 not stalked. Forewing with an almost straight costal margin, curved before the pointed apex; distal margin excurred in the centre, the same being the case on the hindwing near vein 3.


Forewing pale reddish-brown with a silvery streak from vein 2 towards the base, and obliquely prolonged to the costal margin, somewhat lighter than the ground-colour. Exterior line pale, interrupted at vein 3 and still more below vein 2. A submarginal pale line, interrupted at each vein, distally margined with dark. From the
exterior line at the costal margin a dark shadow to the silvery stripe. Reniform-maculae marginated with pale, Behind the exterior line 2 rows of dark dots. Costal margin dark reddish, from the cross-vein broad violetish-grey. Inner margin reddish as far as the silvery streak, behind the latter another silvery spot. Hindwing pinkish-yellow. ♀ 42 mm. New Guinea: Kebea.


Palpi raised as far as the frons. Antennae of ♀ pectinated as far as ⅔ of their length, in the ♀ plain. Forewing slightly angled at vein 4, vein 6 from the upper cell-angle, 7 and 8 + 9 from the apex of the accessory cell, 10 from its costal margin. In the hindwing vein 5 above the centre of the cross-vein, 6 + 7 stalked. Nearly all the species in or near New Guinea. — Some of the feebly marked species may prove to be merely subordinate forms. The black spots which are of a more frequent occurrence will probably be variable. Type: *rufotincta* Hmps.

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**rufotincta**

0. *rufotincta* Hmps. Forewing greyish-brown with traces of red-brown lines. Black dots at the exterior line near the costal margin. Ring-macula and reniform-maculae marked by dark borders. A black spot at vein 1 near the base. Hindwing reddish-grey, near the anal angle a black line. This line occurs similarly in most of the species. ♀ 46 mm. Pegu. — renata form. nov. (79 g). Reniform-maculae brown dark, ring-maculae and basal spot absent. Interior line marked by 3 black dots. ♀ 45 mm. New Britain. Type in the Tring Museum.

**ochracea**

0. *ochracea* B.-Bak. Body and forewing pale ochreous. From the base to vein 4 a dark radial line. In the basal area black dots. The reddish-brown median line distinct, and traces of a reniform-maculae. Behind it below vein 2 a black spot. Submarginal line somewhat distinct. ♀ more intensely red-brown, all the markings more indistinct. Hindwing pale red-brown, in the ♀ darker. 45 mm. New Guinea. — immaculata form. nov. (79 f). The dark radial line and the spot below vein 2 are absent. Transverse lines somewhat more distinct. From the reniform-maculae a pale red-brown patch extends distally. ♀ 45 mm. New Guinea. Type in the British Museum.

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**lineata**

0. *lineata* B.-Bak. Similar to *ochracea*. Forewing pale greyish-brown with a fine reddish-brown radial line to the distal margin. The brown basal and median lines are traceable. Exterior line indistinct, feebly angled. Behind it dark dots and a notched submarginal line. Reniform-maculae ochreous, 2 dark spots in the cell. Hindwing pinkish-brown. ♀ 44 mm. New Guinea. 2000 m.

**grisola**

0. *grisola* B.-Bak. Forewing somewhat darker than in *ochracea*. Hardly any marking traceable. At the inner margin at the base a short red-brown patch and a narrow one at the distal margin at vein 4. Hindwing as in *ochracea*. ♀ 42 mm. New Guinea.

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**plagata**

0. *plagata* B.-Bak. Forewing pale ochreous grey with traces of an interior, median, and exterior line. Submarginal line notched, interrupted. The dark basal spot bent up to vein 2, where it ends oval, parted in the middle by a creamy white line. Reniform-maculae ochreous, 2 dark spots in the cell. Hindwing pale pinkish-brown. ♀ 48 mm. New Guinea.

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**strigata**

0. *strigata* B.-Bak. Forewing pale pinkish-brown, with a dark basal, median, and exterior line, all of them distally edged with pale. Submarginal line interrupted near the inner margin. Reniform-maculae reddish-yellow. Hindwing pinkish-brown. It may be the ♀ of *plagata*. ♀ 44 mm. New Guinea.

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**rufoscella**

0. *rufoscella* B.-Bak. (79 g). Thorax red-brown, abdomen brown. Forewing greyish-white with a red-brown median band being narrowly continued at the inner margin to the base. At the costal margin a spot before the median band and two spots behind it. Hindwing dark cinnamon-brown, at the anal angle lighter with 3 black dots. ♀ on the forewing lavender-grey, hindwing lighter. 38—44 mm. New Guinea.

**hadromeres**

0. *hadromeres* Tmvr. (79 g). Pale red-brown, with some subbasal black dots, behind them traces of 2 dark lines. Exterior line behind the cell strongly excurved, similar as the margin of the band in *rufoscella*. Behind it 2 black dentate lines. Abdomen and hindwing somewhat paler. ♀ 35 mm. Queensland. Although my only specimen does not quite agree with the original description, it probably belongs to this species, as there will not be many similar species in Queensland.

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**erythra**


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**plagiosa**

0. *plagiosa* J. & T. (79 g). Forewing pale cinnamon brown with darker brown lines. Traces of a basal and an interior line. Behind the light cross-vein a straight sharp line. Exterior line double, at the inner margin irregular, with a black spot on a lighter ground. Submarginal line slightly undulate. The dark radial line is stronger than the other lines. Hindwing pale red-brown. ♀ 42 mm. New Guinea.

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**transversa**

0. *transversa* B.-Bak. Forewing cinnamon-brown. Traces of a dark angular basal line and a straight median line. At the cross-vein an ochreous streak and a broad straight dark exterior line, distally light-edged. Radial line absent. Submarginal line dentate. Hindwing paler. ♀ 50 mm. New Guinea.
O. geminata sp. n. (79 f) may be the of plagiosa. On the forewing the interior line is double, more geminata. distinct to the inner margin. The double exterior line is uniformly finely notched. Its interior branch forms in the submedian fold a small semicircle proximad around a black dot. Behind it a broader dark nebulous line and an interrupted dark marginal line. 40 mm. Talesea, New Britain. Type in the Tring Museum.

O. trilineata B.-Bak. is probably similar to geminata. Forewing pale reddish-grey. A double red-brown trilineata. basal line is traceable. Median line double, its branches distinctly separated, somewhat oblique. Exterior line broad, oblique, red-brown. Before the broad curved submarginal line a fine parallel line. The dentate marginal line is outside white. Reniform maecula ochreous. Hindwing reddish-brown. 44 mm. New Guinea, 2000 m.

O. parallelis trifrons Rothschr. Body cinnamon-brown. Forewing pinkish cinnamon brown with some fine brown undulate lines and dots. A brown radial line from the base to the centre of the distal margin. A white stigma and a brown median line, strongly angled where it meets the radial line. Hindwing dark violet-brown. 42 mm. New Guinea.


O. albidilinea sp. n. (79 g). Scheme of marking similar to plagiosa, but the lines are whitish yellow. albidilinea. more distinct. Subbasal line composed of 2 parts, interior line slightly bent. The brown line behind the cross-vein is almost straight. Exterior line at the inner margin proximally removed. Before the submarginal line at the costal margin a light spot. Hindwing red-brown. 38 mm. New Guinea, 700 m. Type in the British Museum.

O. dinawa B.-Bak. (80 e). Body and forewing yellow. At the costal margin near the base some black dinawa. dots. Before the interior line at the inner margin light red-brown. From behind the centre of the costal margin to the anal angle a partition-line. Before it in the middle whitish-yellow, less intensely so as far as the inner margin. Behind it reddish-brown excepting the apex. Hindwing reddish-brown. 40—50 mm. New Guinea.

O. pratti B.-Bak. Similar to dinawa. Apical area greyish-brown, its interior edge curved from the centre pratti. of the costal margin to the distal margin at vein 4. The light stripe below it pale greyish-white instead of yellowish-white. Hindwing similar to dinawa. 42 mm. New Guinea.


The 3 following species strongly differ from each other and from the preceding species.

O. leucosticta J. & T. (80 g). Forewing ochreous brown with a feeble white basal line. White rings leucostica. form the interior line below the cell. An exterior row of white streaks with black dots and a row of black submarginal dots. Hindwing pale red-brown. 44—48 mm. New Guinea, 1200 m.

O. pseudolibraturix Rothschr. Distal margin of forewing similarly notched as the palaearctic Noctuid Scoliopteryx libaturix (Vol. III, pl. 52 n). Forewing wood-brown and yellow, at the inner margin in the interior half reddish-brown. Interior and exterior lines dark, double, filled with light; before the interior line traces of some more dark spots and lines. Reniform maecula yellowish-grey; behind it a dark line, submarginal line notched, white. Hindwing smoke-brown. 40 mm. New Guinea, up to heights of 1200 m.

O. plusiotis Rothschr. Forewing pointed, distal margin scarcely angled. Marking quite different. plusiotis. Forewing reddish-yellow, the base chocolate. From 1/3 inner margin to the cell a noted silvery line. Median band oblique, dark brown, at the inner margin inside red-brown. Exterior line dark greyish-brown, in the centre excurred, submarginal line red-brown, notched, both inside edged with light. Hindwing red-brown, at the anal angle a silvery streak. 50, 45 mm. New Guinea, up to heights of 1200 m.

Note: To the genus Omichlis presumably belongs also Toyomishachia argotopicta Malv., as far as can be judged from the figure in which, however, the distal margin is somewhat different to the right and left, because the fringes are damaged.


Ranged near Stenurus by the author, but it may be allied to Cerasana or identical with it.

B. rubripuncta Joan. Pale greyish-yellow. On both wings above and beneath a reddish-brown spot at the rubripuncta. cross-vein. On the forewing the 2 rows of spots obliquely inwards, one each beginning before and behind the apex, and a blackish-brown median band broader at the costal margin. Above veins 4 and 6 black marginal dot. On the thorax in front black dots. On the yellow abdomen, excepting the base and end, on each segment 5 black spots, one of them in the centre beneath. Owing to this peculiarity occurring besides only in the following genus the species is ranged here. 52—55 mm. North-Eastern Tonkin.
13. Genus: **Cerasana** Wkr. (Catarctia Holl. *)

Palpi short, densely haired. Probosces stunted. Forewing excurred between veins 3 and 4, the latter veins rise from the same place, 5 a little above the centre of the cross-vein, 6 from the upper cell-angle, 7 + 10 + 8 + 9 stalked. In the hindwing vein 5 also far in front, 6 + 7 on a long stalk, 8 close at the cell. Abdomen of ♀ with an anal tuft. The Australian genera in which the ♀ has also anal wool, but is separated by 2 pairs of spurs on the hind tibiae, have already been dealt with in the Lymantriidae.

**C. anceps** Wkr. (= *lutea* Pagenst.) (79 c). Forewing tan-coloured, basal area lined with red-brown, mostly with a very indistinct marking, often only a dark-edged light exterior line is distinct, behind it light red-brown spots. Black marginal spots not always present, just like the black spots on the orange abdomen. Hindwing red-brown with light bands. ♀ 48—55, ♂ 60—70 mm. Palawan, Borneo. Pydna basipuncta Sempr., from the Philippines, is probably the same species.

14. Genus: **Baradesa** Mr.

Palpi erect, projecting beyond the frons, densely haired. Antennae of ♂ and ♀ finely pectinated. Forewing elongated, apex sharp, distal margin scarcely undulated. Vein 6 behind the centre of the accessory cell, 7 and 10 + 8 + 9 from its apex. Type: **lithosioides** Moore.

**B. lithosioides** Mr. (80 a). Forewing dark brown, mostly with lighter brown radial stripes. An interior and exterior line is mostly only marked by double rows of black dots. A similar row before the margin. Hindwing orange with a broad dark margin, inside notched. The 3 last abdominal segments are black. 90—100 mm. North India.

**B. omissa** Rothsch. (80 a) is mostly somewhat smaller. Fore wing more faded, but a dark reniform macula is distinct. On the hindwing the marginal band is narrower, inside not notched. On the abdomen only the two last segments are dark. 70—80 mm. Assam, Malacca.

15. Genus: **Sorama** Wkr.

Palpi short and thick. Thorax with a small tuft in the middle and at the end. Neuration as in the following genus, but in the hindwing vein 8 is connected with the cell by a bar before the centre of the cell.

**S. bicolor** Wkr. (80 c). Forewing dark red-brown. A feeble light dentate line from 1/3 costal margin to 1/3 inner margin, often indistinct. Exterior line from 2/3 costal margin excurred and to 2/3 inner margin, at the beginning and end more distinct, strongly notched. Submarginal line distinct, feebly angled, inside with a dark shadow. Hindwing light reddish-brown. 52—70 mm. New South Wales, Tasmania.


Antennae of ♂ strongly pectinated almost to the tips, in the ♀ plain. Palpi short. Thorax in front with a tuft. Forewing elongated, vein 6 from the upper cell-angle or from the accessory cell, 7 and 8 + 9 from its apex, 10 from its anterior edge. Type: **semiaurata** Wkr.

**N. semiaurata** Wkr. (80 b). Forewing almost black. At the cell-end 2 horizontal white dots on the black radial streak, below it a short black patch from the base. From vein 6 to 1/4 inner margin a parted, distinct, white line, behind it the margin is grey. At the centre of the costal margin and often also at the centre of the inner margin somewhat grey. Hindwing orange, margin brown. 55—70 mm. New South Wales, Tasmania.

**N. capucina** Fldr. (80 b). Forewing dark red-brown, at the costal margin paler or greyer, like the median vein. An exterior notched line is sometimes discernible. A notched border-line from the apex obliquely to vein 2, also at the inner margin a notched line, the space behind it like the costal margin and with black streaks. Hindwing reddish-brown. 60—70 mm. New South Wales.

17. Genus: **Rachia** Mr.

Antennae of ♂ almost to the tips very long-combed. Thorax broad. Forewing elongated, distal margin somewhat undulated. Veins 6 + 10 + 7 + 8 + 9 stalked. In the hindwing veins 6 + 7 on a very long stalk. Type: **plumosa** Mr.

**I. Palpi short. Antennae long-combed.**

**R. plumosa** Mr. Forewing dark red-brown, at the inner margin lighter, with indistinct dark radial streaks. Before the light undulate line dark spots. Hindwing lighter brown, with traces of an exterior line. ♂ 75 mm. Darjeeling.

*) In the African *Notodontidae* the name *Catarctia* is synonymous and therefore to be cancelled. It was of course not to be expected that a name given to Asiatic *Arctiidae* has the priority.
II. Palpi longer. Antennae of ♂ with stiff pectinations.

R. striata Hmps. Forewing light brown with dark brown clouds, especially towards the apex. Above striata, veins 6 and 4 black streaks. The exterior indistinct band at vein 3 incured to the base of the inner margin. From the centre of the distal margin to the inner margin before the angle a dark band; on its outside dark grey. Hindwing similar to plumosa. ♂ 75 mm. Sikkim.

R. nodyna Suh. Thorax light and dark brown. Forewing dark brown, hued with violet. Interior line nodyna, very indistinct and obliquely from the costal margin to vein 2 behind the centre and to vein 1 sharply inwards. Above the centre of the inner margin and vein 4 one dark streak each, in the lower cell-end a light streak. Exterior line very indistinct, obliquely inward to the interior line at vein 2, then outwards, marked by black and ochrous streaks. Submarginal line ochrous brown. Hindwing brown. ♂ 70 mm. Khasia Hills.

18. Genus: Macroshachia Mats.

M. lineata Mats. The figure exhibits a slight resemblance to Rachia plumosa Mr., of which no ♀ is before me. lineata.


Ph. parivala Mr. (80 a). Frons and mesothorax wood-coloured yellow, abdomen dark brown. Forewing parivala, dark red-brown, at the base whitish. The brown submarginal band is narrow, on both sides uniformly notched, extending to vein 3. Hindwing brown. 70—85 mm. Sikkim, Siam.

Ph. sangana Mr. (81 a). Easily discernible by the white frons. Thorax dark, abdomen blackish-brown, sangana, with light rings. On the forewing the short submarginal band is very dark, almost darker than the costal margin; its interior border is very indistinct, notched. Before the anal angle blackish. — sigmigera Blkr. is only separated by a white reniform macula and a darker anal angle, — arvensis Blkr. by the yellow frons. 75—80 mm. Sikkim. The figure in Vol. II, pl. 47 c is probably a dark procera Flbr., so that this would be also palaeartic.

Ph. torpida Wkr. (81 a). Uniformly faded red-brown, only the interior and exterior lines distinct. torpida. Subapical spot pale, narrowly extending to vein 4; on its outside some pale yellow submarginal spots. Abdomen without light segmental margins. 60—75 mm. Sikkim.

Ph. procer a Flbr. (= bobi Suh.) (81 b). Frons white, abdomen as in sangana. The red-brown forewing procer a, at the inner margin mostly greyer and, in this case, before the interior line a distinct black spot. Apical spot large, inside rounded and intensely edged with black, at the costal margin with a short inward point, outside slightly notched, in a bow to below the apex. At the anal angle no dark spot. Two ♀♀ from the Kina Balu exhibit a very large, very dark brown apical spot edged with a broad black shadow. 70—90 mm. Sikkim, Burma, Malacca, Borneo.

Ph. goniophora Hmps. Similar to procer a (81 b). Apical spot reddish ochrous-brown, edged with yellow, goniophora, with 3 dark streaks from the costal margin to vein 5. From this spot the exterior line proceeds almost vertically to the inner margin, behind it black dots. 60 mm. Pundjab. — Larva gregarious, black with brown rings which are interrupted on the dorsum. 8 white dorsal and lateral lines. Hair-tufts arranged in rings, brown with white tips. On Quercus serrata.

Ph. raya Mr. (= grotei Mr., cossoides Wkr.) (81 a, b). Frons yellow wood-colour, abdomen light or raya, dark ochrous brown, forewing greyish-white, at the costal margin red-brown, sometimes with numerous dark undulate lines. Apical spot mostly broadly edged with white, often somewhat brownish instead of yellow and inside often notched. A series of black submarginal spots, the spot above vein 2 being especially distinct. Exterior line at the inner margin with a dark spot. — ambouine Flbr. only differs in the lighter base of the forewing. 55—70 mm. North India, South China. — Larva bluish-white with a few hairy subdorsal tubercles, laterally yellow with a red line, stigma black. After the last moult the ground-colour turns white. — acuta acuta, form, nov. On the apical spot the interior edge is almost inviably notched; as its course is steeeper, the lower end of the spot is more pointed. Java, Sarawak. — obscura Wile. The description corresponds rather well to all the species of Phalera. Judging from its size, it may be merely raya. Formosa.

Ph. javana Mr. (81 b). Similar to raya. On the forewing a black spot at the inner margin before the javana, interior line, no spot behind the exterior line. The apical spot terminates more pointedly at vein 4. 65—80 mm. Java. — amplificata form, nov. In the typical form the apical spot only projects strongly distad at vein 6, amplificata.
below it less so; in *amplificata* there is a strong dent also at vein 5. The interior-edge of the apical spot is more arched. Interior line in the submedian fold intensely black. ♀ 90−95 mm. Borneo. Type in the Berlin Museum.

**Ph. peruda** Drc. (81 c). Nearly the whole forewing is greyish-white. The faded apical spot is very broad, its interior black border-line distinct as far as the inner margin. Before the margin black dots. 65−70 mm. Mindanao, Guadalcanar, Toea Kei.

**Ph. elongata** Rothsch. Wings elongated. Forewing greyish-brown, hued with pink, at the base white. Interior line blackish-brown, distinct; behind it 7 indistinct grey lines. The reddish-yellow apical area is narrow, inside edged with a double red-brown line. At veins 3 and 4 black streaks. Hindwing bronze-brown. 65−70 mm. Assam.

**Ph. yunnanensis** Mell (81 c). Head and mesothorax yellow wood-colour, patagia grey, abdomen dark brown, with light rings. Forewing at the costal margin red-brown, otherwise greyish-brown. Interior line blackish, almost straight, exterior line notched, before it traces of some dark dilute lines. Subapical spot inside bordered by a white double line, slightly curved, outside from the apex by a distinct white line, both joined at vein 4. In the spot 4 dark brown diffuse patches, outside split. Veins 2 and 3 blackish. At the margin a black dentate line. ♀ 58 mm. Yunnan, type in the Collection Mell. 1 ♀, “Chinese-Tibetan frontier”, in the Coll. Oberthur.

**Ph. flavescens** Brem. (Vol. II., p. 47 c). This species having been described in Vol. II, p. 312 and figured on pl. 47 c occurs also in South China (Kwangtung) and Formosa.

**Ph. divaricata** (Sn. i. l.) (81 e). In the forewing veins 6−10−7+8+9 stalked. Forewing greyish-brown, from the median vein to the costal margin greyish-white. The black interior, median and exterior lines obliquely distally, the interior line indistinct. Reniform macula represented by a white streak at the cross-vein. Behind the exterior line at the apex broadly red-brown, then narrower. Behind it luniformly white. Hindwing red-brown. In the ♀ the forewing is greyish-white also at the inner-margin, the apical luna more faded. 42−52 mm. Khasia Hills, Java, Sumatra.

**Ph. diversa** Hmps. (81 f) may belong to this place. Forewing dark brown and grey. The interior black line is oblique, the median line is vertical, the exterior line begins below the costal margin, which is whitish there, and incurved below the cell. The black dentate submarginal line is incurved between veins 6 and 4, behind it greyish-brown. Marginal line black, undulate. Hindwing dark red-brown. ♀ whitish as far as the exterior line, excepting the basal area. 50−70 mm. Bombay, Kanara, Karwar.

**Ph. flavimacula** Wilem. According to the very inaccurate description the forewing is grey. Ring-macula and reniform macula represented by white spots, below the former a round black spot. ♀ 40 mm. Formosa.

Kirby mentions a *Phalera australasiae* Don. from Australia. In the revision of this group by Turner it is not stated and therefore probably to be cancelled.

### 20. Genus: *Epiphalera* gen. nov.

Antennae of ♀ pectinated as far as 2/3, in the ♀ shorter pectinated.

**Ph. ochrops** Hmps. Forewing pale ochreous brown and dusted with dark red-brown. An intense blackish band below the cell from the base to the interior line which is indistinct, double, below the cell inwards. Behind it in the lower cell-end a black streak. Reniform macula represented by a white ring, horizontally interrupted. Exterior line black, notched, outside white. An intense black streak above vein 3, short ones above 6 and 7. Submarginal line white, notched, interrupted. ♀ 50 mm. Ceylon. A ♀ from Sumatra, Barisan-Range, 800 m, which I consider to belong to this species, has not such intensely reddish forewings as on Hampson's figure, the white ring is not interrupted, the black streak behind it is stronger.

**E. innotata** Hmps. (Sch.). Thorax and forewing blackish-brown, hued with grey. Costal margin of forewing slightly curved, vein 5 from the centre of the cross-vein, 6 almost from the apex of the accessory cell, 10+7+8+9 from its apex.


Palpi porrect, thick, somewhat longer than in *Phalera*. Antennae of ♀ as far as 2/3 pinnate. Costal margin of forewing slightly curved, vein 5 from the centre of the cross-vein, 6 almost from the apex of the accessory cell, 10+7+8+9 from its apex.
22. Genus: **Discophlebia** Fldr.

Palpi short. Eyes with a hair-pencil behind. Antennae of ♀ foliated, in the ♂ plain. Forewing with a strongly bent costal margin. Vein 5 a little above the centre of the cross-vein, 7 + 8 + 9 from the apex of the accessory cell, 6 and 10 close by. In the hindwing veins 3 and 4 separated, 6 + 7 on a long stalk. Patagia with a high edge, ♀ with an ovipositor. Type: *costigera* Wkr.

**D. costigera** Wkr. (81 c). Thorax and forewing greyish-brown, lines black. An irregular line from 1/4 costal margin to 2/3 inner margin. Then follow 2 circles filled with red-brown; before and behind the second an undulating line, behind it the veins are black. Abdomen blackish-brown, at the end ochreous brown. Hindwing blackish-brown, at the margin broadly white. ♀ 50 mm. Bhutan, Khasia Hills, Sumatra (Mt. Koriintji, 2400 m).

**D. catocalina** Flchr. (81 c). Thorax and forewing greyish-brown, lines black. An irregular line from 1/4 costal margin to 2/3 inner margin. Then follow 2 circles filled with red-brown; before and behind the second an undulating line, behind it the veins are black. Abdomen blackish-brown, at the end ochreous brown. Hindwing blackish-brown, at the margin broadly white. ♀ 50 mm. Adelaide.

**D. blosyrodes** Trn. Body as in *catocalina*. The hindwing lacks the two circles. Hindwing only with a blosyrodes narrow white margin, not quite to the anal angle. ♀ 43 mm. Queensland.

**D. lucasii** Rosen (81 c). At the base of the forewing a horizontal black T. Interior line double, behind it another feebler one. Before and behind the latter one rust-brown circle each. Exterior line notched, at the inner margin outside with a large spot. Behind it as far as the white undulating submarginal line rust-brown. Hindwing brown without a white margin. ♀ 43—48 mm. South-Eastern Australia.

**D. lipauges** Trn. Antennae of ♀ shortly pectinated almost to the tips. Body and forewing blackish-brown with black lines. Behind a short undulate line 2 short longitudinal streaks. A line from 1/4 costal margin, where it is double, excurred, to 2/3 inner margin, behind it a line from 3/4 costal margin obliquely distad, then angular to 1/2 inner margin, between the two lines a pale ring-macula and below the centre of the costal margin a reniform macula. Exterior line from the centre of the costal margin strongly excurred to 2/3 inner margin. Hindwing dark brown. ♀ 54 mm., West Australia.


Palpi thick, erect. Forewing narrow. In the ♂ beneath at vein 1 a hair-pencil at the base, veins 2, 3, and 4 are distantly separated, 6 arises from the broad accessory cell, 7 and 8 + 9 or 7 + 8 + 9 from its apex, 10 from the anterior edge of the accessory cell. In the hindwing veins 3 + 4 on a short stalk, 6 + 7 on a longer one. Type: *costigera* Wkr.

**I. Antennae of ♀ very long-combed almost to the tips.**

**G. costigera** Wkr. (81 d). Forewing dark red-brown, behind the cell somewhat lighter. From the base costigera. of vein 5 inwards a short thick black streak. At the costal margin traces of an interior and median black line. Exterior line notched, more distinct. At the margin fine white dots. Hindwing lighter brown. 50—55 mm. North India. A specimen from West Sumatra exhibits the dark thorax of the following species. Exterior line and marginal dots absent.

**G. nagaensis** Hmps. (81 c). Thorax and forewing darker than in *costigera*. On both wings a white marginal nagaensis. line. ♀ 55 mm. Naga Hills.

**G. divisa** sp. n. (81 d). Similar to *costigera*. Red-brown. On the forewing a notched interior and median divisa. line marked at the costal margin. At 1/2 inner margin a large grey spot. Through the centre of the cell, almost from the base, a fine black streak extends to the light reniform macula. Exterior line black, at the costal margin notched, then composed of streaks on the veins, also at the margin black streaks. Interior angle somewhat grey. Hindwing greyish-brown. ♀ 42 to 45 mm. Burma, Malacca. Type in the Berlin Museum.

**G. curvaria** Hmps. (81 d). Forewing pale brown. At the inner margin at the base whitish, behind it dark curvaria. streaks. In the cell no black line. Ring-macula and reniform macula small, ochreous brown, centred dark. Exterior line compose dot black dots. Marginal dots black, large. Hindwing at the base lighter. 36—40 mm. Sikkim.

**G. luzonica** Smpr. Ground-colour greyish-brown. Interior line also distinct, before and behind the luzonica. exterior line black streaks. Median area somewhat dark, traces of a light undulate line. Hindwing at the base and inner margin whitish. ♀ 38 mm. Philippines. — A smaller ♀ from Sumatra exhibits quite a similar distal area of the forewing, the median area seems to be dark only at the costal margin, though the continuation may be damaged. — A ♀ from Java, however, is very uniformly reddish-brown, the two lines are less distinct so that it almost looks like a small *costigera*. — Young larva almost quite black, with but 2 pairs of prolegs and 2 very large points at the end. Later on light brown with white longitudinal lines.
acarodes.  

G. acarodes Trnr. is similar to the Sumatran \( \delta \) of luzonica. A dark spot at \( \frac{1}{4} \) costal margin, 1 small one each behind it at the costal margin and inner margin. The strongly notched exterior line distinct owing to the light surroundings. Undulate line, marginal area, and hindwing as in luzonica. \( \delta \) 30 mm. North Queensland.

II. Antennae of \( \delta \) short-combed almost to the tips. Vein II somewhat nearer to vein 10, but not fused with it.

ingen.  

G. ingen Wkr. (81 e). Head and thorax in front dark red-brown, the rest of the body ochreous brown. Forewing yellowish brown with a dark brown spot at the costal and inner margins, behind it there are traces of a white interior line. Ring-macula and reniform-macula marked pale. Behind the exterior line and at the notched undulate line at the costal and inner margins dark brown. Hindwing with a light band in the dark marginal area. \( \delta \) 55 mm. Sikkim.

albescens sp. n.  

G. albescens sp. n. Head and tegulae red-brown, thorax grey. Forewing pale brown, at the base darker with irregular white areas. Ring-macula large, white; obliquely below it and behind it one black dot each. Reniform macula white with a dark median line, behind it 3 black dots. Exterior line composed of black dots, two more dots in the submedian fold. At the costal margin behind it a dark triangle, before the undulate line white spots. The black marginal dots are distinct. Hindwing as in ingens (81 e). \( \delta \) 48 mm. Barisan Mts., 800 m (Sumatra). Type in the British Museum.

triplepunctata sp. n. (80 g). Body and forewing brownish-white, at the costal margin and in the submedian fold spotted dark. Ring-macula and reniform macula represented by black, light-edged streaks. Exterior line composed of 3 dots each on the veins, behind the reniform macula 2 larger dots, at the costal and inner margins with a dark spot. At the distal margin a row of intense dots, before them paler dots. Hindwing whitish, at the margin darker. \( \delta \) 44 mm. Java. Type in the Berlin Museum.

rufocostata sp. n. (81 d). Head, tegulae, and base of patagia rust-brown. Thorax and abdomen greyish-brown. Forewing at the costal margin rust-brown, at the base narrowly lighter, the rest greyish-brown, dusted with dark. Reniform macula marked by a black streak. Exterior line dark, notched. Before and at the distal margin black dots, apex almost black. Hindwing greyish-brown, the base lighter. \( \delta \) 55 mm. Barisan Mts., 800 m (Sumatra). Type in the British Museum.

circumdata sp. n. (81 d). Body as in rufocostata, only the thorax lactean. Forewing in the anterior half light red-brown, the same colour around the large white reniform macula as far as the traces of the exterior line, then narrowly to the apex. The rest of the wing lactean, at the margin fine black dots. Hindwing pale brown, traces of a light median band. 55 mm. Sumatra. Type in the Museum of Stettin. From the Barisan Mts. in the British Museum.

albovittata.  

G. albovittata Hmps. Thorax brown and whitish. Forewing dark brown with a faded whitish costal margin, from the centre to the apex in front dark. Veins at the apex with dark streaks. Reniform macula dark. At vein 1 and at the distal margin white dots. Hindwing dark brown with white marginal dots. \( \delta \) 40 mm Assam.

ferreopicta.  

G. ferreopicta Hmps. Thorax red-brown. Forewing dark rust-brown with a black-dot at the base of the cell. Interior line sharply angled below the costal margin, then vertical, behind it rusty red spots at the costal margin and vein 1, at the median vein 2 dark dots. An oblique median row of 4 black streaks. Cross-vein rusty red with a black luna through which a line extends from the costal margin to the inner margin. Exterior line represented by a double row of dots, behind it at the costal margin a triangular rusty red spot with an adjoining band to the inner margin. The light submarginal line with dark spots. Hindwing with a dark margin, \( \delta \) 32 mm. Ceylon. — In this species and the preceding one nothing is mentioned about the \( \delta \) antennae, for which reason they are difficult to group.

III. Antennae of \( \delta \) very long, in the terminal halves filiform.

In the forewing vein II together with 10 forms another accessory cell.

lithosidia.  


albimacula.  

G. albimacula Hmps. (81 e). Brown. Interior line on the forewing indistinct. Between the ring-macula and reniform macula a black streak. Exterior line undulate, with white dots and a larger spot at the inner margin. Submarginal line pale, irregular, marginal dots white. Hindwing dark brown, with white marginal dots. \( \delta \) 50 mm. Sikkim.

punctifascia.  

G. punctifascia Hmps. Similar to albimacula. Forewing without a white spot. An indistinct double interior and median row of black spots connected by traces of undulate lines. Exterior double row more distinct, undulate line indistinct. Hindwing with an exterior row of spots. \( \delta \) 52 mm. Khasia Hills.
G. nigra Wilem. The position of this species is uncertain, since nothing is mentioned about the shape nigra of the antennae. Thorax and forewing sooty black, at the cross-vein white scales. Hindwing smoky grey. 40 mm. Formosa.

24. Genus: Gargettiana gen. nov.

Palpi bent up to the frons. Antennae of ♀ finely ciliated. Base of abdomen long-haired. Forewing somewhat broader than in Gargetta, vein 6 from the upper cell-angle, 7 + 10 + 8 + 9 stalked. Hindwing at the base at the costal margin densely haired, veins 6 + 7 on a very short stalk. Type: melanosticta J. & T.

G. melanosticta J. & T. (81 g). Forewing brownish ochreous and dark brown, also with a greyer ground-colour, with numerous rows of black dots. Near the base an oblique band distally. Behind the exterior row an almost triangular spot at the costal margin. Reniform macula black-edged. Before and at the distal margin a stronger row of dots. ♂ 52 mm. New Guinea (Arfak Mts., 1200 m).

G. punctatissima B.-Bak. A plain melanosticta. Forewing cinnamon-brown, at the base and costal margin dark brown, with indistinct rows of dots, only the marginal dots more distinct. ♀ paler, so that the dark dots are prominent. 50 mm. New Guinea.


O. glauca Wkr. Thorax brownish-white, abdomen greyish-brown. Forewing whitish-brown or greyish-brown with numerous rows of darker brown dots. At the cross-vein a large pale broad spot, edged with dark. Close behind it a notched line from 3/10 costal margin to 1/5 inner margin, a submarginal row of black dots and an interrupted marginal line. 46—60 mm. Queensland. — In New Guinea the species is quite different. — melacana Fldr. is probably a damaged ♀ of glauca. In Felder's figure (in "Novara-Reise") the inner margin of the forewing is broad light. A specimen of the Berlin Museum, from the Ramu R. in New Guinea, is darker at the inner margin, otherwise similar. Described from Amboina. turneri, from New Guinea, is probably also only a form of glauca.

O. turneri B.-Bak. (81 f) shows on the forewing an angled basal band, a dark reniform macula, and behind it a severely notched dark line. At the inner margin before the latter line as far as the basal line whitish. Behind it a double row of dots and behind the latter at the inner margin dark brown. Before the margin a light straight dentate line and a row of black dots. The forewing may be also dark brown, almost black, in which case the reniform macula is lighter. — funerea B.-Bak. is dark grey, the reniform macula whitish, with a white partition-line and a dark margin. The line behind it is notched. — albipлага form. nov. (81 g) is rather unicoloured brownish ochreous. Traces of a basal and interior dentate line. Reniform macula narrow, light, with 2 black dots inside. Behind it a mostly strong dentate line. The submarginal black dots are distinct. At the anal angle a large white spot. 50—60 mm. Java, Borneo. Type in the Berlin Museum.

26. Genus: Osica Wkr. (Ortholomia Fldr.)

Palpi very long. On the frons a hair-tuft. Patagia large. Antennae of ♀ and ♂ pectinated to the tips. Forewing at the base strongly bent, then straight. Vein 5 a little below the centre of the cross-vein, 6 from the accessory cell, 10 from its apex, 7 close by. Type: duplicata Wkr.

G. duplicata Wkr. Thorax and forewing blackish-brown, slightly strewn with white and reddish-brown duplicata scales. Interior and exterior lines feebly traceable. Before the centre of the costal margin a black spot edged with white, below it often 2 or 3 smaller ones. In the centre of the wing an oblong black spot with a white edge. Abdomen and hindwing greyish-brown. 37—40 mm. Queensland.

G. ochropepla Trnr. Thorax and forewing greyish-white. Centre of wing white. At the base in the ochropepla, centre of the wing 2 black oblique streaks. Interior line grey, double, from 1/4 costal margin excurred to 2/3 X

27. Genus: Gallaba Wkr.

Palpi very long. On the frons a hair-tuft. Patagia large. Antennae of ♀ and ♂ pectinated to the tips. Forewing at the base strongly bent, then straight. Vein 5 a little below the centre of the cross-vein, 6 from the accessory cell, 10 from its apex, 7 close by. Type: duplicata Wkr.
inner margin, the exterior line excurred from \( \frac{2}{4} \) to \( \frac{3}{4} \) inner margin. Submarginal-line composed of dark grey streaks. Abdomen whitish, hindwing pale grey. \( \varphi \) 38 mm. Queensland.

\textit{G. eugraphes} Trnr. Forewing whitish, finely dusted with blackish-brown, before the interior line more intensely dusted with grey. Lines blackish-brown. A short basal line in the submedian fold. Interior line on \( \frac{1}{3} \) strongly undulated, double, intrangular above the inner margin. Exterior line from \( \frac{2}{4} \) costal margin almost to the anal angle, where it is incurved, thickened, undulated. Before it 2 fine parallel lines, the first of which is incurved at the costal margin. Hindwing dark brown. \( \varphi \) 40 mm. New South Wales.


Separated from \textit{Gargetta} by a prothoracic tuft and the absence of the hair-pencil on the forewing beneath. Abdomen of \( \varphi \) at the base and end with a hair-tuft. Antennae of \( \varphi \) shortly pectinated on \( \frac{3}{4} \) of their length. Type: \textit{diversa} B.-Bak.

I. \textit{Antennae of} \( \varphi \) \textit{shorter combed.}

\textit{Ps. diversa} B.-Bak. (81 f). \( \varphi \). Thorax and forewing ochreous with feeble red-brown spots. Below the cell 2 dark streaks. From the upper cell-angle to the apex 3 dark lunae. Marginal area paler with a row of black dots. Hindwing pale red-brown. \( \varphi \) larger and darker, only at the base of the forewing and behind the cell paler. All the markings as in the \( \varphi \), only the marginal dots feebluer. \( \varphi \) 46 mm, \( \varphi \) 70 mm. New Guinea. The figured specimen from Borneo shows the 3 lunae parted.

II. \textit{Antennae of} \( \varphi \) \textit{filiform.}

\textit{Ps. viridigrisea} Hmps. \( \varphi \). Thorax and forewing greenish-brown, somewhat greyish. Interior line almost straight, ring-macula light, double. Reniform-macula light brown, surrounded by a median line, exterior line notched, double. At the margin a strong row of dots. \( \varphi \) intensely dark brown, whereby most of the marking is covered, hindwing somewhat lighter. 36—48 mm. Sikkim, New Guinea and neighbouring islands, Queensland.

\textit{Ps. funebris} sp. n. Body and forewing dark red-brown. Head and tegulae blackish. Forewing in the basal area with numerous dark lines, costal margin before the centre slightly dusted green. At the cross-vein a dark spot. Submarginal lines distinctly black, with a bluish halo, the last dot at the inner margin large, strigiform, a small one before it at the inner margin. Before this row indistinct bluish spots centred with dark. Hindwing somewhat lighter. \( \varphi \) 44 mm. Fak-Fak (New Guinea) and New Pomerania. Type in the British Museum. A paler specimen from Queensland in the Tring-Museum.

\textit{Ps. fuscicollis} (Sn. i. l.) (81 f). Thorax and forewing dark red-brown, at and above the centre of the inner margin sometimes lighter. Interior line dark, from \( \frac{1}{4} \) costal margin to \( \frac{1}{2} \) inner margin, undulated, straight. Behind it at the costal margin slightly dusted with green. At the cross-vein beneath a greenish-white spot and two more spots obliquely inwards to the anterior edge of the cell, before the first a line almost vertical to the inner margin. Feeble traces of an exterior line, the submarginal spots likewise indistinct. Abdomen and hindwing lighter red-brown. \( \varphi \) 40—42 mm. Malaga, Borneo, Java, Celebes. Type in the Coll. Pagenstecher (Museum Wiesbaden).


Palpi extending to the frons, strongly haired. Legs, especially the short anterior tarsi densely haired. Antennae also in the \( \varphi \) well combed as far as \( \frac{3}{4} \) of their length. Forewing elongated, at the apex mostly pointed, inner margin at the base slightly excurred. Veins 3 and 4 somewhat separated, 7 + 10 + 8 + 9 stalked. Type: \textit{acuta} Wkr.

\textit{Ps. acuta} Wkr. (81 f). Thorax and forewing greyish-brown, more or less dusted with red-brown. The most distinct is an exterior row of black dots, strongly inerveced at the inner margin, sometimes at the median vein a fine dark shadow towards the distal margin. — \textit{indica} Mr. (= ernestina Swh.) has ochreous forewings. — \textit{deliacievena} Rothsch. The abdomen and hindwings are greyish-brown instead of red-brown. — \textit{deliacievena} Swh. The \( \varphi \) shows on the forewing dark streaks at the median vein and veins 2—7, a somewhat red-veined inner margin and median vein; hindwing as in \textit{acuta}. — \textit{mediofascia} Rothsch. The \( \varphi \) exhibits the radial median shadow stronger, towards the distal margin broader. Also at the inner margin, especially at the anal angle, broad dark. — \textit{stigmatica} form. nov. (81 f). The \( \varphi \) without radial bands. Forewing brownish-white, at the inner margin somewhat more intensely brown. In the distal area, with 2 rows of black dots and before them a row of brown, less distinct dots. Below the base of vein 2 a small pale red-brown spot and above it in the cell a larger one. — All the forms 36—60 mm. North India.

\textit{Ps. subcarnea} Warr. (81 f). Forewing dingy flesh-coloured with a faded light radial band from the cell-end to below the apex and one below the cell to the margin at veins 3 and 4. An exterior strongly bent row of dots. Hindwing dingy pink, \( \varphi \) 50—55 mm. New Guinea, Key Is.
Norraca; Niganda; Eutornopera; Stenadonta. By M. Gaede.

30. Genus: Norraca Mr.

*T. rufescens* *sp. n.* Somewhat more variegated. Thorax and forewing at the base and costal margin *rufescens*, pale ochreous, the rest spotted rusty brown before and behind the cross-vein and towards the anal angle. The space above veins 3 and 6 violetish-brown with a whitish marginal spot. At the veins before the margin 2 or 3 black streaks, separated by a light one. Hindwing as in *acuta*. ♀ 45 mm. Barisan Mts., 800 m, Sumatra. Type in the British Museum.

31. Genus: Niganda Mr.


*N. longipennis* Mr. This species has been described in Vol. II, p. 317 and figured on pl. 47 as *tra-longipennis*. "Minea." Forewing in the ♀ ochreous. Behind the centre with some indistinct dark undulated lines. In the ♀ the forewing is without markings. Hindwing with a slight reddish reflection. 45—55 mm. Ceylon, Malacca, Java.

*N. uncinata* Smpr. shows a colouring and lines as in *longipennis*, but the apex is very pointed and the *uncinata*, distal margin below it concave. 55 mm. Philippines.

*N. lativitta* Wtr. (80 b). Forewing yellowish-white, in the ♀ dusted with rusty yellow below the base lativitta. of the cell. From the lobes at the inner margin almost to the distal margin a broad brown oblique band as far as vein 4, where is extends more narrowly to the apex. The remaining margin almost white. Hindwing of ♀ blackish-brown, in the ♀ both wings lighter. 48—58 mm. Java: Gedeh Mts.

*N. curvilinea* Wilerm. Antennae of ♀ tufted. Thorax behind dark brown. Forewing pale greyish-brown, curvilinea. Interior line only traceable at the costal and inner margins, exterior line slightly curved from the centre of the inner margin to the apex. In the cell a black spot, 3 brown ones below it, and one at the inner margin before the lobe. Hindwing ochreous-brown, inner margin reddish. ♀ 45 mm. Formosa.

32. Genus: Eutornopera Hmps.

Palpi short. Antennae of ♀ finely ciliated. Abdomen long, with an anal tuft. Forewing narrow. Veins 3 and 4 from the cell-angle, 6 + 10 + 9 + 8 + 7 stalked. In the hindwing vein 5 far below the centre of the cross-vein. Type: argentinatia Hmps.

*Eu. argentinatia* Hmps. (81 g). ♀. Forewing violetish brown, at the cross-vein and vein 5 a T-shaped marking argenti- fascia. above it towards the apex lighter. An exterior row of black dots and black marginal dots. ♀ forewing at the costal margin violetish-brown, in the cell and above vein 5 yellow, towards the inner margin reddish-brown. 45—70 mm. Sikkim. Java.

*Eu. quinquesstriata* Hmps. (81 g). Body and forewing reddish ochreous brown with yellowish-white longitudinal patches. Above the inner margin somewhat reddish small spots. Hindwing pale brown. ♀ 40 mm. Sikkim.


Palpi rising to the frons. Antennae of ♀ ciliated. Abdomen long. Forewing at the base of the costal margin convex, narrow. Vein 6 from the centre of the accessory cell, 7 + 8 + 9 from its apex, 10 from its anterior edge. Type: cyttarrosticta Hmps.

*St. cyttarrosticta* Hmps. (82 a). Pale reddish brown. The double interior and exterior lines are undulated, very indistinct. Behind the exterior line dark spots. A black horizontal streak in the cell-end, continued at vein 5 as a silvery blue spot. Hindwing dark brown. ♀ 45 mm. Bhutan.

*St. radialis* *sp. n.* (81 g). ♀. Thorax violetish-brown, abdomen pale brown. Forewing with a white radial band to the apex, below it as far as the submedian fold pale reddish-brown, costal and inner margins...
somewhat lighter, interior angle greyish-white. Exterior line notched, from below 3/4 costal margin obliquely outward to vein 2, then punctiform to 1/4 inner margin. Interior line of dots, obliquely inward, beginning below the cell. Hindwing pale brown. In the ♂ the radial band is less intensely whitish-grey like the inner margin below the cell and at the distal margin. Only the exterior line marked by double dots. The black marginal dots are more distinct than in the ♀. Apex in both wings more pointed. 32—42 mm. North Kanara. Type in the British Museum.

34. Genus: **Sentana gen. nov.**

Palpi short-haired, projecting beyond the frons. Antennae of ♂ (as far as they are preserved) strongly pectinated, in the ♀ long, finely ciliated. Forewing narrow, flattened at the apex. Neuration of forewing as in *Stenadonta*. Hindwing at the apex somewhat pointed, especially in the ♀. Veins 3 and 4 from the same place, 6 + 7 on a shorter stalk than in *Stenadonta*. Altogether it slightly recalls the European species *Nonagria* (*Senta*) *maritima* (Vol. III, pl. 48 c).

**L. violascens** sp. n. (82 a). Thorax and forewing dark violetish-brown, in the anterior half greyish-white, and the costal margin behind the centre again narrow brown. A strongly notched dark interior line is traceable. Ring-macula and reniform macula white, the latter inside with a brown streak. Median vein fine white, also at vein 1 somewhat white, and fine white marginal dots. Abdomen and hindwing lighter brown. 30—32 mm. North Kanara. Type in the British Museum.

35. Genus: **Economodes** Trim.

Palpi of 3 erected to the frons, of ♀ shorter. Thorax in front with a hair-tuft. Anterior tibiae of the ♀ with a long hair-pencil. Forewing oblong-triangular. Veins 3 and 4 separated, 6 from the base of the accessory cell or before it, 7 and 8 + 9 from its apex, 10 from its anterior edge. In the hindwing veins 3 and 4 likewise distant separated.

**E. sagittaria** Luc. (82 a). Thorax and forewing ochreous, dusted with brown. Marking dark brown. A subcostal streak from the base to 1/3 of the length of the wing and finer onward, connected by a spot at 1/3 and behind 1/2 with the costal margin. A short streak in the base of the submedian fold. A streak at the end of the median vein and, after an interruption, bent up to the apex, with a side-branch to 1/4 inner margin (probably traces of an exterior line). Abdomen and hindwing brownish. 34—40 mm. Brisbane.


Palpi rising to the frons, densely haired. Antennae of ♂ partly strongly pectinated, partly only tufted. Forewing broad, at the apex mostly pointed. Accessory cell of variable length, veins 7 and 10 + 8 + 9 from its apex, or also 10 and 8 + 9 from the apex. Type: *testacea* Wkr. Cf. Vol. II, p. 316 and Vol. XIV, p. 436.

1. **Antennae of ♂ strongly pectinated, in the ♀ less so.**

**testacea** Wkr. (82 a). Pale ochreous brown. Forewing spotted dark brown, with a distinct black dot at the cross-vein. Sometimes an exterior line of double spots is visible, incurved at the inner margin. From the apex a shadow along the median vein, and some dark submarginal spots. Abdomen and hindwing of ♀ red-brown, of ♀ varying between orange and whitish. — *kanadena* Mr. may be separated owing to the more intensely dark brown forewing, 50—80 mm. North India, Sunda Is.

**hungada** Swh. (82 a). In the colouring similar to *testacea*. Interior line light, notched. Central dot distinctly black, in a lighter halo. The light undulated exterior line is strongly incurved below the cell, then vertical to the inner margin. Submarginal dots light-edged. In the ♀ the exterior line is also indistinct. The whole posterior half as far as the centre of the cell and to the apex light, but the costal margin brownish. Hindwing whitish, at the inner margin somewhat red-brown, 50—80 mm. Java, Borneo.

**tenebralis**. P. *tenebralis* Hmps. (82 b). Ground-colour also similar to *testacea*. Forewing with a curved interior and exterior line, the latter incurved below vein 3, between them reddish-brown with a black spot at the cross-vein and a dark shadow from the apex. Abdomen and hindwing dark brown. ♀ 40 mm. Sikkim.

**decurrens**. P. *decurrens* Mr. (82 b). Pale yellow. Forewing with a faded red-brown interior and exterior line, both strongly angled in the middle. A red-brown line from the apex obliquely inward, ♀ 50 mm. Khasia Hills.


**bela**. P. *bela* Swh. Thorax and forewing dark reddish-ochreous, with a brown radial band to the apex and a similar band below it. Sometimes a few brownish spots from the centre of the inner margin to the apex. Abdomen
and hindwing whitish, at the margin pinkish-brown. 35 mm. Cherra-Punji. — aroides Sveh. has a feeble radial band, but besides an indistinct interior and exterior line, strongly angled below the costal margin, towards the inner margin broken up in spots. Hindwing light ochreous. 35 mm. Khasia Hills.


**P. nana** Sveh. (82 b). Similar to a small longivitta. The radial band does not reach to the apex. The 2 rows of marginal dots are situate farther outside. 35 mm. North Kanara, Nilgiris.

**P. inconspicua** Wilem. Forewing pale brown with a dark radial patch below the cell. A subbasal and interior line of black dots. Exterior line blackish-brown, undulated. Hindwing whitish, with traces of a dark exterior line. 40 mm. Formosa.

### II. Antennae of ♂ tufted, of ♀ ciliated.

**P. ochracea** Mr. (82 d). The species has been described as a Pydna and also left at this genus by ochracea. Hampson. Owing to the large lobe at the base of the forewing and the pointed apex of the hindwing the species would be better ranged in the genus Norcaca. The ♀ is apparently still unknown. ♂ uniformly orange, hindwing lighter. 70 mm. Darjeeling.

**P. crenelata** Sveh. Forewing pale ochreous brown, in the interior half brownish, with a shadow at the crenelata median vein to the centre of the distal margin, with many dark spots and black marginal dots. Hindwing pale brown. 45 mm. Cherra Punji.

**P. rosacea** Hmps. Forewing pale pink. Inner margin as far as the cell-end brownish. Fine rows of black rosacea dots form the interior and exterior lines. At the costal margin outside a conspicuous black spot. From the apex two oblique bands interrupted by the pink veins. Hindwing dark brown. 36 mm. India.

**P. atrivittata** Hmps. (82 c). Body and forewing olive brown, at the distal margin paler. From the base atrivittata almost to the centre of the distal margin a blackish-brown radial band with a light streak above it at vein 4. At the upper edge of the cell and at vein 1 lead-coloured, cross-vein with a light spot. A strongly curved dark median band narrowly marked. An oblique dark band from the apex to 3 inner margin only distinct in the upper part. Marginal dots black. Hindwing pale reddish-brown. 44 mm. Sikkim.

**P. pallida** Blr. (Vol. III, pl. 56 c). This species described from Japan has already been dealt with in pallida. Vol. II, p. 316. According to Elwes, the Indian form is different. On account of the resemblance we presume that the ♀ figured as elwesi is this form mentioned just now: elwesi form. nov. (82 c). Thorax more intensely elwesi olive brown. The radial band on the forewing also extends across vein 4 and is widened at the distal margin as in pallida, with whitish spots at the margin. From the base from vein 3 proceeds the olive brown band, but below the cell to the base. Hindwing reddish-brown. 60 mm. Khasia Hills. Type in the British Museum. — notata Sveh. is to be cancelled as synonym of pallida, because it is a Crambidia.

**P. brunnea** Sveh. Forewing ochreous brown with black dots at the costal margin and a spot ½ distant brunnea from the apex, a spot below the centre of the cell, and a curved exterior row of black dots. Hindwing blackish-brown. 55 mm. Khasia Hills, Ceylon.

**P. metaphaea** Wkr. (82 c, d). Pale ochreous. A black spot below the base of vein 2 and a streak behind metaphaea the cell may be absent. More distinct are an exterior row of dots, a row at the margin, and a feeble oblique band from the apex. Abdomen and hindwing darker brown. 45—55 mm. Ceylon, Borneo.

**P. endophaea** Hmps. (82 c). The species is placed to metaphaea by the author, though there is no endophaea resemblance whatever. Ochreous-brown. Forewing dusted with rusty brown, with 2 rather indistinct interior rows of rusty-red dots, angled at the median vein. Above the cell-angle a dark dot at the costal margin, then 2 exterior rows of dark dots with a patch extending from the apex, at the inner margin sharply inwards to the interior row. Also at the margin a row of dots. Hindwing more yellow. 35 mm. Kanara.

**P. suisharyonis** Strd. (82 c). Ground-colour brownish-white. The pointed ends of the radial band are darker than the rest of it; at the inner margin another parallel, obsolete band. Marginal dots distinctly black. Hindwing slightly brownish. 42 mm. Formosa.

**P. formosicola** Strd. (82 c)—may be the ♀ of suisharyonis. Forewing yellow with a rusty red radial band formosicola to the apex, also at the inner margin rusty red, with an adjoining band before the margin. Some submarginal dark dots. ♀ 32—54 mm. Formosa. A Javanese specimen used for the figure is more intensely red.

**P. postica** Mr. (82 d). Thorax rusty brown. Forewing pale yellow with a uniformly narrow rusty brown postica radial band to the apex. At the inner margin below vein 2 a triangular spot from which traces of a band extend to the apex. Before the margin black dots. Hindwing somewhat brownish at the inner margin. 42 mm. Sikkim.
virgata.  
**P. virgata** Wilem. Pale brown with rusty brown radial blotches below and in the cell. At the inner margin darker brown. An exterior row of black dots, and black marginal dots. Distal margin very oblique. Hindwing dark brown.  \(\varphi 50\) mm. Formosa.

eupatagia.  
**P. eupatagia** Hmps. Forewing whitish, interior area violetish-grey. At the base a dark spot and a streak at the median vein. Interior line dentate, indistinct, exterior line dark, from the apex a streak extends to it. Before the margin black spots. Hindwing blackish-brown, at the apex lighter.  \(\varphi 50, \varphi 35\) (??) mm. Sikkim.

obliqua.  
**P. obliqua** Hmps. Body and forewing ochreous brown. An oblique smoke-brown shadow from the apex to before the centre of the inner margin, with a dark spot in it below the cell and crossed by a faded radial band which is yellowish at the base and brown at the cell-end. An interior and exterior row of dark dots and a sub-marginal row of oblique streaks. Hindwing smoke-brown.  \(\varphi 38\) mm. Khasia Hills.

albifusa.  
**P. albifusa** Wilem. Forewing ochreous brown, at the base whistie. The narrow radial band to the apex and the veins darker. The former pointed at the beginning and end. At the distal margin some dark lines. 42—48 mm. Formosa.

sordida.  
**P. sordida** Wilem. Similar to albifusa, but the radial streak straighter to the distal margin, where it is broader and connected with a brown line to the apex. An exterior row of black dots and one at the margin. Hindwing pale brown. 45—50 mm. Formosa.

frugalis.  
**P. frugalis** Leech. This species described in Vol. II, p. 316, enters the Indian Region in the North-Western Himalaya (Kangra-Valley).

nebulosa.  
**P. nebulosa** Wilem. Forewing whitish-brown, in the disc darker. The subbasal, interior, exterior, and marginal lines are composed of black dots. A brown radial stripe leads to a spot behind the interior line. From the apex a brown oblique streak to the exterior line, and two more before it. Hindwing dark brown. 40—42 mm. Formosa.

aurata.  
**P. aurata** Hmps. (82 d). Forewing in its anterior half and at the base golden yellow, the rest slightly brownish. Traces of an oblique rusty red interior, median, and exterior line at the costal margin. At the cross-vein a black spot. From \(\frac{2}{3}\) costal margin a row of black dots, white marginal lunae and black dots before them. Hindwing dark brown. In the forewing the accessory cell is relatively long. 50—55 mm. Sikkim, Khasia Hills.

fasciata.  
**P. fasciata** Mr. (82 e). Ochreous brown with light spots in the cell, below the apex, and before the distal margin. Behind the cell a slightly curved dark band and a row of blackish-brown dots. Hindwing dark reddish-brown. Antennae of \(\varphi\) dentate and tufted. 65 mm. Darjeeling.

sikkima.  
**P. sikkima** Mr. (82 d, e). Forewing orange, a spot at the cross-vein surrounded by red-brown. Inner margin as far as vein 2 red-brown. A double exterior row of red-brown dots, behind them double spots extending from the apex, and dark marginal dots. 55—60 mm. Sikkim. — **essa** Sth. Pale ochreous-brown, in the \(\varphi\) darker. Forewing with many transverse rows of dark spots, which are incurved at the inner margin. Behind the cell, at the apex and inner margin darker. Marginal dots black. 50—60 mm. According to HAMPSON **essa** belongs to sikkima, according to ELWES it is a form of pallida.

divisa.  
**P. divisa** Mr. (82 f). Forewing ochreous brown. From the base of the costal margin through the cell and more narrowly onward at vein 4 a reddish-brown band. An exterior row of black dots and one at the margin. Hindwing dark brown.  \(\varphi 50\) mm. Sikkim.

albistriga.  
**P. albistriga** Mr. (82 f). Brown, with a slight violet reflection. Similar to divisa, but smaller and the distal margin slightly notched. Below vein 4 near the distal margin a silverly white streak. 45—50 mm. Sikkim, Formosa. — **kanshireiensis** Wilem. According to the author almost the same as albistriga. No differences mentioned in the description. Formosa. All my albistriga are without the accessory cell.

nigropuncta.  
**P. nigropuncta** Hmps. Forewing ochreous brown and red-brown, with traces of an undulating red-brown interior and exterior line. With a conspicuous black spot below vein 5 and a red-brown streak at the apex. Black marginal spots, before them traces of a dark submarginal line. 45 mm. Sikkim.

basistriga.  
**P. basistriga** Mr. (82 e). Coloured like nigropuncta. At the base a distinct red-brown streak. Interior and exterior lines absent. Hindwing somewhat less dark.  \(\varphi 40\) mm. Sikkim.

nigrofasciata.  
**P. nigrofasciata** Hmps. Separated from nigropuncta by a dark radial band to the centre of the distal margin. Ground-colour pale olive brown. 45 mm. Sikkim. — **acyptera** Hmps. (82 f). According to ELWES a form of nigrofasciata. Forewing yellow, dusted with rusty brown. Interior line indistinct, rusty brown, angled in the centre, exterior line from near the apex, both almost to the centre of the inner margin. Below the centre of the cell a black spot. Hindwing pale red-brown, at the apex and margin lighter. 55 mm. Jaintia Hills.
III. Antennae still more pectinated than in the 1st group, vein 10 of forewing arises freely from the apex of the accessory cell. Both the species similar to longivitta (82 b.)

**P. ferrifera** Wkr. Yellowish-white. Radial band faded, the veins with rusty yellow streaks. The interior ferrifera, row of the submarginal spots is incurved to the centre of the inner margin. Hindwing yellowish-white. ♂ 45 mm. Sikkim.

**P. juncta** Mr. (82 e). Radial band similarly marked and bordered as in longivitta, with a spot below juncta. vein 2, expanded behind the cell. At the costal margin near the base 3 notched lines and 2 from the centre of the inner margin obliquely outward, sometimes as far as the costal margin. A submarginal row of dots and before them a line. ♂ 45—48 mm. Sikkim.

**P. calypsis** Sieh. may be no Pydna at all. Forewing in the cell, above it and below half its length calypsis, greyish-red, the rest grey, with 3 light excurved bands. Before the margin white dots, edged with dark. Hindwing lilac grey. ♂ 50 mm. Dorey. — It is uncertain to which group the species belongs.


This genus merely differs from Pydna, in which all shapes of antennae occur, in the uniformly tufted antennae of the ♂. If most of the Pydna-species were not described as Pydna, all these species would have to be transferred to the older genus Ramesa. Type: tosta Wkr. Cf. Vol. XIV, p. 434.

**R. tosta** Wkr. Forewing from the costal margin to vein 4 dark brown with a red-brown stripe extending tosta. from the apex. Posterior half ochreous-brown, the inner margin narrowly dark brown. A series of exterior and marginal dots. Hindwing greyish-brown. — luridivitta Hmps. (82 f) only differs in somewhat red veins in the luridivitta. distal area. 35—40 mm. Burma, Ceylon.

**R. docilis** Wkr. (82 f). Greyish-brown. Forewing in the posterior half paler. Near the base black radial docilis. streaks, 2 dark curved exterior lines, the interior one of which is very indistinct. Black submarginal dots. 32 mm. Sikkim.

**R. galbana** Sieh. (82 f). Thorax with a brown central spot and a projecting point. Forewing creamy galbana. yellow, finely dusted with black. A black dot at the base of vein 2, and one below it, an exterior row and fine marginal dots. In the ♂ all the dots are very fine. Abdomen brownish-white. Hindwing white. 32—35 mm. Sikkim.

**R. fusipennis** Mr. Forewing uniformly dark brown. Reniform macula indistinct. edged with light. fusipennis.

Exterior row of dots indistinct. Marginal dots inside white. ♂ 40 mm. Burma.


Antennae of ♂ serrate. Palpi very short, whereby it is distinguished from Ramesa and Pydna.


**D. combusta** Wkr. (= lineolata Wkr.) (Vol. II, pl. 47 e). Already described in Vol. II, p. 315. In our combusta. district it occurs in India, South China, the Sunda Is., and the Philippines; not in Africa, as stated in Vol. II; it is replaced there by atrata Gräbgr.

40. Genus: Metaschalis Hmps.

Palpi short, thick. Antennae of ♂ moderately pectinated as far as 2/3 of their length. In the elongated forewing vein 5 arises a little above the centre. Veins 6 + 7 + 10 + 8 + 9 stalked. In the hindwing veins 3 + 4 on a tiny stalk.

**M. disrupta** Mr. (82 g). Dark red-brown. At the cell-end a white and orange spot, behind it a small disrupta. black one. From there a silvery white radial streak extends to the white apical spot. Hindwing dark brown. ♂ 52 mm. Sikkim, Assam.
41. Genus: **Antheua** Wkr.

Separated from *Dinara* only by the somewhat shorter ciliated pectinations of the ♂ antennae. Wings somewhat broader. The scheme of markings is quite different. Type: *varia* Wkr. from Natal. — Cf. Vol. XIV, p. 432.

A. **sercula** Dry. (= discalis Wkr., exanthemata Mr.) (82 g). Forewing orange, dusted with rusty brown, and below the cell-end with a spot. Hindwing white, outside brownish, in the ♀ darker. 42—46 mm. India, Ceylon, Java. Larva brown with a yellow lateral line and double sublateral and subdorsal red spots.

42. Genus: **Aoshachia** Mats.

In the contours of the wings somewhat like *Antheua* Wkr. Palpi cleft, the 2nd joint long-haired. Antennae of ♂ pectinated almost to the tips, in the ♀ finely ciliated. Neuration of forewing: vein 6 from below the cell-angle, 7 + 8 + 9 stalked, 11 rather strongly anastomosing with 12. In the hindwing vein 5 is absent, 7 arises before the cell-angle, 8 behind the centre of the cell. Hindwing brown at the inner margin. 50—58 mm. Sikkim.

43. Genus: **Pseudofentonia** Stbl.

Palpi short. Forewing somewhat elongated, vein 5 far beyond the centre of the cross-vein, 6 + 10 + 7 + 8 + 9 stalked. In the hindwing vein 5 also far in front, 6 + 7 on a short stalk. Type: *argentifera* Mr.

I. Antennae of ♂ strongly pectinated as far as ¾ of their length.

A. **argentifera** Mr. (79 e). Grey, with 2 dark brown double notched lines near the base, a double exterior line oblique, uniformly undulated from % costal margin to % inner margin. Exterior line double, strongly notched, projecting at the apex below the cell, then light onward. Cross-vein with a dark streak. Behind it at the exterior line a double streak; exterior line double with an angle at vein 3. From the apex to the exterior line a light notched line. — **basalis** Mr. may be a distinct species. Interior line along the inner margin much more obliquely outward, whereby the greyish-yellow median area grows narrower. The light apical line extends further inward, whereby it encloses a broader greyish-white marginal area. Below vein 3 another light spot. 48—50 mm. Sikkim.

B. **viiriscens** Mats. Forewing greenish-yellow with a silky gloss, veins olive green, costal margin white. Hindwing white, iridescent, the margin narrowly greenish, fringe white. 48—55 mm. Formosa.

II. Antennae of ♀ shorter combed, the pectinations ciliated, in the ♀ still shorter combed.

A. **brunnea** Mr. (82 g). Forewing dark red-brown, at the base lighter. Interior line in front dark as far as the apex below the cell, then light onward. Cross-vein with a dark streak. Behind it at the exterior line a double streak; exterior line double with an angle at vein 3. From the apex to the exterior line a light notched line. — **basalis** Mr. may be a distinct species. Interior line along the inner margin much more obliquely outward, whereby the greyish-yellow median area grows narrower. The light apical line extends further inward, whereby it encloses a broader greyish-white marginal area. Below vein 3 another light spot. 48—50 mm. Sikkim.

B. **siragupa** sp. n. (82 h). Forewing rather uniformly grey. The indistinct subbasal line and double exterior line are very oblique. The double exterior line projects distally at vein 3, outside narrowly edged with pale red-brown. Before it a strongly notched indistinct line meeting the interior line at the inner margin. At the cross-vein a black dot. The black submarginal line from the apex to vein 4 straight. Hindwing red-brown. Thorax and abdomen grey mixed with brown, ♀ 52 mm. Singapore. Type in the British Museum. As this specimen is a ♀ and without antennae, the position in this group is uncertain.

C. **sordida** Wilem. In the typical form in Japan. — **formosana** Wilem. Forewing grey, at the base darker. Interior line oblique, uniformly undulated from ¼ costal margin to ½ inner margin. Exterior line inside light, outside dark, dentate, normally bent. Median area inside whitish, outside brownish. Before the margin a dark lunular line. Hindwing dark brown. 45—50 mm. Formosa.

D. **obliquiplaga** Mr. (82 h). Thorax blackish. Forewing at the base and in the median area reddish-brown. Near the base a dark grey, black-edged band. Exterior line double, strongly notched, projecting at veins 3 and 4, outside broadly edged with grey. Marginal area brown, with a dark lunular line. Hindwing light reddish-brown, at the inner margin flesh-coloured. ♀ 55 mm. Sikkim, Assam, Sumatra. — **grisescens** f. nov. Thorax and basal band of forewing blackish. The rest of the wing grey. Of the exterior line only the anterior portion as far as vein 4 is preserved, distally to it not darker. Kwangtung. — (Disparia) **wilemani** Mats., from Formosa, may belong to this place, at least it is very similar to *obliquiplaga*.

E. **nigrofasciata** Wilem. Forewing grey, dusted with dark. Interior line dark brown, very oblique; before it, slightly separated, a broad black band. Exterior line double, undulated, parallel to the distal margin, and a black lunular line at the margin. ♀ 50 mm. Formosa.

F. **apicalis** Mr. (82 h). Quite different. Forewing brown, with dark spots instead of the interior and exterior lines. At the margin, vertical on vein 2, a thick white line, behind it a finer line. Hindwing red-brown. ♀ 42 mm. Sikkim.
Ps. discosticta Hmps. Violettish-brown, at the base ochreous-brown, with a grey-edged black line as discosticta, far as below the cell, behind it a red-brown line as far as vein 1, and three interior undulate indistinct lines. At the cross-vein a conspicuous black spot. Exterior line of greyish-black lunae, strongly incurved, inside as far as vein 5 ochreous brown, behind it some more faded lunular lines. Hindwing reddish-brown.  ♂ 46 mm. Khasia Hills.

III. Antennae of ♂ somewhat dentate and ciliated.

Ps. basalina sp. n. (82 h). Very similar to basalina; but separated by the antennae. Interior line more basalina, flaved in the submedian fold, then more obliquely outward to the inner margin. Median and marginal areas more red-brown. The greyish-white apical spot extends farther inward.  ♂ 52 mm. Sumatra, Mt. Korintji, 2400 m. Type in the British Museum.

IV. In the forewing vein 6 from the upper cell-angle. Antennae of ♂ pectinated.

Ps. ocularis Smpr. (82 h). The type is very badly preserved, nevertheless it suits the genus Stauropus, ocularis, as which it was described, much less than Pseudofentonia, although the forewing is strongly bent at the base of the costal margin. Base of forewing ochreous brown, from there to the double interior line dark red-brown. At the lower angle of the cross-vein and inwards above it a black dot. Before this line somewhat greyish yellow, behind it more intensely so. Then follows a strong double black line, straight as far as vein 3, then removed inwards, more indistinct. Behind its anterior portion in a violettish-blackish shadow another line. Distal area red-brown with black submarginal spots. Hindwing red-brown.  ♂ 50 mm. Philippines.

V. In the forewing vein 6 from the upper cell-angle. Antennae of ♂ pectinated and ciliated, in the ♀ plain.

Ps. maculatus Mr. (83 a). Forewing grey, in the median area more or less hued with red-brown, with maculatus, numerous dark grey lunular lines. Before the margin more intensely black spots. Hindwing reddish-grey. 40—48 mm. Sikkim, Nagas. — The species has but 1 pair of spurs on the hind tibiae as Stauropus, yet the scheme of markings suits better this genus. The type of ocularis is without its legs, so that its alliance with maculatus can only be presumed.

44. Genus: *Epistauropus* gen. nov.

Antennae of ♂ pectinated as far as 3/4 of their length, the dents gradually shortening towards the apex. In the forewing vein 5 is very far in front, 6 and 10 + 7 + 8 + 9 from the apex of the accessory cell which is small in apiculatus. In plagiviridis vein 6 rises on a long stalk with the others. Type: apiculatus Rothsch.

E. apiculatus Rothsch. (83 a). Dark red-brown. An interior dark line and an exterior one are feebly apiculatus, recognizable. From the apex to vein 3 a pinkish-white luna, and a smaller spot between veins 3 and 2. Hindwing pinkish-brown. 45—60 mm. Assam, Penang, Borneo. — *Disparia seriata papucata* Mats., from Formosa, seems to be the same species.

E. vinaceus Mr. (83 a). Very similar. Exterior line composed of double spots. The luniform spot is vinaceus, notched towards the inner margin. Hindwing brown. ♀ 55 mm. India.

E. plagiviridis Mr. (83 a). Dark brown, with green irregular spots at the base and in the centre. Exterior plagiviridis, line and submarginal line green. Hindwing red-brown, at the base lighter. ♀ 48—54 mm. Sikkim, Assam, Ceylon.

45. Genus: *Fentonha* Blr.


I. In the hindwing veins 6 + 7 on a short stalk.

F. ocypete Brem. (= lacvus Blr.) (Vol. II, pl. 45 b). This species distributed from Japan to India has ocypete, been dealt with in Vol. II, p. 291. A ♀ from Singapore is strongly darkened. The exterior line on the forewing seems to be situate somewhat farther outside between veins 3 and 6, then more obliquely to the costal margin. The original description of the form crevulata Mats., was not to be obtained.

F. canifusa Hmps. Forewing red-brown, in the basal area dusted with grey. A large irregular grey spot canifusa, from the apex to vein 3. A double undulate basal, interior, and exterior line are present. Hindwing greyish-brown, ♀ 45 mm. Khasia Hills. The species has been ranged near ocypete by the author, but it seems to suit better the genus Pseudofentonia.
F. orbifer Hmps. (83 b). Originally described as "Stauropus". Later on placed to this genus. Antennae of ♀ rather strongly pectinated. Vein of forewing from the base of the accessory cell, 10 somewhat more separated from veins 8 + 9. Forewing milky white. From the middle third of the costal margin a quadrangular blackish-brown spot extends, connected with a similar one between veins 2 and 4, at the distal margin extending almost to the apex. One greenish-brown spot each near the base, above the interior angle, and before the apex. Submarginal dots white. Hindwing red-brown. ♀ 45 mm. Sikkim, Sumatra. — rotundata Mats. shows the lighter apical spot also distally surrounded by the dark ground-colour. Formosa.

II. In the hindwing veins 6 + 7 on a long stalk.


F. ferrifusa Dudy. Forewing grey and rusty red, especially a spot before the apex. Below the cell a black streak to a curved oblique line from the base of the costal margin to a faded black spot at the inner margin. Interior line represented by an indistinct red-brown triangle from the costal margin to the median vein. An exterior row of black spots. Behind it a reddish-brown undulated band, widened at the costal margin. Hindwing whitish. ♀ 27 mm. Sikkim.

F. crenulata Mats., described as a Fentonia, looks much rather like a Hyperaescha dentata. Formosa.

46. Genus: Higena Mats.

H. plumigera Mats. As the figure only exhibits the contours of the wings but no marking whatever, we cannot say anything about this form. From Formosa.

47. Genus: Stauropus Germ.

Palpi erect. Antennae of ♀ strongly pectinated as far as 4/5 of their length, in the ♀ plain. Forewing broad, vein 6 from the angle, 7 + 10 + 8 + 9 stalked. In the hindwing veins 6 + 7 on a moderately long stalk. Hind tibiae quite exceptionally with but one pair of spurs. For a long time the genus formed a large reservoir of various forms similar to the genera Sphinx and Agrotis. The subdividing will probably be continued yet. Type: fagi L. from Europe. — As to the genus itself cf. Vol. II, p. 289.

persimilis.

St. fagi L. also occurs, according to Swinhoe, in the Philippines in the form persimilis Btlr. (Vol. II, pl. 44 h). It has already been described in Vol. II, p. 289, where it is stated to be smaller, whereas specimens of the Coll. Püngeler are rather larger than fagi.

alternus.

St. alternus Mr. (= indicus Mr.) (83 b). Forewing brownish grey, more rarely with a slight green reflection. The interior white line is mostly rather indistinct, the exterior line strong, sharply notched. Before the margin dark spots. On both wings a white lunular line at the margin. In the ♀ the hindwing is dark brown. — albecens. ♀ albecens Mr. is uniformly grey, almost only the submarginal spots recognizable. 42—55 mm. India and Indo-China, Sumatra Is., Philippines.

sikkimensis.

St. sikkimensis Mr. (83 b) is very similar to alternus. Separated by slight or absent notches on the exterior line which extends more obliquely outward to the inner margin. Base of forewing grey, the interior berberisae edge of the median area and on the hindwing the costal margin somewhat greenish. — In berberisae Mr. the khasianus, whole forewing is suffused with dark brown. — khasianus Rothsch. is uniformly hued with green on the forewing. 45—60 mm. Sikkim.

albinacula.

St. albinacula sp. n. (83 b). In size similar to persimilis. Thorax and forewing dark greenish. Interior line only distinct in one ♀, yellowish, from the subcostal vein strongly incurved to the median vein, then obliquely outward to the inner margin. One black streak each at the cross-vein and before it. The yellowish-white exterior line in front strongly notched, at vein 4 inwards and straight, obliquely outwards to the inner margin. Inside edged with dark and before it another light line and a dark line. Behind it black spots inside edged with bluish, the foremost being conspicuously white. Marginal area browner, especially in the ♀. Hindwing with a notched light median line. 55—70 mm. Sumatra, Borneo. Type in the British Museum.

mioides.

St. mioides Hmps. Similar to sikkimensis. Forewing greyish-white, dusted with brown. A small dark spot below the base of vein 2 and another one at the lower cell-end on the fine indistinct exterior line. A submarginal row of dark dots, the dots below the costal margin and above vein 5 removed inwards. Hindwing dark red-brown, at the costal margin greenish white. ♀ 42 mm. Assam.

basalis.

St. basalis Mr. (Vol. II, pl. 44 g). This species has also been described in Vol. II, p. 290. It occurs in Tonkin. According to Swinhoe also in the Philippines.

melastomatis.

St. melastomatis Fldr. (83 b, c). Forewing of the ♀ at the base as far as the notched interior line and in
the marginal area grey, the latter indistinctly defined. Intense black submarginal and marginal dots. Hindwing dark brown. In the ♀ the marginal area of the forewing is not lighter, the hindwing somewhat darker. 40—50 mm. Amboina.

St. affinis Rothsch. is probably only a form of melanostomatis. Separated on the forewing by a pale sub-affinis, costal spot ⅓ from the apex and 3 black spots in and near the cell-end. On the hindwing a large blackish apical spot. ♀ 50 mm. New Guinea, Mt. Goliath, 2000 m.

The following species are more intensely green. The 3 first are probably one and the same species.

St. evanescens sp. n. (83 c). Forewing very pale green. Interior line indistinct, blackish, evanescens, dark green. Thick white streaks at the cross-vein, before it and below it. The exterior broad white line is very indistinct like the submarginal spots, too. Marginal dots black. Hindwing with a triangular dark green costal margin. Inner margin yellowish. ♂ 44 mm. New Guinea, 600 m. Type in the British Museum.

St. viridissimus B.-Bak. (83 c). Forewing rather uniformly pale green. Interior line indistinct, blackish, viridissimus, at the inner margin obliquely outwards, inside edged with white. At the cross-vein a black streak, before it another one of 2 dots. The rest similar to evanescens. Below ⅔ costal margin a dark spot. On the hindwing the costal margin is broadly pale green, otherwise pale red-brown. 40—65 mm. Key Is., Amboina, New Guinea. — habrochroa Tems., from Queensland, may be the same species.

St. pratti B.-Bak. (83 c) is very similar, but more brightly marked. Interior line more distinct and pratti, apparently somewhat more slanting, before it there may be a black spot. Around the cell a very indistinct dark line parallel to the light exterior line. Median area darker green. Marginal area and hindwing similar to viridissimus. ♂ 40 mm. New Guinea (Mt. Goliath).

St. virescens Mr. (83 c). ♂. Forewing yellowish-green. Interior line double, black, often filled with virescens, yellowish-white, behind it 2 fine yellowish-white dots. At the cross-vein a black spot. Exterior line double, composed of black lunae, filled with yellowish. Hindwing light red-brown, at the costal margin green with 3 red-brown lines. ♀ with 4 irregular dark bands (lines?), hindwing pale brownish-grey. 40—55 mm. Sikkim, Borneo, Sumatra, 1500 m.

We add here some species which have been described as Stauropus, though they certainly do not belong to this genus. From the original descriptions one cannot tell where they belong to.

St. dentilinea Hmps. Forewing grey, in the basal and distal areas slightly dusted with brown. With dentilinea, very indistinct undulating interior and exterior lines. The Notched marginal line is dark, before it dark spots. Hindwing dark brown, at the costal margin lighter. ♀ 40 mm. Nilgiris, Ceylon.

St. basiniger Mr. ♀ pale brown. Forewing at the base blackish, bordered by a curved black line, basiniger. Exterior line double, undulated, incurved, at the inner margin more distinct. Before the margin black lunae. ♀ 60 mm. Balasore.

St. nigribasalis Wilem. Grey. On the forewing the basal third is black. Maculae edged with white. nigribasalis. Interior line black, oblique, in the middle concave. Exterior line black, serrate, outside edged with white, at the cell-end incurved, at the inner margin outside with a black cloud. Hindwing dark brown with a whitish-grey apical spot. 50 mm. Formosa.

St. wilemanisi Mats. (= pulverulentus Wilem.). Grey, dusted with dark. Interior and exterior lines wilemanisi. ochreous brown, the first indistinct, the other one in the middle concave, with brown spots at it. Hindwing grey, base darker. ♂ 50 mm. Formosa.

St. confusa Wilem. Grey, in the disc somewhat ochreous brown. Costal margin at the base spotted confusa, black and white, 2 undulating interior and 2 exterior lines with a feeble one between them, all rather indistinct. Marginal line dark grey. Hindwing whitish, at the costal margin grey. ♂ 55 mm. Formosa.

St. talboti nom. nov. (= pulverulentus Talb.) (83 d). The type (♀) is without its antennae. Thorax and talboti, forewing greyish-white, dusted with black. The dark basal area is defined by a double dark line. Exterior line composed of double spots, its exterior branch more rectilinear as far as vein 3, then more incurred. Before the margin an irregular light line. Hindwing greyish-white, at the margin brown. ♀ 58 mm. Sarawak, 2000 m.

St. inclusa Hmps. Antennae of ♂ tufted, of ♀ ciliated. Forewing whitish, densely dusted dark red-brown, the interior portion of the basal area and the marginal area lighter. A brown streak below the base of the cell. Interior line intensely brown, from the costal margin inwards to the median vein, then straight. At the cross-vein a brown streak. Exterior line brown, beginning at the costal margin near the interior line, obliquely to vein 6, then inwards, dentate, and to the interior line at the inner margin. Submarginal line pale, undulated, light lunar spots at the margin. 45—50 mm. Khasia Hills. — Larva gregarious, near the anal end with a feeble protuberance. Yellow with a black dorsal line and 2 lateral lines, stigmata edged with black. On Quercus griffithii.

Antennae of ♂ and ♀ strongly pectinated almost to the tips. Hindtibiae with 2 pairs of spurs. **N. viridescens** Wlk. (83 d). Dark greyish-green. Subbasal, interior, and exterior lines black, double, undulated. Reniform macula light, very feeble. Submarginal line distinct. ♀ very much larger. In the basal griseatus and median areas brown. — **griseatus** ♀ Hmps., is grey instead of green, the hindwing also lighter. ♂ 50—70 mm, ♀ 70—90 mm. Sikkim, Ceylon, Java.

49. Genus: **Kikuchiana** Mats.

Antennae of ♂ similar to Desmeocraera. Palpi erect, long-haired. Thorax in front and in the middle with one conical hair-tuft each. Forewing with a dent in the centre of the inner margin. Vein 5 from above the centre of the cross-vein, 6 below the cell-angle, 7 + 8 + 9 + 10 stalked. On the hindwing veins 6 + 7 on a short stalk. In both wings veins 3 and 4 separated. **O. infuscata** Mats. Forewing dark brown, the lines black. Subbasal line W-shaped. Interior line straight, obliquely outwards, then removed inwards. Exterior line double, undulated, behind it broad brownish. Submarginal line composed of brown spots. Hindwing dark grey, without markings. ♂ 40—42 mm. Formosa.

50. Genus: **Desmeocraera** Wlgr. (Syntypvis Tmn., Quadricalcarifera Strd.)

Palpi longer than in Stauropus. Antennae also in the ♀ strongly pectinated as far as 2/3 of their length. Neuration as in Stauropus, but especially the hindwing broader, larger, the cross-vein straight, obliquely outwards. On the hind tibiae 2 pairs of spurs. Type: **interpellatrix** Wlgr. — The number of species described here is very large. Many names will probably prove to denote merely forms, since the variability seems to be rather great. Moreover, the examination of the genitals will cause many species to be subdivided. Owing to the marking being mostly very indistinct, as in the genus Cascera, the descriptions are of little value without coloured figures. The genus is also well represented in the Ethiopian Region; cf. Vol. XIV, p. 410.

**D. subgeneris** Strd. (83 e). Forewing whitish-grey, in the type somewhat greenish. In excellently preserved specimens there is also a dark interior line visible, strongly incurved below the cell. Exterior line better visible, extra-angular at vein 4. Hindwing pale red-brown, at the costal margin whitish-grey. 38—46 mm. Formosa, Japan.

**D. formosanus** Mats. Judging from the insufficient original figure the body and forewing is not to be seen. Hindwing brownish only in the anal half. ♂ 44 mm. Formosa. — This species and subgeneris are probably only grey forms of *cyanea* Leech which is much more greyish-green than in the figure Vol. II, pl. 45 a.

**D. viridipicta** Wlgr. Forewing greyish-brown, at the base more intensely dusted green, the rest feeble. At the cell-end a dark spot. Exterior line undulated, in the centre excurved. Hindwing dark brown, at the costal margin darker. ♂ 36—40 mm. Formosa.

**D. viridipicta** Wlgr. Forewing greyish-brown, but more distinct, behind it at the costal and inner margins a dark patch. Besides a distinct submarginal line. Hindwing as in subgeneris. ♂ 45 mm. New Guinea (Wandammen Mts., 1200 m).

**D. bella** B.-Balc. (83 e). Similar to a small lama Oberth. (Vol. II, p. 290). Forewing dark greyish-brown, at the base as far as the scarcely recognizable interior line greenish. The exterior row of spots blackish-brown. Fringe at the veins traversed by white. Hindwing whitish, at the costal margin dusted with green, distal margin broad brown. The forewing, however, may also be more intensely dusted with grey and darker, so that the exterior band becomes indistinct. At the cross-vein there is then a more distinct white spot. 35—42 mm. New Guinea (Ekeikei and Ninay Valley) 1200 m.

**D. rufescens** Rathsch. (83 c). The exterior edge of the row of spots of bella is rather distinctly preserved. From there almost to the base dark red-brown. The marginal area and the somewhat lighter basal area are
dusted with grey. Hindwing at the margin broader reddish-brown. 36—35 mm. New Guinea (Biagi, Mambare R.) 1500 m. — 1 ♀ from the Ninay Valley, 1200 m, is larger (45 mm), in the marginal area more intensely dusted with green.

**D. triangulum** sp. n. (83 e). Thorax and forewing pale greyish-green. An exterior line shaped as in *triangulum*. Subgeneric is hardly recognizable. At its lower end a brown triangle, also at the costal margin a feeble shadow. The black submarginal line is marked in front. Abdomen and hindwing light red-brown, at the costal margin greenish. Fringes of both wings traversed by yellow. 45 mm. Singapore, Penang. Type in the Museum of Stettin.

**D. insufficiens** sp. n. (83 f) is very similar to *triangulum*. Behind the exterior line which is likewise insufficiens. indistinct another broader tripartite yellowish line. The black submarginal line is longer. Hindwing somewhat lighter than in *triangularis*. Fringes not traversed by yellow. ♀ 42 mm. Sumatra, Barisan Mts., 800 m. Type in the British Museum.

The following species are greener and mostly more intensely marked.

**D. griseus** Hmps. (♀ = canescens Hmps.) (83 e). Thorax and forewing dark greyish-brown, with traces griseus. of a dark interior and exterior line. Hindwing paler brown. ♀ on the forewing as far as the exterior line darker brown. 50—58 mm. Nilgiris, Ceylon.

**D. chlorotricha** Hmps. (83 d). ♀. The original description is somewhat indistinct. As a specimen chlorotricha. likewise taken by Möller is at hand, it will belong to this species, because few specimens originate from this capturer. Thorax and base of forewing somewhat greyish-green. Interior line, if present, double, vertical, at the inner margin slightly incurred. Median area as far as the conspicuous exterior line dark green, enclosing a bluish-white ring-macula and reniform macula. Marginal area little lighter, with or without a black submarginal line. ♀ 42—45 mm. Darjeeling (Möller), Kwangtung. In the ♀ the marginal area of the forewing is browner, and below the ring-macula there is also a conform macula. — kebeae B.-Bak. (83 f) may be the kebeae. same, but the double exterior line is more distinct. Such specimens are at hand also from the Khasia Hills (♀) and North Kanara (♂). In both there are notched dark spots behind the exterior line and at the costal inner margins and feebler ones above vein 3. The whole scheme of markings may sometimes be browner and sometimes greener.

**D. saitonis** Mats., from Formosa, seems to be allied to chlorotricha, but the reniform macula and ring- saitonis. maculae are indistinctly light, the conform macula is not defined. ♀ 50 mm.

**D. rufotegula** sp. n. Similar to a small chlorotricha (83 d). In the type the tegulae are intensely rusty rufotegula. brown. Forewing at the base and in the marginal area chocolate brown, median area finely dusted with dark grey. The double exterior line is well recognizable. No traces of light maculae. Hindwing red-brown, at the costal margin dusted with green. ♀ 40—42 mm. New Guinea, Central Buru, 700 m. Type in the British Museum. 1 ♀ from Selangor has white hindwings, only the inner margin being brownish.

**D. mediobrunnea** B.-Bak. is similar though larger. ♀: forewing in the basal area ash-grey, in the median mediobrunnea. area dark brown, marginal area pale chocolate brown. No double exterior line. In the ♀ the base and marginal area are pale ochreous grey, the dark median area is large. 45—55 mm. New Guinea: Kebea, Ekeikei, 500—2000 m.

**D. trisopylus** J. & T. (83 f.) Forewing greenish grey. Interior line indistinct, at the inner margin extra- trisopylus. angular, the exterior line double, notched. Behind it at the costal margin somewhat dark and at the inner margin more intensely dark. Submarginal line black, distinct. The 3 maculae white, but they may also be absent. Hindwing greyish-white, at the apex brownish. — roseus form. nov. has a darker forewing, the 3 roseus. maculae are pink. Type in the British Museum. — In mediogriseus form. nov. (83 f) the basal and marginal areas mediogriseus. are greener, the median area greyer, the maculae white. Exterior line in the type filled with white, behind it at the costal margin broad dark. Type in the Tring Museum. ♀ 35—40 mm. New Guinea, 500—2000 m.

**D. fragilegus** Rothsch. Forewing greenish-grey. Interior and exterior lines double, but the exterior fragilegus. line not forming any lunae. Both mostly filled with bluish-grey. The 3 maculae white, also yellowish, or they may be absent. Hindwing at the costal margin greenish, ♀ 36—38 mm. New Guinea, 1500 m, Russel I., Cooktown. — As chloropasta Trnr. is also described from Queensland, according to an apparently little marked specimen, it is probably the same species. — A specimen from Central Buru is larger (44 mm), ground-colour of forewing light green: aeruginosus form. nov. Type in the British Museum.

**D. mixta** B.-Bak. Forewing greyish-white with green lustrous scales and dark lines. The base is more intensely green. Only the interior line is double, straight. The cell-end whitish-grey. Exterior line notched, also behind it whitish-grey. Hindwing pinkish-brown. It may be an extreme form of mediogriseus (83 f). ♀ 45 mm. New Guinea, 1000 m.

**D. alboviridis** Rothsch. (79 g. 80 b). Similar to a very small fasciatus Mr. (83 g). Ground-colour alboviridis. extensively white. Base and inner margin as far as vein 2 green. Interior and exterior lines double, the latter at the costal margin with a large greenish spot. The 3 maculae are white. Hindwing pale brown. ♀ 40 mm. New Guinea, 1500 m. (It may be the ♀ of trisopylus ♀). — Allied with the species of this group is opaca Trnr. The description of this form does not provide us with any particulars. Kuranda.
**leucophaeus.**

*D. leucophaeus* Rothsch. (83 f). Head and tegulae white. Forewing greenish-black as far as the apices of the exterior line. Interior line single, marked. The 3 maculae are white or greyish-white, in the figured specimen also the base is white at the costal margin. Marginal area dark brown with a black submarginal line. Hindwing of ♀ white, at the inner margin brownish, in the ♀ pale red-brown with a normal apical area. 42 mm. New Guinea (Mt. Goliath, 1500—2000 m), Sumatra (Mt. Korintji, 1500 m). — *viridimaculosa* Mats., from Formosa, seems not to differ from it.

**leucocraspedus.**

*D. leucocraspedus* J. de T., (83 g). Forewing red-brown. The double interior line is indistinct, before it the costal margin is white. Behind the double external line at the usual places dark spots, behind them the marginal area is white. The 3 maculae are hardly prominent. Hindwing brownish-white with an apical spot and adjoining pale brown band. ♀ 44 mm. New Guinea (Arfak Mts., 2000 m).

**viridigriseus.**

*D. viridigriseus* Rothsch. (83 g). ♀ forewing greyish-green. The double interior and exterior lines distinct, undulated as usual, behind the exterior line sometimes dark spots. Submarginal line distinct. Hindwing pale red-brown, at the costal margin greenish. ♀ 48—54 mm. If the difference of size were not so great, the species described as *frugilegus* might be the ♀ of it. The ♀ of *viridigriseus* is described as follows: forewing brown, exterior half intensely, interior half less densely dusted with white and green. A number of indistinct double dark lines through the disc and a fine submarginal line. The original figure is not coloured and does not make the impression that these ♀ and ♀ belong together. ♀ 49 mm. New Guinea, Biagi, Aroa R.; moreover, Russel I., Guizo I., New Pomerania. — *sciera* Trier, is the same or very similar to this species. North-West Australia. — *D. marginalis* Mats., from Formosa, is either identical with the preceding species or very similar to it.

**viridinitens.**

*D. viridinitens* Rothsch. Forewing greyish-white, densely dusted with green. Interior line double, exterior line also double, partly formed of lunae, both dark brown. A submarginal band of dark brown streaks. Hindwing pale red-brown, apical spot brown and white. 50—55 mm. New Guinea (Biagi, 1500 m).

**dubious.**

*D. dubious* B.-Bak. Forewing grey, at the base intensely dusted with green, behind it less so. Interior line only marked, of the exterior line the exterior branch is distinct, the interior branch only at the inner margin. Dark shadows at the costal margin before and behind it, at the inner margin only behind it. Distal area brownish, marginal line distinct. Hindwing reddish-brown. 45—50 mm. New Guinea: Kebea, Ekeikei. The non-coloured figure seems to resemble a faded *triplagosus* or *fasciatus* (83 g).

**triplagosus.**

*D. triplagosus* Rothsch. (83 g). White with a few dark scales and green areas. Interior and exterior lines double, dark red-brown with a similar spot at the inner margin before the interior line and behind the exterior line, at the costal margin before and behind the exterior line. Hindwing in the anterior third grey with a dark apical spot. ♀ 58 mm. New Guinea (Mt. Goliath, 150 m). The figured ♀ from Ceram, 2000 m, differs on the hindwing.

**fasciatus.**

*D. fasciatus* Mr. (83 g). Ground-colour white. Interior line double, vertical, before it green. Exterior double line often interrupted in the middle, at the costal and inner margins with a large green spot, the latter connected with the basal spot. Hindwing milky white. 58—68 mm. Darjeeling, Khasia Hills. — *umbrosa* Mats., ♀ white, ♀ grey. Behind the cell at the costal margin a large greenish-brown dark triangle with its apex at vein 4, below it a small spot distally removed, and a larger spot at the inner margin likewise with a large oblique spot. Formosa, Khasia Hills.

**perdix.**

*D. perdix* Mr. (83 h). Forewing brownish-white, very indistinctly marked. The double interior and exterior lines similar as in *fasciatus*. Before the exterior line at the cell-end and below vein 2 one large red-brown spot each. Hindwing at the inner margin reddish-brown with a dark exterior band. ♀ 56 mm. Darjeeling. — *kikuchii* Mats., is probably the same, at least both exhibit the peculiar W-mark on the cross-vein. Formosa.

**albivertex.**

*D. albivertex* Hamp. Frons white. Thorax and forewing iron grey with an undulate irregular interior and exterior line. Hindwing almost white, at the anal angle somewhat brown. Judging from the description it hardly belongs to *perdix-fasciatus* near which it is placed by the author. ♀ 65 mm. Kashmir.

The following species exhibit a somewhat different scheme of markings.

**nitidus.**


**purpurascens.**

*D. purpurascens* Rothsch. (83 h). Dark reddish-brown, dusted with bluish-green. Interior and exterior lines scarcely traceable. Before and behind the exterior line blackish almost to the cross-vein, also behind it at
the costal margin. The green submarginal line is very distinct. Hindwing whitish. 30—38 mm. New Guinea
(Mt. Goliath, 2000 m).

D. dinawa B.-Bak. Forewing dark grey with metallic green scales. Base at the costal margin ochreous dinawa.
green, the inner margin deep red, at the centre of the inner margin a green spot and behind it a dark one,
distally white-edged. Between the cell and the apex traces of a dark spot. Hindwing of the ♂ whitish, margined
with dark. ♀ 34 mm. New Guinea (Dinawa). From the Area River.

double, in the ♂ straight, in the ♀ somewhat undulated. Exterior line double, composed of lunae. The 3 maculae
are edged with light. The green submarginal line as in nitidus, before it blackish, behind it mostly greenish.
Hindwing reddish-brown, the apical spot dusted with green. 36—52 mm. New Guinea (Mt. Goliath, Mambare,
Utakwa R.), Sumatra (Mt. Korintji, 2000 m).

On the abdomen 3 small tufts. Marking of forewing quite different.

D. pallidifascia Hmps. Ground-colour light reddish-brown. Interior line dark, double, vertical, ex-
curved above the inner margin. Reniform macula light. Exterior line uniformly curved, before it deep dark
below vein 2 and between veins 4 and 6. Distal area greyish-green or light brown, with a light dentate line
before the dark submarginal line. Hindwing pale red-brown, at the costal margin darker. 40—48 mm. Sikkim,
Singapore. — germanus Rothsch. (84 a) is larger. Marking the same. In the ♀ the hindwing is yellowish-white, germanus.
in the ♂ the white marginal line of the forewing is more broken up into spots. 45—52 mm. New Guinea up to
altitudes of 800 m, Central Buru 1500 m.

D. centrobrunnea Mats. In colour and scheme of marking quite similar to pallidifascia, chiefly separated
by the shape of the exterior line which is only more sharply bent at vein 3, from where it runs vertically to the
costal margin. ♂ 40 mm. Formosa. — concentrica Mats, is probably a specimen of the somewhat variable
pallidifascia. Likewise from Formosa.

D. takamukuanus Mats. It seems to be a small species with broad wings; that is all we can tell from takamukuanus.

51. Genus: Pseiidostaiiropus gen. nov.

On the whole, it recalls the African Desmeocraerula Stvl. (Vol. XIV, p. 416, pi. 69 i). Antennae of ♂
and hind tibiae as in Desmeocraera. Forewing with erect scales. Veins 10 -(-7 + 8 + 9 stalked, 10 branches
off shortly before 7.

Ps. plagosus sp. n. (84 a). Thorax greyish-brown. Forewing creamy white, below the base of the cell plagosus.
blackish-brown. Interior line double, obliquely outwards to the median vein, below it 2 short streaks inwards,
the costal margin inside narrowly darker. Exterior line double, from 2/3 costal margin obliquely outwards as
far as vein 3, then inwardly removed and parallel on to the anal angle, where it is spotted. At the costal margin
behind it a large dark brown spot, below it a few dots. Before and at the margin dark dots, the former edged
with white. Abdomen and hindwing dark reddish-brown. ♂ 38—43 mm. Penang, Sumatra (Barisan Mts.).
Type in the British Museum. — Formotensha marginalis Mats, described from Formosa might be the same,
in which case Matsumura’s name would be prior.

52. Genus: Somera Wkr.

Palpi erected to the frons. Antennae of ♂ pectinated to the tips, in the ♀ more feebly pectinated.
Forewing broad. Vein 6 from the side of the narrow accessory cell, 7 and 10 + 8 + 9 stalked, 10 branches
off shortly before 7.

S. viridifusca Wkr. (83 h). Ground-colour light green, the lines dark brown, interior line double, exterior viridifusca.
line notched, 3 or 4 fold. Between veins 2 and 4 mostly a brown spot. Sometimes at the cross-vein bluish-
green dots. Hindwing red-brown. 50—60 mm. Sikkim, Ceylon, Sunda Is.

S. brillians sp. n. (84 a). ♀. Thorax and forewing lustrous yellowish-green. The double black interior brillians.
line sharply extraangular below the cell. Besides many rows of black spots. Abdomen and hindwing red-brown.
In the badly preserved ♂ the forewing is of a purer green, the thorax dark brown, 45—55 mm. Sumatra (Mt.
Korintji, 2500 m). Type in the British Museum.

The two following species have much narrower wings similar as in the palaearctic genus Ereureta (Vol. II,
p. 291), and the antennae of the ♂ not pectinated to the tips.

S. smaragdiplena Wkr. ♂ forewing dark rusty brown with about 6 irregular emerald-green transverse smaragdi-
plena. Length of wings 22 lines. Sarawak. According to the kind information by the British Museum, oxoia
Sek. and antonia Drc. are the same species.
S. triangularis sp. n. (83 h). Thorax green, tegulae red-brown. Forewing green. Interior line black, undulated, inside with black spots. Exterior line double, the interior branch stronger, almost parallel to the distal margin, behind it below vein 3 a short black patch, above vein 4 a long one, above its exterior end some more as far as vein 7. Submarginal greyish-black spots and a black notched marginal line. Abdomen and hindwing red-brown. 60 mm. Buru, 1500 m, Malacca. Type in the British Museum.

S. lichenina Btlr. Forewing pale green, with white scales especially in the base of the costal margin. Ring-macula and reniform macula close together, forming a grey 8, centred with dark. An undulated grey interior and exterior line is traceable. The dark submarginal line is more distinct. Costal margin with many oblique red-brown streaks. Hindwing pale chocolate brown, the costal margin lighter, with the usual Stauropus-spots. 50 mm. Borneo.

S. baruna Mr. has been omitted here, because it has been described on p. 295 among the Lymantriidae as Dasychira. Cf. pl. 41 f.

53. Genus: Kakostauropus gen. nov.

In the neuration similar to Stauropus, but the wings broader. Antennae of $\varphi$ with shorter pectinations, but as far as the tips. Hind tibiae with 2 pairs of spurs.

O. glaucoviridis Rothsch. (84 a). Forewing pale bluish-green, spotted white. A dark brown interior band is incurved in the submedian fold. Exterior line fine, dark, notched, with white lunae, at the costal margin with a dark brown spot. At the margin brown rings, before it white dots. Hindwing pale red-brown. $\varphi$ 40–45 mm. New Guinea.

L. postalbida Hmps. (= formosana Wilem.). Forewing white, at the base and behind the exterior line from the inner margin to vein 4 brown. Hindwing white, at the anal end feebly brownish and with a brown spot at the apex. 26–30 mm. Naga Hills, Kwangtung, Formosa.

L. celebensis sp. n. (84 a). On the forewing the interior border of the violettish-brown base somewhat more oblique. Exterior line from $\frac{3}{5}$ costal margin to vein 4 outwards, concave, then divided and straight and inwardly notched to the anal angle, ending shortly before it. Behind it at the costal margin a brown triangle. The brown marginal streaks are feebler on the hindwing. $\varphi$ 30 mm. Celebes. Type in the British Museum.

54. Genus: Liparopsis Hmps.

Palpi small. Antennae of the $\varphi$ strongly pectinated. Forewing broad. Vein 5 very far in front, $6 + 7 + 10 + 8 + 9$ stalked. Hindwing very large. Type: postalbida Hmps.

L. postalbida Hmps. (= formosana Wilem.). Forewing white, at the base and behind the exterior line from the inner margin to vein 4 brown. Hindwing white, at the anal end feebly brownish and with a brown spot at the apex. 26–30 mm. Naga Hills, Kwangtung, Formosa.


Palpi rising to the frons. Antennae of $\varphi$ pectinated and tufted, or only tufted as far as $\frac{2}{3}$ of their length, in the $\varphi$ plain. Thorax behind with a feeble tuft. Forewing broad. Vein 6 almost from the centre of the accessory cell, 7, 8 + 9 and 10, or $7 + 8 + 9$ and 10 from its apex. In the hindwing vein 8 is almost fused with the cell. Type: muscosa Wkr. — Nearly all the species occur in the mountains of New Guinea. Most of them exhibit on the forewing a white-edged median band which is broad at the inner margin and is divided from the median vein in front, where it encloses a black spot and despatches above vein 2 a white spur outwards. The species can only be distinguished by coloured figures. It is questionable whether all the species quoted are really distinct species. It is only the examination of the genitals that could throw light upon this question.

I. Antennae of the $\varphi$ pectinated and tufted.

C. muscosa Wkr. According to TURNER bella B.-Bak. is the same species; we therefore use its description. Marking greenish-brown, the space before the submarginal line faded, outside browner, inside greener. 40–45 mm. Queensland, bella from New Guinea (Arfak Mts., 1200 m). — inconcisa Swh. from Mysol will be a blurred specimen of the same species having turned yellow. — Judging from the comparison of the coloured and non-coloured figures, irrorata Rothsch. is a form of bella. The brown band before the submarginal line is inside sharply defined, in bella faded. — pallida Rothsch. is somewhat paler, the white spot at the median band stronger. All these forms from New Guinea.

C. callima B.-Bak. In the original description it is stated: “similar to bella”. Judging from the text it might be no Cascera at all. Forewing pale pinkish-brown. Below the base of the median vein a dark diffuse patch. A dark twin-line through the centre of the cell. At the end a dark spot centred white, and behind it dark spots. Hindwing pale grey. $\varphi$ 50 mm. New Guinea (Mt. Kebea, 2000 m).
C. flavovirens Rothsch. Ground-colour of ♂ greenish yellow, the dark places brownish-green. In the flavovirens, the ground-colour is more whitish-green, the dark places of a purer dark green, more contrasting. The median band edged with dark dots is exceptionally very broad. Submarginal line composed of white dots, inside with a distinctly defined light notched band, before it distinctly dark. 42—48 mm. New Guinea, 1200 m.

C. marginata Rothsch. (84 b). The marking in the anterior portion very faded in the white ground-colour. The white submarginal line is somewhat interrupted. Before it greenish brown and before the latter dark brown, these two colours indistinctly separated. ♂ 42—50 mm. New Guinea: Rawlinson Mts., Fak-Fak, 1200 m.

C. latifasciata sp. n. The rather unicoloured light green median band is broad at the inner margin, outside at vein 2 with a slight white projection, then the border extends rectilinearly to the costal margin. The white submarginal line is feebly incurved, before it a parallel narrow, mostly sharp-edged red-brown band. flavolavata is similar, but the median band extends to the costal margin more obliquely distad. ♂ 42—45 mm. New Guinea (Wandammen Mts., Arfak Mts., 1200 m).

C. perscripta Rothsch. (84 a). Deep dark green. The median band is narrow at the inner margin, at vein 2 distally sharply angled as in latifasciata. The dark spot in the median band is exceptionally very broad at the inner margin. ♂ 42—45 mm. New Guinea (Mt. Goliath, Mt. Kunupi, 2000 m).

II. Antennae of ♂ tufted.

C. variegata Rothsch. (84 d). Greenish-brown. The large spot in the median band is mostly finely variegata edged with white. The band itself is inside at vein 1 somewhat introangular. Before the white submarginal line sharply edged narrow brown. The presumable ♂ is deep dark green between the submarginal line and the median band, 44—48 mm. New Guinea: Mt. Kunupi, Arfak Mts., 1200—2000 m.

C. olivacea Rothsch. (84 b). Larger, of a purer dark green. The median spot not white-edged, the space olivacea before it dark. The white lobe of the median band large. The median band not projecting at vein 1, below it often narrower. Margin as in variegata. 46—52 mm. New Guinea (Otakwa R., Nomnagihe, 1200 m). — flavolavata Rothsch. is paler, more yellowish.

C. albiscripta Rothsch. Ground-colour greyish-green. The median band is bordered by fine white lines. albiscripta. The median spot is reniform, inside of it another dot, both black. The exterior portion of the median band is purely white. Before the fine white submarginal line narrow brown, before it dark green. In the form virens virens. Rothsch. (84 c) this part is as light green as the other green places. New Guinea (Mt. Goliath, Mt. Kunupi, 2000 m).

C. violetta sp. n. (84 e). Thorax and forewing moss-green, tegulae red-brown. Forewing dusted with violet except in the cell and at the distal margin. The median spot is blackish-brown, large. The normal median band only marked by yellowish-green marginal dots, with a dent at vein 2. Submarginal line composed of light spots, outside edged with red-brown. Abdomen and hindwing red-brown. ♂ 45 mm. New Guinea (Mt. Goliath, Mt. Kunupi, 2000 m). Type in the British Museum.

(?) C. amydra Trnr. Brown, dusted with grey. A brown line from ¼ costal margin to ¾ inner margin. amydra. The median spot is small, brown, in the ♂ beneath edged with white, before it a larger white spot. Exterior line indistinct, from ¼ costal margin to ¾ inner margin. Black submarginal spots. Hindwing grey. 40—48 mm. Queensland.


Palpi upcurved as far as the frons, broad. Abdomen with a tuft at the base. Antennae of ♂ and ♀ almost equally pectinate to the tips. Forewing with erect scale-tufts. Vein 6 from the upper cell-angle, 7 and 10 near the end of the accessory cell, 8 + 9 from its apex. In the hindwing veins 3 and 4 as well as 6 and 7 separated. Type: staphloips Trnr.

P. staphloips Trnr. is a most variable species. Body dark brown. Thorax in front dusted with green. Hindwing blackish brown, dusted with green and ochreous brown. Below the centre of the costal margin a tuft of black scales, below it 2 horizontal ones, and a fourth tuft between the interior one and the inner margin. An exterior row of brown spots from ¼ costal margin to ¾ inner margin. A submarginal row of white dots may also be absent. Hindwing dark brown. ♂ 40 mm. North Queensland. — In alboestignata alboestigma-Rothsch. the spot at the cell-end is white, but according to the figure in Nov. Zool. vol. 24 the anterior spot seems to be white. — aeruginosa form. nov. is very dark. At the apex a conspicuous spot of a verdigris colour. Type in the British Museum. — flavolavata Rothsch. shows the base at the inner margin of the forewing slightly yellowish and the interior half of the hindwing rather distinctly yellowish. All the forms from New Guinea, from altitudes up to 2000 m.
bipuncta. P. bipuncta Rothschr. (84 b). Varying between pale green and dark green, with 3 notched brown dark-edged bands. The name is incorrect, as also the original figure shows 3 dots, the anterior one (of styphlopis) and the interior horizontal one of the type being white, whereas in other specimens they are black, finely edged with white, the fourth spot may also be present. New Guinea, Russel I., up to 1000 m.

57. Genus: Cerura Schrk.

Palpi short. Antennae with long pectinations as far as the tips, in the ♀ shorter pectinated. Forewing broad. Vein 5 far in front, 6 and 7 + 8 + 9 from the apex of the accessory cell, 10 close beside it. Type: furcata Schrk. from Europe. As to further particulars about the genus, cf. Vol. II, p. 285, and vol. XIV, p. 408.

liturata. C. liturata Wkr. (= damodara Mr., argentea Flldr.) (84 c). Forewing silvery white, sometimes also dusted with yellowish. Interior line double, filled with grey or olive brown, rarely absent. Behind it many lunular lines, a spot at the cross-vein, and a subapical spot. Veins at the ends black. Hindwing white, sometimes strongly darkened. 42—60 mm. India and Indo-China.

wisci. C. wisci Schk. is similar to liturata, but larger. On the forewing there are at the margin between the veins intense black spots which extend far inwards between veins 1 and 4 or form double spots there. Khasia and Sunda Is. — kandya Mr., from Ceylon, only shows small marginal spots and may be a separate species.

Dr. Hering of the Berlin Museum has ascertained, by examining the genitals, that there are 4 similar species, i.e. two with black streaks and two with marginal spots. But as there is nothing known about the genitals of the species described by English authors and of the 4 following species or forms of Matsumura, we cannot say anything about novelties or synonyms.

baibarana. C. baibarana Mats. On the forewing the interior band is not so strongly notched, its distal border from the submedian fold obliquely outwards to the inner margin, not vertical to it. From veins 4 to 8 a distinct black marginal line, veins 2—7 with black ends. Hindwing brownish, at the base lighter, with 2 dark obsolete postmedian bands. ♀ 60 mm. Formosa. — subrosea Mats. resembles baibarana, but the ground-colour is somewhat pink, on the forewing 4 exterior lines are distinct, the marginal ones of these lines behind the cell more notched, the median ones only incurved. ♀ 62 mm. Formosa. — Whereas these two forms are almost exactly like liturata, arikana Mats., is somewhat more distinguished from it by the absence of the black marginal line, the veins being black, but not quite to the margin. ♀ 45 mm. Formosa. — tattakana Mats. is very similar to the form wisci Schk. which name would eventually be prior. ♀ 72 mm. Formosa. — A form Dicranura formosana Mats. is mentioned, but I have not found its description.

prasana. C. prasana Mr. Similar to liturata, but the body white. On the forewing the dark interior and exterior bands are filled with pale, the latter being interrupted. Without dentate lines. ♀ 40 mm. Northern Bengal.

sangaica. C. sangaica Mr. Ground-colour reddish-grey. Basal area as in liturata. The second band extends through the disc and is paler. The dentate lines are here also absent. In both wings black marginal spots. Body with greyish-black bands. ♀ 38 mm. Shanghai.

multipunctata. C. multipunctata B.-Bak. (84 d). Thorax and forewing white with bluish-black spots being small in the ♀, larger in the ♂, the exterior ones almost forming a band. Hindwing of ♀ white, of ♂ smoky brown, only the base white. 65—85 mm. New South Wales, New Guinea, Ambon, Buru.

australis. C. australis Scott (84 d). Similar to multipunctata, but with the interior band of liturata, which is broken up into black-edged olive brown spots. ♀ 60 mm. Australia.

ejeta. C. ejecta Pront. Forewing white, scantily dusted, with a pink hue and black spots at the costal margin. Interior line indistinct. Ring-macula and reniform macula finely edged, the former inside with a black longitudinal streak. The double notched median line begins between the maculae and extends to behind the middle of the forewing. Extrem line strong, very much incurred, then obliquely to the anal angle. Behind it 2 feebler lines and marginal spots. Hindwing white. ♀ 40 mm. Key Is.

dohertyi. C. dohertyi Dr. A specimen from Penang resembling the description, is a Cossida.

C. melanoglypta Low., from Southern Australia, with an undulating margin in both wings is certainly no Cerura and probably neither a Notodontida.


Separated from Cerura only by the scheme of markings. Type: vinula L. from Europe. Cf. Vol. II, p. 287.

himalayana. D. himalayana Mr. Similar to erminea Esp., figured in Vol. II, pl. 49 c, but the light partition-line of the dark area at the inner margin is absent and replaced by a feebly dark one. 60—80 mm. North India.
DANIMA; DAMATA; ZARANGA; MELAGONA; NEODRYMONIA; CHADISRA. By M. Gaede.

The larva is pale green, on the dorsum white. The 3rd segment with a slight protuberance and with an angle of the white subdorsal line at that place. Stigmata black. On willows.


D. banksiae Lew. (84 b). Thorax blackish, patagia white. Forewing greyish-brown, dusted spot-like banksiae. with greenish-white scales. At the costal margin a dark spot and 2 bands bent to the apex, from the inner margin 3 corresponding bands. Hindwing of ♂ white, of ♀ dark brown. 60—75 mm. Queensland. — The larva with a Sphingid horn is reported on being disturbed to bend its anterior body upside down and protruding, between the 1st and 2nd segments beneath, an X-shaped fork, the red flesh-colour of which strongly contrasts with the black under surface.

60. Genus: Damata Wkr.


D. longipennis Wkr. (84 e). Forewing white, densely dusted with black. At the costal and inner margins longipennis. 2 large triangular black spots near the base and 2 smaller ones connected by the exterior line. Marginal spots black. Hindwing white, in the ♂ narrowly , in the ♀ broadly edged with dark. There are also specimens with a slightly pink-hued forewing, united basal spots and a double exterior line. 68—80 mm. Sikkim.

D. microsticta Hmps. (= baibarana Mts.) (84 e). Similar to longipennis. Forewing also dusted dark, microsticta. The triangular spots are smaller, blacker, the spot at the anal angle is absent. An interior and exterior row of black dots is present. ♂ 52 mm. Naga Hills, 2000 m, Kambodja, Sumatra, 2400 m.

61. Genus: Zarauga Mr.

Palpi short. Antennae of ♂ strongly pectinated almost to the tips. Forewing with an irregular distal margin. Vein 6 from the cell-angle, 7 + 10 + 8 + 9 stalked.

Z. pannosa Mr. Forewing dark brown. A large pale red-brown spot at the centre of the inner margin pannosa. and one in the apical area. Interior line indistinct, notched. Exterior line notched, light, at the costal margin and inner margin white. Hindwing dark brown. ♂ 70 mm. Simla.

62. Genus: Melagona gen. nov.

Palpi short, antennae of ♀ plain. Forewing somewhat more elongate than in Wilemannus Mats. (Ochrostigma Hbn. Vol. II, p. 304) without a scaled dent. Vein 6 from the centre of the long accessory cell, 10 + 7 + 8 + 9 from its apex.

Mel. dentatus sp. a. (84 c). Very similar to Wil. bidens (= Ochrostigma ussuriensis Püng., Vol. II, dentatus. pl. 49 b). Ground-colour more reddish. Interior line double, forming a bow below the cell. Above it a dark patch from the costal margin almost to the anal angle, where it ends pointed. At the cross-vein a white streak. The exterior line and the spot at the costal margin as in Ochrost. melagona (Vol. II, p. 305). Behind it the margin is somewhat darker. Hindwing whitish. ♀ 42 mm. North Celebes. Type in the British Museum.

63. Genus: Neodrymonia Mats.

The generic characters of Drymonia have been dealt with in Vol. II, p. 295. Neodrymonia differs in the feebly tufted antennae of the ♂.

N. delia Leech. This species described from Japan has been figured in Vol. II, pl. 45 d. Its range delia. extends from West China to Waigeu. Deviations have not been ascertained. According to the genitals, the species will probably split into several subspecies, considering its vast range.

64. Genus: Chadisra Wkr.

Palpi of ♂ erect, in the ♀ shorter. Antennae of ♂ typically tufted, in the ♀ feebly ciliated. On the abdomen a hair-tuft. Forewing broad. Vein 6 from below the centre of the long accessory cell, 7 + 8 + 9 from its apex, 10 a little behind. In the hindwing veins 6 + 7 on a very short stalk. Type: bipars Wkr.
I. Antennae of ♂ tufted.

*bipars.*

Ch. *bipars* Wkr. (= *basalis* Mr.) (84 f). Red-brown, at the base with fine pale streaks, distal area often somewhat greenish. The dark median band similar to the following species, beginning vertically to the costal margin. Two undulating exterior lines with a brown spot between them at the costal margin and inner margin, and a submarginal row of black dots. Hindwing pale greyish-brown with a dark marginal line and anal spot. In the ♂ the base of the forewing is whitish ochreous. 36—50 mm. Ceylon. In the specimens from New Guinea the anal spot is still more connected with the main spot. — The larva is above greenish white, beneath green, with pale green oblique lateral lines. Dorsal line yellow, edged with grey, on the 11th segment a red proctotubercule. — *albobrunnea* Roths. shows the distal area hued with a greenish brown, only the spot at the costal margin being distinct. Khasia Hills, I. of Obi, New Guinea. — *semiferrea* Hupe. is presumably also only a form of *bipars*. The two exterior spots and the spot at the inner margin are absent, so that the median line distinctly runs to the inner margin. Ceylon, Manila. A ♂ from Choiseul also lacks the greater part of the anterior spot.

*basivacua.*

Ch. *basivacua* Wkr. (= *calapana* Smpr., *bipartita* Mats.) (84 f). Similar to the ♀ of *bipars*. Thorax and base of forewing light yellowish-brown wood-colour, as far as the rusty brown or dark brown median line, at vein 2 also beyond the latter light. Exterior lines mostly rather indistinct. The spot belonging to the latter at the costal and inner margins may be almost absent. 36—46 mm. Sunda Is., New Guinea. In a ♀ from New Pomerania and a ♀ from Buru the forewing is almost uniformly dark brown, the marking nevertheless very distinct. The specific difference of *bipars* and *basivacua* is somewhat questionable considering the variability. — For *bipartita* Matsumura established the genus *Stenoshachia*.

*striata.*

Ch. *striata* Roths. The median line is almost similarly arranged as in *bipars*. Exterior spot only indicated at the costal margin. Ground-colour greyish-yellow with 2 broad dark radial bands below the costal margin and to the centre of the distal margin. — *divisa* Roths. (84 e) shows the basal area as far as the median line of a purer brown, otherwise not different. 45—55 mm. New Guinea, New Pomerania.

II. Palpi shorter. Antennae of ♀ pectinated, at the tips plain.

*afrifusa.*

Ch. *atrifusa* Hupe. Thorax greyish-brown, abdomen reddish-brown. Forewing suffused with brown and black, grey spots at the base, at the centre of the costal and inner margins and in the distal area. Interior and exterior lines double, undulating. At the cross-vein a luna. Hindwing yellowish-white, at the margin darker. ♂ 50 mm. Khasia Hills.

*meeki.*

Ch. *meeki* Roths. (84 g). Basal area dark brown, below the cell only moderately bent forward. Median area more or less hued with green. The interior border at the costal margin vertical to the inner margin, thus more slanting than in the first group, outside bordered by a sharply notched white line. Before the latter another obsolete parallel line. Behind it and before the submarginal line dark spots. Hindwing yellowish, at the margin red-brown. ♀ on the forewing in the median and marginal areas more brownish-green, the marking more faded. 45—58 mm. New Guinea (Mt. Goliath and Nomnagihe, as high as 2000 m).

65. Genus: Chadisrina gen. nov.

Palpi short. Antennae of ♂ pectinated as far as 2/3 of their length. Forewing somewhat broader than in *Chadisra*, similarly marked. Veins 6 + 10 + 7 + 8 + 9 stalked, the basal stalk very long. Hindwing broader than in *Chadisra*.

*variegata.*

Ch. *variegata* Mr. Forewing pale violettish-brown; at the base, around the median line, near the apex and at the anal angle rusty yellow. Hindwing reddish-brown with a light exterior line and a rusty yellow anal spot. ♂ 52 mm. Sikkim.


Palpi of ♂ and ♀ short. Antennae of ♂ tufted, of ♀ plain. Forewing similarly shaped and marked as in *Chadisra*. Vein 6 near the apex of the accessory cell, 10 + 7 + 8 + 9 from its apex. Hindwing narrower than in *Chadisra*.

*varians.*

P. *varians* B.-Bak. (84 c). Forewing brownish-grey with a large slate-coloured spot from the cell-end to the distal margin. Median line as much excurred as in *Chadisra*, inside broadly edged with darker brown. Exterior line in front notched, above the inner margin with 2 or 3 dark spots. At the costal margin before the apex lighter brown. In the ♂ the whole marking is darker, more faded. Hindwing of ♀ white, in the ♀ broadly margined with brown. 50—58 mm. New Guinea (Mt. Kebea, Nomnagihe, as high as 2000 m).


Palpi upcurved to the upper edge of the eyes. Antennae of ♂ pectinated to 2/3 of their length. Patagia bent up fan-like. In the forewing veins 3 and 4 distantly separated, 6 from the upper cell-angle, 10 and 8 + 9 from the apex of the accessory cell, 7 close next to it.
68. Genus: **Pheraspis** Trnr.

Palpi short, thick. Antennae of ♀ long, pectinated to the tips, in the ♀ shortly pectinated or plain. Thorax behind with a feeble tuft. In the forewing vein 5 a little above the centre of the cross-vein, 6 from the centre of the accessory cell, 7 + 8 + 9 (or 7 and 8 + 9) and 10 from its apex. In the hindwing veins 3 + 4 stalked or both separated. Type: *polioxutha* Trnr.

I. **Antennae of ♀ shortly pectinated.**

**Ph. polioxutha** Trnr. (84 f). Thorax and forewing whitish-grey, lines dark brown. Interior line sharply *polioxutha* dentate from 1/4 costal margin to 1/2 inner margin. At the centre of the costal margin a spot, continued as a feeble line. A finely dentate line from 3/4 costal margin to 2/3 inner margin. Before the distal margin a row of spots. Hindwing brown, at the inner margin orange. 45—55 mm. Queensland.

II. **Antennae of ♀ plain.**

**Ph. mesotypa** Trnr. Forewing brownish-grey. In the submedian fold a fine black streak, continued to *mesotypa* the apex by short streaks. Marginal line fine, grey, interrupted. Hindwing grey, at the inner margin orange. Abdomen orange. 48—50 mm. Queensland.

**Ph. spodea** Trnr. Forewing whitish, feebly dusted with grey. Lines grey, faded. Interior *spodea* line from 1/2 costal margin to 1/4 inner margin, below the costal margin with a distal point. Exterior line from 3/4 costal margin, also excurved at the costal margin, to 2/3 inner margin. Submarginal line indistinct, in the middle thrice notched, outside edged with white. Hindwing grey, anal angle white. 30—40 mm. Brisbane.

III. **Antennae of ♀ shorter pectinated and tufted.**

**Ph. symmentra** Trnr. Thorax greyish-white, abdomen ochreous. Forewing grey, dusted with white, *symmentra* the lines faded, dark brown. Interior line undulated, from 1/3 costal margin to 1/3 inner margin, 2 oblique dentate lines from behind the centre of the costal margin to behind the centre of the inner margin. Submarginal line dentate, interrupted. Hindwing pale brownish ochreous, at the margin darker. — Similar to *mesotypa*, but discernible by the antennae. ♀ 48 mm. North-West Australia.

69. Genus: **Themerastis** Trnr.

Palpi very short. Eyes behind with a hair-pencil. Antennae of ♀ pectinated to the tips. From a projection. Thorax behind with a small tuft. Forewing elongate. Vein 6 almost from the end of the accessory cell, 10 from the apex. Type: *celaena* Trnr.

**Th. celaena** Trnr. Thorax and forewing dark greyish-brown, the lines black. A finely excurved line *celaena* from 1/4 costal margin to 1/2 inner margin. Before it at the costal margin a small black ring and behind it in the centre of the wing an oval ring. A fine line from 3/4 costal margin angled to 1/3 inner margin. Traces of a pale submarginal line. Hindwing whitish, at the inner margin brownish. Abdomen greyish-brown. ♀ 45 mm. Melbourne.

**Th. amalopa** Trnr. Thorax and forewing pale brown, marking black. Near the base dark, with ♀ 2 amalopa. or 3 lines obliquely distad. From 1/4 costal margin to 5/6 inner margin 2 fine parallel excurved lines, behind them indistinctly paler. At the cross-vein a spot. Exterior line double, fine, from 2/3 costal margin to near the anal angle which is black. Before and at the distal margin a row of black dots. Abdomen and hindwing greyish-brown. ♀ 46 mm. Queensland.

**Th. acrobela** Trnr. Forewing divided by an oblique line from the centre of the costal margin to the *acrobela* inner margin near the anal angle. Interior half rather dark brown, exterior half whitish-brown. At the centre of the inner margin a whitish-brown square spot. Below the apex 2 black longitudinal streaks, below them submarginal dots. Hindwing whitish ochreous, at the margin darker, with a blackish-brown anal spot. ♀ 50 mm. North Queensland.
Note: In Ann. Mag. Nat. Hist. (8) 17, p. 383, Bethune-Baker has described a Parathemerastis turneri var. melanistis. The genus has never been described, nor has the species turneri.

L. melanistis B.-Bak. Forewing smoky grey. The marking is hardly visible, only the ash-grey ring-macula is conspicuous in its dark surroundings. In a basal direction from it a cinnamon-brown brightening. Hindwing dark brown. ♀ 60 mm. New Guinea, 1200—2000 m.

70. Genus: **Lophocosma** Stgr.

The genus has been dealt with already in Vol. II, p. 294. Of its only species:

* atriplaga.

L. atriplaga Stgr. (84 f), from Eastern Asia, there is also specimen from Sydney before me. (Coll. Seitz; it may be a specimen having emerged in Sydney from a Japanese pupa).

71. Genus: **Pheressaces** Trnr.

Palpi short. Antennae of ♀ and ♂ strongly pectinated on 2/3 of their length. In the forewing vein 5 above the centre of the cross-vein, 6 from the centre of the accessory cell, 7 and 10 + 8 + 9 from its apex, or 10 and 8 + 9 separated. In the hindwing vein 5 far in front 6 + 7 on a short stalk. Type: cycnoptera Trnr.

Ph. cycnoptera Trnr. (84 f, g). Basal area of forewing white, in the middle excurred, with small black spots. Median area darker. Exterior line intense in front, posteriorly indistinct, outside edged with white. Behind it on the veins black streaks and an undulating white line. Hindwing white, at the apex brown, in the ♀ the whole margin brown. 32—42 mm. Queensland. In New Guinea (Ekeikei, 500—800 m) somewhat larger (46 mm).

Ph. spirucha Trnr. Body and forewing grey. Costal margin dark brown, the veins fine black. From 2/5 costal margin to 1/5 inner margin a black undulating line, at the costal margin connected with an excurred line to near the anal angle. Hindwing whitish, at the costal margin darker. ♂ 38 mm. Brisbane.

72. Genus: **Hupodonta** Blr.

The only species *pulcherrima* Mr. has been dealt with already in Vol. II, p. 299, and its palaearctic *parabolica*. forms have been figured there on pl. 45 g. It occurs also in North India. — *Neoshachia parabolica* Mats. has a scheme of markings similar to that of a blackish *Hup. pulcherrima*, but it is certainly a different species. Formosa.

73. Genus: **Neophoeosia** Mats.

Palpi short. Antennae of ♀ pectinated almost to the tips, in the ♂ plain. Forewing narrow. Vein 5 far in front 6 + 7 + 10 + 8 + 9 stalked. Also in the hindwing vein 5 far in front, 6 + 7 on a short stalk, Type: *fasciata* Mr. Separated from *Pheosia Hbn.* by longer free tips of the antennae and by the position of vein 6 in the forewing.

*N. fasciata* Mr. (84 g) has already been dealt with as *Pheosia fasciata* in Vol. II, p. 298. We add here to the indistinct figure of a ♀ a good figure of a ♀. India, Smela Is., Moluccas, up to altitudes of 1500 m.

*N. albiplaga* sp. n. (84 h). Thorax dark brown mixed with white. Forewing blackish-brown, dusted with white as far as the interior white line. Behind it below the cell a conspicuous white spot. Cross-vein edge d with black. Exterior line black, notched, from the lower cell-angle to the costal margin double. Behind this line as far as vein 5 white, then reddish as far as vein 2. An indistinct white submarginal line. Hindwing white, inner margin and fringe reddish-brown. ♂ 50 mm. Sumatra (Mt. Korintji, 2400 m). Type in the British Museum.

*N. excurvata* Hmps. Forewing pale brown, with a reddish tint. From the base a black streak at the median vein. Interior line indistinct, undeulate. In the cell-end and at the veins behind it black streaks. Exterior line double, strongly excurred below the costal margin. Hindwing greyish-brown. ♂ 45 mm. Sikkim.

*N. grisea* Sch. (84 h). Body and forewing greyish-brown with a few dark spots at the costal margin, from which indistinct lines proceed, all nearing each other at the inner margin. Hindwing white with a dark anal spot. ♂ 48 mm. North India.

*N. piciobasis* Hmps. Thorax dark brown, patagia fiery red, abdomen blackish. Forewing with a short white streak at the base of the median vein, behind it fiery red. Costal margin pale fawn, with a brown spot and streak near the apex. Below the apex an oblique streak from the apex. At the median vein to the distal margin a faded chocolate band with a branch to the inner margin. Above the inner margin violetish-grey with
traces of a dentate exterior line. Hindwing blackish-brown; the species, accordingly, does not belong to this genus. ♂ 40 mm. Khasia Hills.

Note: N. (Pheosia) separata Pay., from the Bismarck Archipelago, has been founded upon a badly preserved specimen. The type being probably lost, it is best to cancel this name.

74. Genus: Teleclita Trnr.

Similar to Hoplitis, but in the forewing vein 10 branches off before 7. Antennae of ♂ and ♀ pectinated almost to the tips. Type: cydista Trnr.

T. centrlicita Hmps. (84 h). Thorax grey, abdomen smoke-brown. Forewing light or dark greyish-brown. At the base of the costal margin a curved black line. Interior line black, incurved as far as below the cell, and incurved at the inner margin, between them protruding. Before the cross-vein a black spot, before it a yellow ring-macula. The veins with black streaks. Exterior line black, almost straight as far as vein 3 near the distal margin, then strongly incurved. Apex pale reddish-brown. Hindwing white. 50—55 mm. Sikkim, Ceylon. In this and the following species vein 6 is not stalked.

T. flavisticta sp. n. Similar to centrlicita. Ground-colour somewhat darker, suffused with violet. Basal line more towards the base. The interior line very strong, almost straight as far as below vein 1, only there introangular. Ring-macula as in centrlicita. Reniform macula with a rusty red and light margin. Exterior line the same, but stronger than in centrlicita. ♂ 60 mm. Sumatra (Barisan Mts., 800 m). Type in the British Museum.

T. insignifica Rothscl. (84 h). Similar to an indistinct centrlicita (84 h). Forewing grey. Basal and exterior lines almost vertical, between them brownish. The notched exterior line not so far excurved at vein 3. Marginal area brown. Hindwing whitish, at the margin brownish. ♀ 64 mm. New Guinea, Dammer I.

T. cydista Trnr. (84 g). Forewing elongate, in the ♀ broader, greyish-white. At the base and apex cydista, pale brownish with a blackish-brown marking. About 6 short oblique lines at the costal margin, before the last a horizontal streak to the apex, broadly edged with nut-brown. Besides from this streak a row of dots obliquely distad, and from vein 3 a black notched adjoining line extending along the inner margin. Hindwing white. 55—75 mm. Queensland. The figured ♀ does not quite correspond to the original description, but it is probably this species. — Larva green with a brown marking. On the 3rd segment a dorsal protuberance, the end similar to Stauropus. On a species of Terminalia.

T. strigata Mr. Thorax grey. Forewing violet-brown, below vein 1, in and below the cell and behind strigata, it yellow-brown. At the base, above the cross-vein and before the apex the costal margin is grey. Hindwing white. 60—65 mm. North-Eastern Bengal, Canara. — Larva green, on the dorsum violet. The 3 last segments broad, flat, seen from behind it looks like a leaf, ending in 2 points. Cocoon of bark. Pupa with a sharp head-point. — cinnamomea Rothscl. (80 e) is scarcely distinguished by a somewhat more extensive yellowish-brown cinnamomea-marking. New Guinea.

75. Genus: Hoplitina gen. nov.

Palpi short. Antennae of ♂ strongly pectinated to 2/3 of their length. Forewing elongate, distal margin oblique. Veins 3 and 4 separated, 5 very far in front, 6 from the centre of the accessory cell, 7 and 8 + 9 from its apex, 10 a little behind them. Type: notodontina Rothscl.


H. bipunctus Rothscl. (84 h). Antennae of ♂ somewhat shorter pectinated. Forewing brownish-grey. bipunctus. Interior line hardly recognizable, at the costal margin represented by a white spot, at the inner margin by a dark spot. At the cross-vein and below vein 2 one black spot each. Exterior line incurved almost to the base of vein 3, then vertical to the inner margin. Behind it a row of white spots and submarginal spots. Hindwing brownish. 48—58 mm. Singapore, Sumatra.

76. Genus: Stauroplitis gen. nov.

Similar to the preceding genus. Pectinations of ♂ antennae before the tips more suddenly shortened. In the hindwing veins 6 + 7 on a somewhat longer stalk.

St. annulata sp. n. (84 g). Tegulae blackish-brown. Thorax and forewing dark brown with white scales. annulata. Interior line black, double, indistinct, slightly undulating, vertical to the inner margin. At the cross-vein a
white circle. Exterior line feebly double at the costal margin, where it is strongly excurved and undulated to the inner margin. Here it is only separated from the interior line by a dark spot. Submarginal line indistinct, white. Abdomen and hindwing red-brown. ♂ 52 mm. Sumatra (Barisan Mts., 800 m). Type in the British Museum.

77. Genus: **Pseudohoplitis** gen. nov.

Palpi short. Thorax in front with a central comb. Antennae of ♂ pectinate on 2/3 of their length. Forewing with a straight costal margin. Vein 5 far in front, 6 from the cell-angle, 10 + 7 + 8 + 9 stalked. In the hindwing vein 8 branching off almost from the cell-end. Abdomen long, at the end with a hair-tuft. Type: *vernalis* Gd.

*Ps. vernalis* sp. n. (84 h). Vein 6 of forewing from the cell-angle. Thorax dark green. Abdomen greyish-green. Forewing light green, at the inner margin dark brown, dusted with green, with an angle upwards to the base of vein 2. Above it a white oblique streak from the base to the median vein and from vein 2 to the costal margin. The latter behind it almost to the apex brownish. Reniform macula white, behind it dark green almost to the distal margin and at the apex. Exterior line vertical to the inner margin from the anal angle, double, notched, nut-brown. Submarginal line white. Hindwing white. ♂ 35 mm. North Celebes. Type in the British Museum. — *infuscata* form. nov. The darkening at the inner margin is somewhat shorter, connected by a feeble dark bridge with the apical area which extends from the reniform macula to the apex. Distal margin narrowly green as far as vein 5. Exterior line absent. Hindwing not so purely white, with 2 dark bands. Fringe spotted. ♂ from the Kina Balu. Borneo-type in the Berlin Museum; Sumatra (Barisan Mts., 800 m).

*Ps. viridinota* Hmps. (80 h). Vein 6 of forewing also stalked. Thorax and anal tuft dark green. Forewing reddish-brown. At the centre of the inner margin narrowly green, in the middle vertically parted by light. Behind it 2 dark spots. Above the interior half at the costal margin dark green, behind it lighter, on both sides bordered with white. Before the distal margin 4 short white streaks at veins 3 and 4, above them a dark triangle. Hindwing red-brown. ♂ 26 mm. Indo-China.

78. Genus: **Destolmia** Wkr.

Palpi short. Antennae of ♂ pectinate more than to the middle, in the ♀ plain. Tegulae pointedly erected. Hind tibiae with 2 pair of spurs. In the forewing vein 6 from the upper cell-angle or from the accessory cell, 7, 10 and 8 + 9 or 10 + 8 + 9 from its apex. In both wings veins 3 and 4 distantly separated. Type: *lineata* Wkr.

*lineata* D. *lineata* Wkr. (= cinerea Luc., conspersa Wkr.) (80 c). Greyish-white. Interior and exterior lines black, notched. Exterior line sharply angled, some black streaks extend to it from the apex. Hindwing reddish-brown, in the ♂ lighter. — In *lanceolata* Wkr. vein 1 of forewing is black. From the inner margin near the base to the angle of the exterior line, and between veins 3 and 4 to the margin a broad band of black spots. Other specimens show the median area darkened. 50—60 mm. Brisbane, Sydney.

*hyschima.*

*D. hyschima* Trnr. Forewing whitish with a black basal streak in the centre. Costal margin from the base to the middle blackish-brown, with a point towards the inner margin. Above the centre of the disc a short black longitudinal streak. Before the margin a dark brown band connected in the middle with the basal spot and the centre of the distal margin. Hindwing grey, at the base white. ♀ 35 mm. West Australia.

*nigrolinca.*

*D. nigrolinca* Luc. (80 c). Distal margin of forewing more slanting. Dark grey, the veins fine black. Interior line black, straight, vertical. The second feeble curved, running through the base of vein 2. Exterior line vertical above the inner angle. Cross-vein feebly edged with light. Hindwing greyish-brown. ♀ 50 mm. Queensland.

Note: It is best to cancel *D. titurata* Wkr., as the description is quite insufficient.

79. Genus: **Antimima** Trnr.

Palpi short, long-haired. Thorax tuftless. Antennae of ♀ plain. In the forewing vein 6 from the centre of the accessory cell, moreover, according to the description, vein 10 seems to arise from its anterior edge, 9 + 7 + 8 from its apex. In the hindwing veins 3 and 4 are separated, 5 feebly from above the centre of the cross-vein.

*cryplica* Trnr. Thorax grey, abdomen greyish-white. Forewing elongate, costal margin straight, distal margin rather oblique. Grey, densely dusted with white. A broad dark grey line near the margin, interrupted at the veins, more narrowly continued at the inner margin as far as the base. Hindwing grey, at the base whitish. ♀ 44 mm. West Australia.

80. Genus: **Notodontata** Od.

Palpi short. Antennae of ♂ typically pectinate, at the tips dentate, in the ♀ ciliated. Forewing elongate, veins 6 + 7 + 10 + 8 + 9 stalked, at the inner margin with a scaled dent. In both wings vein 5 a
little above the centre, 3 and 4 slightly separated. Type: *dromedarus* L. from Europe. — In the Indian species
the long pectinations end already before the tips. Some species have also tufted antennae.

I. Antennae of \( \delta \) pectinated.

**N. albifascia** *Mr.* (80 a). Forewing reddish-brown with a broad white radial band and a notched exterior *albifascia*. and submarginal line. Hindwing orange. 68—78 mm. Sikkim.

**N. albibruna** *sp.* *n.* (80 d). Thorax brown mixed with green. Forewing dark red-brown, a narrow *albibruna*, median stripe lighter and in it the narrow light reniform macula. Behind it an indistinct double dark line. Far outside from it white dots, from the foremost a yellow streak horizontal to the costal margin. A few yellow submarginal spots. Hindwing at the costal margin as on the forewing, with a dark postmedian line and a broad distal margin, separated by a light notched line. At the ends of the veins white dots. \( \delta \) 55 mm. Sumatra (Barisan Mts., 800 m). Type in the British Museum.

**N. gigantea** *Elw.* (80 d). Forewing red-brown, at the base darker, at the centre of the costal margin grey. A light subbasal and interior line vertical to the inner margin. Exterior line very oblique, behind it lighter. Reniform macula with a dark streak. Hindwing of \( \delta \) whitish, in the \( \varphi \) yellowish. 75—100 mm. Sikkim, Kulu.

II. Antennae of \( \delta \) tufted.

**N. sikkima** *Mr.* (80 e). Ground-colour grey with a dark brown marking. Interior line double, composed *sikkima*, of arches, with a point at the median vein. Exterior line formed by white streaks at the veins, between and behind them dark. Before and at the margin a series of spots on a greyish-white ground. Hindwing pale reddish-brown. \( \delta \) 48—50 mm. Sikkim.

**N. moorei** *Hmps.* (= sikkima *Mr.*). Forewing greyish-brown, basal area dark brown. Reniform macula *moorei*, narrowly white, close behind it a dark nebulous band. Exterior line composed of 3 large spots. Hindwing with a dark distal band, before it a light line in the anterior portion. 65—85 mm. Sikkim.

**N. irrorata** *Mr.* Lighter. The double interior line from the bend in the centre of the cell more slantingly *irrorata* to the inner margin. Before it at vein 1 distinctly black. Instead of the marginal spots an interrupted marginal line. Hindwing pale reddish-brown. \( \delta \) 45 mm. Sikkim, Kina Balu (Borneo).

III. Antennae of \( \delta \) dentate and tufted.

**N. flavicincta** *sp.* *n.* (80 d). Somewhat darker than *sikkima*, otherwise very similar. Before the mostly *flavicincta*, distinct row of submarginal spots dark yellow blurred spots. Hindwing dark red-brown. \( \delta \) 50—52 mm. Sikkim. In a \( \varphi \) from Sumatra (Mt. Korintji) the \( \delta \) antennae seem to be more strongly pectinated. Perhaps it is also a separate species.

**N. irrorativiridis** *B.-Bak.* Forewing red-brown, with a green stripe in the base of the cell and at the \( \delta \) *irrorativiridis*, inner margin. An interior line and a median line of dark spots. Reniform macula large, light-edged. Exterior line black, strongly dentate. Above vein 3 a black radial stripe. Submarginal line and a short line before it greenish. \( \delta \) 55 mm. New Guinea (Dinawa). Besides a doubtful \( \varphi \) from Sikkim.

As to the following species it cannot be stated to which group they belong.

**N. picta** *Hmps.* Thorax dark brown, abdomen paler. Forewing dark brown, slightly spotted pink, *picta*. Apical area violetish-brown. Interior line only marked dark at the inner margin. Ring-macula and some spots below it pink. From the centre of vein 2 a fine yellow line extends outwards, being dentate as far as below vein 1, then parallel to the inner margin almost as far as the base. Exterior line black, excurred from the costal margin to vein 2, then inwards. \( \varphi \) 46 mm. Khasia Hills.

**N. collaris** *Suh.* Thorax and abdomen red-brown, tegulae white. Forewing pale, hued with red-brown, *collaris*. Submedian area and at the costal margin near the apex paler, but darker brown at the costal margin as far as the centre, the cell and behind it below vein 4, and the distal margin below the apex. At the base of the wing a white dot and 2 brown streaks. Traces of an interior and exterior brown dentate line. \( \varphi \) 43 mm. Khasia Hills.

**N. rufa** *Hmps.* Forewing dark brown. Interior and exterior lines undulated, dark, indistinct; the *rufa*, exterior line at the costal margin edged with grey. At the cross-vein 2 dark spots and dark streaks in the marginal area. Below the cell and at the inner margin light streaks. \( \varphi \) 50 mm. Naga Hills.

**N. griseotincta** *Wilken.* Dark grey, in the basal and marginal areas dusted with brown. At the cell-end *griseotincta* a black angular streak, before it pale grey. Interior line blackish, below the costal margin angular and cut X

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by a short black streak. Exterior line dentate, in front pale grey, at the inner margin edged with brown. Grey
dots at the veins. Submarginal line undulate, dark brown. Hindwing blackish-brown.  42 mm. Formosa, 2500 m.

**N. furva Wilem.** Forewing brown, spotted paler. Interior and exterior lines blackish, faded. Interior
line obliquely outwards, exterior line curved above the centre, ending near the interior line. Black streaks
at the base and in the marginal area. Hindwing greyish-brown.  50 mm. Formosa, 300 m.

**N. bipunctigera Mats.,** of which no figure is at hand, cannot be surely recognised and ranged.

### 81. Genus: **Hyperaeschra** Blr.

Palpi erect. Antennae of  moderately long-combed, i.e. as far as the tips, but in the last thirds very
short. Forewing at the inner margin before the middle with a dent of scales. Vein 6 from the accessory cell,
7 and 10 + 8 + 9 from its apex. Veins 3 and 4 separated in both wings. Type: **pallida Blr.**

#### I. Antennae of ♀ pectinated.

**H. pallida Blr.** Forewing grey, dusted with brown, especially at the inner margin, behind the lower
cell-angle and at the apex. A black streak below the base of the median vein and a short one in the ball above
vein 2, a broad one above vein 3, and two at the apex. Hindwing pale brown.  50 mm. Sikkim, Singapore.
(The original figure does not correspond to the description.)

**H. basistriga Mr.** (80 d). Somewhat similar to Not. sikkima (80 e). On the cross-vein a black streak.
At the apex a sharply defined light spot behind the exterior line which is sharply notched, mostly distinct.
Below the apex a broad dark radial diffuse spot and below them a lighter one. Anal angle lighter, too.  50—55 mm. Sikkim.

**H. tenebrosa Mr.** (80 g). Forewing dark red-brown. Cross-vein with a black streak. At the apex a
sharply defined light spot behind the exterior line which is sharply notched, mostly distinct. Below the apex
a broad dark radial diffuse spot and below them a lighter one. Anal angle lighter, too.  50—55 mm. Sikkim.

**H. nigribasis Hmps.** Forewing dark brown as far as the interior line. The latter and the exterior line
are double, bent, undulate. A dark spot in the cell-end. Reinform macula pale, oblong. Submarginal line
dentate, indistinct, the light places of tenebrosa are olive brown here. Hindwing dark brown with a light median
line.  50 mm. Sikkim.

**H. dentata Hmps.** (80 f). Forewing darker violettish brown than tenebrosa. Apical spot shorter, darker,
with a strong black streak inside. The darkening extends to the notched submarginal line, the notches at veins 3
and 4 are not lighter. In the submedian fold before the interior line a blackish spot.  45—58 mm. Ceylon,
Sunda Is., Celebes, Hainan. — taiwana Mats., is probably only a pale faded form. Formosa. — **tenebrosella**
Strd., however, is uniformly dark, without a light apical spot, only the exterior line recognizable. Formosa.

**H. kosemponica Strd.** (80 f). Lighter violettish-brown. Interior line distinct, double, with a distinct
black dot in the cell. A  from Singapore is somewhat darker, reddish-brown, smaller,  40 mm. (Notodonta)
korishana Mats., is almost certainly synonymous with it. — **Allodontoides costiguttatus** Mats., from Formosa,
is probably also a **Hyperaeschra** not far from kosemponica.

Note: **H. plana Sieh.** is a Noctuid, according to the kindly information by the British Museum.

### 82. Genus: **Anthyperaeschra** nov. gen.

Separated from **Hyperaeschra** by broader forewings and the absence of the accessory cell. Veins
7 + 10 + 8 + 9 stalked. Antennae of ♀ long-combed almost to the tips. Thorax with a broad tuft. Type:
(Hyperaeschra) **trichosticha** Hmps.

**A. trichosticha** Hmps. (= clothus Sieh.) (80 c). Blackish-brown. Collar blackish. Forewing with traces
of strongly notched lines in the basal area and 2 small erect scaled-spots below the cell. Interior line also with
black erect scales, excurred in the cell and above the inner margin. Exterior line double, dentate, with erect
scales, at the costal margin indistinct, incurred below vein 3. A submarginal row of scales near the apex, above
vein 4 and at vein 2 with brown spots.  58 mm. Sikkim.
A. biarquata *sp. n.* Chiefly separated by the shape of the interior line which is black, double, the *biarquata.* exterior branch composed of erect scales, the interior branch paler, with a curve from the costal margin to the median vein, then somewhat inwardly removed, and incurved to vein 1. At vein 2 a feebly connection to the exterior line. The latter from there to the inner margin distinct, double, anteriorly extinct. Base, marginal area, and hindwing as in *trichosticha.* ♂ 50 mm. Cherrapunji. Type in the Tring Museum.


Distinguished from *Hyperaescha* by the pointed hair-comb on the thorax, broader wings, and a different scheme of markings. Antennae of ♂ strongly pectinated almost to the tips, in the ♀ filiform. *Type:* *biloba* Oberth. (Vol. II, pl. 45 d) from Japan.

*S. basalis* Mr. (♀♂). This is the representative of var. *biloba* (Vol. II, p. 392) in India. On the forewing *basalis,* the distal margin is lighter, before the scaled dent a white angle. ♂ 50 mm. Khasia Hills.

*S. marumonis* nom. nov. (= *biloba* Mar. nec Oberth.) (♀♂). Body dark brown, patagia ochreous-brown, *marumonis.* Forewing dark reddish-brown. Interior line light, introangular on the median vein and vein 1. Exterior line similar as in *basalis,* concave between veins 1 and 4, and at the inner margin inwards. In the ♀ from vein 4 obliquely inwards, so that the distance to the interior line decreases at the inner margin. Cross-vein with a black streak. Distal area in the middle darker. Abdomen and hindwing paler reddish-brown. 40—45 mm. Central Japan. Type in the British Museum.

84. Genus: *Alloclonta* Stgr.

Palpi upright to the frons. Antennae of ♂ typically combed as far as beyond half their length, in the ♀ plain. Thorax before the middle with a hair-pencil. Forewing with a strong scaled dent. Veins 6 + 7 + 10 + 8 + 9 stalked, 5 little above the centre of the cross-vein, 3 and 4 slightly separated. *Type:* *leucodera* Stgr.

I. *Antennae of ♂ pectinated.*

*A. leucodera* Stgr. (Vol. II, pl. 46 b) has already been described in Vol. II, p. 303. A ♀ from Sumatra *leucodera.* (Barisan Mts., 800 m) is somewhat larger than Ussuri-specimens. Thorax in the middle more intensely rusty yellow. The dark radial band extends anteriorly to vein 6. 48 mm.

*A. sikkima* Mr. ♀. Similar to a faded *leucodera.* Forewing dark violetish-brown, in the apical area *sikkima.* and below vein 2 lighter. ♀ 48 mm. Sikkim.

II. *Antennae of ♀ tufted.*

*A. longivitta* nom. nov. (♀ = *sikkima* Hmps., ♀ *sikkima* Mr.) (♀♂). Forewing dark violetish-brown, *longivitta.* at the anal angle somewhat lighter like the costal margin from ‡ to the apex. Interior line indistinct, oblique, almost parallel to the sharply notched black exterior line. The white basal dot of *sikkima* is absent, but the tegulae are just as white. ♀ 46 mm. Sikkim.

*A. vittata* *sp. n.* (♀♂). Tegulae yellowish-white. Thorax and forewing dark reddish-brown. From the base *vittata.* at the lower cell-margin and vein 2 a wood-coloured yellow band, below it narrowly black. Another band above the lower cell-margin, between veins 3 and 5 and then obliquely to the apex. The submarginal light notched line more distinct than in *leucodera,* behind it dark diffuse spots. Hindwings greyish-brown. ♀ 45 mm. Sumatra (Mt. Korintji, 1900 m). Type in the British Museum.

85. Genus: *Norraecoides* Stgr.

Scheme of markings and neuration similar to *Hyperaescha.* The short palpi and the dentate and ciliated antennae of the ♀ more similar to *Alloclonta.* The specimens at my disposal are without the thoracal hair-tuft. The scaled dent of the forewing far towards the base.

*A. basinetata* Wilem. (= *discocellularis* Stgr.) (♀♂). Forewing brown, at the costal margin grey, near *basinetata.* the base a black spot. At the cell-end a white, black-centred spot. Interior line black, at the costal margin faded, at the inner margin twice angled. Exterior line undulate, ending near the interior line. Behind it black.
streaks between the veins. 45—50 mm. Formosa, Kwangtung. Dr. Mell had the kindness to identify the figured specimen. It will not be recognized from the original description.

86. Genus: *Lophopteryx* Steph.

Palpi thick, short. Antennae of ♂ ciliated. Distal margin of forewing slightly notched, at the inner margin a scaled dent. Vein 6 from the accessory cell, 7 and 10 + 8 + 9 from its apex. In both wings veins 3 and 4 separated. Type: *camelina* L. from Europe.

I. Inner margin of forewing behind the scaled dent straight.

*A. saturata* Wkr. (Vol. II, pl. 46 h). Dark red-brown with an indistinct subbasal line, a double dentate interior and exterior line. Reniform macula narrow, light-edged. Hindwing lighter greyish-brown, at the anal angle a dark spot with a light streak. 42—46 mm. Sikkim; also in Japan.

*B. atrofusa* Hmps. Forewing blackish-brown, with hardly any markings, only 2 light notches at the costal margin forming the traces of the exterior line. On the hindwing the anal spot is grey with a light line. ♂ 35—40 mm. Sikkim.

*C. flavistigma* Mr. (80 f). Larger and darker than *saturata*. Interior line more notched, at the reniform macula below a more intense light streak. ♀ 48 mm. Sikkim.

*D. crenulata* Hmps. Distal margin of forewing deeply notched, especially below vein 4. Forewing unicoloured pale red-brown, with an undulating blackish-brown interior and double exterior line. Anal spot of hindwing indistinct. There may be also a white spot at the inner margin of the forewing behind the exterior line, and rusty yellow spots in the marginal area. 40—45 mm. Sikkim, Bhutan, Yatong, up to 4000 m.

II. Inner margin of forewing excavated behind the dent.

*E. ferruginosa* Mr. (80 g). More reddish than *saturata*. The notched interior and exterior lines very indistinct. Reniform macula absent. At the exterior line a light spot at the inner margin. ♂ 44 mm. Sikkim.


Palpi small. Antennae of ♂ ciliated. Forewing somewhat less broad, with a scaled dent. Vein 6 from the cell-angle, 7 and 10 + 8 + 9 from the apex of the accessory cell. In the hindwing veins 3 + 4 and 6 + 7 stalked.

*A. lamprolepis* Hmps. Body red-brown. Forewing lustrous red-brown, slightly hued with violet. Towards the apex some ochreous brown streaks. A median and exterior row of dark spots, united at the inner margin. At the cross-vein a dark streak. Scaled dent lustrous black. Hindwing dark brown. ♂ 32 mm. Sikkim.

88. Genus: *Brykia* gen. nov.

Palpi bent up to the upper edge of the eyes. Antennae of ♂ strongly pectinated as far as 2/3 of their length, then dentate, in the ♀ almost the same. Anterior tibiae and tarsi short, densely haired, similar to *Norraca*. Abdomen long, with a hair-pencil at the end. Forewing narrow, at the centre of the inner margin with a scaled dent. Vein 5 abnormal, below the centre of the cross-vein, 6 from the upper cell-angle, 7, 8 + 9 and 10 from the long narrow accessory cell.

*B. albonotata* Wkr. (80 g). Forewing dark red-brown with a violet hue. Interior line dark, notched, in the middle strongly excurved. Cross-vein with a black streak! Exterior line from behind the centre of the costal margin, close below it sharply outwards, then notched parallel to the distal margin, outside edged with light. The submarginal black lunae inside white. Between veins 3 and 4 with an intense white spot and adjoining to it a dark patch inwards. Hindwing dark brown. ♀ with hardly any marking, but the white lunae very strong. 42—45 mm. Singapore, Sumatra, Borneo.

89. Genus: *Spatalia* Hbn.

Palpi short and thick. Forewing somewhat broader than in the following genus. A short accessory cell may also be absent. Vein 6 from its centre, 7 and 10 + 8 + 9 from its apex, or 7 + 10 + 8 + 9 from its apex. Inner margin before the centre with a scaled dent and near the anal angle another small one. Type: *argentina* Schiff. from Europe.
I. **Antennae of ♀ strongly pectinated almost to the tips.**


II. **Antennae of ♂ tuftedly ciliated almost to the tips.**


Interior and exterior lines double, at the base rows of black dots. Cross-vein edged with black. The surroundings of the anal angle brownish. Hindwing greyish-brown. ♂ 38 mm. Sikkim.

90. Genus: *Spataloides* Mats.

Palpi bent up. Prothorax with a strong tuft. Abdomen very long, at the end with a parted tuft. Forewing elongated, with scaled dents as in *Spatalia.* Vein 6 from the lower end of the long narrow accessory cell, 7 and 10 + 8 + 9 from its apex. Type: *dives* Oberth. from Eastern Asia.

I. **Antennae of ♀ somewhat shorter pectinated than in the following group.**

*Sp. argentinifera* Wkr. (= plusiata Wkr.) (Vol. II, pl. 46 f). Forewing pale brown, below the cell and at *argentinifera.* the margin broadly dark red-brown. Before the margin light oblique streaks between the anterior veins. The silvery streak below the cell is short, above the base of vein 2 a silvery triangle. ♂ 42—48 mm. North India, Sumatra, Borneo. — *sikkima* Mr. (79 d) is darker. The silvery streak longer and thicker, the one at vein 2 *sikkima.*

Mostly I-shaped Sikkim, Kwangtung, Cooktown. — *sumatrensis* form. nov. (79 d) is light olive-brown. The main spot is about semicircular, the spot at vein 2 as in *argentinifera.* Hindwing in the marginal third reddish-brown, before it lighter. ♂ 44 mm. Sumatra (Barisan Mts., 800 m). Type in the British Museum.

*Sp. gemmifera* Mr. (79 d). Accessory cell mostly absent. Forewing rusty brown, above the centre *gemmifera.* of the inner margin rusty yellow and with similar spots in the marginal area. The main silvery spot is large, broad, besides a small one at the base, and between them a dot. Hindwing pale reddish-brown. ♂ 45 mm. Sikkim. 1 ♀ from Sumatra has almost white hindwings.

II. **Antennae of ♂ longer pectinated, of ♀ dentate.**

*Sp. punctifera* Wkr. Forewing pale greyish-brown, huecd with rusty red, with a fine dark interior and *punctifera.* exterior line. Submarginal line quite straight, inside edged with lead-colour like the reniform macula. Before the margin rusty red spots. Hindwing pale reddish-brown. 45—50 mm. Sarawak.

*Sp. auritracata* Mr. (79 d). At the costal margin a light stripe, a similar one behind the cell and at the lower portion of the distal margin. Below the cell and vein 3 a long golden streak. Vein 6 at or below the cell-angle, 10 only shortly stalked with 8 + 9. ♂ 42—44 mm. Sikkim.

The following species are very much alike.

*Sp. costalis* Mr. (79 d). Forewing dark red-brown, at the costal margin excepting the apex pale yellow. *costalis.* At the cross-vein a white V. The end of the median vein, vein 2, and a little also vein 3 silvery white. A light interior and exterior line very indistinct. Hindwing light reddish-brown. 45—50 mm. Sikkim. — *indistincta* indistincta. *Rothsch.* shows the costal margin spotted somewhat pale olive. Java, Borneo, Queensland, *lignea* Pagst., from the Key Is., is probably the same, but the type is too much damaged. — *affinis* *Rothsch.* (79 e) has a very dark ground-colour. The pencil on the thorax is not ochreous brown but quite dark. The silvery streaks are very thick, and the one at the median vein extends almost to the base. ♂ 48 mm. New Guinea. *argentinifera* Trnr. (nee Wkr.) is probably the same.

*Sp. albifasciata* Hmps. Collar light. Forewing with a broad light band at the costal margin, otherwise *albifasciata.* brown. Enclosed in it at the base a large oval rusty brown spot and a red one behind the lower cell-angle. Exterior line indistinct, pale. Submarginal line dark, undulated; indistinct. ♂ 46 mm. Nilgiris.

*Sp. laticostalis* Hmps. The light costal margin extends to the base of vein 2 and then rectilinearly to *laticostalis.* the distal margin. Around the cross-vein broadly faded olive brown as far as the costal margin. Without a V-mark, without silvery streaks. A dark exterior and submarginal line distinct. ♂ 46 mm. Khasia Hills.

91. Genus: *Rosama* Wkr. (Eguria Mats.)

Palpi long as in *Hypena.* Patagia penciliform. Forewing short and broad, with a feeble scaled dent at the centre of the inner margin and at the end. Vein 6 from the upper cell-angle, 7, 8 + 9 and 10 from the apex of the long narrow accessory cell. Type: *strigosa* Wkr.

R. *strigosa* Wkr. (79 e). Forewing rusty brown in the basal and distal areas. In the median area more *strigosa.* violetish-brown. Before the cell almost to the apex lighter. Interior line dark, oblique, fine, undulated, exterior
line S-shaped, between them traces of a median line. At the end of the median vein and above vein 2 a narrow light diffuse spot. Submarginal line notched, white. Hindwing dark brown. 32—35 mm. Java.

**R. plusioides** Mr. (79 e). Forewing from the costal margin to below the cell and above vein 2 violetish-black, below it reddish-yellow, with a golden triangle below the cell-end. The black submarginal line is inside light-edged. Marginal line light. All the dark places may also be rusty red. $\delta\ 28—30$ mm. Sikkim. 1 $\delta$ from Bali is only 22 mm large.

92. Genus: **Besaia** Wkr.

Palpi erect. Antennae of $\delta$ tufted. Forewing with a feeble hair-pencil at $1/3$ inner margin and at the anal angle. Vein 6 from the cell-angle, 7 and $10 + 8 + 9$ from the apex of the accessory cell. In the hindwing veins 6 $+ 7$ on a short stalk.

**B. rubiginea** Wkr. (80 g). Forewing greyish-yellow with a rusty red marking. Interior line double, beginning below the cell, before it at the inner margin, behind it above vein 1 one diffuse spot each. Exterior line double, mostly formed of spots, parallel to the distal margin. Marginal dots black. $\delta$ 50 mm. Sikkim. —

**simplicior**. **simplicior form. nov.** (80 f). Very feebly marked, ground-colour somewhat more reddish, except at the costal margin and behind the exterior line. Of the marking only a feeble spot at the inner margin, the exterior row of dots, a shadowy line before them, and the marginal dots are present. Perhaps already described as *Pydna*, $\delta$ 46 mm. Kwangtung. Type in the Berlin Museum.

93. Genus: **Leucolopha** Hmps.

Palpi porrect, thick. Antennae of $\delta$ foliated. Forewing broad, apex pointed. Vein 6 from the cell-angle or the accessory cell, 7 and $10 + 8 + 9$ from its apex.

**L. undulifera** Hmps. (80 f). Greyish-brown, dusted with rusty brown, with a very oblique rusty brown basal line and 3 almost parallel lines. A curved line from the apex to the base. Hindwing paler. $\delta$ 42 mm. Khasia Hills.

94. Genus: **Euplexidia** Subh.

Palpi highly erected. Antennae of $\delta$ plain. Thorax and abdomen with some tufts. Forewing narrow. Vein 5 a little below the centre. Accessory cell short, 7, $8 + 9$ and 10 from its apex. In the hindwing vein 8 far off from the cell.

**Eu. noctuiformis** Subh. Body and forewing pale reddish-brown. At the costal margin greyish-green and black spots. Below the cell-end a horizontal black 5. Reniform macula indistinctly edged with greyish-green, below it at the inner margin a black and greyish-green spot. Submarginal line indistinct, undulated, white. Hindwing silvery white. $\delta$ 38 mm. Khasia Hills.

95. Genus: **Cleapa** Wkr.

Palpi long and thin. Antennae of $\delta$ shortly pectinated to the tips. Forewing broad. Vein 6 from the cell-angle, 7 from $2/3$ of the accessory cell, $10 + 8 + 9$ from its apex.

**latifascia**.

**Cl. latifascia** Wkr. Thorax and median area of forewing dark brown. Basal area and marginal area partly pale red-brown. Interior and exterior lines double, undulated, in the middle strongly excurved. Subformosana. marginal line pale. $\varphi\ 38$ mm. Rangoon. — **formosana** Stbd., from Formosa, differs but very little.

96. Genus: **Pygaera** O.

Palpi short. Antennae of $\delta$ and $\varphi$ pectinated. Eyes hairy. Anterior tarsi short, densely haired. In the forewing vein 5 very far in front, $6 + 7 + 10 + 8 + 9$ stalked. In the hindwing vein 5 is absent.

**P. fulgurita** Wkr (= javana Mr., pallida Wkr.) is the representative of anachoreta F. (Vol. II, p. 314) in the Indo-Australian Region. It merely differs in the anterior portion of the exterior line being more introangular on the centre of the cross-vein, which is also mostly the case already in Amur-specimens. The space behind it is always rusty yellow or rusty red. 30—35 mm. North India. Specimens from Nepal are large, those from Java small and pale. Borneo-specimens show the exterior line somewhat S-curved as in *rubida*, the inner margin being more greyish-red.
The 3 following genera look very strange.


Palpi bent up to the frons. Antennae typically in the 3 flattened, above as far as 3/4 of their length hairy and ciliated. Anterior tarsi very long. Hind tibiae with 2 pairs of spurs. Abdomen with a short hair-tuft. In
the narrow forewing veins 2—4 are distantly separated, 5 close above the lower angle, 6 from the upper angle, 7 directly below the apex of the broad accessory cell. 8 + 9 on a long stalk from its apex, 10 from the centre of its anterior edge. In the hindwing vein 5 on \( \frac{1}{2} \) from the lower end of the cross-vein, 8 close beside the cell.


**L. dentilinea** J. & T. (80 h). Antennae of \( \frac{1}{4} \) above only slightly scaled. Hind tibiae with a row of hairs. Thorax and forewing red-brown. Distal two thirds of costal margin whitish. Reniform macula dark-edged, inside of it a dark spot. Both may also almost disappear in a violetish-black spot. Hindwing brown, at the base lighter. 340 mm. From the same patriae.

98. Genus: **Acidon** Hmps.

Palpi highly erected, the 3rd joint long and spoon-shaped. Antennae of \( \frac{1}{4} \) tufted. Base of abdomen with hair-tufts. Forewing long and pointed. Veins 2 + 3 stalked, 6 from the upper cell-angle, 7 + 8 + 9 stalked, 10 and 11 free. Thus quite unusual for a Notodontida.

**A. paradoxa** Hmps. Forewing dark violetish-brown. Interior and median lines light, undulated. Exterior line marked, ending at the anal angle. Small white submarginal spots. Hindwing dark brown. 30 mm. Bhutan, 800 m.


Palpi highly erected, long-haired. Antennae of \( \frac{1}{4} \) long, with fine short cilia. Middle and hind tibiae spined. Neuration of forewing: veins 2 and 11 far towards the base, 5 close above vein 4, 6 below the upper cell-angle, 7 + 8 + 9 10 stalked. In the hindwing veins 2, 3 and 4 equidistantly separated, 5 close at 4, veins 6 and 7 from the upper cell-angle, 6 branching off from the centre of the cell.

**H. fasciata** B.-Bak. Head and abdomen brownish-grey, thorax ochreous grey. Forewing ochreous grey with a dark interior line in the centre of the wing. Behind it an oblique rusty brown spot at the inner margin, anteriorly faded. Then an oblique paler rust-brown double median line and 2 separated dentate dark exterior lines. At the cell-end 2 black spots and a series before the margin. Rust-brown spots at the anal angle, at the centre of the distal margin, and paler ones below the apex. Hindwing pale ochreous grey, at the margin grey. 50 mm. British New Guinea.

100. Genus: **Betashachia** Mats.

**B. augustipennis** Mats. This genus and species can merely be registered, as there is no figure and the description is written in Japanese.

Additions.

A number of Formosa-species have been described in the meantime by Prof. Matsamura, to which 2 other forms are added. The arrangement applied by this author is also used here.

1. Genus: **Tarsolepis** Blr. (p. 607)

**T. fulgurifera** Wlk. (pl. 79 a). (Megashacliia Mats.) **takamukuana** Mats. is a lighter form of it, whereby the two streaks below the costal margin behind the centre are more conspicuous. Veins 2 and 3 are considerably lighter and thereby below the long silvery stripe 2 dark stripes are isolated. At the inner margin at the base the brightening extends to below the base of vein 2. Before the margin, above the silvery stripe, narrow dark triangles are more distinctly isolated than in typical fulgurifera. 80—100 mm. Horisha.

3. Genus: **Dudusa** Wkr. (p. 608)

**D. baibarana** Mats. Similar to the form **synopla** Swh. On the forewing the base at the costal margin is darker brown, behind it at the costal margin a broader white band, the following oblique main band at the base of vein 2 with a short branch to about \( \frac{1}{4} \) inner margin. Ground-colour greyish-white. At the margin
brown lunae, distally to them no round spots. On the abdomen above in the median line white hairs. ♀ 80 mm.

Baibara. — horishana Mats. Antennae with white tips. Forewing yellowish-brown. As only Dr. Mell has horishana.

examined the genitals of his forms, it is impossible to say how many species the nobilis-group contains or which may be synonymous.

47. Genus: **Stauropus** Germ. (p. 626)

**St. teikichiana** Mats. probably belongs near alternus Wkr. Interior line of forewing chocolate-brown, teikichiana.

slightly undulated, obliquely distad, the base before it whitish. Ring-macula oblong, reniform macula normal,
both chocolate brown; as far as the latter the median area is darker. The exterior line which is otherwise white
and notched is here dark, faded, from the costal margin almost to vein 4 rather straight, then indistinct. Before
the margin above vein 7 within the dark submarginal spots a white spot. On the grey hindwing the veins are
prominently dark. ♀ 60—64 mm. Horisha.

**St. amboynica** Obth. Somewhat similar to picteti Obth. (Vol. I, pl. 48 g). On the forewing the base is amboynica.

just as green, with a projection in the cell, but below it the border-line is much more oblique. Median area as
brown as in picteti. Exterior line yellowish-brown, notched, almost vertical to the inner margin, similar as in the
smaller pratti B.-Bak. (pl. 83 c). Marginal area lighter, with a slight greenish reflection, without distinct sub-
marginal spots. On the hindwing the costal margin is not green. The light notched line edged with dark similar
as in albimaxcula Gaede, parallel to the distal margin. ♀ 60 mm. Amboina.

50. Genus: **Desmeocraera** Wilgrn. (p. 628)

**D. kususana** Mats. Similar to umbrosa Mats. (p. 630) being also described from Formosa. Forewing kususana.
at the base and in the marginal area without green scales. Interior line straight, bent somewhat proximad,
similarly as in cyanea Leech. The median and exterior lines distinct, slightly excurred in the middle. Behind
the exterior line at the costal margin the subapical spot is oval, not triangular. Behind the slightly notched
submarginal line somewhat darker. Hindwing brownish. ♀ 48 mm. Formosa.

**D. subgeneris** Strd. is synonymous with **St. vilesani** Mats. (p. 627). subgeneris.

**Genus:** **Horishachia** Mats. (Not numbered, because „new“)

Palpi not extending to the frons. Antennae of ♀ serrated and long-tufted. Forewing elongated, apex
pointed. Veins 3 and 4 arising from the same place, 5 near the upper cell-angle, veins 6—10 stalked. In the
hindwing veins 3 and 4 arise from the same place, 5 above the middle of the cross-vein, 6 + 7 on a long stalk,
8 close at the cell. — Excepting the pointed apex, the species is very similar to Gargetta Wkr. (p. 615).

**H. infusca** Mats. Forewing dark greyish-brown, dusted dark. Interior and exterior lines double, dark, infusca.
indistinct. Interior line in the cell distally angled and then vertical to the inner margin, the other one parallel
at the distal margin. The exterior half of the marginal area is paler with a series of black submarginal dots.
At the cross-vein a light spot. Hindwing greyish-brown. ♀ 50 mm. Horisha.

43. Genus: **Pseudofentonia** Strd. (p. 624)

**Ps. acuminata** Mats. According to the antennae it belongs to the 2nd group and separated as genus acuminata.

Neofentonia Mats. Somewhat similar to the palaearctic nihonica Wilem. (= eximia Grünbg.) in Vol. II, pl. 45 d,
probably also to obliquiplaga grisescens (p. 629) and belonging to the same group. But the basal area with
the median area equally light grey, and the marginal line as strongly luniformly notched as otherwise in group 1 in
nihonica and argentifera Mr. (75 c).

45. Genus: **Fentonia** Blr. (p. 625)

**F. ocypete** Brem. — baibarana Mats. shows at the centre of the inner margin of the forewing a white ocypete
spot which extends to the interior line. A concentric white band behind the black line (the exterior line) is
broader and conspicuous. In a specimen from Singapore the inner margin is whitish as far as the base. The
whitish-grey marginal area of baibarana is also found in Japan. — concentrica Oberth. (Vol. II, pl. 48 h) is
presumably also a form of ocypete.
36. Genus: *Pydna* Wkr. (p. 620)

*albibasis.*

*P. albibasis* Mats. Somewhat similar to *formosicola* Strol. (pl. 82 c). Forewing reddish-brown, at the base somewhat grey, at the margin yellowish. The main line from the apex similar as in *formosicola* and most of the other species, but at the margin a yellow lunular band is partitioned off by two notched lines. Hindwing white, at the margin yellowish. ♀ 44 mm. Taihoku.

80. Genus: *Notodonta* O. (p. 640)

*takamukui.*

*N. takamukui* Mats, belongs near to *gigantea* Elve. (80 d) or a form of it. Owing to the very elongated shape of the wings, the genus *Aeneshachia* Mats, established for this species may at least remain as the name of a group. Interior and exterior lines still feebler than in *gigantea*, but the anterior white notched portion of the exterior line much more distinct. At the exterior half of the anterior cell-margin a thick black streak continued at vein 6 to the exterior line. Behind the latter a short streak above vein 6 and a twice as long streak above vein 7, both of which are only feebly marked in *gigantea*. The marginal lunular line is more distinct. ♀ 90 mm. Horisha.

*mushensis.*

*N. mushensis* Mats, is said to resemble *Not. stigmatica* Grünb., which I cannot confirm, nor is it in the least similar to *Herp. stigmatica* Grünb. (Vol. II, pl. 45 g) but to *Not. oberthüeri* Stgr. (pl. 46 b) at most. Ground-colour probably brown, Interior line blackish-brown, before it darker, behind it lighter. Exterior line double, its branches at the costal margin somewhat more separated, but in the original figure it is plain, without notches. Submarginal line not composed of black dots as in *oberthüeri*, but fadedly continuous, at the costal and inner margins darker and very near to the exterior line. By the latter it is the most easily separable from *oberthüeri*. Hindwing scarcely different. ♀ 44 mm. Formosa.

*takasagonis.*

*N. takasagonis* Mats, also resembles *oberthüeri*. Forewing more brownish. Interior line apparently somewhat more slanting. No reinfum macula. If the original figure is correct, the exterior line lacks the uniform fine notches; it projects distally a little at vein 4 and more distinctly so below the costal margin. Hindwing with a narrower median line than in *oberthüeri*, which is hardly possible; it may be meant that the exterior band is narrower. ♀ 48 mm. Formosa.

Genus: *Microphalera* Btlr.

(Cf. Vol. II, p. 299.)

*mushana.*

*M. mushana* Mats. Allied to *atrovittata* Brow. (Vol. II, pl. 45 f). On the forewing the interior line is as faded as on the figure of *atrovittata*. In reality, it is black in the latter, notched, far excurred in the centre. A median band is likewise marked at the costal margin, and the exterior line is scarcely different. The dark radial stripe is parted before the interior line. Behind the exterior line a dark nebulous band in the centre of the distal area in the anterior portion, but no radial diffuse patch. ♀ 64 mm. Formosa.

Genus: *Togaritensha* Mats.

Palpi short, somewhat erect. Antennae of ♀ tufted, with filiform tips. Forewing with a pointed apex, distal margin slightly undulated. Inner margin before the middle with a scaled dent. Vein 3 far off from 4, 5 above the centre of the cross-vein. According to the description veins 6–10 seem to be stalked. A specimen with the same contours of wings, but in not intact condition, shows also vein 5 near the upper cell-angle in the original figure, and not “above the centre of the cross-vein”. Vein 6 from 3/4 of the long accessory cell, 7 + 8 + 9 from its apex, 10 a little below the apex. The inner margin shows a projecting lobe before the middle; in this specimen a scaled dent is not to be noticed. In the hindwing vein 5 is somewhat less distinct, 6 + 7 on a long stalk, 8 nearing the centre of the cell and connected with it by a bar.

*acuta.*

*T. acuta* Mats. is said to exhibit a marking and shape of the wings somewhat similar to *Leuc. acuta-virgo* Btlr. (Vol. II, pl. 48 b); in reality, it resembles, to a certain degree, *Drep. grisearia* Stgr. (pl. 48 d). Forewing greyish brown with a slight violet gloss. Cross-vein marked black, before it in the cell a lighter spot. At the inner margin the lobe is orange with a blackish partition-line. Behind it as far as the apex a distinct dark line. Apex somewhat darkened. Hindwing somewhat paler than forewing, only at the apex dark scales. ♀ 45 mm. Horisha.
84. Genus: **Allochanta** Stgr. (p. 643)


*A. basipuncta* *Mats.* Allied to neither of the palaeartic species. Forewing brown with a silky gloss, *basipuncta*, at the base with a snow-white spot. A black ring-macula and a large dark coniform macula are present. At the cross-vein erect brown scales. Exterior line double, dark brown; towards the costal margin W-shaped, white, inside bordered with dark. From below the apex to the cross-vein a dark band. Hindwing grey, at the apex darker. ♀ 57 mm. Horisha.

60. Genus: **Damata** Wkr. (p. 635)

*D. longipennis* Wkr. — *In формосиола* *Mats.* the black basal spots as well as the exterior ones are *in-longipennis* significantly smaller than the normal ones. If this form be denominated, the pink-hued form mentioned on p. 635 deserves much rather a name: *roseata* n. f.

90. Genus: **Spataloides** *Mats.* (p. 645)

*S. gemmifera* *Mr.* A synonym of it is *Ginschachia elongata* *Mats.*, from Formosa.

96. Genus: **Pygaera** O. (p. 646)

*P. baibarana* *Mats.* probably resembles *rubida* *Dec.* (80 h) and *undulata* *Hmps.* Forewing with 3 white *baibarana* lines. The first curved. The second in the cell triangular, distally angled at vein 1, otherwise rectilinear: from this line an ochrous brown line extends obliquely distad, being also angled at vein 1. The third line is very oblique, behind the cell divided into 3 spots, excurred at vein 1. The undulate row of submarginal spots is distinct. No reniform macula. ♀ 30 mm. Formosa.

Genus: **Cnethodonta** Stgr.


*C. baibarana* *Mats.* Forewing greyish-white with but few dark scales, especially behind the cell. On *baibarana* the cross-vein no dots. Traces of a pale interior and exterior line. Submarginal line scarcely discernible. At the margin between the veins black dots, the central ones parted. Hindwing darker, with light fringes. Veins 6 + 7 on a long stalk. ♀ 36 mm. Formosa.

Genus: **Takashachia** *Mats.*

Palpi erect beyond the frons. Antennae of ♀ long-combed to the tips, in the ♀ shorter so. Wings and body in the contours similar to *Cerasana* Wkr. (p. 612), but of a different neuration. Accessory cell long. Vein 5 near its lower angle. (but according to the figure from the centre of the cross-vein), 6 below the upper cell-angle, 7 and 8 + 9 from the apex of the accessory cell. In the hindwing 6 + 7 on a short stalk, 8 nearing the cell in the middle. Abdomen of ♀ very long.

*T. maculosa* *Mats.* Greyish-brown, abdomen dark brown excepting the base. Ring-macula dark *maculosa* brown, above it at the costal margin somewhat proximad another similar spot. The margin of the reniform macula is formed of 3 spots. Exterior line double, undulate, in the ♀ tolerably distinct, in the ♀ rather faded. Before the margin dark dots, those above veins 4 and 7 being larger, at the fringe similar dots. Hindwing brownish, with a spot at the cross-vein, in the ♀ with a dark submarginal band. ♀ 40 mm. ♀ 60 mm. Horisha.

Genus: **Lophocosma** Stgr.


*L. goniculatum* *Mats.* Similar to *atriplaga* *Stgr.* Forewing brownish-grey, at the base and costal margin *goniculatum* whitish-grey. At the costal margin 4 black spots at about equal distances. The thick streak at the cross-vein as in *atriplaga*, but with a similarly thick continuation above vein 4 to the distal margin, the last part of it situate above vein 5. Hindwing brownish. Pectinations of the antennae somewhat shorter than in *atriplaga*. ♀ 55 mm. Horisha.
D. formosana. Mals, is separated from vinula L. by a series of 4 black spots behind the exterior line on the forewing, which are not connected with the marginal spots. The rest of the marking resembles a feebly marked vinula and cannot be used as a mark of distinction, because it varies greatly in the different races. Horisha.

Note: Among the Bombycids in this volume, on p. 440, the genus Andraca Wkr. has been dealt with. According to Roepke and van Eeken, it must be transferred to the Notodontidae on account of the quite Notodontid-like larva. For further particulars cf. Tijdschr. v. Entom. 67, p. 177.

Aphabetical List of the Indo-Australian forms of Notodontidae with references to the original descriptions.

* signifies that the form is also figured at the place quoted.

acuminata Psed. Mals. Ins. Mats. 4, p. 40, *
aeuta Phal. Gaede, Seitz Macrolep. 10, p. 613.
aeuta Tog. Mals. Ins. Mats. 4, p. 13, *
albescens Pydna Wilern. Entomologist 47, p. 266.
albifusa albigalbus Pydna Tog. Mats. Ins. Mats. 4, p. 43, *
Alphabetical List of the Indo-Australian Notodontidae.

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costinata Mr. Lep. Atkinson, p. 66.
Alphabetical List of the Indo-Australian Notodontidae.
19. Family: Cymatophoridae.

The characteristic features of this family to which about 100 species are reckoned to-day, almost half of which occur in the palaearctic region, have been dealt with in Vol. II, p. 321. About 50 species have hitherto been discovered in the Indo-Australian region, about 20 in the American region. The distribution, however, is not yet certain, since many species placed to this family must still be proved to belong to the Cymatophoridae. Some American species, such as Thyatira hypatia Drc. and Polyplaca australis Dyr., must be placed to the Noctidae, where they have also been ranged, nor will the group Axia-Epicimelia placed to this family permanently remain here. As a matter of fact, the only distinctive mark hitherto acknowledged, i.e. the course of veins 7 and 8 on the hindwing does not suffice for decisively characterising a family.

Even after the separation of this group of Epicimelia-Axia strongly resembling the Geometrids, the family is split into two evidently heterogeneous groups. The first seems to approach some Notodontidae from which family, according to HAMPSON, the Cymatophoridae have directly issued, beside the Sphingidae on the one hand and the Eupterotidae on the other. But the name Eupterotidae in this sense does not apply so much to the large Indian forms as to the allies of the American genus Apatelodes for which, in Vol. VI, the subfamily of the Zanolinae ranged under the Bombycidae has been established *). The former attempts of classifying them among the Noctidae have been given up long ago.

On the whole, they undoubtedly represent a phylogenetically very old group, perhaps the last remains of a tribe once numerous in species. This assumption is supported by the vast distribution of the family, since forms that can hardly be separated specifically or even not at all have spread over more than half the world. The best known species of the palaearctic region, Thyatira batis, does not even enter into the Indo-Australian region, but it also crosses, in quite similar forms (mexicana etc.), extensive parts of Tropical America, and the range of Habrosyne devasa and its allied forms covers the greatest part of the northern hemisphere. Moreover, the group unites with most of the ancient families in the peculiarity of living more in the temperate than the hot zone. All the species which on their approach to the tropics occur in the plains chiefly inhabit the mountain-districts in the tropical regions. Of Thyatira batis preferring the plains, the Indian form — cognata Warr. — is more common in the higher mountains (Himalaya, Khasia) than below, and only on its having crossed the southern tropic it occurs again in numbers in the plains.

The different shape of the larvae is due to their contrary habits; whilst the freely living larva of one genus (Thyatira) still shows a shape distorted like a Notodontid, this shape is no more exhibited by the hidden larvae of the second group, and in those genera the larvae of which live between two leaves being flatly spun together it has given way to a hunchless, flatly compressed shape. Even the shape of the head is strongly flattened in these genera (Cymatophora), and they keep lying in a horseshoe-like way, adapted to the narrow space between two small leaves that are stuck together.

The old age of the group of Cymatophoridae is also evinced by a certain consistency of their peculiar and rather uncommon colouring, as well as of the flesh-coloured ocelli on the forewings, which we are met with in nearly all the northern palaearctic districts and in America nearly everywhere from Alaska down to Southern Brazil. The various climates have changed nothing of the rarely delicate pink colour. On the other hand, they seem to be strongly impressed by cultural influences, by which just the ancient forms generally prove to be particularly affected, and one species — Cymatophora or (Vol. II, p. 327) — is a most striking example of rapidly increasing melanism, and a number of fundamental works by HASEBROEK argue on this effect being due to the progress of industry.

1. Genus: Saronaga Mr.

Antennae of ♂ slightly flattened, scarcely ciliated. Palpi thickly haired on the two first joints. Abdomen with lateral hair-tufts at the end. Forewing with a hair-pencil at the anal angle, the inner margin curved, veins 7 + 8 from the apex of the accessory cell, 9 and 10 from its anterior margin. Vein 5 in both wings arises on the centre of the cross-vein. Type: derasa L. from Europe.

**H. derasa** L. which has been dealt with in Vol. II, p. 323 and pl. 49 d and 55 n occurs in our district in two forms: **derasoides** Blr. (= fraterna Mr.) (Vol. II, pl. 55 m), from Dharmsala; judging from the original figure it merely differs from *derasa* in showing somewhat more white below the costal margin of the forewing. Darjeeling, Bengal.—**communera** Warr., already treated upon in Vol. II, p. 322 and pl. 55 m, chiefly differs only in the reddened costal margin of the forewing. Punjab, also in China.

**S. albicosta** Mr. (85 a). Thorax and forewing dark red-brown, costal margin broadly brightened by white. Transverse line notched, rather indistinct. Hindwing lighter, with a broad dark margin. 55—58 mm. Khasia Hills.

**H. armata** Mr. (85 a). The white oblique line of the forewing is distinctly bent, the undulate line at the inner margin finely white, less undulated anteriorly than *derasa*, 40 mm. Khasia Hills.

**H. plagiosa** Mr. (85 a). Ground-colour considerably browner. The two light lines broadly faded inwards, somewhat pink. Interior line much steeper than in *indica* and *armata*, the line from the apex to the anal angle uniformly bent. 45—50 mm. Sikkim.

**H. saanguinea** Mr. (85 a) differs considerably in the rusty red and rusty brown colour. The distinct interior line is incurved at the inner margin. One piece each of the exterior margin is yet present before the undulate line at the costal and inner margins. 40—42 mm. Sikkim.

**H. argenteipuncta** Hmps. (85 a) is the most similar to *saanguinea*. Thorax and forewing greyish-brown, the broad median area blackish-brown, except at the upper angle. The white silvery spot is distinct at the base. The interior border of the median area is uniformly curved from /4 costal margin to /4 inner margin. Reniform maculae of the ground-colour, finely edged with white, with a violet blotch towards the base. Exterior line from vein 2 to the inner margin somewhat distally with a distinct fine yellow colour. The undulate lines above it fine bluish-grey, much less undulated than in *saanguinea*. The marginal area between veins 2 and 4 darker than the rest, with a faded bluish-grey band, instead of the light line of *saanguinea*. The light areolate line at the margin is quite obsolete. Hindwing reddish-brown. Vein 5 farther in front than in *saanguinea*, ♀ 38 mm. Htawgaw, Upper Burma. Type in the British Museum.

**H. undularis** Hmps. Described as *Thyatira*, but judging from the sketch it belongs to this genus here. Thorax reddish-brown. Forewing with a black line from the base of the costal margin in a bend to behind the centre of the inner margin, then upwards to the costal margin near the apex. Before this line brown with a pinkish-white triangle at the costal margin. Below the line a white spot from the base to the centre of the wing, the rest of the interior area also brown. Distal area pinkish-white with an indistinct undulate submarginal line, faded brown behind it and blackish above vein 2. Hindwing whitish with a dark median line and margin. ♀ 38 mm. Khasia Hills.


Antennae of ♂ finely ciliated. Patagia densely haired. Forewing oblong. Vein 5 above the centre of the cross-vein, 6 from 2/3 of the length of the accessory cell, 7 and 8 + 9 from its apex, 10 a little before the apex. On the hindwing vein 5 not far off from vein 4.

**H. communera** Blr. (= fraterna Mr.) (Vol. II, p. 323 and pl. 55 m) from Dharmsala; judging from the original figure it merely differs from *derasa* in showing somewhat more white below the costal margin of the forewing. Darjeeling, Bengal.—**communera** Warr., already treated upon in Vol. II, p. 322 and pl. 55 m, chiefly differs only in the reddened costal margin of the forewing. Punjab, also in China.

**S. albicosta** Mr. (85 a). Thorax and forewing dark red-brown, costal margin broadly brightened by white. Transverse line notched, rather indistinct. Hindwing lighter, with a broad dark margin. 55—58 mm. Khasia Hills.

**H. armata** Mr. (85 a). The white oblique line of the forewing is distinctly bent, the undulate line at the inner margin finely white, less undulated anteriorly than *derasa*, 40 mm. Khasia Hills.

**H. plagiosa** Mr. (85 a). Ground-colour considerably browner. The two light lines broadly faded inwards, somewhat pink. Interior line much steeper than in *indica* and *armata*, the line from the apex to the anal angle uniformly bent. 45—50 mm. Sikkim.

**H. saanguinea** Mr. (85 a) differs considerably in the rusty red and rusty brown colour. The distinct interior line is incurved at the inner margin. One piece each of the exterior margin is yet present before the undulate line at the costal and inner margins. 40—42 mm. Sikkim.

**H. argenteipuncta** Hmps. (85 a) is the most similar to *saanguinea*. Thorax and forewing greyish-brown, the broad median area blackish-brown, except at the upper angle. The white silvery spot is distinct at the base. The interior border of the median area is uniformly curved from /4 costal margin to /4 inner margin. Reniform maculae of the ground-colour, finely edged with white, with a violet blotch towards the base. Exterior line from vein 2 to the inner margin somewhat distally with a distinct fine yellow colour. The undulate lines above it fine bluish-grey, much less undulated than in *saanguinea*. The marginal area between veins 2 and 4 darker than the rest, with a faded bluish-grey band, instead of the light line of *saanguinea*. The light areolate line at the margin is quite obsolete. Hindwing reddish-brown. Vein 5 farther in front than in *saanguinea*, ♀ 38 mm. Htawgaw, Upper Burma. Type in the British Museum.

**H. undularis** Hmps. Described as *Thyatira*, but judging from the sketch it belongs to this genus here. Thorax reddish-brown. Forewing with a black line from the base of the costal margin in a bend to behind the centre of the inner margin, then upwards to the costal margin near the apex. Before this line brown with a pinkish-white triangle at the costal margin. Below the line a white spot from the base to the centre of the wing, the rest of the interior area also brown. Distal area pinkish-white with an indistinct undulate submarginal line, faded brown behind it and blackish above vein 2. Hindwing whitish with a dark median line and margin. ♀ 38 mm. Khasia Hills.


Palpi porrect, the third joint long, projecting beyond the frons. Antennae of ♂ finely ciliated. Thorax densely haired. Vein 5 of forewing below the centre of the cross-vein, 6 from the base of the accessory cell, 7 and 8 + 9 from its apex, 10 arising before the apex. Vein 5 of hindwing likewise below the centre of the cross-vein. Type: *batis* L. from Europe.

**Th. labiata** n. sp. (85 b) is between diminuta Houlb. and unipunctata Houlb. which were described from the palaearctic region after the publication of Vol. II. The light lobe at the base of the forewing is short. A spot before the centre of the costal margin as in *transitans* Houlb. The apical spot is smaller than in *diminuta*. The indistinct light notched median and exterior lines are finely white at the inner margin. Hindwing with a lighter median line and light fringe ♀ 48 mm. Upper Burma. Type in the British Museum.
T. batis L. This species so very common in Europe and described in Vol. II, p. 323 also occurs in the batis. Himalaya in the scarcely different form cognata Mr., pl. 49 e, in which the spots are not so beautifully rosy red. — vicina Guén., has somewhat narrower spots at the base and anal angle. Java.

T. decorata Mr. (85 a) is similar. The basal spot is divided into three smaller ones. A large spot decorata. in the centre of the cell and a small one at its end, both absent in batis. The costal-marginal spot at the apex is differently shaped, several small spots are at the margin. 40—42 mm. Sikkim.

T. geminata sp. n. (85 b). The basal spot is not parted. The two spots in the centre of the cell are geminata. much larger, slightly fused. The interior apical spot is larger than the exterior one and fused with it. At the centre of the inner margin there is no spot. A series of indistinct spots before the distal margin, the lowest more distinct. 38—42 mm. Sumatra. Type in the Berlin Museum.

T. arizona Wilem., is probably similar to oblonga Pouj. (Vol. II, p. 56 c). The 5 spots are ochreous arizona. The basal spot is oblong, the spot at the centre of the inner margin somewhat double, the spot at the inner angle small. 38—44 mm. Formosa.

T. stramineata Warr., from the Khasia Hills, has been dealt with in Vol. II, p. 324 and pl. 55 n. Beside stramineata. the basal spot it shows one more each at the centre of the costal margin and at the apex.

T. trimacula Brem. The Japanese nomenclatural form does not occur in our district. — albo macula trimacula. Leech has almost white spots. Hindwing paler with a distinct central spot and exterior line. 38—41 mm. Changyang. — formosana Mats., (85 b) is as formosana. large as in chinensis. The light notched line before the distal margin is scarcely traceable. The colour of the 3 spots as in trimacula. Hindwing, however, not as in the latter, but as in chinensis. Formosa.

Th. angulifera sp. n. (85 b) is quite differently marked. The light edge of the basal spot on the angulifera. forewing of the other species is only represented here by a pink spot at the costal margin, and a fine white hindwing paler with a distinct central spot and exterior line. 38—41 mm. Changyang. — vicina forma nov. Intermediary between Thyatira and Gaurena. Antennae of 3 ciliated. First and second joints of palpus thickly haired, Veins 4 and 5 of forewing close together, 6 from the upper cell-angle, 7 + 8 and 9 + 10 stalked or 8 and 9 anastomosing and forming an areola. A long hair-pencil beneath near the base at vein 1. Vein 5 of hindwing also very near to 4. Type: decora sp. n. nov.

C. decorata sp. n. (85 b). Forewing dark reddish-brown. The lighter interior line is straight, very obli- quely distad to the submedian fold, then introangular. A black basal spot before it, 2 dark lines behind it. A black spot in the centre of the cell and at the cross-vein, with a broader bent dark line behind it. Exterior line treble, bent in the middle, a yellow spot outside at the inner margin, behind it 3 fine white marginal dots, and black dots above the latter. A lighter blotch at the apex. Hindwing greyish-brown. 34 mm. Mt. Kunupi, 2000 m. (Dutch New Guinea.) Type in the British Museum. — indecora forma nov. Forewing very dark. Interior line and the two cellular spots still distinct, the spot at the inner margin smaller. Marginal dots present. From the same habitat. Type in the British Museum.

C. submarginalis sp. n. (85 c). Ground-colour as dark as in indecora. Interior line the same. A reddish light dot in the centre of the cell. Exterior line reddish, rather sharply reversed at vein 4, distinct. Margin narrow reddish-brown, bordered inside by a white line, with black spots before it. Hindwing somewhat lighter than in decorata. 35 mm. Mt. Kunupi, 2000 m. (Dutch New Guinea.) Type in the British Museum.

5. Genus: Gaurena Wkr.

Separated from Thyatira only by vein 6 also arising already from the areola. Type: florens Wkr. Cf. Vol. II, p. 326.
G. floransa Wkr. (Vol. II, pl. 49 e). Olive brown, slightly clouded greenish-yellow. Interior line undulate, yellowish-white, the exterior line is only represented by a spot at the costal margin and the submarginal line by a spot at the costal and inner margins. The latter two spots are connected by a series of white dots. White dots in the cell and at the cell-end. 38—42 mm. Sikkim.

G. floransa sp. n. (85 c). Antennae of $\delta$ well pectinated. In both wings vein 5 less far in front than in floransa. Vein 6 of forewing from the upper cell-angle, 7 and 8 from the apex of the areola, 9 and 10 from its anterior margin; this, however, is probably variable. Ground-colour similar to that of floransa. Basal area not different. A yellowish-white spot at the centre of the inner margin. Only one fine white dot each at the centre of the cross-vein and in the cell. Between the spot at the costal margin and the spot at the anal angle, which has a more distinct dark filling, we notice an exterior row of white dots ending in a white spot. Only white dots instead of the lunae at the margin. The apical spot extends farther proximad than in floransa. $\delta$ 49 mm. Central Burn, 900 m. Type in the British Museum.

G. unimacula sp. n. (85 c). Forewing very dark red-brown. The white interior line as in trimacula. The uniform dark median area only contains the innermost white dot which is much more conspicuous than in bifasciata. A black indistinct median band behind it. Exterior line of white dots bent as in bifasciata, with a white spot at the inner margin. Three fine white dots below the yellowish-white apical spot. The white marginal spots and the black spots of the fringe as in bifasciata. Hindwing lighter than in the latter. $\delta$ 37 mm. Mt. Kunupi, 2060 m. (Dutch New Guinea.) Type in the British Museum.

G. bisnifasciata sp. n. (85 c). Vein 5 near 4 in both wings. Vein 6 of forewing below the cell-angle, 7 and 8 from the apex of the areola, 9 and 10 from its anterior margin. Ground-colour blackish-brown, lighter below vein 2. The white interior line is similar as in floransa, with lobes towards the base in the cell. A double white median line at the inner margin more distinct than farther in front. The double exterior line is distinct at the costal and inner margins, veins 2—4 between them obsolete. White dots below the large yellowish-white apical spot, and white marginal dots. Hindwing as in floransa. $\delta$ 47 mm. Nomnaghi, 600 m. (Dutch New Guinea). Type in the British Museum.

G. airflowasciata Hmps. (85 d). Similar to floransa (Vol. II, pl. 49 e). The marking is more pale yellow. The interior band is broad. From the costal margin to the inner angle a yellowish-white line. 38 mm. Sikkim.

G. alnifasciata. The narrow interior line of the forewing pointedly projects at vein 1, light spots behind it at the inner margin. The exterior white line is more distinct than in airflowasciata, similarly placed, the spot at the costal margin relatively smaller, with its apex towards the smaller, purely white central spot. Behind the exterior line at the inner margin a short distinct white line, 3 white dots above it. The white marginal lunae extend to the apex. The apical spot as in airflowasciata. Hindwing as in the latter. $\delta$ 42 mm. Jatung, Tibet. Type in the British Museum.

G. grisescens Oberth. A very dark specimen of this species which was figured in Vol. II on pi. 49 e is before me: — rigrescens form. nov. Interior line of forewing as pointed as in alnifasciata. The whole ground-colour just as dark as the figures of rigrescens at the base. The white central spot is somewhat smaller, only the lower accessory spot is present and somewhat strigiform. Exterior line as indistinct as in rigrescens but without a dent inwards. The curved row of dots behind it and the marginal lunae are not different; the apical spot is filled with dark ground-colour. $\delta$ 36 mm. Chatong, Sikkim.

G. florescens Wkr. (Vol. II, pl. 55 n). Two large whitish-yellow spots near the base, whereby it is separated from floransa. The other spots are rounder, too, and not brownish. 35—40 mm. Sikkim, Khasia and Naga Hills.

G. argentosparsa Hmps. (Vol. II, pl. 56 f). The author has described it in ,,Moths of India,, but it probably occurs only in the palaeartic region. To be considered as a white-marked florescens.

G. lichenea Hmps. seems to be allied with argentosparsa. Ring-macula and reniform macula indistinct, the former 8-shaped, the other oblong. The submarginal line proceeds from an oblique black apical streak. Hindwing white, median line and margin dark. $\delta$ 35 mm. Sikkim, Naga Hills.

G. sinuata Warr. (Vol. II, pl. 56 a) chiefly occurs in West China. As 1 specimen is also known from Hainan, the species must also be mentioned here. Recognizable by the fine white dot in the cell, which is absent in the similar airflowasciata.
6. Genus: **Palimpsestis** Hbn. (Cymatophora Fr.)

Antennae of $ exceptionally serrated and ciliated in this genus. Neuration separated from that of the preceding genus by vein 5 of hindwings arises farther in front. Similar to the palearctic *Pol. fluctuosa* (Vol. II, p. 327, pl. 49 h). At the base of the forewing a white dot. Interior line treble, the basal area before it greyish-brown, the rest of the wing brownish-white. The exterior band is indicated by spots at the costal and inner margins. Submarginal line light. Hindwing pale brown. 30—34 mm. Sikkim.

**P. renalis** Mr. (49 f) in which the median and marginal areas are equally light; in *orbicularis* Mr. *renalis* (49 f) the median area is lighter. In *albidisca* Warr. (= *dubia* Warr.) (49 f) it is almost white at the inner margin.

*orbicularis* Mr. (Vol. II, p. 328). — **sumatrensis** form. nov. (85 c) differs in the absence of the light notched line near the base on the forewing, the light submarginal line is only traceable. Type: $ 3 Mt. Korniti, Sumatra, 2400 m.

**C. griseocostata** sp. n. (85 d) is somewhat similar to *ampliata* Blr. (Vol. II, pl. 49 g). Ground-colour reddish-brown, so that the light median band is inconspicuous. The double marginal line of the interior band is very prominent in the submedian fold and touches the ring-macula, then obliquely inwards to the costal margin. 

Maeaeae as in *ampliata*. The exterior line is more excurred at the costal margin. The dark median line in the distal area is straight. The light apical spot and the dots below it are not different. $ 45 mm. Hkamkawn, Upper Burma. Type in the British Museum.

**P. bifasciata** Hmps. Forewing silvery whitish-grey. The two bands are faded, dark. The interior one *bifasciata* is undulate, oblique, the exterior one slightly excurred in the middle. A dark oblique streak extends from the apex. $ 36 mm. Sikkim.

**P. anguligera** Hmps. Similar to *orbicularis* (Vol. II, pl. 49 f), but the interior line of the forewing is *anguligera*. 

Stranger the exterior one much more excurred on the cell. The dark apical streak very distinct. $ 40 mm. Naga Hills.

**P. cypriana** Mr. (85 d). Thorax and forewing greyish-brown. Interior line distinct, double, reversed *cypriana* in the middle. A thick black streak at the cross-vein and a dot in the cell. Exterior line double, curved, rather indistinct, submarginal line light. Hindwing pale brown, 30—34 mm. Sikkim.

**P. taiwana** Wilms. Forewing greyish-white, dusted somewhat blackish at the base. Interior line *taiwana* dark grey, bordered with 2 undulate black lines and divided by a third line. Median line double, black, angled above the centre, angular before the inner margin, beginning with a black spot at the costal margin. 

Exterior line composed of black and white dots, curved below the costal margin. A submarginal row of triangular spots, edged with black inside, a black marginal line behind them. Ring-macula and reniform maculae whitish, edged with black. Veins dotted white. $ 46 mm. — **obsoleta** Wilms. Base of forewing not *obsoletas*. Black. Only the anterior portions of the interior and median lines are preserved. Blurred radial streaks before the exterior line. Both forms from Formosa.

**P. pseudomaculata** Houlb. (85 d) belongs to the subordinate group of *Spilobasis* Houlb. in which vein 5 of hindwings arises farther in front. Similar to the palearctic *Pol. fluctuosa* (Vol. II, p. 327, pl. 49 h). At the base of the forewing a white dot. Interior line treble, the basal area before it greyish-brown, the rest of the wing brownish-white. The exterior band is indicated by spots at the costal and inner margins. Submarginal line of white dots. 45 mm. Described from Ta-tsien-lu. In the Indian district of Hpinaw, Upper Burma, 2500 m.

**P. albipaxis** Hmps. Forewing strongly excurred at the base of the costal margin, apex pointed. Silvery *albipaxis*, grey, white at the base, a white band at the costal margin except at the base. Interior and exterior lines undulate, dark; white submarginal spots. Hindwing pale brown. 68 mm (?). Simla, Sikkim. — If the size is correct, it is hardly classified here at the right place.


Antennae of $ exceptionally serrated and ciliated in this genus. Neuration separated from that of the preceding genus by vein 6 of forewing arising from the cell-angle. Type: *fuscescens* Hmps.

**P. fuscescens** Hmps. Thorax and forewing dark brown. Traces of numerous dark undulate lines. A *fuscescens* pale spot near the base below the median vein. An indistinct dark spot on the cross-vein, a pale spot at the apex. 36 mm. Naga Hills. It resembles *brunnea* (Vol. II, pl. 56 h).


Antennae as in *Palimpsestis*. Vein 6 of forewing also arises here from the cell-angle. Type: *argenteopicta* Oberth. from Amur.

**P. albomarginalis** Mats. According to the original sketch, the forewing is very broad, dark brown; the distal margin broad white, notched on its inner side, outside with a blackish-brown marginal line. The somewhat darker base is bordered by a double faded interior line. With a white dot in the submedian fold
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and one on the median vein near the base, another one at the cell-end. Cross-vein white inside, black outside. Exterior line darker, faded, slightly excurred. A dark oblique streak at the apex. Hindwing grey, a brownish submarginal band. ♀ 42 mm. Honshu.

P. meleagris Houlb. (85 d). Uniformly glossy dark grey. An interior and exterior band, 1 mm broad, indistinct. Ring-macula and reniform macula white. Numerous white dots on the veins. 42 mm. Described from Ta-tsien-lu, Fen-schin-ling Pass, Upper Burma. 2500 m.


Separated from Polimpestis by the hairy eyes. The third segment of the abdomen with a hair-tuft. Type: ridens F. from Europe.

albidisca. P. albidisca Warr., from the Penjab, has been dealt with in Vol. II, p. 329 and pl. 49 i; it is recognizable by the narrow brightened median area. dubia Warr. is probably the same.

solena. P. solena Sceh. Body brownish-grey. Forewing silvery grey, median area with a red-brown hue and enclosing 2 dark double lines almost meeting below the cell. Exterior line straight, almost vertical. Before the apex there is a whitish ochrous costal spot from which an indistinct dentate submarginal line proceeds. Hindwing blackish-brown with a light median band. 40 mm. Khasia Hills.

bifasciata. P. bifasciata Hmps. Silvery greyish-white. Forewing with a faded smoky brown interior and exterior band, the former being somewhat notched, the other slightly excurred in the middle. A fine oblique apical streak. 36 mm. Sikkim.

galea. P. galea Sceh. Thorax dark brown. Ground-colour pale brown. The interior line of the forewing is double, obliquely excurred, filled with dark at the costal margin, the base darker. A black round spot in the centre of the cell is surrounded by a strongly notched median line. Exterior line double, slightly curved, undulate, also filled with dark at the costal margin. Besides 2 indistinct undulate submarginal lines. A black oblique streak from the apex. Hindwing dark brown. 44 mm. Khasia Hills.

polychromata. P. polychromata Hmps. Body and forewing pale brown, dusted with red-brown and smoke-brown. Bright yellow scales below the base of the cell, rusty red behind it. Interior band composed of 3 twice curved lines. A square white spot at the centre of the inner margin. A bright yellow band at vein 2. Cross-vein black, bright rusty yellow behind it. Numerous indistinct dark lines in the distal area. From the apex a black oblique streak and a dentate white submarginal line. Hindwing greyish-brown. 34 mm. Sikkim.

aenea. P. aenea Wilem. Thorax brown. Forewing pale bronze brown, with a slight gloss, with a black spot at the base. Interior line double, black, slightly bent. Median line double, finer, bent in the middle, angled above the inner margin where we see a white spot. Exterior line meeting the median line at the inner margin. Submarginal line pale, undulate, beginning with a white spot. Maculae indistinct. Hindwing pale brown. 38—40 mm. Formosa.


Antennæ thin. Palpi delicate, projecting beyond frons. Forewing oblong. Vein 6 from the cell-angle, 7 + 8 and 9 + 10 stalked. Vein 5 of hindwing from the centre of the cross-vein, 3 + 4 on a long stalk. Type: cinerea Wkr.

cinerea. N. cinerea Wkr. Pale grey, with a slight pink tinge, brownish at the base. Interior and exterior lines double, black. Abdomen and hindwing pale grey. 36 mm. Penjab.


Palpi short, porrect, densely haired, last joint bare. Antennæ of ♀ thick. Forewing very broad, apex sharp. Vein 5 somewhat remote from 4, 6 close at the upper cell-angle; 7, 8 and 9 from the apex of the areola, Veins 8 and 9 once more approaching each other later on, almost forming a second areola, 10 from the anterior margin of the areola. Vein 5 of hindwing also somewhat remote from 4, 6 and 7 much less separated, 8 for a longer distance than usual closely approaching 7.

Pl. aurea nov. spec. (85 d). Forewing golden yellow, somewhat brownish in the interior part of the costal margin and at the distal margin. Lines rusty brown, interior line rectangularly broken at the base.
TOXOIDES. By M. Gaede.

of vein 2, the exterior one at vein 4. An oblique streak from the apex to vein 6, an indistinct double line below it parallel to the distal margin. Hindwing yellowish-white. ♂ 25 mm. Hpimaw, Upper Burma, 2500 m. Type in the British Museum.


Palpi extending beyond the frons. Antennae flattened, shortly ciliated. The costal margin of the narrow forewing is strongly bent. Vein 5 in both wings from the centre of the cross-vein. Vein 6 of forewing from the cell-angle, 5 + 8 and 9 + 10 on a long stalk.

* T. undulata Mr. (= longipennis Hmps.). Forewing grey with a brown stripe from the base of the wing to the apex. Marking similar to that of *Pal. orbicularis*. ♂ 50 mm. Sikkim.

Though some of the numerous species described by Houlebert from Ta-tsien-lu and other places at the frontier of the palaearctic region presumably also occur in the Indian region, yet they must be put aside for the supplementary volume 2.

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**Alphabetical List**

with reference to the original descriptions of the forms of the Indo-Australian *Cymatophoridae*.

* signifies that the form is also figured at the place quoted.

- **aenea** Pol. Wileu. Entomologist 44, p. 150.
- **albibasis** Pal. Hmps. Moths India 1, p. 184.
- **albomaculata** Thyat. Leech Entomologist 23, p. 114.
- **anguligera** Pal. Hmps. Moths India 1, p. 183.
- **argenteipuncta** Habr. Hmps. Moths Ind. 1, p. 179.
- **argentisparsa** Gaur. Hmps. Fauna Br. India Moths 1, p. 182.
- **armata** Habr. Mr. Lep. Atkinson 2, p. 90.
- **aurifasciata** Gaur. Hmps. Moths Ind. 1, p. 183.
- **cinerascens** Thyat. Lecah Entomologist 23, p. 113.
- **deccara** Cym. Gaede Seitz Macrolep. 10, p. 659.
- **florescens** Par. Hmps. Entomologist 44, p. 150.
20. Family: Limacodidae.

It is probably due to the insignificant exterior of a very great number of species belonging to this family that little attention was paid to the Limacodidae in former times and that the tropical species had been frequently disregarded or wrongly classified, despite of very characteristic marks which have been chiefly pointed out in Vol. II, p. 339. Until the beginning of this century, about 400 species (according to Kirby's Catalogue 410) had been ascertained. In the year 1914, Rebel already counted about 760, and since that time the number has increased to more than 1000. Fifty new species have been described in Vol. XIV alone, and the present volume contains about 150 species newly described (and figured almost without exception), whilst about 10 forms have been newly described in Vol. VI from the American fauna. In 1925, Strand's Catalogue of the Limacodidae already enumerates 847 species, to which the 200 lepidoptera newly described in the "Macrolepidoptera" are to be added besides some more, so that the total number of species known of this family amounts to about 1050.

The fact that the Limacodidae represent a very old lepidopteral family had been substantiated in the introductions to this family in Vol. II (p. 339) and Vol. XIV (p. 447) by their geographical distribution. Above all, their great abundance in those countries regarded as particularly old geologically, chiefly Australia and the central regions of the Asiatic and African continents. Moreover, a very great diffusion of certain genera or groups of species, which, on their part again, mostly occur in immense numbers of individuals. Besides, the lack of a proboscis in the imagines, which does not allow any conclusion at relations of the Limacodidae to any phanerogamic blossoms. A relatively great uniformity of the exterior of most of the species and, besides, a primitive structure and especially the incompletely developed neuration which still exhibits some veins that are reduced, fused, or have vanished in modern lepidopteral families.

It is also by reason of the great phylogenetic age of the Limacodidae that the family is divided into such a very great number of genera, no less than 97 of which are represented in the Indo-Australian region. All the genera enumerated in the following pages are presumably well founded. Owing to the long existence of the species belonging to this family, most of them, in spite of their uniform exterior, have been able to deviate from each other in their structure farther than this corresponds to purely specific marks of distinction. Thus it is most obvious that a very great number of these genera must be monotypical.

Among the lepidopterous species of the present day, the nearest allies of the Limacodidae are probably to be found in the Megalopygidae, but it is still very difficult at present to decide which of the peculiarities common to these two groups are to be considered as a relationship and which as convergencies. The larvae are chiefly distinguished by the creeping sole described at the place quoted above, which replaces the abdominal legs being transformed into sucking cups, and with which the larvae generally cling so very fast to their support that they can hardly be shaken off from trees or twigs. This transformation of the ventral surface is already prepared, to a certain degree, in the Megalopygidae in which the number of bogus feet has increased to 16. Many Limacodidae also have the uncommonly effective burning hairs in common with these Megalopygidae, being endowed with a venomousness that may often be almost dangerous. These netting hairs, however, are more confined to single parts of the larval body in the Limacodidae, whereas the Megalopygidae are usually covered with them like a long-haired red or yellow wig frustrating any offensive approach.

The nettle-organs are not common to all the Limacodidae. Some, as the larva of Cheromettia lohor Mr., have the exterior of green leaf-galls, similar to the larva of the palaeartic Cochliion limacodes, being smooth or set with very fine tubereles, or they even resemble, like the larva of Chalcoscelides castaneipars Mr., a X

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The nettle-organs are not common to all the Limacodidae. Some, as the larva of Cheromettia lobor Mr., have the exterior of green leaf-galls, similar to the larva of the palaeartic Cochlidion limacodes, being smooth or set with very fine tubercles, or they even resemble, like the larva of Chalcoscelides castaneipars Mr., a
parasitic agaric, nestling up to the wood of branches or bark like a purely white fungous mass to such a degree that nobody could take it to be an animal. Others form an arch across the leaf like diminutive brown fruits or like yellow beans, sucking fast on the leaf, such as the larvae of Parasa consocia (86 l) to sting us; whilst the pain passed away with me after three hours, my companion both of us suffered the larvae

The sting of the larva takes place by trying to touch the aggressor with the end of the protective cone. It is not necessary that the netting bristle penetrates deep into the skin, for the mere contact with the extremely pungent secretion is sufficient to produce fierce pain even on the hard skin of human hands. The duration of this pain depends on the intensity of the contact as well as on the disposition of the person injured. On an excursion I undertook together with a missionary (L. Klapheck), both of us suffered the larvae of Parasa consocia (86 l) to sting us; whilst the pain passed away with me after three hours, my companion felt the stings yet days afterwards. The most disagreeable is probably the sting of Doratijera vulnerans (89 l), from Australia, which — as we mentioned at another place — has derived its name from its perilousness. Yet it is neither as intense nor as lasting as that of American Megalopygidae, and in fact it does not protect the insect against all its enemies, since it has been observed in collecting the pear-shaped cocoons of this species Cheromettia lobar (85 f); the snails are known to leave a trace in creeping across the leaf in the shape of a glossy mucous film; the same is also done by the larva of lobar. To the best of my knowledge, it has not yet been ascertained in what way this silvery stripe is produced, but we may presume that a fine silky web covers the way across which the insect has been creeping. The other case of mimicry, from the American fauna, is unparalleled in India; this is the most striking copy of a long-haired spider by the Limacodid larva Phobetron hipparchia Cr., being of the very same colour as the spider and sitting on the leaves in entirely the same attitude. The hairy legs of the spider are represented in the larva by quite similarly looking long hairy protuberances which, though not terminating in feet, rest on the leaves in the same downward curved position as if the insect were resting on them and could run with them.

Many larvae of the Indo-Australian Limacodidae also exhibit conspicuous appendages and protuberances on their bodies, which are of the greatest life-importance for the insects. The larva of Scopelodes unicolor Ww. (87 g) has a great number of small bristy processes on its plump bluish-green dorsum, the bristles being laid together while in repose. But as soon as the insect is irritated, it erects these processes, and bristles up the fine spikes, as if it had taken lessons with a hedgehog in the use of the spikes — as a Dutch observer expresses himself. As these bristy cones cover the whole free upper surface of the larva in 4 parallel rows, the insect is protected on every side from which it might be attacked.

Quite recently a group of about 12 or 13 very small lepidoptera hitherto treated as a separate family (Epipyropidae) has been united with the Limacodidae, which undoubtedly represent Limacodidae having been transformed by regressive development. As far as they could be observed, all of these species are parasites living on cicadas or among leaf-flies (Psyllidae) and feeding on the exudations of these animals. Many cicadas secrete filiform wax-processes sometimes covering the whole insect like a coarse texture. The creeping sole of these parasites looking like small, intensely chitinized larvae of Cochlidion sticks very fast to the smooth armour of the infested animal which seems to be in no way injured or molested by its inhabitants — sometimes several on one cicada; but nevertheless the small larvae are able to leave this infested animal rather quickly, when it is captured. As yet little is known of the details of the habits of the Epipyropidae, because it is rather difficult to capture the hospitable animals, only very few of which are infested.

The first larvae caught were found on Fulgoridae, and I took particular pains in getting hold of them at their habitat (Hongkong). The cicadae from the genus Pyrops, where such parasites are to be chiefly expected, were very common during my stay in Hongkong, so that sometimes as many as 6 or 8 sat on the around the trunk to the averted side so that they can no more be seen, and immediately fly off with a wild trunk of a palm-tree. But as soon as one approaches the trunk at a few yards, the cicadae wander sideways
formed and can be well used for the diagnoses of the genera. In some cases they are plain or set with ciliary 
Iragoides). The $ antennae of some species (Australian Parasa) also exhibit short pectinations. Palpi likewise 
also much longer (Limacocera). Pectinations occurring very frequently either gradually decrease from the 
partly anastomosing with it. The proboscis is regressively developed. The $ antennae are very differently 
is characterized. Vein 8 of the hind wing is connected with the anterior margin of the cell by a cross-vein or 
absent in Pinzulenza which is doubtfully placed in this family. The hindwing exhibits 3, the forewing 2 inner-
while the antennae have normally two rows of pectinations, there is only one row in some genera (Ecnomoctena, 
base towards the apex, being serrate at last (Thosea), or they grow shorter towards the apex and base 
(Semyra). Very often only the basal portion of the antenna is pectinated long, the terminal portion being bare. 
While the antennae have normally two rows of pectinations, there is only one row in some genera (Economocetena, 
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There are 2 main types of larvae which are often arched like a wood-louse: firstly the flat ones re-
sembling limacidae, and secondly those provided with spined processes. Nearly all of them have a very poi-
sonous effect on being touched, and even the handling of dead lepidoptera in the collections may frequently 
produce ulcerating inflammations of the eyes and fever. Corresponding to this protection, the larvae are 
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hardly certain species bound to certain plants. This polyphagy is mostly one of the characteristic marks of phylo-
genetic age. Many species are often found in great numbers on cultivated plants. The pupation takes place 
in a very solid cocoon which is rarely spun in the earth; the ornamentally marked cocoons are often found 
in numbers on one twig. The pupa has half-free limbs and a very soft skin; before emerging it breaks off one 
lid of the cocoon.

Limacodidae (Cochliopodidae).

By Dr. Martin Hering.

The members of this family are recognizable by the anal vein (1 c) being preserved in both wings and 
by the almost invariable presence of a vein parting the cell, whereby the primitive position of the Limacodidae 
is characterized. Vein 8 of the hindwing is connected with the anterior margin of the cell by a cross-vein or 
partially anastomosing with it. The proboscis is regressively developed. The $ antennae are very differently 
formed and can be well used for the diagnoses of the genera. In some cases they are plain or set with ciliary 
tufts. In several genera they are peculiarly thickened and flattened (Macroteutrina), and at the same time 
also much longer (Limacocera). Pectinations occurring very frequently either gradually decrease from the 
basis towards the apex, being serrate at last (Thosea), or they grow shorter towards the apex and base 
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Iragoides). The $ antennae of some species (Australian Parasa) also exhibit short pectinations. Palpi likewise 
varyingly shaped and in different directions, enormously large in some genera (Scopelodae, Hyphorauna), 
sometimes very long only in the $ (Susica), with a conspicuous hair-tuft at the end in Scopelodae. Chactosoma 
always absent, as well as tympanal organs. Anterior legs without a tibial plate, tibial spurs may be present 
or absent on the middle and hind legs, and there may be also middle spurs present on the posterior tibiae. 
The legs are mostly densely long-haired, and the spurs are often hardly visible. Wings of different shapes, 
always characterized by a dull silky gloss beneath, where the veins are mostly paler, frenulum present, but 
absent in Pinzulenza which is doubtfully placed in this family. The hindwing exhibits 3, the forewing 2 inner-
marginal veins, the first of the forewing bifurcates at the base (1 a, 1 b). 8 + 9 on the forewing mostly bi-
furcated, often also stalked with other veins. A peculiar fact is that vein 11 is often very convex immediately 
after its origin and bent down to 12.

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lid of the cocoon.

Another Heterocera-family allied to the Limacodidae, forming in a certain measure a bridge to the family of the Megalopygidae, but entirely confined to America, for which reason it is only considered in Vol. VI, are the Dalceridae.

In economical respects, the Limacodidae seem to be less important. The above-mentioned Cheromettia 
lahas reported to harm coffee-plantations in Java, where they may occur in great numbers. Parsa cossonica 
I could see in Hongkong defoliating trees so completely that not any leaf was left on the branches; but these 
trees had not been timber for building. Most of the Limacodidae are very polyphagous so that the damage 
done by them is divided upon various families of plants and they can therefore not become so destructive to 
cultures as for instance pine-caterpillars which are exclusively dependent on this food-plant. The larva of the 
said coffee-vermin (Cher. lohor) is known to occur also on bananas, Ricinus, mango-trees, and quite a number 
of other plants. Sotora nitens Wkr. lives on the coffee-tree and besides on tobacco, orange-trees, cocoa-shrubs, 
and tea. The damage done is only severe on tobacco, because the leaves eaten by the larvae become full of holes 
and can no more be used for wrappers, but fortunately the tobacco is more rarely attacked by these larvae.

As we mentioned above, the Limacodidae of the Indo-Australian region are split into a great number of 
genera and species, and many novelties may yet be expected from the Papuan archipelago on its being 
thoroughly explored. Some genera also occur in Africa and America besides. It seems as if the peculiarity 
of the Limacodid larvae of being able to develop on various plants has forwarded their distribution.
Key to the genera of the Limacodidae. By Dr. M. Hering.

1. Subfamily: Limacodinae.

The forewing always lacks the radius sector in the cell, thus no vein proceeds from the anterior margin of the cell in the discal cell, and the cell is only parted by a plain or bifurcated discoceellar vein. Tibiae of middle and hind legs almost invariably with spurs, at least the latter; they are only absent in Lamprolepsis.

Key to the Genera

(The 91. genus Arrhapa and the 92. genus Cynosarga which I could not diagnose have not been taken into consideration.)

1. 5—9 or 6—9 on forewing stalked, cell extremely short
   — 5 and 6 separated from 7—9 on forewing
   — Vein 8 on hindwing is yet bent to 7 behind the cell, or anastomosing with it
   — Vein 8 on hindwing approaching the anterior margin of the cell as far as the cell-end at most, then tending away from it
   — 11 stalked with 8—10 on forewing
   — 11 always rising separately from the cell on forewing
   — Palpi extremely long, more than three times the diameter of the eye, projecting far beyond the head
   — Palpi not extraordinarily long, if they are long the second joint is much broader than the third
   — Palpi with a hair-tuft at the end of the 3rd joint
   — Palpi without a hair-tuft at the end
   — Antennae of ♂ plain, without pectinations, posterior tibiae often only with terminal spurs
   — Antennae of ♂ pectinated at least basally, posterior tibiae with 2 pairs of spurs
   — Cell of hindwing connected with vein 8 before the centre of the cell
   — Connection between 8 and the cell at or behind the centre of the cell
   — Vein 8 of hindwing with several small costal veins extending towards the costal margin
   — Small costal veins from 8 absent on hindwing
   — Posterior angle of the cell on hindwing projecting by $\frac{1}{3}$ or $\frac{1}{2}$ of the anterior margin of the cell
   — Posterior angle of the cell on hindwing slightly projecting
   — Vein 10 of forewing arises from the cell
   — Vein 10 of forewing stalked with 7—9
   — Vein 11 of forewing strongly bent, mostly right after the origin, therefore closely adjacent to 12
   — Vein 11 of forewing slightly bent, not very near to 12 (imagines with some kind of green markings always belong to this genus). It is not always easy to judge this mark, in doubtful cases both the alternatives are to be followed up
   — Antennae longer than forewing (♂) or just as long, thickened
   — Antennae shorter than forewing
   — Antennae long upcurved, mostly reaching to the vertex, longer than the diameter of the eye, posterior tibiae with 2 pairs of spurs
   — Palpi shorter; if long, they are porrect, posterior tibiae with 1 or 2 pairs of spurs.
   — If ♂ antennae are plain, compare also Narosa!
   — Antennae ciliated or plain (♂)
   — Antennae of ♂ pectinated
   — 8—10 of forewing stalked, 7 separate
   — 7—9 or 7—10 of forewing stalked
   — 8 of hindwing nearing the cell as far as the centre, 11 of forewing slightly bent
   — 8 of hindwing divergent with the cell soon after the origin, 11 strongly bent
   — Vein 10 of forewing distantly separated from the stalk of 8 + 9, 2 pairs of spurs present on the posterior tibiae
   — Vein 10 of forewing arises together with 8 + 9, or stalked
   — Forewing without a dent of scales at the centre of the inner margin, the cross-vein between 8 and the anterior margin of the cell on the hindwing often before the centre of the cell
   — Forewing with a dent of scales at the inner margin, cross-vein between 8 and the anterior margin of the cell on the hindwing at $\frac{2}{3}$ of it, antennae of ♂ pectinated to the ends
   — 6 + 7 of hindwing from the same place or stalked
   — 6 and 7 of hindwing arise distantly separated

1. Nervicompresa
2. Alippa
3. Cochliopodina
4. Elassoptila
5. Scopelodes
6. Monema
7. Hyphormides
9. Hedraea
10. Hyphorma
11. Limacocera
12. Squamosala
13. Rhamnosa
15. Arbelarosa
Key to the genera of the Limacodidae. By Dr. M. Hering.

20. Antennae of ♀ bare in the terminal thirds, 7 of forewing separated from the stalk of 8 + 9 or from the same place, rarely stalked
   — Antennae of ♀ pectinated more than two thirds, or only pectinated at the base.
   7—9 of forewing always stalked
   21. Antennae of ♀ pectinated beyond ⅔ (cf. also Thosea curvivena)
   22. Antennae of ♀ pectinated only in the basal third
   23. Posterior tibiae with 2 pairs of spurs, terminal thirds of ♀ antennae bare, 8 of hindwing connected with the anterior margin of the cell at its centre
   — Posterior tibiae only with terminal spurs, antennae of ♀ pectinated to the ends, 8 of hindwing connected with the anterior margin of the cell near the base
   24. Costal margin of forewing almost straight, posterior angle of the cell of the hindwing slightly projecting
   — Costal margin of forewing very convex, posterior angle of the cell of the hindwing strongly projecting towards the margin
   24. 6 and 7 separated on hindwing
   — 6 + 7 of hindwing always from the same place or stalked
   25. Posterior angle of the cell of the hindwing strongly projecting, 10 of forewing slightly bent
   — Posterior angle of the cell of the hindwing scarcely projecting
   26. Vein 10 of forewing strongly bent
   — Vein 10 of forewing scarcely curved
   27. 7 of forewing stalked with 8 + 9 or arising from the same place
   — 7 of forewing arises separated from 8 + 9
   28. Posterior tibiae only with terminal spurs
   — Posterior tibiae with 2 pairs of spurs
   29. Posterior tibiae only with terminal spurs
   — Posterior tibiae with 2 pairs of spurs
   30. Vein 11 of forewing arises opposite or distally to 2
   — Vein 11 of forewing arises basad to 2
   31. Cell of hindwing very short, less than ⅓ of the wing, antennae of ♀ plain
   — Cell of hindwing longer, antennae of ♀ more or less pectinated
   32. Posterior angle of the cell of the hindwing strongly projecting (by ⅔ of the anterior margin of the cell)
   — Posterior angle of the cell of the hindwing slightly projecting
   33. Vein 10 of forewing arises after 7 from the stalk of 8 + 9
   — Vein 7 of forewing arises after 10
   34. Antennae of ♀ pectinated
   — Antennae of ♀ only ciliated
   35. Vein 8 of hindwing connected with the anterior margin of the cell near the base, 4 and 5 separated on forewing
   — Vein 8 of hindwing connected with the cell at its centre, 4 + 5 arise from the same place on the forewing
   36. Vein 7 of forewing arises after 10 from the stalk of 8 + 9
   — Vein 10 of forewing arises after 7 (cf. also Birthamoides)
   37. Vein 8 of hindwing connected with the anterior margin of the cell by anastomosis, antennae of ♀ only basally pectinated, sexes dimorphous
   — Vein 8 of hindwing connected with the anterior margin of the cell by a cross-vein, antennae of ♀ pectinated to the ends, sexes not dimorphous
   38. Margin of forewing concave below the apex (cf. also Ceratonema concavum)
   — Margin of forewing straight or concave below the apex
   39. Legs long-haired, antennae of ♀ + pectinated
   — Legs with flat scales, antennae of ♀ only pubescent
   40. 7—10 of forewing stalked, posterior tibiae only with terminal spurs
   — Only 8 + 9 stalked on forewing, posterior tibiae with 2 pairs of spurs
   41. Posterior tibiae without middle spurs, only with (sometimes also without) terminal spurs
   — Posterior tibiae with 2 pairs of spurs (often hidden underneath hairs). [In case of 6 + 7 of hindwing being fused, so that one vein is absent, it belongs to 80. Liparolosa.
   42. Veins 6 and 7 of hindwing arise separately
   — Veins 6 + 7 of hindwing arise from the same place or stalked
   43. Vein 10 of forewing stalked with 8 + 9

12. Camia
20. Antennae of ♀ bare in the terminal thirds, 7 of forewing separated from the stalk of 8 + 9 or from the same place, rarely stalked
21. Antennae of ♀ pectinated beyond ⅔ (cf. also Thosea curvivena)
22. Antennae of ♀ pectinated only in the basal third
23. Posterior tibiae with 2 pairs of spurs, terminal thirds of ♀ antennae bare, 8 of hindwing connected with the anterior margin of the cell at its centre
24. Costal margin of forewing almost straight, posterior angle of the cell of the hindwing slightly projecting
25. Posterior angle of the cell of the hindwing strongly projecting, 10 of forewing slightly bent
26. Vein 10 of forewing strongly bent
27. 7 of forewing stalked with 8 + 9 or arising from the same place
28. Posterior tibiae only with terminal spurs
29. Posterior tibiae only with terminal spurs
30. Vein 11 of forewing arises opposite or distally to 2
31. Cell of hindwing very short, less than ⅓ of the wing, antennae of ♀ plain
32. Posterior angle of the cell of the hindwing strongly projecting (by ⅔ of the anterior margin of the cell)
33. Vein 10 of forewing arises after 7 from the stalk of 8 + 9
34. Antennae of ♀ pectinated
35. Vein 8 of hindwing connected with the anterior margin of the cell near the base, 4 and 5 separated on forewing
36. Vein 7 of forewing arises after 10 from the stalk of 8 + 9
37. Vein 8 of hindwing connected with the anterior margin of the cell by anastomosis, antennae of ♀ only basally pectinated, sexes dimorphous
38. Margin of forewing concave below the apex (cf. also Ceratonema concavum)
39. Legs long-haired, antennae of ♀ + pectinated
40. 7—10 of forewing stalked, posterior tibiae only with terminal spurs
41. Posterior tibiae without middle spurs, only with (sometimes also without) terminal spurs
42. Veins 6 and 7 of hindwing arise separately
43. Vein 10 of forewing stalked with 8 + 9

87. Spatulifimbria
10. Nasosoides
11. Pinzulenza
25.
27.
14. Altha
16. Pseudanapaea
17. Pseudalitha
15. Mawatura
27. Birthama
18. Miresa
19. Parasoides
46. Caissa
32.
36.
33.
34.
35.
23. Iraga
30.
31.
39. Legs long-haired, antennae of ♀ + pectinated
40. 7—10 of forewing stalked, posterior tibiae only with terminal spurs
41. Posterior tibiae without middle spurs, only with (sometimes also without) terminal spurs
42. Veins 6 and 7 of hindwing arise separately
43. Vein 10 of forewing stalked with 8 + 9

37. Heterogenea
Key to the genera of the Limacodidae. By Dr. M. Hering.

Vein 10 of forewing arises from the same place or separated from 8 + 9, 8 of hindwing with a branch towards the costal margin, $ ± hyaline

44. Vein 8 of forewing fused with the anterior margin of the cell at least as far as the centre (rarely arising before, in which case wings of $ ± hyaline)

Vein 8 of hindwing anastomosing with the anterior margin of the cell as far as $/2 at most, mostly only at the base, or connected by a cross-vein

45. Tibiae without any spur

— Posterior tibiae with terminal spurs

46. Palpi straightly prorect or drooping, rarely s t r a i g h t l y erect

— Palpi rising b e n t

47. Vein 10 of forewing stalked with 7—9, green markings always absent

— Vein 10 of forewing separated or from the same place with 7—9, or green markings present

48. Posterior angle of cell strongly projecting on hindwing, 7 of forewing arises after 10 from the stalk of 8 + 9

— Posterior angle of cell slightly projecting on hindwing, 10 of forewing arises after 7

49. Vein 8 of hindwing connected with the anterior margin of the cell at its centre by a cross-vein

— Cross-vein between 8 and the cell, if present, before the centre of the cell

50. Discocellular vein of forewing bifurcated, or apple-green colourings present

— Discocellular vein of forewing plain, green colouring always absent (cf. also the Australian Parasa!)

51. Frenulum absent. Antennae of $ basally pectinated

— Frenulum present

52. Antennae of $ only basally pectinated, hindwing with costal veinlets from 8 towards the costal margin

— Antennae of $ only basally pectinated, hindwing without costal veinlets. Forewing long and narrow. (If wings are broad cf. Parasa!)

53. Vein 10 of forewing arises separately from the cell, palpi upcurved to the vertex

— Vein 10 of forewing stalked with 8 + 9

54. Posterior angle of cell strongly projecting. Antennae of $ plain

— Posterior angle of cell scarcely projecting (cf. also Dinawides)

55. Vein 6 of forewing arises from the centre of the cross-vein

— Vein 6 of forewing arises near the stalk of 7—9

56. Veins 6 + 7 of hindwing arise from the same place or stalked

— Veins 6 and 7 of hindwing arise separately

57. Veins 3 + 4 of hindwing arise from the same place or stalked

— Veins 3 and 4 of hindwing arise separately from the cell

58. Vein 10 of forewing arises separately from the cell

— Vein 10 of forewing is stalked with 8 + 9

59. Vein 10 of forewing on a long stalk with 8 + 9, the palpi do not extend beyond the vertex

— Vein 10 of forewing from the same place or separated from 8 + 9, palpi extend beyond vertex

60. Forewing lacks one vein, since 8 + 9 are fused (cf. also Darna catenata)

— All the veins present in the forewing

61. Veins 3 + 4 of hindwing stalked

— Veins 3 and 4 of hindwing arise from the same place at most, or separated

62. Veins 7 + 10 of forewing stalked, or 7 and 10 arise together with the stalk of 8 + 9

— Either 7 or 10 of forewing or both arise separately from the stalk of 8 + 9

63. Vein 10 of forewing arises distally to 7 from the stalk of 8 + 9

— Vein 7 of forewing arises distally to 10

64. Antennae of $ pectinated or serrated

— Antennae of $ plain

65. Vein 11 of forewing arises opposite 2

— Vein 11 of forewing arises far basad to 2

66. Vein 8 of hindwing nearing the anterior margin of the cell as far as beyond its centre, 3 and 4 distantly separated

— Vein 8 of hindwing tending away from the anterior margin of the cell right after its origin

67. Veins 3 and 4 of hindwing arise separately (cf. also Macrolepidae!)

— Veins 3 + 4 arise from the same place
Key to the genera of the Limacodidae. By Dr. M. Hering.

68. Vein 7 of forewing arises from the same place or on a short stalk with $8 + 9$. Antennae of $\delta$ ± flattened

- Vein 7 of forewing on a long stalk with $8 - 10$, antennae of $\delta$ plain, normal

69. Antennae of $\delta$ serrated, dents as thick as shaft at most, 11 of forewing arises basad to $2, 3 + 4$ of hindwing from the same place

- Antennae of $\delta$ in places with longer pectinations, 3 and 4 of hindwing arise separately

70. Antennae of $\delta$ pectinated to or almost to the ends

- Antennae of $\delta$ only basally pectinated

71. Antennae of $\delta$ pectinated or serrated to the ends, 10 of forewing arises right after 7

- Antennae of $\delta$ bare at the ends, 10 of forewing arises far distally to 7

72. Costal margin of hindwing projecting with a broad lobe (under surface!), into which cross-veinlets extend from 8, posterior angle of cell projects strongly

- Costal margin of hindwing without the broad lobate projection, rarely very convex, then with 1 costal veinlet at most

73. Cell of hindwing very short, only $\frac{1}{3}$ of the wing; 8 connected with the anterior margin of the cell by a cross-vein

- Both marks united not present

74. Posterior angle of cell of hindwing projects distally by $\frac{1}{4}$ or $\frac{1}{2}$ of the anterior margin of the cell beyond the anterior angle

- Posterior angle of the cell of hindwing projects little

75. $6 + 7$ of hindwing on a very long stalk which is at least as long as the nervules

- $6 + 7$ of hindwing on a shorter stalk

76. Antennae of $\delta$ pectinated to the ends, posterior angle of the cell of the forewing slightly projecting

- Antennae of $\delta$ only basally pectinated, anterior angle of the cell of forewing projecting

77. Antennae of $\delta$ bipectinated, 7 from the same place or on a short stalk with $8 + 9$

(cf. also Birthamula)

- Antennae of $\delta$ only with one row of pectinations, 7 of forewing on a long stalk with $8 + 9$

78. Vein 8 of hindwing connected with the anterior margin of the cell by a cross-vein

(cf. Susica-group)

- Vein 8 of hindwing anastomosing with the cell

79. Vein 11 of forewing arises far basad to 2, antennae of $\delta$ with one row of pectinations

- Vein 11 of forewing arises opposite or basad to 2, antennae of $\delta$ bipectinate

80. Antennae of $\delta$ with one row of pectinations (but if the wings are long and narrow, cf. Belippa!)

- Antennae of $\delta$ bipectinate or plain

81. Veins 7 and 10 of forewing separated from the stalk of $8 + 9$

- Only one of the two veins is separated from the stalk of $8 + 9$ on the forewing, the other one arises with it from the same place or stalked

82. Vein 8 of hindwing connected with the anterior margin of the cell at $\frac{1}{3}, \frac{1}{2}$ or behind its centre

- Vein 8 of hindwing connected with the cell near the base

83. Vein 11 of forewing arises opposite 2

- Vein 11 of forewing arises basad to 2

84. Vein 2 of forewing arises distad to the centre of the distance 10—11, palpi upcurved

- Vein 2 of forewing arises basad to the centre of the distance 10—11, palpi porrect

85. Cross-vein between 8 and the cell of the hindwing in the centre, antennae of $\delta$ with bare ends

- Cross-vein of hindwing between 8 and the anterior margin of the cell at $\frac{1}{3}$ of this margin, antennae of $\delta$ pectinated to the ends

86. Vein 10 of forewing stalked with the stalk of $8 + 9$ (but if 4 + 5 of forewing from the same place or stalked, cf. Darna)

- Vein 10 of forewing separated from the stalk of $8 + 9$

87. Antennae of $\delta$ pectinated

- Antennae of $\delta$ plain, often thickened and flattened

88. Pectinations of $\delta$ antennae shortening not only towards the ends, but also basally; 8 of hindwing anastomosing with the anterior margin of the cell

- Pectinations of $\delta$ antennae long, shorter towards the ends, 8 of hindwing connected with the anterior margin of the cell by a cross-vein

61. Euphlyctinides
62. Euphlycetina
58. Limacosilla
70.
71.
57. Birthamoides
59. Birthamula
56. Beggina
64. Hydroclada
73.
65. Hypselolophpa
74.
63. Hypselolophpa
74.
76. Thosea
73. Ecnomoctena
76. Thosea
77. Setora
76.
79.
81.
82.
86.
84.
83.
77. Natada
78.
81. Darna
85.
86. Linacontia
83. Oxyplax
82. Macroplectrina
81. Semyra
79. Macroplectrina
89. Vein 8 of hindwing connected with the anterior margin of the cell before the centre, sometimes only nearing the centre.

— Vein 8 of hindwing connected with the anterior margin of the cell at or behind the centre.

90. Vein 8 of hindwing free at the base, 11 of forewing straight or bent, terminal thirds of antennae bare or pectinated.

— Vein 8 of hindwing anastomosing with the cell as far as the base, 11 of forewing straight, antennae pectinated to the ends.

91. Palpal joints broad, laterally compressed, the last two defined from each other by a stragination. 8 of hindwing also nearing the centre of the anterior margin of the cell, with costal veinlets.

— Palpi cylindrical, last joint slightly defined.

92. Forewing normal, hair of head and thorax mostly appressed.

— Forewing very oblong, thorax with projecting hair.

93. Antennae of with one row of serrations, shorter towards the ends.

— Antennae of ± pectinated.

94. Antennae of plain, not pectinated, palpi cylindrical.

— Antennae of ± pectinated.

95. Antennae of pectinated to the ends, palpi small, not projecting beyond the frontal tuft (cf. Birthanula and Comana).

— Antennae of not pectinated to the ends, palpi longer, mostly laterally compressed.

96. Vein 8 of hindwing connected with the cell by a cross-vein.

— Vein 8 of hindwing anastomosing with the anterior margin of the cell.

97. Vein 8 of hindwing connected with the anterior margin of the cell by a cross-vein.

— Vein 8 of hindwing anastomosing with the anterior margin of the cell.

98. Posterior cell-angle of hindwing strongly projecting.

— Vein 11 of forewing straight, d antennae pectinated.

99. Vein 11 of forewing straight, antennae pectinated to the ends.

— Vein 11 of forewing bent, antennae bare at the ends.

1. **Genus: Nervicompressa B.-Bak.**

Described as a Limacodid genus, but surely an Eupterotida. As the genus was not described at that place, the description follows here. Palpi small, drooping, very hairy, body and legs very hairy. Wings short and broad, cell extremely short, less than 1/2 of length of wings. Vein 1e absent! Vein 2 of forewing arises near the base. 5 nearing or stalked with 6—9, vein 9 is very much curved and pressed near to vein 11, 11 nearing 12, vein 10 absent. Vein 5 of hindwing from the same place or stalked with the stalked 6 + 7. Vein 8 bent off from the anterior cell-margin, only touching its extreme base. Hitherto only known from New Guinea.

1. Forewing without a round whitish-yellow spot at the cell-end.

**lunulata.**

N. lunulata B.-Bak. (85 e). ♀ body brown, abdomen orange brown. Forewing basally 2/3 red-brown, with a dark transverse band, distal third ochreous, border-lines between both crescentiform. The yellowish-ochreous area is traversed by a grey line formed of crescents and dotted black on the veins, a red-brown spot below the apex at the margin. Hindwing paler, the yellowish-ochreous distal area darkened towards the margin. ♀ pale brownish-grey, with 2 darker transverse bands, beyond them a series of dark dots, with a dark subapical area. Hindwing ochreous, with 2 undulated darker transverse stripes, between which there is a short row of dark dots, interior margin purple brown. Expanse of wings: 42—45 mm. Dinawa, Aroa.

**unistrigata.**


**kebeae.**

N. kebeae B.-Bak. (85 e). ♀ body dark brown, abdomen dark orange. Forewing cinnamon-brown, paler in the centre, with a straight, oblique purple brown median transverse line followed by a similar somewhat curved transverse line which is bordered with light distally and provided with black vein-dots. Hindwing orange, the two transverse lines only traceable, the dark vein-dots distinct. March and April. Expanse of wings: 42 mm. Kebea.

**dubia.**

N. dubia B.-Bak. (85 e). ♀ body blackish brown, abdomen orange. Forewing pale tan-coloured, darker at the margin, especially below the apex. Lines similar as in kebeae, the interior one curved, distally to the exterior one dark vein-dots. Hindwing orange, with an undulated postmedian line and dark vein-spots behind it. September. Expanse of wings: 41 mm. Dinawa.
2. Forewing with a round whitish-yellow spot at the cell-end.

N. albomaculata B.-Bak. (85 e). ♀ body red-brown, abdomen with an orange tint. Wings brown, with a series of light grey or yellowish lunules at 4/9, behind which the forewing is greyer excepting a marginal spot below the apex. A round yellowish spot at the cell-end of the forewing and an oblong one at the costal margin at the apex, the latter spot traversed by the brown border of the series of yellowish lunules. Expanse of wings: 46 mm. Dinawa, August.

N. area B.-Bak. (85 e). Body brown, abdomen orange. Forewing red-brown, the light spot at the cell-end is traversed by a whitish transverse band which is strongly widened at the costal margin; apical spot and marginal area as in the preceding species, but at 3/4 a double light sharply dentate undulate line bordered with dark outside. Hindwing orange-brown, with a dark antemedian transverse stripe and 4 sharply dentated transverse lines; margin broadly darkened. Expanse of wings: 48 mm. Aroa River.

N. tenebricosa sp. n. (87 e). The ♀ is most closely allied to albomaculata (85 e), but easily discernible from it by the absence of the light costal-marginal spot. Body brownish ochreous, abdomen somewhat lighter, tarsi and tibiae black. Shortly before the margin of both wings there is a row of yellow crescents about parallel to the margin; these crescents may be very broad or almost absent. Veins often lighter than the ground. Forewing with a large roundish yellowish spot at the cell-end, traversed by the cross-vein. Beneath as above, markings paler. Expanse of wings: 52—75 mm. $ type and 4 paratypes in the Zool. Museum of Berlin, from the Kaiserin Augusta River, September till November.


Separated from all the other genera of this family by vein 8 of hindwing being bent towards vein 7 and touching it distally to the cell. Palpi appressed upcurved. Antenna of ♂ bipectinate in the basal half, then serrate. Hind tibia with 2 pair of spurs. Vein 6 of forewing arises together with the stalked veins 7—9, 10 and 11 separately from the cell, 6 and 7 of hindwing arise from the same basis.

A. anomala Aur. Body brown, base of palpus and anterior hips blackish, abdomen white beneath. Wings pale fawn. Forewing with a brown transverse band subbasally and after the centre, a brown spot between them at the costal margin, the other space between them ash-grey, with a black transverse line. A subterminal row of whitish spots shaded with black inside. Markings of hindwing similar, transverse bands nearer together. Expanse of wings: 30—32 mm. Java.

3. Genus: Cheromettia Mr.

Antenna of ♂ long bipectinated in the basal quarter, then suddenly bare. Palpi short, porrect. Hind-tibiae with 2 pair of spurs. Body with projecting hairs. 7—9 of forewing stalked, 10 separated, 6 + 7 of hindwing stalked, 8 anastomosing with the cell near the base. The ♀♂ of the species are extremely similar and not to be distinguished, the ♀♂ are very different.

Ch. ferruginea Mr. (85 e, f). ♀ and ♂ similar. Body and forewing purple brownish-red interstrewn with ferruginea. Lilac grey colour edging the darker dentate antemedian band and forming a narrow crescent at the cross-vein, a large pear-shaped spot extended to the inner margin below it and some other spots at the costal margin. Marginal area somewhat paler. A group of jet-black spots at the apex, a similar one in the fringe, at the cross-vein and the tornus. Hindwing reddish-yellow, margin (somewhat convex also in the ♀) with black spots at the apex and tornus. Expanse of wings: 30—40 mm. — Larva limaedia-like, pale bluish-green, with several rows of yellow and black spots. Ceylon.

Ch. melli sp. n. (85 f). Body rust-brown with a light purple tint. Forewing pale yellow, more or less melli. Dusted with purple brown. A large brownish-red spot at the cross-vein, the dusting behind it condensed into 2 or 3 transverse bands, the subapical one of which is broadest. Margin with brown border-streaks; hindwing light red, with a golden yellow marginal line and fringe. Underside golden yellow at the margin, the rest light red. Expanse of wings: 27 mm. Kwangtung. ♀ type from Sahmgong, taken by Dr. Meiß in May (Berlin State Museum).

Ch. apicata Mr. (= lacleana Mr.) (85 f). ♂ with narrower rust-brown forewings, with a blackish in- apicata. Distinct antemedian and postmedian transverse band, Apex black. Hindwing blackish, scantily scaled, with yellow fringe. Body red-brown. Expanse of wings: 25—30 mm. ♀ not discernible from that of ferruginea. North India.

Ch. lohor Mr. (85 f). ♂ forewing similar as in the preceding species, but narrower rust-brown, with lohor. A darker basal area, bordered by a somewhat undulated median line, a similar postmedian line. Cross-vein
with a black dot, a black spot at the apex. The area beyond the cell is suffused with blackish. Hindwing with a concave margin, predominantly hyaline, blackish at the costal and inner margins; Expans of wings: 28 mm. ♀ not discernible from those of the preceding species. Java.

C. sumatrensis Heyl. (85 f). ♀ similar to the preceding species, forewing suffused with blackish also distally to the cell, hindwing scantily black, margin only slightly concave. Expans of wings: 30 mm. Sumatra.


Structurally the same as the preceding genus, but ♀ antenna with one row of short pectinations only, serrate towards the end.

B. horrida Wkr. (= formosacensis Kaw.) (86 a). Forewing blackish mixed with brown, cross-vein with a hyaline luna, an indistinct light postmedian line behind which the marginal area between veins 3 and 6 is more or less hyaline white, apical part above it jet-black, more or less dusted with whitish, with light veins. Hindwing blackish, more scantily scaled towards the margin. Expans of wings: 35 mm. South China, Formosa, in April until June.

B. thoracica Mr. (85 f). Body brownish-grey, thorax above pure white. Forewing dark grey, with traces of a pale yellowish median macular band, the whole wing strewn with more or less numerous bluish silvery spots. Hindwing blackish. Expans of wings: 32 mm. North India, at an altitude of 7000 feet.

B. cyanopasta Hmps. ♀. 6 + 7 of hindwing on a very long stalk. Body reddish-yellow, with single silvery blue scales. Forewing reddish-yellow, basal area and marginal half excepting the costal margin strewn with dark brown and silvery blue scales, with numerous small transverse striae of erect scales and with traces of undulated antemedian and postmedian transverse lines. A blackish longitudinal streak from the upper cell-end to the reddish subterminal band which is oblique towards the costal margin, incurved at the median fold, then with some blackish triangles on its inner side. Hindwing dark red-brown. Expans of wings: 34 mm. Burma. It may not belong to this genus.

5. Genus: Nagoda Mr.

Distinguished by a clear sexual dimorphism. Antenna of ♀ strongly pectinated in the basal third, palpi short porrect. 7 of forewing from the same place or stalked with 8 + 9, 10 remote from them, 11 arises very far basally. 6 and 7 of hindwing separated; 8 on a long fork (which does not occur in any other genus), connected with the cell before the middle by a cross-vein.

N. nigricans Mr. (86 a). ♀ body red-brown, mixed with blackish-brown and grey. Forewing hyaline, base, inner margin and apex broadly black, costal margin, distal margin and veins narrowly black, hindwing marked the same. Expans of wings: 30 mm. ♀ yellowish ochreous, forewing with 3 light rusty red spots in the cell, 2 below them, the exterior one of which is the largest, some dark spots between the cell-end and the inner margin, then follow 2 curved dark bands, the interior one darker and more spot-like. Expans of wings: 38 mm. — Larva greenish-blue, with dorsal and lateral darker stripes and rows of lunules; on the coffee-shrub. Ceylon.

N. cardinalis Wil. & South. ♀ blackish; head, collar and chest pink. Forewing blackish. Hindwing hyaline, costal and inner margins broad, distal margin narrow blackish. Expans of wings: 34 mm. Luzon, in December.

N. francesca Swh. ♀ body pinkish brown, wings hyaline, veins and margins pinkish-brown. Cross-vein and stalk of 7—9 thickened. Costal margin with a chestnut-brown band, apical band broad, narrower towards the tornus, base and a broad inner-marginal band pinkish-brown, the latter with a green spot in the middle. Hindwing with a narrow costal-marginal band and distal-marginal band, and a broad inner-marginal band. Expans of wings: 14 mm. ♀ body reddish, thorax green. Wings scantily scaled pinkish-grey, basally reddish, with a large green spot in the centre of the inner margin and a similar one at 3/4 of the costal margin. Expans of wings: 30 mm. Java. An uncommonly marked species which may belong to Parasa!


Separated from all the other genera by the antennae being as long as the forewing in the ♀, longer than the forewing in the ♀, and remarkably flattened. Hind tibiae with 2 pair of spurs, palpi appressed up-curved, extending almost to the vertex. 7 of forewing stalked with 8 + 9, 10 separated from it, the basal portion of 11 strongly bent towards 12. 6 and 7 of hindwing distantly separated, 8 connected with the cell by a cross-vein before the middle of the cell. Vein parting cell plain in both wings. Type of genus: L. pucklycera Hmps. The species of Macroplectrina have similarly thickened and flattened antennae, but 7 of forewing arises separated from 8 + 9.
L. pachycrea Hmps. (86 a). ♀ forewing greyish-brown, with a white crenulate transverse line which *pachycrea* is mostly only distinct and widened on the anterior edge of the cell and on vein 12, a black streak at the lower cell-end and a dark strongly curved transverse line bordered with whitish outside towards the costal margin and extending from the costal margin before the apex to the tornus. Margin somewhat whitish at the apex, blackish above the tornus. Hindwing grey. ♀ more reddish-ochreous, with indistinct markings. Expanse of wings: 20—22 mm. Khasis, April till June, and October, rare.

L. hel sp. n. (86 a). Body white, brownish at the end. Forewing lustrous white in the basal half, the hel. marginal half brown, border-line between them somewhat crenulate. The marginal half contains a whitish postmedian line which is strongly bent distally, incurved below the cell; it is partly bordered with a darker colour almost forming spots; the marginal area behind it is more grey, with a dark brown spot at the mouth of 2. Fringe grey, dark brown towards the tornus. Hindwing light grey. Expanse of wings: 13 mm. Kwangtung, in July. ♀ type from Liuping (State Museum Berlin).


Palpi bent up to vertex, antennae plain in both sexes. Hind tibiae with 2 pair of spurs. 7 of forewing stalked with 8 + 9, 10 with the latter from the same place or stalked, 11 bent towards 12, 6 + 7 of hindwing from the same place or stalked, 8 connected with the cell only near the base of it. — I have had no access to the description of *N. nitobei Shir.*

*N. conspersa* Wkr. (= velutina Wkr.) (86 a). Body whitish, with red-brown spots. Forewing yellowish-*conspersa* white, with red-brown oblique spots and streaks which are mostly more distinct at the inner margin, especially distinct an inner-marginal spot at the base. Hindwing pale yellow. Expanse of wings: 22 mm. — Larva: oval, bare, transversely ribbed, green with white subdorsal lines, and white sublateral dots, legs yellow. Cocoon oval, whitish, with a brown spot at the end. India, Ceylon, Borneo.

*N. concinna* Siew. (86 b) is very similar to *conspersa*, separated by the following marks: a distinctly *concinna*. whitish transverse line extends at 3/4 of the forewing, strongly projecting in the middle towards the base and defining a broad brown band in the costal-marginal half, but only little dentate above the inner margin. The light ground-colour is less prominent. Expanse of wings: 22—24 mm. Borneo, common.

*N. coruscata* Wil. (86 b) is very much like *concinna*, likewise with a strongly incurved whitish postmedian *coruscata* line, but without the conspicuous brown spot at the base of the inner margin; on the inside of the postmedian line there are places with blackish scales. Formosa, South China (Kwaghtung), April and June till August. Expanse of wings: 22 mm.

*N. endodonta* Hmps. (86 b) is nearer to *conspersa* (86 a), costal-marginal half lighter whitish, with *endodonta*, more indistinct markings, all the oblique streaks above the inner margin strongly dentate. Expanse of wings: 22 mm. Khasis, Assam.

*N. ochracea* sp. n. (86 b). Similar to *penicillata* Strd. (86 b) in the scheme of markings, but the ground-color *ochracea* of the forewings is ochreous instead of white, sometimes a little darker greyish, transverse lines whitish, the exterior one never blackish on the basal side, which is the main difference from *penicillata*. No dark central dot. Hindwing greyish ochre, lighter than in *penicillata*, for which reason the white fringe is less conspicuous than in *penicillata*. Expanse of wings: 13—17 mm. Kwang-tung, in 2 generations, April till June and July till August, bred by Dr. MELL from larvae on peach. ♀, ♂ types from Mahn-tsi-shan (Berlin State Museum).

*N. formosana* Mats. differs from *nigrisigna* in its velvety white forewing, the costal margin and two thirds of the underside being blackish. Fringe pure white with a few black scales. A blackish streak from the centre of the costal margin to the margin at vein 3. Hindwing grey, fringe white. Expanse of wings: 17 mm. Formosa, in May.

*N. nigrisigna* Wil. Forewing white, densely dusted with brownish ochre, with a curved white ante-*nigrisigna* median and postmedian line, the latter line bordered on the inner side of the anterior part by a curved blackish line, black scales at the cell-end and black marginal dots. Hindwing whitish, dusted with brownish ochre. Expanse of wings: 15—22 mm. Formosa, South China (Kwaghtung).  

*N. penicillata* Strd. (86 b) entirely resembles *nigrisigna*, but separated by its smaller size, expanse of *penicillata* wings: 11—15 mm. Formosa. — I cannot decide whether *penicillata* and the following 5 forms are entitled to be regarded as species, because I had no sure species before me.

*N. kanshireana* Mats. differs from *nigrisigna* in the following respects: forewing narrower, more rounded *kanshireana* at the interior angle, costal margin and base (excepting a yellow spot) silky white. Below and beyond the cell yellowish-brown spots, at the base of 2 or 4 blackish scales, margin without dark dots, only with some dark scales. Hindwing pale yellow, apex without blackish scales. Expanse of wings: 21 mm. Kanshirei, Formosa, in August. Recently placed by the author as a synonym to *coruscata*.  

ishidae.  

*N. ishidae* Mats. Forewing yellowish-white, with an olive tint, costal margin broad white. An indistinct paler submarginal line is only visible from the costal margin to vein 3, the margin with black dots which are larger in its centre. Hindwing coloured like forewing. Expanse of wings: 23 mm. Tainan, Formosa, in August.

ambigua.  

*N. ambigua* sp. n. (86 b). Forewing reddish golden yellow, with the extremely indistinct and hardly visible marking of *concinna*, costal margin more whitish, with a very feebly coarse jet-black dusting behind the lower cell-end and in the centre of the margin. Hindwing and under surface blackish grey, with golden yellow fringe. Expanse of wings: 18 mm. Khasis, in May. ♀ type in the Tring Museum.

baibarana.  

*N. baibarana* Mats. is very similar to *ishidae*, but smaller, forewing ochreous, with some brown spots in the basal half below the cell; veins ochreous. Hindwing paler than forewing. Expanse of wings: 20 mm. Horisha, Formosa, in August.

takamukui.  

*N. takamukui* Mats. likewise resembles *ishidae*, but it is easily discernible by the silky gloss of the wings. Forewing yellowish-white, a large yellowish spot beyond the cell, blackish scales beyond the lower cell-angle. Margin with black dots, those at the apex and tornus larger. Hindwing lighter, with blackish scales at the apex. Expanse of wings: 24 mm. Shinsha, Horisha, Formosa, in August. (It may be identical with corusa.)

shinshana.  

*N. shinshana* Mats. Forewing ochreous, with white bands; antemedian and median bands distinct at the cell, postmedian line indistinct, somewhat paler than the ground-colour, strongly knedd at the submedian fold. Submarginal band strongly excurred, not reaching the inner margin. Terminal band broadest at the apex, narrowing down towards the tornus, with some dark scales in the interspaces. Hindwing paler than forewing. Expanse of wings: 22 mm. Shinsha, Horisha, Formosa, in August. (It may be identical with corusa.)

nigricristata.  

*N. nigricristata* sp. n. (86 b) Body white, 4 tufts on the thorax and one on the abdomen as well as the apex of the abdomen are black. Forewing white, slightly tinged with brownish, basal quarter brown, containing a black dot, a black dot at the lower cell-end, above the mouth of veins 2 and 7. Beyond the cross-vein there is an indistinctly defined brown subapical band. Hindwing white, apex and interior angle with black dots. Under surface white, base of costal margin and a spot beyond the cross-vein brownish. Expanse of wings: 25 mm. Formosa; in May. ♀ type from Tamorin (Berlin State Museum).

argentipunctata.  

*N. argentipunctata* Hmps. (= narcha Sckh.). ♀ white, with a yellowish tint. Forewing with a tuft of small yellow scales at the base, some yellow at vein 12 and the cross-vein, an indistinct reddish-yellow band from the costal margin beyond the centre to the margin below the apex. At the lower cell-angle a silvery white dot, the margin with black dots. Expanse of wings: 28 mm. Ceylon, Kanara, in July.

erminea.  

*N. erminea* Hmps. (86 b). White, forewing with a blackish shadow at the base of the costal margin, with a broad blackish-brown transverse band in the centre, connected with the similarly coloured apical portion and containing single black dots. A white dot at the anterior cell-angle, a large black dot behind the posterior cell-angle. Hindwing dusted with blackish at the margin, especially at the apex. Costal-marginal half of forewing beneath black, with an ochreous costal-marginal spot. Expanse of wings: 18 mm. Burma.

holoxanthia.  

*N. holoxanthia* Hmps. (86 c). Light orange reddish-yellow, forewing dusted somewhat reddish, hindwing paler. Expanse of wings: 24 mm. Khasis. The cross-vein between 8 and the cell of the hindwing is situate here close before the cell-end.

obscura.  

*N. obscura* Wil. is near to *holoxanthia*, forewing pale brown, dusted with dark brown, with 2 blackish spots in the disc, one in the cell and one below it, the latter oblique. Hindwing whitish-brown, with a darker tint. Body brown, mixed with grey. Expanse of wings: 22 mm. Kanshirei, Formosa, in April and September.

area.  

*N. area* B.-Bak. Body reddish-yellow, abdomen grey, with a reddish anal tuft. Forewing reddish ochre, with more and more rosy red scales in the centre. Hindwing pale greyish ochre. ♀ gryer, without the rosy red central area of the forewing, but with a fine dark postmedian line. Expanse of wings: 18—23 mm. New Guinea.

propolia.  

*N. propolia* Hmps. Body golden yellow with a reddish tint. Forewing yellow, suffused with copper-red, costal-marginal and basal areas suffused with white. A pale line excurred from the posterior angle of the cell, then dentate to the inner margin, another line from the costal margin beyond the centre, bordered inside with reddish-yellow, obliquely to vein 4, then subterminally and somewhat dentate, margin with dark dots. Hindwing golden yellow. Expanse of wings: 24 mm. Sikkim. (4 and 5 of forewing on a short stalk, 10 stalked with 7—9, thus evidently not belonging to this genus.)

niveipennis.  

*N. niveipennis* sp. n. (86 c). Snow-white, forewing with a brown transverse blotch across the cell-end to the costal margin, and a brown transverse line from 3/4 of costal margin, strongly bent distally as far as vein 7, where it is blackish and shaded with blackish towards the margin, then strongly incurved to the posterior cell-angle and from there somewhat undulated almost vertical to the inner margin. Two black marginal dots each below the apex and above the tornus. Hindwing white, with a greyish-brown longitudinal blotch between 1 and 1 b. Under surface white, apical area of forewing blackish. Expanse of wings: 16 mm. Khasis, in June, July. ♀ type from Shillong in the British Museum.

rufifascia.  

*N. rufifascia* sp. n. (86 c). Palpi short, somewhat longer than the diameter of the eye. Thorax whitish-grey, collar and abdomen reddish-brown. Forewing whitish-grey, with a narrow reddish-brown basal area, a dark dot at the lower cell-end and a very broad brownish-red subapical band intermixed and bordered with...
dark scales, an indistinct oblique line extending from the centre of this band to the centre of the inner margin. Hindwing and under surface reddish-brown. Fringe whitish-grey, spatulate reddish-brown at the tornus. Expanse of wings: 18 mm. New Guinea, in December. $ type from Fak-Fak (British Museum). — The forewing exhibits a dent of scales in the centre of the margin, so that the species may be separated as a special genus later on. A $ belonging to it from Mt. Goliath has whitish-grey forewings, with hardly any traces of markings, and 1 $ from Manabare with a brownish ochreous ground-colour of the forewings (Tring Museum).

**N. doenia** Mr. (86 c). Forewing varying from ochre to brown, with 2 light oblique lines extending from the inner margin and enclosing a frequently darker band which is almost semicircularly bent to the tornus and contains a silvery white, black-dusted longitudinal spot inside at the bend. Apex with a dark spot. Expanse 20—22 mm. April—May, July and September, October. — The larva of the type of the loholarva, but smaller and light green, lives on Erythrina. Cocoon globular. India, Ceylon, Sumatra, Java, South China.

**N. pectinata** sp. n. (86 c). $ with antennae shortly pectinated to the ends, but otherwise entirely pectinata. Corresponding with the genus. The species almost exactly resembles N. concinna (86 b), the whitish postmedian line is more curved in the anterior part, projecting farther towards the tornus below, with more oblique brown inner-marginal streaks. Expanse of wings: 24—26 mm. New Guinea, February—March. $, $ types from the Arfak Mts. (Tring Museum).

8. **Genus: Arbelarosa** gen. nov.

Palpi short, slightly rising, not reaching to vertex. Hind tibiae with 2 pair of spurs. Antenna pectinated basally in the $, gradually decreasing towards the centre, terminal half quite bare as in the $, Vein 11 of forewing somewhat less bent to 12, 10 remote from the stalked 7—9, 6 and 7 of hindwing arise distantly separated, 8 connected with the cell before its centre by a cross-vein. The habitus of the imago recalls that of Arbelidae. — Generotype: A. rufotessellata Mr.

**A. rufotessellata** Mr. (86 c). Forewing ochreous, with red transverse bands more or less broken up into rufotessellata spots, a thick brownish-red spot at the cell-end. Hindwing and under surface red. Expanse of wings: 25—35 mm. India, Tsé-kou, Kwangtung.

**A. mediodorsata** sp. n. (86 d) is separated from the preceding species by its more irregular colouring; a remarkably lighter spot in the centre of the inner margin is bordered by two dark, light-edged stripes and extends to the cell. Two dark, light-edged marginal spots at the tornus. Ground-colour of forewing otherwise more pinkish-grey, $ almost red-brown, with less light transverse marking, hindwing blackish, red at the inner margin. Under surface black, partly tinged red ($), or quite red (8). Expanse of wings: 25—30 mm. Borneo, $ type from the Kina-Balu, 8 type from Banguey, in the Berlin State Museum.


Palpi upcurved, extending to vertex, antenna pectinated to apex. Hindtibiae with 2 pair of spurs. Veins 7—9 of forewing stalked, 10 separated from them, 11 bent towards 12. 6 + 7 of hindwing stalked, 7 (recte 8) connected with cell by cross-vein.

**S. nigrostigmata** B.-Bak. (86 c). Body reddish-brown, with a dark dorsal streak. Forewing reddish ochreous, the basal two thirds covered with darker coarse reddish scales, partly finely dusted with black. A black stigma filled with reddish, below the costal margin beyond the cell; an irregular blackish line extends from this stigma to the inner margin. Hindwing pale reddish ochreous. Expanse of wings: 39 mm. Dinawa, in August.

10. **Genus: Narosoideus** Mats.

$ antenna pectinated to the end, palpus porrect, not projecting beyond the frontal tuft. Hind tibiae only with terminal spurs. Veins 7—9 of forewing stalked, 10 remote from them, 11 bent very near to 12. 6 + 7 of hindwing stalked or from the same place, 8 connected by cross-vein with the anterior edge of the cell before the centre of the cell. The habitually similar species of Miresa show the antenna only pectinated in the basal half, 11 not bent so near to 12. To this place belongs also the palaearctic Miresa flavidorsalis Stgr.

**N. vulpinus** Wil. (= formosanus Mats.) (86 d). Body golden yellow, head and under surface rust- vulpinus brown. Forewing brownish-yellow, darker brownish in and beyond the cell; lighter (more yellowish) is in f. aurisoma an area at the inner margin and beyond the subterminal line. Median line brown, only from the posterior edge of the cell to the inner margin, subterminal line blackish, inurred above the inner margin, broadly bordered towards the base with silvery grey, the same also a marginal stripe. Hindwing varying from
aurisoma. ochre to brownish. — In f. aurisoma Mats., the head and abdomen are also golden yellow, only the frons is brown, the spots mentioned at the inner margin and subterminal line are more distinctly pale, almost golden yellow. Expanse of wings: 40–56 mm. Formosa, May, June, and September, October. These forms have recently been united by Matsumura with flavidorsalis.

flavidorsalis. 

N. flavidorsalis Stgr. (Vol. II, pl. 49 k). Of this species which is distributed in Eastern Asia and Japan (cf. Vol. II, p. 344) and is easily recognizable especially by the basal spot at the inner margin being parted brown by vein 1 b, a Formosan race has been ascertained: — subsp. formosicola Mats., differing from the typical Japanese specimens in the absence of the yellow band on the outside of the postmedian line, the marginal being brownish not silvery grey. Expanse of wings: 34 mm. Formosa, in June.

N. apicenesis Mats. Upper surface reddish-yellow, head and thorax orange. Forewing brown at the base, costal margin and apex, veins 9 and 10 darkened, Costal margin of forewing darkened at the apex. Expanse of wings: 65 mm. Formosa.


Frenulum absent, costal margin of hindwing protruding at this place, but the rest of the imago entirely of the Linacodid structure. Antenna of \( \delta \) long bipectinate to the middle. Hind tibiae with 2 pair of long spurs. Palpi of medium length, appressed, not reaching the vertex. Metathorax and base of abdomen with tufts. Costal margin of forewing and vein 12 strongly curved, 11 bent very near towards 12, arising opposite 2, both come from the cell before its centre, 7 stalked with 8 + 9, 10 remote from them. Discocellular vein plain. Posterior angle of cell on hindwing strongly projecting, 6 + 7 stalked, 8 distantly separated from the anterior edge of cell also basally, connected by a long cross-vein near the base.

Type of genus: P. kukisch Her.

kukisch. 

P. kukisch sp. n. (86 d). Thorax and forewing reddish ochreous, unicoloured red-brown in the \( \delta \), a darker curved antecedent transverse line is mostly only distinct from vein 2 to the inner margin, where it is distally bordered with silvery white and straight. Postmedian line parallel to this line, only dark, extending into the tornus. Hindwing pale ochre like the under surface and abdomen. Fringe of the same colour as the wings, with blackish thickened tips at the tornus. Expanse of wings: 16–18 mm. New Guinea. \( \varphi \) type from the Etappenberg (Berlin State Museum), \( \delta \) type from Mt. Goliath (Tring Museum).


Palpi short, not projecting beyond the frontal tuft, appressed upcurved. Antenna of \( \delta \) bipectinate in the basal part, quite bare at the end as in the \( \varphi \). Hind tibiae with 2 pair of spurs. Veins 4 and 5 of forewing approximated or stalked, 8 + 9 stalked, 7 from the same place as the stalk, or separated from it, 10 distantly separated from the cell-end. 11 bent very near towards 12, anterior angle of cell projecting farther towards the margin than posterior angle. Posterior angle projects on hindwing, 6 + 7 stalked, 8 is connected with the anterior edge of the cell by a cross-vein at about the centre of the cell.

bandura. 

C. bandura Mr. (86 d). Forewing lustrous velvety brown, fringe ochre, basal area and the fine margins milky white, Hindwing varying from ochre to grey. Expanse of wings: 26–30 mm. India, Sumatra, Java, Borneo. Only the \( \delta \) is known.

sericea. 

C. sericea Wkr. (86 d). Forewing reddish ochre, rarely pale yellow, with 2 brown oblique transverse lines meeting towards the costal margin before the apex, the inner margin mostly more or less darkened violettish-brown at the base. Hindwing and under surface light ochre. Expanse of wings: 35 mm. — The larva lives on Mangifera; it is similar to that of the following species. Distributed like bandura; only the \( \varphi \) known. This species is presumably the \( \varphi \) of bandura. — The \( \varphi \) of this species is distinguished from those of the following species by the cell-end vein of the forewing being scarcely shorter between vein 6 and the vein parting the cell than between the latter and vein 5, whilst it is considerably shorter in the following species.

bilinea. 

C. bilinea Wkr. (= bicarinata Wkr.) (86 d). Forewing of both sexes varying from ochre to grey, with 2 brown transverse lines distally bordered with more or less light, being somewhat convergent towards the inner margin in contrast with sericea. The species is rather variable and is divided into a few races well discernible by the \( \varphi \) genital organs. The nomenclatural form originates from China. Numerous specimens taken by Dr. Mell on the lantern in May, June, and August till November (Kwang-tung) prove it to be a small race the forewing of which is rarely darkened greyish. The lateral lobes of the uncus, on being viewed from the side, are broad club-shaped, the valve, on being viewed from the side, exhibits an intense incassation before the end. Expanse of wings: 20–29 mm. — mollis Wkr. (\( \varphi \) = malaccana Wkr.) is similar, often larger, sometimes the dark lines are scarcely bordered with a lighter colour, the forewing often darkened greyish in the Malay region. The lateral appendages of the uncus are very broad lobate, the intensely chitinized valves
terminate with 2 almost equally large lobes. From India through the Malay Archipelago to the Moluccas. —
robusta subsp. nov. is a large race with an expanse of 30—38 mm, the transverse lines of the forewing extend
almost parallel and neither approach each other much at the costal margin. Valves similar as in the Formosan race, but lateral appendages of uncus long, stylloid-filiform. $ \delta$ type from Siao-Lou, $\varphi$ type from Phedong (Berlin State Museum). — palidia subsp. nov. has very pale yellow broader forewings, the tornus is less rounded palidia.
and less projecting. The chitinized valve is almost plain, without an incrasation before the end, the lateral
lobes of the uncus are short filiform. $\delta$ type from Tsekou (Berlin State Museum). — Larva green, with a yellow
dorsal line and black spots encircled by orange; on banana, Cadambo and Guettarda. Cocoon brown, encesed by white
threads.

C. obliquifascia Hmps. (86 c). Forewing whitish, suffused with orange, costal margin orange. An in-
distinct orange band from beyond the cell to the centre of the inner margin, a curved postmedian line.

C. siamensis Tams. $\varphi$ very similar to C. servica (86 d), but the margin is more rounded, the distal
transverse line is parallel to the margin also in the anterior part of the forewing, thus incurred towards the
costal margin, hindwing tan-yellow. Forewing beneath darker at the costal and distal margins, lighter below
the cell and vein 2. Expanse of wings: 42 mm. Siam, in January.

C. pulligonis Siek. (86 e). $\delta$ forewing dark violettish-brown, base, distal and inner margins yellowish, pulligonis.
a yellowish spot at the cell-end, two brown transverse lines from the inner margin, meeting at the costal
margin shortly before the apex, the interior one almost straight, the exterior one bent. Hindwing yellow.
$\varphi$ forewing red-brown, with 2 yellow transverse lines convergent before the apex at the costal margin. Expanse
of wings: 25—30 mm. North Kanara, in June.

C. striola sp. n. (86 e) is easily distinguished from the preceding species by the two very much ap-
striola.
proximated and quite parallel straight transverse stripes in the more brownish-yellow forewing in which the
veins are brown. Hindwing ochreous. Expanse of wings: 25—30 mm. From Malacc, Sumatra, Java and
Borneo. $\delta$ type from the Kina-Balu (Berlin State Museum).

13. Genus: Rhamnosa Fixs. (Canides Mats., Rhamnopsis Mats.)

Separated from the preceding genus by the $\delta$ antenna being pectinated to the end, the forewing
bearing a dent of scales in the centre of the inner margin. Fringe of hindwing prolonged at the interior angle
and blackish.

Rh. uniformis Siek. (= notodonta Hmps.) $\delta\varphi$. Forewing siliry greyish ochreous, the exterior transverse uniformis.
line composed of black dots and terminating at the outside of the dent of scales. Hindwing somewhat lighter.
30—35 mm. North India. — takamukui Mats. is similar, but smaller, 24—26 mm. Formosa. — To this species takamukui.
probably also belong the great number of specimens from Kwang-tung, captured by Dr. MELL on the lantern,
$\varphi$ of which corresponds to those from North India and likewise exhibits two black dots at the cell-end of
the forewing, though it has brownish-red forewings and blackish-grey hindwings, so that the South-Chinese
form may represent a separate race: rufina subsp. nov. (86 c). (Types in the Berlin State Museum).

Rh. dentifera Her. & Hopp. (86 e). Forewing yellowish-grey, with 2 transverse through-lines, the dentifera.

Rh. convergens sp. n. (86 e). Forewing siliry brownish-grey, with 2 red-brown transverse lines which convergens.
are parallel, but strongly convergent towards the costal margin, meeting before the apex. Hindwing and under

Rh. hatita Drc. Forewing pale yellowish-brown, darkest at the costal margin, 2 narrow brown trans-
hatita.
verse lines almost in the centre. Hindwing pale yellowish-brown, body pale brown. Expanse of wings: 40 mm.
South China, Prov. of Hunan. — Owing to the insufficient description it cannot be diagnosed, it may belong
to Cania.

Rh. arizanella Mats. differs from uniformis in the line of dots of the forewing being replaced by a arizanella.
distinct transverse stripe; two dark spots at the cross-vein and a dark basal spot at the costal margin. Expanse
of wings: 24 mm. Formosa, in July.

Rh. angulata Fixs. The nomenclatural race of this species originates from Korea. Its forewing is light angulata.
yellow, with 2 almost parallel yellowish-brown transverse stripes. — It is replaced in South China by kwang-
tungensis subsp. nov. (86 f) which is distinguished by the reddish-brown ground of the forewing. Hindwing
light yellow as in the nomenclatural race. Expanse of wings: 27 mm. Kwang-tung: numbers of it were captured
on the lantern by Dr. MELL in May and July till September. $\delta$ type from Lung-tao-shan (Berlin State Museum).
The palaearctic form has been described in Vol. II, p. 342, and figured in Suppl. Vol. II.
**Plumbifusa.**

*Rh. plumbifusa Hmps.* (86 f). Body ochreous with a brown tint. Forewing ochreous, dusted somewhat silvery, especially at the costal margin. An indistinctly defined undulated reddish-brown transverse line traverses the cross-vein, then recurved to the origin of vein 2, then to the inner margin before the middle. Subterminal line blackish, excurred below the costal margin, then broken up into dots as far as vein 5, then only indicated by blackish scales to the tornus. Hindwing ochreous. Expanse of wings: 20 mm. Assam. — Described as *Cania*, antenna of 5, however, pectinated to the apex, therefore it probably belongs to this genus.


Palpi short, rising appressed; antenna of 5 pectinated in the basal third, then bare, quite bare in the 2. Hind tibiae with 2 pair of hardly visible spurs. 7—9 of forewing stalked, 10 together with the stalk, or stalked or separated, 11 bent very near to 12. 8 of hindwing connected with the anterior edge of the cell near the base, 6 and 7 distinctly separated. By the latter mark as well as the basally pectinated 5 antennae the species are distinguished from the habitually similar species of *Narosa*.

**Nivea.**

*Altha nivea Wkr.* (86 f and Vol. II, pl. 59 b). Wings pure white, with 2 black marginal dots below the apex. Forewing with a black dot beyond the lower cell-end and a very indistinct scaly brown spot, sometimes an indistinct brownish subapical line at 2/3. Under surface white, with the black marginal dots of above, costal margin of forewings sometimes black. 25—30 mm. India, Ceylon. — *pura Sdn.* (86 f) is still more intensely marked brownish-grey, the apex of the forewing is less rounded, the race somewhat larger. Java, Sumatra, Banguey. — *melanopsis Strdl.* is scarcely separable from *pura*, only somewhat larger (26 mm), marginal line of hindwing pure white, only a small dot below the apex is black. Formosa to North India.

**Adala.**

*Altha adala Mr.* (86 f). Similar to *lacteola*, the dark marking of the forewing more orange brown, appearing in more distinctly separated spots, a black dot behind the lower cell-end may sometimes be absent. — Larva pale green, with bluish-green lines and spots, and a lateral row of black spots, on *Anona* and Bankinia. Cocoon oviform, whitish, India, Tonkin, Java, Sumbawa, Borneo, and Celebes.

**Peralbida.**

*Altha peralbida Sdn.* (= *peralba Hmps.*). White; patagia at the end, abdomen dusted brown and black at the base and end and beneath. Basal area of forewing dusted black, a black longitudinal streak at the end of the posterior edge of the cell, and some blackish dusting in the apical area. Expanse of wings: 26 mm. Poona (India).

**Rufescens.**

*Altha rufescens Sdn.* (86 f). Forewing with very widely expanded orange colouring, so that it looks very much like *Narosa conspersa*, but easily discernible by the black cellular dot. Hindwing more or less darkened grey. Expanse of wings: 20—25 mm. Ceylon. — *contaminata Hmps.* (86 f) is very similar to *rufescens*, vein 10 of forewing from the cell-end, separated from it in *rufescens*. Hindwing predominantly blackish. Both wings exhibit a continuous row of black marginal dots. Expanse of wings: 28 mm. Nilgiris.

**Circumscripta.**

*Altha circumscripta sp. n.* (86 g). Antenna of 5 with pectinations gradually decreasing in length towards the apex. Body yellowish-grey, thorax whitish above. Forewing brownish, some places dusted with blackish; a transverse zigzag line from the centre of the costal margin to the inner margin before the centre; in the angle of the origin of 4 and 5 there is a black dot situate at the anterior edge of a pure white spot. A brown undulate-dentate preapical transverse line extends curved to the tornus. Margin above tornus with some black dots. Inner margin dusted with black like a spot at the tornus (sometimes also in the middle). Hindwing yellowish-grey, with dark grey hair at the inner margin. Expanse of wings: 17—20 mm. Minalassa, 5 type in the Berlin State Museum.

15. Genus: **Mambara** B-Bak. (Hypoblechra Trnr.)

Palpi moderately long, rising. Antenna of 5 long pectinated at the base, plain at the end. Hind tibiae only with terminal spurs. 7 of forewing separated from the stalked 8—10, 11 bent near to 12. 6 + 7 of hindwing from the same place or stalked, 8 anastomosing with the anterior edge of the cell near the base.

1. Anterior hips without a white spot at the end. Forewing with a light dot at the cell-end or distally to it.

**Delocrossa.**

*M. delocrossa Trnr.* (85 g). Costal margin of forewing rather straight, apex less rounded, dark brown, with a silvery white transverse line at the base, a whitish subterminal line behind which the marginal area is grey and before which there is a small whitish spot. Hindwing dark brownish-grey. Expanse of wings: 20 mm. North Australia.
Anterior hips snow-white at the ends, forewing without a light spot.

M. haplopis Trnr. (85 g). Forewing short triangular. Costal margin strongly curved, pale brownish-ochreous, with a dark brown line from the centre of the costal margin, incurved below the cell, to 2/3 of the inner margin (absent in the ♀) and a finer one from 2/3 of the costal margin distally curved to the tornus, bordered with pale in front outside in the ♀. Hindwing paler. Expanse of wings: 16—26 mm. North Australia, in October.

M. robiginosa sp. n. (85 g) resembles haplopis in the contours of the wings, but the margin of the hindwing is less curved. Forewing light rusty brownish, more densely scaled, veins scantily strewn with blackish, transverse lines hardly traceable. Hindwing somewhat lighter than forewing. Expanse of wings: 15 mm. New Guinea, ♀ type from Simbang (Berlin State Museum).

M. inconspicua B.-Bak. (85 g). Similar to haplopis, larger, apex more pointed, less rounded, margin below it scarcely convex. Forewing more densely scaled, more dusted with blackish, transverse lines scarcely traceable. Expanse of wings: 20—28 mm. New Guinea. ♀ type from Mt. Goliath, in February; also a ♀ from the Snow Mts., in August (Tring Museum).

M. rosseleus sp. n. (85 g) is very similar to inconspicua, but the interior transverse line below the cell rosselleus. of the forewing only once curved, the exterior one extends from vein 7 almost straight to the tornus. Expanse of wings: 17 mm. Rossel I., in November, December. ♀ type from Mt. Roselle, 700 m (Tring Museum).

M. minimals v. Eecke (85 g). Wing-contours as in inconspicua, much smaller, red-brown, with 2 brown minimals. transverse lines being divergent towards the inner margin, uniformly distally convex and not incurved. Veins mostly distinctly darker in the marginal area, also in the scarcely lighter hindwing. 15 mm. New Guinea, February till April and August.


Near to the genus Altha, but the posterior angle of the cell of the hindwing is hardly projecting (strongly in Altha). 11 as well as 10 of forewing strongly bent basally.

Type of genus: P. denotata Wkr.

P. denotata Wkr. (85 g). Body and forewing rusty red, the forewing with an oblique row of brown spots denotata. encircled by white, only those at the inner margin before the middle being distinct. Two fine whitish, not dentate postmedian transverse lines, a similar one before the margin which is whitish around the apex. Hindwing reddish-brown, ochreous in the ♀. Expanse of wings: 20—34 mm. Australia.

P. dentifascia sp. n. (80 g) resembles denotata, head and part of thorax dusted with silvery grey. Basal dentifascia. half of forewing and dots as in denotata, ground-colour more purple, distal half silvery whitish-grey, with a strongly dentate purple transverse line at 2/3, followed by 2 more indistinct dark hardly dentate transverse lines. Fringe purple brown, finely traversed by yellow. Hindwing purple brown. Beneath: apex of forewing and costal margin of hindwing whitish. Expanse of wings: 20 mm. Australia, ♀ type from the Peak-Downs (Berlin State Museum). To this species probably belong 2 ♀♀ with likewise dentate postmedian lines, the interior one remarkably darker than the other one. apex and tornus of forewing less rounded than in denotata, hindwing paler yellow.

P. transvestita sp. n. (86 g). Similar to dentifascia, but the ♀ entirely of the female habitus. Thorax transvestita. yellowish greyish-white, abdomen reddish ochreous. Forewing reddish-grey, the 5 reddish-ochreous dots encircled by yellowish-white are almost situate in one line, and behind them there is a scarcely traceable shadowy transverse band, marked by dark vein-streaks, distally to which there are scarcely dark transverse bands to be seen. Hindwing ochreous, reddish towards the inner margin. Under surface ochreous. Expanse of wings: 26 mm. South Australia. ♀ type in the British Museum.

17. Genus: Pseudaltha gen. nov.

Antenna of ♀ shortly pectinated to the end, palpus moderately long, appressed. Hind tibiae with 2 pair of spurs. 7—10 of forewing stalked, 10 arising shortly after 7, 7 shortly after the cell, 11 strongly bent towards 12. 6 and 7 of hindwing separated, 8 connected near the base with the cell by a long cross-vein. Posterior angle of cell scarcely projecting. Easily separable from Altha by the ♀ antenna being pectinated to the end. — Her. generotype: Ps. atramentifera. It may be that also Altha peralbida Sieb. belongs to this genus.
Ps. atramentifera sp. n. (86 g). Body white, more or less dusted with brownish. Forewing white; a broad pale brownish transverse band near the base, distally bordered by a blackish undulated transverse line which extends through the origins of veins 2 and 11. Then follows a light brown transverse band from the inner margin to the anterior edge of the cell before the cell-end, and a broader greyish, more indistinct transverse band which is strongly exurolled and sends a branch to the centre of the margin. A thick ink-black longitudinal blotch is situated on the posterior edge of the cell, proceeding from 2, a similar apical blotch cutting the fringe between 8 and 9, basally connected with the costal margin. Hindwing white; base, inner margin and part of distal margin dusted with blackish-grey, a black dot at the tornus. Under surface white, forewing with a black costal-marginal spot at the base and a black apical blotch, hindwing blackish at the inner margin. Expanse of wings: 28 mm. Khasis. type in the Tring Museum.


Palpi short, porrect or feebly upturned. Basal third of antenna strongly pectinated, then, gradually decreasing, serrated to the apex. Hind tibiae only with terminal spurs. 7—9 of forewing stalked, 10 stalked with the stalk or separated from it, 11 bent very near to 12. 6 + 7 of hindwing stalked, 8 anastomosing with the anterior edge of the cell near the base. I had no access to the description of M. suuramatsui Kav. (Formosa),

_{albipuncta._}

M. albipuncta H.-Schauf. (= guttifera Wkr.) (90a). Forewing brownish-red, more or less lighter yellow at the interior margin of the basal half, a silvery white dot outside at the lower cell-end is touched by a violetish-grey, feebly silvery postmedian line. Hindwing yellow. Expanse of wings: 32—46 mm. Larva green, with a brown lateral line and brown spots, in front and behind with 2 dorsal and 2 lateral spined appendages, on Butea. India, Ceylon. Rare, often confounded with the more common bracteata (90b).

_{decedens._}

M. decedens Wkr. (90a) differs from _albipuncta_ in its brownish ochreous hindwings and mostly more distinct silvery postmedian line. Body above yellow as in the preceding species. 2 silvery also at the distal and costal margins of the forewing. Expanse of wings: 35—50 mm. India, very common. — lancensis sp. n. (90b) has a small roundish silvery dot, absent postmedian line and a distinct quadrangular reddish-yellow inner marginal spot, hindwing beneath broadly brown at the costal margin, distal margin of forewing less oblique. Ceylon. type in the Berlin State Museum, paratype in the Tring Museum.

_{nivaha._}

M. nivaha Mr. (90b) is only separated from _decedens_ by the body being red-brown instead of yellow. They fly together, so that it may be merely a form of the other. Expanse of wings: 35—50 mm. India.

_{aspera._}

M. aspera sp. n. (90b). Distinguished from _albipuncta_ (90a) by the absence of the postmedian line and by the coarsely scaled ground-colour of the forewing, beneath which a yellowish ochreous ground-colour is more prominent. Forewing larger and broader. Pectinations of 2 gradually shortening from the middle, where they are still twice as long as the thickness of the antennal shaft (in _albipuncta_ suddenly shortened at 1/3, about as long in the middle as the antennal shaft is thick). Hindwing yellow. Expanse of wings: 38 mm. Ceylon. type in the Berlin State Museum.

_{bracteata._}

M. bracteata Blr. (90b). Body yellow, slightly mixed with rusty red. Forewing rusty red, with extensive yellow colouring, particularly at the inner margin and distally to the postmedian line which is intensely silvery, expanded into a large triangular silvery spot between veins 3 and 5. Marginal band narrow silvery, silvery violet scales also in the costal-marginal area. No pure silvery marking in the cell. Hindwing yellow. Expanse of wings: 35—42 mm. — Larva (described as _argentinera_ dark green, with white and black lateral lines, 4 violet, basally orange appendages set with black thorns both in front and behind; on Cinchona and Coffea.

_{burmensis._}

M. burmensis sp. n. (90b) is allied to _aspera_, antennae of 2 pectinated as in _albipuncta_, forewing shorter, less rounded at the interior angle, coarsely scaled, very dark red-brown, postmedian line little marked, triangular silvery spot large, hindwing red-brown, yellow basally and at the costal margin, under surface brownish-red. Expanse of wings: 29 mm. Lower Burma. type in the Tring Museum. Easily separable from _decedens_ by the wings being more coarsely scaled.

_{fulgida._}

M. fulgida Wil. (= orientis Stvd.) (90b) differs from _burmensis_ in the following: cell of forewing filled with pure silvery, silvery postmedian line less exurolled at the triangular silvery spot which is longer (in f. _kagoshimensis_ Stdv. parallel-margined and the points showing distally). Marginal silvery line indistinct. Expanse of wings: 35—40 mm. — Larva on Canarium album. Formosa, in April, May, and August till October.

_{demangei._}

— _demangei_ de Joann. differs little, the body is more mixed with red-brown, chiefly sulphur-coloured in the nomenclatural race, the inner margin somewhat less light reddish-yellow. Tonkin, South China.

_{inornata._}

M. inornata Wkr. is a doubtful species. It is said to differ from _albipuncta_ (90a) in the absence of silvery markings and in the darker red-brown ground-colour of the forewing. Submarginal line indistinct, bent. Described from Bengal, but the habitat may be wrong and it is _N. flavidorsalis_ Stdv. (Vol. II, pl. 49 k). Expanse of wings: 36—50 mm. Alleged to occur also in Japan and China.
M. argenteifera Wkr. (90 c). Forewing brown, more or less dusted with silvery, with a dull silvery postmedian line which is bordered by a silvery line distally on the inner margin (entirely so in the $\delta$). Margin with silvery vein-dots. Hindwing varying from ochreous to dark brown. Expanse of wings: 35—45 mm. — Larva green, with large appendages in front and behind, both pairs connected at the base by a red transverse stripe, and smaller subdorsal and lateral appendages between the others; it lives on Musa. Ceylon, India. — kwangtungensis subsp. n. is distinguished by the abdomen being entirely red-brown, without any silvery marking in the forewing, only the marginal dots being present in the $\delta$ (only in the centre of the margin in the $\delta$), the $\delta$ sometimes with traces of the postmedian silvery marking. Hindwing not lighter than forewing. Dr. M. H. captured the species in April, August and October in the Province of Kwang-tung. $\delta$ type from Tsa-yun-shan, $\delta$ type from Lo-fao-shan (Berlin State Museum).

M. metathermistis Hmps. (90 c) is similar to argenteifera, margin without silvery dots, postmedian line more intensely spotted silvery above the inner margin which is yellowish basally. Body yellow, forewing brownish-red, with a dark cross-vein spot and postmedian line on which there are single silvery scales and which extends from vein 6 obliquely to the centre of the inner margin. Marginal line brownish-red. Hindwing red-brown. All the fringes with a yellow basal line. Expanse of wings: 30 mm. Bombay, Kanara.

M. thermistis Hmps. Body light red-brown, vertex and tegulae yellow. Forewing light red-brown, thermistis, the spaces between the veins in the centre of the wing seantily sealed, a brown spot beyond the cell-end, and a feebly bent postmedian line. Hindwing red-brown. Expanse of wings: 24 mm. — Larva, with a blue, black-edged dorsal stripe, 2 black spots at the anterior end and 4 black spots at the posterior end, on Bucklandia. Cocoon underneath a transparent paper-like web. Assam.

M. exigua sp. n. (90 c). Antenna of $\delta$ with pectinations gradually decreasing in length towards the eye end. Forewing pointed, with an almost straight margin, broadly dull violetish silvery in the costal-marginal area and at the distal margin, ground-colour reddish-brown, reddish-ochreous at the inner margin below the cell as far as $\frac{1}{2}$, the indistinct postmedian line is followed by an ochreous zone, cross-vein with a dark brown transverse streak. Hindwing ochreous. Under surface ochreous, with brownish ochreous costal-marginal edges. Expanse of wings: 30 mm. Naga Hills, July—August, 5000—8000 feet. $\delta$ type in the Tring Museum.

M. sola Seih. Chocolate-brown, forewing with a gilt area at the base, bordered by a pale line from sola, the centre of the costal margin to the tornus, where it is united with a brown submarginal band bearing offshoots towards the margin, this band likewise with a golden tinge. Cross-vein dot and hindwing dark brown. Head orange. Expanse of wings: 34 mm. Borneo.

M. pyronota Hmps. (90 c). Head and thorax fiery red, abdomen yellow, with a slight red tinge, pyronota. Forewing reddish-brown, somewhat lustrous silvery, somewhat fiery red and yellow on the basal half of the inner margin, some silvery scales at the upper cell-angle, and a triangular silvery spot distally to the lower cell-angle. A postmedian row of silvery vein-dots, marginal area seantily dusted silvery. Hindwing yellow with a reddish tinge and a thin silvery gloss. Expanse of wings: 38 mm. Ceylon.

M. sibinoides sp. n. (90 c). Body dark brown, abdomen somewhat lighter, forewing dark brown, post- sibinoides median line only marked at the inner margin with a slight violet shine. A pale golden spot outside at the lower cell-end, a similar dot below it on vein 2. Hindwing pale wood-brown. Expanse of wings: 36 mm. Indis. $\delta$ type from Kanara (British Museum). Separable from deccedens (90 a) by the darker brown thorax and the absent postmedian line, from all the other species by the cellular spot not being purely silvery but pale golden.

M. scotopepla Hmps. (= scotophila Seih.). Body blackish-brown, strewn with silvery scales. Forewing scotopepla. silky blackish-brown, strewn with silvery scales, posterior edge of cell and basal half of vein 2 reddish; a black streak at the cell-end, marginal area somewhat more brown. Hindwing blackish-grey, marginal area more brown. Expanse of wings: 28 mm. Sikkim.

M. sobrina Dcr. Forewing dark brown, with 2 darker brown transverse lines, the first zigzag-like near sobrina, the base, the second beyond the centre. Hindwing pale brown, paler at the base. Body dark brown, abdomen reddish-brown, abdominal end darker. Expanse of wings: 38 mm. New Caledonia. (It probably does not belong to this genus.)

M. canescens Hmps. (86 g). Body light brownish red. Forewing silvery grey, with a slight reddish tinge, canescens, strewn with black scales. An indistinct reddish-brown line from the costal margin before the apex to the inner margin before the centre, an indistinct bent reddish-brown subterminal line from the costal margin to vein 3. Hindwing pale yellow, fringe brownish-red. Expanse of wings: 32 mm. Ceylon. — This species exhibits 2 pair of spurs on the hind tibia, vein 10 of forewing arises after 7 from the stalk of 8 + 9, for which reason another genus would have to be established for this species; it may be that also sobrina and some of the following species belong to it.

M. brunnea Smpr. (90 e). Unicoloured red-brown, forewing dusted somewhat darker in the cell and brunnea, between the veins 2 and 4, hindwing blackish. Expanse of wings: 17 mm. — Larva dark violet above, with a white longitudinal line, sides and ventrum dingy yellowish, green between them, striated white, with yellow, black-spined appendages; on Cassia. Philippines.
Type of genus: *L. liparina* sp. n.

*L. liparina* sp. n. (85 h). Forewing dark yolk-coloured, the whole median area broad red-brown, its edges somewhat dentate, a conspicuous round dark brown marginal spot between veins 4 and 5, continued on to the fringe. Hindwing pale golden yellow like the under surface, forewing beneath with a dark anterior half and the marginal spot of the upper surface. Expanse of wings: 19 mm. 2 from Mt. Goliath, New Guinea (in the Tring Museum, in January). The species recalls certain *Lymantriidae*.

The following species — § unknown — is provisionally placed here.

*L. mediopunctata* sp. n. (85 h). ♡: antennae with short bristly serrate dentations, 7 and 10 of forewing arise from the same basis with the stalk of 8 + 9, 11 bent very near to 12, discocellular vein plain. Discocellular vein of hindwing forked, 6 + 7 on a short stalk, 8 anastomoses near the base with the anterior edge of the cell, anterior angle of cell slightly projecting. Dark reddish rusty brown, forewing with a series of indistinct brown dots, which are yellowish ochreous distally, extending vertically from the inner margin to the base of 2, then distally bent over the cross-vein. An indistinct dark undulate subterminal line from the costa margin before the apex to the tornus. Hindwing quite pale reddish. Expanse of wings: 26 mm. Fidji. ♡ type in the Vienna Hofmuseum.


Antennae of ♡ serrate-ciliated, palpi porrect, projecting somewhat beyond the frontal tuft, somewhat clubby towards the end. Veins 7—9 of forewing stalked, 10 together with them from the same basis or stalked, 11 nearer to 12, bent towards it or straight. 6 + 7 of hindwing on a short stalk, 8 connected near the base with the cell by a cross-vein. Forewing groovily scaled, as if it were roughened.

*rugosa.*

*I. rugosa* Wil. (86 g). Forewing dark violetish-grey, an inconspicuous rusty brown spot above the base of vein 2, another one in the middle of 1 a, and a larger one at the tornus. Hindwing and under surface blackish, body with a reddish-yellow dorsal line. ♡ unknown. Expanse of wings: 28 mm. Formosa, South China, in July till September.

24. Genus: *Chalcoscelis* Hmps. (*Chalcoscelis* Trnr.)

Palpi moderately long, appressed upcurved. Basal half of ♡ antenna long pectinated, terminal half bare, quite bare in the ♡. Posterior tibia with 2 pair of spurs. 7—9 of forewing stalked, 10 together with them from the same basis, 11 bent very near to 12, 6 + 7 of hindwing on a short stalk, 8 anastomosing with the cell-margin near the base. A genus with a marked sexual dimorphism.

*Ch. albiguttata* Sn. (= *fumifera* Suh., *nigripilaga* Heyl., *sanguineomaculata* Heyl., *pulchrinaculata* Hubst., *hemistaura* Low., *nephochrysa* Low.) (♀ 86 g, ♡ 90 a). Wings pointed, margin slightly bent. Forewing blackish-brown, with an indistinct light submarginal line. The species is characterized by a brownish-black trapezoid spot between the centre of 1 a and 1 b, bordered with brownish-red inside, with a white dot. Hindwing brownish-black. ♡ whitish-yellow, with an indistinct submarginal line, with blackish patches and dots at the base, in the centre of the cell and the most distinctly so at the cell-end. A large light velvety brown spot below the cell almost reaches the inner margin, with a silvery streak or spot on its inside. — Expanse of wings: 25—30 mm. — Larva on coffee and Erythrina. Very widely distributed, from India across the Malay-Papuan district to Australia.

*C. castanica* Trnr. ♡: body reddish-brown like forewing which shows a dark red-brown irregular punctiform spot on ⅔ of the inner margin which bears a white dot on its anterior upper angle; a blackish dot beyond the centre at the cell-end. Hindwing pale reddish-brown. Expanse of wings: 26 mm. North Australia, in September. ♡ unknown.

*Ch. rubra* B.-Bak. ♡: body pinkish brown, abdomen somewhat paler. Forewing pinkish-brown, with a large dark velvety brown spot occupying the median and postmedian areas as far as the tornus, a similar more strigiform spot at the cell-end, both separated by a broader spot of the light ground-colour. Hindwing pinkish brown. Expanse of wings: 33 mm. New Guinea, in June.

25. Genus: *Chalosecelides* gen. nov.

Near to the preceding genus, without a sexual dimorphism. Antenna of ♡ uniformly pectinated to the end, vein 8 of hindwing connected with the anterior edge of the cell by a cross-vein near the base.

Type of genus: *Ch. castaneipars* Mr.
Ch. castaneipars Mr. (90 d). Both sexes similar to the ♀ of albiguttata (90a), separated by the following: the black dot at the cell-end is absent, instead of it there is one at ½ of the costal margin, the velvety brown spot extends into the cell and is bordered by a silvery yellowish spot outside of it, bordered by a more violet colour inside, intensely dusted blackish above the cell and beneath 1 a near the base. Expanse of wings: 30—40 mm. Larva chalky white, with a brown head; on Spondias and Trevesia. Imago in February. India, Java.


Antenna of ♀ pectinated in the basal third or two thirds, then suddenly bare. Palpus moderately long, somewhat clubbed towards the end, not projecting beyond the frontal tuft. Hind tibiae with 2 pair of spurs. 7 of forewing together with 8 + 9 from the same place or stalked, 10 arises from this stalk (by which the genus is especially characterized) only after 7. 11 bent very near towards 12. 6 + 7 of hindwing stalked, 8 anastomosing near the base with the anterior edge of the cell. Allied to Bithuna from which it cannot be separated undoubtedly.

1. Group. Sexually dimorphous species with a white cross-vein dot, distal margin of ♀ forewing almost straight.

P. modesta B.-Bak. (= dochmographa Trnr., leucosticta Trnr.) (85 h). ♀ variable, reddish-grey, with modesta, a double blackish basal dot, an oblique bent median line touching the silvery dot at the lower cell-end, and a straight or bent submarginal line which is distant from the margin by more than its width. Apex with a distinctly prominent brown spot. Hindwing varying from reddish-brown to greyish-brown, submarginal line divided into two parts by white veins. Expanse of wings: 23—28 mm. North Australia, New Guinea, December till May.

P. rounda pa sp. n. (85 i) is very similar to modesta, with a more rounded apex, forewing shorter and rounda pa broader, submarginal line nearer to the margin, thicker, separated from the margin by less than its width, median line also broader, more copper-red, cellular spot pale golden, without the dark apical spot. Hindwing blackish-grey. Expanse of wings: 19 mm. New Guinea, ♀ type from Mt. Goliath, in February (Tring Museum).

P. aenea sp. n. (85 i). Similar to modesta in the contours of the wings, ground-colour of forewing reddish aenea, coppery, submarginal line almost straight, strongly convergent with the margin towards the tornus, terminating into it a little above the tornus, fadedly widened on the inside, apical spot very dark, distinctly defined. Hindwing blackish. Expanse of wings: 18 mm. New Guinea. ♀ type from Biagi, Mambare, in March (Tring Museum).

2. Group. Searcely sexually dimorphous species, distal margin of ♀ forewing very convex, forewing without a white central dot.

P. flavula sp. n. (85 i). Body and forewing yellowish ochreous, forewing very scantily dusted with flavula, brownish, with an irregular dark line from the centre of the costal margin to ¼ of the inner margin, where it is thickened into a blackish spot, less distinct at the costal margin. An indistinct brownish submarginal line from the costal margin before the apex, projecting towards the margin at ¼, then to the tornus above the margin. Hindwing pale yellow like the under surface. Expanse of wings: 15 mm. Solomons. ♀ type from Rendova (Tring Museum).

P. brunnea B.-Bak. (85 i). Forewing brownish, the ochreous ground-colour more or less prominent brunnea, in the postmedian area. A mostly indistinct straight transverse line near the base, a notched median line extending through the cell-end, and a curved subterminal line characteristically broken at vein 5 are blackish, the marginal area behind it darkened. A more or less distinct blackish spot at the origin of veins 2—5 in the ♀. Hindwing brownish-red. Expanse of wings: 20—28 mm. New Guinea and in the islands in front of it, common from December to April.

P. crassilinea sp. n. (85 i). Similar to brunnea, chiefly separated by the course of the median line of crassilinea, forewing, this line very thick at the costal margin and obliquely directed distally, then only notched to the inner margin; subterminal line nearer to the margin, base little darker, for which reason the ground-colour is chiefly histrion ochreous brown. Hindwing reddish ochreous brown, paler yellowish towards the inner margin. Expanse of wings: 28 mm. New Guinea, above 2000 m, November till February. ♀ type from the Angabunga R. (Tring-Museum).

P. nigrisignum sp. n. (85 i). Similar to brunnea, immediately discernible by the marginal area not nigri being darkened. Median line, as in crassilinea, strongly thickened and straight in the beginning, though somewhat less oblique, straightly continued as a shadow almost to the tornus; the notched portion distally bordered by a somewhat silvery brownish colour, finely projecting blackish inside the veins. The basal two thirds mostly intensely suffused with violetish-brown. Hindwing brownish ochreous. Expanse of wings: 20 mm. New Guinea, Snow Mts., in September. ♀ type from the Upper Setekwa R. (Berlin State Museum, Tring Museum).
ocularis.  

**P. ocularis** Lac. (= eumela Low., discotypa Trnr.). Forewing triangular, with a straight costal margin, brownish-grey, with some darker scales, a large circular blackish-brown spot, which is edged with white posteriorly, on the inner margin from near the base to the centre. A similar white-edged spot at the costal margin from 3/5 to near the apex. Hindwing dark grey. Expanse of wings: (♂) 22 mm. North Australia.

binocularis.  

**P. binocularis** sp. n. (85 k). Forewing pale ochreous, base somewhat brown-spotted, with an indistinctly defined brown curved median band bearing a round still lighter yellowish spot at the cell-end and a smaller one above the inner margin, and being contiguous below the centre with the yellowish-brown marginal area which is bordered by a dark brown line; this marginal area projects above vein 7 in a sharp tooth towards the base. Hindwing brownish-red, with an ochreous basal spot. Expanse of wings: 20 mm. Bougainville, January. ♂ type from Buin (Tring Museum).


Antenna of ♂ pectinate as far as 2/3, bare in the ♀. Palpus moderately long, scarcely projecting beyond the frontal tuft. Posterior tibiae with 2 pair of spurs, 7 of forewing sometimes separated from 8 + 9, 10 stalked with 8 + 9, 11 bent very near towards 12. 6 + 7 of hindwing stalked or from the same basis, 8 anastomosing long with the anterior edge of the cell at the base. Most of the species formerly ranged in this genus were wrongly placed here, because 11 of the forewing was straight.

obliqua.  

**B. obliqua** Wkr. (85 k). Forewing brownish-pink, with a violetish-black oblique line from the apex to the inner margin near its base, anteriorly somewhat convex (anteriorly concave in similarly marked species of *Thosea*!). A more or less indistinct submarginal line broken into two parts also proceeds from the apex. Hindwing brownish-pink. Expanse of wings: 30 mm. Borneo.

obliquifascia.  

**B. obliquifascia** Hamp. (85 i). Scheme of markings as in obliqua. Ground-colour pale ochre, more or less tinged reddish. Submarginal line in the ♀ often widened into a dark spot at the place where it is broken. Wings often more or less dusted with dark brown. Expanse of wings: 34 mm. Ceylon, Borneo, Celebes.

rubicunda.  


nigrina.  

**B. nigrina** sp. n. (90 d). Body and forewing blackish violet, partly strung with silvery scales. Forewing relatively scantily scaled, veins darker. Marked dark black: the basal sling 1 a to 1 b, the cross-vein and a streak in the middle of 2. A broad submarginal band of bluish-grey scales. Hindwing scantly scaled grey. Expanse of wings: 23 mm. Borneo, in December. ♂ type from Butik-Raja in the Hamburg State Museum.

rosea.  

**B. rosea** de Joann. (85 d). Dark reddish, forewing with a blackish oblique line extending straight from the apex to the inner margin before its centre; at the same place at the costal margin, a thinner blackish subterminal line extends almost vertically to the tornus. Expanse of wings: 32 mm, Tonkin. — It was described as *Geratonema*, but it is apparently closely allied to *obliqua* from which it differs in the straight subterminal line of the forewing.

28. Genus: **Toana** Wkr. (Goana v. Eecke.)

Palpus smooth, upcurved, not projecting beyond the vertex, 3rd joint conical, 1/4 the length of the second. Antennae of ♂ only pubescent. Legs short and smooth. Wings short and broad. Forewing pointed, costal margin straight, distal margin somewhat concave below apex. (It was not before me; position doubtful.)

semiochrealis.  

**T. semiochrealis** Wkr. Ochreous, head and thorax darker, abdomen and hindwing whitish ochreous. Wings with brown marginal dots. Forewing with 2 brown dentate antemedian and postmedian transverse lines. Expanse of wings: 37 mm. Borneo.

29. Genus: **Ploneta** Sn.
P. diducta Sr. (85 k). Forewing dark chocolate, with an almost straight yellowish submarginal oblique diducta, line mostly not quite reaching the costal margin and despatching a longitudinal ray below the apex to the margin, opposite it a short streak towards the base; hindwing dark grey. Expanse of wings: 20—23 mm. — Larva varying from grey to brownish-red, with brownish-red appendages set with prickles. Dorsum with 3 pair of yellow spots, the central pair being larger and orange inside. It lives on Musa, Michelia, Nephelium, Eugenia and Cocos. Java, Borneo.

30. Genus: Mahanta Mr.

Palpi moderately long, appressed upcurved, scarcely reaching the vertex. Antennae of ♀ with a short row of pectinations. Hind tibiae with short terminal spurs. Margin of forewing concave below the apex, 6 from the same base or stalked with the stalked 7—10. 7 arises after 10. 11 straight, not bent. 6 + 7 of hindwing stalked, 8 connected with a large hair-tuft at the end. Hind tibiae with 2 pair of short hardly visible spurs. 7—9 of forewing with a row of pectinations. Hindwing orange at the inner margin, otherwise darkened grey, veins with silvery grey scales as in venosa. Hindwing orange at the abdominal margin (in the ♀ also in the basal half), more reddish-brown tinge on the forewing which may turn blackish-brown in nigricans form nov. (Sumatra), more reddish-brown tinge on the forewing which may turn blackish-brown in nigricans form nov. (Sumatra), nigricans, the hindwings being predominantly wood-brown instead of orange. Java, Sumatra, ♀ from Gedeh (Berlin State Museum); it may be that this race is a distinct species.

S. venosa Wlr. (87 e). Palpal tuft white, black at the end. Forewing and thorax very dark brown, venosa, dusted with silvery grey scales. Hindwing orange at the abdominal margin (in the ♀ also in the basal half), more reddish-brown tinge on the forewing which may turn blackish-brown in nigricans form nov. (Sumatra), nigricans, the hindwings being predominantly wood-brown instead of orange. Java, Sumatra, ♀ from Gedeh (Berlin State Museum).


Antenna of ♀ bipectinate in the basal half. Palpus with extraordinarily long 2nd and 3rd joints, the latter with a large hair-tuft at the end. Hind tibiae with 2 pair of short hardly visible spurs. 7—9 of forewing stalked, 10 together with this stalk from the same base, 11 straight, 6 + 7 of hindwing stalked, 8 connected with the anterior edge of the cell by a cross-vein shortly before the end, despatching numerous small cross-veins to the costa.

S. testacea Btlr. (87 e). Palpal tuft white, black at the end. Forewing light brown, uniformly dusted testacea, greyish grey, hindwing orange, more or less greyish towards the margin, where the veins are yellow in the ♀. Expanse of wings: 45—70 mm. India, Ceylon. — The insular race malayana subsp. nov. has a somewhat malayana, more reddish-brown tinge on the forewing which may turn blackish-brown in nigricans form nov. (Sumatra), nigricans, the hindwings being predominantly wood-brown instead of orange. Java, Sumatra, ♀ from Gedeh (Berlin State Museum).

S. albipalpalis sp. n. (87 g). Palpal tuft pure white. Forewing dark blackish-brown, uniformly strewn albipalpalis, with silvery grey scales as in venosa. Hindwing orange at the inner margin, otherwise darkened grey, veins not distinctly light as in venosa. Under surface blackish-brown, hindwing orange at the inner margin. Expanse of wings: 68 mm. Borneo. ♀ type from Kina Balu (Berlin State Museum).

S. sericea Btlr. (87 f). Palpi quite uniformly light brown, forewing similar to that of testacea, but almost sericea, white, with a very intense gloss, ochreous margins and veins. Hindwing ochreous, more or less darkened at the margin. Expanse of wings: 50—60 mm. North India.

S. tantula Swh. (87 f). Body and forewing ochreous fawn-colour, palpi light brown, sometimes more exigua, or less blackened. Forewing very gibbously ribbed. Hindwing orange. Expanse of wings: 40—55 mm. Ambonai, Geli. — niassica subsp. nov. (87 f) is quite similar, but it has only 3 such gibbously impressed transverse niassica, stripes, the exterior one of which is quite straight. Nias. ♀ type from Goenoeng, Sitoli (coll. SEITZ).
S. pallivittata Sn. (87 e), forewing with an obliquely bent (87 h). Similar in the habitus to testacea form. nov. nigrescens. — nigrescent with violet-blackish forewings. species has likewise a form: (87 f). magnifica sp. n. (87 f). Q and Q differ little in size. Palpi light brown. Forewing glossy light brown, sometimes a little whitish at the costal margin, distal margin less oblique than in the preceding species, the tornus less rounded. Hindwing whitish-yellow. Under surface yellowish, more or less tinged brown at the costal margin. Expanse of wings: 45—50 mm. Celebes. Q, Q types from Minahassa (Berlin State Museum). This species has likewise a form: — nigrescens form. nov. with violet-blackish forewings.

S. pallivittata Sn. (87 h). Similar in the habitus to testacea (87 e), forewing with an obliquely bent whitish band bordered with dark, from the apex to the centre of the inner margin, less distinct in the Q. Hindwing yellow. Palpal tuft blackish at the end. Expanse of wings: 40—70 mm. — Larva green, with small dull blue spots, 4 rows of spined appendages, the last two segments with one black lateral spot each; on Musa-species.

S. anthela Sveh. (87 f). Terminal tuft of palpus white, black at the end. Both wings grey, hindwing broadly deep orange-yellow at the inner margin. Veins nowhere lighter. Separated thereby and by the scarcely grooved forewings from the similar testacea. Expanse of wings: 50 mm. South India to Borneo.

S. unicolor Wve. (= minax Wkr. ? micaea Wkr., palpiger H.-Schäff.) (87 g and Vol. II, pl. 50 b). Palpi and forewings uniformly rusty red, slightly dusted with silvery grey, the much smaller Q with traces of a darker longitudinal streak. Hindwing orange. Expanse of wings: 35—60 mm. — Larva metallic blue, but densely covered with green spined appendages, with an orange-black-blue transverse stripe on the 6th and 7th segments, the ground-colour appearing in several rows of spots; it lives on species of Eugenia, Phaseolus and Nephelium. From North India across Java, Borneo to the Moluccas.

S. lutea sp. n. (87 h). Quite similar to unicolor, but forewing monotonously lemon-olive yellow, hindwing pale yellow. Expanse of wings: 45 mm. Java (2 Q in the British Museum).

S. vulpina Mr. (87 g). Similar to lutea, palpal tuft blackish at the end, forewing not rusty red but purely brown, grey at the margins. Hindwing blackish, veins and base yellowish. Apex of forewing less rounded than in lutea. Under surface blackish, with yellow veins, ochreous in lutea. Expanse of wings: 40 mm. North India, very rare.

S. contracta Wkr. (87 g and Vol. II, pl. 50 b). Palpal tuft blackish at the end. Wings unicoloured dark grey (Q) or blackish (Q), abdomen ochreous, with rows of blackish spots above, predominantly blackish in the Q. Expanse of wings: 24 (Q) to 40 (Q) mm. Described from North China, but also discovered by Dr. Mell in Kwang-tung (Lo-fao-shan), April—May and October, also in North India; cf. Vol. II, p. 340.

S. usina Btbr. (87 h). (The Q was described as Q) Q similar to that of contracta, but forewing light brown, Q relatively larger, the forewings dusted more brown are broader and exhibit a blackish longitudinal blotch in the cell almost to the apex. Fringe with an orange basal line, abdomen chiefly orange. Expanse of wings: 30—35 mm. — Larva on Diospyros. India, numbers of it bred by Dr. Mell near Wu-tsung (Kwang-tung), in June.

S. dinawa B.-Bak. (87 h). Palpal tuft blackish at the end. Both wings greyish-black, hindwing with a very prominent orange inner-marginal area extending to the posterior edge of the cell. Under surface similar. Expanse of wings: (Q) 35 mm. New Guinea. The Q which probably belongs to this species and has not yet been described is quite similar to that of albipalpalis (87 g), also somewhat like venosa, but the veins of the hindwing are not so conspicuous. Forewing blackish-brown or dark brown, hindwing varying from grey to yellowish ochre, veins ochreous. Palpal tuft black at the end. Q type from the Nina Valley, New Guinea (Tring Museum). HAMPSH (in my opinion wrongly) places this species as a synonym to tantula Sveh. (1910).


Palpi extremely prolonged as in the preceding genus, of more than fourfold the diameter of the eye, but without hair-tufts at the ends, laterally compressed. Antenna of Q pectinated basally or to the end, of Q plain. Hind tibiae with 1 or 2 pair of spurs which are scarcely visible in the Q. Anterior tibiae with a silvery spot. Discocellular vein of forewing forked, 7—9 stalked, 10 separated from them, 11 straight. Discocellular vein of hindwing plain, 6 + 7 stalked, 8 anastomosing with the anterior edge of the cell before the middle, or connected by cross-vein.

H. minax Wkr. (Vol. II, pl. 50 b). Forewing dark brown, base darker, with an oblique blackish line before the apex to the inner margin before the middle; besides, a subterminal line extends from the apex curved to the tornus. Hindwing red-brown. Expanse of wings: 26—36 mm. In Vol. II (50 b) the type from
the British Museum is figured. North India, extending into the palaeartic region. — In minor de Joann, the interior oblique line does not reach to the inner margin, but ends at the posterior edge of the cell. Tonkin, South China. — margaritacea subsp. nov. (87i) is lighter, ground-colour of forewing more pearl-grey, subterminal line less distinct towards the inner margin. Hindwing pale wood-coloured. North Borneo. ♂, ♀ types from the Kina-Balu (Berlin State Museum). The antenna of this species is distinctly pectinated only in the basal third. Hind tibiae only with terminal spurs.

H. capucina Sn. (87 i). Antenna of ♂ bipectinate. Body and forewing of a nasturtium-brown colour, hindwing and abdomen somewhat lighter. Expanse of wings: 25—27 mm. Java. The species was taken in Malacca together with H. minutax from which, however, it differs in the darker colouring and shorter palpi. Hind tibia without a middle spur.

H. sericea Leech (87 i). Antenna of ♂ pectinate to the end, two lines divergent from the apex as in capucina, but the exterior one directly on the margin, both with a leaden gloss, the ground-colour between them lighter brown. Hindwing red-brown. Head and thorax yellow. Expanse of wings: 26 mm. From Ta-tsin-en-lu and to the south, South China, certainly also in North India. — Hind tibiae also with middle spurs. This species is probably better ranged under Susica.

33. Genus: Hyphormides gen. nov.

Very near to the preceding genus, but the anterior angle of the cell of the forewing projects instead of the posterior angle and vein 10 is stalked with 7—9. Anterior tibia without a silvery spot. Antenna of ♂ uniformly shortly pectinated to the end. Type of genus: H. argentipectinata.

H. argentipectinata sp. n. (90 i). Body and forewing dark violet-brown, scantily strewn with metallic blue scales which, however, form a coherent marginal line, a silvery dot in the centre of the inner margin. Scaling dull, but lustrous in the distal third in a triangular space the apex of which is at the cell-end and the base on the margin. Hindwing lustrous greyish-brown, also the under surface. Expanse of wings: 30 mm. Borneo. ♂ type from Kuching (British Museum); Mt. Dulit (Tring Museum).

34. Genus: Monema Wkr. (Oidocampa Mats.).

Antennae of ♂ plain. Palpus extremely long, but the terminal joint shorter than the second. Hind tibiae with 2 pair of spurs, the middle spurs hardly visible. 7—9 of forewing stalked, 10 from the same place together with them, or stalked, 11 near to 12, but not much bent. 6 + 7 of hindwing stalked, 8 bent towards the anterior edge of the cell as far as ⅔. Easily discernable from Hyphorma by the shorter terminal joint of the palpus and the stalked vein 10 of the forewing.

M. flavescens Wkr. (Vol. II, pl. 50 c). Thorax sulphur-coloured, abdomen brownish. Forewing with flavescens. 2 transverse lines proceeding before the apex, the interior one obliquely to the inner margin, the exterior one curved to the inner margin before the tornus; the interior one divides the yellow basal half from the brown marginal half, a dark dot at the cell-end, interior line darkened somewhat spot-like above the inner margin. Hindwing varying from yellow to brownish ochre. Specimens with black wings in which only the extreme base is yellow are: — f. nigra. Tonkin, South China, certainly also in North India. — In minor de Joann, rarely occurring with the nomenclatural form. Palpi of more than threefold the diameter of the eye. Body yellowish-white, basal half of forewing yellowish-white, a brown spot threefold the diameter of the eye. Expanse of wings: 25—35 mm. China, Japan, but also in the Prov. of Kwang-tung, numbers of it taken by Dr. MELL from April till September and bred on Randia dumetorum.

M. coralina Dudg. (87 i). Body yellowish-white, basal half of forewing yellowish-white, a brown spot above the inner margin before the centre, distal half dusted with a soft pink, both the lines indistinct, extinct at the costal and inner margins. Hindwing pink on the interior half, under surface also pink. Expanse of wings: 34 mm. Butan.

M. melli sp. n. (87 i). Similar to flavescens, much smaller, palpi only of double the diameter of the eye, melli, the spot at the interior line of the forewing above the inner margin very conspicuous. Expanse of wings: 18 mm. Kwang-tung. ♂ type from Tong-cung-shan, taken on the lantern by Dr. MELL in August (Berlin State Museum).

M. tenebricosa sp. n. (87 i). Habitus similar to that of Hyphorma, anterior tibia with a silvery spot. tenebricosa. Palpus of more than threefold the diameter of the eye. Body brown, anterior part of thorax and head orange. Forewing red-brown as far as the oblique line and below the cell and vein 2, then blackish, scantily strewn with silvery blue, the exterior line more indistinct. Hindwing dark brown, inner margin and costal margin red-brown. Expanse of wings: 25 mm. North India, in May. ♀ type from Khasis in the Tring Museum.

M. rubriceps Mats. Very near to flavescens (Vol. II, pl. 50 c), but frons red, forewing with a reddish- rubriceps. yellow marginal band, the stalk of 8—9 longer than its branches, hindwing of the same ground-colour as forewing, base and apical half paler. Expanse of wings: 30—32 mm. Formosa, in June and August.
35. Genus: **Hedraea** **Tmr.**

Palpus of fourfold the diameter of the eye, porrect, terminal joint long. Posterior tibiae with 2 pair of spurs. Antenna of 3’ bipectinate. Discocellular vein of forewing forked, 7 with 8 + 9 from the same base or stalked, 10 separated from them. Hindwing with a plain discocellular vein, posterior angle of cell scarcely projecting, 6 and 7 from the same base, 8 connected with the anterior edge of the cell by a cross-vein, with numerous small costal-marginal veins.

**H. quadridens** **Luec.** 3’ ; body reddish-brown, head yellowish-white, forewing reddish-brown, with ochreous and reddish-blotches, a band of 4 or 5 white dots at 3/5 in a blackish shaded band, continued as a narrow line to the centre of the wing, a small blackish spot towards the centre of the inner margin, margin shaded dark. Hindwing reddish-brown, yellowish-white towards the basal half, inner margin also yellowish-white. Expanse of wings: 30 mm. 3’ ; quite whitish ochreous, forewing pale ochreous, with the 4 or 5 white discal dots encircled by brown. Costal margin brown. Hindwing whitish ochreous, with a dark cross-vein dot beneath. Expanse of wings: 42 mm. Larva on *Pteris*. Queensland.

36. Genus: **Elassoptila** **Tmr.**

Palpi long, of sixfold the diameter of the eye. Antenna of 3’ long bipectinate almost to the end. Hind tibia with 2 spurs. Discocellular vein shrunk, 7—9 of forewing stalked, 6 + 7 of hindwing stalked, 8 connected with the centre of the eell-margin by a cross-vein.

**E. microxutha** **Tmr.** Body brown. Forewing strongly curved at the costal margin, apex rounded, margin slanting. A blackish vertical streak on the inner margin before the centre, a straight oblique whitish line from 2/3 of the costal margin to the tornus towards which it is narrowed and at last only marked by vein-dots. Hindwing dark brown, with an oblong orange ochreous dot in the centre. 3’ less distinctly marked and with a woolly yellowish ochreous abdomen. Expanse of wings: 14—20 mm. Queensland, December till March. The 3’ swiftly flies in a zigzag way in the densest forest right above the soil. The species is somewhat like a Lymantriid. It was not before me in nature.

37. Genus: **Heterogenea** **Knoch.**

Antennae invariably plain, palpi short, appressed, posterior tibia only with terminal spurs. 10 of forewing stalked with 8 + 9, 7 separated from them, 11 straight. 6 and 7 of hindwing separated, 8 connected with the centre of the anterior edge of the cell by a cross-vein. Holartic genus; it is questionable whether the following species is correctly ranged here.

**H. foliola** **Sn.** certainly belongs into another genus, because the posterior tibiae have 2 pair of spurs, the palpi are longer than the head, 3 + 4 and 6 + 7 of hindwing are stalked. Body and forewing whitish-yellow, dull. Forewing with numerous brown internerval streaks fused in the distal third, except at the tornus. Two almost white lines proceed from the apex, the interior one slanting and straight to the centre of the inner margin, the other one parallel to the margin 1 mm distant from it. Abdomen and hindwing dark grey. Expanse of wings: 23 mm. 3’ unknown. Java, at 1600 m.

38. Genus: **Lamprolepis** **Fldr.** (**Lamprolepida** **Tmr.**).

Antennae of 3’ long bipectinate basally, palpi moderately long, porrect. Tibiae quite spineless. 7—9 of forewing stalked, 10 from the same base or stalked, 11 straight. 6 + 7 of hindwing stalked, 8 anastomosing with the anterior edge of the cell as far as the middle.

**L. chrysochroa** **Fldr.** (= euchrysa **Low.**.) (90 f). Body brown, head and anterior part of thorax orange. Forewing metallic golden, with a dark brown oblique line from the apex to the inner margin before the centre, marginal area narrowly violettish-brown, darker towards the base, narrower towards the inner margin. Hindwing ochreous. 3’ remarkably smaller and with narrower wings, hindwing more red-brown, with a straight margin. Expanse of wings: 20—40 mm. North Australia.

39. Genus: **Doratifera** **Ww.** (**Doratiophora** **Scott** incl. Dinawa B.-Bak.).

Near to the preceding genus, but hind tibiae with terminal spurs.

**D. vulnerans** **Lew.** (89 l). Brown; basal tuft of antenna, apex of palpus and protibial spots snow-white. Forewing lustrous copper-brown; veins, the marginal area being narrowed towards the tornus, a cross-vein streak and a space behind it are silvery whitish-grey. Hindwing dark grey. 3’ somewhat smaller and with narrower wings than 3’. Expanse of wings: 32—43 mm. — Larva strangulated on the middle segments, with
black dorsal spots edged with light outside, with 4 protuberances each in front and behind, from which the irritated insect turns out spined appendages. Australia.

D. quadriguttata Wkr. (= lewini Scott.). Antenna of ♂ pectinato not quite to the middle, forewing quadrirust the brownish-red, more or less dusted with bluish-grey, transversely grooved, with an oblique row of 4—6 grote. black dots from the centre of the inner margin towards the costal margin before the apex, not reaching the two margins; these dots may be edged with yellow only in the ♂, never in the ♀. Hindwing reddish ochreous. Expanse of wings: 24—42 mm. — Larva green, with a red longitudinal and transverse marking above and green spines, only the anterior and posterior pairs being red; on Eucalyptus. Australia.

D. casta Scott. (89 k). Extremely similar to the preceding species, generally smaller, antennae of ♂ casta, pectinated as far as 2/3, dark dots on the forewing are edged with yellow in the ♀. Expanse of wings: 22—40 mm. — Larva quite different, velvety black with yellowish-white dots and spines; also on Eucalyptus.

D. rufa B.-Bak. (89 k). Quite similar to the following unicolora, more orange-red, with a longer, more rufa. curved line of the forewing. Hindwing pale whitish-pink. Expanse of wings: 25 mm. New Guinea.

D. unicolora Swb. (= stenora Trnr.) (89 k). Body dark red-brown. Basal tuft of antenna and vertex unicolora. of ♀ white, abdomen with a more or less distinct orange-red dorsal line. Wings red-brown, with a whitish straight oblique line from the apex towards the centre of the inner margin, vanishing in the centre of the wing. Hindwing paler. Expanse of wings: 22—26 mm. Australia.


D. oxlei Neuv. (= circumdata Wkr., confusa Wkr.) (89 l). ♂: red-brown, anterior part of body and base oxlei. of ♀ white, abdomen with a more or less distinct orange-red dorsal line. Wings diaphanous grey, margins narrowly darker. ♀: forewing red-brown, with a light grey broad marginal area narrowing down towards the tornus, transversely grooved. Hindwing brownish-grey. Expanse of wings: 23 (♂) to 50 (♀) mm. Australia.

D. pinguis Wkr. Antennal pectinations of ♀ extend to 3/4, hindwing greyish, otherwise similar to the pinguis, following unicolora. Expanse of wings: 30—34 mm. Australia.

D. olorina Trnr. Forewing whitish-grey with two curved postmedian transverse bands parted white unicolora. by the veins. Hindwing whitish. Abdomen beneath of ♀ (which is often less distinctly marked) black. Expanse of wings: 26—42 mm. Australia.

D. ochroptila Trnr. Forewing whitish-grey with a reddish-brown subterminal band which is traversed ochroptila. by the greyish-white veins, does not reach the margins, being narrow and expanded between veins 5 and 6. Hindwing whitish. Expanse of wings: 36 mm. Australia.

D. nagodina sp. n. (90 d). Antenna of ♀ long pectinate only in the basal third, then bare. Dark purple nagodina. brown, lighter brown beyond the cell in the forewing. Hindwing with a straight margin, smoky-hyaline, blackish at the costal and inner margins, 8 withdraws from the anterior edge of the cell before its centre. Expanse of wings: 21 mm. New Guinea, in April. ♀ type from Biagi, Mambare (Tring Museum).

40. Genus: Dinawides gen. nov.

Antenna of ♀ pectinate, decreasing towards the end, palpus short, porrect, somewhat upecurved, hind tibiae only with terminal spurs, 7—9 of forewing stalked, 10 together with this stalk from the same base, 11 arises far basad (opposite 2), discocellular vein plain. Posterior angle of cell on hindwing scarcely projecting, 6 + 7 stalked, 8 fused with the anterior edge of the cell at 1/3.

Type of genus: D. nigricans B.-B.

D. nigricans B.-Bak. Body and forewing purple brown, forewing with a black central dot and a blackish nigricans. straight oblique stripe bordered with light inside and extending parallel to the margin from which it is distant by its width. Hindwing blackish hyaline, veins and margins fine dark. — In opaca form. nov. (90 e) the hindwing is densely scaled greyish-brown, the dark line of the forewing is distant from the margin by more than its width; it may be a distinct species. (♀ type from Mt. Etappenberg, 850 m, in the Berlin State Museum.) Expanse of wings: 22—26 mm. New Guinea, July till October.

41. Genus: Tetraphleba Strd. (Tetraphleps Hmps.).

Antenna of ♀ long bipectinate, palpus straight, obliquely raised, middle joint very much widened by scales that are turned downward, posterior tibiae only with terminal spurs. 7—9 of forewing stalked,
ANAXIDIA; PARASA. By Dr. M. Hering.

10 from the same base or stalked with them, 11 straight. Posterior angle of cell on hindwing projecting, $6 + 7$ stalked, 8 anastomosing with the anterior edge of the cell near the base.

**T. brevilinea** Hmps. (89 l). Forewing brown, coarsely dusted with purple, with a dark curved line from $\frac{1}{4}$ of the inner margin to the cell-end. Hindwing brownish ochreous. Expanse of wings: 36—40 mm. Sikkim.

42. Genus: **Anaxidia** Swh.

Palpus short, porrect, antenna of ♂ bipectinate basally. Hind tibiae only with terminal spurs. 7—9 of forewing stalked, 10 separated or stalked with them. Hindwing with a slightly projecting posterior cell-angle, $6 + 7$ stalked, 8 connected with the anterior edge of the cell at its centre by a cross-vein, and a series of veinlets towards the costal margin.


A. lozogramma Trnr. (= loxogramma Trnr.) (89 l). Ground-colour variable, from ochre to grey, forewing with a dark (sometimes distally light-edged, sometimes altogether light) oblique straight line from the inner margin near the base to the costal margin before the apex from where a similar line extends to the margin above the tornus, cross-vein with a dark dot distally to the first line. Expanse of wings: 28—38 mm. Australia.

A. lactea Swh. (= aerogramma Low.). Body white or greyish-white. Forewing whitish or greyish-white, costal margin sometimes a little ochreous, a dark grey crenulate oblique line from the inner margin near the base to $\frac{3}{4}$ of the costal margin, below which it is angled or dying away. Hindwing coloured like forewing. Expanse of wings: 32—42 mm. South and West Australia.

A. dochmoosema Trnr. Thorax brown, reddish above in the centre, abdomen brown. Forewing brown, reddish at the costal margin, with a dentate or undulate blackish line from the centre of the inner margin to $\frac{3}{4}$ of the costal margin. Hindwing brownish-white. Expanse of wings: 40 mm. North Australia.

43. Genus: **Parasa** Mr. (Letois Fldr.)

Antenna of ♂ bipectinate basally. Palpus short, porrect. Hind tibiae only with terminal spurs. Discocellular vein of forewing forked, 7—9 stalked, 10 separated or from the same base as 7—9, 11 straight or bent. 6+7 of hindwing stalked, 8 anastomosing with the anterior edge of the cell near the base. Mostly provided with apple-green marking; as the species exhibit considerable structural differences, the genus will have to be subdivided one day. The description of *P. shirakii* Kawada was not accessible to me.

I. **Lepidoptera coloured green in some places.**

**P. lepida** Cr. (= graciosa Wve., latifascia Wkr.) (86 h). Head and thorax green, with a posteriorly widened dorsal streak, abdomen yellowish-brownish. Forewing green, with a violetish-brown basal spot which is longest at the costal margin and extends posteriorly almost to the cell, and a lighter brown marginal band defined by a uniform bow on the inside. Hindwing yellow, more or less brownish in the marginal half. Expanse of wings: 30—50 mm. — **media** Wkr. is similar, but not synonymous with it, as stated in Vol. II (p. 346); the brown marginal band of the forewing projects at vein 4 in a feeble dent towards the base. Sumatra to the Philippines. — Larva light green with 3 dorsal yellow or green bands, with subdorsal and lateral spined appendages, the spines of the anterior ones being spotted red; polyphagous. India, Ceylon.

**P. metaphaea** Hmps. Head and thorax green, with a brown dorsal line. Forewing yellowish-green, costal margin brown, with a small slanting brown basal spot extending beyond the inner margin, marginal band brown, bordered inside with a curved dark line. Hindwing dark red-brown. Expanse of wings: 34 mm. Travancore.

**P. metathermes** Hmps. (86 h). Body brown, collar and tegulae centrally green. Forewing green, basal area brown, with 2 notched projections, marginal area lighter brown, uniformly bent, scarcely projecting beyond the inner margin. Hindwing dark brown. Expanse of wings: 28 mm. Ceylon.

**P. hilaris** Wve. (= hockingii Mr.) (86 h). Forewing somewhat narrower, basal area of forewing extending towards the inner margin as far as 1 a, with a dent pointing distally, not extended at the costal margin, marginal band narrower, with a proximal dent at vein 7. Hindwing ochreous, fringe darkened. Thorax quite green. Expanse of wings: 20—24 mm. India.
P. gentilis *Sn.* (86 h) is similar to *hilaris*, wings still narrower, marginal area of forewing projecting *gentilis*, with a strong dent basad between veins 2 and 3. Expanse of wings: 20—24 mm. India, Java.

P. laeta *Wve.* (= *retracta Wkr.*) (86 i) differs from the preceding species in the very narrow green band *laeta*. of the forewing, the marginal band being broad, projections as in *gentilis*. Expanse of wings: 25 mm. Ceylon.

P. mirza *Sveh.* (86 i). Band of forewing likewise narrow green, but marginal area less concave on the *mirza*. proximal side, thorax above with a brown central spot. Expanse of wings: 28 mm. Burma.

P. similis *Fedr.* (86 i) is very similar to *gentilis*, but the brown basal spot is only extended between *similis*, the cell and the inner margin. Expanse of wings: 30 mm. Ceylon.

P. sinica *Mr.* (= *hilarata Stgr.*) (86 i) differs from *hilarata Stgr.*, which is common in the eastern *sinica*. palaearctic region, in the shorter pectinated antennae, the marginal band being mostly broader and provided with several dents, and the yellowish hindwing showing longer and blacker fringe at the tornus. Expanse of wings: 22—30 mm. The type (now in the Berlin State Museum) originates from North China, but the species occurs also in Formosa.

P. notonecta *sp.* *n.* (86 i). Green, forewing more yellowish-green, not bluish-green as in *sinica*, the *notonecta*. brown colour without the violet shine of *sinica*, the marginal band broader at the costal margin, with proximal projections at veins 2 and 5, not reverted at the costal margin in the $$. Hindwing ochreous, fringe brownish, dark brown at the tornus. Expanse of wings: 22—25 mm. South China, Prov. of Kwang-tung, May—June and August—September. $$, $$, $$ and $$ types from Tong-kung-shan in the Berlin State Museum. Dr. *Mell* who bred the species on Polygonum japonicum, reports about the remarkable differences in the resting position of the sexes: "Sitting position of $$ normal. Sitting position of $$: wings slantingly roof-shaped on the body. Body obliquely downward; hind legs, as in the water-bug Notonecta, slanting and stretched far in front."

P. convexa *sp.* *n.* (86 i) is easily recognizable by the brown broad marginal band which is convex *convexa*. inside only in this species. Basal spot of forewing somewhat smaller than in *notonecta*. Expanse of wings: 21 mm. Kwang-tung. $$ type from Liu-ping, captured on the lantern by *Hoene* und *Mell* in April, in the Berlin State Museum.

P. chlorozonata *Hmps.* (86 i). Forewing violet-brown, with a narrow green median band which is stran-gulated at the costal margin, marginal area more grey, parted by a paler transverse line. Hindwing yellowish, broad violet-grey at the margin. Thorax green. Expanse of wings: 25 mm. Ceylon.

P. chlorostigma *Sn.* (86 k). Forewing dark brown, with a narrow green median band which is extended at the inner margin to the base, whereas that of the $$ sometimes does not reach beyond the posterior edge of the cell. Hindwing dark brown, scarcely lighter basally. Body brown, collar and tegularia green. Expanse of wings: 28—38 mm. Celebes.

P. bimaculata *Sn.* (= *insignis Sveh.*) (86 k). $$ body dark brown, only one green spot each on the inside of the antennal bases. Forewing dark brown, the green band broken up into 2 spots, hindwing scarcely lighter at the base. $$ with a lighter brown marginal area, a broader, not interrupted green band, basal half of hind-wing ochreous. Expanse of wings: 30—40 mm. — Larva dark green, lighter reticulately grooved, with velvety black spots in front and behind, with numerous tufts of spines; on Mangiferia and Nepheleum. Java, Borneo.


P. canangae *sp.* *n.* (86 k). Body red-brown, collar (excepting the median line) and tegularia green. Fore-wing green, costal margin fine brown, basal spot violet-brown, extended at the costal margin and occupying half the cell, though not crossing it towards the inner margin and only despatching yet a thin streak on the inner margin. Marginal area very broad violet greyish-brown, bordered inside by a curved dark line which may be dusted somewhat silvery above the inner margin. Hindwing brown, $$ darker brown, wings shorter and less rounded. Expanse of wings: 18 ($$) to 30 ($$), Malay Peninsula, Sikkim, as far as Ta-tsien-lu. $$ type in the Berlin State Museum. — Larva on Cananga odorata.

P. angustivittata *sp.* *n.* (86 l). Similar to *chlorozonata*, but the green band much narrower, not reaching the cell-end, broadly separated anteriorly also from the costal margin, very much strangulated on the basal side in the posterior half of the cell, ground-colour darker brown also in the marginal area. Hindwing and abdomen ochreous, hindwing brownish at the margin, thorax green above. Expanse of wings: 21 mm. Ceylon. $$ type in the Berlin State Museum.

P. angustivittata *sp.* *n.* (86 l). Similar to *chlorozonata*, but the green band much narrower, not reaching the cell-end, broadly separated anteriorly also from the costal margin, very much strangulated on the basal side in the posterior half of the cell, ground-colour darker brown also in the marginal area. Hindwing and abdomen ochreous, hindwing brownish at the margin, thorax green above. Expanse of wings: 21 mm. Ceylon. $$ type in the Berlin State Museum.

P. humeralis *Wkr.* (86 l). Thorax green, with a brown median line, forewing green, with a broad brown *humeralis*. basal spot which is rather straightforwardly cut off, and a narrow strongly curved marginal band which is expanded like a spot at the tornus. Hindwing ochreous. Expanse of wings: 28—35 mm. Borneo, also from Padang.

P. zulona *Reak.* is very near to *humeralis* (86 l), marginal band broader, with indistinct yellowish lunar *zulona*. spots. Expanse of wings: 35 mm. Philippines.
P. consocia Wkr. (= princeps Stgr., tessellata Mr.) (86 I and Vol. II, pl. 50 e). Basal spot of forewing red-brown, marginal band yellow, dusted with rust-brown and with brown veins, narrow, 1/5 of the width of the costal margin at most. Expanse of wings: 30—35 mm. In North China and Corea, also near Canton and in Formosa, March—April and July—August.

P. pastoralis Blr. (86 I and Vol. II, pl. 50 e). Similar to consocia, but basal spot of forewing also yellow, distally followed by a violet-tinted-brown shadowy spot. Marginal band more widened at the apex than in consocia. — tonkinensis subsp. nov. is intermediary between the two species, small and with narrow wings, basal spot of forewing also yellow, but only linearly bordered with violet-tinted-brown. Tonkin, 2 $ type in the Berlin State Museum. Expanse of wings: 30—50 mm. North India to Borneo, rarely in South China.

P. repanda Wkr. (90 e). Body brown, thorax and head green above. Forewing green, with a violet-tinted-brown-basal spot not reaching the inner margin, a uniform violet-tinted-brown marginal band dusted with silvery and edge inside with silvery, continued at the inner margin almost to the base. Hindwing brown, more or less extensively ochreous in the basal half. Expanse of wings: 30—50 mm. North India. — campagnei Jastr. constantly differs in the basal spot, which is sharply angled towards the anterior edge of the cell in the nomenclatural race, narrowing down here gradually or rounded in an obtuse angle towards the costal margin. Tonkin, South China.

P. grandis sp. n. (87 a). Body brown, thorax green laterally above. Forewing green, with a uniformly broad violet-tinted-brown basal spot extended to the inner margin, marginal band brownish-grey, bent towards the base at the apex, more rounded at the tornus than in repanda, bordered only by a dull whitish instead of silvery, with a brown arcuate line subapically inside. Hindwing ochreous, fringe brownish at the tornus. Expanse of wings: 62 mm. Antennae with short pecinations in the $ type. Kwang-tung, bred by Dr. MELL in November. $ type from Tsha-yun-shan in the Berlin State Museum.

P. darma Mr. (= dharma Hmps.) (86 I). Smaller than repanda, costal margin also brown-violet-tinted-brown, edged with silvery, with a brown broad distal marginal band, body brown, tegulae green. Expanse of wings: 26—34 mm. Rangoon to Borneo.

P. argentinilinea Hmps. (= elegantula Voll) (90 e). Forewing broad triangular, green, costal margin fine brown, marginal band yellowish-brown, bordered towards the base by a silvery line, inner margin narrow brown, broader towards the base. Hindwing ochreous. Expanse of wings: 24 mm. North India, Java.

P. bicolor Wkr. (87 a). Unicoloured green, distal portion of forewing with or without small brown postmedian and submarginal spots. Hindwing and abdomen brownish ochreous. Costal margin of $ forewing convex. Expanse of wings: 25—45 mm. North India, Java. — virescens Mats. is similar, forewing broader, more widened towards the margin, Formosa. — Larva of bicolor violet with a yellow subdorsal and lateral line and short bristly appendages, the front ones red; on bamboo.

P. albida Candèze differs from bicolor in the yellowish-white head and collar. Forewing with a brown spot between veins 4 and 5, and ochreous fringe, hindwing yellowish-white. Expanse of wings: 24 mm. Indo-China.

P. argyroeneura sp. n. (90 e) is separated from bicolor (87 a) by the costal margin being straight in the $ and the apex of the forewing more tapering. Posterior edge of cell with silvery scales, the silvery streak widened before the small brown spot at the posterior cell-end. Hindwing yellowish ochre, also the other brown small spots often with silver, rarely blackish: $ f. fumosana nov. (Tring Museum). Expanse of wings: 36 mm. Khasis, in May. $ type in the Berlin State Museum, $ type in the Tring Museum.

P. ostia Sieb. (87 a). Forewing green, a red-brown basal spot is extended to the inner margin, fringe brownish. Hindwing paler green, body green, with a brown thoracic median line. Expanse of wings: 50—60 mm. North India.

P. punica II.-Schäfj. (90 g). Similar to ostia, the violet-tinted-brown basal spot more extensive at the costal margin and in the cell, the brown colour of the fringe narrowly extends to the margin. Thorax unicoloured green above, Expanse of wings: 36 mm. North India.

P. hampsoni Dyar (= viridis Hmps.) (86 I). Similar to bicolor (87 a), but without the small brown spots in the wing, instead of which there is a brown spot on the margin above the tornus and one on the inner margin before the tornus. Thorax edged with brown. Expanse of wings: 30 mm. Ceylon.

P. albipuncta Hmps. (90 a) differs from hampsoni in the brown fringe-marking of the forewing being extended basad in a large marginal spot between 3 and 5, the brown inner-marginal spot proximally with a small silvery white spot. Expanse of wings: 26 mm. India.

P. dulcis sp. n. (87 b). Body light yellowish ochre, thorax light green above (excepting collar). Forewing light green, costal margin fine pale yellow, also the fringe and a very narrow marginal line which is only widened at the tornus and on which there are red-brown dots. Hindwing and under surface pale yellow. Expanse of wings: 14 mm. Kwang-tung, numbers of it captured by Dr. MELL in August. $ type from Tsha-yun-shan in the Berlin State Museum.
P. isabella Mr. Head, thorax and forewing green. The forewing with a large tan-coloured, brown-dusted isabella, and black-edged basal spot from the costal margin to the posterior cell-end, a similarly coloured marginal band is expanded into large spots at the apex and tornus. Abdomen and hindwing ochreous brown. Expanse of wings: 40 mm. — Larva green, with a purple dorsal stripe and an anterior red-brown pair of spined appendages. India.

P. sagittata sp. n. (90 c). Head and thorax above green, abdomen ochreous. Forewing with a red-brown basal ray strongly projecting towards the margin, occupying the whole cell and projecting beyond it at vein 6. Marginal area red-brown, bordered inwards by a curve. The brown markings are bordered on the inverted sides by black lines. Hindwing light yellow, margin broad reddish-brown, under surface of the same colour. Expanse of wings: 23 mm. Burma. ♀ type from Meiktila (British Museum).

P. funosa Ssek. (87 b). Body brown, thorax and head green above. Forewing unicoloured red-brown, funosa, hindwing more blackish brown, lighter at the costal margin. Expanse of wings: 22—34 mm. India.

P. herbifera Wkr. (87 b). ♀; body brown, only the ♀ tegulae green. Wings narrower and more pointed, herbifera, hindwing not lighter at the costal margin. Expanse of wings: 20—24 mm. Forewing of ♀ green, with an oval brown spot from the base almost to the centre of the costal margin, marginal area purple greyish-brown, strewn with silvery, with a brown submarginal spot between veins 4 and 5 and above the tornus. Hindwing pale brown, lighter basally. Expanse of wings: 27—34 mm. India.

P. melii sp. n. (87 c). Body blackish, vertex and spots on the collar, tegulae and thoracic dorsum green, melii. Forewing red-brown, centre hyaline, a small green dot at the costal margin at ⅓, a green triangle in the centre of the inner margin, a blackish blotch from the cross-vein towards the margin below the apex. Hindwing black. Under surface blackish-brown, forewing with a yellowish inner margin. Expanse of wings: 18 mm. Kwangtung. ♀ type from Lung-tao-shan, captured by Dr. MELL (Berlin State Museum). The ♀ will presumably look quite different. The species recalls Nagoda, but it has a different neuration. It may be that Nagoda francesca (p. 674) belongs to this place here.

P. forquinii Reak. (87 a, b). ♀; body and forewing quite red-brown, forewing with a green antemedian line, band beginning narrow below the costal margin and provided with a distal dent at the posterior cell-end, whereupon it strongly widens on 1 a and extends with one dent each towards the base and the distal margin, but does not traverse 1 a towards the inner margin. Hindwing ochreous, marginal half red-brown. Expanse of wings: 20—22 mm. ♀ similar to that of lepida, but the hindwings more unicoloured yellow. Philippine Is.

II. Lepidoptera without green colouring. Antennae of ♀ with short pectinations.

P. acrata Trnr. (87 b). Unicoloured greyish ochre, forewing sometimes more or less tinged with purple. acrata. hindwing lighter. Expanse of wings: 34 mm. Australia.

P. pyrrhothrix Trnr. Reddish-brown; forewing brown, paler towards the margin, sometimes a little greyish. Hindwing reddish-brown. Expanse of wings: 40 mm. Australia, in October and April.

P. bombycoides Fldr. (= sphenosema Low.) (87 c). A very variable species. Nomenclatural form red-brown, forewing of ♀ dark brown in the basal third, bordered by an oblique distally white straight line rarely reaching to the costal margin, the space behind it and at the distal margin more grey. A dark spot behind the cell-end between veins 2 and 5; this spot is absent in f. amphibrota Low. Forewing of ♀ unicoloured, the oblique band extended to the costal margin. — In f. luxa Siek. (= perixera Low.) which may be a distinct species the ground colour of the forewing is olive grey, the oblique band is only composed of an oblique streak at the inner margin but one another on the posterior cell-margin. Hindwing of ♀ paler in all the forms. Expanse of wings: 18—26 mm. North America.

P. alphaea F. (= calida Wkr., congrua Wkr., cremospila Low.) (87 a). Body brown, more red-brown alphaea, in the ♀. Forewing from brown to red-brown, with a short oblique dark streak from ⅓ of the inner margin to vein 1 b, a dark dot in the centre of the disc is sometimes absent in the ♀, always absent in the ♀. Hindwing lighter brown, darker at the inner margin. Expanse of wings: 28—35 mm. North America.

P. callidesma Low. (87 b). Thorax dark brown, costal margin and centre reddish-brown. Forewing callidesma, red-brown, basal area dark brown, bordered by an oblique whitish line from ⅓ of the inner margin to ⅔ of the costal margin which it does not reach. A dark almost straight line from ⅔ of the costal margin to the distal margin below its centre. Hindwing reddish brown. Expanse of wings: 26—36 mm. North Australia, in March.

P. brevipennis sp. n. (87 c) has the colouring and scheme of markings of bombycoides (87 c), but much shorter and broader wings. Body purple brown, thorax of ♀ orange-red centrally. Forewing purple brown, scarcely darkened basally, the hardly visible oblique streak of the ♀ extends from ⅓ of the inner margin almost to the cell in the ♀ to or almost to the costal margin, being white in the ♀, distally bordered with blackish, more shading than in bombycoides. Darkening of ♀ disc hardly traceable. Hindwing of ♀ reddish ochre, of ♀ purple brown. Expanse: 22—27 mm. Queensland, in April. ♀ as well as ♀ types from Port Darwin in the Berlin State Museum.
limacolasia; Ceratonema. By Dr. M. Hering.

entima. P. entima Trnr. Thorax grey, ♀ prothorax with a red-brown spot, ♂ tegulae whitish-grey. Abdomen of ♀ blackish, of ♀ grey, with red-brown dorsal spots. Forewing grey, sometimes with a purple tinge, the costal-marginal area of the ♀ broadly suffused with whitish. A fine straight oblique dark line from ⅓ of the inner margin to the costal margin beyond the centre does not always reach to the latter margin and is distally bordered with white. Hindwing purple grey. Expanse: 34—44 mm. Australia.

atmodes P. atmodes Trnr. (= loxoleuca Trnr.) (87 e, 89 k). Body brown, with lustrous whitish patches, abdominal end orange. Forewing purple brown, with an oblique broad, distally dentate, proximally black-edged silvery white band which is very fine and narrow in the ♀. Distally to it, in the disc, there are 3 dark spots, the upper two black and confluent. Marginal area whitish-grey, parted by a dark dentate subterminal line. Hindwing red-brown. Expanse of wings: 25—30 mm. Australia.


neustria. P. neustria sp. n. (87 d). Antennae of ♀ not pectinated, the anterior angle of the cell of the forewing projecting, discoecellular vein not forked, 10 slightly separated from the stalk of 7—9. The posterior angle of the cell projects little in the hindwing, 6 + 7 from the same place, 8 anastomoses with the cell near the base. Ochreous, forewing with 2 rusty brownish median transverse bands, the marginal area also rusty brownish in the anterior part. Expanse of wings: 35 mm. New Guinea. ♀ type from the Weyland Mts. in the British Museum. — The species recalling certain forms of Malacosoma neustria is doubtfully placed here, as the ♀ remained unknown.

44. Genus: Limacolasia gen. nov.

I doubtfully range this genus under the family. Hindwing without frenulum, costal margin slightly produced at the base, but not so much as in the Lasiocampidae. 1 c is present in both wings. The genus is very similar to Lasiochira (p. 701) in the habitus and structure, but the latter genus is provided with a strong frenulum. Antenna of ♀ long bipectinated in the basal half, bare in the upper half. Palpus hairy and short, hidden, appressed. Posterior tibiae with entirely stunted terminal spurs. Legs and abdomen densely haired. Forewing: 1 c present, 2 arises a little before the centre of the cell, 7 is stalked with 8 + 9, the anterior part of the cell is removed towards the costal margin, for which reason the isolated veins 10 and 11 are nearer to 12. Discoecellular vein plain. Hindwing: 8 bent forward at the extreme base, then immediately anastomosing with the anterior edge of the cell; posterior angle of cell strongly projecting, 6 + 7 stalked, discocecal vein plain.

Type of genus: L. dubiosa Her.

dubiosa. L. dubiosa sp. n. (87 c). Dark brownish-red, abdomen above and part of legs with blackish-violet hair. Wings rather scantily scaled, veins darker. A very indistinct shadowy transverse band across the cell-end to the tornus is rarely visible. Hindwing still more scantily scaled. Expanse of wings: 18 mm. Kwang-tung. ♀ type from Lung-tao-shan (Berlin State Museum). Dr. Mell captured great numbers of the species from May 13th to 25th, later on only one other specimen on June 7th. The species thus seems to occur only during an extremely limited period.

ruficollaris. L. ruficollaris sp. n. (87 d) resembles dubiosa, but not only the head, but also the collar is orange. Wings much darker purple brown, with a distinct dark central dot and a eveceal costal margin of the forewing. Expanse of wings: 17 mm. Sikkim. ♀ type in the Tring Museum.

45. Genus: Ceratonema Hmps.

Antennae of ♀ plain. Palpi upcurved, almost reaching to the vertex. Posterior tibia with 2 pair of spurs. Forewing: 8—10 stalked, 7 arises together with it from the same place, or separated, 11 is strongly bent towards 12, or almost straight. Hindwing: 6 and 7 separated, 8 connected with the anterior edge of the cell at ⅔ by a cross-vein. The species contains heterogeneous elements and will have to be subdivided later on.

retractatum. C. retractatum Wkr. (87 d). Ochreous, forewing with darker veins, an oblique brown straight median line, a curved postmedian line from vein 6 to the inner margin, a curved subapical line from the costal margin before the apex to the margin at vein 3. Hindwing pale yellow, with a brown longitudinal stripe near the inner margin. Expanse of wings: 24 mm. India.

bilineatum. C. bilineatum sp. n. (87 d). Reddish ochreous, forewing more or less strewed with rusty brown scales. A brown straight oblique line extends from ⅔ of the costal margin to ⅓ of the inner margin, and a much finer similar one almost parallel to the margin extends to the tornus. Hindwing from ochre to grey. Expanse of wings: 15 mm. Kwang-tung, captured on the lantern by Dr. Mell in April and August, thus probably in 2 generations. ♀ type from Sahn-gong, Wan-shan (Berlin State Museum).
C. albisulfum *Hmps.* Body pale ochre. Forewing ochre, inner margin and distal margin dusted with whitish, with a broken median band of black scales, especially distinct on the costal margin, the posterior angle of the cell and on the inner margin, a submarginal row of dark dots. Hindwing whitish. Expanse of wings: 23 mm. North India, at an altitude of 2000 m.

C. ferrugineum *Hmps.* Reddish, head yellowish-brown. Forewing lustrous, with an indistinct curved postmedian band of grey scales extending very indistinctly to the distal margin below the apex. Hindwing dark brown with a grey gloss. Expanse of wings: 24 mm. India.

C. rubifasale *Hmps.* (87 d). Head ochrous, thorax and abdomen light reddish-brown. Basal half of rubifasale, forewing light brownish reddish, distal half brown, paler at the margin, both separated between the cell and inner margin by a silvery white line. Hindwing brown with a yellow gloss. Expanse of wings: 20 mm. North India, South China, Formosa, May till June and August till September.

C. fuscum *Sekh.* Body ochrous, with a reddish tinge. Forewing reddish-yellow, costal-marginal half fuscum, dusted with purple blackish as far as the postmedian line. Marginal area pale ochrous with a reddish tinge, dusted somewhat blackish. Postmedian line incurred at the median fold and below the cell. Hindwing pale ochrous. Expanse of wings: 22—26 mm. North India.

C. caustiplaga *Hmps.* Body brown, with silvery scales, abdomen light brown. Forewing red-brown, caustiplaga, strewn with purple silvery scales, a light brownish-red spot between veins 2 and 5, with an oblique band from its inner side to the inner margin. A brownish-red spot at the apex. Hindwing red-brown. Expanse of wings: 28—34 mm. — Larva pale yellowish-green, with yellow oblique streaks and a bluish-white dorsal line edged with orange, with yellow, black-spined appendages. Assam.

C. fasciatum *Hmps.* Body purple brown, abdomen and hindwing paler. Forewing purple brown, with fasciatum, a large pale spot beyond the upper cell-angle and a reddish spot on the distal half of the inner margin. Expanse of wings: 22 mm. Sikkim.

C. pallidinotum *Hmps.* Body purple brown, abdomen and hindwing paler. Forewing purple brown, pallidinotum, with a large purple spot beyond the upper cell-angle and a reddish spot on the distal half of the inner margin. Expanse of wings: 22 mm. Sikkim.

C. albidivisum *Hmps.* (87 d). Head and thorax pale rusty brown, abdomen brown. Forewing with a pale reddish basal area, extending at the costal margin to 3/4, at the inner margin to 1/2, at the distal edge of it there is a white dot at the upper cell-angle, and a white line from the lower cell-angle to the inner margin, marginal area dark brown. Expanse of wings: 24 mm. Sikkim.

Note: *C. roseum de Joann.* is probably better ranged under *Birthama.*

C. initiatrix *sp. n.* (87 d). Forewing olive brown; the whole basal part as far as the centre of the inner margin as far as obliquely to the cell-end below the cell is greyish black, besides a small interior and large exterior blackish spot above it. A light distally curved subapical line bordered with more or less dark on both sides extends from 3/4 of the costal margin to the tornus. Base with a characteristic silvery white dot. Hindwing blackish; all the fringes brownish olive. Expanse of wings: 25 mm. North India, China. *♀* type from Kwangsien in the British Museum. — The species strikingly resembles *Heterogenea dentata* Ohle, (Vol. II, pl. 49 k), especially owing to the silvery basal dot. But vein 7 of the forewing arises in the latter species distally to 10. Vein 11 is straight in both species.

C. nigribasale *sp. n.* (87 d). Body greyish-brown, blackish beneath. Forewing with a blackish median nigribasale, line from the costal margin beyond the centre over the cross-vein to the centre of the inner margin, incurvate at the cross-vein and below the cell. The whole area basad to it is blackish-violet, warming into brown below the cell, distal half brown, parted by a uniformly slightly bent postmedian line. Hindwing and under surface blackish-grey. Fringe with a light basal line and a light line of partition. Expanse of wings: 25 mm. Burma. *♀* type from Fort Hpmaw (British Museum).

C. palpiferum *sp. n.* (90 e). Palpus of more than double the diameter of the eye, projecting far beyond palpiferum, the head. Forewing similar to that of *bilineata* (87 d), but with a more oblique margin and a more rounded tornus, both the transverse lines brown, much more slanting, but little divergent towards the inner margin; ground-colour metallic golden yellow. Hindwing pale yellow, with a golden yellow fringe. Expanse of wings: 16 mm. Khasis, in October. *♀* type in the Tring Museum.

C. concavum *sp. n.* (88 a). Forewing feebly concave at the margin below the apex, 7 separated from concavum, 8—10. Forewing as well as body reddish-grey, coarsely dusted, with a purple brown cross-vein spot and a similar indistinct postmedian line; opposite to either of them at the costal margin there is a small yellow spot. Hindwing pale yellow, purple brown at the tornus, where we notice a tuft of thick spinulate brownish-red fringescales. Expanse of wings: 18 mm. Burma. *♀* type from Fort Hpmaw (British Museum).
C. basiplaga: Forewing brownish pale yellow, with a large characteristic jet-black basal area which projects distally at 1 b and 1 c, but does not reach to the costal margin, and into which a yellowish-white basal longitudinal streak enters on 1 b. A similar jet-black spot is situated behind the cell-end between 2 and 5. Right before the margin there is an undulate whitish transverse line irregularly bordered by blackish dusting. 7 is stalked with 8—10. Hindwing reddish-grey. Expanse of wings: 21 mm. Sikkim, found in August at an altitude of 7000 ft.; 3 type in the British Museum.

46. Genus: Caissa gen. nov.

C. gambita: Pale yellow, brownish on the inside of the tegulae and on the terminal tufts of the thorax. Abdomen brownish dorsally. Forewing with a double blackish-brown oblique transverse line, filled inside with silvery grey, followed by a somewhat undulated indistinct postmedian line which is very much excurred in the centre of the wing and extends from 7/5 of the costal margin to the tornus. Parallel to the straight transverse line, a dentate dark transverse line extends from the inner margin to vein 2, being widened into large spots on 1 b and 1 c. The area between the median and postmedian lines may be more or less clouded. Margin with a more or less complete row of dark dots. Hindwing tinged ochreous or brownish, with a characteristic dark inner-marginal spot at the tornus. Expanse of wings: 23—30 mm. India. 3 type from Khasis, 3 type from Travancore (Tring Museum).

C. caissa: Body more darkened blackish-brown than in gambita; frons, distal edges of tegulae and end of thorax purer white than in gambita. Forewing pale yellow, with a similar straight oblique band as in gambita, but it disappears more owing to blackish dusting of the costal-marginal half of the basal area. From the centre of the postmedian line a line branches off to the centre of the inner margin, the space between it and the oblique band is filled with light brown, another line parallel to the postmedian line extends from the origin of 3 to the inner margin, the veins being also dark there, so that several light areas are produced. Another brown triangular costal-marginal spot before the apex. Hindwing faded with a brown tinge, another dark spot above the inner-marginal spot at the tornus. Expanse of wings: 26 mm. Khasis, in October. 3 type in the Tring Museum. — It may be an extreme aberration of the preceding species.

47. Genus: Olona Sn.

O. albistrigella: Body and forewing greyish-brown, without any marking except a fine white, somewhat oblique line from 1 b to vein 6. Hindwing somewhat lighter grey. Expanse of wings: 15—20 mm. — Larva brownish-yellow, with numerous appendages: on cocoa-nut tree.


T. semifascia: Body and forewing brown. Forewing with a milky white, slightly bent transverse streak from the centre of the inner margin to the origin of vein 2. A dark spot at the cell-end, a transverse spot distally to it, a dark apical spot. Hindwing dark grey. Expanse of wings: 18—20 mm. — Larva greyish-green or yellowish. Sides lighter, dorsum with black dots. A light line on the border of the ventral side. Dorsum with short tufts of spines. Posterior end of body extended into 2 spines; on Lagerstroemia and Coffea. — Malacca, Sumatra, Java.


T. microleon: Antennae of 3 thickened and flattened. Palpi long porrect, of 2 or 3 fold the diameter of the eye. Dark grey; head, ends of tegulae and of thorax and under surface yellowish ochre.
Forewing with a reddish ochreous basal half, bordered by an oblique line from 1/3 of the inner margin to 2/3 of the costal margin, distal half black, with an ochreous costal-marginal spot before the apex, traceably continued as a submarginal line to the inner margin. Hindwing and under surface dark grey, forewing beneath with a pale yellow discal cell. Expanse of wings: 14—15 mm. Khasis, in July and August. ♀ type in the Vienna Royal Museum. It is most closely allied to Microleon longipalpus (Vol. II, pl. 50 a), but 6 and 7 of hindwing are separated!

**T. nigrimargo** sp. n. (88 a). Forewing reddish copper-brown, with a deep purple black marginal line and a similar small preapical spot; fringe light coppery basally, yellow in the terminal half. Hindwing and under surface blackish-grey, with light yellow fringe. Expanse of wings: 14 mm. Khasis, in May. ♀ type in the Tring Museum.

49. **Genus: Araeogyla** Hmps.

Antennae plain, palpi long, upcurved, extending beyond the vertex. Posterior tibiae with 2 pair of spurs. 8 + 9 of forewing stalked, 7 separated from them. 6 + 7 of hindwing arise separately, 8 is connected with the centre of the anterior edge of the cell.

**A. spatulata** Hmps. Body purple brown, abdomen dark grey, darker in the centre. Forewing black, **spatulata.** strewn with a few silvery grey scales, a silvery grey spot at the costal margin before the apex and at the inner margin before the tornus. Hindwing blackish-grey, fringe with a distinct tuft of spatulate scales at the tornus. Expanse of wings: 16 mm. Sikkim.

**A. castanea** Hmps. Body chestnut brown, head and abdomen paler, middle segments of abdomen castanea. darker. Forewing chestnut-brown, a blackish spot beyond the cell from the costal margin to vein 3, being darkest on the cross-vein, where there are some white scales. Hindwing dark grey. Expanse of wings: 18 mm. Sikkim.

**A. cupreata** Hmps. Copper-brown, dusted with blackish. Forewing light copper, with a dark curved cupreaia. submarginal line, the area behind it glossy purple, a distinct black line on the margin, vanishing towards the tornus. Hindwing dark brown, with yellow fringe. Expanse of wings: 16 mm. India.

50. **Genus: Apodecta** Trnr.

Antennae of ♀ bipectinated basally, palpi moderately long, porrect, posterior tibiae with 2 pair of spurs. 8 + 9 of forewing fused, 7 stalked with 8—10, rarely separated. 6 + 7 of hindwing stalked, 8 anastomoses with the anterior edge of the cell at 1/5.

**A. monodisca** Trnr. (= actinias Low.) (88 a). Forewing whitish, the basal two thirds more or less monodisca. dusted with brown, with a silvery white line from the centre of the cell to the inner margin of the tornus. A brown costal-marginal spot before the apex is parted by a white line and distally bordered by such a line (which is continued towards the inner margin). Hindwing brownish-grey. All the fringes whitish. Expanse of wings: 15 mm. North Australia.

51. **Genus: Lasiochara** B.-Bak.

Slightly different from Parasa (p. 696), palpi somewhat upcurved, appressed, forewing with a non-parted discocellular vein, vein 8 of hindwing with numerous veinlets to the costal margin, posterior tibiae only with terminal spurs, the other structure being the same as in Parasa.

**L. pulchra** B.-Bak. (88 b). Body reddish-brown, basal third of forewing reddish violet-brown, the distal pulchra. two thirds paler red-brown, with a finely serrated, postmedian transverse line, veins reddish on this line. Hindwing violetish reddish-brown. Expanse of wings: 42—48 mm. New Guinea, in August and September.

52. **Genus: Triplophleps** Hmps.

Antennae of ♀ plain, without pectinations. Palpi upcurved, reaching to the vertex. Posterior tibia with one pair of spurs. 7—9 of forewing stalked, 6 + 7 of hindwing stalked.

**T. inferma** Suh. (=} inferma v. Ecke). Body and wings dark grey. Forewing with a black curved inferma. antemedian transverse line not reaching to the margins, with a blackish curved line from the posterior cell-angle to vein 1 b, a curved transverse line from the costal margin before the apex to beyond the tornus. Expanse of wings: 22 mm. India.
53. Genus: **Anepopsia** Trnr.

Palpus double the length of the diameter of the eye, obliquely upcurved, "antenna bipectinate to the end, posterior tibiae only with terminal spurs. Forewing with a plain discocellular vein, 7—9 stalked; posterior vein of hindwing scarcely projecting, 6 + 7 nearing each other or stalked, 8 anastomoses with the anterior margin of the cell near the base, with costal-marginal veinlets. Separated from the similar species of *Parasa* and *Thosea* by the long upcurved palpi.


A. **eugyra** Trnr. Pale grey, forewing with a scarcely curved dark line from 2/3 of the inner margin almost to the apex. Expanse of wings: 22 mm. North Australia, in November.

54. Genus: **Nirmides** gen. nov.

Antenna of " long bipectinate basally, terminal half bare. Palpi moderately long, upcurved, not reaching to the vertex. Posterior tibiae only with terminal spurs. Forewing: 6 from the centre of the cross-vein, 7—9 stalked, 10 arises together with this stalk. Hindwing: 6 + 7 stalked, 8 anastomoses with the anterior margin of the cell at the base, posterior angle of cell is projecting.

Type of genus: *N. basalis* Wkr.

**N. basalis** Wkr. (= micron v. Eecke) (88 b). An easily discernible species. Forewing more scantily scaled, greyish-brown, veins darker, a rusty-red dark-edged spot at the cell-end, the dentate subterminal line whitish, marginal area behind it red-brown. Basal third as far as 1/4 of the costal margin and the tornus milky white, bordered by an oblique straight line, with interspersed darker scales. Hindwing red-brown, inner margin and base milky white. — In *fusca* form. nov. which rarely flies among the nomenclatural form the basal triangle of the forewing is not white, but of the same colour as the ground of the wing, the hindwing quite dark grey. Expanse of wings: 15—24 mm. From Malacca to Borneo.

**N. luzonensis** sp. n. (88 b) has densely scaled copper-brown forewings, the basal triangle is lustrous copper-brown, distally scarcely bordered with whitish, violetish-grey in the centre, subterminal line shaped as in *basalis*, nearer to the margin. Hindwing black, lighter at the costal margin. Luzon. " type in the Berlin State Museum, 1 " from Borneo in the British Museum.

**N. cuprea** Mr. (88 b). Body dark brown, head ochreous; forewing red-brown, with 2 oblique streaks from the posterior margin of the cell to the inner margin and a broad curved subterminal band of a lustrous coppery brown, bordered with a darker colour inside. Hindwing dark grey, somewhat coppery at the margin. Expanse of wings: 26 mm. Darjeeling, apparently extremely rare. The species was confounded for a long time with *Natada conjuncta* Wkr. (Vol. II, pl. 50 b).

55. Genus: **Idonauton** Suh.

Structurally very similar to the preceding genus, but vein 6 of forewing nearing 7.

**I. apicale** Wkr. (= rubriplaga Wkr.). Light red-brown, marginal area of forewing dark red-brown, bordered inside by a curved silvery white line. Expanse of wings: 25—36 mm. From India to Borneo.


56. Genus: **Beggina** gen. nov.

Antenna of " with long double pectinations, bare in the terminal fifth. Palpi porrect, distinctly projecting beyond the frontal tuft. Posterior tibiae with 2 pair of spurs. Forewing: 7—10 stalked, 10 arises from the stalk far distally to 7, 11 feebly curved. Hindwing: posterior cell-angle scarcely projecting, 6 + 7 on a short stalk, 8 anastomoses near the base with the anterior edge of the cell.

Type of genus: *B. lymantrina* Her.

57. Genus: **Birthamoides** gen. nov.

Antenna of ♀ strongly pectinated basally, suddenly decreasing towards the end, palp short, porrect, posterior tibiae with 2 pair of spurs. Forewing: 7—10 stalked, 10 arises after 7, 11 straight. Hindwing: 6 + 7 stalked, 8 connected with the anterior edge of cell only near the base, posterior angle of cell slightly projecting.

Type of genus: *B. junctura* Wkr.

*B. junctura* Wkr. (**♂ = circeina Su.) (88 b). Forewing brownish-red, with an oblique straight antemedian junctura. line and, posteriorly convergent with it, a straight line from 1/3 of the costal margin to the distal margin above the tornus, more or less striped between them. Hindwing paler. Expanse of wings: 40—50 mm. India, Borneo.

*B. birthama* B.-Bak. (88 c). Body ochreous yellowish-brown. Forewing lustrous purple brown in the birthama. basal portion, defined by a straight oblique line from 1/3 of the inner margin to the costal margin before the apex, marginal area of the same colour as far as beyond the tornus, bordered inside by a curved line, the space between the two areas yellowish ochre, with a dark red cross-vein dot. Hindwing brownish ochre. Expanse of wings: 34 mm. New Guinea.

*B. bilineata* Sue. (88 b). Dark red-brown, prothorax lighter, forewing with a straight dark transverse bilineata. line more or less bordered with silvery white distally and accompanied by blackish shadows, extending from 1/3 of the inner margin to the centre of the costal margin, another similar line from 3/4 of the costal margin to the distal margin above the tornus, distally curved in the ♀. Hindwing red-brown. Anterior tibia with a silvery white terminal spot. Expanse of wings: 28—35 mm. Philippine Is.

*B. extincta* sp. n. (88 c) is intermediary between bilineata and angustipennis. Forewing short and broad, extincta. red-brown, with an almost extinct, straight dark median line not bordered with white, without a distal line, but with an indistinct marginal shadow below the apex. Hindwing and under surface dull red-brown. Body red-brown, with an orange dorsal line on the abdomen, an orange prothorax which is never so light orange as in angustipennis. Expanse of wings: 20 mm. Bougainville. ♀ type from Arawa in the Tring Museum.

*B. angustipennis* sp. n. (88 c) is smaller, wings mostly narrower than in extincta, interior transverse line less distinct, exterior line not at all bordered with silvery distally, more oblique. Expanse of wings: 28 mm. New Guinea. ♀ type from Port Constantin (Berlin State Museum).

*B. circulifera* sp. n. (88 c). Body dark brown, forewing purple brown to the centre, a purple blackish circulifera. transverse streak at the cross-vein. Beyond the lower cell-end we notice a large yellowish ochreous circular spot filled somewhat greyish towards the base, bordered towards the apex by a broad light red-brown band which narrows down towards the tornus. The margin is equably broad yellowish ochreous, fringe violet-brownish, Hindwing violet-brown, narrowly yellow at the distal and inner margins, fringe yellow, dark at the end. Under surface purple brown, with broad yellow margins. Expanse of wings: 27 mm. New Guinea. ♀ type from the Weyland Mts. (British Museum).

*B. rubrinixa* sp. n. (88 c). Body brownish ochre. Forewing brownish-red, indistinctly dusted over rubrinixa. with blackish purple as far as an oblique line from the apex to vein 2, so that only a broad marginal area narrowing down towards the apex remains of the ground-colour which is not distinctly defined. Hindwing and under surface dark reddish-grey. All the fringes with a distinct light yellow basal line. Expanse of wings: 14—20 mm. New Guinea. ♀ type from Mt. Goliath in the Tring Museum.

*B. plagioscia* Trnr. (= aspidophora Loiv.) (88 c). Body and forewing dark violettish-brown, the plagioscia. forewing with an oblique straight dark line bordered with light distally and extending from 1/2 of the inner margin to 3/4 of the costal margin, distally to it two dark shadowy spots before the apex and in the inner-marginal half. Hindwing dark grey. Expanse of wings: 22—28 mm. Australia.

*B. dinawa* B.-Bak. Body dark red-brown. Forewing red-brown with a pale, distally dark-edged dinawa. straight line from the centre of the inner margin to the costal margin before the apex; distally to it the wing is lighter pinkish-brown. Hindwing dark brown. Expanse of wings: 32 mm. New Guinea, August.

*B. ramosa* sp. n. (88 d). Thorax and forewing dark violet-brown, feebly powdered with bluish ramosa. silvery grey, a thick, sharply notched antemedian transverse band distally bordered with yellowish extends from the inner margin to the cell. Postmedian line begins at the costal margin shortly before the apex, projects in a sharp dent towards the upper third of the distal margin and extends, in a distally convex bow, to the inner margin before the tornus. The area between this bow and the notched antemedian line is lighter reddish-brown. Hindwing and under surface greyish-black. Expanse of wings: 16 mm. Bougainville. ♀ type from Arawa in the Tring Museum. — The ♀ is apparently allied to plagioscia (88 c), but as the ♀ is not before me, I cannot decide upon the position definitely.

58. Genus: **Limacosilla** gen. nov.

Antennae of ♀ shortly serrate-dentate, the dents nowhere longer than the antenna is thick. Palpi long upcurved, almost reaching to the vertex. Posterior tibiae with 2 pair of spurs. Forewing: 10 stalked with 8 + 9, 7 together with the stalk, or stalked, 11 arises basad to 2. Hindwing: posterior cell-angle projects little,
3 + 4 from the same basis, 6 + 7 on a short stalk. 8 remote from the anterior edge of the cell, connected with it by a cross-vein.

Type of genus: L. *pirifera* Her.

*L. pirifera* sp. n. (88 d). Forewing violettish reddish-brown, with a darker pear-shaped oblique spot on \( \frac{1}{3} \) of the inner margin, extending to the cell and edged with pale yellow; from its anterior portion a sometimes lighter oblique streak, which is always broadly bordered with dark towards the apex, extends to the tornus, the apex itself is somewhat lighter again. Hindwing dark grey. Expanse of wings: 17 mm. Borneo, Sumatra. \( \delta \) type from Pontianak (Berlin State Museum, paratypes in the British, Tring, and Stettin Museums).

59. Genus: *Bithamula* gen. nov.

Structurally near *Bithamoides*, posterior tibiae with 2 pair of spurs, antennae of \( \delta \) uniformly bipectinated to the ends. Forewing: 10 stalked with 8 + 9 after 7 (rarely arising before 7), 11 straight.

Type of genus: *B. chara* Swinh.

*B. chara* Swinh. (88 d). Very near to the following *diffusa*, although vein 10 of forewing may even arise separately. Forewing variable, brown mixed with blackish, often whitish at the inner margin, cross-vein with a black dot, the white apical area often with a blackish central spot. Expanse of wings: 18—24 mm. Common in Borneo in April, rare in Sumatra.

*B. diffusa* Warc. (88 d). 7 and 10 of forewing arise almost opposite each other. Forewing dusted with orange brown, the ochreous ground-colour projects before and behind the centre which is indistinctly dark violettish-grey, easily recognizable by the pale ochreous semicircular apical area which is jet-black in *f. nigro-apicalis* form. nov. (\( \delta \) from Khasis in the Tring Museum). Hindwing blackish-grey. All the fringes speckled yellow and brown. Expanse of wings: 30 mm. North India.

60. Genus: *Euphlycta* Sn.

Antennae of \( \delta \) not pectinate, palpi long, upcurved, terminal joint long and pointed. Posterior tibiae with 2 pair of spurs. Forewing: 7 stalked with 8—10, arising before 10, 11 straight, arising far basad. Hindwing: 6 + 7 stalked, 8 connected by cross-vein with the anterior edge of the cell near the base, then separated from it.

*E. erastria* Sn. (88 d). Body blackish-brown. Forewing somewhat reddish-brown basally, then dark brown, median band blackish, bordered basad at the inner margin by a whitish spot. Then follows a whitish postmedian line bordered with blackish on both sides, marginal area whitish, with black marginal dots. Hindwing blackish-grey. \( \delta \) lighter, marginal area more yellowish. Expanse of wings: 22—24 mm. — Larva light green above, light grey laterally. Head and anterior appendages orange. Dorsum with darker circular spots and small black sting-hairs; on the coffee-shrub. — Java.

61. Genus: *Euphlyctinides* gen. nov.

Antennae of \( \delta \) thickened and flattened, stalk of 8 + 9 of forewing not so long, 7 together with that stalk, or on a short stalk.

Type of genus: *E. rava* Her.

*E. rava* sp. n. (88 d). Forewing dark yellow, more or less olive brownish at the costal margin, a black broad, indistinctly defined oblique band from \( \frac{1}{3} \) of the costal margin to \( \frac{2}{3} \) of the inner margin, an indistinct row of dots, almost parallel to the margin, begins between the beginning of the oblique band and the apex. Hindwing yellowish-grey. All the fringes yellow. Expanse of wings: 23 mm. Darjeeling. \( \delta \) type in the Berlin State Museum (from the Coll. Atkinson).


Structurally very near to the preceding genus, antennae of \( \delta \) plain, cylindrical. Forewing: vein 11 arises far towards the margin, opposite 2, 8 + 9 are forked only shortly before the margin. Hindwing: 8 approximates the costal margin almost as far as the centre of the cell.

Type of genus: *E. phaeopasta* Hamp.

*E. phaeopasta* Hamp. Forewing very oblong, yellowish ochre, but densely dusted with blackish-brown, the yellow ground-colour only projects in an undulate yellow line from the posterior edge of the cell towards the inner margin before the centre, a costal-marginal spot at the apex and some marginal spots at the tornus, marginal line blackish at the apex. Hindwing dark grey. Fringe with a conspicuous yellow basal line. Expanse of wings: 20 mm. North India.
63. **Genus: Pseudodonauton gen. nov.**

It corresponds with the preceding genus, but 8 of hindwing deviates soon after the origin from the anterior edge of the cell, while 3 and 4 arise from the same point.

Type of genus: *P. admirabile* Her.

*P. admirabile* sp. n. (88 d). Thorax and basal third of forewing chestnut-brown, the latter distally *admirabile*, defined by a convex silvery line, pale brownish behind it, unnaturally lighter in the apical area, the apex itself with a narrow chestnut-brown crescent. Hindwing, abdomen, and under surface yellowish-grey. Expanse of wings: 14 mm. Malay Peninsula. *♀* type from Padang-Rengas (Tring Museum). It may be that *Idonauton nigrilabris* (p. 702) showing a smaller basal area without the silvery line and apical spot also belongs to this genus.

64. **Genus: Hydroclada Meyr.** *(Lasiolinacos B.-Bak.)*

Antennae of *♀* long bipectinated basally, palpi porrect, posterior tibia with 2 pair of spurs. Forewing: 7—10 stalked, 7 arises after 10, 11 straight. Hindwing: 6 + 7 stalked, 8 connected with the anterior edge of the cell near the base by a cross-vein, with numerous small cross-veins extending towards the lobately projecting costal margin. Near to the genus *Susica* (p. 706) in structure and habitus, easily separable by the very convex costal margin of the hindwing.

*H. antigona* Meyr. (= *pratti* B.-Bak.) (88 d). Fore wing pale yellowish, with a black central dot, behind *antigona*, which there is a brown oblique line from ¼ of the inner margin into a brown spot at the costal margin before the apex, from which a second subterminal line extends to the margin above the tornus, being somewhat broken above vein 4 and sometimes connected there with the oblique line by a dark longitudinal ray. A broad dark costal-marginal spot near the base; forewing of the fresh insect coarsely dusted with black. The oblique line is always more or less indistinct in some places, or more thickened at the inner margin, costal margin or cell. Hindwing from pale yellow to brownish, all the fringes (of fresh specimens) with deep black spots. Expanse of wings: 32—42 mm. New Guinea and adjacent islands, November till March.

*H. kenricki* B.-Bak. (88 e) is very similar to *antigona*, forewing often more reddish, well discernible by *kenricki*, a narrow transverse line at the base of the forewing; the oblique line is always uniformly fine, only thickened at the inner margin, the dark costal-marginal spot before the apex rather inconspicuous. Expanse of wings: 25—35 mm. New Guinea, Australia.

*H. ferruginea* B.-Bak. (= *Squamosa ferruginea* B.-Bak.) was evidently described by the same name in 2 genera. *Comuna eneropara* Trnr. may also belong to this place.

*H. nigriplaga* sp. n. (88 e). Thorax and head above dark grey, without a dark median line, abdomen *nigriplaga*, brownish-grey. Forewing pale yellowish, scantly dusted with dark, resembling *antigona*; but it lacks the two transverse stripes instead of which the space between them is filled with jet-black, crossed by the ground-colour above veins 4 and 7, so that 3 spots are produced decreasing greatly in size towards the costal margin. Central dot black; subbasal spot black, extended here to the base. Hindwing paler yellow. All the fringes with a row of black dots. Expanse of wings: 30 mm. New Britain, March and April, *♀* type from Talesca in the Tring Museum.

65. **Genus: Hypselolopha Trnr.**

Palpi moderately long, rising. Antenna of *♀* bipectinate in the basal half. Thorax with a large anterior and smaller posterior tuft. Posterior tibia with 2 pair of spurs. Forewing: 7—9 stalked, 10 from the same place or stalked. Hindwing: cell short, ¼ of the length of the wing, 6 + 7 stalked, 8 connected near the base with the anterior edge of the cell by a cross-vein.

*H. hypodrosa* Trnr. Head white, thorax whitish, dusted with brown, posterior tuft brown, abdomen *hypodosa*, brown. Forewing brown, base and centre of disc broadly dusted with whitish, with an irregular dark brown cross-vein spot. A line of whitish dusting at the margin is interrupted by the veins. Hindwing yellowish-white, brownish towards the margin. Expanse of wings: 28 mm. North Australia, in February.

66. **Genus: Praesusica gen. nov.**

Similar to *Susica* in structure, but the posterior angle of the cell in the hindwing projects little beyond the anterior angle towards the margin, the palpi do not project beyond the frontal tuft or but little, the antennae of the *♀* are pectinated moderately long and the pectinations gradually pass over into serrate dents from the middle of the antenna. Forewing: vein 10 is separated from the stalked 7—9 and arises freely from the cell as in *Susica*. Hindwing: 8 connected with the anterior edge of the cell by a cross-vein.

Type of genus: *P. placerodes* Trnr.
Placoderes,\(^{(90~f)}\) Body greyish-brown, tibiae and tarsi of prolegs with snow-white spots at the ends. Forewing whitish-grey, strewed with blackish scales, with an oblique brown line from \(\frac{1}{3}\) of the inner margin to \(\frac{2}{3}\) of the costal margin, extending through a whitish area in the \(\phi\), distally bordered with white in the \(\varphi\). Apical area greyish-brown in the \(\varphi\), whitish in the \(\phi\), rectilinearly defined inside. Hindwing pale grey. Expanse of wings: 48—60 mm. North Queensland, March-April.


Likewise allied with Susica, the posterior cell-angle of the hindwing projects scarcely, palpi projecting considerably beyond the frontal tuft, otherwise as the preceding genus.

Ferruginea.\(^{(88~e)}\) Forewing variegatedly rusty red, the marginal area is bordered by a violetish-brown subterminal line, which is very convex basad and strongly widened towards the centre of the wing, and exhibits traces of a more ochreous ground-colour with darker veins. At the cross-vein there is a hyaline spot which is continued in a curved row of hyaline spots to \(\frac{2}{5}\) of the inner margin, the hyaline spots being sometimes yellowish. Hindwing pinkish-white, rust-coloured towards the margin, the dark red cross-vein dot being particularly distinct beneath, by which the species is easily discernible. Expanse of wings: 30—35 mm. New Guinea.

Ocellata.\(^{(88~e)}\) Forewing brown, lighter towards the margin, with a fine black subterminal line which bears a dent at vein 8 towards the base. Between 1 c and 6, on the outside of the cell, there is an ocellus of a dull lustrous blue inside, purple brown outside, with a light centre and crossed by a golden transverse line. Hindwing from brown to grey. \(\phi\) paler. Expanse of wings: 30—45 mm. India. — Thorax with projecting hairs, the other structure similar to that of ferruginea.

68. Genus: Susica Wkr. (Tadema Wkr.)

Antenna of \(\varphi\) very long bipectinated almost to the end, then suddenly bare. Palpi projecting beyond the frontal tuft, extremely long in the \(\varphi\) as in Hyphorma. Posterior tibiae with two pair of spurs. Forewing: 7—9 stalked, 10 separated from that stalk arises freely from the cell, discocellular vein bifurcated. Hindwing: 6 + 7 stalked, 8 connected with the anterior edge of the cell before the middle by a cross-vein, posterior angle of the cell projects very far towards the margin beyond the anterior angle. Thorax with a high tuft between the tegulae. The forms described as species may be only races of 1 or 2 species.

Pallida.\(^{(88~e)}\) Forewing light brown, with a brown oblique line before the apex towards the inner margin near the base, a dark streak on the cross-vein, somewhat nearer to the apex there is a subterminal line projecting basad below the costal margin and vanishing towards the tornus, a black dot near the centre of the interior line between both. Hindwing blackish-brown. A silvery longitudinal streak is often on 1 a and 2 of the forewing. Expanse of wings: 25—40 mm. India.

Flaviceps.\(^{(88~e)}\) Forewing variegatedly rusty red, the marginal area is bordered by a subterminal line projecting basad below the costal margin and vanishing towards the tornus, a black dot near the centre of the interior line between both. Hindwing blackish-brown. A silvery longitudinal streak is often on 1 a and 2 of the forewing. Expanse of wings: 25—40 mm. Assam.

Sinensis.\(^{(88~e)}\) Forewing very lustrous light brown, with a brown dorsal streak, a much less distinct transverse line, the area between them lustrous, ground-colour more reddish-brown. Hindwing red-brown with a slight pink tinge. Expanse of wings: 34—40 mm. Assam.

Formosana.\(^{(88~e)}\) Forewing almost uni-coloured blackish-brown, the dark two transverse lines are lighter here. Central dot not visible. Expanse of wings: 30—40 mm. Formosa, common.

Fusca.\(^{(88~e)}\) Forewing almost uni-coloured blackish-brown, the dark two transverse lines are lighter here. Central dot not visible. Expanse of wings: 30 mm. Formosa. I saw only one specimen which was taken together with specimens of formosana.

Malayana.\(^{(88~e)}\) Forewing dark violetish-brown, more yellowish only at the inner margin. Interior transverse line mostly quite indistinct. Hindwing ochreous. Expanse of wings: 25—35 mm. — Larva green, with a bluish-green dorsal line edged with orange and forming one spot in front and two spots behind; it lives on species of Musa. Java, Borneo, Sumatra.
S. nigricana sp. n. (88 f). Near malayana, but instead of the interior transverse line of the forewing a nigricana, violet-tipped black transverse band strongly widened towards the inner margin. Expans of wings: 25—26 mm. $ type from Soekaranda, Sumatra (in the Stettin Museum), paratypes from Borneo and Malacca in the British Museum.

S. pygmea sp. n. (88 f). The forewing not forming a dent below the costal margin, but being fine and almost parallel to the margin. Interior oblique line connected with the central dot. Forewing brownish ochre, scantily dusted with brown, more densely so only at the base. Hindwing dark grey, fringes ochreous. Under surface ochreous, forewing with a blackish tinge towards the base. Expans of wings: 20 mm. $ type from Lower Burma (Tring Museum). — The similar Hyphorna sericea (87 i) which may belong to this species has longer palpi and a subterminal line which is posteriorly more convergent with the margin.

S. hyphorma sp. n. (88 f) is near pygmea, palpi longer also in the $, three times the diameter of the hyphorma. Eye, submarginal line quite straight, extending to the margin at the end of vein 2, marginal area behind it with a slight grey shine. Expans of wings: 22 mm. Kwang-tung, taken by Dr. MELL in May and June. $ type from Gao-fung (Berlin State Museum).

69. Genus: Comanula gen. nov.

Very near to the following genus, but 8 of hindwing is connected with the anterior edge of the cell at or behind the middle by a cross-vein, 10 of forewing arises separated from 7—9, the posterior angle of the cell does not project. Antenna of $ shortly pectinated almost to the end. Type of genus: C. bipunctata Her.

C. bipunctata sp. n. (88 f). Reddish ochreous, forewing with one black dot each in the centre of 1 b bipunctata, and on 2 right after its origin. Hindwing somewhat paler. Expans of wings: 23 mm. South Australia. $ type from Eureke (Tring Museum). — It may be that also Comana lioarca LOW. belongs to this genus.

70. Genus: Comana Wkr. (Monopala Meyr., Hikala SWH., Mecytha WKR.)

It likewise belongs near the genus of Susica, vein 8 of hindwing being connected with the anterior edge of the cell by a cross-vein. In distinction from the preceding genera, vein 10 of forewing arises together with the stalk of 7—9 from the same place, or stalked with it, the posterior angle of the cell is projecting. Antenna of $ pectinated only to the middle and less long than in Susica.

1. Forewing with a red tint or colouring.

C. resplendens Trnr. Head red. Thorax grey, with red longitudinal lines, abdomen greyish-white, resplendens. Forewing grey, with light red longitudinal stripes, the costal-marginal stripe sometimes fused with the subcostal stripe, extending to the apex. The stripe on the posterior end of the cell is widened towards the end of the cell, a fine stripe above it. A stripe on 1 c as far as the tornus, widened in the middle towards the inner margin, then interrupted; a series of short internerval streaks beyond the cell, terminal line red. Somewhat blackish dusting in the centre of the inner margin, indicating an oblique line. Hindwing pale red. Expans of wings: 32—34 mm. Separated from miltoagramma by longer palpi, red head, the absence of an ochreous tinge in the wing and fringe and rather complete absence of blackish lines, as well as by the whitish abdomen. North Australia.

C. miltoagramma Meyr. (= rosea Luc., minuacea Swh.) (88 g). Head brownish ochreous, body brownish, more or less mixed with red. Forewing, veins dusted with ochre or with blackish, blackish longitudinal stripes near the base, with 2 blackish transverse stripes, beyond the centre and before the margin. Hindwing and under surface red. All the fringes yellow. Expans of wings: 22—32 mm. North Australia.

C. cosmocalla LOW. (88 g). Forewing grey or greyish-whitish, tinged with pink, more red on the margins cosmocalla and chief veins, with a blackish slightly curved streak from the centre of the inner margin almost to the apex. Abdomen and hindwing whitish, hindwing of $ pink towards the margin. Expans of wings: 35—40 mm. Queensland.

C. miltoosma Trnr. (88 f). Frons, palpi and forelegs red, thorax grey, abdomen white. Forewing grey, miltoosma, costal margin red, in some places also the veins and distal margin red. Hindwing and most of the under surface white. Expans of wings: 35—40 mm. Queensland.

C. coronis F. has not yet been identified, but it must be similar to miltoosma. Forewing ash-grey, coronis, distal margin red, but hindwing white, with a blackish posterior stripe. Australia; it has remained unknown to me.

2. Forewing white.

C. collarin Wkr. (88 f). White, tibiae and tarsi ochreous, dotted black, palpi, antennae and the posterior collarin, part of the collar ochreous, more or less mixed with dark brown. Wings white above and beneath. Expans of wings: 36—45 mm. Australia.
3. Forewing differently coloured.

**C. mjoebergi** Anr. (88 g). Forewing yellowish-white, scales more roughened than in *collaris*, but with a more intense gloss, a slightly darker yellow, somewhat curved oblique line from the centre of the inner margin to the costal margin before the apex. Hindwing paler. Body pale ochreous, tegulae somewhat whitish. Expanse of wings: 30—40 mm. Australia. (Vein 10 of the ♀ type is separated from the stalk of 7—9!)

**C. humeralis** Wkr. (= albibasis Wkr., albiplaga v. Eecke) (88 f). Body brown, legs partly blackish. Forewing from ash-grey to brown, with a milky white costal-marginal streak at the base. Hindwing and under surface paler brownish. The white, extremely scanty dusting of the forewing is sometimes condensed at the margin and forms white dots, and the costal-marginal stripe at the base may be reduced to a dot. Expanse of wings: 40—52 mm. Australia.


**C. brunneipennis** sp. n. (88 g). Thorax and forewing unicoloured brown; abdomen, hindwing and under surface unicoloured light ochre. Antenna pectinated almost to the apex, gradually decreasing, posterior angle of cell on forewing project very much. Expanse of wings: 33 mm. Onamis. ♀ type in the Tring Museum.

**C. inexpectata** sp. n. (88 g). Forewing chiefly pinkish-brown on the ochreous ground, sometimes with a dark oblique line from the centre of the inner margin to the costal margin before the apex (♂) or with pale yellowish marginal spots (♀). Hindwing ochreous, red-brown in the ♀. Under surface and body brownish, lighter in the ♀. Expanse of wings: 34—36 mm. North Australia, in January. ♀, ♀ types from Groote Eylandt in the British Museum.

**C. liosarca** Low. Body brownish ochre. Forewing narrow, half-oval, costal margin almost straight, 10 is separated here from 7—9. Ground-colour brownish ochre or orange-brown, generally with some blackish scales indicating a curved line below and beyond the disc and sometimes forming a subdorsal and subapical dot. Hindwing paler. Expanse of wings: 26—30 mm. Australia. It may belong to *Cowania*.


**C. infrequens** Scott (88 g). ♀ forewing histrionic brown, with a black cross-vein dot from which a narrow white dentate transverse stripe extends obliquely to the inner margin, the costal-marginal half from there to the base white; the dark part of the wing is undulated crossed by darker transverse lines. Hindwing greyish-brown. ♀ greyish-brown, with a more whitish straight oblique stripe from the inner margin near the base to the costal margin beyond the middle, marginal area and base dusted somewhat whitish. Expanse of wings: 30—40 mm. — Larva green, with 3 darker longitudinal lines and very tiny bristles, on Podocarpus, Elaeodendron, and Scolopia. Australia. It is questionable whether it belongs to this genus.

**C. fasciata** Wkr. (= semicana Wkr., xylomeli Scott) (88 h). Thorax and forewing brown, mixed with whitish, forewing chiefly whitish in the marginal quarter and often at the inner margin, bordered inside by a blackish dentate transverse line, another similar line extends through the whitish marginal area. Hindwing whitish, with a darker longitudinal line at the margin, abdomen blackish, white at the end. Under surface black, margins whitish. Expanse of wings: 32—38 mm. — Larva green, with a blue dorsal line parted by yellow, and green appendages; on Xylomelum and Banksia. Australia.

**C. eurypara** Trnr. Reddish-brown, anterior tibia with a white terminal spot, antenna with a white basal tuft. Forewing with 2 pale whitish-brown lines, the interior one straight from 1/4 of the inner margin almost to the centre of the costal margin, the distal one from 4/5 of the costal margin to the distal margin above the tornus, slightly excurred. Some light dusting distally to the interior line. Hindwing pale brown. Expanse of wings: 36 mm. North Australia, in November. (It may be a species of *Hydroclada*.)

71. Genus: **Contheyla** Wkr.

Antenna of ♀ pectinated to the apex, palpi moderately long, somewhat appressed. Posterior tibia with 2 pair of spurs. Forewing: 7—9 stalked. Hindwing: 6 + 7 on a very long stalk, 8 connected near the base with the anterior edge of the cell. — Several of the species described here, which I could not examine, may belong to other genera.

**C. vestita** Wkr. (88 h). Head and thorax blackish-brown. Forewing smoky blackish, a pale costal-marginal spot at the cell-end. Apical area light grey, with a narrowing continuation to the tornus, a large grey inner-marginal spot before the tornus. Hindwing and abdomen ochre, dusted with greyish. ♀ paler. Expanse of wings: 34 mm. North India.

**C. tenuis** sp. n. (88 h). Greyish-brown, forewing coarsely dusted, with a scarcely darker postmedian line which is distally narrowly bordered with pale and very much excurred from 2/5 of the costal margin to vein 5,
whereupon it extends to the inner margin almost parallel to the margin. Fringe yellow basally. Hindwing pale yellow. Expanse of wings: 22 mm. South India. \( \delta \) type from Palni Hills in the British Museum. — The species is remarkably slim, the antennae are longer pectinated, 8 of hindwing is connected with the anterior edge of the cell at its centre, it resembles Macroplectra, but 7 is stalked with 8—10 and arises after 10.

**C. propexa** Swh. Pale brown, dusted with blackish. Forewing pale brown, with a black dot beyond propexa. the lower cell-end, an oblong blackish median streak from the posterior edge of the cell to vein 1 b, and a blackish slanting line from the apex to vein 5, a dot at the tornus. Hindwing blackish-grey. Expanse of wings: 24 mm. India.

**C. melanosticta** Hmps. \( \delta \) body reddish ochre, tegulae black. Forewing ochreous, with irregular broad black longitudinal stripes from the base to the tegulae below the cell; a black preapical spot with an undulate distal edge, the margin with black dots. Hindwing pale blackish-grey, fringe ochreous. \( \varphi \) tegulae ochreous, the black markings of the forewing reduced. Expanse of wings: 23 mm. North India.

**C. rotunda** Hmps. Greyish-brown, forewing dusted slightly darker, with a row of black dots from the costal margin beyond the centre, excurred as far as vein 6, then subterminal. Hindwing slightly darker. Fringe with a yellow basal line. Expanse of wings: 16—20 mm. Kanara. It resembles *Spatalijsinbria* (p. 719).

**C. pratti** B.-Bak. (88 h). Dark red-brown, forewing with a dark submarginal transverse line which is pratti, introangual in the middle, the broad marginal line beyond it is light brown, two dark dots above each other are below the cell above the centre of the inner margin. Expanse of wings: 46 mm. New Guinea, in August.

**C. lola** Swh. Body and basal half of forewing red-brown, forewing distally bordered by a pale oblique *lola*, band of pale grey-centred spots, margin also with a pale grey band. Hindwing red-brown. Both wings with an ochreous marginal line and fringe. Expanse of wings: 23 mm. Borneo.

**C. ekeikei** B.-Bak. Reddish-brown, forewing with a small dark dot at the cell-end, followed by a slanting *ekeikei*, dark stripe, hindwing paler. Expanse of wings: 32 mm. New Guinea, March and April. — It may be identical with *Thosea monoloncha* (89 a).

**C. brunnea** Swh. Dark olive brown, forewing densely dusted with black, but the costal and distal *brunnea*, margins paler and somewhat ochreous. Hindwing blackish, distal margin pale ochreous. Under surface paler. Forewing with ochreous margins, so that a long black triangle remains in the centre. Expanse of wings: 23 mm. Borneo.

**72. Genus: Iragoides gen. nov.**

Antenna of \( \delta \) with but one row of short pectinations. Palpi short, porrect, terminal joint pendent. Hind tibia with two pair of spurs. Forewing very pointed, 7 stalked with 8 + 9, 10 from the same basis, 6 nearer to 7. Hindwing: 6 + 7 stalked, 8 anastomoses with the anterior edge of the cell near the base, posterior angle of cell slightly produced. Type of genus: *I. crispa* Swh.

**I. crispa** Swh. (88 h). Body red-brown, with an orange-red median line. Forewing red-brown, appearing crispa, rugged, with a violetish-grey straight oblique band from \( \frac{1}{4} \) of the inner margin to the costal margin before the apex, a similar inconspicuous line at the margin, proceeding from the apex. Hindwing grey. Expanse of wings: 30—35 mm. India. — It is very similar to *Iraga rugosa* Wil. (86 g).

**I. nilgirica** Hmps. (88 h). Body brown, the dark oblique line of the forewing blacker and more slanting, nilgirica, without the dark marginal stripe, but with a lighter brown almost straight submarginal line. Expanse of wings: 38 mm. Nilgiris.

**I. elongata** sp. n. (90 f). Likewise similar to *crispa*, forewing somewhat more elongated, lighter violetish- *elongata*, brown, smoother, without an oblique line. An indistinct dark dot at the cell-end, traces of a proximally convex subapical band. Hindwing reddish-brown, more yellowish ochreous towards the costal margin. Body coloured as in *crispa*, also the silvery spots of the prolegs at the end of the hips, femora and tibiae are present. Expanse of wings: 36 mm. Upper Burma. \( \delta \) type from Hkamkawn, 4000 ft. (British Museum).

**I. fasciata** Mr. The dark brown basal area of the forewing is almost vertically cut off, then follows a *fasciata*, bluish-grey transverse band, then a dark median shadow, then again a light space; subterminal line dark, straight, marginal area bluish-grey. Central dot indistinctly darker. Expanse of wings: 22—34 mm. India, China, Formosa. It resembles certain species of *Thosea*, but the \( \delta \) antenna has one row of pectinations only.

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ECNOMOCTENA; SETORA. By Dr. M. Hering.

I. taiwana Wil. Very similar to melli (88 i); forewing red-brown, with a dull white silvery oblique line from the apex to the centre of the inner margin, a dull coppery submarginal band only leaves a narrow purple brown marginal area. Hindwing brown. Expanse of wings: 22 mm. Formosa. The South-Chinese race: — uniformis. uniformis sp. n. is larger (27 mm), darker, with very faded markings and a hardly visible white oblique line. Hindwing blackish-brown. ♂ type from Lung-tao-shan, taken by Dr. Mell on the lantern on March 31st (Berlin State Museum).

melli. I. melli sp. n. (88 i) differs from tawiana in the dull white oblique line at the costal margin terminating more remote from the apex at the costal margin. Correspondingly, the coppery band which projects more sharply opposite the cell is more remote from the apex at the costal margin, so that the marginal area widens there. The ♀ has a more irregular dull white oblique line, and the ground-colour of the wing is more coarsely scaled, whereby it resembles crispa. Expanse of wings: 22—24 mm. Kwang-tung. July-September. ♂, ♀ types taken by Dr. Mell on the lantern near Malm-tsi-shan (Berlin State Museum).

73. Genus: Ecnomoctena Trfr.

Antenna of ♂ likewise with one row of pectinations, palpi moderately long, porrect, posterior tibia with 2 pair of spurs. Discocellular vein of forewing bifurcated, 7—9 stalked, 10 separated from it. Hindwing: 6 + 7 stalked, 8 anastomoses with the anterior edge of the cell near the base. Chiefly separated from the preceding genus by the isolated vein 10 of the forewing and the forked discocellular vein, and by the posterior cell-angle of the hindwing projecting strongly towards the margin.

brachyopa. E. brachyopa Lot. (88 i). Thorax and basal two thirds of forewing brown, the latter distally defined by a dark brown transverse line which is suddenly strongly broken basad below the cell-end and then proceeds dentately to the inner margin. Apical third grey, more or less dusted whitish, parted by a grey dentate sub-terminal line. Cross-vein with a dark brown ring filled with a lighter colour. Hindwing red-brown. — In grisea. f. grisea Aur. the forewing is monotonously purely grey, with the same darker grey markings, only the ring at the cell-end is reddish-brown. Expanse of wings: 18—24 mm. Australia.

hemitoma. E. hemitoma Trfr. (88 i). Reddish-brown, forewing with a broad white transverse line from the centre of the inner margin to the cell. Hindwing pale brown. The ♀ which has not yet been described hitherto exhibits the white transverse line edged with black inside, with a pale dentate submarginal transverse line which is bordered inside by a broad blackish band. (♀ type from Pt. Darwin, Berlin State Museum). Expanse of wings: 26 mm. North Australia, in November.

74. Genus: Setora Wkr.

Antenna of ♂ basally long bipectinate, palpi moderately long, projecting, hind tibia with two pair of spurs. Forewing: 7—10 stalked or arising from the same basis, 7 arises after 10, 11 straight. Hindwing: cell-angle projecting little behind, 6 + 7 stalked, 8 anastomoses with the anterior edge of the cell near the base.

nitens. S. nitens Wkr. (= cupreiplaga, cupreistriga, rudis Wkr.) (88 i). An easily recognizable species. Forewing and body from brown to violetish-grey, with a dark somewhat curved transverse line distally bordered with light, from 1/5 of the inner margin to 2/3 of the costal margin, from where an irregular lustrous coppery band extends to the inner margin, apical area mostly lighter, apex parted by a dark oblique line. Expanse of wings: 26—46 mm. — Larva varying in colour from greenish-yellow to red-brown, with blue, distally yellow-edged dorsal spots and yellow lateral oblique streaks which are edged with black or orange, with 2 large brown tufts of bristles each in front and behind, and smaller light ones between them, polyphagous, doing great harm to cultivated plants (coffee, tea, banana, etc.). The cocoon is sometimes deposited in the soil. Common in the Indo-Malay regions, but it also penetrates into the south-east of the palaearctic region.

subrecta. S. subrecta sp. n. (90 f, g) is very similar to nitens (88 i), but the exterior line of the forewing is much more slanting, for which reason the two lines do not meet at the costal margin, but remain separated, the copper-brown spot beyond the second line is distinctly defined, narrower, with dark veins, ground-colour mostly more monotonously red-brown. Expanse of wings: 36 mm. ♀ type from Ht. Birmanie in the Berlin State Museum. A ♀ taken by Dr. Mell near Liu-ping (Kwang-tung) may also belong to this species, but the post- median line is somewhat nearer to the first line. It it should prove to be a representative of a separate sub.

kwangtungensis. kwangtungensis subsp. nov.

postornata. S. postornata Hmps. (= sinensis Mr.) (88 i) is also very similar to nitens, the second transverse line of the forewing is here also more slanting, the coppery border distally to it is feebler and indistinct, but expanded at the tornus into a distinct trapezoid spot. The ground-colour of the forewing is grey in the nomenclatural form, without reddish dusting, whilst in f. hampsoni Stndl. it is suffused with reddish-brown. Expanse of wings: 30—35 mm. West China, India.
75. Genus: **Praesetora** gen. nov.

Separated from *Setora* and *Thosea* by vein 10 of the forewing arising somewhat separated from the stalk of 7-9, the anterior angle of the cell projecting a little, vein 11 being straight. Hindwing: 6 + 7 stalked, 8 anastomoses with the anterior edge of the cell near the base, posterior angle of cell projecting little. Antenna of \( \delta \) long bipecinate in the basal half, then suddenly bare. Hind tibia with 2 pair of spurs.

Type of genus: *P. divergens* Mr.

**P. divergens** Mr. (= *divaricata* Mr.). Red-brown, rarely more greyish-brown. An almost straight dark transverse line extends from \( \frac{3}{4} \) of the costal margin of the forewing to the tornus, another line somewhat convex towards the tornus extends to the inner margin before the middle. Expanses of wings: 30—36 mm. North India. — The Malay race: *albitermina* subsp. nov. (88 i) is always smaller, the interior transverse line is inclined to disappear, the exterior one is distally bordered with whitish, the whole marginal area distally to it is often dusted with whitish. Expanses of wings: 22—30 mm. Malacca to Borneo. \( \delta \), \( \varphi \) types from Kina-Balu (Berlin State Museum). — *kwangtungensis* subsp. nov. is more different; the colouring is light brown, with hardly any red tinge, the transverse stripes are distally bordered only narrowly with whitish. Expanses of wings: up to 26 mm. South China, in 2 generations at the beginning of June and at the end of August. \( \delta \) type taken by Dr. Mell on the lantern near Lung-tao-shan (Berlin State Museum).

76. Genus: **Thosea** Wkr. (incl. *Autocopa* Meyr.)

It corresponds with the preceding genera in vein 8 of the hindwing anastomosing with the anterior edge of the cell near the base. Forewing: 7—9 stalked, 10 together with this stalk from the same basis, or stalked, rarely separated. The posterior angle of the cell projects a little towards the margin, that of the hindwing but little. The \( \delta \) antenna shows short double pectinations gradually shortening towards the apex.

A group of rather monotonously coloured species. I had no access to the description of *Th. bicolor* Skir. from Formosa.


**Th. magna** sp. n. (88 k). Forewing light grey, with a dark grey narrow transverse line from the costal margin before the apex almost parallel to the distal margin to the inner margin. Beyond it, between veins 2 and 5, indistinct dark dusting. Cell-end spot black, remarkably large. A narrow blackish shadowy band from the origin of vein 2, projecting below vein 2 in a dent towards the distal margin, to \( \frac{3}{4} \) of the inner margin. Hindwing dark grey. Expanses of wings: 45 mm. Khasis. \( \delta \) type in the Tring Museum.

**Th. sinensis** Wkr. (= *taiwana* Shiraki) (88 k). Forewing bluish brownish-grey to whitish-grey, scantily *sinensis*, dusted with blackish, with a brown almost straight transverse stripe which is but little posteriorly divergent with the margin, extending from the costal margin before the apex to the inner margin before the middle, cross-
Th. borneensis. Formosa. — **borneensis** subsp. nov. has a light reddish-brown ground-colour dusted lilac grey in the basal half. It is separable from the similar *loesa* (88 k) by the abdomen projecting far beyond the hindwing. Borneo. 

Th. rara Sieb. (88 k) is very similar to *sinensis*, the transverse line of the forewing parallel to the margin, bordered with whitish inside, more intensely shaded dark outside in the marginal area. Central dot indistinct or absent. It seems to be doubtful whether it belongs to *sinensis* or not, both living in the same districts, though *rara* goes as far as China. Expanse of wings: 30—38 mm, mostly somewhat, smaller than *sinensis*. 

India, South and North China.

**unifascia.**

Th. unifascia Wkr. Like *sinensis* (88 k), but the ground-colour of the forewing is red-brown instead of grey. Expanse of wings: 36—40 mm. India.

**loesa.**

Th. **loesa** Mr. (88 k) is likewise very similar to *sinensis*, forewing red-brown, but the dark transverse line is somewhat nearer to the central dot and originates somewhat farther based on the forewing. (Our figure has been made according to an original sketch by Moore.) Expanse of wings: 30—40 mm. An oblique violetish-grey shadowy band is sometimes in the centre of the inner margin of the forewing. — Larva green, with a white or yellow dorsal line and numerous green, red-spined appendages; it lives on a great number of cultivated plants. 

India to Mado. 

**cervina.**

Th. cervina Mr. (89 a). Forewing very dark red-brown, basal half somewhat darker, central dot rather inconspicuous. The dark transverse line is feebly bordered with a lighter colour distally and extends in a basally convex bow from the costal margin near the apex to the tornus. Hindwing dark brown. Under surface light brown, scantly dusted with black. Expanse of wings: 28 mm. — Larva green, with a purple dorsal line which is expanded in the middle into two large brownish-yellow spots, one of which is bordered with red, polyphagous. 

India. Ceylon.

**duplexa.**

Th. **duplexa** Mr. (89 a) is very much like *cervina*, forewing more greyish, transverse line somewhat more convex, central spot larger, distinctly black. Both sexes before me. Expanse of wings: 26—35 mm. Ceylon.

**conspersa.**

Th. (?) **conspersa** Btlr. Whitish-brown, forewing finely dusted with dark brown, a spot in the cell and a larger one at the cell-end, a submarginal curved line of fused black dots, apical margin blackish. Hindwing whitish, costal margin dusted with brown. Expanse of wings: 15 mm. Formosa. It has not been before me and may not belong to this genus.

**curvinervis.**

Th. **curvinervis** sp. n. (89 a) strikingly resembles Th. *monoloncha*, but vein 11 of the forewing is bent towards 12. Smaller than *monoloncha* (89 a). Apex of forewing somewhat more rounded. Forewing variable, from light to dark violet-grey, with an almost straight dark transverse line which is bordered with light inside and is posteriorly somewhat less divergent with the margin than in *monoloncha*. Hindwing from yellowish ochre to blackish-grey. Expanse of wings: 20—22 mm. (9 type from the Aroa R., New Guinea (Tring Museum), also New Ireland and New Hanover.

**penthima.**

Th. **penthima** Trnc. (= *pyrrhoea* Low.) (89 a). Forewing red-brown, the central third from more or less violet-grey to whitish, central dot present or absent; the dark transverse line behind it is bordered with light inside and almost parallel to the margin, slightly convex distally. Hindwing red-brown. Expanse of wings: 24—34 mm. — Larva on Careya australis. Australia.

**monoloncha.** Meyr. (= *axiothea* Hulst) (89 a). Very similar to *penthima*, very variable. Forewing from red-brown to dark violet-grey, basal third less prominent. — In f. *nigrolascata* form, nov. the forewing exhibits a jet-black median band which is terminated by a whitish narrow transverse line distally bordered with dark (9 type from the Kumusi River, in the Tring Museum); — in *nigribas* form, nov. the whole basal two thirds are jet-black, whereby the species resembles the following *caliginosa* (9 type from the Astrolabe River, British Museum). Expanse of wings: 26—35 mm. New Guinea.

**caliginosa.**

Th. *caliginosa* sp. n. (89 a). The basal two thirds of the forewing are purple blackish, not bordered by light lines as in *nigribas*, the marginal third brownish ochreous, with a diffuse blackish spot between veins 2 and 5, hindwing and under surface brownish ochreous. Expanse of wings: 34 mm. Ambon. (9 type in the Berlin State Museum.)

**fluxa.**

Th. **fluxa** Sn. (89 b). Forewing brown, with a black central dot and a blackish oblique shadow in the centre of the inner margin. The transverse line is at first somewhat convex below the costal margin, then straight to the inner margin before the tornus, distinctly bordered with brown outside, more diffusely blackish inside. Dusted with black in the centre of the marginal area on the veins 3—5. The transverse line of the 9 is only dark. Expanse of wings: 30—33 mm. Java.

**asigna.**

Th. **asigna** v. Eecke (89 b). Similar to *fluxa*, larger, transverse line farther basad, pale, diffusely bordered with blackish outside, straight. Marginal area without black dusting, but all the veins in it lighter. Expanse of wings: 35—42 mm. Sumatra, Borneo.

**sylphoffi.**

Th. **sylphoffi** Sn. Body and forewing whitish-grey, forewing with 2 fused indistinct brownish-grey antemedian spots, without the cross-vein dot. Transverse line very broad (1 mm), bordered by a white line inside, distal margin somewhat whitish. Hindwing light grey. Expanse of wings: 27 mm. Java. It was not before me.
Th. obliquistriga sp. n. (89 b). Forewing dark brownish-grey, with an indistinct dark central dot; a very oblique straight blackish line narrowly bordered with light inside extends from the costal margin before the apex to the centre of the inner margin. Hindwing somewhat lighter grey. Anterior Tibia with a silvery white spot at the end. Expanse of wings: 32 mm. Reported from Cochinchina, but this habitat seems to me to be doubtful. ♂ and ♀ types in the Berlin State Museum.

Th. curvistriga sp. n. (89 b). Similar to obliquistriga, forewing browner, the oblique line as in the preceding species, but convex towards the margin, the costal margin of the forewing straighter. Expanse of wings: 25 mm. South China. ♂ type from Mahu-wei-shan (Dr. Mella, Berlin State Museum).

Th. lateritia sp. n. (89 b). Forewing reddish-brown like the body, with a black central dot and a straight subterminal line from the costal margin before the apex to the tornus. Hindwing blackish-grey. Fringe indistinctly traversed by light. Under surface reddish-brown. Expanse of wings: 17 mm. Penang. ♂ type in the Tring Museum. — Separated from the similar bisuroides (89 c) by a straight subterminal line.

Th. vetusta Wkr. (89 c). Forewing dark violet-brown, with a silvery white line which is basally convex and extends from the apex to the inner margin before the middle, bordered with whitish towards the base, a whitish crescentiform spot below the apex, central dot black. Hindwing blackish-brown. Expanse of wings: 28—35 mm. From Malacca to Borneo. The following species was hitherto regarded as the ♀; in the British Museum, however, there is a ♀ from Sarawak, which corresponds entirely with the ♂, though the central dot of the forewing is absent, which, however, occurs also in the ♀. Unless there be a dimorphism of the ♀, the following form may be considered a distinct species.

Th. biguttata Wkr. (89 c). Oblique line of the forewing as in vetusta, straighter, the space from it to the base uniformly whitish-grey, the whitish-grey marginal area extends to the tornus, central spot black, very large, hindwing light grey. Expanse of wings: 30—35 mm. Java to Borneo. I have not yet seen any ♀ of the species.

Th. bisuroides sp. n. (89 c). Similar to Th. bisura, but smaller. Pectinations of ♀ antenna very much shortened on one side, whereby the species forms a transition to Iragoides (p. 709). Red-brown, the basal two thirds of the forewing more or less black, only light at the inner margin, with a black subterminal line ending at the tornus. Expanse of wings: 18 mm. South China. ♂ type from Canton; ♀ type from Wang-shan, taken by Dr. Mella in June and September (Berlin State Museum).

Th. castanea Wil. Reddish-brown; forewing somewhat darker towards the base, a dark diffuse transverse line from the costal margin before the apex slightly curved to the margin at vein 2. Expanse of wings: 23—25 mm. Formosa, in July.

Th. imitabilis sp. n. (89 c). Similar to Th. cana (89 c), the interior transverse stripe of the forewing more oblique, the exterior one quite straight. From light grey to dark grey, with an oblique dark transverse line from ¼ of the inner margin to the centre of the costal margin and a straight transverse line from the costal margin before the apex to the tornus. Hindwing grey. Expanse of wings: 24 mm. India. ♂ type from Pedong (Sikkim) (Berlin State Museum), paratypes from Darjeeling and Sikkim in the Tring and British Museums.

Th. ferreogrisea Hmps. (89 a). Iron-coloured grey, mixed with brown, forewing iron-grey, with a blackish subbasal and antemedian line, both connected by dark longitudinal rays, a black cross-vein dot and a black submarginal line as far as vein 2, dark shading below the cell and at the margin. Hindwing grey. Expanse of wings: 24 mm. Ceylon.

Th. recta Hmps. (90 g) differs from ferreogrisea in the basal area of the forewing (except a longitudinal recta stripe below the costal margin) being dark brown, the costal margin mottled dark brown almost to the apex, a dark central dot, submarginal line and marginal shadow absent, the shadowy spot below the cell-end large, widened to the tornus. Hindwing unicoloured dark grey, fringe not speckled. Expanse of wings: 21—25 mm. Ceylon.

Th. cana Wkr. (= transversata Wkr.) (89 c). Body and forewing brownish ash-grey; basal third defined cana, by a dark somewhat oblique line which is distally bordered with light and does not reach the costal margin, a brownish almost straight transverse line from the costal margin before the apex to the tornus, marginal area behind it more ash-grey. Hindwing grey. Expanse of wings: 25—30 mm. — Larva green, with a yellowish-white dorsal stripe and 4 rows of spinous appendages; it lives on Cassia etc. India, Ceylon.

Th. tripartita Mr. (89 c) is separated from the preceding species by the vertically cut off brown basal area. Dark subterminal line and often dark central line present, the former meets the margin above the tornus. Expanse of wings: 22—26 mm. — Larva green, with dorsal and lateral rows of blue spots and spinous appendages, on Ricinus and other plants. India.

Th. discipunctata sp. n. (89 c) is very similar to tripartita, but forewing quite monotonously greyish-brown, the basal area not entirely darkened, but only defined by a dark oblique line. Cross-vein with a large dark central dot. Subterminal line a little nearer to the margin. Without any whitish brightenings. Expanse of wings: 20 mm. Palli Hill, Bandora, in June. ♂ type in the Tring Museum, taken together with tripartita.

Th. sybilla Suck. Body purely white. The anterior two thirds of the forewing suffused with brownish-red, inner-marginal third white. A brown spot at the cell-end, another spot below the centre, some brown discal dots. Hindwing and under surface yellowish-white. Expanse of wings: 13 mm. Siam, in January. It was not before me. (It presumably belongs to another genus.)
**THOSEA. By Dr. M. Hering.**

**interrupta.**

*Th. interrupta* sp. n. (89 d). Forewing olive, scantily dusted with a darker colour, with a vertical black streak from the origin of 2 upon 1 b, a black cross-vein streak and a distally concave transverse line from the costal margin directly before the apex to the tornus. Hindwing dark grey. Expanse of wings: 21 mm. Ceylon. ♂ type from Poona in the Tring Museum.

**cotesi.**

*Th. cotesi* Seh. Body brown, with pale scales at the end. Forewing brown, strewn with pale scales, a pale line (dark in the ♂) from the apex to beyond the centre of the inner margin. Hindwing almost black, fringe paler. Expanse of wings: 22—26 mm. Assam.

**jasea.**

*Th. jasea* Seh. Smaller and paler than the preceding species, without markings. Pale pinkish greyish-brown, finely dusted with black, hindwing almost black, whitish beneath. Expanse of wings: 24 mm. Canara, India.

**separata.**

*Th. separata* sp. n. (89 d). Red-brown. Forewing scantily strewn with black atoms, with an indistinctly defined broad transverse line from two thirds of the costal margin straight to the tornus. Hindwing from greyish-brown to lighter red-brown. Khasis. ♂ and ♀ types in the Tring Museum.

**flavina.**

*Th. flavina* sp. n. (89 d). Ochreous. Forewing with a brownish oblique line from ⅔ of the inner margin towards the centre of the costal margin which it does not reach, distally bordered with an indistinctly lighter colour, another brownish transverse line which is somewhat convex proximally extends from ⅓ of the costal margin to the tornus. Hindwings and under surface paler yellow. Expanse of wings: 15 mm. Dalhousie. ♀ type from Poona in the Tring Museum. — The species differs from *rufa* in its size and a less convex margin and a less rounded apex and tornus of the forewing.

**rufa.**

*Th. rufa* Wil. (89 d). Dark red-brown, prothorax and abdomen lighter. Forewing with a fine black central dot and a dingy white transverse line proximally bordered with purple black, from ⅔ of the costal margin to ⅚ of the inner margin. From the same place of the costal margin a dark subterminal line extends to the distal margin above the tornus, the margin beyond it being dusted with grey. Hindwing almost blackish. Expanse of wings: 20—23 mm. Formosa, South China.

**cruda.**

*Th. cruda* Wkr. (89 e). Ash-grey, forewing with a lustrous bluish-grey tint, with a brown basal area and two brown almost parallel transverse lines. Hindwing not paler than forewing. Expanse of wings: 26 mm. Borneo.

**bhaga.**

*Th. bhaga* Seh. Dark red-brown, vertex, a band behind the collar and apex of abdomen yellow. Forewing pale red-brown, basal third dark brown, almost straightly bordered with pale outside; a small dark brown spot at the margin below the apex. Hindwing paler. Expanse of wings: 15 mm. Borneo.

**biosa.**

*Th. biosa* Mr. Forewing from earth-brown to red-brown, base blackened, a somewhat notched transverse line below the black central dot which is often surrounded by a lighter colour, another notched transverse subterminal line. The greatest part of the forewing is more frequently darkened blackish, so that there are only light areas at the inner margin beside the light distal margin: — f. *nigriplaga* Sn. (89 e). Expanse of wings: 22—27 mm. — Lurva green. Java to Borneo. ♀ type with a blue or brown dorsal line edged by yellow spots, with several rows of green bristle-tufts: polyphagous. Java to Borneo.

**mixta.**

*Th. mixta* Sn. (89 d). Forewing brownish bluish-grey, strewn with black atoms, antemedian line vertical, blackish, mostly only more distinct at the inner margin, with traces of a blackish transverse line below the blackish central dot, a brownish subterminal line from the costal margin before the apex to the margin at vein 2, projecting basal opposite the posterior cell-end, straighter in the ♀, in which also the basal area is brownish. Hindwing greyish-brown. Expanse of wings: 20—25 mm. Java to Borneo.

**lutea.**

*Th. lutea* Heyl. (= nubeculosa *Sn.*) (89 e). Brownish ochreous, forewing more or less strewn with black atoms which are generally more densely strewn in a dot at the cell-end and a larger loose spot distally to the posterior cell-end. Sometimes a dentate antemedian oblique line and a straight postmedian one, both only distinct in the inner marginal half. Expanse of wings: 30—45 mm. Java, Sumatra, Borneo.

**minima.**

*Th. minima* Semp. (= cinereomarginata *Btr.*) (89 e). Red-brown, with a blackish central dot of the forewing, from which a dark brown oblique shadow extends to the costal margin, with a dark brown undulated subterminal line which, in opposition to *cruda*, extends to the tornus. Hindwing dark grey. Expanse of wings:
16—24 mm. — Larva pale green, with a purple lilac dorsal longitudinal band, on each side of which there are two rows of light purple spots and 4 rows of green appendages with purple black stings; on Cocos. Philippines.

Th. plumbea sp. n. (89 f). Forewing dark brownish-red, the marginal third violetish-grey, parted *plumbea* by a narrow transverse line of the ground-colour, parallel to the margin, so that a lead-coloured grey transverse band is produced at and before the margin. The dark central dot is indistinct. Hindwing dark grey. Expanse of wings: 29 mm. Borneo. ∞ type from Pontianak (Berlin State Museum).

Th. arizona Wil. Antennae of ∞ serrate. Body dark brown. Forewing pale brown, somewhat whitish in the apical area. Basal area dark brown at the costal margin, a dark brown longitudinal streak through the centre of the wing almost to the margin. An undulated black antemedian line bordered with pale inside, from the centre obliquely to the inner margin, with a black dot outside, postmedian line black, broken up into dots, a pale line behind it to the margin above the tornus, the space between both brown, arched darker, a brown costal-marginal spot before the apex and a black spot at the beginning of the brown marginal line, fringe crossed by white. Hindwing blackish-grey. ∞ similar, costal portion of discal area darker, enclosing a pale spot, veins 2–4 black beyond the postmedian line, hindwing paler. Expanse of wings: 33—36 mm. Formosa, in March. It seems to belong to another genus.

### 77. Genus: Natada Wkr.

Very near to Thossa, ∞ antenna with pectinations gradually decreasing in length towards the apex: posterior tibia with 2 pair of spurs; 10 and 7 of forewing separated from the stalk 8 + 9, 11 arises opposite 2.

N. rufescens Wkr. (89 e). Body dark brown, dorsum orange-brown; forewing brown, the straight and vertically cut off basal third dark brown, moreover a cross-vein dot and a submarginal line terminating above the tornus are dark. Hindwing somewhat lighter brown. Expanse of wings: 30 mm. India.

N. fulvidorsia Hmps. (89 e). Head and thorax reddish-yellow; abdomen blackish-brown, pale yellow *fulvidorsia* beneath. Forewing blackish-brown, partly feebly tinged with grey, some yellowish-red scales below the costal margin and below the cell-end. Hindwing blackish-brown. Expanse of wings: 20 mm. Ceylon.

N. fulvimixta Hmps. (89 e). Body brown, slightly mixed with reddish-yellow, abdomen blackish- *fulvimixta* brown. Forewing dark brown, slightly dusted with grey and with a somewhat reddish-yellow tinge, with an oblique whitish transverse line bordered with black inside, from the apex to beyond the centre of the inner margin. Hindwing blackish-brown. Expanse of wings: 30 mm. Ceylon.

N. griseimargo sp. n. (89 e). Dark brownish-grey, forewing with a dark submarginal line from ⅜ of the costal margin to the tornus, the marginal area behind it light grey. An indistinct blackish transverse streak at ⅓ on the inner margin, and a similar one across the cross-vein. Hindwing blackish-grey. Abdomen and under surface lighter brownish-grey. Expanse of wings: 23 mm. Burmah. ∞ type from Maymyo (Burmah) in the British Museum.

N. convergens Wkr. Pale ochreous, forewing slightly strewn with dark brown scales. A brown spot *convergens* at the cell-end, costal margin red-brown. A brown oblique line from the costal margin shortly before the apex to the centre of the inner margin, another line to the margin above the tornus, bent below the costal margin. Hindwing reddish-brown. Expanse of wings: 50 mm. India.

N. cepphica Suh. Palpi longer than in the preceding species. Dark brown, thorax black at the end. *cepphica*. Forewing pale red-brown, costal margin and distal margin dark brown. An indistinctly undulated broken postmedian black line, incurred at the lower cell-end, extends to the centre of the inner margin. Abdomen and hindwing pale brown. The forewing is sometimes entirely clouded with blackish. Expanse of wings: 18 mm. India. It was not before 1889.

N. basalis Wkr. Fawn-coloured, basal third of forewing dark brown, distally bordered by a blackish *basalis* band which is edged with white outside, a thin whitish submarginal transverse line. Expanse of wings: 30 mm. East Indies. The species can no more be identified, because the type has been lost.

N. furva Wil. Pale brown, forewing speckled somewhat darker, a diffuse blackish spot in the cell and *furva* an oblong similar one below it, extended to the inner margin, traces of a dark submarginal line. Hindwing and under surface blackish-grey. Expanse of wings: 19 mm. Formosa, in August. The species seems not to belong to this genus, perhaps to *Spatulifimbria* (p. 719).


### 78. Genus: Natarosa gen. nov.

Structurally the same as the preceding genus, but vein 11 of forewing arises very far basad from the origin of 2. Palpi somewhat more cylindrical and pointed. Type of genus: N. subrosea Wil.
N. subrosea Wil. (89 f). Body ochreous, chiefly suffused with pink. Forewing pale ochreous, with a pinkish-red subbasal band, 3 pinkish-red antemedian spots, 2 broad median bands, a large dark cross-vein spot; then follows towards the margin a postmedian band which is bent round the cell-end, and a more brownish subterminal band. Fringe yellowish, speckled with blackish basally. Hindwing dark grey, suffused with pink, the yellow fringe with dark basal spots at the tornus. Expanse of wings: 20 mm. Formosa. — Its habitus resembles that of Arbelarosa (p. 677, pl. 86 c, d).

79. Genus: Macroplectra Hmps.

Palpi long, porrect. Posterior tibia with 2 pair of long spurs. Forewing: 7 separated from the stalk of 8 + 9, 10 almost invariably stalked with 8 + 9. Hindwing: 6 + 7 from the same basis, or stalked. Antennae of ♂ long bipeckitated. Very difficult to separate from Darina (p. 718).

M. pulverulenta sp. n. (89 f). Vein 8 of hindwing connected with the anterior edge of the cell by a cross-vein only after the middle. Forewing grey, dusted with brown, but glossy. The dusting is condensed into a broad median shadowy band and a submarginal band. Hindwing much paler, brownish ochreous. ♀ with a more indistinct marking. Expanse of wings: 18—20 mm. Kwang-tung, in June and September. ♂ and ♀ types from Shillong (British Museum).

M. minutissima Such. (89 f). Ochreous, forewing with a dark line before the apex to the tornus. Hindwing paler. Expanse of wings: 12 mm. India.

M. gigantea sp. n. (89 f). Body dark brown, abdomen more grey. Forewing brownish ochreous, but densely dusted with brown, with a dark oblique line shortly before the apex to the inner margin beyond the middle. One indistinct dark dot each at the lower cell-end and obliquely below it. Hindwing blackish-grey. Under surface of the ground-colour of the forewing. Expanse of wings: 28 mm. Kwang-tung, in May. ♂ type from Lung-tao-shan (Berlin State Museum).

M. nararia Mr. (89 f). Forewing and body brownish ochreous, with a brown central dot and a brown transverse line between the latter and the margin, parallel to the margin. — In f. cosmiiana Such. (= suffusa Mr.) the marginal area beyond this line is pale yellow, the rest of the wing dusted with brownish. Expanse of wings: 15—20 mm. India.

M. fraterna Mr. (89 f) is quite similar, but the brown transverse line begins nearer at the apex and is therefore divergent with the margin towards the inner margin. Hindwing dark grey; pale yellow in nararia. Expanse of wings: 20 mm. — Larva pink beneath, green above, with a pale red dorsal line edged with yellow, with 4 rows of green, spined appendages. India, Ceylon.

M. flavina sp. n. (89 g). Pectinations of ♂ antenna decreasing much in length towards the base. Thorax and forewing brownish-yellow, hindwing blackish-grey, all the fringes yellow. Expanse of wings: 22 mm. Sambawa, in September. ♂ type in the British Museum.

M. signata Mr. (89 g). ♂ forewing varies from ochre to brown, with a dark transverse line which is nearer to the margin than in the preceding species and edged with whitish distally. Marginal area and more or less also the inner margin dusted with whitish, central dot blackish. Hindwing pale yellow. ♀ monotonously brown as far as the transverse line, marginal area whitish. Expanse of wings: 15—20 mm. — Larva yellowish-green, dorsum with some dark streaks, with 4 green, red-dotted spined appendages, the anterior and posterior ones prolonged. Ceylon.

M. sericea Hmps. (89 g) differs from signata in the whitish ochreous ground-colour, forewing with an indistinct pale reddish-brown submarginal line. Expanse of wings: 20 mm. Ceylon. I range herewith also a ♀ from Ceylon in the Tring Museum, which resembles that of signata, though the ground-colour of its forewing is pale ochreous.

M. hamata sp. n. (89 g). Body and forewing brownish-grey, forewing with a black hook-shaped streak at the cross-vein, and a dark grey submarginal line almost parallel to the margin and with a somewhat ochreous proximal border. Hindwing dark grey. Expanse of wings: 12 mm. Forewing: 10 on a long stalk with 8 + 9, 7 very distantly separated from the stalk. Hindwing: cross-vein between 8 and the anterior edge of the cell beyond the centre of the cell. Kwang-tung, in September. ♂ type from Lung-tao-shan (Berlin State Museum).

M.unicolor Mr. Unicoloured pale reddish-brown, prothorax and metathorax with blackish dots. Expanse of wings: 24 mm. — Larva green, with a pale blue dorsal line, with 4 rows of spined appendages, the lateral ones yellow. India.

M. ceylonica Hmps. Yellowish-brown, dusted somewhat blackish. Forewing with an indistinct transverse line before the centre from the cell to the inner margin, an indistinct postmedial line from vein 8 to vein 3. Hindwing blackish-brown, fringe yellowish-brown. Expanse of wings: 16 mm. Ceylon.

M. parasina sp. n. (89 g). Hindwing: 8 connected with the cell by cross-vein only shortly before the cell-end, 6 + 7 from the same basis. Forewing greyish ochre, more or less dusted with purple brown. An
indistinct dark purple brown oblique band from the centre of the costal margin to 1/4 of the inner margin, a
dentate submarginal line almost parallel to the margin. Hindwing dark grey, all the fringes yellowish-grey.

**M. fumipennis** sp. n. (89 h). Dark smoky grey; head, collar and legs yellow. Anterior tibiae and all the
tarsi blackish, the spurs of the yellow posterior tibiae also blackish. Forewing dark smoky grey, with a broad
ochreous median band which is feebly dusted dark and the distal border of which is straight and almost parallel
to the margin, the interior border obliquely from 2/3 of the costal margin to 1/2 of the inner margin. Hindwing

80. Genus: **Liparolasia** gen. nov.

Antennae of 5 long bipectinate to the ends, palpi long porrect, projecting beyond the frontal tuft, posterior
tibia with 2 pair of spurs. Forewing: 8—10 stalked, 7 separated from them, 11 straight. Hindwing: 6 + 7
fused, therefore one vein absent, 8 connected with the anterior edge of the cell at or behind the middle. Type
of genus: **L. bifasciata** Her.

**L. bifasciata** sp. n. (89 g). Ochreous, forewing with a somewhat brownish tint, with 2 pale yellow
parallel transverse lines, one in the middle, the other from 4/5 of the costal margin to the tornus. Hindwing

81. Genus: **Semyra** Wkr.

Near **Macroplectra**, but 8 of hindwing anastomosing with the anterior edge of the cell, instead of being
connected by a cross-vein. Vein 7 of forewing separated from 8—10, 11 not curved. The pectinations of the
5 antenna do not only decrease in length towards the apex, but also towards the base. The genus is distributed
in America in a number of species; its occurrence in the Indo-Malay region is probably due to the import of
cultivated plants.

**S. phrygia** Dyar (89 g). Purple brown, forewing at 1/4 with a silvery dentate line from the cell to the
inner margin, and a greyish postmedian line which extends very near the margin, but is strongly bent towards
the base below the cell. Three dark grey, basally fused oviform spots are outside at the cell-end. Dark brown
wedge-spots at the cell-end, the posterior edge of the cell, above the inner margin and after the 3 grey spots,
apex with a round dark brown spot. Hindwing ochreous reddish-grey. Expanse of wings: 21 mm. North-
Eastern Sumatra, 1 ♀ in the Coll. Martin (Munich Museum), otherwise in Brazil.

**S. albipunctata** sp. n. (89 h). Body blackish violet. The basal two thirds of the forewing blackish-violet,
bordered by a pale vertical line from the inner margin near the tornus towards 2/3 of the costal margin, marginal
third yellowish-brown, projecting a little basad at the costal margin. An oblique line from the margin below
the apex to the tornus is bordered by dark vein-streaks inside. At 1/4 of the inner margin there is a somewhat
oblique line of white dots which are bordered with brownish-red, on the outside of which a blackish, slightly
curved oblique line extends to the upper end of the dark area. Hindwing and under surface yellowish-grey.
Palpi long, upcurved. Expanse of wings: 20 mm. Darjeeling. ♀ type in the Tring Museum. — The species
resembles **Sem. moschleri** Sh., but it has a much lighter distal area of the forewing.

82. Genus: **Macroplectrina** gen. nov.

Similar to the preceding genus, antennae of 5 thickened and flattened, 8—10 of forewing on a very long
stalk, 11 mostly arises far basad to the origin of 2. Type of genus: **M. curvipalpis** Her.

**M. semiaurantia** Hmps. Head and thorax orange, dusted with brown, abdomen dark brown. Forewing
fiery orange-red in the basal half, dusted with brown at the costal margin, with a feebly dentate dark antemedian
line from the cell to the inner margin. Marginal area suffused with orange, forming an indistinctly defined spot
at the costal margin. Hindwing dark brown. Expanse of wings: 20 mm. North India.

**M. inconspicua** Hmps. Ochreous; head, thorax, and forewing, as far as the dark very oblique postmedian
line, suffused with reddish. Expanse of wings: 12 mm. Bombay.

**M. apicalis** Hmps. Lustrous blackish-brown. Forewing with a narrow triangular yellowish-white apical
spot. Head and palpi pale yellow. Expanse of wings: 16—18 mm. India. — Vein 10 of forewing arises from
the cell, but the species is distinguished from **Oxyplax** by the long palpi and spurs.

**M. curvipalpis** sp. n. (89 h). Palpi of 5 of 5 fold the diameter of the eye, upcurved, projecting beyond the
vertex, somewhat shorter in the ♀. Body red-brown. Forewing reddish-brown, more or less suffused with
blackish, a lighter reddish-brown transverse band at 1/3, a black cross-vein dot, and a submarginal line before the apex, dying away towards the centre of the wing. Hindwing blackish-grey. Expanse of wings: 16—20 mm. Upper Assam. & types in the Berlin State Museum.

**M. platycera** sp. n. (89 h). Head dark purple brown, body and forewing ochreous, with a slight reddish tint, a blackish median line which is incurved at the centre of the cell and below the cell, the costal-marginal half as far as to this line dusted with grey. The lighter marginal half is parted by a dark, rather uniformly curved postmedian line. Hindwing pale yellow like the under surface, where the forewing is dusted with blackish in the costal half. 6 + 7 of hindwing arise from the same place. Expanse of wings: 17 mm. Khasis. & type in the Tring Museum. — It may be that Ceratonema fuscum Swh. (p. 699) is the & of this species. In distinction with the following species, 7 is stalked here with 8—10.

**aspermigillata** sp. n. (89 h). As only a & is at hand, the antennae of the & could not be examined, so that it remains questionable, whether the species belongs to this genus or not. Body blackish-grey, clothed with very long-stalked blackish projecting scales which are white at the end, so that the body looks as if it were covered with a grey mould. Forewing greyish-brown, with a blackish dot in the centre of the cell and below it, with a series of indistinct blackish submarginal dots. The whole wing is scantily strewn with mouldy grey scales which are more densely strewn proximad to the submarginal row of dots, but are almost absent distally to it. Fringe speckled dark. Hindwing and under surface dark grey. Expanse of wings: 23 mm. Khasis, in May. & type in the Tring Museum.

**M. dentilinea** sp. n. Body and forewing greyish-brown, sometimes with a more reddish tint, cross-vein with a black streak from which a strongly dentate oblique line extends to 1/3 of the inner margin. A similar postmedian line, less dentate, but projecting with 2 black sagittate spots towards the cell-end, is almost parallel to the margin. Hindwing blackish-grey. Expanse of wings: 20 mm. Khasis, April and July. & and & types in the Tring Museum. 11 of forewing rises almost opposite 2.

### 83. Genus: Cochliopodina gen. nov.

Separated from all the other genera by vein 11 of forewing arising from the same basis as 8—10 or stalked with them. 7 is separated from the stalk of 8—10 and nearer to 6, 3 and 4 nearer together, posterior angle of the cell projects much, discocellular vein forked. Hindwing: posterior angle of the cell projecting, discocellular vein forked, 6 and 7 arise separately, 8 anastomoses with the anterior edge of the cell near the base. antennae plain, slightly thickened and flattened; palpi upcurved, not reaching vertex. Legs densely scaled, posterior tibiae with 2 pair of spurs. Type of genus: C. argenticera Her.

**argenticera** sp. n. (89 i). Thorax and forewing dark violetish-brown, forewing strewn with silvery scales except a broad, distally curved postmedian band which extends close at the margin and almost parallel to it to 1/3 of the inner margin and despatches a dent to the cell on vein 2: the cellular veins and some small spots of the proximal half are also without silvery scales and therefore of a pure dark brown. Abdomen and hindwing light greyish-brown, the base of the hindwing pale yellowish. Expanse of wings: 18 mm. Khasis, in October. & type in the Tring Museum.

### 84. Genus: Darna Wkr. (Orthoceraspidea Hmps., Thoseaides Shir.)

Antennae of & with long double pectinations gradually decreasing towards the apex. Palpi moderately long, somewhat upcurved. Posterior tibiae with 2 pair of long spurs. Forewing: vein 2 strongly curved, 4 + 5 from the same place or stalked, 10 from the same place as the very long-stalked 8 + 9 or stalked with them, 7 separated from them. Hindwing: 6 + 7 stalked, 8 connected with the anterior edge of the cell by a cross-vein before the middle. The genus scarcely differs from Macroplecta.

**trina**. Brown, forewing with 4 blackish-brown transverse lines growing more oblique towards the base, the subbasal one almost as a longitudinal streak from the base to the inner margin, more or less striped light brown between them. Hindwing blackish. Expanse of wings: 15—20 mm. — Larva green, the anterior 4 segments brown, with a brown dorsal band, anteriorly accompanied by yellow spots on each side, with 4 rows of spined appendages. South India to the Philippines.

**catenata**. Light brown, forewing with a broad purple blackish marginal band, hindwing and under surface blackish. Expanse of wings: 16 mm. Celebes. (One vein is absent in the forewing, as 8 + 9 are fused.)

**metaleuca**. Body brownish-white, forewing light brownish, lighter whitish at the inner margin, with a black costal-marginal dot before the apex and more or less distinct dark dots before the margin and at the cross-vein. Hindwing pale yellow. Expanse of wings: 16 mm. Sumatra, Java, Borneo.

**sordida**. Brown, forewing more or less strewn with black scales, with 2 or 3 black dots in the centre and a row of such dots at the margin. Hindwing of & somewhat reddish, of & blackish. Expanse of
wings: 17—22 mm. — Larva thickened before the middle, forming a protuberance with two points, from ochre to dark brown, of a variable colouring and marking, with longitudinal lines or dots, sometimes with a few white or yellow lateral spots. Java. — According to SNEILL, the species only bears terminal spurs on the posterior tibiae as in trina; if that is the case, it would have to be ranged under another genus.

D. nemacera Hmps. Dark brown, mixed with grey. Forewing strewn with black scales, with an oblique, nemacera, indistinct black transverse band from the costal margin beyond the middle to the centre of the inner margin, and a feebly dentate dark postmedian line which is distally edged with grey. Hindwing blackish. Fringe speckled light and dark. Expanse of wings: 34 mm. North India.

D. luticrista Tams (89 i). Brown, forewing darker greyish-brown in the cell, light brown below the cell luticrista, in the inner marginal area as far as ⅓ or as far as vein 2, 2 black dots at the cell-end, three brown, more or less distinct dots before the margin. Hindwing dark brownish-grey. Expanse of wings: 19—21 mm. South India.

85. Genus: Oxyplax Hmps.

Very similar to the preceding genus, palpi porrect, 4 and 5 of forewing always distantly separated, vein 2 arises basal from the middle of the origin between 10 and 11. 8 of hindwing is connected with the anterior edge of the cell at ⅓. Antennae of ⅔ long bipectinate to the end.

O. ochracea Mr. (89 i). Light red-brown, forewing with traces of a blackish oblique line at the cell-end ochracea, and below the cell, with a strongly curved white transverse line from the apex to ⅔ of the inner margin, dusted with blackish outside, often as far as the margin. Abdomen and hindwing brownish-grey. Expanse of wings: 16—26 mm. — Larva pale green, whitish above, with 2 rows of black dots, with 4 rows of spatulate spined appendages, the anterior and posterior ones red. India, Ceylon to Borneo, Formosa, South China to Shanghai.

O. fulvata Hmps. (89 i). Antennae plain, thickened and flattened. Forewing with a dent of scales fulvata, before the centre at the inner margin. Body brownish-red, dusted with blackish. Forewing coppery red, basal area dark brown as far as the slantingly bent indistinct dark lateral line. Marginal area blackish, broader at the costal margin, narrow at the tornus. Fringe speckled light and dark. Hindwing blackish-grey. Expanse of wings: 18 mm. Ceylon. (It probably belongs to another genus.)

O. tenebrosa sp. n. (89 i) is allied to ochracea, thorax and forewing rusty brownish, densely strewn with tenebrosa, brown scales, especially in the ¾. A blackish straight oblique line extends from the apex (in the ½ a little before it) to ⅔ of the inner margin. Abdomen and hindwing black, with rusty yellow fringe. Expanse of wings 25—30 mm. Ceylon, September and December. ½ and ¾ types in the British Museum.

86. Genus: Limaconta gen. nov.

Near the preceding genus, 8 of hindwing connected with the anterior edge of the cell at its centre and nearing it in its entire length; ¾ antenna bipectinate in its basal half, bare at the end. Type of genus: L. olivacea Her.

L. olivacea sp. n. (89 k). Forewing olive in the basal half, distally bordered by a straight oblique olivacea, whitish line. Marginal half pale yellowish olive, parted by a broad postmedian band which is narrower at the costal and inner margins. Hindwing pale reddish-grey. Expanse of wings: 16 mm. Salomonis, in March. ½ type from New Georgia in the Tring Museum. — Habitus very much like that of an Acontiina.

87. Genus: Spatulifimbria Hmps. (Spatulicraspeda Hmps.)

Antenna of ¾ long bipectinate, bare at the end. Palpi very shortly porrect. Posterior tibia with 2 pair of spurs. Forewing: 7—9 stalked, 10 separated from them, 11 slightly bent. Hindwing: 6 + 7 stalked. 8 anastomoses with the anterior edge of the cell only after the centre of the cell.

Sp. castaneiceps Hmps. (89 h). ¾ violettish-black, anterior body brownish ochreous. Forewing with a dark transverse band across the cross-vein and a dark submarginal band which begins before the apex and extends obliquely to the margin across the tornus. Hindwing black, with yellow fringe. ½ yellowish-grey, forewing with dark cross-vein spots, the submarginal line terminates at the tornus, but it is strongly convergent with the margin. Hindwing dark grey, with yellowish fringe. Expanse of wings: 13—21 mm. Ceylon. — insolita subsp. nov. ½ has more reddish ochreous forewings with deep violettish-black fringes, the submarginal line is almost parallel to the margin, the hindwing is greyish ochreous with similar fringe. India. (½ type from Trichinopoly in the Berlin State Museum.) — opprimata subsp. nov. ¾: the dark submarginal line of the forewing is parallel to the margin, terminating at the inner margin before the tornus, hindwing black, with black fringe. ½ reddish ochreous, with a submarginal line which is likewise parallel to the margin, hindwing blackish-grey,
88. Genus: Calcarifera *gen. nov.*

♀ antenna with short pectinations gradually decreasing towards the end, palpi short, porrect. Posterior tibiae with 2 pairs of spurs. Forewing: 7 on a short stalk with 8 + 9, 10 separated, nearer to 11, 11 quite straight. Hindwing: 6 + 7 stalked, 8 anastomoses with the anterior edge of the cell as far as the centre of the cell. The genus is very similar to *Doratifera*, but it has 2 pairs of spurs on the posterior tibiae. Type of genus: *C. ordinata* Btlr.

*C. ordinata* Btlr. (= colligans Lec.) (89 k). Forewing white, more or less densely strewn with black atoms, a submarginal row of reddish-brown spots interrupted by the veins. Hindwing and under surface yellow, with white fringe. Thorax white, abdomen yellow. Expanse of wings: 25—30 mm. Australia.

89. Genus: Phocoderma Btlr.

Antenna of ♀ shortly bipectinated, serrate-dentate towards the apex. Palpus large, laterally compressed, middle joint in front below with a projecting hair-tuft, terminal joint appears therefore to be separated by strangulation. Forewing: 7—9 stalked, 10 separated from them. Hindwing: 6 + 7 stalked, 10 basally anastomosing with the anterior edge of the cell, with costal transverse veinlets.

*Ph. velutinum* Koll. (= rugosum Wkr.) (90 a and Vol. II, pl. 59 a). Forewing violetish-brown with an intense gloss, more or less strewn with lilac scales; a dark brown submarginal line parallel to the margin, a dark oblique line originates somewhat basad to the latter line and is rectangularly broken below the costal margin, where it is expanded into a spot, extending to the inner margin before the middle and distally dusted with lilac. Hindwing from yellowish-brown to red-brown. Expanse of wings: 50—65 mm. India to Borneo. — Cf. Vol. II, p. 343.

*Ph. betis* Drc. Forewing reddish fawn-coloured, darkened towards the base. A pale brown oblique line from the costal margin before the apex to the inner margin near the base, a dark brown submarginal line from the apex to the tornus. Hindwing and body pale brown. Expanse of wings: 65 mm. South China, Prov. of Huinan.

90. Genus: Hampsonella Dyar.

Antennae of ♀ plain. Palpi short, porrect. Posterior tibiae with 2 pairs of spurs. Forewing: 7—9 stalked, 10 separated. Hindwing: 6 + 7 stalked, 8 anastomoses with the anterior edge of the cell near the base, the posterior vein of the cell projects slightly.

*H. dentata* Hmps. (90 g). Forewing (as well as body) brown, with a black, somewhat dentate antemedian and median transverse line, the space between them more or less filled with blackish-violet, distally to them a large brown spot the centre of which is light yellowish-brown with a dentate distal margin. A black line at the margin, especially distinct at the apex. Hindwing blackish. Expanse of wings: 30—35 mm. India, South China, as far as Ta-tsen-lu.

*H. acatharta* Hmps. Greyish-brown, suffused with blackish. Forewing with dark dots at the base and at the end of the cell, and traces of a dark line below the cell. A large dark postmedian spot between vein 7 and the inner margin, its centre being light and distally dentate, a dark marginal line at the apex. Hindwing blackish. Expanse of wings: 30 mm. North India. — It is extremely doubtful whether the species belongs to this genus.

The following two genera could not be identified with respect to their position.


*A. frontalis* Wkr. Brick-coloured red-brown, head and prothorax dark rust-coloured, abdomen and hindwing whitish. Forewing with five undulated purple brown transverse lines, the space along the distal half of the costal margin and 1/4 of its width purple brown. Expanse of wings: 30 mm. Borneo.


Palpi short and hairy, porrect, abdomen with a thick anal tuft. Posterior tibiae with 2 pair of long spurs. Wings broad, forewing very round at the apex, distal margin convex, rather oblique.
C. ornata Wkr. Dark ochreous. Abdomen brown, ash-grey at the base and end. Forewing ash-grey, ornata, with a purple tint, strewn with small black spots, three red zigzag transverse lines which are edged with whitish and black, the first being subbasal, the second antemedian and the third postmedian. Distally to them a series of lanceet-shaped blackish longitudinal streaks, beyond which there are whitish crescentiform spots edged with red and black, a red longitudinal streak edged with whitish is between the second and third transverse lines. Hindwing greyish-brown. Expanse of wings: 20 mm. Moreton Bay.

2. Subfamily: Epipyropriæ.

Separated from the genuine Limacodinae by the absence of the terminal spurs of the tibiae and the radial sector in the cell of the forewing arising from the anterior margin of the cell and defining an anterior part of the discal cell, which it divides besides by a non-forked discocellular vein. All the veins mostly arise from the cell, sometimes some are stalked or coalescent. Vein 8 of hindwing may be connected with the cell by a bar, 7 may arise separately from the base, or it may be absent. Of the buccal organs only a two-jointed appendage is present, ending with a hair-tuft. Ocelli and chaetosema absent, frenulum plain in both sexes. The species are sometimes propagated parthenogenetically. The larvae live on Homoptera (Psyllidae, Jassidae, Cicadae) and feed from their wax-secretions, though some species also seem to suck sweet saps. The first stage of the larva is campodeiform, whereby it resembles certain, most primitive, wingless insects, later on the larva almost looks like a shield-louse. It can let itself down from the infested animal on a silky thread. Sometimes several individuals live on one host, in which case, however, only one seems to develop. The species are very much alike, the genera are only separated by the neuration which is often very inconstant here, so that the position of some species will probably have to be corrected later on.

Table of Genera:

1. Hindwing with 8 veins, 7 and 8 of forewing separated .... 2.
2. Hindwing with less than 8 veins, 7 and 8 of forewing close together or coalescent .... 3.
3. Vein 8 of hindwing separated .... 1. Epipyrops
4. Vein 8 of hindwing connected with the anterior edge of the cell by a bar .... 2. Epipomponia
5. Vein 7 of hindwing separately from the base, forewing with 12 veins .... 3. Palaeopsyche
6. Vein 7 of hindwing arises from the discal cell, forewing with less than 12 veins .... 4.
7. 7 + 8 of forewing (vein 9 is absent) on a long stalk or coalescent .... 4. Agamopsyche
8. 7 and 8 (9 is absent) arise from the same place at most .... 5. Heteropsyche

1. Genus: Epipyrops Ww. (Microlimax Hmps.)

E. anomala Ww. Brown, some parts dusted with whitish. Forewing brown, dusted with whitish in anomala, some places, a dense row of whitish spots at the costa margin, the spot at the apex being the largest, more indistinct white spots after the cell-end, a row of white marginal spots. Hindwing blackish, with whitish fringe. Expanse of wings: 30 mm. — Larva on Pyrops candelaria. China.


E. pallidipuncta Hmps. Dark brown, dusted with grey. Forewing dark brown, dusted with light grey, pallidi- a whitish oblique band between veins 2 and 1 right after the centre. Expanse of wings: 10 mm. Ceylon. puncta.

E. atra Pagenst. Forewing monotonously olive brown, partly with silvery scales, especially in the atra. disc. Expanse of wings: 10 mm. New Pomerania.


Separated from the preceding genus by the presence of a cross-vein between 8 and the anterior edge of the cell on the hindwing.

E. nawai Dyar. I have had no access to the description of this species published in a Japanese journal. nawai.


Distinguished from all the other genera by vein 7 of hindwing arising separately, only 4 veins arising from the cell, 12 veins in the forewing, 7 and 8 not stalked.
1-22
AGAMOPSYCHE; HETEROPSYCHE. By Dr. M. Hering.

melanias.


(6 +) 7 of hindwing from the cell which thus despatches 5 nervules. Forewing with only 11 veins, 7 + 8 on a long stalk.

threnodes.


5. Genus: Heteropsyche Perk.

5 nervules of the hindwing from the cell, 7 and 8 of forewing arise from the same basis.

1. Antenna (except the bifurcating end) with 12 pectinations in the ♂.

poecilo-
chrona.


melano-
chrona.

H. melanochroma Perk. Black, with a faint purple tinge. Fringe of hindwing also black. Expanse of wings: 10 mm. — Larva on a Jassida and Fulgoridae. Australia.

2. Antenna of ♂ with less than 12 pectinations on each side.

aenea.

H. aenea sp. n. (90 h). Antenna of ♂ with 11 pectinations. Forewing brass-brown, with a dull reflection, hindwing grey, with a fainter reflection, fringe of the same colour as the wings. Expanse of wings: 13 mm. Dutch New Guinea. ♂ type from Baro, in October (Berlin State Museum).

micromorpha.


dyscrita.


3. Position uncertain.

stenomorpha.

H. stenomorpha Perk. ♀. Forewing blackish, coarsely scaled, fringe dark. Hindwing the same, smoother. Expanse of wings: 8 mm. Sydney. — It may be the ♀ of melanochroma.

doddi.

Additions.

The following genera and species published while the work was in the press could no more be inserted in the table of genera and the text.

Genus: Neiraga Mats.

It is said to resemble Birthana (p. 688) in the neuration; antenna of $\delta$ bipectinated to the apex; costal margin of forewing almost straight as far as apex, distal margin almost vertical on the costal margin from the apex to vein 6.

N. baibarana Mats. $\delta$. Forewing dark brown, a broad area below the cell and a broad stripe before baibarana. the margin brownish ochreous, intermixed with some dark scales, both being almost rectangularly bent. Margin paler between the veins. Hindwing blackish. Body dark grey, tufts on thorax and abdomen darker, under surface and legs yellowish. Expanse of wings: 18 mm. Formosa, in July.

Genus: Chibiraga Mats.

Neuration and antennae the same as in Idonauton (p. 702), but the stalk of $7 + (8 + 9)$ shorter than half the stalk of $8 + 9$. Pulpi straightly porrect, projecting beyond the frontal tuft. Antenna of $\delta$ bipectinated in the basal two thirds. Posterior tibiae only with terminal spurs.

N. nantonis Mats. $\delta$. Forewing pale greyish-brown, reddish yellowish-brown at the costal and distal nantonis. margins, with a postmedian blackish band which is slightly incurved and terminates near the inner angle, bordered on the inner side with blackish scales, cross-vein blackish. Hindwing yellowish-brown, darkened towards the tornus. Under surface paler, costal margin brownish. Expanse of wings: 28 mm. Formosa.

Genus: Nagodopsis Mats.

Allied to Nagoda (p. 674), antenna of $\delta$ plain, palpus upcurved to the vertex. Margin of hindwing straighter; posterior tibia with two pair of long spurs.

N. shirakiana Mats. $\delta$. Forewing blackish-grey, diaphanous hyaline, with broad blackish margins, shirakiana. a small snow-white dot in the centre of the suture, two similar small white spots below it on lb. Hindwing hyaline, margins blackish, veins yellowish. Expanse of wings: 20 mm. Formosa, in March.

Genus: Matsumurides nom. nov. (Hyphormoides Mats. 1931, nec Strand 1914)

Separated from Hyphorma (p. 690) by the $\delta$ antenna being bipectinated to the tip, the porrect palpus as long as twice the length of the head, the terminal joint being much shorter than the second. 7—9 of forewing stalked, 10 from the upper cell-angle, 6 + 7 of hindwing on a long stalk.

M. okinawanus Mats. $\delta$. Forewing yellowish-grey, with blackish, slanting, parallel postmedian and okina- submarginal bands, the former somewhat broader; distal margin somewhat darker. Hindwing of the ground-colour of the forewing. Under surface somewhat lighter. Expanse of wings: 24 mm. Okinawa.

Genus: Coutheyloides Mats.

Structurally similar to Coutheyla (p. 708), but forewing longer, distal margin almost vertical on the costal margin from the apex to vein 6; 6 of hindwing distantly separated from 7. The habitus of the species resembles that of Cheromettia-Belippa (p. 673—74).

C. boninensis Mats. $\delta$. Forewing reddish yellowish-brown, blackish-brown at the costal margin, boninensis. greyish-brown in the marginal quarter, with a blackish antemedian transverse line bifurcating at the inner margin, a similar median line undulated below the cell, and an undulated postmedian line which ends at the tornus. Costal margin with some black dots before the apex. Cross-vein with a small yellowish-brown dot. Hindwing yellowish-brown, with blackish marginal dots. Under surface blackish-grey, apical angle reddish-yellow, with an oblique blackish costal-marginal spot before the apex, the distal margin with blackish dots. Expanse of wings: 34 mm. Bonin Is.

Genus: Demonarosa Mats.

Allied to Narosa (p. 675), but 6 and 7 of hindwing distantly separated, the middle part of the cross- vein oblique towards the inner margin, forming an obtuse angle with the upper part, the lower part almost parallel to vein 6. Vein 2 arises from the centre of the cell.

Genus: Iragaodes Mats.

Distinguished from the palaeartic Phrixolepia (Vol. II, p. 341) by the upcurved palpi, the 3rd joint of about half the length of the second, reaching the vertex. Antennae of ♀ and ♂ finely ciliate. Forewing less pointed, margin slightly curved, 6 arises directly below the upper cell-angle, 7 and 8 + 9 arise from the apex of a small areole. 8 of hindwing anastomoses with the anterior edge of the cell on ⅔ of the inner margin, the hindwing being blackish-grey, a race formosicola Mats., was described from Formosa, exhibiting two distinct oblique bands, while the space between them is filled with greyish. Expanse of wings: 31 mm.

I. nobilis Stgr. (Vol. II, p. 341, pl. 49 k). Of this palaeartic species the forewing of which is reddish-yellow-brown, with a blackish oblique line bordered with whitish inside and extending from the apex to ⅔ of the inner margin, the hindwing being blackish-grey, a race formosicola Mats., was described from Formosa, exhibiting two distinct oblique bands, while the space between them is filled with greyish. Expanse of wings: 31 mm.

I. albiceps Mats. Head snow-white, with two blackish frontal dots, body mouse-coloured, with a slight reddish tinge. Forewing silky brownish-grey, marginal third chestnut-brown with a silky gloss. An oblong reniform macula is surrounded with white, the postmedian line narrowly white, excurred around the reniform macula, and broken below it. Antemedian line white, distinct below the cell. Submarginal line blackish, undulated, ending at the interior angle, distally bordered by a large round red-brown spot. Hindwing dark grey. Expanse of wings: 37 mm. Formosa, in April.

Genus: Phrixolepia Btlr.

Phr. sericea Btlr. (cf. Vol. II, p. 341, pl. 49 k) is stated by Matsumura to occur also in Formosa.

Genus: Althonarosa Kaw.


A. horisyaenensis Kaw. White, base olive brown, with a dark dot. Antemedian line indistinct. A black dot at the lower cell-end; postmedian line curved, brown, extending to vein 5. A black marginal dot between veins 7 and 8, similar dots on the white hindwing between 6 and 7, and 2 and 3. Expanse of wings: 24—31 mm. Formosa, in May and August. — Narosa nigrieristata (p. 676, pl. 86 b) is presumably the ♀ of this species.

Genus: Parasa Mr. (p. 694)

I. basifusca Kaw. seems to be allied to lepida (86 h), but the dark marginal band of the forewing is much narrower, widened towards the inner margin and projecting with a dent on vein 2. Hindwing yellowish, reddish-brown towards the margin. Expanse of wings: 33 mm. Formosa, in April.

Genus: Thoea Wkr. (p. 711)

I. bicolor Shir. recalls an imitabilis Her. (p. 731), but basal half of forewing more extensively dark, distally bordered convex, submarginal line curved. Expanse of wings: 21 mm. Formosa.

Genus: Iragooides Her. (p. 709)

I. castanea Wil. This species described as Thoea has, according to Kawada (Jr. Ins. Agr. Exp. Sta. I p. 238) only serrate antennae, thus it presumably belongs to Iragooides.
Alphabetical List

of the original descriptions of the Indo-Australian Limacodidae.

* signifies that the form is also figured at the place quoted.


convexa Par. Seitz Macrolep. 10, p. 681.
convexa Par. Seitz Macrolep. 10, p. 687.
edentifascia Rhamm. Her. Seitz Macrolep. 10, p. 748.
Original descriptions of the Indo-Australian Linacodidae.

We had mentioned already in Vol. II the difficulty of rendering a general survey of the Psychid family, because it represents one of the least natural of all the Heterocera families. There are but few clues, mostly biological, from which we may conclude which characteristics we are to regard as the expression of close affinity, and which as convergency, i.e. a consequence of the regressive metamorphosis brought about by the sacciferous life. For further particulars we refer to Vol. XIV (p. 481—483).

The total number of Psychid species known can also hardly be stated, because some authors include groups such as the Talaeporinae and others in the family, whereas other authors detach them as separate families and range them at quite a different place. Thus he who includes the genus Acrolophus comprising more than 100 species in the American Psychidae will arrive at a total number of this family entirely different from that obtained by him who includes the Acrolophus in the Tineidae.

Considering the extent and composition assumed in this work the family contains about 370 Psychid species known to-day. 111 species occur in the Indo-Australian fauna, thus a few more than those of the palearctic fauna (106) mentioned in Vol. II, and more than twice as many as are hitherto known from the Ethiopian regions (47). — The American region certainly harbours a very great number of Psychidae, but most of the country is still quite unexplored with respect to the Psychidae. In Tropical America Psychid sacs are to be found most anywhere, but it is very rarely possible to discover the imagines belonging to them. Even if the travelling collector found no great difficulties to feed the discovered larva owing to its polyphagy, yet he is very rarely able to carry out the breeding. If the specimen found be a ♀, it yields nothing whatever, and if it be a ♂, the pupa would have to be continuously controlled, because the insects often try to make use of their wings inside the case directly after having developed, and in doing so the wings are so much damaged that the imagines can be neither recognized nor described, and often not even classified according to the neuration. Only those entomologists who live in the tropics will be successful in this respect, and the relatively large number of Psychidae mentioned from Ceylon on the following pages does by no means prove that this island abounds remarkably in Psychidae, but rather that very active collectors have been residing there for many years and bestowed great care upon breeding the sacciferous larvae they had found.

Such specialists, however, have not yet been found in Tropical America, for which reason the number of Psychidae hitherto known from that region is by far inferior to those ascertained in Europe and also to the Indo-Australians dealt with in the following pages; hardly a dozen species have been reported from the nearctic parts of America.

The great phylogenetic age of the Psychid family already mentioned in Vol. II and Vol. XIV makes us assume that the Psychidae are also most prominent in the oldest parts of the World. In the very archaic region of New Zealand only three species are found — 2 Orophora and 1 Liothula —, but the latter in such vast numbers of individuals and so much dispersed over the whole landscape of the New Zealand islands that, considering the very scanty lepidopteric fauna of these islands, the collector meets with them more frequently than the very numerous Psychid species of Ceylon are met all together in this island.

In the same way as in New Zealand, the Psychidae of the Australian continent are also remarkably well developed, and even in the botanical gardens and nurseries of the Australian towns we may see everywhere cases of Oiketicus, frequently of the size and shape of a cigar, hanging down from hedges and shrubs. Even on the rocks sloping down to the shore and being splashed with the water of the surging sea Psychid sacs of various sizes are to be seen hanging.
The statements made in Vol. XIV (p. 481) about the rare occurrence of the imagines of the African Psychidae in contrast with the frequency of the larval sacs, are also applicable to the Indo-Australian fauna in all respects. This disproportion is partly due to the insignificance of the imagines which very easily escape notice, especially because they often keep hidden on the ground. Moreover, the swarming time of the ♂ ♀ is frequently very early in the morning, often yet at night or in the early twilight, a most unusual time for collectors. This hour of flight mostly suffices for accomplishing the copulation after which the ♀ ♀ having copulated twice scarcely survived another hour. This hour of life being frequently at a time when little is collected or nothing at all, it is a matter of course that such ephemeral beings are rarely discovered.

Moreover, we must also take into consideration that, in spite of their protective cover, the Psychidae are very much infested by parasites. Of 38 sacs of the New Zealand Liothula omnivora Fer., which were of a finger's length, G. V. Hudson obtained only 1 ♀ imago; no fewer than 26 sacs yielded parasites, 8 were dead, 2 contained eggs, 1 a ♀ imago, and only 1 serviceable ♀ was gained from this whole collection of pupae. The pricked larvae yielded in this case a dipterous species, Eurygaster marginatus, which however is opposed again by a hyperparasite, a small Pteromaline, which propagates considerably faster than the fly *) and thereby prevents it from exterminating the lepidopteron.

Finally we must remark that the abandoned sacs do not decay very quickly and that for this reason by no means all those seen hanging are inhabited by live insects. The sacs of many very small species of the European Psychidae are spun on to blades of grass or quite loosely to feeble stalks of plants, decaying at the same time when these plants dry and fall off. This however is mostly not the case in the large Indo-Australians. A large ♀ sac of Metura elongata Sand., which I found already abandoned under my window-sill showed hardly any traces of decay after nearly half a year. Thus it is also for this reason risky in many species to infer the number of existing individuals from the number of larval sacs hanging about.

As to the life-habits of the larvae, the most important facts have been stated already in Vol. II; they are almost exactly the same in nearly all the species known. As the females remain in the sacs and are thus spun fast, the care for geographical distribution is left exclusively to the larva. Thus its capability of wandering is also very great, and especially the first hours after having crept out of the egg are used by the members of a hatch, which may often number 500—1000, for dispersing from their birth-place to all directions; sometimes they even start constructing their cases only two or three days after their birth, presumably for enabling the young breed to swarm out yet easily without being hindered by the load of the sac.

The organization of the Psychidae is so very primitive, even in the imago, that it is not quite easy to set up a satisfactory systematic order of the family. Above we have already pointed out the difficulties of delimitation and we need merely to add that the genera dealt with here were opposed as Macropsychinae (Tutt) to the Mesopsychinae (Dalla-Torre) and Micropsychinae (Tutt), the latter of which are very justly referred to the Microlepidoptera. The Macropsychinae are again divided into several subordinate groups which are partly accounted as subfamilies; as for instance the Moffattinae (Strand) (cf. Vol. II, p. 360), the Luffiinae (Dalla-Torre), the Fumicinae (Rebel), the Epichnopteryginae (Rebel), the Stichobasinae (Dalla-Torre & Strand), the Oiketicoidinae (Dalla-Torre & Strand), the Psychinae (Rebel), the Oiketicinae (Dalla-Torre); and these subfamilies are again subdivided into tribes and subordinate tribes. This shows explicitly that the Psychidae being so very similar in their exterior differ in characteristic features that are regarded as especially pronounced marks of distinction in other insect families. Moreover, several genera have been also split into subgenera.

Owing to the great resemblance in structure, the mostly thin scaling and the faded, generally quite monotonous colouring of the body and wings, illustrations of this lepidopteral family are only of secondary importance.

**Family: Psychidae.**

By M. Gaede.

The order of groups and genera applied here in correspondence with more recent works is somewhat different from that in Vol. II. We have already mentioned that we may expect quite an increase of species for the Indo-Australian Psychid fauna, but on the other hand many species will probably have to be withdrawn, because frequently a very tiny difference in the neuration has been used as a mark of distinction of a species, whilst it may be only a certain variability.

*) From a single pupa of the parasitic fly no fewer than 18 of such small wasps developed.
MOFFATIA; FUMEA; HECKMEYERIA; STICHOBASIS; APRATA; PTEROXYS. By M. GADEE. 731

a) Subfamily: Moffatiinae.

1. Genus: Moffatia Mr.

Remarkable for its very long antennae and the long; laterally projecting hair on the abdomen. The only species:

M. plumicauda Mr., from Kunawar, has been dealt with already in Vol. II, p. 369. Wings transparent, plumicauda.

b) Subfamily: Fumecinae.

2. Genus: Fumea Haw.


F. serricula Meyr. Antennae not pectinated at the tips. Forewing somewhat elongated, costal margin serricula.

serricula. slightly curved, apex truncate, distal margin oblique, bent. Both wings and fringe light grey. 9 mm. South India.

F. limulus Rgyh. A doubtful Fumecia, placed to the Tineidae by Hampson. Antennae strong, as long limulus.

as the forewing, with one row of dents. Forewing loam-coloured, strewn with blackish-brown scales and with 3 round black spots. One in the centre of the cell, the second smaller one at the cell-end, the third, somewhat oblong one in the fold below the first. Besides black dots at the ends of the veins. Fringe ash-grey with a dark 

partition-line. Hindwing greyish-brown. Abdomen blackish-brown, anal tuft brownish ochreous. — The case constructed of sand, moss and lichens forms a narrow conical tube attaining a length of 1½ cm and bears in front above a broad round screen of a diameter of about 1 cm. 19 mm. Ceylon.

F. taiwana Wil. & South. Forewing bronze brown, dusted with black, especially in the median area. taiwana.

A black spot at the costal margin, and black marginal dots. Hindwing and under surface blackish. 18 mm.

Formosa. The position in Fumecia is somewhat doubtful.

c) Subfamily: Stichobasinae (Psychoidinae Heyl.).


The antennae of the 5 are pectinated with long double dents. Head and thorax with long hair, abdomen with short hair. Legs with long hair. A very long curved thorn on the anterior tibia, a pair of short spurs on the hinder tibia. Forewing with 11 marginal veins, hindwing with 7 marginal veins according to Heylaerts, 8 according to Snellen. Veins 7 + 8 of forewing stalked.


the margin broadly brown of the colour of the forewing. — The greyish-yellow case of the larva is 15 mm long, somewhat conical, constructed of sand and moss, in front with some lobate appendices. 12 mm. Volcano of Arjuno (Java).


The long pectinations of the antennae are distantly separated. Tibia with a pair of long spurs. Veins 6 and 10 are absent in the forewing; 8 and 9 stalked. In the hindwing veins 5 and 6 are absent; 8 is stalked with 7. This genus may not belong at all to the Psychidae like the following genus.


hindwing brownish ochreous. 17 mm. Nilgiris.

5. Genus: Aprata Mr.

The two species described of this genus, macwoodi Mr. and thwaitesi Mr., are reckoned to the Tineidae now.

d) Subfamily: Chaliinae Hmps.

The two inner-marginal veins of the forewing remain separated, no branch extends to the inner margin. Only a single pair of spurs on the posterior tibia.


Antennae with very long pectinations. Anterior tibia without a spine. Wings long and narrow. Veins 1b and 1c of forewing anastomose in the last third, veins 8 and 9 are stalked. A bar between veins 7 and 8 of hindwing. The cell is divided by a forked vein in both wings.
7. Genus: Mahasena Mr.

Regarding this genus we refer to Vol. II, p. 364.

M. hockingi Mr. (Vol. II, pl. 55 b), from Kangra, thus from the border-land of the palaeartic and Indian faunae, has already been dealt with in Vol. II, p. 364.

M. graminovora Hmps. differs from hockingi in the apex of the forewing being rectangular, not pointedly projected. Distal margin straight, not oblique as in hockingi. Larva destructive to grass. 30 mm. Calcutta.

M. andamana Mr. is smaller than hockingi (Vol. II, pl. 55 b), otherwise similar. Body blackish-brown, wings smoky brown, darker at the base. Neuration different from that of hockingi. The vein parting the cell is longforked in both wings, veins 4 and 5 of hindwing not stalked. 26 mm. Andamans.

M. taprobana Hmps. Veins 8 + 9 of forewing on a very short stalk. Uniformly red-brown mixed with some grey hairs. The larval case is covered with short pieces of twigs in a spiral order. 20 mm. Ceylon.

M. theivora Dudy. Veins 4 and 5 arise from the same base in both wings. Uniformly blackish-brown, only the tarsi white. The soft larval sac is covered with pieces of leaves of the tea-plant. 30—32 mm. Sikkim.

M. poliotricha Hmps. Veins 4 and 5 of forewing from the angle of the cell. Thorax silky whitish-grey mixed with dark brown hairs. Abdomen blackish-brown, whitish-grey beneath. Wings dark greyish-brown, fringe white. The larval sac is clad with short pieces of grass in a spiral order. 30 mm. Kangra.


8. Genus: Chalia Mr.

Anterior tibia with a long spine. Antennae strongly pectinated, the dents decreasing towards the apex. Wings broad and round. Forewing: veins 4 + 5 and 7 + 8 + 9 stalked. The hindwing lacks veins 5 and 8.

Ch. doubledayi Wesm. (91 a). The whole body is greyish-brown. Both wings quite hyaline. The larval case is covered with small thin sprigs in a longitudinal direction. 17 mm. Ceylon.

Ch. javana Heyl. Body and wings blackish-brown, thorax grey. Forewing oblong, with a pointed apex and 11 veins, veins 6 + 7 + 8 on a long stalk, no partition-vein in the cell. Of the 4 white spots the first, diaphanous spot is in cell 3, the second is lustrous white in the centre of cell 4, the third smaller one is near the distal margin in cell 7, and a very small dingy white one in cell 6. The interior part of the hindwing is without scales. Veins 3 + 4 are stalked here. Vein 8 and the long-stalked 6 + 7 proceed from an areole. The principal cell is without a partition-vein. The sac is 25—30 mm long, 8 mm thick, constructed in the shape of winding stairs. 23 mm. Batavia.

Ch. larminati Heyl. (90 h). The genus Acanthoechia was established by Joannis for this species. Body white-haired, darker beneath. The white forewing is broad, rounded, with a very large blackish-brown central spot and a similar apical area and fringe. Veins 4 + 5 and 7 + 8 on short stalks, discal cell broad, not parted. The broad hindwing is also white inclusive of the fringe, but the costal margin is broadly blackish-brown. Vein 5 absent, the cell is short in front, long behind, partition vein present. 21 mm. Tonkin. The sacs are 25—40 mm long and only 3 mm thick, they are used as branches by the species of Otia, e. g. variegata, in covering their sacs.

Ch. riemsdyki Heyl. (90 k). Head reddish-yellow, body brown above. Forewing somewhat oblong, blackish-brown with an orange band beginning below the centre of the costal margin, turning obliquely inwards and growing broader. Hindwing of the same colour, only at the costal margin from the base to the centre orange, and so almost as far as the inner margin. Under surface the same. Forewing: veins 4 and 5 on a short stalk, 7 and 8 arise from the same base. Hindwing very pointed at the apex, veins 6 + 7 on a short stalk, discal cell very large. The sac is about 16 mm long, cylindrical, irregularly covered with sand and parts of plants. 12—15 mm. Sumatra.
e) Subfamily: Psychinae.

The two inner-marginal veins of the forewing despatch a single spur to the inner margin. The posterior tibiae are shorter than the anterior ones.


All that is necessary to say about this genus is mentioned in Vol. II, p. 361.

Subgenus: *Heyloertisia* Hmps.

Veins 1 b and 1 c of forewing fused in the distal halves, besides a ray extends to the inner margin. Vein 6 is present, the partition-vein in the cell forked. Hindwing without vein 6, partition-vein not forked, vein 8 connected with the cell by a bar.

*Ps. griseata* Hmps. (91 a). Body and forewing blackish-brown, forewing with a bluish-grey spot behind and below the centre. Hindwing bluish-grey, narrowly dark brown at the margin. ♀ 23 mm. Ceylon.

*Ps. fusca* Hmps. (91 a). Body and wings uniformly dark brown without any marking. — Larval sac fusca. About 12 mm long, quite similar to the well-known sac of *Am. quadrangularis*. ♀ 23 mm. Ceylon.

*Ps. nudilineata* Hmps. (91 a). Body dark brown, wings somewhat lighter brown. 4 parallel distinct brownish ochreous transverse stripes on the forewing, 3 very obsolete stripes on the hindwing. Judging from the original figure of the neuration, the species cannot belong to this group, for the hindwing shows the partition-vein forked and vein 6 present. ♀ 18 mm. Ceylon.

Veins 8 + 9 of forewing stalked in the preceding species, but veins 7 + 8 in the following species.

*Ps. laniata* Hmps. Body and wings blackish-brown, both long-haired. Veins 7 + 8 of forewing on laniata, a short stalk, 9 + 10 on a long one. Veins 4 + 5 of hindwing stalked. ♀ 14 mm. Ceylon.

*Ps. quadriposita* Hmps. Vein 9 of forewing arises near the base of 7 + 8. This species is also uniformly blackish-brown, with a silky gloss. Forewing with some white scales, a white streak at the cross-vein and a white spot above the centre of the inner margin, where veins 1 b and 1 c are united. ♀ 15 mm. Ceylon.

Subgenus: *Chalioides* Hmps.

Veins 4 + 5 and 8 + 9 of forewing stalked, 6 absent. Vein 8 of hindwing connected with the cell by a bar. Partition-vein of cell forked in both wings. Forewing rather pointed.

*Ps. vitrea* Hmps. (91 b). Body greyish-brown. Forewing and hindwing transparent, only with a black marginal line, ♀ 24 mm. Ceylon.

*Ps. ferfirevitrea* Joanni. (91 b). Wings diaphanous, some black scales only at the anal angle of the hind- firevitrea. wing. Antennae black, rather long pectinated, white hairs on the anterior tibiae. Forewing oblong, rounded at the apex. Veins 4 + 5 always on a long stalk, vein 7 absent according to Joannis and not vein 6, 8 + 9 almost invariably on a long stalk, sometimes 9 is absent. All the veins of the hindwing are separate, the partition-vein of the cell is hardly ever forked. Sac 21—26 mm long, 3⅓—4⅔ mm thick, of greyish-white silk. ♀ 19 mm. Tonkin.

Subgenus: *Manatha* Mr.

Separated from *Chalioides* by the presence of vein 6 on the forewing, which arises near the upper cell-angle. Partition-vein of cell not forked in both wings. This group is also represented in the Ethiopian fauna.

*Ps. albipes* Mr. (93 a). Uniformly dark brown, only the tarsi purely white. — Larval sac about albipes. 25 mm long and in front 8 mm thick, grey, spun with small remnants of plants. ♀ 19 mm. Ceylon.

*Ps. scotopepla* Hmps. Veins 4 and 5 of forewing from the cell, 11 anastomoses with vein 12 at one scotopepla. place. Uniformly blackish-brown, only the tarsi are white, Larval sac covered with small pieces of bark. It lives on tea. ♀ 14 mm. Cachar.

Subgenus: *Eurycyttarus* Hmps. (*Eurukuttarus* Hmps.).

a) Veins 7 and 8 + 9 of forewing from the upper cell-angle.

*Ps. melanostola* Hmps. Body black-haired. All the wings reddish-brown, darker at the veins and melanostola. margins. ♀ 18 mm. Khasia Mts.

*Ps. pileatus* Hmps. (91 a). Blackish-brown, body and bases of wings somewhat paler. The original pileatus. figure exhibits besides a light radial streak in the cell of the forewing. ♀ 18 mm. Nilghirs.
Ps. nigra Hmps. has already been dealt with in Vol. II, p. 362. The species is not figured there and the reference 56 g has to be cancelled. The species presumably occurs also in Indian districts.

b) Veins 7 and 8 of forewing arise from the upper cell-angle, 9 a little more basad.

Ps. rotunda Hmps. (91 b) is an insignificant blackish-brown little insect with broad rounded wings. ♂ 16 mm, Ceylon. The larval case is elad with scales of bark and little pieces of stalk.

Ps. decemvena Hmps. (Vol. II, pl. 56 g) has also been described in Vol. II, p. 362; it is separated from nigra Hmps. by the absence of vein 8 in the forewing. Cashmere.

Subgenus: Barandra Mr.

The two inner-marginal veins of the forewing are not fused here, but a ray extends from the lower one to the inner margin. Veins 8 + 9 stalked. Vein 8 of hindwing connected with the cell by a bar. Both wings lack vein 6.

A. bipars Wkr. Body black with white hair. Forewing hyaline, only the basal third smoky brown, the marginal line and veins black. Two thirds of the hindwing beginning from the base are smoky brown, the margin and veins as in the forewing. ♂ 16–26 mm. This species is remarkably similar to Koph. weyersi Sn. and to the Lymantriid Pernia nuda F. (Vol. II, pi. 21 d). Bombay.

A. nigraplaga Wil. (Vol. II, pl. 56 g). Similar to bipars, but of a different neuration. The black marking at the base of the hindwing is more extensive, less extensive on the forewing. The rest is hyaline. From Sikkim, Tonkin, also in Japan, therefore figured in Vol. II, pl. 56 g.


b) Veins 4 and 5 in both wings from the cell. Veins 7 + 8 + 9 of forewing stalked.

A. cana Hmps. Head white, thorax and abdomen pale ochre. Wings greyish-brown. — Larval sac about 30 mm long, 6 mm thick, elad with little remnants of plants. ♂ 23 mm. Ceylon.

c) Veins 4 and 5 of forewing from the cell, 7 below the upper cell-angle.

A. minor Mr. Body long-haired. Wings with small scales, pale copper-brown. Under surface paler. ♂ 15 mm, Calcutta.

d) Neuration not stated.

Subgenus: Dasaratha Mr.

A. minima Hmps. Uniformly blackish-brown, wings thinly scaled with black hair, somewhat more densely only at the inner margin of the forewing at the base. Larva pricked almost to its extermination. ♂ 12 mm. Ceylon.

Inner-marginal veins of forewing as in the preceding subgenus, vein 6 present, absent in the hindwing. The partition-vein of the cell is forked in both wings, veins 4 and 5 of forewing not stalked, 7 + 8 + 9 stalked and then branching off at the same place.
A. himalayana Mr. Body and wings dark brown, thorax still darker. Veins $7 + 8 + 9$ of forewing himalayana-stalked. $\delta$ 18 mm. Dharmasala, Punjab. The species has been mentioned already in Vol. II, p. 355. The type is so badly preserved, that it is of no use to figure it.

A. exacta Joann. Uniformly blackish-brown above; frons, legs and abdomen beneath grey. Costal exacta. margin of forewing slightly curved, apex somewhat pointed. The sac is 20 mm long, 4 mm thick, of grey silk. $\delta$ 13 mm. Tonkin.

A. longicauda Warr. has been described as (?) Psyche, but placed to this subgenus by HAMPSON. Thorax and body with shagged blackish-brown hair, according to HAMPSON greyish ochre. Wings dull blackish-brown, forewing more densely scaled at the costal margin and thereby darker, diaphanous in the other places. According to HAMPSON, the wing is hyaline with some brownish ochrous and blackish-brown scales, and a brown costal margin. Abdomen with a long brown hair-tuft at the end. Vein 7 of forewing from the cell, veins $4 + 5$ stalked in both wings. $\delta$ 28 mm. Campbellpore (India).

A. canarensis Hmps. $\delta$ uniformly copper-brown. Veins $4 + 5$ stalked in forewing, 7 arises from the canarensis. cell. Vein 6 of hindwing arises at the centre of the cross-vein. $\delta$ 24 mm. Canara.

Subgenus: Brachycyttarus Hmps.

Inner-marginal veins of forewing as hitherto, veins $4 + 5$ and $8 + 9$ stalked, 6 absent. Hindwing somewhat triangular.

A. subteralbatus Hmps. (= subteralbatus Hmps.) (91 b). Body and wings dark brown. Only the hindwing beneath lustrous bluish-white. — The larval case is about 12 mm long and is said to be suspended on a thread. $\delta$ 14 mm. Ceylon.

A. griseus Joann. (90 h). Grey with white fringe, somewhat lighter on the hindwing. Forewing beneath grey, hindwing white, legs and abdomen greyish-yellow. Forewing more rounded at the apex than in subteralbatus. — The sac is 13 mm long, very thick, very irregularly covered with stalks of grass. Suspended for the pupation on a thread 10 mm long. $\delta$ 14 mm. Tonkin. In the original figure the ground-colour is brown, not grey.

Subgenus: Cremastopsyche Joann.

Antennae with long pectinations, gradually shortening towards the tips. Vein 1 b of forewing despatches a bar to the inner margin. Vein 5 is mostly present, 7 almost invariably absent, $8 + 9$ mostly stalked. The hindwing almost invariably lacks vein 6.

A. pendula Joann. Dark brown. Size and shape of wings as in Brach, griseus. Beneath the posterior pendula. tibiae and the abdomen are whitish, the hindwing bluish-white, only at the margin narrowly dark brown. — The sac is 8—10 mm long, 2—3 mm thick, suspended for the pupation on a thread 7—12 mm long. $\delta$ 14 mm. Tonkin.

Subgenus: Pteroma Hmps.

Antennae of $\delta$ with very long pectinations. Inner-marginal veins as hitherto. Vein 6 + 7 absent in forewing, $8 + 9$ stalked, 11 anastomoses a little with vein 12. The hindwing lacks the upper part of the cross-vein and vein 6.

A. plagiophleps Hmps. differs from subteralbatus (91 b) only in the antennae and the neuration. The plagiophleps. larval case is the same as in subteralbatus, besides the suspending thread is spun with remnants of plants. $\delta$ 15 mm. Ceylon.

Subgenus: Metisa Wkr.

Only veins $8 + 9$ of forewing stalked, vein 6 present in both wings. Veins 8 of hindwing branches off from the cell-end.

A. plana (91 b). Body blackish-brown, with hardly any scales. Wings very pale brown, broad. $\delta$ 15 mm. plana. Ceylon.

A. canifrons Hmps. Uniformly blackish-brown, according to JOANNIS brown. Veins $7 + 8 + 9$ of canifrons. forewing stalked, $\delta$ 20 mm. Sikkim.


A. atra Joann. Forewing rounded, black, hindwing also round, jet-black, but less clad with white atra. hairs. Separated from the similar canifrons by the much darker ground-colour and larger hindwings. — The sac is spirally constructed, wound either to the left or right, spun parallel with fine sprigs of 8—10 mm length; 18—30 mm long, 4—8 mm thick. A similarly constructed sac is that of Mah. poliotricha and Ch. javana. $\delta$ 18 mm. Tonkin.

Subgenus: Amicta Heyl.

The two inner-marginal veins of the forewing are not fused, the upper one is only short. The only Indian species shows vein 6 present in the forewing and $7 + 8 + 9 + 10$ stalked.
A. rhabdophora Hmps. (91 b) is a very delicately built species. Body and forewing blackish-brown, bluish-white at the base. Hindwing purely white. The larval case of the ♂ is suspended on a thread, that of the ♀ is smoother outside and not suspended. ♀ 14 mm. Ceylon.

Subgenus: Hemilipia Hmps.

Forewing with a very oblique distal margin. The two inner-marginal veins are separated, the upper one reaching also the distal margin, not despatching a spur to the inner margin as in Amicta. Veins 4 and 5 from the same base. The upper cell-angle is far produced, veins 7 and 8 from the angle, 6 below it, 9 absent. The hindwing lacks vein 5, 8 is connected with the cell by a bar. The partition-vein of the cell is forked in both wings.

A. punctimarginalis Hmps. Body covered with long black hair. Forewing white with black spots and streaks at the costal margin as far as its centre and on the whole inner margin. The whole rest of the wing is transparent, with black veins and some black scales. Hindwing black-haired at the inner margin, otherwise transparent, with black veins. ♂ 26 mm. Ceylon.


As the only species of this genus is placed to Oeketicus by Meyrick, it presumably differs only in the somewhat different shape of the wings. The pectinations of the antennae seem to extend farther to the tips.

L. omnivora Fer. (90 h). Body blackish. Forewing very oblong, blackish-brown, somewhat scantily scaled. The hindwing is semihyaline and appears lighter for this reason. — The larva lives on willows, conifers and many other plants; the sac consists of reddish-brown silk, clad with few remnants of plants. ♂ 30—36 mm. New Zealand.


As the only species of this genus is placed to Oeketicus by Meyrick, it presumably differs only in the somewhat different shape of the wings. The pectinations of the antennae seem to extend farther to the tips.

P. abdominalis Strd. Thorax blackish in front, fawn-coloured behind. Wings scantily clad with partly long hair, the veins of the forewing lighter. ♂ 22 mm. South West Australia.


Antennae pectinated to the tips (?). The two inner-marginal veins are fused as far as the centre, veins 4 + 5 and 7 + 8 stalked, 9 absent. Hindwing without veins 5 and 6, vein 8 without accessory veins. Type: hypomela Meyr.


E. panagria Meyr. Body blackish-brown. Forewing with a more excurred costal margin than in agriodes and therefore broader. Veins 7 and 8 separated. Forewing and fringe blackish-brown. Veins 4 + 5 of hindwing stalked, hindwing blackish-brown, fringe the same. — The sac is spun with somewhat larger pieces of bark. ♂ 16 mm. Queensland.


Antennae pectinated to the tips. Body moderately long. Inner-marginal veins as in Elinostola. Forewing without vein 5, 6 above the centre of the cross-vein, 7 sometimes stalked with 8, 8 + 9 stalked, 10 + 11 sometimes stalked. Hindwing without vein 5; veins 6 and 7 nearer together or united, 8 branches off behind the centre of the cell.

H. nigrescens Dhl. (= ? herichi Wur.). Body black, legs reddish ochre. Forewing oblong, costal margin straight, iridescent hyaline. Veins reddish ochre, of the same colour a broad costal-marginal stripe as far as the cell-end. Base of wing blackish, especially at the inner margin. Hindwing small, rounded, colour and veins as on forewing, more densely scaled at the inner margin. Fringe brownish ochreous in both wings. 26 mm. Sydney, Adelaide. — The sac is 30—40 mm long, 8 mm thick, greyish ochre, cylindrical, without clothing, with 7 longitudinal furrows. On Eucalyptus.
**H. huebneri** We., (= careyi Macal.) (91 b). Body blackish-brown. Antennae dark orange, thus conspicuous. Legs dark brown. Wings iridescent hyaline. Veins pale brownish ochreous, costal margin broadly pale yellow on ⅔ of its length. Fringe brownish ochreous. Hindwing small, corresponding to forewing. Basal half of costal margin broadly black. 26—28 mm. Adelaide, Melbourne, Sydney, Brisbane. The sac is 40 mm long, 13 mm thick, greyish-white or greyish-brown, very differentely decorated according to the very variable food-plants.

**H. ptiloclada** Meyr. Body black, head and thorax in front whitish. Abdomen rather long. Forewing ptiloclada. very oblong, distal margin very oblique. Hyaline-iridescent. Veins and costal margin as far as ⅔ pale brownish ochreous. ⅔ of base densely scaled blackish-brown. Hindwing rather small, marked according to forewing, but the blackish-brown colour at the inner margin is more extensive. Fringe of both wings the same. 28 mm. Victoria.

**15. Genus: Genduara** Wkr.

Body strong, antennae broadly pectinated except at the apex, not longer than the thorax, thus very conspicuous. Abdomen projects hardly beyond hindwing. Forewing with a very oblique distal margin.

**G. cinerea** Wkr. Grey. Thorax above and abdomen at the end white. Forewing with 2 black spots cinerea. in the disc and one at the inner margin. Some black spots at the distal margin. “16 lines”. N.-S.Wales. It may be no Psychid at all.


Antennae bipectinate to the tips. Forewing without vein 5; 8 + 9 stalked, the others separated. Only 1 spur extends from 1 b to the inner margin, 2 inner-marginal veins are present. According to the original figure, only veins 2, 3 and 4 are present in the hindwing, the others are absent except vein 8 which is fused with the cell.

**A. herrichi** We. (91 c). Body black, head and collar greyish-white. Forewing hyaline, except the herrichi. costal margin and anal area which are black. According to the original figure, however, only the base is somewhat black at the costal and inner margins. The inner margin of the hindwing is broader black. The specimen of the Berlin Museum, which I take to be herrichi, is somewhat different. The immediate base of the forewing is also yet greyish-white, the black part behind it extends to ⅔ of the costal margin and to ¼ of the inner margin; veins 4 and 5 stalked. Veins 4 and 5 of hindwing also stalked, the interior half of the costal margin black as far as the centre of the cell. 25 mm. Adelaide, *Chania tennis* Rosenst., is probably the same. According to MEYRICK, the species is identical with *Hyal. nigrescens*.

**A. sumatrensis** Heyl. Thorax white above, with brown hair beneath. No thorn on the anterior tibiae. sumatren-**s**. Wings hyaline, fringe white. Forewing somewhat oblong, veins 4 + 5 on a long stalk, 7 + 8 the same. Discal cell in front extended outwards. Veins 2—7 of hindwing separated, very short. Abdomen also short. Sac greyish-white, that of the 24 mm long, 2—5 mm thick, that of the 55 mm long, 3—8 mm thick. 18—20 mm. Sumatra.

c) **Subfamily**: Oeceticinae H.-Schöff.

The two inner-marginal veins of the forewing anastomose and despatch several branches to the inner margin. The partition-vein of both cells bifurcated.

**17. Genus: Oiketicus** Guilding.

The typical species are only distributed in America, the Indian ones belong to the

Subgenus: **Dappula** Mr.

Antenna of strongly pectinated on two thirds of its length. Both wings very much extended at the apex. Anterior tibia with a thorn. Abdomen long.

**O. tertius** Templ. (= templetonii We.). Thorax greyish-black, abdomen blackish-brown. Forewing tertius. dark greyish-brown with brown veins. A black spot in the cell-end, slightly darker behind it and at the base of the inner margin. Hindwing somewhat lighter than forewing, veins brown. The sac is about 35 mm long, 8 mm thick, spun with small remnants of leaves. 35 mm. Hongkong, Ceylon.

**O. riemsdyki** Heyl. Antennae blackish-brown, not pectinated in the last third. Body strongly brown-**riemsdyki**. haired. Forewing with liver-brown scales and hair. Hindwing coloured the same, slightly pressed in at the distal margin, veins 4 + 5 on a short stalk. The sac is 70—80 mm long, spindle-shaped, spun with pieces of leaves and whole leaves. 50—52 mm. Sumatra.

**18. Genus: Metura** Wkr.

Separated from *Oiketicus* by still narrower forewings. The tip of the antenna is not pectinated and relatively longer. Veins 3, 4 and 5 of hindwing present, only two of these three being present in *Oiketicus*. X
elongata.

M. elongata Snds. (= saundersii Wkr., capucina Wilgr.) (90 k). Brownish-black. Anterior half of thorax orange yellow like the faded leaf. Veins of both wings white. ♀ 40 mm long, orange yellow in front, pale yellow behind. The sac is 100—150 mm long, longitudinally spun with some small sprigs. ♂ 45—50 mm. Sydney.


Antennae of ♀ strongly pectinated to the tips. Abdomen somewhat shorter than in Oiketicus. Forewing with a somewhat more oblique distal margin. Veins 4 + 5 and 8 + 9 stalked, 6 present. Vein 8 of the rounder hindwing mostly despatches spurs to the costal margin. Anterior tibia with a long thorn. HAMPSHOR states lewinii Wkr. to be the typical species in the forewing of which, according to the original figure, 3 branches extend to the inner margin, whilst none extends to the costal margin in the hindwing. The species mentioned here also make a very different impression by their exterior and neurosis, so that some species are certainly not correctly placed here.

lewinii.

C. lewinii Wkr. (90 i). Body greyish-black, patagia above edged light. Wings dark grey, brownish at the base, veins black. Larval sac about 35 mm long, clad with almost equally long small staffs in a longitudinal direction, 10 mm thick. ♀ 30 mm. Australia. Psyche albifrons Wilgr., according to AURIVILLIUS, is probably this species.

cramerii.

C. cramerii Wkr. (= consorta Wkr., nieltneri Fbr.) (90 i). Body with lighter and darker brown hair. Forewing red-brown, veins black. At the margin there are two long white radial streaks and a short one between them, the rest of the margin rather darker, blackish-brown. Hindwing dark brown. Larval sac as above. ♀ 30 mm. Ceylon.

variegata.

C. variegata Su. is very similar to cramerii, but larger and with but one white stripe at the margin. The original figure from Celebes shows one narrow white stripe each at the upper cell-margin and distally to it. Distal margin just as oblique as in cramerii. ♀ 40 mm.

layardii.

C. layardii Mr. (90 k) STRAND and myself consider to be different from variegata, though perhaps only as a form of it. The distal margin of the forewing seems to be more oblique, the cell and the space below it as far as vein 1 b much lighter. Marginal area more contrastingly spotted light and dark. ♀ 40—52 mm. India, Sunda Is., New Guinea. — sikkima Mr. is said to be a darker form and might therefore be identical with variegata; whether pryeri Leech belongs to variegata or layardii cannot be said. — wallacei Swh. is a name for the large specimens (50—52 mm) from Borneo. It is reported to differ from layardii in the relatively shorter abdomen, which mark of distinction varies much. bougainvillea Strd. only differs from wallacei in dark marginal lines on the thorax. From Bougainville. The latter name is at any rate untenable, because maxima Bkr. is older.

formosicola.

C. formosicola Strd. is very similar to variegata, but the dark veins of the latter species are deep black here, the areas 3 and 5 to 8 are also deep black, whilst the area 4 is mostly hyaline. The anterior part of the cell is not quite hyaline. The light not hyaline area in the cell of variegata is marked here by two separated blotches. Hindwing somewhat darker than in variegata. ♀ 38 mm. Formosa.

javanica.

C. javanica Swh. is reported to be as large as layardii, but the body and wings are narrower, the marking very much like that of layardii. The differences are therefore somewhat uncertain. ♀ 48 mm. Java.

bifenestralis.

C. bifenestralis Piep. & Su. is similar to a small variegata, but the light spots on the forewing are not in the same place. The costal margin is of the ground-colour, the inner margin lighter than in variegata. The cell 1 b is pale brown in the centre, the discoidal cell pale brown in the second half. A hyaline spot in cell 3 occupies two thirds of it or a little more, the likewise hyaline spot in cell 6 is triangular, and a yellow dot is at the end of cell 4. The greyish-brown hindwing is greyer at the inner margin and in the cell. ♀ 22 mm. Batavia.

fuscescens.

C. fuscescens Su. (90 i) is as large as variegata. Ground-colour brown like a faded leaf, the veins and the cross-vein somewhat black. Hindwing greyish-brown. ♀ 35 mm. Batavia. Veins 4 and 5 on the forewing of this species are said to be not stalked, and vein 8 of the hindwing despatches no spur to the costal margin. This, however, is the case in one specimen each from Palawan and Tocal Key, which I consider to be fuscescens.

tjpammensis.

C. tjpammensis Heyl. Body blackish-brown. Forewing with coppery brown scales and hair, blackish-brown in the cells 2—9, fringe the same. Hindwing almost triangular, copper-brown, fringe the same. Veins 4 + 5 stalked in both wings. 9 and 10 of forewing arise from the same place. ♀ 30 mm. Preanger.

dewitzi.

C. dewitzi Heyl. (90 h). Body and wings blackish-brown. Forewing with a pointed apex, densely haired, vein 7 and 8 + 9 arise from the same place. Hindwing almost triangular, black, somewhat brown at the anal angle. The sac which arrived together with the type and therefore probably belongs to it, is 28 mm long, 9 mm thick, irregularly covered with fine transverse twigs and with a few long projecting twigs in a longitudinal direction. ♀ 31 mm. Sydney.
C. gigantea Dudy. (90 k). Forewing dark brown, lighter ochreous brown below the cell and below vein $g$.

2. Hindwing dark brown, with an extended apex, pressed in at the margin at vein 3. Veins 4 + 5 and 7 + 8 + 9 + 10 of forewing stalked, vein 10 is separate in my specimen. Veins 4 and 5 of the hindwing arise from the same place, a spur extends from vein 8 to the costal margin. Described as *Metisa*, but it presumably belongs to this place. $\geq 50$ mm. Sikkim, West Sumatra.

C. ignobilis Wr. Body reddish ochreous. Forewing oblong, distal margin oblique, blackish-brown at *ignobilis*. Veins 8 + 9 of hindwing stalked, vein 8 of hindwing connected for some distance with 7. Accessory veins to the inner margin and on the hindwing to the costal margin feeble. Vein 8 + 9 of forewing stalked, vein 8 of hindwing is connected for some distance with 7. 


C. pholidias Meyr. Body and legs brownish-ochreous. Antennae with uncommonly long pectinations. *pholidias*. 12 mm from one tip to the other. Forewing semi-diaphanous, iridescent, scantily scaled on the margins, somewhat more densely only at the base of the costal margin. Veins lighter brown, fringe dark brown. Hindwing rounded, brownish-ochreous at the inner margin, otherwise like the forewing. $\geq 40$ mm. Cairns.


C. joannisii Heyl. Body blackish-brown. Forewing brown, broad, rounded at the apex, the discal margin *joannisii*. Somewhat oblique. Veins 4 and 5 from the same base, 7, 8 and 9 from the upper cell-angle, where we notice a large black spot. Discoidal cell blackish-brown above and below. The areas 5, 6 and 7, as well as 1 a are yellowish-brown. Hindwing blackish-brown, rounded. Both wings beneath dotted black. $\geq 21$ mm. Manila. The species is presumably not correctly ranged here, as it is described by the author together with *Am. vanlogeri*.

The following species exhibit somewhat different veins and differ also in their small size.

C. destructor Dudy. Veins 4 + 5 on a long stalk in both wings. Veins 8 + 9 of forewing normally *destructor* stalked. Accessory veins to the inner margin and on the hindwing to the costal margin feeble. Vein 8 of hindwing anastomoses with the cell-end and later on once more with vein 7. Body reddish-brown, mixed with grey and brown hairs. Forewing the same, black at the veins. Distinguished from *cramerii* (90 i) by the absence of red spots and of the light spot between veins 4 and 5. The large conspicuous pale spot is here between veins 3 and 4, but only a small marginal spot between 4 and 5. A triangular light spot below vein 7. Hindwing reddish-brown with black veins. The larval sac is longitudinally covered with small twigs of the tea-plant to which the larva does great harm. $\geq 20$—$24$ mm. Sikkim, Bhutan, Borneo.

C. monochroma Hmps. Veins 4 + 5 of hindwing stalked, 8 connected with the cell by a bar near the cell-end, without branches to the costal margin. Body and wings dark brown, without markings. Larval sac of white silk, covered with excrements, bark and small pieces of twigs. $\geq 28$ mm. Ceylon.

C. antrami Hmps. Veins 4 + 5 of forewing not stalked. Hindwing without vein 6 and branches from *antrami* vein 8 to the costal margin. Body dark greyish-brown. Forewing dark brownish ochreous, more blackish-brown in the marginal area. Hindwing blackish-brown, paler in the centre. The sac is covered with remnants of tea-leaves. $\geq 20$ mm. Cachar.

C. leucosoma Sn. Body greyish-white. Forewing red-brown above and beneath. Hindwing presumably *leucosoma*. The same, though it is not stated in the original description. Excepting the neuration, similar to the European *Psyche unicolor*. Veins 8 + 9 of forewing stalked, vein 8 of hindwing is connected for some distance with 7 behind the cell. No branch from vein 8 to the costal margin. $\geq 15$ mm. Java.

C. hekmeyeri Heyl. Forewing with a round apex, antennae bipectinated to the tips, the spine of the hekmeyeri anterior tibia only short. Body covered with brown hair. Wings blackish-brown. Larval sac covered with pieces of leaves of Laurus camphora. $\geq 9$ (?) mm. Batavia, Tonkin. According to the author, the species forms a transition to *Epichnopteryx* and *Fomea*.

20. Genus: **Amatissa** Wr. (Kophene Mr.)

Anterior tibia without a spine, the last tarsal joint long. Antennae with long pectinations. The two inner-marginal veins of the forewing anastomose and despacht two branches to the inner margin. Veins 4 and 5 from the same base, $8 + 9$ stalked. The hindwing lacks vein 6, 8 is connected with the cell by a bar.
A. consorta Tempi, nec Wkr. (= inornata Wkr.) (Vol. II, pl. 56 g). Body and wings dark brown. The last rings of the stretched out abdomen are yellow. Larval sac relatively large, 35 mm long, 9 mm thick, spun with small remnants of plants. ♂️ 28 mm. Ceylon, Borneo.

A. cuprea Mr. (90 h) is very similar, but smaller. The colour is more old copper brown. ♂️ 20 mm. Calcutta, Tonkin.

A. weyersi Heyl. Body and wings blackish-brown. Abdomen very long, legs yellow. Exactly like Ac. bipars Wkr., so that the author himself cancelled his species, but declared it to be valid again later on, owing to the different neuration. Veins 4 + 5 of forewing on a long stalk. It may be possible, of course, that it is in fact merely an aberration of the veins of bipars. ♂️ 32 mm. Sumatra.

A. butleri Heyl. Body blackish-brown. Veins 4 + 5 of forewing on a short stalk, 7 and 8 + 9 + 10 from the upper cell-angle; forewing blackish-brown. Hindwing the same. ♂️ 22 mm. Sumatra.

A. moorei Heyl. (= grotei Mr.). Separated from cuprea (90 h) by its small size, from butleri by its colour and neuration. Body greyish-brown. Wings coppery yellow, fringe with a coppery gloss. Forewing bent back at the apex, the inner margin and distal margin form almost a right angle. Veins 4 and 5 arise from the same base, 8 + 9 on a long stalk, arising with 7 from the same base. Veins 4 and 5 as well as 7 and 8 arise from the same bases. ♂️ 16 mm. Bangalore.

A. albitarsia Hmps. The last tarsal joint is not so long as in the type. Veins 4 + 5 stalked in both wings. All is reddish-brown, only the anterior tarsi whitish. ♂️ 20 mm. Ceylon.

A. snelleni Heyl. (90 k). Body and wings brownish ochreous. Forewing with a pointed apex, distal margin straight, somewhat more oblique than in consorta. A blackish-brown streak at the cross-vein. Veins 8 + 9 on a long stalk, vein 7 distinctly separated or also yet a little stalked with 8 + 9, veins 4 and 5 arise from the same base or separately. The distance of veins 3, 4 and 5 of the hindwing is very variable. The sac is 30 mm long, 5 mm thick. ♂️ 22—25 mm. Assam, Kina Balu. Most probably identical with A. leonina Tams from Bangkok.

A. vaulogeri Heyl. (90 h). Body and wings yellowish-brown, the latter somewhat darker. Fringe of forewing brown. ♂️ 30 mm. Tonkin. Described by the author as a species of Clania, according to Tams it belongs to this genus. The smooth sac is 35—40 mm long, 7 mm thick.


Antennae of ♂️ bipectinated to the tips. Tarsi short, wings broad. Neuration of forewing as in Ama-tissa. Vein 6 of hindwing probably present, no bar from vein 8 to vein 7, nor a branch to the costal margin.


Antennae and veins almost exactly like Clania, but only 1 branch extends to the inner margin in the forewing, vein 8 of the hindwing is connected neither with the cell nor with the costal margin. Body scarcely longer than the round hindwing. Forewing broad with an oblique distal margin. The spine of the anterior tibia is very long.

P. leeueni Heyl. (90 k). Body ochreous, wings browner, darker at the margin. Hindwing rounded. ♂️ 28 mm. Australia.

P. cautopsis Meyr. Body dark orange brown, antennae blackish, with long pectinations to the tips. Forewing short, blackish-brown, costal margin straight, distal margin and fringe blackish. Hindwing with black hair also at the inner margin. ♂️ 26 mm. N.-S. Wales.

P. erionota Low. Thorax ochreous. Antennae dark brown, pectinations black, apical width 6 mm. Body and forewing brownish ochreous, ochreous in some specimens, costal margin slightly pressed in before the middle. Fringe greyish-brown. Hindwing with a somewhat projecting apex. ♂️ 28 mm. N.-S. Wales.

P. delocephala Meyr. is recognizable by the orange head, body and legs dark brown. Antennae with black pectinations, apical width 6 mm. Forewing oblong, smoky brown, darker at the margins, fringe long, very dark. Hindwing rounded. ♂️ 32 mm. Sydney.
23. Genus: **Plutorectis** Meyr. & Low.

Antenna of ♂ strongly pectinated to the tip, with a pencil at the base. Neuration of forewing as in *Clania*, no branch extending to the inner margin. Hindwing without vein 5, 8 connected with the cell by a bar. Type: *boisduvalii* Ww.

**P. boisduvalii** Ww. (90 i). Body orange-brown. Forewing brown, broadly blackish-brown at the base. Hindwing blackish-brown, orange-brown at the inner margin. Larval sac 40 mm long, 10 mm thick, longitudinally spun with short twigs. ♂ 30 mm. Sydney.

**P. grisea** Heyl. (90 i). Body greyish-yellow. Wings greyish-brown. Somewhat lighter at the base of *grisea*. Forewing and at the inner margin of hindwing (maybe rubbed ?). ♂ 20 mm. Adelaide. — *mjoebergi* Aur. is probably identical. The hair-pencil at the base of the antenna, which is white in *grisea* according to Meyrick, is at least now as greyish-yellow in the type as the whole body, and the colour of the wings is (now) neither yellowish-grey, as stated by Heylaerts, but greyish-brown as in *mjoebergi*.

**P. lurida** Heyl. (90 i). Body and wings dingy yellow. Without the inserted cell. ♂ 28 mm. Cape York.

**P. melanodes** Meyr. Body and legs orange-brown. Forewing moderately oblong, showing through whitish, finely dusted with black, more densely at the base, veins blackish, fringe brownish ochreous. Hindwing strongly bent at the costal margin, blackish-brown, somewhat diaphanous. Blackish at the inner margin, yellowish at the base, fringe brownish ochreous. ♂ 30 mm. Cape York.

**P. xanthochrysa** Meyr. Body and legs bright yellowish-brown. Forewing slightly pressed in at the costal margin, dark brown, somewhat diaphanous. Hindwing rounded, fringe dark brown in both wings. Recognizable by the black antennae. 32 mm. West Australia.

**P. zophopepla** Meyr. Body and antennae orange brown. Width of antennae 8 mm. Forewing moderately oblong, costal margin not concave; margin oblique, scarcely rounded. Dull white, semi-diaphanous, the interior two thirds dusted with dark brown, blackish at the base. Hindwing rounded, corresponding to forewing, both wings with brownish-ochreous fringes. ♂ 30 mm. Queensland. Sac 25—35 mm long, 10 mm thick, more or less white, spun with leaves and small twigs of Eucalyptus.

**P. gymnophasa** Low. Body, antennae and legs blackish-brown. Antennae 8 mm broad. Forewing *gymnophasa*. Oblong, blackish-brown, darker at the margins. Hindwing rounded, otherwise like forewing. The antennae of the very similar *grisea* are much shorter pectinated in the apical third, which is not the case in *gymnophasa*. ♂ 20 mm. N.-S. Wales, Victoria.

24. Genus: **Orophora** Fer.

Antennae of ♂ shortly bipectinated. Wings broad and rounded. Veins 4 + 5 of forewing on a short stalk, 7 + 8 + 9 also stalked. Veins 4 + 5 of hindwing also stalked, vein 8 connected with the cell by a bar behind the middle, before the bar a spur extends to the costal margin.

**E. unicolor** Btlr. (= *butleri* Sn.) (90 h). Uniformly grey. Forewing somewhat more brownish, black *unicolor* at the costal margin. Hindwing semi-diaphanous. The sac is longitudinally spun with short pieces of grass-stalks. ♂ 25 mm. New Zealand.

**E. toumatou** Fer. Both wings diaphanous, covered with few dark brown hair-like scales. Body very *toumatou*, hairy. The sac is covered with short pieces of grass in a tile-shaped way. ♂ 26 mm. In Southern New Zealand.
Original descriptions of the Indo-Australian Psychidae with references to the original descriptions.

* signifies that the form is also figured an the place quoted.

levini Ch. We. Proc. Zool. Soc. Lond. 1851, p. 231.


lurida Plutor. Heyl. Bull. Soc. Ent. Belg. 29, p. 120.


pholidias Ch. Megr. Trans. R. Soc. S.-Austr. 31, p. 199.


pronubella Hekm. Soc. Tijdschr. v. Ent. 21, p. 130.


talwana Fum. Wil. & South, Entomologist 50, p. 147.


tomato Or. Fer. Trans. N.-Zealand Inst. 10, p. 262.


Family: Thyrididae.

Regarding the general topics of this family, about which little is to be said for the reasons stated in Vol. XIV (p. 489) we refer our readers to that place as well as to Vol. II, p. 371. We had also mentioned there the great difficulties of classifying this family in the system where it is placed between the Macrolepidoptera and the Microlepidoptera; this intermediary position is expressed by Hampson by inserting them between the Drepanidae — to which they are supposed to be related — and the Pyralidae to which they are unmistakably allied. Judging especially from the very poor facts we know of them, the life-habits of both the larva and imago are exactly those of Pyralidae, and both the flight and the attitude in repose, the way of resting on high legs thin as hair in an almost Tipula-like attitude, above all the spread out wings, exactly like certain Pyralidae do (e. g. the cosmopolitan Maruca testulalis), are too individual to urge on us the thought of convergency.

The family is almost equably distributed over the Old and New World. It is mostly tropical, and the species decrease so quickly towards the polar regions that only 1 species reaches the European continent, while only 3 or 4 inhabit the north of Asia, not even 20 forms occurring in the whole palaearctic region; in America only 4 reach the Northern United States, and 6 others cross the northern frontier of Mexico. The whole rest, more than 200 Indian and just as many neotropical species are bound to the warm climates.

The Thyrididae are no common lepidoptera. Hardly any tropical species occurs in such numbers as the European Thyris fenestrella, and even this species is by no means everywhere common, where it occurs. Many species of the foreign — especially also the Indo-Australian — Thyrididae are great rarities; not only in the collections, owing to the difficulties of discovering them, but because the individuals are in fact extraordinarily rare. Just the larger, more variegated and conspicuous species are mostly so shy that they fly up before the collector’s feet or come forth at the slightest tap on the bushes, so that there is hardly any possibility of ascertaining many of them. Others swarm generally in the daytime in the sunshine, and nearly all have a so very characteristic, quite unmistakable exterior that the careful and expert collector may be sure of noticing all the specimens present on his route. Nevertheless the collector may wander through the country for months and months without having observed a single Thyridida. The Thyrididae also come to the lantern in the evening, but very rarely certain species are collected in any greater number, but almost invariably only single representatives of this family are captured in the evening.

We have already spoken in Vol. II and XIV about the variability of shapes of the Thyrididae. Beside plump and stout species which in flying might be taken to be beetles *), we find Pyralid-like slender forms with thin legs, such as Rhodoneura strigatula (Vol. II, pl. 50 f) or Geometrid-like slender species with broad wings **). Very many, even dissimilarly shaped genera preferably exhibit small vitreous spots, particularly in the hindwing, which however vary considerably in size and may be extensive or also quite absent in individuals of the same species. Moreover, some species show a “carpet-like pattern”, as Pagenstecher expresses himself, owing to peculiar striation and strange reticulate markings, whilst the colouring of others makes an almost archaic impression, so that they might be regarded as remainders from ancient epochs of creation.

The various organs — such as antennae, palpi, legs — of the Thyrididae do not exhibit a homogeneous structure, and the shape of the wings also shows great differences. Sometimes all the four wings are extended into long apices, as for instance in the American Draconia mirabilis Pagst.; the forewings of others are convex upwards and the costal margin is very protuberant, as in the pinkish red Risama picta Wkr.; others exhibit

*) Cf. the figure of Dysodia ignita (Vol. II, pl. 50 c).
**) For instance Herdonia osacealis (ibid.).
HYPERTHYRIS; GLANYCUS; DYSODIA. By M. Gaede.

A fringe-like margin of the hindwing (in Camadena emarginalis Hmps.), or all the distal margins may be gnawed out and extended into pointed tips, as in Dysodia viridatrix. Sometimes all the 4 wings are broad and large, and of a similar shape and marking (Camadena vespertilionis), or the contrary may also be the case, the hindwing not even half as long as the forewing, so that a Symtomid-like shape is produced, as in Glanycus insolitus and tricolor.

Whilst the American Thyrididae often attain a considerable size (expanse 80 mm and more), most of the Indian forms are small or quite small, and scarcely any of their species attains 50 mm or more; the dimensions of but few African species *) exceed 20—25 mm. The only species inhabiting the European continent — Thyris fenestrella Scop. — is known to number among the smallest Heterocera ranged under the Macrolepidoptera, beside some Psychidae and Aegeridae.

It is easily understood that, owing to this great variability (also of the form), attempts have been made to bring about a greater perspicuity of the series of heterogeneous species by means of various subdivisions, and according to Guenee Pachythyrinae, Striglininae and Siculinæ have been distinguished, yet it could not be prevented that gigantic genera comprising more than 250 species (Rhodoneura), or Striglina and Hypolamprus (with more than 50 forms) have resulted from these attempts.

The genus Herimba which has recently been placed to the Thyrididae and contains but one species, atkinsoni Mr., has been dealt with by us already among the Callidulidae (p. 491) and figured on pl. 57 c.

Family: Thyrididae.

By M. Gaede.


Palpi broad at the base, ending pointed. Antennae of sexually ciliated, tibiae long-haired. All the veins of the forewing are separate, hindwing without the cross-vein.

H. aperta Leech. This species having been dealt with in Vol. II, p. 372, pi. 50 e, occurs also in Sikkim and therefore belongs also to the Indian fauna. It is easily recognizable by its Sesia-like exterior.

2. Genus: Glanycus Wkr.

Palpi shorter, densely haired. Antennae of $ tufted. Veins 7 + 8 of the narrow forewing stalked. The hindwing lacks the cross-vein, veins 4 + 5 and 6 + 7 separate only near the margin. Beside two Indian species of this genus only one (blachieri Oberth.) is known, which occurs near the south-eastern frontier of the palaeartic region and presumably also penetrates into the Indian region; cf. Vol. II, p. 372, pi. 50 e. Type of the genus: insolitus Wkr.

G. insolitus Wkr. (91 c). Fiery red. Thorax and abdomen above intensely bluish-black; forewing with two black stripes, a hyaline spot before the cross-vein, an oval black spot adjoining to it, apical area broadly dark brown. Hindwing with a large hyaline spot in the cell-end. One black spot each behind it and below it, besides mostly yet some smaller ones. 34—40 mm. India, Singapore, Borneo.

G. tricolor Mr. (91 c). Body and wings black, collar and a narrow ring on the abdomen carmine. The hyaline spots of both wings as in insolitus. 32 mm. Darjeeling, Khasia Mts.


Palpi projecting beyond frons, antennae of $ and $ plain. Forewing slightly concave below the middle at the margin, all the veins separate. Hindwing without vein 3, the other veins separate, 4 and 5 as well as 6 and 7 arise from the angles of the cross-vein. Type: vitrina Bsd. from America.

D. ignita Wkr. (Vol. II, pi. 50 c). This species being distributed from India to the Sunda Is, has already been dealt with in Vol. II, p. 372. It is a matter of opinion which of the many names mentioned here are to be regarded as valid or synonymous, since the colour of the wings and the shape of the hyaline spots vary very much. Thus, for instance, siculoides Fldr., mentioned as synonymous in Vol. II, differs from ignita in its lighter forewings and the absence of hyaline spots. — fenestrata Mr. (= minita Wkr.) is not so reddish as ignita, but

*) Cf. Vol. 14, pl. 76.
browner, the hyaline spot on the hindwing is very large. — **incudigera** Pagst. is intensely reddish, with a distinct dark median band which is broad at the costal margin and ends pointed at the inner margin. The hyaline spot on the hindwing is as large as in *fenestra*. — **taprobana** Mr. is browner than *incudigera*, the dark median band the same. Two small hyaline dots on the hindwing. In the same district, however, we also meet with quite fiery red specimens of which one specimen each with and without a large hyaline spot on the hindwing are figured in Illust. Br. Mus. 9, pl. 172. — **bifena** Wkr. (91 c), from Luzon, has a reddish-brown body and inner halves of the wings, the distal halves being darker and proximally bordered by a dark band; apical area lighter, edged with dark on its interior side. Two fine hyaline dots on the hindwing. — **bipuncta** Warr. is allied to *siccifolia*, but the ground-colour is more golden yellow, the marking bright reddish-yellow. Hindwing with two hyaline dots. Perak. — **laevis** Warr. is similar to *fenestra*. According to Warren, but it is the same in the type. — A specimen from Preanger, from the Coll. Staedinger, has dark red-brown wings. A small round hyaline spot on the forewing, below it orange as far as the inner margin. The oblique olive brown transverse band is angled and widened in the cell, also broader at the inner margin. Hindwing similarly marked. The large hyaline spot rounded inside, with two tips outside. The hyaline spot is said to be differently shaped in *fenestra*, according to Warren, but it is the same in the type. — A specimen from Preanger, from the Coll. Staedinger, has dark red-brown wings. A small round hyaline spot on the forewing, below it orange as far as the inner margin. This species having been dealt with in Vol. II, p. 372, pi. 50 e, is distributed in China, India and Burma. — **laevis** Mr. with two hyaline dots. Perak. — **siccifolia** Mr. (91 c) is presumably only a form of *osacesalis*. The following band of the ground-colour, shaped as in *laevis*, behind it as far as the margin orange with a dark subapical line. The hyaline spot of the hindwing is large, quadrangular. The basal area before it is dark red-brown like the space behind it from the costal margin to vein 5 and very narrowly the distal margin, the rest being orange. These light spots with red-brown striae on both wings. It is surely identical with *rufiflava* Hmps. (91 c) from Singapore.

**D. albifurca** Hmps. Body red-brown, the anterior half of the abdomen pale ochreous, a tuft of scales on the fifth segment. Wings red-brown, the basal area and the centre of the distal area ochreous in both wings. Forewing with a Y-shaped white median band and 2 white dots at the costal margin near the apex. Both wings with dark striae. ♀ 24 mm. Sikkim.

**D. viridatrix** Wkr. (= *siccifolia* Mr.) (91 c). Body and wings yellowish-green with dark fine transverse lines. A yellow spot at the end of the cell, yellowish also behind the distal line at the costal margin, Hindwing with a hyaline spot at the cell-end and an indistinct distal and submarginal line. We figure the type of *siccifolia* which is somewhat different, e.g. the hyaline spot is merely a fine line. 25—28 mm. Sikkim, Ceylon.

**V. hyalipuncta** Schultze. Body and wings red-brown ochreous, the latter somewhat lighter at the base, everywhere reticulations of darker lines. A median row of 4 hyaline spots, 2 of which are small below vein 2, 2 larger ones between veins 2 and 4. Marginal line dark brown, fringe grey. Fringe of hindwing dark brown basally, white apically. The ♀ shows the fine striae more arranged in the shape of continuous lines. 35 mm. Mindanáo. *Rhodonexia myrtacea* Dry. (91 k) seems to be very similar.


As plumply structured as the preceding genus. Distal margin of hindwing slightly concave below the apex, costal margin straight. Veins 9 + 10 on a short stalk, the others separate. Hindwing without angles and lobes. Veins 4 and 5 from the lower cell-angle. Vein 7, according to the description, from the upper cell-angle, but according to the figure a little farther basad and well separated from vein 6.

**V. hyalipuncta** Schultze. Body and wings reddish ochreous, the latter somewhat lighter at the base, everywhere reticulations of darker lines. A median row of 4 hyaline spots, 2 of which are small below vein 2, 2 larger ones between veins 2 and 4. Marginal line dark brown, fringe grey. Fringe of hindwing dark brown basally, white apically. The ♀ shows the fine striae more arranged in the shape of continuous lines. 35 mm. Mindanáo. *Rhodonexia myrtacea* Dry. (91 k) seems to be very similar.

**5. Genus: Herdonia** Wkr.

Palpi short, erect. Antennae of ♀ with one row of short pectinations. Forewing slightly concave at the centre of the costal margin, then convex, apex pointed. All the veins separate. Hindwing with a projecting apex, distal margin almost straight. Veins 4 and 5, and 6 and 7 arise distantly separated, a forked partition-vein in the cell. Type: *osacesalis* Wkr.

**H. osacesalis** Wkr. This species having been dealt with in Vol. II, p. 372, pl. 50 e, is distributed in *osacesalis*. China, India and Burma. — In one specimen the exact habitat of which is not stated the 3 dark double lines of the hindwing are almost coalescent, only the median one is somewhat more broadly split open at the inner margin. — **candida** Warr. (1. 1. ?) has milky white forewings, except a red-brown spot at the margin near vein 2, hindwing normal. From New Guinea; probably only an abnormal diminutive form. — **papuensis** Warr. *papuensis* (91 d) is presumably only a form of *osacesalis*. Forewing olive grey, some isolated white spots above the inner margin. Three dark lines, partly reticulatively connected, proceed from the costal margin behind ♀ to paler between them. The lines are somewhat darker between the veins 4 and 5, then forked towards the distal margin between...
the anal angle and vein 3, brown, edged with dark. Hindwing with 3 dark brown lines edged with blackish-brown, the innermost line broader. 52 mm. British New Guinea. We figure a ♀ from Malacca, which probably belongs to this species, judging from the hindwing.


Forewing triangular with a pointed apex. Veins 7 + 8 and 9 + 10 stalked. Veins 6 and 7 of hindwing well separated.

*D. albatalis* Siev. has been dealt with in Vol. II, p. 373, pl. 50 c; it occurs in North-West India, probably not in Ceylon, as hitherto stated.


Palpi erect, projecting beyond frons. Antennae of somewhat thickened and flattened. All the veins of the forewing separate. The same is the case in the hindwing, where veins 6 and 7 arise distantly separated. Type: *scitaria* Wkr. — Warren has described a great number of species of this genus, which are now placed to Plagiosella. Owing to the lack of material we cannot decide whether some more species belong to that genus, but it is not probable.

*S. scitaria* Wkr. (91 d). The typical form has already been dealt with in Vol. II, p. 373, pl. 50 f, but many species or forms were united with it as synonyms, which are better kept separated. — *cancellata* Christ., however, seems to be identical judging from the specimens at hand. — *strigosa* Mr. is an intensely brown form which may be specially denominated. The line from the apex of the forewing to the centre of the inner margin of the hindwing is very thin here, particularly in the anterior part. — *bürgeri* Gaede, from New Guinea, is somewhat paler than fresh *scitaria*. It differs in the genitals so considerably from *scitaria* that it may be considered a distinct species, but it is mentioned here as a form, exterior differences being regarded as more essential.

*S. vialis* Mr. (93 a) is a much larger species with a much thicker line from the apex of the forewing to the centre of the inner margin of the hindwing. The forewing mostly exhibits a distinct spot at the cross-vein, 32—38 mm. India, China, Sumatra.

*S. strigipennis* Mr. (91 d) is sized between *scitaria* and *vialis*. The line from the apex is somewhat thinner than in *vialis*. The large spot on the forewing is absent and replaced by an almost horizontal line. A branch extends from the main line behind the cell to the anal angle. North India, South China.

*S. navigatorum* Fldr. (93 a) occurring quite isolated in the Fiji Is. shows the interior areas of both wings yellow. The costal margin of the forewing is somewhat reddish, and the distal area behind the line extending as in *scitaria* is intensely reddened in both wings. ♀ 34 mm.

*S. curvilinea* Warr. Similar to *scitaria* (91 d), but the dark oblique line of the forewing does not extend straight to the centre of the inner margin, but it is excurved and meets the inner margin behind the middle, it is more indistinct than in *scitaria*. Ground-colour ochreous, striation brown. A feeble brown spot at the upper cell-end, from which sometimes traces of a line extend to the main line at vein 2. The main line is situated near the centre in the hindwing and is thicker here. A curved row of streaks extends from the costal margin near the main line almost to the anal angle. 22—25 mm. Salomons Is., Bali, Queensland.

*S. pyrrhata* Wkr. (= australina Gn.) (91 d). Body and wings ochreous, sometimes also more reddish, with dark reticulate lines. A dark oblique line on the forewing from the disc at 2/5 to 3/5 of inner margin. Costal margin sometimes with dark dots. Hindwing similarly coloured and marked, the dark line in the centre. The species is easily recognizable by the straight costal margin and the pointed apex of the forewing, whereby it resembles the genus Camadenza. 24—30 mm. Australia.

*S. pallidirufa* Hmps. The description of the upper surface is exactly like that of *pyrrhata* (91 d), but as nothing is said about the wing-contours, they are evidently normal and not as in *pyrrhata*. The forewing beneath has only a small central spot which is replaced in *pyrrhata* by a broad dark band. ♀ 32 mm. Salomons Is.

*S. centigina* Luc. (= *striglina* Trnr., cypholoma Trnr.). Body and wings dark brownish ochreous or dark red-brown. Distal margin of forewing undulated as far as vein 4, concave below it as far as the anal angle. The whole surface of the wing is covered with dark striae or small spots, but mostly only a dark median band is present. Hindwing the same. 20—24 mm. Brisbane, Melbourne.

S. mediofascia Suk. Reddish ochreous with blackish-brown reticulate lines and spots at the distal mediofascia margin. The main line on the forewing straight to the centre of the inner margin, rather broad, incomplete. The blackish band on the hindwing is situate farther inside. Both wings without cellular spots. ♀ 25 mm. Khasia Mts.

S. superior Blr. (91 d, e). Ground-colour greyish-yellow, densely dotted dark. The dark main line superior begins at the distal margin a little below the apex and is mostly distally widened on both wings. Forewing with a large brown median spot which is absent on the hindwing. 24—28 mm. Simul Is. A specimen from Bougainville, labelled superior in the Berlin Museum, shows the band narrower on the forewing, scarcely noticeable on the hindwing, but also with a central dot, similar to inversa.

S. divisata Warr. (91 e). Brownish ochreous. Dark brown at the base, costal margin and behind the distal line, strewn with fine black dots. Cellular spot large, blackish. Before the distal margin, between veins 6 and 7, there are two black dots to which a dark line extends from behind the middle of the inner margin. Some more distinct black dots are before the distal margin. The continuation of the line on the hindwing is far before the centre. Basal area lighter. Black dots before the margin near the apex and anal angle. 24 mm. Natuna, Borneo.

S. inversa Gaede (91 e) is similar to superior in the ground-colour, but the faded main line begins inversa on the forewing at the costal margin before the apex. Central dot of forewing very small, of hindwing very large. The dark irroration is very fine. ♀ 30 mm. Samoa Is.

S. straminea Warr. (92 a). Forewing pale straw-colour, with dark brown striae between the veins, straminea, which are said to be sometimes united into an X or a square, but which I do not notice in the specimens before me. Costal margin brownish ochreous, reddish at base. Cross-vein with a brown spot and light central dot. Behind it the streaks form 3 or 4 oblique rows parallel to the distal margin. Hindwing similar. The veins are brownish ochre in both wings, the upper surface somewhat iridescent. According to a ♀ determined as straminea, from the Museum of Wiesbaden, and similar specimens from the Berlin Museum, a series of 3 or 4 spots extends from obliquely outside of the large central spot to the inner margin. 2 or 3 distinct dots are before the distal margin behind the cell. The band to the inner margin is not very dark in the larger and lighter ♀, but it is bordered by black streaks. 32—40 mm. Ambon, New Guinea.

S. glareola Fldr. (91 e). Greyish-yellow. Forewing with a dark central dot and few dispersed dark glareola scales. Hindwing without a distinct central spot. 22—26 mm. India. — In scalata Warr. the central spot of scalata, the forewing is as large as in straminea, but the band to the inner margin is absent, replaced by a curved distal row of more intense dots. — Extreme specimens of it — ab. nigrata Warr. — show the body partly black. nigrata. All the dark marking on both wings is more extensive and blacker. The ♀ has a reddish-yellow ground-colour, the dark marking is almost still more extensive. Salomons Is. — duplicifimbria Warr. (91 e) is somewhat darker, more reddish, forewing dark at the costal margin, central spot very large. A broad band extends from the centre of the inner margin more or less narrowed outside around this spot. A few more intense black dots behind the spot towards the margin. A dark band on the hindwing before the middle. Black spots at the base and before the margin.

S. bivittata Mr. (= rufescens Gaehe) (91 e) is stated by Hampson to be a form of glareola. It is smaller bivittata, and darker. Moreover, a median and submarginal band is formed on the forewing by increased dark dusting. These bands are not visible on the specimens before me, but dark specimens exhibit a rusty red light spot at the cell-end of the forewing. 20—22 mm. Andamans, Assam, Java. — platytais Meyr. seems to be identical, — fuliginosa Roths. is very much larger. Sooty greyish-brown with a black hue, a round black spot in the basal quarter of the hindwing. ♀ 26 mm. New Guinea. Rothschild places bivittata to Plogisella, in my opinion this is not correct.

S. castaneata Hmps. (91 f). Wings bright red-brown, densely and uniformly striated black. Paler castaneata, red-brown beneath, therefore the striae more distinct. 24 mm. Borneo, Singapore.

S. asinina Warr. Forewing dark smoky brown, reticulated darker. Sometimes a dark spot at the asinina, cross-vein, another spot below it, forming the lower part of a median band. Costal margin fine ochreous except the dark reticulation. Hindwing similar. It may be an extreme form of scalata-nigrata. 25 mm. Sula-Mangoli.

S. dasarata Warr. Forewing reddish ochreous with a black reticulation, darker at the costal margin, dasarata, especially at the base. One black spot each at the cross-vein and below it above the submedian fold, besides 2 small ones behind the cell. Fringe long, one black double dot at the end of each vein. Hindwing paler, veins darker than the ground, but the reticulation less distinct. 34—44 mm. North Borneo, Ferguson Is., Trobriand Is. — In ab. vulpina Warr. both wings are suffused with dark red-brown, so that the dark spots and reticulate lines become indistinct.

S. vavauensis Hmps. Forewing dark brown, strewn with small black dots at the costal and distal vavauensis margins. 5 or 6 indistinct red-brown lines and an oblique line from the apex to the inner margin behind
the centre. Hindwing with numerous red-brown striae and black dots. Both wings with a small black discal spot and black marginal dots. \(\varphi\) 24 mm. Friendly Is.

**S. flavidiscalis** Hmps. Forewing dark brown with numerous black striae which enclose yellowish spots in the median area. A larger yellow spot behind the cell-end and one spot each below the apex and vein 7. Hindwing likewise with many black striae. As it is also described from Singapore and of the same size, it is presumably only a form of *castaneata* (91 f).

**S. strigigrapha** Hmps. is coloured like *flavidiscalis*. The striae in the marginal area are arranged in pairs with grey filling. A conspicuous black spot behind the cross-vein. Hindwing also with striae arranged in pairs. A greyish-brown band from the costal margin to the lower cell-angle, and behind it a spot at the costal margin. \(\varphi\) 27 mm. Sarawak.

**S. lilacina** Warr. (= *loxomita* True.)(91 f). Forewing lilac grey, somewhat red-brown at the base and costal margin. The distal half sometimes with rows of thick dark dots between the veins. Costal margin pale yellow with a few black dots behind the middle. At the cross-vein there is sometimes a large square dark red-brown spot which touches an oblong larger one between veins 2 and 4. Hindwing with rows of dark dots and traces of a reddish median shadow. \(\varphi\) 29 mm. Penang, Java.

**S. indistincta** Gaede is allied to *lilacina*, somewhat larger. The spots on the forewing, which are present in typical *lilacina*, are absent here. The lower part of a dark median band continued on the hindwing is in the centre of the inner margin. Beneath exactly like *mediosecta* (91 e), above separated by the dark colour and on the hindwing by the band. 33 mm. New Guinea.

**S. mediosecta** Warr. (91 e). Forewing dull reddish-brown, with a treble dark interior line; median line double, enclosing a dark area which is very broad in front, very narrow behind. Distal third of the wing darker brown, bordered inside by a double concave line, Costal margin fine pale ochreous. The whole wing with dark striae, Hindwing similar, but the striae form dark blotches between the veins. The lighter basal area is defined by a dark line. \(\varphi\) more reddish, less brown. 36—38 mm. Key Is.

**S. variegata** Warr. (91 f). Forewing pale ochreous, marking red-brown, costal margin with large black spots; 3 dark transverse bands distally angled in the middle, and a few dark spots before the margin. Hindwing with a very indistinct broad median and distal band. The hindwing is a little angular at the centre of the distal margin, whereby the species is easily recognizable. 26—33 mm. New Guinea.

**S. nigripunctata** Warr. (91 f). Forewing grey straw-colour, costal margin with 5 brown dots which are intensified towards the apex. An olive grey irregular median band proceeds from the third dot, the fourth and fifth are confluent below the costal margin, from where an interrupted submarginal band proceeds. The whole wing is covered with greyish-brown reticulate lines. Submarginal band of hindwing narrower but continuous. A round black spot above the anal angle. \(\varphi\) greyer, especially at the distal margin. Costal-marginal spots grey, not brown; bands interrupted. A straight greyish-brown line from the apex to 2/5 of inner margin, continued on the hindwing to 1/2 of inner margin. 36—42 mm. New Guinea.

**S. rufocastanea** Rothsch. Bright nut-brown, with brown striae. Forewing with a curved dark line from 3/4 of costal margin to 3/5 of inner margin. This line is crossed by another line proceeding from 2/3 of the costal margin, cutting the first at vein 8 and ending at vein 2 at the margin. Hindwing with an interior line 1/2 from the base, and one from the centre of the costal margin to vein 3 near the margin. \(\varphi\) 30 mm. Dutch New Guinea.

**S. hyperbolica** Warr. (31 f). Nut-brown with few blackish-brown striae forming an incomplete recirculation. A dark brown line from 3/4 of inner margin obliquely outwards and at vein 6 obtusely rectangular to the costal margin at 3/5. A somewhat less distinct line behind it is introangular at the same place, so that both are almost contiguous there, then continued to the anal angle. Sometimes 3 black dots at the costal margin behind the middle. Two similar, more separated lines on the hindwing. 30—33 mm. New Guinea.

**S. ignepicta** Hmps. is at once recognized for its small size. Body and wings dark olive brown, fiery red spots arranged in pairs on the 3 last segments of the abdomen. Forewing striated dark. A fiery red spot below the costal margin behind the centre. An ochreous spot in the cell-end and a round hyaline spot below it. Hindwing with fiery red scales between vein 5 and the inner margin. \(\varphi\) 14 mm. Bombay.

**S. suffusa** Leech. Straw-coloured, with a pink hue. Forewing with 3 pink postmedian transverse lines. The first angled below the costal margin, basally to it dark striae. Hindwing with 6 or 7 transverse lines, only two of which are distinct. Inner margin pink. \(\varphi\) 32 mm. Changyang.

**S. citrodes** Trnr. Body pale brown, pale yellow at the end. Wings pale yellow with brown striae. Costal margin of forewing brown with oblong brown spots behind the middle. A fine brown line from the second spot at 3/4 of costal margin to 3/5 of inner margin. Hindwing similar. As veins 7 + 8 of forewing are stalked, it may not belong to this genus. \(\varphi\) 24 mm. Queensland.
S. irias Mevr. Body grey. Forewing ash-grey, costal margin pale pink, numerous darker grey inter-riyas, nerval streaks are inclined to form bands. Hindwing the same, but the streaks are more regularly arranged. A grey round discal spot above the centre. ♀ 32 mm. Queensland.

S. conjuncta Ssek. differs from all the Indian forms and may therefore be no Striglina at all. Dark conjuncta, ochreous, with black spots at the costal margin of the forewing. Large ochreous spots in and below the cell and behind it. Hindwing paler. Both wings with indistinct reticulate lines. ♀ 25 mm. Khasia Mts.


Palpi rising obliquely. Antennae of ♀ shortly ciliated. Body strongly built. Veins 7 + 8 of forewing stalked, 9 and 10 parallel, very close together. Vein 5 of hindwing from the lower cell-angle, 7 separated from 6 and very near to 8.

A. niphocosma Trnr. Body and wings orange-red. Costal margin of forewing straight, apex obtuse. niphocosma, distal margin curved, somewhat oblique. With numerous pale brown striae which form a faded subcostal stripe on 2/3 of the length of the wing. Fringe orange-red, pink at the tips, with white tips towards the anal angle. Hindwing with a round distal margin and similar marking, fringe pink at the inner margin. ♀ 30 mm. Port Darwin.

9. Genus: Camadena Mr.

Palpi erect, reaching frons. Antennae plain. Hind tibiae of ♀ very long and swollen. Terminal spurs short. Forewing with a pointed apex, the margin below it cut out. Veins 3, 4 and 5 distantly separated, 8 + 9 stalked. Hindwing also with a point at vein 7. Type: vespertilionis Mr.

C. vespertilionis Mr. (= acutipennis Mr.) (91 f.). Body and wings yellow, finely dusted with red-brown. An oblique red-brown band behind the centre, with a silvery spot at the cell-end, the band distending at the costal margin as far as the apex. Distal margin also somewhat band-like darker. Hindwing with a dark spot at the cell-end, the somewhat less dark band extends through this spot. Besides a feeble submarginal band. The ♀ is browner. 28—36 mm. Sikkim.

C. emarginalis Hmps. (91 f.). Forewing not angular at the distal margin. Hindwing sharply angled at veins 7 and 2, smaller dents between them. Body and forewing red-brown. Forewing with lighter spots edged with yellowish-white. A small spot each at the costal and inner margins, replacing the interior line. A large spot at the costal margin and a small one obliquely inwards replace the median band. Close behind them an obsolete spot between 2 and 4. Besides two oblong spots replacing the distal band. Hindwing yellowish-white and light red-brown. Marking darker red-brown. A fine interior line. A median line is broader, but distinct only as far as the centre of the wing. Marginal band broad at the apex, narrow towards the anal angle. 19 mm. New Guinea.

C. polystacta Hmps. Wings strongly rounded compared with the two other species. Body dark brown. polystacta. Wings yellowish-brown, with a pink hue at the costal margin and a dark brown reticulation which contains two irregular interior lines, a broad oblique median band and an indistinct distal line which is excurved at vein 5. Hindwing with a small black central dot and a curved interior line. ♀ 28 mm. Gartok (Sikkim). The species may belong to the genus Symphleps.


Palpi thin, erect, projecting beyond frons. Antennae of ♀ finely ciliated. Veins 8 + 9 of forewing stalked. Veins 6 and 7 of hindwing from the same base. Type: striatalis Ssek.

Group I. Distal margin uniformly bent in both wings.

H. subumbra Warr. Forewing pale red-brown, with a silky gloss, densely striated brown. The subumbra-striae form indistinct interior, median, double exterior lines and a submarginal line. Hindwing similar. Marginal area paler, with double curved exterior and submarginal lines filled with dark red-brown. ♀ 32 mm. Burma, Shan States.

H. simplex Warr. Distal margin uniformly curved in both wings. Forewing grey with a pink reflection. simplex. Cell and median area pinkish-brown, costal margin paler grey. Few dark spots and striae in the basal half. An oblique dark grey band of 3 fine lines extends from behind the centre of the inner margin parallel to the distal margin as far as vein 5, where it is more faded and incurved to the costal margin. A black apical spot. ♀ 16 mm. Shan States.

H. striatalis Ssek. (91 g). This small pale reddish-brown species has been dealt with already in Vol. II, striatalis p. 373, where intimalis Moore was added as synonym. It differs, however, in the somewhat angular hindwing. Only the examination of the genitals might throw light on this matter. striatalis occurs in India and Ceylon.
H. lineatellus von Eecke (91 g). Similar to striatalis, but the ground-colour is very light brown, and the brown line from below the apex parallel to the costal margin and branch which extends from this line to the middle of the distal margin. Numerous dark reticulate lines and dark spots at the cross-vein and above the inner margin. Hindwing with a spot at the cell-end and in the middle of the inner margin. ♂ 20 mm. Java, Sumatra.

H. obscuralis Hmps. Pale nut-brown with indistinct dark striae. Forewing with an indistinct median and distal band fading away towards the inner margin. An indistinct oblique subapical line and a submarginal one. Hindwing with 4 indistinct transverse lines. ♂ 18 mm. Sikkim. Rauschircia camedenalis Stnd., from Formosa, seems to be identical.

H. hemicycya Meyr. Forewing light ocreous, dark reddish-brown at the costal margin except at the apex, of the same colour at the inner margin as far as the anal angle and a triangular spot based in the centre of the inner margin, the apex of it in the centre of the wing. Dark reticulate lines and 4 tolerably recognizable dark brown bands. The first at the base, the second from $\frac{1}{3}$ of costal margin to $\frac{1}{2}$ of inner margin, enclosing a dark square spot at the costal margin. The third from $\frac{3}{4}$ of costal margin to before the anal angle, filled with reddish-brown in the upper half. The fourth from $\frac{1}{6}$ of costal margin to the anal angle. Hindwing whitish-ocreous, the lower half with a reddish-brown hue, striated dark. ♂ 20 mm. Fiji Is.

H. bipunctatus Warr. Forewing reddish-brown with a coppery gloss, fine dark striae which are more densely arranged at the inner margin. 8 pairs of dark lines at the costal margin, the space between them darker, the fifth pair longer and enclosing a dark cellular spot. Black dots behind the cell and in the submedian fold. Hindwing with rows of black dots between the veins, two of which are submarginal, a median one enclosing the disal spot. A spot at the anal angle. ♂ 20 mm. West Java.

H. lobulatus Mr. (= media Pagst.) (91 g). Wings ochreous. Two indistinct red-brown antemedian bands are more or less fused. Median band very broad at the costal margin, narrowing down towards the inner margin, and with white spots at the costal margin in the type. Close next to it at the costal margin begins a subapical line which ends at vein 3 at the costal margin. The interior band of the hindwing is merely a red-brown spot in the type. Median band almost straight, a spot behind it below vein 3. 23—30 mm. Darjeeling, Amboma. Although the species is very similar to some species of Rhodonomea, e. g. emblicalis, it is certainly a Hypolamprus. It may be possible that media Pagst. is at least a form of this species, although the author himself has withdrawn it, since it is very much larger (30 mm), the subapical line of the forewing is more curved, the median band ends pointed at the inner margin, not bulbous as in lobulatus. Hindwing with two bands. Forewing beneath without the metal reflection.

H. fimbriatus Warr. (91 g). Dark yellow. Forewing with a leaden gloss at the costal margin, apical area more reddish, with dark striae. A horseshoe-shaped dark spot from the cross-vein to the inner margin behind the centre and to the anal angle. A conspicuous dark line through the apical area, forked below the costal margin, the distal branch bent round and continued as a marginal line. Hindwing with 4 transverse lines. Nothing is to be seen of the horseshoe-like marking in my only specimen from the Tring Museum. Both wings exhibit dark reticulate lines. Assam, Sikkim.

H. vinosata Warr. Forewing ochreous with wine-brown bands and streaks. Basal area and inner margin wine-brown. An oblique brown band at $\frac{1}{3}$ of the length of the wing, widening towards the inner margin and connected at vein 6 with an oblique square spot from the centre of the costal margin, so that a Y-mark is formed. An oblique streak from a costal point before the apex to the centre of the distal margin, where we notice brownish-red striae. The brown fringe with black spots at the apex and below vein 4. Hindwing deep wine-brown with traces of a dark median band and dark striae. ♂ 16 mm. Timor.

H. semiusta Warr. (91 g). Forewing pale brownish ochreous, somewhat reddish-yellow at the inner margin and base. The interior and median bands reddish-yellow, edge darker, faded at the costal margin; brown spots at the costal margin with pale interspaces. 3 blackish-brown spots in the upper part at the distal margin, to the lowest of which a reddish-yellow line extends from the costal margin. Hindwing reddish-yellow with dark striae which form an indistinct interior and median curved band. 15—20 mm. New Guinea.

H. grandis Warr. Like the two preceding species similar to emblicalis, but much larger. Flesh-coloured brown, marking dark red-brown. It consists of 3 bands. The first broad, near the base of the wing; the second interior one almost vertical; the third obliquely from behind the centre of the inner margin to $\frac{1}{3}$ of costal margin, where it is broader and forked. A fine curved branch extends from the exterior part to the distal margin. The whole inner margin below vein 1 red-brown. The whole surface of the wing with reticulate lines which often form a streak at the inner margin before the anal angle. The cell and the costal margin as far as $\frac{3}{4}$ with grey scales. Hindwing with 2 red-brown streaks to the inner margin at $\frac{1}{3}$ and $\frac{2}{3}$. ♂ 40 mm. New Guinea.

H. atrostriatus Hmps. Rusty red and rusty brown, with a red-brown reticulation in the marginal area of both wings. Black and white streaks at the costal margin of the forewing beneath, in and behind the cell. ♂ 18 mm. Naga Hills.
**H. ferrofusa** Hmps. Body rusty red. Forewing ochreous, the base and striation rusty red. The distal ferrofusa line on the forewing as a spot, then as a narrow line to the inner margin. Distal area with very differently developed reticulate lines. Hindwing ochreous with rusty red reticulate lines. 3 48 mm. Bombay.

**H. ocellipennis** Warr. Both wings excavated below the apex and very convex in the centre. Forewing ocellipennis semidiaphanous. The interior two thirds red-brown, with an erect oval brownish ochreous spot above the base from vein 2 to the subcostal vein. The border of the interior area extends from 1/4 of inner margin to 3/4 of costal margin with 3 indentations and dents which extend at veins 2 and 5 to the distal margin and at the costal margin to the apex. The marginal area is divided by other lines into 5 irregular areas. Hindwing brownish ochreous, divided by reddish lines into round spots. 3 36 mm. Burma.

**H. leproa** Hmps. (91 g). Ochreous. Interior and median bands red-brown, the latter very broad leproa, except at the costal margin. Somewhat darker at 3/4 of the inner margin and near the margin above the middle. Distal margin slightly excavured. Hindwing rounded, coloured like forewing. Brown areas at the inner margin near the base and behind the middle. 3 22 mm. Ceylon.

**H. sciodes** Trnr. Body and forewing whitish-ochreous with darker striae. Basal third pale brown sciodes, in the basal half and with a black patch behind the middle. Some dark spots above and below the submedian fold. A submarginal row of black spots, that above vein 5 large, square, and behind it an oblique row to the distal margin. Apical area darker. Fringe red-brown and black. Hindwing white at the base, reddish-yellow at the inner margin. The distal two thirds reddish-yellow with dark striae. A square deep brown spot between vein 2 and the anal angle. Inner margin whitish like the fringe below vein 2. 15—18 mm. New Guinea.

**H. rupina** Seek. Greyish-brown with dense brown reticulate lines. Forewing with a dark central spot. rupina. Forewing beneath with white scales; hindwing white (above?) with brown reticulate lines. Distal margin somewhat concave before the angle and behind it. 3 30 mm. Tarimpur.

**H. albipunctula** Warr. Forewing reddish-brown, with many indistinct brown striae. Two interior albipunc lines indistinct, a brown oblique distal band with 3 white dots behind it above vein 6. Hindwing pale reddish-brown with brown reticulate lines dividing light round spots. Two black dots behind the cell. 3 22 mm. Burma.

**H. cuprea** Pagst. (= costiscripta Warr., pagenstecheri dalla Torre) (91 h). Forewing ochreous with cuprea, a red-brown marking in the costal half, costal margin more yellow, a long brown spot at the base. An almost square spot near the centre of the costal margin is separated by a pale pear-shaped spot from the following square which encloses a light rectangle at the costal margin. A fine marginal line proceeds from a small spot near the apex. The posterior half of the wing only with indistinct reticulate lines. Hindwing whitish at the costal margin, the rest with interrupted red-brown bands and reticulation. 3 18—20 mm. Amboina, Queensland.

**H. inductalis** Wkr. (= subnictitans Warr., peratopis Hmps.). Forewing reddish ochreous with dark inductalis striae, 6 dark spots at the costal margin form the beginnings of bands which are more distinct at the inner margin which is darker itself. Two dark spots in the third, angular band, one behind the cell, the other in the submedian fold. One black line each between the bands. The ground-colour behind the cell is paler and forms rings. A white, black-centred spot at the apex. Hindwing paler with more rings, 3 in the centre. 1 before the cellular spot, the two others behind it; the rings are pale and semidiaphanous. 3 17—20 mm. Malacca, Sunda Is., Amboina.
H. angulalis Mr. (91 h). Distal margin in both wings apparently with sharper angles than subrosalis (Vol. II, pl. 50 f), darker than the latter, especially in the distal area of the forewing and the whole hindwing. Fringe white in both wings, brown only at the centre of the distal margin, so that the impression of angles is produced. Beneath without the spots of subrosalis. ♀ 18 mm. Caleutta.

H. stabilis Warr. Forewing reddish-brown as in angulalis (91 h), but browner at the costal margin and base. Costal margin with oblique brownish striae and dark streaks which are almost vertical. Indistinct traces of an interior and exterior band. 4 oblong black spots in a vertical row are in the subapical area. Hindwing with rows of dark transverse streaks. ♀ 26 mm. Choisel, Florida I.

H. squalida Warr. Pale brownish ochreous with an olive brown shine. Basal area dull brown, with 5 dark irregular bands of brown striae. Basal band as well as the interior band straight. Distal band from \( \frac{2}{3} \) of costal margin to \( \frac{1}{3} \) of inner margin, vertical in the lower end, with branches from its centre to the middle of the costal margin. Behind it a narrow line of dark striae and a double submarginal row. Hindwing with interrupted bands, the distal one more distinct at the inner margin. Marginal area olive brown. A square white spot at the cell-end, a dark brown square spot behind it and then yet a round white and brown spot. Anal angle yellowish-brown. ♀ 22 mm. St. Aignan. A smaller somewhat dusky specimen is before me from Formosa.

H. aenictodes Trnr. Body and forewing reddish-grey, paler towards the costal margin, strewn with fine black scales forming fine lines towards the inner margin and an interrupted submarginal line with a dark subapical spot. Hindwing somewhat more reddish, with few dark striae. ♀ 20 mm. Port Darwin.

H. leopardata Warr. Forewing brownish-ochreous with indistinct bands and striae, the whole wing suffused with grey. A broad faded greyish ochreous subcostal streak, and traces of a subbasal and interior band. A broad band from the inner margin behind the middle to the apex, edged with dark grey, and a narrower one close before the margin. Paler before and behind the latter band. A pale spot with a dark centre at the apex. Hindwing not dull grey. A dark median band from the centre of the inner margin to the apex, edged on both sides by a light undulate band. Base and marginal area as dark as the median band. ♀ 24 mm. North Queensland.

H. submarmorata Warr. (91 h). As large as leopardata. Forewing less distinctly marked. The dark median band of the hindwing forms a square dark brown spot between veins 5 and 6, and the pale bands next to it exhibit two square white spots parted by a dark median line. ♀ 22 mm. St. Aignan. A smaller somewhat darker specimen is before me from Formosa.

H. unicolor Warr. Similar to the two preceding species. Forewing brownish-pink with few dark striae, costal margin somewhat paler. Only an indistinct distal band at \( \frac{2}{3} \) of the length, edged with black above the inner margin. A black apical spot and a fine line from the costal margin before the apex to \( \frac{1}{2} \) of inner margin with black dots between the veins. Hindwing similar, with traces of a pale median band from the inner margin and behind the cell. Similar to a large subrosalis (Vol. II, pl. 50 f), but separated by the pale band on the hindwing. ♂ 32 mm. Timor.

Section III. Forewing long; hindwing with pointed apex, distal margin straight or slightly concave.

H. polycyna Warr. Forewing with a pointed apex, concave below it, then very convex. Hindwing with a straight distal margin, slightly concave below the pointed apex. Forewing whitish at the costal margin and broader so at the inner margin, the rest and the veins olive brown, with greyish-brown spots. Costal margin with 4 dark dots behind the middle. A white line at the base of the fringe from the anal angle to vein 4, where another white line ends from \( \frac{5}{6} \) of inner margin. Fringe paler between veins 4 and 5, paler also at the apex. The rows of olive grey spots on the hindwing are parallel to the distal margin. An indistinct pale band before the centre and the black discal spot. A light line from \( \frac{4}{5} \) of inner margin to the costal margin before a brown spot is outside. ♀ 36 mm. North Borneo.

H. praedolongata Warr. Brownish-grey, wings striated black. These striae form 5 indistinct bands on the forewing, filled with dark brown. The second and third bands obtuseangular at the median vein; the fourth fine, curved, ending at vein 4. Hindwing with a black median band from the cell to the inner margin, and traces of a marginal band. ♂ 32 mm. Khasia Mts.

H. fuliginosa Warr. Forewing smoky brown with rows of greyish-white spots. A rusty yellow spot at the base, and the last third of the costal margin the same, no white spots below it. Veins in the distal area with white dots. Hindwing white at the costal margin, the rest black with white spots. Distal margin of hindwing straight from vein 7 to the anal angle. ♀ 32 mm. New Guinea.

H. laticosta Warr. Forewing pale brownish ochreous with fine pale brown streaks, partly forming X-shaped marks. A broad nut-brown subcostal stripe, the costal margin itself pale brown. A pale brown oblique streak at the base, another vertical one from the lower edge of the cell to the inner margin before the middle. A lyre-shaped spot below vein 2 at \( \frac{3}{4} \) of the length of the wing and a rectangular spot near the distal margin on vein 5. Three dark dots in a brown shadow in the cell-end. Hindwing brownish at the apex,
the marking similar as on forewing, but finer. Apex obtusely projecting on the forewing, distal margin coneave below the middle. Hindwing somewhat dentate at vein 7. $ 20 mm. New Guinea.

**H. tessellatus** Sjoh. Ground-colour greyish-white. Anterior half of forewing with a pale brown hue. A black spot at the lower cell-angle and a smaller one at the upper angle are connected by a bar. Anterior half of the forewing with brown striae. Posterior half and the whole hindwing with uninterrupted parallel lines from the inner margin of the hindwing to its costal margin and in the anal part of the forewing to the middle of the distal margin. Besides 2 white lines on the forewing at the margin and before it, on the hindwing in and behind the centre. Forewing concave below the apex as far as vein 4, then very oblique. Hindwing with a pointed apex and straight distal margin. 28 to 34 mm. Sumatra.

**H. cossoides** Warr. Forewing reddish-yellow, wine-brown at the costal margin and at the base of the inner margin, with irregular striae and a cellular streak, fine marginal dots between the veins, all wine-brown. Hindwing similar. Costal margin of forewing concave in the middle, curved before the pointed apex, distal margin concaave. Apex of hindwing obtuse-rectangular. $ 50 mm. St. Aignan.

**H. aerarius** v. Eecke (91 h). According to the description the ground-colour is reddish coppery with fine dark reticulate lines. On the forewing two rows of lighter brown spots are left free. Hindwing almost light brown with two ramifications of brown bands. (The original figure looks quite different.) 17—20 mm. Sumatra.

**H. venustus** v. Eecke (91 i). Ground-colour light yellow, marking rusty brown. A rusty brown spot at the base. A line of the ground-colour penetrates into the median band at the costal margin. A larger spot at the anal angle, with 2 black marginal dots at the lower end. Median band continued on the hindwing, and the anal spot as an apical spot on the hindwing; it contains some black dots. $ 18 mm. Sumatra.


Forewing oblong, suddenly curved before the apex, straight or concave before it. Distal margin curved, more oblique in the lower part. Hindwing longer than broad, apex projecting, rounded. Antennae of $ slightly thickened basally. Hind tibiae with 4 long thin spurs.

**B. dilecta** Wkr. (= aspirans Warr., gigantea Pagst.) (91 i). Forewing reddish-yellow, with blackish-brown somewhat incomplete reticulate lines, oblique dark streaks at the costal margin. A black undulate line from $ of costal margin to $ of inner margin, less distinct in front. An indistinct oblique undulate line from the inner margin close behind it extends to below the costal margin behind the cellular spot; the enclosed area dark brown. A brown shadow begins narrow at $ of costal margin and widens towards the anal angle; edged on both sides with lighter reddish-yellow. An oval cellular spot of dark scales, a round hyaline spot before it in the cell only in the $ . Hindwing pale reddish-yellow at the base; the curved median band brown, broader at the costal margin, reddish-yellow behind it and darker at the margin. 52 mm. New Guinea, Salomons Is. — Sic. gigantea Pagst., from Ternate, is presumably only a rubbed specimen of the same species.

12. **Genus: Bupalomima** gen. nov.

Palpi short, antennae filiform. Abdomen reaching scarcely to the end of the hindwing. Wings broad. Forewing projects at the distal margin at veins 4 and 5, more concave below it in the genotype, with a sharp anal angle. Veins 2 and 3 arise far back, 4 and 5 from the lower cell-angle, 6 far below the upper cell-angle, 7 + 8 stalked, arising with 9 almost from the same base. Hindwing: veins 3, 4 and 5 arise at equal distances, 6 and 7 distantly separated. In spite of the quite different neuration, the species were hitherto ranged under Rhodoneura. Type: guttata Christ. (Vol. II, pl. 50 f) from Eastern Asia. The typical species occurs in the Indo-Australian region in a form very similar to guttata-lucidulina Pouj.:

**B. hypoxantha** Hmps. (91 i). Body and wings violettish-black. Forewing with indistinct yellow spots in the basal half. A large white hyaline spot with dark reticulate lines in and below the cell-end. A submarginal white spot at vein 5. A white spot at the base and behind the cell on the hindwing. 26—28 mm. Assam, Burma, Sikkim. The following two species only with a feeble angle on the forewing.

**B. tristis** Hmps. Body and wings red-brown, uniformly striated dark. Basal area yellowish. Forewing with a faded darker median band and white dots at the costal margin near the apex. Hindwing with 3 indistinct parallel-curved bands. The $ is intensely blackened above. 24—26 mm. Assam, Sikkim.

**B. kwantungensis** sp. n. (91 i) may be only a form of tristis. Forewing with hyaline spots at the cell-end and behind it, similar to hypoxantha. The dark band below it to the inner margin somewhat more distinct than in tristis-$ , bordered by two narrow light bands. Basal area also as light as in tristis, otherwise dark brown.
and thereby the light small apical spots are much more conspicuous than in \textit{tristis}. Hindwing with a less prominent postcellular hyaline spot than in \textit{hypoxantha}. Apical area broadly darkened. Bands scarcely traceable, except the median band. Distal area of forewing beneath intensely darkened, only the apical spots prominent. Hindwing almost the same as in \textit{tristis}. $\♀$ 25 mm. Kwantung. Type in the Berlin Museum, from the Coll. Dr. Mell.

13. Genus: \textit{Rhodoneura} \textit{Gn.}

Short statements have already been made about this genus in Vol. II, p. 373. The number of 100 species mentioned there has increased considerably in the meantime, chiefly owing to new descriptions by Warren. As the marking of many species is most variable and indefinite, it is hard to ascertain whether these species are distinct species or merely subordinate forms. We do not employ here the subdivision into subgenera such as Sericophora, Pharanbara, Leichena, Banisia etc., because it goes too far. Warren himself, for instance, doubted sometimes which name he was to give, for some specimens which he most kindly put at my disposal from Tring bear other subgeneric names than the published descriptions. On the other hand, a subdivision must once take place later on, for such species as \textit{myrtea}, \textit{sordida} are surely nearer to the species of \textit{Striglina}, and also the others, such as \textit{hypoxantha}, \textit{taeniata}, \textit{triangularis}, the white species, such as \textit{naevina}, are so very different that they ought not to remain in the same genus. Another drawback is that the descriptions mostly lack a reference to similar species and are mostly written in such a way that it is difficult to form an idea of the species.

\textit{Rhodoneura \textit{setifera}} Sch.\textit{h}. (91 h). Pinkish grey, striated olive brown. With pale brown spots and a broad brown band through both wings; it widens anteriorly and ends in a rounded shape before the costal margin on the forewing. $\♀$ 22 mm. Shillong.

\textit{Rhodoneura \textit{brunnea}} Leech. Suffused with brown, with dark marking. Forewing finely white at the costal margin. The interior, median and submarginal bands dark brown, the latter rather broad, but all indistinct. Hindwing brownish ochreous at the distal margin, with 8 undulate dark lines, the third, fourth, sixth and seventh being most distinct and filled with brown in pairs. 25 mm. From Itchang, thus near the Indian-palaearctic frontier.

\textit{Rhodoneura \textit{cuprizona}} Hmps. Body grey and light rufous. Forewing greyish-white, basal half at the inner margin with rufous and silvery striae. An oblique faded copper-red distal band which is incurred at the costal margin and connected with an apical spot in such a way that a triangular white spot is enclosed at the costal margin. The discal luna and 3 small dots near it black, a row of black dots also before the margin. Hindwing brownish-white, base red-brown and striated silvery. The oblique red-brown median band edged with silvery striae. $\♀$ 32 mm. Assam.

Wings oblong in the 2 following species, forewing with pointed apex, hindwing with straight distal margin.

\textit{Rhodoneura \textit{tritropha}} S.ch. Rusty red. Forewing with fine dark reticulate lines, costal margin pale. Hindwing with an oblique distal nut-brown band, a grey band behind it, widening at the anal angle, where we notice a large black spot. Both wings with a black spot near the centre of the inner margin, forewing with a dark antemedian streak. Beneath with nut-brown spots and bands. $\♀$ 30 mm. Khasia Mts.

\textit{Rhodoneura \textit{interalbicans}} Warr. Smaller than \textit{tritropha}. Pale grey, somewhat reddish-brown towards the distal margin. The grey costal margin and the base with dark grey striae, directed obliquely outward below the costal margin, obliquely inward below it. They form a somewhat darker line separating a somewhat darker basal area at $\frac{1}{3}$. Two narrow vertical bands behind it, the distal one of which is darker. At the costal margin behind them there is a nut-brown spot and a white one. Hindwing with a dark red-brown streak at the base. A white band behind it extends into a chocolate-brown band which is sharply edged with white distally. Light brown again towards the margin with dark dots. $\♀$ 25 mm. North Borneo.

The following 4 species exhibit the distal margin excavated below the apex in both wings.

\textit{Rhodoneura \textit{bracteata}} Hmps. (= \textit{rufaretata} Hmps.). Body pale reddish-brown, wings whitish finely striated brown. Forewing darker at the base. Large triangular dark spots at the costal and inner margins in the place of the distal band, connected by a line. Then a curved submarginal line with a branch to the centre of the distal margin. Hindwing with an indistinct basal and median line and some reticulate lines in the marginal area. The forewing of \textit{rufaretata} shows instead of the triangular spots only their marginal lines, but another interior line is recognizable. 18—24 mm. Sikkim, Andamans.

\textit{Rhodoneura \textit{sublucens}} Warr. (91 i). Wings pale stone-grey, with fine brown striae. Forewing with 8 rufous spots at the costal margin. Adjoining to the first 3 there are fine lines forming a basal spot which is only distinct at the costal margin. The following 3 form a triangular postcellular spot which ends behind the middle of the inner margin. From the eighth spot a branched line extends to veins 4 and 5 at the distal margin. Hindwing with fine rufous striae and margin; the beginning of a band near the anal angle at the inner margin. Be-
Rh. nepheleopera Hmps. (91 k). Body and wings dark rufous with a golden shine, densely and regularly covered with rufous reticulate lines. Forewing violetish-brown at the base, costal margin, behind the cell to the apex and downward as far as vein 3. Two white dots each on the fringe near the anal angle and apex. Hindwing with a very dark brown base. Fringe spotted white. 22 mm. Assam.

Rh. lactiguattata Hmps. Body brownish-white. Wings white with dense rufous reticulate lines. Forewing with traces of an interior band, connected by a fine streak with a small square spot at the upper cell-angle. From there two notched lines extend to the inner margin and a streak to the apex, crossed by another one. Small round spots in the marginal area. Hindwing also with round spots instead of the striae and with a dark brown spot at the upper cell-angle. 3 18 mm. Bhutan.

The following 4 species resemble the species of Striglina by their strong body and broad wings.

Rh. myrsusalis Wkr. (= elaralis Wkr., idalialis Wkr., pyraliata Mr., lobata Mr.) (91 k and Vol. II, myrsusalis, pl. 56 f). This species occurring also in Africa and South America is greyish-brown or somewhat reddish with dark reticulate lines. lobata and idalialis (Vol. XIV, pl. 76 e) show a larger postcellular and subcellular spot parted by dark lines. 16—22 mm.

Rh. myrtaea Drury (= elathula Gn.) differs from myrsusalis in the somewhat larger size and brick-red ground-colour. The dark striae are very inconspicuous. Typical without hyaline spots. monestra Mr. has two of them on the forewing with a brownish ochreous streak between them, in ovi- feræ Blr. they are oblong, in plagiferæ Blr. only one is present, in fenestratæ Fldr. there are three. denticolor Warr. shows the olive brown striae more distinct and arranged as indistinct bands. India, Sunda Is.

Rh. incarnatalis Blr. Both wings reddish flesh-coloured. Forewing ash-grey at the costal margin. The blackish striation of both wings is very inconspicuous. It may be a form of myrtacea. 22 mm. Samoa. — fester- tralis Blr. has a very large hyaline spot above vein 2 of the forewing and a somewhat smaller one below the submedian fold. Some punctiform spots between them. Samoa.

Rh. oviferæ Blr. is very similar to myrsusalis (91 k), but the apex of the forewing is more pointed, the oviferæ distal margin of the hindwing smoother, in myrsusalis it is said to be undulated, neither of which, however, is very prominent, but besides the third palpal joint is longer. 3 28 mm. Borneo.

Rh. hyaena Warr. (91 k). Forewing greyish ochreous with darker grey streaks and some indistinct hyaena. grey lines. Dark grey spots at the costal margin and 3 dark postmedian striae. A small round hyaline spot between the bases of veins 2 and 3, which however is absent in the only specimen at hand. Similar to a worn myrtaea. A fine rusty red line at the distal margin. 24—28 mm. Salomons.

Rh. venustula Warr. Forewing grey with darker grey reticulate lines and 5 or 6 indistinct darker bands, venustula, turning reddish at the inner margin. The interior, middle and exterior ones are vertical; 2 lines at the apex less distinct, interrupted, shorter. Base and costal margin greyish-brown, apex white. From there to the centre red marginal dots. Hindwing with red bands and red marginal line. 3 22 mm. British New Guinea.

Rh. semitessellata Wkr. (= semittessellata Wkr., ignotalia Esb., hyalospila Low., tessellauta Pogst.) tessellata. (91 k). Rufous, with a slight pink shine. Forewing with a few hyaline spots below the cell, besides a great number of others behind the cell as far as the margin. Some hyaline spots in the cell of the hindwing and a great many behind it. 30—36 mm. Indo-China, Sunda Is., New Guinea.

Rh. locusalis Wkr. (= thyralis Wkr.) is considerably smaller, greenish-grey. Wings with fine brown locusalis, striae and a pink marginal line. Forewing with small hyaline, pink-edged spots behind and below the cell-end. Hindwing pointed at the anal angle. 3 16 mm. Ceylon.

Rh. nox Dru. Blackish-brown with a violet shine. Forewing with dark reticulate lines. An indistinct nox. oblique grey line from the costal margin near the apex to the middle of the inner margin. Hindwing with an indistinct oblique grey median line. 3 20 mm. Burma, Tenasserim. — Probably a species from the group of Strigl. scitaria, but ranged here by HAMPSON.

Rh. polystictalis Hmps. Orange. Wings with double red undulate lines forming indistinct bands. Forewing reddish at the costal margin with 4 or 5 black spots. Both wings red in the marginal area, with black striae. 3 14 mm. Myosol, Jobi.

Rh. tetragonata Wkr. (91 l). This name is the oldest for various forms, but it is undefinable from tetragonata. WALKER’S description to which it refers. — nitida Pog. (91 l). Body and wings light reddish brown, with a nitida. slight violet reflection, fine dark striae and dark bands, two of which are near the base, distally straight and
distinct. A postmedian double band, its branches united at the costal margin, and an apical band which is indistinctly forked or widened at the costal margin. No distinct bands on the hindwing. 32—36 mm. Assam, Sikkim. In specimens from Ambon and New Guinea distinct bands are present also on the hindwing. — 

**quadrupunctula** Pagst. (＝vinosa Mr.) is mostly smaller and darker. The type shows a dark spot below vein 3 as far as below vein 2, a black streak in the distal band and on the hindwing between the two hyaline spots, so that *hypolena* Warr. from Queensland is probably the same. No other specimens beside the type originating from Sumatra exhibit this spot. — *jobalis* Siek. from Cherra-Punji has another hyaline spot below the centre of the forewing, which likewise occurs in Sumatra, but not in the type. — In *nigristriata* Warr., the distal band of the forewing is spotted black between the veins, and in — *lateralis* Warr. (91 l) also the submarginal band and the bands on the hindwing. — In *ordinaria* Warr. (91 l), from New Guinea, Salomons Is., Queensland, only the distal one of the two basal bands and the interior branch of the following double band are distinct. The continuation of the interior band on the hindwing is not forked as in *nitida* (91 l) from New Guinea. — *dissimulans* Warr. (91 l) is much smaller, lighter, the bands on the forewing seem to be more oblique, so that it may be a distinct species. New Guinea. Phalaena.

**Rh. lepida** Warr. (91 l) is just as large, but paler than *nitida*. The two basal bands undulate defined. The distal one just as forked as in *nitida*, but the distal branch only little filled with dark, more marked in the edges. Besides only a subapical line is present, no band. Hindwing much lighter, the lines therefore relatively distinct. 32—38 mm. Malaecea, Borneo, Sumatra, Mindoro, Batu Is.

**Rh. moorei** Warr. (＝ reticulata Mr.) (92 a) resembles *lepida* in the shape of the lines the interspaces of which are not filled band-like dark. The two double basal lines are somewhat more oblique, the distal forked double line is as uniformly curved in its exterior branch as in *nitida*, not angular at vein 3 as in *lepida*. The apical line is straight and more oblique than in *lepida*. Shadowy traces of a median band in the centre of the hindwing. 40 mm. Darjeeling.

**Rh. ramifera** Warr. (92 a). Darker red-brown than *moorei*, whereby the lines are more indistinct, but otherwise similar, though still more oblique, so that the exterior branch of the distal double line meets the anal angle. An oblique distinct double line also at the apex. The irregular undulate lines on the hindwing extend rather vertically to the costal margin, 30 mm. New Guinea. — *conformis* Warr. has black spots in both the branches of the distal band on the forewing above and below vein 3 and on the hindwing at vein 2. Thereby it is somewhat similar to *lateralis* (91 l). New Guinea.

**Rh. taeniata** Warr. (92 a). Forewing light red-brown with dark red-brown striae and bands. The straight basal band somewhat indistinct at the inner margin. The interior one angled at the median vein, the exterior one still more angular. A triangle before the apex, and adjoining to it an oblique line to the distal margin. Hindwing with 3 narrower bands which are distinct only at the costal margin. 38 mm. Assam, Sikkim.

**Rh. angustifasciata** Gaede (92 a). Although veins 8 + 9 of forewing are stalked, I leave the species in *Rhodoneura*. The shape and the marking of the wings are similar to *taeniata*, but the abdomen is still longer. The ground-colour and the colour of the bands as in *taeniata*, but only one band being broad at the costal margin, then strongly angled, is present behind the middle of the forewing and extends to the inner margin of the hindwing near the anal angle. Besides a submarginal line on the forewing, composed only of spots in the only 3. 35—45 mm. Canton, Malaecea.

**Rh. multifenestrata** Warr. (＝ angustifasciata-♀ Warr.) (92 a). Forewing greyish-brown with dark reticulate lines and bands. A short curved line at 1/5. An antemedian band obliquely inwards, faded inside, sharply edged outside. A postmedian band, forked below the cell to 2/3 of inner margin and near the anal angle. Some hyaline spots between the veins 2 and 4 on each side of the interior branch. The indistinct basal band of the hindwing, the distinct median band and the marginal third are dark greyish-brown. Somewhat hyaline before and behind the median band. The ♀ lacks the hyaline spots. 32 mm. New Guinea.

**Rh. funesta** Warr. (92 b). Blackish-brown, with an olive gloss; the bands, which are even somewhat darker than the ground-colour, are arranged as in *angustifasciata*. Hindwing the same. Separated from nearly all the species with hyaline spots in the 3/3 by both sexes being equally densely scaled here. 30—35 mm. New Guinea.

**Rh. lineata** van Eecke (92 b). Similar to *Mier. munda* Hmps., but smaller. Ground-colour pale yellowish-brown with dark reticulate lines. A more distinct curved interior line, a median one vertical on the middle of the inner margin, and one from the anal angle to the cross-vein. Besides an oblique subapical line. On the hindwing the innermost line is the most distinct. 17—20 mm. Sumatra.

**Rh. rectivata** Warr. (92 b). Forewing pale-rufous. The veins, reticulate lines and transverse lines darker brown. A curved line at 1/5. A straight thick line from before the centre of the inner margin. Behind it two fine brown lines, the first partly double, to 2/3 of inner margin, the second obliquely onwards as far as below vein 4, then branched to the anal angle. Another oblique apical line behind it. Hindwing with 2 lines near the base and a straight thick line from the middle of the costal margin to the anal angle. Branched lines be-
Rh. clathraria Warr. differs from rectivittata (92 b) in the ochreous ground-colour. Reticulate lines rusty red, transverse lines greyish-brown. The straight thick interior line is paler, and on the hindwing it is quite absent here; all the other marking on the hindwing is less distinct, too. No hyaline spots in the $^\partial$. 24—30 mm. New Guinea, Jobi.

Rh. plumbea Warr. Body and forewing rufous with a silvery shine and many brown striae. Two fine plumbea interior lines are well separated. Distal line double, excurred behind the cell. Submarginal line branched to the costal margin and to the anal angle. Hindwing similar with a fine interior line and double undulate median line. Submarginal line as on forewing. 26—36 mm. Sikkim.

Rh. angulata Warr. Forewing mouse-coloured with numerous short black streaks between the veins in the centre of the distal margin. An oblique hyaline postcellular spot from the submedian fold to vein 4, composed of 3—5 small spots. Hindwing with very fine hyaline dots between veins 2 and 5, surrounded by pink. Forewing beneath with a broad dark stripe from the costal margin to the hyaline spot. One specimen from the Kaiserin Augusta R. shows a more red-brown ground-colour. The marginal area behind the hyaline area of the forewing is very densely striated black. On the under surface there is a lactean spot at the margin instead of a slight brightening. 26—30 mm. New Guinea. — composita Warr. (92 b) is similar to the specimen mentioned composita. Forewing reddish-yellow and greyish-brown. Reddish from $^\partial$ of costal margin to behind the cell. The main hyaline spot between veins 2 and 3 is not oval but distally pointed. Hindwing with greyish-brown distal margin and median band, the latter edged with reddish-yellow on both sides. Inner and costal margins light. New Guinea.

Rh. satelles Warr. (92 b). From light to dark reddish-brown, lighter at the costal margin of the forewing, with black striae which are more linearly arranged in the brick-red $^\partial$. A large hyaline spot between veins 2 and 3, two small oblique ones below it, sometimes also 3 in a triangle. Hindwing like forewing, but without hyaline spots. Fringe white at the tips. Forewing beneath with a blackish-brown spot below the apex. 30—38 mm. New Guinea. — A $^\partial$ without the hyaline spots is named: coeca Warr.

Rh. sordida Pagst. (= albicollaris Warr.), (92 b) is very similar to semitessellata Wlk. (91 k) from which its form albicollaris differs in the white head and shoulders, which, however, I do not find in a specimen before from the Museum of Wiesbaden, nor in the type of sordida in the Berlin Museum. Costal margin of forewing spotted brown, not uniformly brown. Antennae of $^\partial$ plain, not pectinated, with one row of pectinations in semitessellata. The basal area of sordida is lighter, so that a median band is more or less distinctly separated. 26—34 mm. Borneo, New Guinea.

Rh. hampsoni dalla Torre (= obliqualis Hmps.). Body and wings silvery white, basal area with brown striae. An oblique line from the apex of the forewing becomes double towards the inner margin and treble on the hindwing. Besides a submarginal line which is double on the hindwing, and an undulate marginal line. 38 mm. Sikkim.

Rh. cymographa Hmps. Forewing glossy white with a pale red-brown hue. A pale red-brown interior line excurred in the cell; a narrow curved median band edged with dark, and a similar band at the cell-end. Marginal area with fine dark striae; black dots between veins 8 and 4 before the margin. Hindwing with numerous brown striae and black dots. $^\partial$ 30 mm. New Guinea.

R. hoenei sp. n. (92 c). Ground-colour white. Tegulae and a subcostal stripe of forewing brown. The costal margin shows a bluish-grey shine below and above that stripe. A brown double line with fine striae inside extends from the apex to behind the middle of the inner margin. A black submarginal dot above vein 7, followed by a brown submarginal line. Short oblique streaks at the margin. Indistinct brown striae in the basal area. Hindwing without them. A double basal line and a double distal line. A continuous line below the submarginal line, not only short streaks as on forewing. Forewing beneath with a broad metallic costal margin, the other marking less prominent than above. $^\partial$ 32 mm. Canton. Type in the Berlin Museum. Deominated in honour of the collector Mr. HoeNE-Shanghai.

Rh. candidatalis Sch. (92 c). Body and forewing white with blackish-brown striae. A distal band of denser strakes is oblique, incurred towards the costal margin and below vein 4, a submarginal band. Two black dots below the apex. Hindwing with double subbasal and median bands, neither of which extends to the inner margin. A double submarginal line from below the costal margin not quite to the inner margin. $^\partial$ 30 mm. Assam.

Rh. pucicula Ga. (92 d). Ground-colour silvery white. Forewing so densely spotted dark brown that the ground-colour forms reticulate lines. The spots on the hindwing are much smaller and scantier. Veins beneath carmine, and on the hindwing also the spots carmine. — obsolescens Warr. has much fewer spots, obsolescens, no spots in the apical area above vein 4. Both forms from the Sunda Is. and New Guinea.
RHODONEURA. By M. Gaede.

Rh. acaciensis Wkr. (= minicula Gn.) (92 c). The species is distributed from West Africa to India and China; an African (smaller) specimen has been figured in Vol. XIV, pl. 76. Forewing whitish ochreous with dense dark brown spots and striae in the middle thirds of both wings. Veins pink in the distal area, 22—32 mm. India. — The Chinese form strigatula Fldr. (92 c) makes a very strange impression. The median band of the forewing is almost entirely faded, and broken up into single dark lines on the hindwing. — rosacea Pagst. (92 c), on the other hand, is very dark. Base in both wings scarcely white yet. The rest of the forewing as far as vein 6 upwards brown, only the whole margin narrowly white and a triangular spot at the middle of the costal margin. The costal margin behind it is broad pink. Hindwing brown as far as 2/3. Malacca. — The bands of specimens from New Guinea are pinkish-grey. — Cf. also Vol. II, p. 374.

erubescens. Warr. Chalky grey. The interior two thirds of the costal margin of the forewing brownish, finely striated dark. A faded greyish-brown shadow at the base is continued in the lower half of the cell and obliquely downwards behind it. The whole wing is densely covered with undulate brown-grey streaks which are less distinct or absent at the apex. All the veins pink except at the costal margin. Traces of interior, distal and submarginal lines at the inner margin. Fringe pink. Hindwing white at the base with few striae which are more intensely dark red-brown in the distal half, the ground-colour with a brown hue. All the veins pink. 34 mm. Khasia Mts.

separata. Warr. Forewing white, veins fine pink. Costal margin densely striated dark. The grey or greyish-red striae are more distinctly separated than in erubescens. A slight grey shadow at the base, and behind it as far as vein 6 an oblique white band without striae. Hindwing of a purer white. The striae brown and pink. A median band of 2 lines is only distinct below vein 5, outside and inside of it purely white. Besides a double submarginal line. Forewing beneath without the 5 reddish-yellow bands of erubescens. 30—35 mm. New Guinea.

pachystrigata Hmps. Forewing silvery white with numerous blackish-brown reticulate lines. Black streaks in the marginal area, black dots at the costal and distal margins. Hindwing silvery white, with spots of a white mother-of-pearl colour in the marginal area, or in another light mother-of-pearl white with silvery spots. Few dark brown striae. Black dots at the margin except at the anal angle. 24 mm. New Guinea.

complicatalis Warr. Forewing white with irregular brown striae and reticulate lines getting thicker and scantier towards the inner margin. A few submarginal dots below the apex. Hindwing with thicker brown streaks, a spot at the base, then a curved band and a straight one. Median area with 3 or 4 interrupted bands; an undulate submarginal line. 32 mm. Perak.

multipunctata Hmps. Wings with a less intense silvery gloss than in hampsoni, uniformly striated dark brown, without lines. Forewing with 2 submarginal rows of black spots. Only one row on the hindwing. 30—36 mm. Assam, Burma, Sikkim.

reticulalis. Mr. (92 d). Wings white, the whole surface uniformly covered with brown reticulate lines. Costal margin of forewing somewhat brown reticulate. 26 mm. Andamans.

sericatalis. Flbl. Ground-colour purely white. the fine striation brownish, united into lines which are less numerous than in reticulalis, but more distinct. The costal margin of the forewing is darkened as in reticulalis. 17 mm. Samoa.

anticalis. Wkr. (= tetraonalis Mr.) (92 d), Similar to sericatalis, but the striation dark brown. Two small black spots at the apex of the forewing. Beneath only a large black spot with a white central dot. 22 mm. Andamans, Rangoon, Mysol. — A specimen from Ati Ati Onin (New Guinea) corresponds with anticalis beneath, but its costal margin is metallic there as in naevina, and above it shows but one apical dot.

melli. Warr. Size between the two last species. The light brown striation fine, somewhat denser at the costal margin of the forewing. One fine black dot each before the margin above and below vein 5. The intersperses of the streaks beneath are partly filled with light brown like bands. Three black dots or streaks before the margin above vein 5, and one each below vein 5 and below the apex; the latter inside with a larger purely white spot. 18 mm. Canton, Formosa.

naevina. Mr. (= tetraonalis Pagst. nec Mr.) (92 d). Purer white with very few striae. Only 1 black dot below the apex, and a few thicker dots above the margin as far as vein 2, replacing the distal band. The dots at the inner margin of the hindwing are mostly somewhat more distinct. Forewing beneath with silvery scales above the cell, and the same marking as above. 25 mm. Assam, Sikkim, Borneo, Philippines.

carneata. — carneata Warr. shows the costal and inner margins of the forewing suffused with flesh-colour, also the hindwing though to a less degree; under surface also flesh-coloured excepting the centre of the forewing. Assam.

funiceps. Warr. (92 c). Forewing white with numerous bronze-grey reticulate lines dividing the ground-colour into roundish spots. Costal margin finely dotted black, bronze-grey spots below it. Short oblique grey lines at the distal margin, Hindwing similar. Costal margin of forewing beneath dotted black and white, with a yellowish streak below it. 18 mm. New Guinea.
Rh. nigrithorax Warr. Lustrous white with indistinct greyish-brown reticulate lines except at the distal margin, where they are dark brown and complicated. Marginal line blackish-brown. A large brown spot at the base of the cross-vein and another one below it. Orange spots at the costal margin. Hindwing with a hyaline centre, the rest with rows of white dots between the veins. A black spot at the centre of the inner margin. The costal margin of the forewing beneath golden yellow, dotted black, and below it a yellow line to the apex. Head and prothorax blackish-brown. ♂ 24 mm. New Guinea.

Rh. subauratalis Warr. (92 d). Forewing snow-white. The base with thick violet spots and streaks between the veins. The streaks in the marginal area are longer and more regular. The space from the apex to the cell-end and the middle of the inner margin with few streaks. Dark spots at the centre of the distal margin. Hindwing with a thick irregular marking except at the costal margin. Dark marginal spots on the whole distal margin. ♂ 20 mm. New Guinea. Separable from fumiceps (92 c) by the less dense striation.

Rh. rufistrigata Warr. (92 d). Forewing whitish with rufous reticulate lines. A rufous curved line at 1/4, and a submarginal line intensified at the veins with a branch to the centre of the distal margin, extending to the anal angle and connected with a spot in the submedian fold. A ring-spot at the cross-vein. Two submarginal spots below the apex and one below vein 4. Costal margin red-brown, dotted white. Hindwing more intensely marked, forming 4 or 5 almost parallel lines. ♂ 20 mm. New Guinea.

Rh. nigralbata Warr. Forewing chalky white with many grey spots between the veins and black streaks at the margin. A black costal-marginal spot at the base, 4 black streaks behind it, the last of which meets the cross-vein. Two rows of black partly fused spots near the margin, and black marginal dots. Hindwing with more black spots and streaks. Head and prothorax blackish-grey. ♂ 22 mm. New Guinea.

Rh. hypargyra Hmps. (= mochilas Meyr.). Forewing silvery white with few dark striae, costal margin dark. A black spot at the lower cell-angle, a short median band from vein 2 to the inner margin, a postmedian spot at vein 2 and three subapical black dots. Hindwing of the same colouring, with short lines and striae. 3 spots near the margin below the apex and 2 above the anal angle. Forewing beneath with silvery scales above the cell. ♂ 20 mm. Burma, Borneo, Australia.

Rh. polygraphalis (= bastialis Hmps., nec Wkr., marmorealis Mr., denticulosa Mr., rythmica Meyr.). Similar to anticleis (92 d), but forewing with 2 black dots at the apex, with an oblique apical line from the costal margin to the distal margin. The streaks are above arranged band-like in the ♂, singly in the ♀. 18—20 mm. From North India to Ceylon and the Salomons.

Rh. aureopicta Semp. (93 a). Wings silvery white. Forewing brown at the costal margin. A black dot at the cell-end, a brown spot below it at the inner margin, some light brown distal-marginal streaks are larger at the anal angle. Hindwing with 3 faint light brown bands. 3 black dots at the apex in both wings. ♂ 18 mm. Luzon.

Rh. puralis Wkr. Silvery white, with many pale brown striae. Forewing with a short broad blackish distal band and 2 black oblong subapical spots. Sarawak. (Hardly anybody will be able to ascertain the species from this description.)

Rh. argentalis Wkr. (92 d). White. Forewing somewhat coppery brown at the base. A large coppery brown postmedian spot between veins 6 and 1. A black streak at the apex, yellowish-brown above it. Hindwing with a dark spot at the apex and anal angle, and striae in the marginal area. — tuberosalis Warr. has somewhat smaller spots on the forewing. The hindwing is without markings in specimens from South China and Borneo. — From India to the Sunda Is.

Rh. bastialis Wkr. According to Warren, the description of the genuine bastialis, not of bastialis Hmps., bastialis. runs as follows: ground-colour whitish ochre with pinkish-brown reticulate lines. Costal margin broad darker, with a grey gloss. The median line is forked at the inner margin and forms a ring in the cell. Behind it an oblique apical line to vein 4 at the margin. Two black dots at the apex and 2 rusty brown dots at the anal angle. Hindwing with rusty brown reticulate lines which sometimes form bands. India to Australia.

Rh. melialis Siek. Pure white. Costal margin of forewing red, vanishing in the apical third. Both wings melialis. striated brownish ochreous, very regularly so on the forewing. Another red stripe below the first ends in a red spot at the cell-end. The streaks on the hindwing form a kind of median band. Both wings with red submarginal spots. ♀ 18 mm. Queensland.

Rh. citrina Hmps. Quite pale lemon-coloured with dark brown striae. Forewing with black spots citrina, at the costal margin and a faded blackish-brown postcellular spot. Beneath with metallic spots in the cell. Veins 5—7 pink. ♂ 24 mm. Pulo Laut.

Rh. ritteri Pagst. (= albifimbriata Warr.) (92 e). Quite light silky ochreous brown, traversed by ritteri. undulate orange-red lines, 5 of which are more distinct on the forewing. At first 2 straight ones near the base,
then 3 oblique somewhat undulate ones farther outside, and a subapical line. 3 or 4 parallel straight lines on the hindwing. $\approx 19$ mm. Java.

**acutalis.**

*Rh. acutalis* Wkr. This is the species treated as *nilens* Btlr. in Vol. II, p. 374, pl. 56 f. Some more synonyms are: *ancylosema* Meyr. and *julipieta* Warr., but *marginae-punctalis* is a species of *Hypolamprus*. —

**atribasalis.**

*Rh. atristrigulalis* Warr. shows the whole base dark brown inclusive of the median band exclusive of the costal margin. New Guinea. — We figure here the form *hamifera* Mr. (92 e) which was treated as a synonym in Vol. I and is somewhat similar to the species of the *triangularis*-group owing to the pale triangle at the costal margin of the forewing.

**lucida.**

*Rh. lucida* Warr. Forewing luridly white, the marking pale olive brown. A basal, interior and exterior band, all distally angled in the cell and separated from each other by a pale space with a brown line in the middle. The angle of the exterior line is prolonged beyond the submarginal band as far as a jet-black subapical spot which extends to the middle of the distal margin. A pile-shaped white spot follows behind it before the apex. Hindwing pale ochreous with 3 darker bands with black spots, the interior one distinct and dark at the inner margin. $\approx 20$ mm. New Guinea.

**commanotata.**

*Rh. commanotata* Warr. Dull brownish-grey with indistinct reticulate lines. Brown spots at the costal margin. Bands pale brownish. The first at $\approx \frac{2}{3}$ broad in the cell, obliquely inwards below it. The second in about the centre, indistinct, broader below the costal margin, then interrupted and forming a triangular spot in the submedian fold. Marginal area rather dark and without distinct marking. A white comma at the apex and a brown spot below it near the distal margin. Hindwing pale ochreous with 3 darker bands with black spots, the interior one distinct and dark at the inner margin. $\approx 20$ mm. Borneo.

**basalis.**

*Rh. basalis* Warr. Whitish brown with pale rufous reticulate lines. Marking dark nut-brown. The base as far as $\frac{1}{3}$ dark nut-brown, bordered with a vertical line. An interrupted distal band is formed by a streak at the costal margin and a double-armed spot at the inner margin before the anal angle. Distal margin narrowly nut-brown with oblique Y-shaped streaks. Hindwing with 3 brown bands near the base, the third broad and double, distal margin red-brown with a few striae. 18—20 mm. New Guinea.

**pallida.**

*Rh. pallida* Btlr. (= *obliquistrigalis* Warr.) (92 e), distributed from Japan to New Guinea, has already been dealt with in Vol. II, p. 374, pl. 50 f. We figure here the southern form.

**glaphyralis.**

*Rh. glaphyralis* Hmps. (92 e). Body and wings pale yellow. The reddish-brown striae form an indistinct median and submarginal band in both wings. The latter band does not extend to the apex of the forewing. 6 or 7 light spots at the costal margin. 22—30 mm. Sikkim, Assam.

**bullifera.**

*Rh. bullifera* Warr. (92 e). Smaller than *glaphyralis* and the apex more pointed. White, with reddish ochreous and dark brown reticulate lines. 4 transverse rows of connected white spots; the second and third rows enclose rufous reticulate lines. The first row, curved, on $\frac{1}{3}$ of the length of the wing; the second, also curved, extends to the submedian fold; the third from the apex to the inner margin; the fourth at the distal margin above the anal angle. Hindwing with 3 similar rows of spots. 25 mm. Khasia Mts.

**atristrigulalis.**

*Rh. atristrigulalis* Hmps. (92 e). Forewing densely striated rusty red, darker at the base. Median line indistinct, obliquely outwards. A coppery brown postcellular spot connected with a stripe to the costal margin and with a double line to the inner margin. An oblique apical line and branched lines to the margin and anal angle. Hindwing with a line at the base, a cellular spot and branched lines. Forewing beneath with black and white streaks at the costal margin and behind the cell. $\approx 30$ mm. Bhutan.

**mollis.**

*Rh. mollis* Warr. (92 f). Forewing pale ochreous, the reticulate lines and marking pale brown. A narrow band at $\approx \frac{1}{3}$ of the length of the wing, broader and angular in the middle. Another antemedian band obliquely outwards, then vertical and less distinct. The third postmedian band broader at the anal angle. The fourth forked at the costal margin, to the centre of the distal margin. Apical area pale brown. Hindwing without bands, with striae and two lines, one from the middle of the costal margin to the anal angle, the other from near the apex to the middle of the distal margin. $\approx 50$ mm. Sikkim. — *mediostrigata* Warr. (92 f) is much smaller (35 mm), without bands on the forewing, only the dark radial line in the centre of the wing distinct. Khasia Mts.

**exusta.**

*Rh. exusta* Btlr. occurring in Japan and India has already been dealt with in Vol. II, p. 374, pl. 50 f. The specimen mentioned by Strand from Formosa exhibits the angle at the median band deeper situated, but it may belong to this species.

**hebra.**

*Rh. hebra* Siek. Dark nut-brown with grey areas. Wings with indistinct dark reticulate lines and silvery grey spots arranged band-like. Forewing beneath with 3 rusty red bands from the cell to the inner margin and a faded spot in the middle of the distal area. $\approx 25$ mm. Khasia Mts.

**aurata.**

*Rh. aurata* Btlr. (= *hydreutis* Meyr.). Golden ochreous with sienna-red spots and lilac grey reticulate lines. 4 more distinct dark grey lines divide the wing into 5 equal parts, the first two lines being straight, the third and fourth angular. 20 mm. Australia, New Britain.
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**Rh. emblicalis Mr.** (92 f). Body and first basal third of forewing pale red-brown. A vertical brown band on 2/3 of the inner margin widens at the costal margin. The rest of the wing ochreous. An indistinct bent branch of the band extends from the costal margin to the centre of the distal margin. The median band of the hindwing is somewhat faded. The band on the hindwing beneath is more distinctly defined. It extends from a little before the centre of the costal margin to the inner margin shortly before the anal angle. Besides a somewhat less distinct band extends from 2/3 of the costal margin somewhat obliquely towards the centre of the distal margin. 16—18 mm. Durjeeling. — **sphoraria Sch.** (92 f) is larger, similar on the forewing, the subapical line always distinct. Hindwing dark red-brown except the innermost base, sharply defined parallel to the orange distal margin, thus much more oblique than in embticalis. The median band of the hindwing beneath is broad, distinctly defined, situate a little more distally, so that there is no room for the subapical band of embticalis. 19—23 mm. Sikkim, Assam, Canton. The only specimen of Hyp. stylo-phora Sch. before me, from the Museum of Wiesbaden, does in no way differ from embticalis. — **ornata** ornata. van Eecke (92 f). Ground-colour of forewing light yellow, the basal third is pale red-brown. Close behind the centre a broad red-brown band which is split at the costal margin. The light part of the wing is traversed by fine dark lines. The greyish-brown hindwing exhibits a chestnut-brown median band which despatches two long spurts distally; it is presumably only a form of embticalis. 25 mm. Khasia Mts.

**Rh. scripta** Warr. Coloured like embticalis (92 f). Forewing with 7 dark brown spots at the costal margin, which are edged with black and from which 2 basal lines and an interior line proceed, which are branched and connected. The centrally interrupted principal band proceeds from the fourth and fifth spots. Two black dots at the apex, and a white dot below them at the distal margin. The median band of the hindwing is also interrupted and contains a black spot at the inner margin. 25 mm. Khasia Mts.

**Rh. reticulata** Blr. (= crypsiria Meyr.). Golden brown, somewhat pink towards the distal margin, with many dark reticulate lines, only an undulate submarginal line being more distinct. 7 or 8 yellow spots edged with black are at the costal margin. Forewing beneath with metallic spots near the costal margin. 20 mm. Australia.

**Rh. disparalis** Hmps. Wings pale reddish-yellow. Traces of an interior band on the forewing. The reddish-brown median band on the forewing extends from the centre of the costal margin to the apex and terminates much narrower at 2/3 of the inner margin on the hindwing. Distal margin somewhat browner in both wings. A white triangle near the apex of the forewing. 25 mm. Ceylon.

**Rh. dorilusalis** Wkr. (= imbutalis Wkr., acutipennis Pag.). Forewing narrow, pointed, distal margin dorilusalis. oblique. Hindwing narrow, triangular. Forewing light yellowish-brown, with a dark brown median band which turns more violet on the hindwing, and with many small dark spots and striae. Hindwing whitish within the band, another less distinct band behind it. 28 mm. Sunda Is., Aru, Queensland.

**Rh. albiferalis** Wkr. (92 g). Forewing brown at the costal margin and broader brown at the distal margin, the rest lighter yellowish-white. One quadrangular dark brown spot each behind the centre of the costal margin and the centre of the inner margin. Hindwing reddish-brown at the base, a similar distal band is edged with black on both sides. The rest as light as the foregoing. 28 mm. Batchian. It may be that the following species is a form of albiferalis.

**Rh. elongata** Warr. (92 g). Like albiferalis very similar to dorilusalis. Forewing brownish ochreous elongata. with a fine reticulation. 4 or 5 small brown spots on the interior half at the costal margin, and a large spot behind the centre, from which a brown band extends vertically to the inner margin, with a distal branch below the costal margin. A large pale brown triangular spot before the apex. Hindwing with a dark basal and median band. A small dark brown spot at the anal angle. 30 mm. Cooktown.

**Rh. triangularis** Pag. (= turbatalis Sch., particolar Warr.) (92 g). Body and bases of the wings triangularis. greycl, the same colour at the costal margin of the forewing as far as the centre and on the whole costal margin of the hindwing. The rest of the forewing darker brown with blackish striae. A yellowish-white triangle at the costal margin near the apex, somewhat lighter behind it. A lighter spot also at the inner margin near the anal angle. A conspicuous black spot at the distal margin above vein 5. Hindwing also with black striae, the base and the apical area as far as the centre of the distal margin. 22—26 mm. Borneo, Philippines. — **comparalis** Warr. has a broad light band quite indistinctly defined before the middle. A short white submarginal streak below the apex, being absent in triangularis. A narrower brown median band on the hindwing. Khasia Mts., Solomons.

**Rh. atripuncalis** Wkr. might be an older name for triangularis (92 g). The brief description runs as follows: Forewing brownish dorilusalis. Browner than disparalis. Wings striated brown. A conspicuous black spot at the distal margin of the forewing above and beneath. 26 mm. Nilgiris, Java. — **mollicellalis** Sch., only shows a pale spot at the costal margin near the apex, but 2 oblique white dots below it and 0—3 black spots before the margin. 30 mm. Khasia Mts.

**Rh. trifascialis** Mr. (92 g). Forewing rusty red; costal margin, apex and marginal area paler; median area darker, beneath with bands of nut-brown spots. Hindwing whitish-brown with a dark median band. 26 mm. Burma, Andamans.
Rh. bipuncta Hmps. Forewing pale reddish nut-brown. A large grey somewhat triangular spot at the centre of the costal margin and a smaller one distally to it. An oblique rusty red band from the costal margin behind the middle to the median vein, and a less distinct band from the lower cell-angle to the inner margin. Two conspicuous white subapical spots. Hindwing with a conspicuous rusty-red median band. $ 25 mm. Tenasserim.

Rh. australiae Warr. Forewing reddish-grey in the interior half, reddish-brown in the exterior half. Basal area with 2 fine brown bands, the paler interspaces parted by a dark line. Traces of a light band at $\frac{2}{3}$ of the inner margin, extending almost to the centre of the wing. A large white triangle with red-brown striae at the costal margin before the apex; feebly pink behind it at the apex, and with a black marginal spot above vein 5. Hindwing pale lilac grey in the basal area, the rest reddish-brown with a pale distal band which has a somewhat darker filling. $\varphi 25$ mm. Jeppoon.

Rh. quartaria Warr. (92 g). Forewing pale brownish ochreous, darker at the costal margin, with 4 or 5 darker bands which are partly ramified. The two interior ones and two exterior ones are more distinct, edged with brown at the costal margin. The light interspaces with dark lines. Hindwing above the median vein as on the forewing. 3 broad dark brown bands below it, their interspaces whitish with a pale median line. 16—20 mm. New Guinea.

Rh. fasciata Mr. (92 g). Forewing whitish ochreous with a violet reflection. A broad black streak at the cross-vein, and 1 or 2 dots behind it. A broad nut-brown band is rectangularly angled around these dots and grows more distinct and darker on the hindwing, terminating at the anal angle. On the forewing it widens from the distal bend towards the apex and encloses there a broad light triangle at the costal margin. The distal margin of the hindwing may be broad dark. 30 mm. Sikkim, China. — corticina Pag. (92 h) shows traces of a broad light band before the centre of the forewing. The anal angle is much less light than in fasciata. The large black spot is absent. An intense white dot close behind the lower apex of the light triangle. Median band of hindwing broader, more faded. The form often regarded as a synonym to fasciata is almost nearer to comparalis than to fasciata. Borneo.

Rh. cuprealis Hmps. Forewing pale red-brown, densely strewn with lustrous copper-brown scales and traversed by about 6 equally coloured indistinct bands. The most distinct is the part of a band through the cell-end. Hindwing similar, with a broad median band. 20—25 mm. Tenasserim.

Rh. elongatalis Hmps. Forewing greyish-brown, with dark dots at the costal margin. A light red-brown stripe extends from before the cell-end to the distal margin, enclosing a semicircular grey spot at the costal margin. A red-brown band from the lower cell-angle to the inner margin. Hindwing somewhat blackish-brown at the base. The dark median band is distinctly defined outside, ending at the anal angle. A subapical black spot and a larger one near the anal angle. 22 mm. Malacca.

Rh. cumulalis Wkr. (= chalcosidera Meyr.). Forewing deep copper-brown, striated still darker, whitish in the centre of the wing and at the costal margin. Traces of about 8 fine darker bands, one broader in the middle, distinct in the anterior part. Rows of metallic grey spots at the margin and before it, some also at the inner margin. Hindwing with numerous metallic grey spots and a faded dark median band, broad in front, narrow behind. 20—22 mm. Borneo.

Rh. alternata Mr. (= bifimbriata Warr.) (92 h). Ground-colour pale brown, the lines in the marginal area of the forewing indistinct. Darker brown before the basal line, interior band curved, somewhat dark. Median band pointed at the inner margin, very broad anteriorly, with a dark spot behind the cross-vein, indistinct at the costal margin, widening into three parts only in the type and with a dark costal-marginal spot distally adjoining to it. From this spot an indistinct band extends distally to vein 3, spotted very dark at vein 5. Median band of hindwing very dark at the inner margin, all the lines very thin. 25—30 mm. Sikkim.

Rh. pernitescens Warr. Dark greyish-brown with a somewhat reddish lustre, with fine reticulate lines which are most distinct at the inner margin. An incurved line near the base, then one from $\frac{1}{3}$ of the costal margin, excurvated at the inner margin. Median band irregular, indistinct, narrow at the costal margin, its distal edge excurvated and divided towards the anal angle; its inner arm irregular, narrowed and angled in the submedian fold. 3 or 4 reticulate lines also in the apical area. Hindwing paler with fine reticulate lines and striae. $\varphi 36$ mm. Celebes.

Rh. praestata Warr. Lustrous greyish ochreous with dark reticulate lines and greyish-red, dark-edged bands. One at the base; one close behind it, bent below the centre; the third before the centre of the wing, broader at the costal and inner margins, distally angled at the median vein; the fourth behind the centre, forked towards the inner margin. Behind it there is a curved blackish-brown streak to the inner margin behind the middle, and a brown subapical streak. Hindwing with a basal line, a forked median band and a broad rusty red submarginal band. $\varphi 34$ mm. Batjan.

Rh. atriclavathrata Warr. Forewing reddish ash-grey, the interior two fifths and the costal margin dull red-brown; the dark places with dark reticulate lines, the light ones with black dots and striae. A pale, dark edged oval area in the centre of the wing does not reach to the costal and inner margins. Hindwing red-brown with rows of dark spots and an indistinct dark median band. $\varphi 28$ mm. Khasia Mts.
Rh. oligosticha Hmps. Wings brownish ochreous with few red-brown striae. Forewing dark red-oligosticha, brown at the costal margin, with faded dark spots at the cross-vein and in the middle of the distal margin. ♂ 25 mm. Sikkim.

Rh. subcostalis Hmps. (≡ pralans Suck.) (92 h). Wings brownish ochreous, densely striated brown. subcostalis. Forewing with an indistinct interior line which widens into a spot at the median vein. Distal band with a spot behind the cell. Two curved lines near the apex terminate into a black submarginal spot. Hindwing with traces of a median band and a submarginal irregular line. ♂ 30 mm. Simla.

Rh. melanostomalis Suck. Rusty red with darker reticulate lines filling up the whole base. A few square black spots at the costal margin are connected with a larger spot behind the cell-end. A submarginal black spot above vein 5 and a marginal row. Hindwing with black reticulate lines, paler at the base. ♂ 22 mm. Khasia Mts.

Rh. semiperforata Warr. (92 h). Forewing long and narrow, rusty red, with a short interior and median pale band from the costal margin and some spots below the cell. Distal area diaphanous except at the costal margin, with numerous rusty red striae and a subapical band. Hindwing pale rust red with dark striae, a band at the base and spots behind and bellow the cell. ♂ 25 mm. Khasia Mts., Japan (?).

Rh. cellulata Warr. Hyaline brownish ochreous, the bands and striae red-brown. Two dark basal cellulata. bands only leave a small light subcellular spot free. The dark interior band is light-edged on both sides, the distal edge of it parted by a reddish line. The distal band thickened below the costal margin and in the submedian fold, almost interrupted between them, forming a quadrangular spot at the cell-end. An interrupted subapical streak to the margin at vein 4. The pale distal area of the wing is divided into round cells by the red veins and transverse lines. A series of them alternating with brown colouring also at the costal margin. Hindwing with a broad forked brown median band and a narrow curved distal band. Red-brown behind it, darker at the margin. All the cells at the median band are whitish hyaline. ♂ 30 mm. West Java.

Rh. ruinoso Warr. Forewing whitish red-brown, with numerous red-brown striae, faded red-brown ruinoso, at the base. Indistinct curved interior, median and exterior narrow red-brown bands. A red-brown spot behind the latter band below the costal margin on the inner side of a line which is excurvated towards the anal angle. Besides an oblique apical line. Hindwing also with red-brown striae, a curved median line and a submarginal band which terminates above the anal angle.

Rh. discopis Hmps. (92 h). Forewing pale red-brown with numerous brown lines, some of which are discopis, more distinct. An interior line obliquely to the median vein, then vertical. An oblique line from the lower cell-angle to the inner margin and a distal one obliquely distad to vein 4, then incurvated. A subapical line to vein 4. A brown spot at the cross-vein. Hindwing with a similar spot and dense striation, especially in the marginal area. ♂ 25 mm. Ceylon.

Rh. uniformis Hmps. Wings glaringly brick-red with fine uniform dark striae which are more distinct uniformis, beneath. ♂ 30 mm. Andamans.

Rh. atomosalis Hmps. Pale red-brown, densely and uniformly covered with dark red-brown spots. atomosalis. Forewing with a dark costal margin at which there are 9 white dots. Forewing beneath with two white, dark-edged spots at the cross-vein. 24 mm. Java, Mysol. According to Warr, this species and his Symphleps atomosalis are said to be identical with Symph. ochracea Pagst., but the descriptions are rather different.


Rh. fallax Warr. Wings dark violetish-grey, densely and uniformly striated dark. Forewing with fallax, a rather oblique fine median line, a somewhat curved distal line and an oblique subapical line. Traces of a brown spot behind the cross-vein. Hindwing with but one oblique apical line. Sometimes the median area of the forewing and the apex of the hindwing are blackish. 20 mm. Assam, Bali, New Guinea.

Rh. curvilinea Warr. Forewing pearl-grey with a coppery tint, a greyish bronze tinge bellow the curvilinea. centre. Reticulate lines dark brown. A narrow angular band at the base. Interior band almost vertical, the exterior band broader, excurvate, coppery. Pale grey between them at the costal margin. A greyish-white spot behind the exterior band at the costal margin. Then a dark brown semicircular line from the costal margin to below the middle and obliquely to the anal angle. Darker brown at the inner margin. Hindwing with 3 parallel dark brown lines, a grey shadow behind the median line, dark reticulate lines behind the distal line. ♂ 24 mm. Khasia Mts.

Rh. micacealis Wkr. (= disjunctalis Wkr., papuensis Pagst.) (92 h). Red-brown. Wings uniformly micacealis, striated dark. Forewing with a white spot at the cell-end. A double interior black line, a median, exterior and
subapical curved black line. Beneath with bluish silvery scales on both wings. 20 mm. Ceylon, Mysol. —

**occidenta** Warr. has no semi-diaphanous spot at the cell-end, but on the contrary a blackish cellular spot. Both wings dull red-brown, paler at the base. Beneath with the characteristic blue scales. Bali.

**politula.** Rh. politula Pagst. Similar to micacealis, light reddish-brown, with a violet reflection, with reddish-brown reticulate lines which form an interior band across both wings, a median band from the centre of the costal margin, partly ramified towards the distal margin, the interior branch passing across to the hindwing. Moreover an oblique subapical line on the forewing separates an area which is covered with silvery scales beneath. 24 mm. Philippines.

**thiastoralis.** Rh. thiastoralis Wkr. (= rhodostica Sivh.). Glaringly chocolate brown, with a pink lustre, and fine dark brown striae which form a kind of a subapical line below the apex of the forewing. Costal margin with pink spots. Traces of 5 or 6 dark lines. Hindwing with a dark spot at the cross-vein and the lines of the forewing. Forewing beneath nut-brown in and below the cell, metallic scales at the end of the median vein. 16 mm. Assam, Malacca. According to Warr. also from Ecuador and the Niger.

**cuprea.** Rh. cuprea Blt. Pale coppery brown with 4 or 5 irregular orange bands with black edges. Two of them near the centre of the forewing are edged with blackish only distally. The wings exhibit a lilac lustre in a certain position. 20 mm. New Britain.

**staccata.** Rh. staccata Warr. Forewing greyish-brown with numerous dark transverse lines forming the edges of the usual bands, but all indistinct. One near the base; an interior one excravated in the middle; the third behind the centre, broad at the costal margin, narrow at the inner margin; two more distinct lines near the apex, the interior one to the anal angle, the second bent to the middle of the distal margin. Hindwing similar, a broad faded dark brown band in the centre. 22 mm. New Guinea.

**lateriata.** Rh. lateriata Hmps. (92 i). Light coppery red with few fine black striae arranged in lines. Forewing beneath with dark streaks at the costal margin, the striae as above, a black dot at the apex. Hindwing lustrous greyish-pink, with black striae and rows of pinkish-brown spots. 25 mm. Borneo.

**phasianalis.** Rh. phasianalis Sivh. (92 i). Reddish brown, the interior area of the forewing and hindwing lighter, both covered with uniform dark striae. Forewing with a black line at the costal margin and white double dots. A submarginal black spot in the centre and 2 or 3 near the anal angle on the hindwing are stated, but the original figure does not show these spots. Margin lighter in both wings. 24 mm. New Guinea. It may be identical with *lateriata* and would then be the older name.

**striativena.** Rh. striativena Hmps. Whitish-ochreous, finely striated brown. Hindwing with traces of a median band. Forewing beneath with dark streaks at the costal margin. Black streaks in the cell and at the veins beginning from the upper cell-angle. 22 mm. Nilgiris, Burma.

**decoratalis.** Rh. decoratalis Warr. (92 i). Forewing blackish at the base of the costal margin, the anterior part rusty red, with white spots two of which are united behind the centre. Interior area whitish; grey between the cell and the distal margin, with a submarginal black spot above the centre. Hindwing greyish-white, with dark brown spots at the lower cell-angle and from there to the inner margin. A brown submarginal band. 14 mm. Khasia Mts.

**taphiusalis.** Rh. taphiusalis Wkr. (= globulifera Pagst.) (92 i). Forewing dark red-brown with yellowish-white spots. A small round spot before the base of vein 2, an oblong one obliquely distad behind it, then a very large round one, parted by red-brown reticulate lines. A purely white streak below the apex. Hindwing lighter brown with dark reticulate lines. 3 round white spots at the costal margin, 3 at the distal margin below them, one at the inner margin. 17 mm. Borneo, Singapore.

**splendida.** Rh. splendida Blt. (= parcipunctalis Warr.) (92 i). Brownish white, uniformly striated brown. Forewing with a dark radial streak below the cell, forked before the distal margin. Forewing beneath with some silvery blue spots in the cell. 20 mm. Andamans, Salomons, Khasia Mts. — The only specimen of *parcipunctalis* before me lacks the radial streak, but the forewing exhibits a few blackish spots. Beneath a large disclate spot, but no silver.

**furcifer.** Rh. furcifer Hmps. Pale red-brown. Wings with dense brown reticulate lines. Traces of a transverse line at the base of the forewing. Interior line slightly excrated below the costal margin. Distal line straight, a branch extends from it below the costal margin to the anal angle. Then a slightly curved apical line. Hindwing with an interior and apical line, traces of a curved distal line. 20 mm. Blutan, Ceylon, Australia.

Now follow a great number of species the alliance of which to other species cannot be ascertained.

**magnifica.** Rh. magnifica Meyr. Body and wings black. Forewing with 3 orange bands which do not quite reach to the costal and inner margins. The first near the base; the second in the middle, narrowed at the ends; the
third submarginal one is narrower in the middle. An orange spot at $\frac{1}{4}$ of the costal margin. Hindwing with a median band and 2 orange spots near the margin. ♂ 18 mm. New South Wales.

Rh. sulphurea Warr. Sulphur-coloured, finely dotted black at the costal margin. Brownish claret-coloured seals at the base extend to $\frac{1}{4}$ of the costal margin and $\frac{1}{5}$ of the inner margin. Traces of greyish-ochreous striae. Veins 4-7 pink surrounded by smoky grey. Hindwing pink at the base with curved rows of greyish-ochreous spots. Forewing beneath pink at the base, the rest as above, veins 4-7 also pink. The author mentions nothing about the resemblance with acaciusalis, which might be presumed. ♂ 25 mm. Penang.

Rh. piperata Warr. Forewing pale yellowish with 5 or 6 parallel partly united orange bands which are somewhat angular, the pale ground-colour between them forming round spots. Costal margin dusted somewhat black. Marginal area with numerous black dots and striae. Hindwing the same. ♂ 16 mm. Ron I.

Rh. hieroglyphica Warr. Lustrous whitish-brown with a pale grey and dark brown marking and reticulate lines. An olive grey basal spot with dark lines. Two olive grey spots at the costal margin, the inner edge of the first spot with a deep brown spot above the median vein and a larger balloon-shaped spot obliquely below it; these two spots are sometimes coalescent. The first and second spots approximated at the median vein. Adjoining to the second the usual forked band, only the lower part of its interior arm being darker than the ground-colour. This dark brown part unites with the basal spot at the inner margin.

Rh. ypsilon Warr. (= kosenaion Str.) (92 k). Forewing pale greyish ochreous, with brown reticulate ypsilon. lines. A brown line from $\frac{1}{2}$ of the costal margin to $\frac{3}{4}$ of the inner margin. A straight brown line from $\frac{3}{4}$ of the costal margin to $\frac{1}{2}$ of the inner margin, shortly forked at the costal margin. An oblique line from $\frac{3}{4}$ of the costal margin to the middle of the distal margin. An undulate line from the anal angle not quite to the costal margin. Hindwing with an almost straight brown antemarginal line. A fine line from $\frac{1}{2}$ of the costal margin to before the middle of the distal margin, and a curved line between them. ♂ 18—20 mm. Formosa, Dammer I., North Australia.

Rh. salmo Warr. Forewing flesh-coloured brown with blackish striae which are darker and more salmo, distinct at the inner and distal margins. Hindwing similar with a large brown discal spot. Inner margin whitish. Very similar to Hypol. rupicola in which, however, the discal spot of the forewing is absent. ♂ 32 mm. Sarawak.

Rh. plagiatula dalla Torre (= plagiatea Warr.) (92 i). Forewing pale brownish-ochreous with pale plagiatula. red-brown reticulate lines. Costal streak and band-like spots deep brown. A narrow band near the base, then a vertical interior band, somewhat broader at the costal margin; the distal band curved, much broader above the middle; a curved subapical band and a quadrangular spot at the anal angle. A hyaline white spot between the submedian fold and vein 2 on both sides of the distal band, moreover a semi-diaphanous apical spot. Hindwing with 4 dark bands, diaphanous in the centre of the wing at the second band. ♂ 20—22 mm. Choiseul L., North Australia.

Rh. quinquelineolata dalla Torre (= quinquelineata Warr.) (92 k). Forewing pale brownish ochreous quinquelineolata. with a slight lustre, with very fine grey striae and 5 brown lines, obliquely outwards, angular below the costal margin, then obliquely inwards, undulate. Rows of black dots between the lines. Large brown marginal spots. Only the two interior lines distinct on the hindwing. ♂ 25 mm. New Guinea, at an altitude of 2000 m.

Rh. vermiculata Warr. Forewing reddish ochreous, densely covered with undulate pale brick-red vermiculata. lines, uniformly coloured; some darker areas only at the costal margin, indicating the beginnings of bands. Hindwing of a paler ground-colour, especially at the costal margin. 22 mm. New Guinea.

Rh. illustrata Warr. Forewing semi-diaphanous ochreous, with red-brown veins and reticulate lines. illustrata. Basal half of the wing, the costal and inner margins chocolate-brown. A light oval spot in the basal area. Two dents behind the centre of the costal margin, from which brown lines proceed. The distal one of them extends to the distal margin below the middle, a branch extends from it above vein 5 to the interior dent. From this partition another line extends to a brown spot at the anal angle, and another line from the interior dent to $\frac{1}{2}$ of the inner margin, where a similar spot is situate. Hindwing with 3 interrupted ramified bands, the second of which ends behind the centre of the inner margin in a large spot. ♂ 35 mm. Malacca.

Rh. nana Warr. Forewing brownish ochreous with dark brown reticulate lines and fine marking. nana. A dark antemedian and postmedian line, the latter thicker at the inner margin, besides an indistinct subapical line. Hindwing with traces of a median and distal band at the costal margin. ♂ 16 mm. Sumba.


Rh. raphiducha Trnr. Body and forewing whitish ochreous with numerous dark brown striae. A raphiducha. square dark spot at $\frac{2}{3}$ of the inner margin. Fringe whitish ochreous with dark brown spots. Hindwing incised between veins 5 and 6. 18—20 mm. Kuranda.

Rh. crossosticha Trnr. Body and forewing pale reddish with a somewhat darker striation. A white crossosticha. spot at the cell-end. A fine vertical dark brown line from the centre of the inner margin to vein 7. A dark spot
above the anal angle. Distal margin concave below the apex, hindwing the same. The colour and the discal spot on the hindwing is like that on the forewing, without any other lines and spots. ♂ 13 mm. Port Darwin.

**Rh. canidentalis** Sch. (93 b). Distal margin in both wings slightly indented below the apex. Pale pinkish-grey, with a blackish hue; costal area and marginal area paler. Costal margin with black and white spots, the ground-colour mottled. 18 mm. Khasia Mts.

**Rh. insignifica** Rothsch. Forewing brownish-grey with darker striae; costal margin with reddish-yellow spots. Hindwing the same, with a fine red marginal line. ♂ 15 mm. New Guinea.

**Rh. epiplemoides** Rothsch. Forewing pale cinnamon-brown, with darker spots, lines, and bands. 3 short band-like cinnamon-brown spots at the costal margin. From the last at ¾ of the costal margin a dark line extends to the distal margin at vein 2, and a nut-brown oblique band behind it. A nut-brown spot between veins 1 and 2, moreover a large central spot between vein 4 and the inner margin. Hindwing nut-brown, with 2 creamy white discal spots, deeply indented at the distal margin between veins 4 and 6. The ♂ is more yellow. 20—22 mm. New Guinea.

**14. Genus: Dohertya Warr.**

Similar to *Rhodoneura*, but the hind tibia of the ♂ has but one pair of spurs, the interior spur of which is very long. Tibial blade as long as the tibia itself. Antennae thick, flattened, finely serrated above, finely ciliated below. Type: *roseopuncta* Warr.

**D. roseopuncta** Warr. Forewing greyish-brown, with many dark reticulate lines and streaks, forming 4 or 5 indistinct dark bands, 2 of which are antemedian and 2 postmedian. The paler interspaces between the bands with brownish ochreous spots. Hindwing without spots and bands, but with blackish-brown striae. ♂ 22 mm. Celebes, Dorey.

**D. variabilis** Pagst. (= *astrodora* Meyr.) (92 k). Forewing pale brownish-ochreous with irregular blackish-brown striae and 5 almost straight blackish-brown mostly indistinct bands. The second of them in the centre of the wing projects somewhat distally, the fourth extends into the anal angle, the fifth to the centre of the distal margin. Hindwing similar, but the two first bands are indistinct, the two following ones more distinct at the inner margin. Hindwing beneath more whitish, the streaks blackish, the bands rusty red, a rusty red subcostal streak in the distal half. Centre of wing black, above with white longitudinal streaks, with bluish silvery metal spots in the middle, dusted with white below them. Another black spot behind the centre with white lines. 18—22 mm. Ambon, Aru Is., New Guinea.

**D. submicans** Warr. Separated from *variabilis* (92 k) by the absence of the light areas between the bands above, ground-colour uniformly dark. 4 dark lines on the forewing, an interior, exterior and submarginal line to the centre of the distal margin. Parallel rows of spots between the bands. A dark cloud with brown scales at the cell-end. Hindwing only with the exterior line. Beneath marked like *variabilis*, but browner. Black and metallic scales in the cell, the subcostal streak black. Hindwing white with distinct black streaks. ♂ 16 mm. Dorey.

**15. Genus: Microctenucha Warr.**

Forewing oblong, convex at the base and apex, slightly concave between them. Cell longer than half the wing. Cross-vein vertical. Vein 7 on a short stalk with 8 + 9, but 10 and 11 separated. Hindwing with a curved costal margin at the base, apex pointed, distal margin round. Antennae short, shortly bipectinated in both sexes.

**M. munda** Hmps. Pale reddish-white. Forewing with three median lines, the interior and exterior ones of which are irregular, the central one straight. A more vertical, less curved postmedian line. Besides an oblique subapical line. Hindwing with an irregular basal line and similar median, exterior and submarginal lines. Forewing beneath with a white streak at the veins behind the upper cell-angle. 25 mm. Sikkim.

**M. cyclothyris** Hmps. Forewing fiery red with numerous black striae. Costal margin dark brown. A round hyaline spot edged with black below the cell-end. Hindwing of the same colour, dark brown at the inner margin. ♂ 22 mm. Singapore.

**16. Genus: Obelura Warr.**

Separated from *Rhodoneura* by the very long abdomen in both sexes. Distal margin very undulate in both wings. 3 deep indentations between the anal angle and centre of the hindwing. Type: *dohertyi* Warr.
**17. Genus: Plagiosella Hmps.**

Antennae somewhat thickened, palpi erected as far as the frons, the last joint porrect. Veins 4 and 5 of the broad forewing from the lower cell-angle, 6 far below the upper cell-angle, 7 + 8 stalked, 9—11 separated. Veins 4 and 5 of the hindwing from the lower cell-angle, 6 and 7 from the upper cell-angle, vein 8 less bent downwards than in other genera. Type: clathrata Hmps. from Africa. Many species described by Warren as Striqina are ranged here now.

**P. ochracea Warr.** Somewhat like Rhod. aurata Btlr. Brownish ochreous, costal margin and lines ochracea. Two curved lines near the base. Median line broadly forked at the costal and inner margins, the interspaces there often filled with brown. Distal line excurred in the middle, also forked at the ends and despatching branches to veins 2—4. On the outside of the median line between veins 2 and 5 there is a brown triangle connected with 2 lines which proceed from the distal transverse line. Submarginal line from the costal margin to the centre of the wing. Hindwing with two distal lines. 25—30 mm. New Guinea.

**P. reversa Warr.** (93 b). Light brick-red with an olive brown costal margin and similar reticulate reversa. Lines, besides 2 olive brown transverse lines. One from before the middle of the costal margin to the middle of the inner margin, slightly undulate. The other from 3/4 of the costal margin to the distal margin before which it divides and extends to the inner margin before the anal angle. Marginal dots black, fringe red. Hindwing only with the distal line forming the continuation of the interior line on the forewing. 25 mm. New Guinea.

**P. cinnamomea Rothsch.** Similar to reversa (93 b). Unicoloured orange-brown. Forewing with scantly brownish-grey striae. A greyish-brown line from the apex to the centre of the inner margin. Hindwing with the same striae and a curved interior line. The last 3 segments of the abdomen brick-red. 32 mm. New Guinea.

**P. scintillans Warr.** (93 b). Bright red, more beautiful than in the similar reversa. Costal margin scintillans. Rows of small yellow dots between the veins. The spots in the marginal area with a metallic lustre. Hindwing the same, fringe yellow at the inner margin, not reddish. 22 mm. New Guinea.

**P. metallifera Warr.** (93 b). Forewing greyish-red with curved rows of dark spots with a metallic metallifera. The veins paler. Costal margin smoky brown, metallic dots also at the ends of the veins. Hindwing similar, but a black cloud above the submedian fold. The inner margin below it and the fringe ochreous. 20 mm. New Guinea. According to a specimen at hand I should describe the species: dull red-brown with rows of reddish-yellow spots on the forewing near the base, behind the centre and before the margin. As there are also few of the golden dots of scintillans, it may be only an alpine form of it.

**P. costirufata Warr.** Forewing red as in scintillans, but without the black costal margin, with curved costirufata. Rows of dark spots surrounded by a light halo. Two interior rows, 2 median rows and a distal row more or less black; the two median ones with a black spot at the inner margin. Black dots at the costal margin and the ends of the veins. Fringe pink. Hindwing with less distinct dots, fringe ochreous. 22 mm. New Guinea.

**P. floccosa Warr.** (93 b). Brick-red, dark olive brown at the costal margin and with the same reticulation and striae, forming indistinct curved lines parallel to the distal margin, the postmedian line obtusely angled at vein 4. Traces of a dark cellular spot. Fringe brick-red. Hindwing similar, fringe pink at the inner margin. 30—34 mm. New Guinea.

**P. leprosa Warr.** (93 b). Forewing olive. Costal margin broadly red ad the base, the beginning of leprosa. A red interior band at the inner margin. A median and a distal row of white dots and a submarginal row of dark dots. Hindwing with a very broad reddish median band and similar marking. The $ is darker, greyish-pink instead of yellow. The distal row of white dots is threefold. 30 mm. New Guinea.

**P. xanthoscia Warr.** (93 c). Forewing dark yellow, with rusty red spots. A median shadow, the anal angle and a marginal spot below the apex are faded rusty red. The spots at these faded places are grey. The median band is indistinctly forked at the costal margin, extra-angular in the middle. Fringe rusty red and grey. Hindwing the same, but the marginal spot is quite at the apex. The $ was described later, it has an orange red ground-colour, whereas the colour of the $ is stated on this occasion to be reddish-yellow. 24—30 mm. New Guinea.
**P. pyronera** Hmps. (93 c). Forewing fiery red with yellow spots almost to the centre, bordered by dark there. The marginal half is red-brown with a grey tint. A spot at the costal margin as far as vein 5 as at the base, not quite reaching to the distal margin and parted by a line. Basal and apical areas of hindwing as on forewing, the rest red-brown. 26 mm. New Guinea.

**P. dentifascia** Warr. Thorax and forewing orange-red; abdomen grey with a red median line. Forewing yellow at the base, besides 4 curved rows of dark spots. Marginal area somewhat darker except at the costal margin. A lilac grey irregular band extends from 1/2 of the costal margin to the centre of the inner margin; its distal edge from 1/2 of the costal margin, rectangurally incurvated at vein 3, where it proceeds pointedly to the distal margin, then incurvated and to the anal angle. The costal margin above it is black and orange-red. Hindwing without beaten grey dusting, inner margin pale ochreous. 30 mm. New Guinea.

**P. ignefissa** Warr. (93 c). Forewing brick-red, fiery red at the base, darkened blackish in the anal quarter. Of the pale yellow red-edged transverse lines a straight interior one and a curved exterior one are distinct and uninterrupted. 3 others near the base and a submarginal one from the costal margin to the centre are also distinct. Median vein fine yellow. A large grey spot in the centre of the wing is variably distinctly defined. Fringe reddish-grey. The yellow striae on the hindwing are short, fringe pale ochreous. The red ground-colour may also have a greyish tint. ♀ 22—26 mm. New Guinea.

**P. condensata** Warr. (93 c). Forewing yellow with interinterval rows of reddish-yellow spots. Yellow is the basal third and a triangular spot before the apex. The distal two thirds are suffused with greyish-black and marked with rows of dark dots. A grey spot below vein 2 at the inner margin before the anal angle. A brownish-grey arecule line near the base, and a dark round spot behind it in the submedian fold. The first quarter of the hindwing is yellow without lines, the rest not so dark as on the forewing, with a large faded reddish-yellow spot below the centre of the distal margin, the otherwise grey fringe reddish-yellow behind it. The ♀ shows the reddish-yellow colour replaced by fiery red and a broad greyish-red median band. 20—25 mm. New Guinea.

18. Genus: **Camptochilus** Hmps.

Palpi short, porrect. Forewing with a round costal margin, the apex pointed and bent forward. Vein 6 a little below the upper cell-angle, 7 + 8 stalked. Veins 6 and 7 of hindwing separated, 8 almost straight, bent forward at the end. **Type: reticulatus** Mr.

**C. funifera** Warr. (= furcifera Hmps.). Body and wings orange. Forewing with a pink hue at the inner margin as far as behind the middle. A subbasal and interior fine line angled in the centre of the wing. A pinkish-brown triangle at the costal margin behind the middle, from which a broad brown band extends to the centre of the inner margin, besides a fine line to the anal angle and one from the distal angle to the centre of the margin. The 3 lines mentioned on the hindwing from the centre of the costal margin, extending similarly. ♀ 35 mm. Khasia Mts. — In **divergens** Warr. (= shedeki Gaede), from Japan, the two first lines on the foregoing are less distinct. The main band is replaced by distinct marginal lines separating towards the inner margin which is not tinged with pink. The main line on the hindwing as fine as the others. ♀ 27 mm.

**C. reticulatus** Mr. (92 k). Body and wings olive brown, with dark reticulate lines. A faded yellow band on the forewing extends almost to the centre of the inner margin. Distal margin of hindwing broad yellow, the somewhat lighter basal area bordered by a rather distinct line. 36—38 mm. Sikkim. — Beside quite normal specimens one from Canton is before me, showing some resemblance to **fumifera**, which may be denominated: **semifasciata** form. nov. (92 k). The anterior part of the dark band on the forewing is present and widens somewhat inward at the costal margin. The distal edge of this band is rather distinct as far as the inner margin, the interior edge indistinctly defined towards the lighter basal area. The line to the anal angle is very ramous, the line to the centre of the distal margin distinct. Type: 1 ♀ 32 mm. Tsha-ju-san.

**C. decorata** Warr. (93 c). Forewing very concave at the costal margin, whitish. Base red-brown, the interior, exterior and submarginal bands also red-brown, slightly expanded at the veins, so that the light interspaces become round spots. A small light spot in the exterior band at the costal margin. Hindwing similar. ♀ 28 mm. Russel I.

**C. sinuosus** Warr. (= excavata Gaede) (93 c). Forewing light olive brown. Dense reddish-brown lines at the base. A light greenish-brown triangle with a light spot is behind the middle of the costal margin. This triangle is situate in a lighter area. A faded red-brown triangle below it at the inner margin. Basal area of hindwing bordered by a greenish-black edge, pale yellow behind it, darker yellow at the apex. 26—30 mm. Manipur, South China, Formosa.

In the following two species the costal margin of the forewing is not concave.

**C. citrinarius** Gaede (93 d). Pale yellow. The costal margin of the forewing slightly brownish, with 4 red-brown spots in the distal half. From the second spot a slightly curved light olive brown line extends to the middle of the inner margin. Besides numerous fine lines. The median line on the hindwing is still more distinct. 30 mm. New South Wales.
C. roseus sp. n. (93 d). Thorax and forewing yellowish-brown as far as the dark distal line and also rocos.
at the costal margin above vein 6. Distal area pink, with a dark line in the middle. Besides the usual fine
striae. Abdomen and hindwing more intensely pink with more distinct lines. Both wings beneath pink, yellowish-
brown only at the costal margin, forewing with a dark spot at the cross-vein. 26—34 mm. Tchekiang, collected
by Höxe. Type in the Berlin Museum.


Palpi erected as far as the frons. Antennae finely ciliated. Vein 6 of forewing far below the upper cell-
angle. 8 + 9 on a long stalk. Vein 5 of hindwing from the middle of the cross-vein. Type: subtessellata Wkr.

A. subtessellata Wkr. White. Wings striated with fawn-colour, distal line and marginal dots also subtess-
fawn-coloured. Inner margin of hindwing dark brown. 7 mm. Swan R., Australia.

A. trimeronalis Wkr. ( = heliopsamma Meyr.). Pale red-brown, uniformly covered with somewhat trimeron-
darker reticulate lines. A dark spot at the cross-vein of the forewing beneath. 15 mm. Ceylon, New Guinea.
— fragilis Warr. (93 d), from Dammer I., is said to differ in exhibiting a spot at the cross-vein of the forewing fragilis.
also above. The specimen before me from Tring, however, shows merely a very feeble dot on one side.

A. fulva Warr. (93 d) is somewhat darker than trimeronalis. Both wings are traversed by a distinct fulva.
dark red-brown median-line which is also distinct beneath, with another somewhat less distinct distal line on
the forewing. The 2 is somewhat darker than the 3 which is figured. 18 mm. New Guinea.

A. striola Flbr. (93 d) is larger and lighter. Striation pale olive brown. Both wings with a pale striola.
olive brown distal band. Somewhat darker at the margin. The broad median band is darkest. Distal line beneath
more intensely dark. 20 mm. Amboina.

A. polyphoralis Wkr. (= polygraphalis Wkr., probolopsis Meyr., pusilla Btbr., transversalis Wkr.) polypho-
(93 d). Of the same light ground-colour as fulva, but the dark striation less dense. In the centre of the forewing
there is a broad dark brown band the distal edge of which is extra-angular in the middle and then extends
obliquely inwards to the inner margin. Sometimes the dark colour of the median band extends also to the
base. This median band is much less distinct on the hindwing; another distal line may be traceable behind it.
The margin is narrowly rusty brown in both wings. 15 mm. Formosa, Sunda Is., New Guinea, West Australia.

A. latifasciata Pagst. (93 e). Yellowish-red with fine red-brown undulate lines. A faded red-brown latifasciata.
band in the centre of the forewing similar to that of polyphoralis. Hindwing with finer lines than in fragilis,
otherwise similar. 15 mm. Raham.

A. castaneata Warr. Forewing olive brown. Interior line yellowish-white, straight, widening much castaneata.
at the costal margin. Distal band broad; straight and sharply defined inside, faded outside and very narrow
above the inner margin. Hindwing with 3 bands. The interior one narrow, white; the middle band broader,
distally yellowish-white, the third somewhat obsolete. 17 mm. New Guinea.

A. synodesma Meyr. Forewing whitish ochreous, black at the costal margin. An oblong brown triangular synodesma.
spot proceeds from the inner half of the inner margin, the point of which is at the costal margin near the apex
and which includes a black discal dot. Brown streaks in the marginal area. Hindwing with 5 brown parallel
transverse lines. 15 mm. Pulo Laut.

A. candidalis Wkr. (= bivittata Pagst., obliqualis Wkr.) (93 e). Snow-white. A dark median line candidalis,
distal line on the forewing, which are thickened below the centre of the wing; they are almost black in the
candidalis. Hindwing with 3—5 golden brown lines. 15—17 mm. New Guinea, Aru, Ceram.

A. maculata Warr. (93 e). Ground-colour yellowish-white. Interior line of forewing thick, blackish-
maculata, brown, distal line paler. A blackish spot behind of the inner margin as far as the lower cell-angle and
at the margin near vein 2. Hindwing with a strong dark interior band, many paler brown parallel lines
behind it. 18 mm. New Guinea.

A. rectisecta Warr. (93 e). Brownish ochreous with many rows of pale brown spots which are fused rectisecta.
into a brown stripe below the costal margin. A dark ring at the cross-vein, 3 black patches behind it above
vein 5, and 2 or 3 patches below the base of the cell. Hindwing with 6 straight parallel brown lines. 15 mm.
Amboina.

A. symphonodes Tyrn. presumably resembles fulva (93 d). Forewing whitish ochreous with dark brown symphon-
reticulate lines. An oblique band from of the costal margin to of the inner margin with a short round
projection above the centre of the wing. A fine interrupted line before the margin. Hindwing similar. Forewing
beneath with another distal line besides. 15—18 mm. Queensland.

Forewing with a very oblique cross-vein, the cell is parted by a fold. All the veins separated. Antennae exceptionally pectinate. Hind tibiae flattened, with strong spines.

**O. theoria** Meyr. (= *feestra Pogst., subfeestra Warr.*) (93 e). Forewing greyish-yellow with rusty brown bands, the first 2 of which are narrower, extra-angular below the costal margin. The following band widened behind the cell and more extra-angular, the last parallel to it and narrower. A rusty yellow hue at the anal angle. Bands of hindwing alternatively rusty yellow and rusty red. The middle band is darkest, inside to it small, distally larger hyaline spots. The ♂ is as dark as the ♀ or also much lighter yellow. 40—56 mm. Aru, New Guinea, Key Is., Queensland.


Palpi short, porrect. Antennae of ♀ somewhat thickened. Forewing concave in the middle of the costal margin, apex projecting. Veins 8 + 9 on a short stalk, the others separate. Hindwing excurred at the middle of the distal margin, vein 5 arises far in front.

**M. subfasciata** Wkr. (= *gallicolens Btlr.*) (93 e). Forewing yellowish-red, with a somewhat violet shine and numerous dark brown striae. A band from behind the middle of the costal margin to the middle of the inner margin, where it is narrower, slightly darker than the surface of the wing. It is continued on the hindwing as a narrow median band. 25—28 mm. New Zealand, Fidji Is.

22. Genus: **Microbelia** Warr.

Forewing elongate, apex pointed. All the veins stalkless. Separated from *Rhodoneura* by the somewhat shorter palpi. Marking and size of the lepidoptera as variable as in *Rhodoneura*. Type: *curvinota* Warr.

**M. curvinota** Warr. (93 f). ♀ brownish ochreous with 5 brown spots at the costal margin, from which transverse bands proceed, turning blackish in and below the cell. Lighter behind the second band than in the other places. The third and fourth bands are united forming a Y. The fifth is black and excurred to the centre of the distal margin. Hindwing straw-coloured in the basal third, with a blackish-brown basal band. A dark yellow spot at the anal angle. The first band is not present in the ♀, the second only present at the costal margin. The Y-shaped bands strong, all red-brown. Behind them a row of blackish dots and the black patch to the centre of the margin. Hindwing light yellow. Traces of a basal line and a broad median line at the inner margin. 15—20 mm. New Guinea.

**M. tetralsycha** Warr. (93 f). This species having been captured at the same time with *curvinota* has apparently only been denominated by Warren, not described. By the band-marking it is somewhat like *Rhodoneura*, *julida* etc. Ground-colour greyish-brown, lustrous. Four parallel curved lines at the base. Interior band vertical to the costal margin, below it rectilinear somewhat inwards, with a dark red-brown spot below the cell. The median band is broadly forked below the cell and very dark there. The distal band is united with the middle band at the costal margin, in the bow vertical to the anal angle. Subapical band straight, in the lower half with a dark patch to the margin. Hindwing somewhat darker with traces of a median band, a red-brown shadow before the apex. ♀ 20 mm. New Guinea, 1500 m.

The following species are smaller and quite differently marked, similar to *Hyp. striatalis*.

**M. intimalis** Mr. Yellowish-brown. Forewing with numerous light brown bands. Hindwing somewhat darker and therefore with rather distinct bands, only a dark grey median band more prominent. 16 mm. Calcutta. — **M. compactalis** Warr. (93 f) shows real bands only in the anterior part of the forewing, becoming linear towards the inner margin. Costal margin whitish at the apex. A vertical black streak at the cross-vein. Hindwing light at the costal margin, the median band only distinct at the inner margin as far as the black discal dot. A blackish-brown band-like spot at the anal angle. 16 mm. Khasia Mts. — **M. posterior** Warr. (93 f) described as a species, but ranged here later on, makes quite the impression of a separate species. Somewhat similar to *Rh. emblicalis* (92 f) according to the author. Forewing pale whitish ochreous with pale brown marking. Three small dark dots at the costal margin near the base and one behind the middle. These dots are absent in the specimen at hand from Tring. A dark streak before the apex and, opposite to it at the inner margin, the beginning of a band. Band-like spots before the distal margin. More extensive branched bands on the hindwing, especially in the marginal area. A black streak at the cross-vein. 15 mm: Khasia Mts. — The type of *intimalis* has but very faint traces of a vertical subapical band on the forewing, being extra-angular to the centre of the margin. It is very distinct in a specimen from the Coll. Pagenstecher, but its habitat is not stated.

**M. giulia** Swk. (= *fasciata Warr.*) (93 f) resembles a larger, more red-brown *intimalis*. Light and dark brown spots at the costal margin of the forewing. The red-brown transverse bands are very indistinctly...
traceable. The apical band is quite shadowy, grey, very broad, similarly shaped as in intimalis. The grey median band on the hindwing is more distinct than in intimalis. 17—20 mm. New Guinea and in the islands surrounding it.

M. privata Warr. is hardly the size of intimalis. Marking also the same, but all somewhat darker. privata. Both wings with a black streak or ring at the cross-vein. Amboina. Banda.

M. uniformis Warr. is somewhat larger. Ground-colour greyish ochre, the usual bands scarcely recognisable. Two grey triangles at the costal margin, one before the middle, the other larger one at 3/4 of the costal margin. A similar spot before the middle of the distal margin. Traces of a median and distal band on the hindwing. Both wings with a black cellular spot. Salomons.


Forewing triangular, costal margin straight, slightly concave behind the middle and rounded before the apex, distal margin curved. Vein 2 arises far basal, 4 + 5 on a long stalk, 6 from the cell-angle which is pressed downward; 7 + 8 on a long stalk, on a short stalk with 9. Hindwing rounded, veins 4 + 5 stalked, 7 arises before the cell-end. Antennae of 3 strongly serrated and tufted, palpi short.

Pl. infans Warr. Forewing dark brown with fine ring-shaped brownish ochreous reticulate lines forming infans, indistinct interior, exterior and submarginal bands; fringe with an ochreous base. Hindwing similar. 3 15 mm. New Guinea.


Forewing elongate, costal margin straight, apex rectangular, distal margin very oblique below the centre. All the veins separate. Hindwing rounded. The inner margin with a fold, very thick, with long hair and broad shining scales, as in a fish. Antennae of 3 plain, palpi thick and short.

P. crassisquama Warr. Forewing rusty brown with darker reticulate lines and dark marking. The latter consists of a spot at the base, a band close behind it, another postmedian band distally angled in the middle of the wing, and a submarginal band which is thickened in the centre of the wing and somewhat ramified. A hyaline spot between veins 3 and 4 on the inside of the median band. Hindwing darker brown, a faded blackish spot at the cell-end. 3 25 mm. North Borneo.


Separated from all the other genera by the neuration. Veins 8 + 9 + 10 of forewing stalked. Type: ochracea Pagst.

S. ochracea Pagst. (= atomosalis Warr.) Forewing reddish ochreous with darker red reticulate lines. ochracea. Costal margin with 10—12 snow-white dots. Central spot silvery white. Fringe finely dotted black. Hindwing similar, central dot double. 3 24 mm. Aru, Key Is. — pallida Warr. is pale straw-coloured, dark brown only pallida, at the costal margin and base, with somewhat darker reticulate lines. Cellular spot small, dark brown. Hindwing similar. 3 25 mm. Buru, Kapaur (New Guinea).

S. perfusa Warr. (93 f). Both wings reddish-yellow, the reticulate lines slightly darker and distinct perfusa, only in the lower half of the forewing. The lines on the hindwing are thicker and partly double. No cellular dots nor marginal dots. Only the hindwing exhibits 8 white dots at the costal margin, 3 behind the middle and 5 before the middle. 3 17 mm. Celebes.
Alphabetical List

with references to the original descriptions of the Indo-Australian Thyridiae.

* signifies that the form is also placed at the figure quoted.

blivitatala Strigl. Mr. Proc. Zool. Soc. Lond. 1885, p. 27. *
nepileopera Strigl. Fldr. Reise Novara, Taf. 117. *
Original Descriptions of the Indo-Australian Thyrididae.

taprobana Dys. Mr. Lep. Ceylon 3, p. 67. *
tetraglypha Micr. (Warr.) Gauze, Seitz Macrolep. 10, p. 770. *
23. Family: Aegeriidae.

There are certainly more than a thousand species forming this family the prior name of which, "Sesiidae", was changed into Aegeriidae owing to the restitution of the generic name "Sesia" for a Sphingid genus. Quite a number of species will yet be discovered or published in a short time. The distribution of the genera and species has been dealt with in Vol. XIV, p. 516; according to these statements almost as many forms have been described from the Indo-Australian fauna as from the palaearctic and Ethiopian regions; the reason why not quite so many names have been granted to the African Aegeriidae as to the palaearctic forms, is not that this fauna can boast of a greater abundance of forms, but that the more numerous and exhaustive authors of the palaearctic regions were more lavish with denominations.

Regarding the age and origin of the Aegeriidae, the experts' opinions differ very much (cf. Vol. XIV, p. 514) by reason of certain peculiarities found united in the Aegeriidae, while they rather exclude one another in other families. The members of the Aegeriid family are highly specialized by a most unequalled mimicry, while quite a number of characteristics prove them to be closely affined with the most primitive Heterocera known. We can therefore only suppose that a single branch of the very old tribe of most primordial lepidoptera has pursued a very modern course of development and has partly taken quite new routes, so as to be able to exist in spite of being exposed to all kinds of dangers. The great consistency of all the Aegeriidae hitherto known also argues distinctly in favour of this supposition, since all of them — with but very few exceptions — are structured, coloured and organised according to the same principles. The Indo-Australian representatives of the family show the very same habits as those from other faunae: nearly all of them copy the much dreaded Aculeatae, the imitation being often carried through with a most astounding cunningness, and not only concerning somatic but also physiological and bionomic details.

We might therefore greatly wonder at ERICH HAASE, in his "Researches on Mimicry", passing over the Aegeriidae with but few references, although he acknowledges the advanced degree of their adaptation to the Aculeatae, instead of treating them quite specially and in detail. But HAASE advances in his treatise as the preliminary condition for proved "mimicry" the assumption that not the family character itself of mimetic species discloses this exterior of Aculeatae as an essential feature, which must then not be regarded as a garb forced upon the species by the imitation. Thus HAASE considers it an impossibility to regard the exterior of the Aegeriidae as "borrowed", however wasp-like it may look; it is then no more a product of mimicry, but the family-garb appertaining to the whole group altogether. But in fact the imitation effected by the Aegeriidae is by no means schematic, but it is expressed in most varied ways and refers to all kinds of organs. The hyaline wings might be regarded as a family character which is very rarely denied; but the very common Indo-Australian genus Melitta does not only adapt itself to the bee's shape by its hyaline wings, but it also copies the coating of the bee's legs, which are sometimes even covered with yellow-pointed hair, these tiny points of the hair representing the pollen of certain blossoms, that usually sticks to the copied bee's legs. The transformation of the antennae neither takes place according to the same principles in all the Aegeriidae. Moreover, the strangulation of the centre of the body, the so-called "wasp-waist", is achieved in different ways. It may sometimes be actually produced by a real attenuation of the abdomen, while in other cases white or yellow scales are laid over the sides of the base of the abdomen, whereby this part is covered and only a narrow black middle stripe is left, so that the wasp-waist is — so to speak — "painted" on the surface of the dorsum. Another fact to be mentioned is that there are also some Aegeriidae copying other animals which do by no means belong to the Aculeatae.
South-American *Aegeriidae* exhibit all their 6 legs provided with broad locks of hair disfiguring the lepidoptera altogether, if they project on the sides of the wings which are laid close across the abdomen. On being alarmed these insects do not fly off immediately, but run across the surface of the leaf almost like a spider and then hide underneath the leaf. *Chamaesphexia setzii Pugl.*., which is yet palaeartic, strikingly resembles one of the species of *Zygaena*, shunned by all the insectivora, and flies about singly among the great numbers of swarming *Zygaena*, so that I was completely deceived for a long time and took no notice of them whatever. It copies the *Zygaena* not only in flying, but it also rests on the stalks of milk-weed in a position never occurring in other *Aegeriidae* but especially in *Zygaena*, i.e. closely appressed to the stalk of the plant, with its head up. We can therefore only state that the general mimcry on the whole — not single features of it, as for instance the assimilation of the lepidopteran wings to the hyaline wings of the Hymenoptera — is a family characteristic of the *Aegeriidae*.

The first presupposition of so general a mimetic transformation is that the imitators can be eaten by their enemies, the second that they are not protected by interior saps. As a considerable number of Aegeriid larvae live in poisonous plants (especially Euphorbiaceae), it seems that the poisonous substance of the food-plant does not pass over to the imagines in these cases. This must be expressly stated here, because the members of other families have been observed to behave contrarily *).

The larvae of the *Aegeriidae* are entirely endophyte. They partly live in wood, partly inside the stalks of plants, and are mostly monophagous or oligophagous. We know next to nothing about the early stages of the Indian and Australian species. As a number of elsewhere known larvae of *Melittia* live on Cucurbitaceae, it may be likely that also Indo-Australian members of this family are to be found on the stalks of such plants. A great many Aegeriid larvae live in hard wood, and some have been observed to be particularly fond of canceroid swellings of the bark, which may also be caused by them. The larvae are decidedly regessively transformed by their mostly boring habits; all the colouring, if ever such had existed originally, has been replaced by a transparent bone-colour generally occurring in boring wood-worms or hidden maggots. The skin is smooth, glossy, the tiny tubercles studded with very short bristles are small or they may disappear nearly altogether (*Melittia*). The biting-organs are well developed according to the hard food and are partly real boring-tools, partly also adapted to softer food in those species which live in soft pith or inhabit the galls of other insects.

The pupae are mostly very mobile; only two segments do not participate in the pushing motions by which the insects are able to move up and down in the bored passages. The various sheaths of the single members are only loosely joined together, so that on the discharge of the imago they are separated from each other in a similar way as in the *Cossidae*.

The imagines are decidedly sun-animals with but very few exceptions, and mostly very fugitive. Very soon after the emergence they begin to swarm, and the ♀♂ very often execute the copulation, before the ♀♀ have developed their wings for flying. The flight itself is by no means uniform in the different species and frequently influenced by the mimnery. We have already stated in Vol. XIV that the *Aegeriidae* often imitate the flying habits of their models, as for instance the smaller or more slender forms copying Ichneumonids often imitate the oscillating flight of their models, whereas the species imitating large buzzing Aculeatae move on clumsily and slowly, copying the flying-sound of their models. The smallest species exhibit a gnat-like haste, touching the leaves or the ground only for a few seconds’ rest and immediately vanishing again from the pursuer’s sight owing to their small size.

The *Aegeriidae* distinctly prefer dry and often scorched places, but they also occur in luxuriant wood-land. Sunlit mountain-slopes are most frequented, but also hedges and bushes are often surrounded by the swarming *Aegeriidae*. Most of them are particularly fond of the honey of blossoms and flowers, and many favour only special blossoms. In sucking from the flowers most of the species hold their wings quiet, except those which copy incessantly buzzing Hymenoptera and must, for the sake of deception, behave in the same way. On being energetically pursued some drop into the grass and try to escape there, in doing which they suffer the loss of the hair and scales covering them. But also when they are captured, most of the species usually fly restlessly about in the net and are slightly injured thereby, and in the cyanide-glass they are in the habit of throwing themselves on their back and grinding off the thoracal vestiture which is often particularly important for the identification of the species. The legs are also extremely loosely dovetailed and

*) We refer our readers to what has been said about the Sphingid genus *Celerio* in Vol. XIV, p. 355. Not only do the brightly coloured and distantly visible larvae of this genus, living on the very poisonous *Thyrsanthus*, remain quietly settled on the food-plant in the day-time (as for instance *Cel. nicien*), but also the many-coloured imagines often exhibit themselves quite openly, whereas the larva of the allied *Cel. resperitio* living on unpoisonous plants hides during the day and its imago has changed the bright colours of those parts of the body which are visible in repose for the protective rock-colour.
already in collecting the insects it cannot always be avoided that the legs get entangled in the meshes of the net, or are loosened in setting the insect.

On the whole, the Aegeriidae are no common lepidoptera, though single species may occur in such numbers in some years as to become very destructive, especially since they mostly attack the stems or roots of the plants.

There are rather great difficulties opposed to the authors dealing with this family, because the material found in museums and collections is often very insufficient. The specimens are frequently anointed and, in many cases, maimed and disfigured past recognition. This is very often caused by the collectors disregarding the rules for preserving the Aegeriidae which number among those lepidoptera that are most difficult to prepare. Already in selecting the pin it must be taken into account that the pins may become oxidized by the pungent saps contained in many of the wood-boring insects, until the expanding verdigris or rust blows up the thorax. For this reason only black or better Krupp's steel-pins ought to be used for the Aegeriidae. But even then it is not easy to obtain quite immaculate specimens of this family. The mimetic adaptation demanding the imitation of the narrow wings of Hymenoptera, the inner margin of the forewing has been turned over, whereby the inner-marginal vein and often also the submedian vein have disappeared or are greatly reduced. The hindwings are therefore also differently fastened with the forewings compared to nearly all the other Heterocera, which fact must be considered in setting the insects. Finally, many specimens are without their antennae which, being transformed into thick though brittle clubs supported by thin stalks in accordance with the antennae of their models, the Aculeatae, fall off on the slightest shake.

Thus it is very easily possible that, by reason of the incompleteness of the material, some species or forms have been mistaken and wrongly classified, which will have to be corrected by future compilers; in many cases it seemed advisable to substitute copies of the excellently accomplished figures from CHARLES OBERTHÜR's “Etudes de Lépidoptérologie comparée” for the sketches of damaged museum-specimens which were drawn from nature.

Family Aegeriidae.


Antennae finely ciliated. Palpi thin, erect. Hair-tufts on the legs: a terminal tuft on the anterior tibia, the middle tibia with a small tuft above and a large tuft below, besides two tufts on the tarsi. A large terminal tuft on the hind tibia. Forewing without the veins 5 and 7. Hindwing without vein 6; 7 and 8 coincide. As the latter is nearly always the case, this property will no more be mentioned in the following genera. Besides veins 3 + 4 are stalked here, the cross-vein is vertical. Type: nigralba Hmps.

O. subapicalis Hmps. Body black with a slight leaden gloss. Metathorax and a tuft on the first subapicalis segment of the abdomen with white and yellow scales; the white margin on the fifth segment is more distinct than on the other segments. Antennae white before the tips, palpi white in front. Abdomen white beneath, except at the end; legs mottled white. Forewing black with a leaden gloss. Two white dots at the cross-vein. A semicircular white spot close before the margin extends from the costal margin to vein 2. One white dot each above the centre of the inner margin and at the anal angle. Hindwing hyaline, margin blackish-brown. Size not stated. Burma, Siam.

O. nigralba Hmps. (94 a). Body black, frons and palpi in front white. Forewing black, an oval nigralba hyaline spot behind the cell. Hindwing hyaline with a black margin. Legs black with white rings. ♂ 15 mm. Ceylon.

O. cristata Le Cerf (94 a). Body black. The fourth segment of the abdomen is edged with white cristata, above, the abdomen beneath being all white as far as this edge. Forewing bronze black, a narrow vertical hyaline band behind the cell. Hindwing hyaline. The whole inner margin and the distal margin as far as vein 2 blackish, then white as far as the apex. Legs mottled white. ♀ 17 mm. Java, Canton.
O. amalleuta Meyr. is the smallest species. Antennae and body black. The margins on the 1st, 2nd and 5th abdominal segments above are white, the apex also white, the whole abdomen beneath white. Legs mottled white. The bronze black forewing with a narrow hyaline band as in cristata (94 a). Hindwing hyaline, fringe throughout grey, not white. ♀ 12 mm. Bengal.

2. Genus: Oligoplilebiella Strd.

The hair-tufts of the legs are much feebler than in Oligophlebia. Neuration of forewing not different. Veins 3 and 4 of hindwing distantly separated, vein 6 bent downward and arising on a short stalk from 7.

O. polishana Strd. (94 a). Body and forewing blackish brown. Yellow are: the posterior edge of the head, the two first abdominal segments and the fifth segment; besides the abdomen beneath. Legs yellow with black longitudinal stripes. A few yellow scales in the cell of the forewing, not quite to the margin. Hindwing hyaline, about 1½ mm broad black at the apex. Then very narrowly black. Fringes of both wings bronze brown. ♀ 21 mm. Formosa. Canton.


Antennae of ♀ as in the preceding genera. Palpi thin, extending to beyond the frons. Middle tibia with a hair-tuft at the end. Hind tibia with 2 tufts, the first tarsal joint with long hair. All the veins of the forewing present, without any stalks. Veins 3 and 4 of hindwing arise from the same base. Type: lampropoda Hmps.

A. lampropoda Hmps. Body black. Hind tibia with yellow hair at the base, the rest and the first tarsal joint with orange hair. Both wings yellowish hyaline. The veins and margins black. Forewing with a broad black streak at the cross-vein. The inner margin of the hindwing is orange. ♀ 20 mm. Assam, Tonkin, Siam. According to Meyrick the abdomen is profusely scaled red. The hindwings of the resting insect are protruded far upward and sideways.

metachryseis. A. metachryseis Hmps. Body blackish, palpi golden yellow, legs black with orange rings. Forewing blackish brown, hindwing golden yellow with a broad black margin and a black ray at the median vein. Both wings beneath orange with a black margin, and a black central spot on the forewing. ♀ 16 mm. Burma.

ruficrista. A. ruficrista Rothsch. Body blackish-brown above, abdomen with extremely fine white segmental margins. Legs variegated. Front legs blackish-brown with white rings. Middle tarsi with one red and 2 glistening blue bands, the rest blackish-brown. Hind tibiae and the first tarsal joint with a very large, hirsute red hair-tuft, with 2 black spots and a few blue ones. The rest of the tarsi with 3 glistening blue bands. Forewing-blackish-brown, a hyaline streak in the cell. A postcellular hyaline spot with some blue scales. Hindwing hyaline. Distal margin blackish-brown, inner margin blue. ♀ 18 mm. Sarawak.


H. cruentata Sieh. Palpi below white with a red tip. Antennae orange-red, black above. Body black above with a red margin at the collar, also laterally at the abdomen and at the anal end. Wings hyaline. Costal margin of forewing black, only the distal third of the hindwing black. Both wings with a black spot at the cross-vein and black fringes. Base and principal veins red. The whole inner margin of the hindwing as well as the inner side of the central spot red. Abdomen beneath with white bands. Hind legs red, with black bands on the tarsi. ♀ 15 mm. Cherra Punji.

H. haematochrodes Le Cerf. Body black. Tegulae and patagia edged with red. Base of palpus white, black at the apex. Anterior tibia black, red outside, hind tibiae very long, black at the base as far as the first pair of spurs, then black outside and above, the rest with white scales and long red hair. Segmental margins of abdomen red. Forewing hyaline. The margins and veins black, also the very large spot at the cross-vein. A few red scales at the base of the wing. Hindwing similar. The large spot at the cross-vein is extended between veins 2 and 3. Inner margin, inner-marginal veins and anal angle red. Almost the whole marking of both wings beneath red. ♀ 15 mm. Tonkin.
H. myticus Le Cerf (94 a). Body black. Abdomen above with a white ring in the middle, all the segments beneath margined with white. Legs with black and white rings. Forewing hyaline with black margins. The spot at the cross-vein very large, occupying almost one third of the length of the wing. Hindwing hyaline, tinged with brown in the middle. Margin finely black, cross-vein little black. $24$ mm. Assam.

H. melissoides Hmps. Body black. Palpi white. Tibiae and first tarsal joint with black, grey and white hair. Wings hyaline with black margins. Forewing with a black transverse band occupying the middle third of the wing, and with 3 spurs at the costal margin, at vein 5, and at the inner margin. It zopes Apis indica. $20$ mm. Eastern Pegu.

5. Genus: Crinipus Hmps.

Proboscs present. Palpi reaching to the frons, the second joint hairy in front. Antennae of $\gamma$ finely ciliated. Middle and hind tibiae with hair-tufts in the middle and at the ends. Hind tarsi with hair on the first joint. Forewing: veins 2 and 3 close together, $7 + 8$ stalked. Hindwing: veins 3 and 4 sometimes stalked, 5 absent, 6 from the upper cell-angle.


Proboscs normal. Palpi reaching to the frons. Antennae of $\gamma$ ciliated, of $\varphi$ plain. Middle tibiae hairy, hind tibiae and the two first tarsal joints densely hairy. All the veins on the forewing present, $7 + 8$ stalked. Hindwing: 3 + 4 stalked, 5 absent, 6 arises close at 7. Type: heterogyna Hmps.

L. heterogyna Hmps. Body black, tegulae and tips of patagia somewhat yellow. Abdominal segments margined with white scales. Legs white. Wings hyaline, veins and margins black. Cross-vein of forewing fiery orange outside, also a little at the apex. Hindwing with white hair at the inner margin. Palpi of $\varphi$ yellow instead of white. Legs chiefly fiery orange, tarsi with black rings. Forewing more intensely orange than in the $\gamma$, an orange streak above the inner margin. Veins of hindwing orange near the cell-end. 22—24 mm. Madias.

L. xanthogyna Hmps. Body black, with a metallic blue gloss. Collar with a yellow ring, patagia with yellow lines. Thorax with small spots. Abdomen with yellowish-white segmental margins. Anal tuft yellow, white laterally. Antennae near the tips and the greatest part of the palpi yellow. Anterior legs yellow with black scales. Middle and hind legs black, with a blue gloss, with yellow hair in the tufts. Wings hyaline, veins and margins narrowly black. Forewing with a metallic blue gloss except at the distal margin which exhibits yellow scales. The hyaline area projects distally between veins 7 and 8. An intense black spot at the cross-vein. The $\varphi$ shows a chrome yellow body, thorax partly black, abdomen with black segmental margins, the anal tuft black laterally. Hindwing yellow at the inner margin. 30—36 mm. Kuranda.

L. tenuimarginata Hmps. Thorax black with yellow scales; abdomen dark with yellow segmental margins; palpi yellow; antennae orange. Legs yellow with dark hair. Wings hyaline; veins and margins narrowly black, the cross-vein of the forewing also black. $\varphi$ 32 mm. Karen Mts.


Antennae somewhat thickened towards the tips. Palpi quite erect. Veins 7 + 8 of forewing stalked. Vein 6 of hindwing arises from the upper cell-angle, vein 5 is absent. Hind tarsi extremely long. The 4 last segments above densely scaled.

M. albipunctus Hmps. (94 b). Body and palpi metallic bluish-black, palpi white below. Legs bluish-albipunctus. black, hind legs with 3 white rings. Wings hyaline. Distal margin of forewing rather broadly black, cross-vein also black. $24$ mm. Burma.


Antennae slightly thickened towards the ends. Palpi bent up. Hind tarsi about half as long as the tibiae, with a small tuft on the upper spurs. Veins 7 and 8 of forewing coincident. Veins 3 and 4 of hindwing from the same base, 5 absent.
X. macropus Durr. Palpi orange, antennae black. Thorax and abdomen bluish-black. Patagia and tegulae orange. Legs orange and black. Wings bluish-black, orange at the base. Hindwing hyaline in the cell and below it, also a little behind the cell between veins 5 and 7. ♀ 29 mm. Perak. The species copies a wasp of the genus Iphianulax.


This genus excepting a single species is Ethiopian and has therefore been dealt with in Vol. XIV, p. 529.

M. sinensis Hmps. Body black with a slight violet lustre. Yellow spots and streaks on the head, collar, and patagia. Abdomen with yellow segmental margins, 3 yellow lines at the anal tuft. Legs black and yellow, hind tarsi yellow. Wings hyaline, veins and margins coppery brown. A yellow streak below the costal margin of the forewing, a bright orange streak above the inner margin extends to beyond the middle. The spot at the cross-vein outside orange. Some yellow scales before the distal margin from the apex to vein 3. Marking beneath golden yellow. The ♀ shows yellow rings only on the 2nd, 4th and 6th segments, 30–32 mm. Shanghai. Thus it belongs yet to the palaearctic region, but it presumably proceeds beyond the Yang-tse to the south.


This genus also contains numerous palaearctic and Ethiopian species. It has been dealt with in Vol. II, p. 381, and Vol. XIV, p. 521. The palaearctic tipuliformis Or. has been also imported to Australia and New Zealand.

S. aurania Drc. The whole body black, only the 4th and 5th segments of the abdomen light red. Wings yellowish hyaline. Forewing brown at the costal margin and apex, veins yellowish-brown. Veins of hindwing brown. 32 mm. Perak.

S. hypochalcia Hmps. Thorax red-brown with a yellow ring on the collar. Abdomen darker with a grey reflection, a yellow band on the third segment. Palpi and legs yellow with black parts. Abdomen beneath with 4 yellow rings near the base. Wings hyaline, the veins and margins narrowly black. Black streaks also in the marginal area of the forewing. Marking beneath more coppery. Abdomen of ♀ above with 5 yellow rings, the ring on the third segment being broader, beneath with broad yellow bands on all the segments. 22 mm. Assam.


S. pyrosema Hmps. Body blackish-brown, ring on the collar yellow. Abdomen with fiery red lines at the base, on the 5th and 7th segments. Tibiae with a few white hairs in the middle and at the ends. Abdomen beneath with a white line on the 5th segment. Wings hyaline, veins and margins finely blackish-brown. The streak at the cross-vein outside fiery red. ♀ 20 mm. Khasia Mts.

S. cupreifascia Misk. Body black, thorax with yellow lines in front and behind. Abdomen with 2 yellow bands near the base, the posterior one broader, besides 3 narrow ones towards the anal end. Beneath alternately with black and creamy white bands. Legs orange. Wings hyaline. Costal and distal margins of forewing black. The black cross-vein outside coppery, the veins behind it also coppery. Hindwing coppery at the costal margin, distal margin black. ♀ 27 mm. Queensland.

S. xanthozonatum Hmps. Black. Palpi, collar and patagia edged with yellow. Abdomen also with yellow margins on the 1st, 2nd, and 4th segments. Legs black and yellow with a few grey hairs. Wings hyaline with black veins and margins. Forewing with a black spot at the cross-vein. Abdomen of ♀ with yellow rings on all the segments. Bases of both wings yellow at the inner margin. Orange scales in the marginal area of the forewing. 24–30 mm. Tenasserim.

S. catalina Meyr. Head indigo-blue, collar yellow, palpi orange. Antennae red, black above. Thorax black with yellow scales. Abdomen bluish-black with yellow segmental margins. Legs red, tibiae partly black. Tarsi yellow. Wings yellowish hyaline. Forewing red at the costal margin, the other margins black. Veins black. Cross-vein and apical area somewhat red. Black and yellow scales in the marginal area between the veins. Hindwing with black veins, and yellow near the base. Costal margin red as far as around the apex, distal margin black. ♀ 32 mm. Cumaon.

S. duporti Le Cerf. Head blackish-blue, palpi and antennae yellow, both with a black line. Thorax black with yellow lines and a yellow end. Abdomen blackish-blue, all the segments margined with yel-
low. The anal tuft and the lateral tufts with yellow lines. Legs yellow with black lines. Wings transparent, especially in the distal area of the forewing very clear. A yellow spot at the base, the black streak at the cross-vein fine. Margins and veins bluish-black, a few yellow scales at the distal margin. Hindwing with very narrow margins, a streak on the cross-vein scarcely present. Palpi of ♀ almost only yellow. Body beneath quite yellow; above all the yellow markings more distinct, the anal tuft only with a black line. Forewing with a broader distal margin, so that the partition-place of veins 7 + 8 is no more in the hyaline area, the yellow dusting more intense. The dark margin on the hindwing is broader. Both wings with yellow fringes at the inner margins. 20—25 mm. Tonkin.


The genus has already been dealt with in Vol. II, p. 396. The only species which may reach the Indian region is:

_D. xanthosticta_ Hmps., which is described from Cashmir in the palaeartic region. Hampson placed the species later on to the genus _Conopia_.

12. _Genus: Gaea_ Beutenm. (= _Larunda_ Edw.).


_G. variegata_ Wkr. Coppery black. The fourth to sixth abdominal segments bright red, each of these _variegata_ segments is black at the posterior end. Third segment with a yellow lateral spot. All the segments beneath margined with pale yellow. Wings bluish-black. "16 lines". Hongkong.

_G. leucozona_ Hmps. Body bluish-black, palpi black and white, fiery red spots on the thorax. Yellowish-white spots on the 4th abdominal segment, a broad yellowish-white band on the 5th segment. Legs mostly white. Abdomen beneath with a yellowish-white band on the 5th segment. Forewing bluish-black with a hyaline stripe in the cell and in the submedian fold. Hindwing hyaline from the base to behind the cell and to the anal angle, the rest bluish-black. Apex of forewing beneath and the base of the costal margin on the hindwing whitish ochreous. 30—32 mm. Assam.


Proboscis exceptionally stunted. Palpi projecting beyond the frons. Antennae thickened towards the ends, with an apical pencil. Front tibiae not very hairy, middle tibiae above and below with long hair, hind tibiae with still longer hair. Anal tuft of ♀ long. Forewing narrow. Veins 2, 3, 4 coincident, 7 + 8 stalked, 11 absent. Vein 2 of hindwing arises near the cell-angle, 3 + 5 stalked, 6 above the centre of the cross-vein.

_T. uniformis_ Sn. Body greenish black, not marked. Forewing steel-blue, hindwing violettish-blue, _uniformis_. Wings narrow. Veins 7 + 8 of forewing on a short stalk, 10 absent. Veins 3 + 4 of hindwing on a very short stalk, 6 from the centre of the cross-vein, 7 from the upper cell-angle. Type: _hypochroma_ Le Cerf.

_Ch. xanthopleura_ Le Cerf (94 b). Body blackish-blue, anal tuft reddish-yellow in the middle, yellow _xanthopleura_ below at the end. Middle and hind tibiae yellow. Wings hyaline with black veins and margins. Cross-vein of forewing blackish-black, broad yellow before the black distal margin. Fringes of both wings bronze black. ♀ 17 mm. Madras, Trichinopoli.

_Ch. hypochroma_ Le Cerf (94 b). Body bluish-black. The 1st and 2nd abdominal segments quite _hypochroma_ golden yellow, the 4th to 7th margined with yellow. Legs black and yellow. Wings hyaline. Forewing blackish-blue at the costal margin, at the broad cross-vein and the other veins. The hyaline postcellular
spot is elongate, not very high. The dark margin on the hindwing is not so broad as on the forewing. Both wings beneath somewhat yellow at the costal margin. 18—20 mm. Upper Burma.

**Ch. flavipes** Hmps. (94 b). Body bluish-black, palpi and tibiae orange. Abdomen with narrow orange segmental margins which become broader on the sides. Anal tuft below orange. Wings hyaline, the margin and all the veins black. Forewing with a broad distal margin in which there are fine yellow streaks between the veins. The segmental margins of the ♀ abdomen are broader yellow. 14—16 mm. Ceylon, Madras.

**Ch. albicincta** Hmps. Body with a metallic blue gloss. The 4th and 6th abdominal segments are finely margined with white, the base of the antennae and part of the palpi white. Legs with white patches. Abdomen beneath coppery brown, the 4th, 5th and 6th segments margined with white. Forewing violetish-black. A hyaline stripe below the cell, a hyaline triangle in the cell-end, short postcellular hyaline streaks between the veins 3 and 7. A few scales at the cross-vein and in the marginal area. Hindwing hyaline, margin and veins finely black. 16 mm. Ceylon.

**Ch. quinquecincta** Hmps. Thorax bluish-black, abdomen black with 5 broad yellow bands. Anal tuft and legs bluish-black, the latter with some white spots. Wings hyaline, margins and veins smoky brown. The costal margin and the cross-vein of the forewing bluish-black. 24 mm. Burma.

**Ch. melanoptera** Le Gerf. Body bluish-black. The 1st and 2nd abdominal segments yellow, the 4 last segments chiefly yellow, all of them beneath almost quite yellow. Legs with white spurs. Wings violetish-black. A hyaline streak below the cell of the forewing. A similar short hyaline spot in the base of the cell and below it. Forewing beneath yellowish-white at the base at the costal margin, with traces of a small hyaline spot behind the cell. 16 mm. Tonkin.

**Ch. tritonias** Hmps. Body violettish-black. Collar, thorax and patagia with yellow patches. Palpi yellow and partly black. Abdomen with yellow bands on the 2nd to 6th segments. Legs yellow and black. Wings yellowish hyaline. Margins and veins of forewing dark red-brown. Costal margin and marginal area with yellow scales. Cross-vein golden yellow edged with black. The dark distal margin penetrates into the fork of veins 7 + 8. Hindwing with blackish-brown veins and margins; yellow scales in the proximal half of the wing and at the inner margin. 40 mm. Assam.

**Ch. cyanopasta** Hmps. (94 c). Body black with silvery blue scales, collar orange. Forewings violetish-black with bluish-green scales. An orange streak below the base of the cell, a triangular spot in the cell, a round spot behind it. Veins fine dark. Hindwing hyaline with dark cross-vein and margins. 26 mm. Quetta.

15. Genus: **Chamaesphecia** Splr.

Proboscis strong. Veins 7 + 8 of forewing stalked, 10 and 11 fused in the terminal halves. Veins 3 + 4 of hindwing stalked, 5 absent, 6 from the centre of the cross-vein. Type: *empiformis* Esp. from Europe.

**Ch. tritonias** Hmps. Body violettish-black. Collar, thorax and patagia with yellow patches. Palpi yellow and partly black. Abdomen with yellow bands on the 2nd to 6th segments. Legs yellow and black. Wings yellowish hyaline. Margins and veins of forewing dark red-brown. Costal margin and marginal area with yellow scales. Cross-vein golden yellow edged with black. The dark distal margin penetrates into the fork of veins 7 + 8. Hindwing with blackish-brown veins and margins; yellow scales in the proximal half of the wing and at the inner margin. ♀ 40 mm. Assam.


Proboscis normal. Palpi highly erected. Antennae thickened towards the ends, with a small pencil at the apex and a hair-tuft between the bases of the antennae. Tibiae with hair around the spurs. Veins 7 + 8 of forewing stalked, 11 absent. Veins 3 + 4 of hindwing stalked, 5 absent, 6 below the upper cell-angle. Type: *abdominalis* Hmps. from Africa. Cf. Vol. XIV, p. 524.


17. Genus: **Conopia** Hbn.

Like the preceding genus, but no hair-tuft between the antennae, no hair around the tibial spurs. A great part of the species have been described as "Sesia" or "Aegeria". Type: *stomoxysformis* from Europe. Cf. also Vol. XIV, p. 525.
C. auriplena Wkr. (= subauratus Le Cerf) (94 c). Palpi yellow, thorax black with yellow lines. Abdomen golden yellow with a few black bands. Legs almost quite golden yellow. Wings hyaline. Costal margin and veins of forewing bluish-black, inner margin golden yellow. The postcellular hyaline spot is square, the distal margin broadly black with yellow streaks. Base of hindwing somewhat golden yellow, the margin narrowly black. Both wings beneath with a narrow yellow costal margin.♂ 20 mm. Canton, Celebes, New Guinea.


C. panyasis Drc. (= caicta ♀ Drc.) differs very little from chrysothanes. The ♀ has a black anal tuft, panyasis. A yellow spot is near the apex of the forewing. The ♀ shows a more intensely bluish-black thorax than chrysothanes (94 c), 3 bluish-black rings on the abdomen. Forewing also only with a yellow apical spot, not a yellow stripe. 18 mm. Queensland. The larva lives in Alphitonia excelsa. According to Turner, panyasis is only a southern form of chrysothanes. The ♀ of panyasis shows the orange marking of chrysothanes replaced by yellow, the ♀ is scarcely different from chrysothanes.

C. melanocera Hmps. Body bluish-black, ring of the collar and patagia with yellow margins. Abdomen somewhat yellow at the base, moreover a ring on the second segment and faded bands on the 4th, 5th and 7th segments are yellow. Antennae without the white spot near the apex of chrysothanes. Palpi yellow with black patches. Legs yellow with bluish-black patches. Abdomen beneath with violetish-brown spots on the 2nd to 7th segments excepting the fourth. Wings hyaline. Forewing with bluish-black veins and margins; distal margin black, broad, with yellow streaks as far as vein 3, the hyaline area projects above vein 8 distally. Hindwing with a narrow margin, inner margin with yellow hair. The ♀ differs from that of chrysothanes in a short hyaline postcellular area. 20 mm. Curanda.

C. auritincta Wil. Body black, thorax laterally with yellow hair. Abdomen with yellow hair on auritincta, the segmental margins, the last segment broadly yellow. Forewing hyaline. Costal and distal margins, veins and the broad cross-vein black. Two thirds of the inner margin yellow, yellow scales before the distal margin. Hindwing black at the veins and distal margin, yellow at the costal and inner margins, with orange scales in the marginal area. Fringe grey. ♂ 18 mm. Formosa.

C. flava Mr. (= calamis Drc.) (94 c). Antennae, palpi, and thoracic lines yellow. Abdomen brown flava. With yellow segmental margins, anal tuft also yellow. Legs yellow and brown. Wings hyaline. Forewing yellow at the base and apex, the veins and margins narrowly brown. Hindwing with brown fringe. 17 mm. Burma, Sikkim, Celebes, Java, Perak.


C. flavicincta Hmps. also resembles auripipes (94 d). Abdomen black, segments margined with yellow. flavicincta. Legs black with yellow rings. The margins and the cross-vein of the forewing broadly black. ♂ 19 mm. Tenasserim.

C. xanthosoma Hmps. Frons metallic blue with a white lateral line. Thorax yellow with black stripes. xanthosoma. Abdomen yellow, each segment margined with black. Legs yellow, hind tibiae with 2 bluish-black spots. Wings as in auripipes, hyaline, narrowly margined with black, with a few yellow scales. ♂ 20 mm. Burma, Tenasserim.


C. pensilis Soeh. Body blackish-brown, abdomen with a bluish-green lustre. Antennae and palpi below pensilis. yellow. Thorax yellow laterally. Abdomen beneath with yellow markings. Legs black above, yellow beneath. Wings diaphanous. The black margins on the forewing are broad, projecting inwards at the centre of the distal margin. Hindwing also margined with black, yellow only in the interior half of the costal margin. 18 mm. Ceylon, Sula.

C. xanthosticta Hmps. Palpi below yellow, frons black and yellow. Body black. Abdomen with a xanthosticta. yellow spot on the first segment and a yellow lateral line. Legs black, somewhat yellow on the tibia. Forewing black. A hyaline spot with a yellow margin is in the cell, a yellow postcellular spot is parted by black veins. Hindwing hyaline. Base and costal margin somewhat yellow; veins, distal margin, and fringe black. ♂ 18 mm. Cashmir, Baluchistan, Punjab.
C. unicolor. Similar to Par. minuta Sich. (94 c). Body black, abdomen with but one yellow ring. The hyaline forewing with a narrow black margin, a few yellow scales below the cross-vein and near the apex. Hindwing hyaline. 18 mm. Burma.

C. pentazona Meyr. Thorax violetish-black with an ochreous lateral line. Abdomen bluish-black, the 3rd to 7th segments margined with white, more broadly so beneath. Anal tuft orange-red laterally. Wings yellowish hyaline. Forewing with a blue lustre. Costal margin violetish-black as far as vein 9, with fine red lines. The black cross-vein posteriorly edged with red. Veins black. A faded red band at the apex and distal margin. Inner margin finely red. Hindwing with black and red veins, a red line at the distal margin. 20—24 mm. Assam.

C. aurifera Hmps. Body black, thorax with some yellow patches. Each abdominal segment margined with orange. Antennae below and palpi orange. Legs orange, somewhat black. Abdomen beneath orange with narrow black margins, broader black only on the 3rd and 6th segments. Forewing orange-hyaline. Veins and margins black, especially broad at the costal margin. Cross-vein distally margined with fiery red. A fine orange streak above the inner margin. Veins and margins of hindwing fine black, somewhat orange before the margin. 16 mm. Assam.

C. longipes Flcbr. Palpi, body and legs reddish-yellow, hind tibiae very long. Wings yellowish hyaline. Forewing blackish behind the cell. Thorax and abdomen above with bluish-black central spots. 36 mm. Ambowa. Ternate. According to Hampson a wrong abdomen has been glued on the type.

C. rubripes Pagst. Somewhat similar to longipes by the long legs, but much smaller. Antennae and palpi reddish-yellow. Abdomen with brownish and yellow rings. Forewing with blackish and yellow scales at the costal margin. The cross-vein, the other veins and the inner margin with yellow scales. Hindwing yellowish, the distal margin narrowly black. 22 mm. Bismarck Archipelago.


C. versicolor Le Cerf (94 d). Body bluish-black, collar fine yellow. All the abdominal segments finely margined with yellow. Anal tuft orange-red. Beneath yellow, the second segment black. Palpi yellow with a black lateral line. Legs yellow, with black rings. Wings hyaline, iridescent blue. Costal margin greenish black, the broad cross-vein and the distal margin violetish-black, the latter dusted with yellowish. The hyaline area projects a little distally between the veins 7 and 8. Veins and margin of hindwing fine black, yellow at the costal margin beneath. 19 mm. Sumatra.


C. opalizans Hmps. Thorax violetish-black with yellow lines and a yellow collar. Abdomen yellow with black extinct bands. The 2 last segments more intensely black, the anal tuft orange and black. Palpi, abdomen beneath, and legs yellow. Wings yellowish hyaline. Forewing opalescent. Veins and margins violetish-black. Cross-vein broad, distal margin broad dark, with yellow scales between the veins, especially at the apex. The projection at the hyaline area as in versicolor (94 d). Hindwing with fine black veins. Inner margin yellow. 25 mm. Sula Mangoli. Presumably only a large form of versicolor.

C. ignifera Hmps. Palpi black, yellow below. Antennae and body black, anal tuft fiery red. Abdomen beneath at the end red and white. Wings yellowish hyaline. Forewing with brown veins, only the distal margin broadly brown. The veins and all the margins of the hindwing narrowly brown. 18 mm. Assam. Burma.


C. concavifascia Le Cerf (94 d). Palpi black above, pale yellow below. Body violetish-black. The 2nd abdominal segment is margined with pale yellow, the fourth quite pale yellow. The end of the abdomen beneath pale yellow. 2 pale yellow lines above it. Legs chiefly pale yellow. Wings hyaline. Forewing violetish-black at the veins, costal margin and cross-vein. Distal margin reddish black and shaped in such a way that the hyaline spot before it becomes moon-shaped. A golden yellow spot outside at the centre of the cross-vein. Hindwings normal. 18 mm. Java, Canton.

C. anisozona Meyr. Palpi ochreous. Body black. Thorax with pale yellow patches. Abdomen with narrow yellow rings on the 2nd and 7th segments, a broad one on the 4th segment. Anal tuft yellow,
margined with black. Wings hyaline. Forewing with a violet gloss towards the margin. Veins black. The broad black costal margin extends to vein 9 and contains a fine yellow line above vein 11, encircling also the apex. Inner margin yellow at the base. The spot at the cross-vein extends to the inner margin. Hindwing normal. ♀ 16 mm. Burma.


C. howqua *Mr*. Palpi black above, white below. Body bluish-black. Three narrow yellow lines on howqua, the abdomen at equal distances. Beneath with white lines. Legs black with white rings. Wings hyaline, veins and margins black. Cross-vein of forewing only narrowly black. 14 mm. Shanghai. It is also palaearctic.

C. tenuiventris *Le Cerf* (94 d). Body black, abdomen very long and narrow, beneath with a white median line. Wings hyaline, relatively short. Veins and margins narrowly black. ♀ 21 mm. Java.

C. caerulipes *Hmps*. Thorax black, palpi yellow. Abdomen greenish black; the second, fourth and fifth segments margined with white scales, yellowish beneath. Legs yellow and black. Hind tibiae and tarsi above metallic blue. Wings hyaline, veins and margins black. Margins of forewing broad black like the cross-vein. The bifurcation of veins 7 + 8, however, is still hyaline in the otherwise broad margin. ♀ 22 mm. Sikkim.

C. javana *Le Cerf* (94 d). Palpi yellow with a black lateral line. Body bluish-black. Patagia margined with pale yellow. The 2nd, 4th and 6th abdominal segments margined with yellow, the 3 last segments yellow beneath. Legs black and yellow. Wings hyaline with bluish-black veins and margins. Distal margin of forewing somewhat broader dark, costal margin beneath pale yellow. Hindwing normal. ♀ 18 mm. Java.

C. ticiincta *Mr.* (94 d). Brown. Collar and lateral streaks on the thorax yellow. Abdomen with yellow rings at the beginning, in the middle, and at the end. Legs brown. Wings hyaline iridescent, with a narrow violettish-brown margin and similar streaks at the cross-vein. ♀ 22 mm. Sikkim.


C. clavicornis *Wkr.* Dark violet. Thorax in front yellow and with yellow lateral stripes. The 3rd clavicornis. abdominal segment yellow, the 4th and 5th margined with yellow behind. Middle and hind tibiae yellow and blue. Forewing bluish-violet, hindwing hyaline. Batjan.

C. mushana *Mats.* Colour of body not mentioned. Palpi, 3 stripes on the thorax, some spots on mushana. the legs yellow. Wings hyaline. Forewing with a moon-spot at the cross-vein, with yellow scales outside. Hindwing with a triangular cross-vein and a yellow costal margin. Margin and veins bluish-black in both wings. ♀ 20 mm. Formosa.


18. Genus: *Sphecosesia* *Hmps.*

Proboscs normal, palpi erected to beyond the frons, in front at the base with long hairs. Antennae of ♂ finely tufted, considerably thickened behind the middle. Legs without a hair-pencil. Abdomen very wasp-like. Vein 2 of forewing present, 7 + 8 stalked. Veins 3 + 4 of hindwing stalked. Type: *pedunculata* *Hmps.*

*S. pedunculata* *Hmps.* (94 h). Thorax dark brown, palpi yellow. Abdomen dark reddish-brown with white seg mental margins, beneath with dark margins. Legs white. Wings hyaline, veins and margins brown. ♀ 28 mm. Sikkim.

*S. aterea* *Hmps.* Frons silvery white, body black, tegulae with yellow margins. Abdomen with yellow aterea. lateral tufts at the base, the 4th segment margined with yellow. Abdomen beneath on the 4th and 5th seg mens as well as the legs predominantly yellow. Forewing hyaline, the veins and margins narrowly black, a black streak in the cell-end. Blackish-brown triangular streaks before the distal margin between the veins. Hindwing hyaline, with a narrow black margin. ♂ 22 mm. Philippines.


Proboscis very feeble, palpi short, thick, hairy, the third joint small. Antennae short, with a pencil at the apex. Tibiae ciliated, spurs long. Type: *abiaeformis* *Wkr.*
T. abiaeformis Wkr. (94 e). Body metallic green, with a golden yellow thoracal spot near the base of wings. Abdomen ochreous at the end, all the segmental margins golden yellow. Wings hyaline. Forewing coppery at the costal margin and cross-vein, the veins yellowish. North and South China. It may be identical with one of the species mentioned in the palaeartic part.

T. sinensis Wkr. (95 h). Palpi and prothorax yellow, a shoulder-spot also yellow. Hindwing yellow, but the 1st to 3rd segments only margined with yellow, the rest brown, beneath with silvery white segmental margins. Wings hyaline with brown veins. Forewing violet in the distal area. Hongkong.


Proboscis absent. Palpi erect, the second joint reaching the frons, with long hair in front, the third joint long, pointed, somewhat hairy. Antennae of ♀ almost plain, thickened at the end, with a hair-pencil. The thorax and the short abdomen with long hair. Tibiae long-haired, the tarsi with small tufts. Forewing: vein 3 from before the cell-angle, 5 and 6 well separated, 8 + 9 + 7 stalked, 10 and 11 from the cell. Hindwing: veins 3 + 5 on a short stalk, 6 and 7 separated.

D. bombyliformis Rothsch. (95 a). Legs blackish-brown; the tarsi of the first two pairs of legs orange-brown. Body blackish-brown, only the collar dark grey, the 3 middle segments of the abdomen yellow. Wings hyaline yellowish, veins dark. $ 35 mm. Khasia Mts.


Palpi long, but not projecting beyond the frons, the third joint pointed. Proboscis feebly developed. Antennae long, scarcely thickened. Body strong. Hind legs long, with a hair-pencil inside at the tibia. Neuralation of forewing: vein 4 arising nearer at 3 than at 5, 6 below the upper cell-angle, 9 + 7 + 8 stalked, 10 and 11 separated at the base, then nearing each other. Hindwing: veins 3 + 4 on a short stalk, 5 arises near 4, vein 6 only marked. According to Hampson, Sphec. romanovi Leech (Vol. II, p. 378, pl. 51 a) from Japan also belongs to this genus. Type: calliptera Le Cerf.

Ae. calliptera Le Cerf (95 a). The whole body blackish-brown with a slight blue lustre. The margin of the sixth segment and the anal tuft reddish-yellow. Legs reddish-yellow, the hair-pencil blackish. Forewing reddish-yellow, blackish at the base; two thirds of the costal margin and an arcuate streak at the upper cell-angle also blackish. A few brown scales at the margin. Hindwing hyaline yellow, veins and margin fine dark. ♀ 52 mm. Batjan.

Ae. fulviventris Le Cerf (95 a). Frons blue, collar reddish-yellow. Thorax bluish-yellow with reddish-yellow places at the base of the wing and in the centre. Abdomen bluish-black, the first segment as well as a following median stripe and the anal end reddish-yellow. Legs reddish-yellow. Forewing dull black. A fine hyaline streak in the cell, the lower two thirds of the marginal area also hyaline, traversed by dark veins. Hindwing hyaline, somewhat yellowish. ♀ 52 mm. New Guinea.

Ae. fasciata Wkr. Lustrous black. Abdomen with a broad red band a little before the middle. Hind tibiae with white hair at the base, the rest with black hair. Forewing black, paler at the apex, with a slight golden gloss. Hindwing hyaline, broader black at the costal margin. Borneo.


Ae. cyanea Hmps. Head and tegulae orange. Frons and the rest of the body bluish-black. Antennae black, red-brown below. Forewing metallic bluish-black. Hindwing hyaline. The cell, a spot behind it, the veins and margins bluish-black. ♀ 42 mm. South Celebes.


The genus has already been dealt with in Vol. II, p. 378.

Sph. ignicolle Hmps. Antennae and frons red-brown. Collar fiery orange. The rest of the body brown. The second abdominal segment margined with red, the last segments fiery orange. Wings hyaline. Forewing brown at the costal margin, the veins and margins somewhat red. 36—46 mm. Simla.

Sph. repanda Wkr. Antennae orange. The whole body black. Palpi and tegulae with yellow scales. Thorax above with a yellow stripe. Abdomen with reddish-yellow segmental bands, the two last segments quite reddish-yellow. Wings hyaline, the veins and margins fine reddish-yellow, costal margin and cross-vein orange. ♀ 50 mm. Simla.
Sph. coracodes Trnr. Body black with a blue gloss, abdomen with white scales. Forewing black, coracodes, with a blue gloss in the centre. A narrow hyaline streak in the cell and a short one below it. Hindwing hyaline, margins fine black. 28—30 mm. Queensland.


23. Genus: Aegeria F.

The slight differences of this genus from the preceding one have been dealt with in Vol. II, p. 376 and 378.

Aeg. omniatiaeformis Mr. Palpi yellow. Antennae and body red-brown with some yellow scales, omniatiaeformis. Legs yellow. Wings hyaline. Veins and margins brown. 38 mm. Baluchistan.

Aeg. chrysoptera Hmps. Head black and yellow. Antennae copper-red, palpi yellow. Thorax lustrous chrysoptera. red-brown, patagia black and yellow at the end, abdomen reddish-yellow on the first segment and almost on the whole second, with black basal hair. The second at the end and the third segment black. Beginning from the 4th segment reddish-yellow, the 3 anal segments with a black marginal line. Abdomen brown beneath. Forewing golden yellow with some black scales at the veins and margins, the costal margin and a round apical spot black. Hindwing hyaline yellow. The marginal area golden yellow from vein 3 to the anal angle, inner margin black at the base. 36 mm. Burma.

Aeg. uranauges Meyr. Body dark blue, with a metallic gloss, margins of tegulae yellowish. The first abdominal segment quite yellow, the others with broad yellow rings. Legs yellow with bluish-black rings. Forewing hyaline blue. Margins violettish-black, broader at the apex which shows yellow scales. Cross-vein margined with yellow. Hindwing hyaline. 36 mm. Assam.


Aeg. laticivora Meyr. Body bluish-black, metathorax and the tips of the tegulae yellowish. The second abdominal segment margined with yellow. Anal tuft dark grey. Wings hyaline. Veins and margins black. Distal margin of forewing broad black. 14 mm. Malacca. As the species is stated to resemble Con. anisozona, it may not belong to this genus here.


Exterior similar to that of Aegeria, but the veins 10 + 7 + 8 + 9 of the forewing are stalked. The cross-vein of the forewing has a very oblique position. Proboscis present.

Ch. aegerides Strd. (95 a) is somewhat smaller than the well-known Aeg. apiiformis (Vol. II, p. 376, aegerides. pl. 51 a). Antennae thinner, reddish brownish-yellow. Collar yellow, a yellow line at the base of the wings. Abdomen reddish-brown, a yellow transverse line near the base, the 4th segment all round yellow, the 1st to 3rd segments below broadly margined with yellow. Legs light reddish-brown. Wings as in apiiformis, but the margin is lighter brownish yellow. 35 mm. Formosa.

25. Genus: Trilochana Mr.

The two last abdominal segments exhibit lateral hair-tufts, the anal tuft is strong. All the rest as in the genus Sphecia. The antennae of the ♀ are exceptionally also pectinated in this genus. Type: scolioides Mr.

T. scolioides Mr. (95 b). Antennae dark brown, the whole body violettish-brown, the last segments scolioides, with red hair-tufts. Legs with long black hair, the hind tarsi yellowish. Wings lustrous greenish olive. Forewing with a short hyaline streak near the base, hindwing with two broader ones. 46 mm. Sikkim. This species, of which only 1 ♂ and 1 ♀ are represented so far in the collections, copies the wasp Scolia rubiginosa F.

T. oberthuri Le Cerf (95 b). Body dull black. Collar yellow. A spot in the centre of the thorax oberthuri. behind and 2 lateral spots each on the abdomen are also black. White hair on the thorax and on the abdomen laterally. Legs chiefly black. Forewing brown, almost the whole surface with a bronze green lustre. Hindwing just as green, besides with 2 hyaline spots. 58 mm. Gede Mts. (Java). — bouletii Le bouleti.
Cerf only shows the anterior two yellow spots on the abdomen. The wings are more bluish green. The latter form is very similar to a Sumatran wasp, Triscolia procera var (?).

**T. insignis** Btlr. is still regarded as a distinct species; it is the opposite extreme of bouleti, exhibiting the posterior two yellow spots on the abdomen in the shape of a continuous band. No other differences. It copies Triscolia procera.

**T. chalciptera** Hamps. Body bluish-black. Frons white, palpi yellow. Tegulae and metathorax yellow. A fine yellow margin on the fourth abdominal segment, anal tuft yellow laterally. Forewing copper-brown, somewhat diaphanous. Costal and inner margins black, more broadly so at the base in both cases. Besides a short hyaline streak below the base of the cell. Hindwing similarly coloured and with the usual two hyaline spots. \( \varpi 54 \text{ mm.} \) Madras.

**T. triscoliopsis** Rothsch. Similar to insignis, but larger. The golden collar and the abdominal bands are absent. Antennae and body deep black. A large triangular golden yellow spot on the thorax. Legs black with some white patches. Wings metallic green excepting the normal hyaline spots on the hindwing. It copies the wasp Triscolia whiteheadii. \( \varpi 76 \text{ mm.} \) Mindanao.


Proboscis well developed. Palpi highly erected, with long basal hair. Antennae of \( \varpi \) strongly tufted, thickened at the ends, with a hair-pencil at the apex. Hind tibiae long-haired, hind tarsi very long, with hair-tufts. Neuration of forewing as in Melittia. Veins 6 and 7 of hindwing fused.

**M. longipes** Mr. Antennae black above, with lilac white spots. Body black, abdomen white (?), with ochreous spots, the segments with lilac white margins. The first two pairs of legs with short black and brownish ochreous hair. Hind tibiae with long black hair, mixed above with reddish-ochreous and white hairs. Black hair on the tarsi. Wings hyaline. Forewing with violetish-black margins and veins. Hindwing copper-brown at the distal and inner margins. 25 mm. Shanghai and Central China. It is presumably chiefly palaearctic.

27. Genus: **Melittia** Hbn.

All that is necessary has been said about this genus already in Vol. II, p. 379.


**M. batchiana** Le Cerf (95 b). Antennae black above, brown below. Collar bluish-black. Thorax black and red-brown. Abdomen reddish-yellow with broad black irregular bands, end black. Legs with black and reddish-yellow hair, with white spots. Costal margin and cross-vein of forewing broad black, distal half of marginal area also black, the rest hyaline. Hindwing hyaline, veins and margin fine black, the inner margin somewhat broader black. \( \varpi 33 \text{ mm.} \) Batjan.

**M. bombiformis** Fldr. (95 b). Body greenish black. Metathorax with yellow patches, the abdominal segments margined with yellow. Costal margin of forewing not so broad black. The marginal blackening at the apex is very broad, decreasing much in width below it, the apical area strewn with yellow scales. Hindwing with a narrow black margin. Hind legs with reddish-yellow and yellow hair. 44 mm. Ambonai.

**M. marangana** Le Cerf (95 c). Antennae black above, brown below. Palpi ochreous with black patches. Body olive brown, collar with black hair. Abdominal segments margined with ochre, the end black. Abdomen beneath somewhat blackish at the base, otherwise yellowish white. Hind legs olive brown and black-haired, with white patches below. Forewing somewhat olive brown at the base at the inner margin. Costal margin and cross-vein broad black, apical area shaped as in bombiformis. Hindwing normal. \( \varpi 30 \text{ mm.} \) South-West Sumatra.

spots, the rest bronze brown with reddish-yellow segmental margins. Reddish-yellow beneath. Hind legs as in marangana. Distal margin of forewing much narrower black, otherwise quite similar to marangana. ♀ 36 mm. Khasia Mts.

**M. bombyliformis** Cr. (=: chalciformis F., phlorescus Ww., arrecta Meyr.). This species which is distributed over the whole of India, South China, Sumatra, and Java, penetrates as far as Japan, for which reason it has already been dealt with in Vol. II, p. 379, pl. 51 a).

**M. amboinensis** Fldr. (=: nepcha Mr., dorsatiforim Hmps., thauamasia Tenr.). Similar to bombyliformis, but the collar is bluish-black. Hind legs with white instead of yellow hair, the tibiae with blue scales apically. The dark margins of the forewings are narrow in the type, broader in specimens from Pegu and Perak, while in the form congruens Sckh. (95 d), from Rangoon, it extends to the bifurcation of veins 7 + 8. — A number of forms described by Le Cerf are allied to the latter form: celebica (95 e) is recognizable by the pale yellow underside of the abdomen, which is pale reddish-yellow in the other forms. The differences in these forms are very slight. — meeki (95 d) has a more intensely bronze black abdomen, the segments are narrowly margined with reddish-yellow. The black parts on the palpi and legs are more extensive. Trobiand I., Fergusson I. — doddi (95 d) is darker than the two preceding forms. Abdomen above as in meeki, beneath orange at the base, greyish-white in the middle. The red places on the hind tibiae are very much reduced and more red-brown. Kuranda (Queensland). — asiatica is almost exactly like doddi, but the hyaline spot in the marginal area of the forewing is rounder, the abdomen beneath somewhat lighter, the hind tibiae are quite black below. Darjeeling. — javana (95 d) has the body coloured as in celebica, javana. Forewing without the reddish-yellow scales at the base, as in doddi; the inner margin of the hindwing is grey. Hind tarsi only black-haired. Java, Sumatra. In the original description many pages of text and many figures are used to explain the insignificant differences, which we cannot do here. The type amboinensis Fldr. from Amboina has not been figured. Hampson places nepcha Mr. (95 c) and dorsatiforim Hmps. (95 e), both from India, as synonyms to it. The differences are certainly slight, but on the other hand neither more trifling than in the other forms named.

**M. madureae** Le Cerf (95 d). Thorax olive brown. Abdomen bronze black, the second segment madureae, margined with white, underside the same, but with a broad white median band. Hind legs black, with bluish-white and white hair. Forewing broad black at the costal margin and the cross-vein. The distal hyaline area is tripartite, shorter than the black distal margin is broad. Hindwing hyaline with a slight blue reflection, the margin finely bronze black. ♀ 36 mm. Trichinopoli.

**M. binghami** De Nic. (= burmana Le Cerf) (95 c). Head and thorax dark olive brown. Abdomen binghami, blackish-brown with 3 fine white rings, the last segment yellowish. Underside pale ochreous. Hind legs with black and yellow hair. Forewing hyaline, cross-vein and margins black, apex somewhat broader black with some white scales. Hindwing normal. 34 mm. Sikkim, Burma.

**M. siamica** Wkr. (= sumatra Le Cerf) (95 e). Thorax olive brown; abdomen bronze black, each siamica, segment margined with light, brownish-white beneath. Hind legs with black and red-brown hair, with white spots beneath. Forewing hyaline, broad black at the costal margin and the cross-vein. The hyaline area behind it relatively small, obliquely cut off outside, the apical area very broad black. 32 mm. Siam, Sumatra. Le Cerf declared later on his sumatra to be identical with indica (p. 790).

**M. tabanus** Le Cerf (95 c). Remarkably distinguished by the narrow shape of the wings, the short tabanus, hair on the legs, and the slender abdomen. Body blackish-brown. Two yellow spots on the thorax, abdomen with 2 whitish-yellow transverse lines. Abdomen beneath almost just as dark. Hind tibiae with hair-tufts spotted black and yellow. Forewing brownish hyaline, black at the costal margin, at the cross-vein, and a little broader at the distal margin. 36 mm. Burma.

**M. moluccensis** Hmps. Body blackish-brown, metathorax somewhat reddish-yellow. Hind tibiae moluccensis, with dark orange hair. Forewing dark red-brown with a few orange scales. Hyaline in and below the cell, the marginal spot small. Hindwing yellowish hyaline. 34 mm. Batjan, Buru.

**M. kulana** Mr., which has been dealt with in Vol. II, p. 379 and pl. 51 a, belongs also to the Indian kalana, fauna, as it occurs also in the Indian Cashmir and in the Punjab.


**M. hampsoni** Beutenn. (= grandis Hmps.). Thorax olive green, abdomen dark green with yellow seg- hampsoni, mental margins. Hind legs with black hair, inside with a few yellow hairs, the tibiae outside and the tarsi with fiery orange hair. The hyaline apical area of the forewing is very large and comprises yet the fork of veins 7 + 8. Hindwing with a few bluish scales at the inner margin. ♀ 50 mm. Sikkim.

**M. notabilis** Sckh. (95 c). The thorax and the 3 first abdominal segments reddish-yellow, the others notabilis, black with yellow margins, abdomen yellow beneath. Hind legs black with yellow hair. Forewing with brown scales, the hyaline areas as in eurytion (95 f). ♀ 40 mm. Rangoon.
**MELITTA. By M. Gaede.**

M. gigantea Mr. (95 f) differs from notabilis in its longer hyaline streaks. The apical area is strewed with grey scales, the costal margin brownish ochreous. Hair-tufts on the hind tibiae reddish-yellow outside, yellow inside, black on the tarsi. 44 mm. Punjab, Central China to Japan and Corea.

M. newera Mr. (95 c) differs from indica Blr. following below in its bright golden yellow thorax. The hyaline apical area of the forewing is larger and excepts only a narrow dark margin. Hindwing not blue at the inner margin. Hind legs with few red hair. Abdomen yellow beneath. $\delta$ 35 mm. Assam, Sikkim.

M. leucogaster Hmps. Antennae blackish-brown. Thorax olive brown. The first two abdominal segments are red-brown, the others blackish-brown with white segmental margins, abdomen purely white beneath. Hind tibiae with red-brown hair with a few bluish-white, black and yellow places. Forewing dark red-brown, with white scales at the margin, the hyaline areas very small. Hindwing hyaline, the marginal band much strewed with white scales.

M. indica Blr. (95 c). Thorax dark olive green like the base of the abdomen. The rest bronze black with fine yellowish segmental margins. Abdomen beneath greenish yellow, greyer at the base. Hind legs black, with reddish-yellow and olive green hair. Wings hyaline. The apical area of the forewing broad black. 34 mm. Assam, Sikkim.

M. staudingeri Bds. Body above and wings as in indica. Abdomen beneath darker. Hind legs only with black and olive green hair. 38 mm. Sikkim.

M. proxima Le Cerf (95 f). Body above and wings almost as in indica. The dark distal margin of the forewing is somewhat more oblique, whereby the hyaline area becomes almost triangular. Hind wing only with olive green and black hair, small white spots on the underside. No reddish yellow hair. 34 mm. Assam, Sikkim.

M. chalybes Le Cerf. Body black, with a steel-blue gloss, abdomen white beneath. Legs black. Abdomen indigo-blue with golden red bands on each segment, white beneath with yellow rings. Hind tibiae and tarsi with black hair with white bands. Wings hyaline, veins and margins blackish-brown. The cross-vein of the forewing is broad black, the apical area broader black than the rest, projecting inwards in the fork of veins 7 + 8. The inner margin of the hindwing with red-brown and yellow scales. $\delta$ 32 mm. Borneo, Sumatra.


M. eurytion Ww. (= strigipennis Wkr.) (95 f). The species is rather variable. Thorax olive green. Abdomen above olive green or also blackish, with 0—4 fine white segmental margins. Legs black-haired with white spots. Wings hyaline, veins and margins black. The cross-vein of the forewing broad black. The distal hyaline area above very narrow, its distal edge straight or obliquely bent. A few white scales in the marginal area. 28—33 mm. Assam, Sikkim, Borneo, Java, Gilolo. Also in the palaearctic region: Tatsienlu, West China, Siaou. The species deals with as eurytion in Vol. II, p. 379 and pl. 51 c has been named japonica by Hampson. It occurs also near Canton. — microfenestrata Stvl. (95 f) is a specimen from Formosa, in which only the lower part of the hyaline area at the distal margin is left.

M. proserpina Hmps. Thorax blackish-brown, with a silvery blue reflection. Abdomen black, also with a silvery blue reflection, bluish-black beneath, the anal tuft with a few white hairs. Legs black, hind tibiae with some white hairs above and bluish-white hair at the ends, tarsi with red-brown and white...
places. Forewing blackish-brown, bluish-white scales in the marginal area. Short hyaline streaks in and below the cell. A small, above narrow hyaline area behind the cell. Silvery blue scales at the base at the inner margin. Hindwing hyaline, silvery blue scales at the inner margin. ♀ 40 mm. Queensland.

**M. formsosana** Mats. Thorax copper-brown, abdomen black, the segmental margins with bluish hair. *formsosana.* Hind legs with black hair and a slight bluish or coppery gloss. Wings hyaline, veins and margins black. Hindwing with a yellowish gloss. □ 35 mm. Formosa.

**M. pellecata** Swh. (95 g). Thorax reddish-yellow, with a green gloss. Abdomen black with dull grey *pellecata.* segmental margins. Hind legs black with a few grey hairs. Forewing black with insignificant hyaline streaks and grey scales. Hindwing hyaline, silvery blue at the inner margin. ♀ 38 mm. Rangoon.

**M. volatilis** Swh. (95 g) differs from *pellecata* in the black thorax. Forewing without grey scales hindwing with a large silvery blue spot at the inner margin. Hind legs with more greyish hair. ♀ 35 mm. Rangoon.

**M. khmer** Le Cerf (95 f). Body dark brownish-grey, abdomen with black median spots, under sur- *khmer.* face pale reddish-yellow. Hind legs black-haired with a reddish-yellow longitudinal stripe and some white spots. Forewing dark grey with a fine hyaline streak in and below the cell. White hair at the base at the inner margin. Hindwing hyaline, somewhat yellowish at the inner margin. ♀ 28 mm. Cambodia.

**M. astarte** We. Black with a leaden gloss; the collar, the first and last abdominal segments orange *astarte.* yellow. Hind legs black inside, orange outside with a few white hairs. Forewing black without hyaline streaks. Hindwing hyaline, veins orange. 25 mm. Central India.


**M. auricollis** Bothsch. (= bouvieri Le Cerf) (95 g). Antennae reddish-yellow, body blackish-blue, all *auricollis.* the segmental margins beneath fine white. Hind tibiae black-haired with a white longitudinal line. Forewing lustrous blackish-blue, violet at the distal margin. Hindwing hyaline, broad violetish-black at the costal margin and in the cell.

**M. funebris** Roths. (95 g). Antennae black above, red-brown below. Body black, only the tegulae *funebris.* red-brown. Hind legs black above, grey below, somewhat grey at the upper ends of the tarsi. Forewing blackish-brown, hindwing hyaline. Body somewhat steel-blue in the original figure. ♀ 25 mm. Dutch New Guinea.


**M. atra** Le Cerf (95 h). Body above bronze black, abdomen beneath with traces of light segmental *atra.* margins. Hind tibiae black-haired, tarsi black above, white below. Forewing bronze black, hindwing hyaline. ♀ 24 mm. Dutch New Guinea.

### 29. Genus: Hypomelittia Hmps.

Palpi projecting beyond frons, moderately hairy. Proboscis normal. Antennae of ♀ plain, thickened at the ends. Abdomen narrower at the end with a small anal tuft. All the tibiae long-haired, the tarsi with hair-tufts at the segments. Forewing: all the veins free, 7 and 8 fused. Hindwing: vein 3 nearer at 5 than at 2, 4 absent, 6 from the centre of the cross-vein.

**H. hyaloptera** Hmps. Body black, metathorax with a few white scales. The last abdominal segments *hyaloptera.* with a blue reflection, the fifth margined with yellow scales. Hind legs with red and white hair. Wings hyaline. Costal margin of forewing rather broad black as far as the cell-end, then narrower. The black cross-vein outside fadely bordered with orange. Black streaks between the veins in the marginal area. Veins of hindwing yellow behind the cell; white hair at the inner margin. ♀ 18 mm. Burma.

### 30. Genus: Lenyra Wkr.

Palpi thin, porrect. Antennae with a distinct club. Hind legs hairy as in *Melittia.* Vein 9 + 7 + 8 of forewing stalked.

Body rather slender. Proboscis stunted, palpi hairy below, ricing to the frons. Antennae plain. Legs not with hair-tufts. Type: xylocophiformis Wkr. from Africa.

S. ignicaua Hmps. (95 h). Body and wings metallic blue, hindwing somewhat lighter. Anal tuft orange red. Hindwing with 3 short hyaline spots near the base. 30—42 mm. Burma, Java.


S. cyanea Hmps. Body and forewing steel-blue, with a slight violet shine on the costal margin. Hindwing likewise steel-blue, the hyaline areas as in phoenicia. 36 mm. Java.


Antennae of black, tufted. Palpi projecting beyond frons. All the veins of the forewing without stalks. Veins 5 and 6 of hindwing coincident, arising from the centre of the cross-vein. A strong hair-tuft on the anterior tibiae. Type: alterna Wkr.

S. alterna Wkr. Violettish-brown. Thorax yellow in front and behind. Abdomen with yellow lateral spots on the first and fourth segments, and with dorsal spots on the second and seventh segments. Anal tuft black with a yellow dot. Forewing violettish-brown with a triangular hyaline spot in the cell and a broadly margined hyaline spot in the distal area. 28 mm. South India.

S. soror Le Cerf (95 h). Body violettish-black. Thorax behind and the base of the wings with orange spots. The fourth and second abdominal segments margined with orange. Fourth segment beneath margined with yellow, a white brightening above it. Wings hyaline. Forewing broadly margined with black, also the hindwing with a strong black cross-vein. 24 mm. Sikkim.


Palpi highly erected, the third joint short. Anal tuft strong. Veins 7 + 8 of forewing stalked. Veins 5 and 6 of hindwing united. Type: tibaniiformis L. from Europe.

I. Antennae of of shortly bipectinated.


II. Antennae of serrate and tufted. Abdomen with a divided hair-tuft.

P. chinense Leech. Body black, collar yellow. Abdomen with 3 orange bands. Antennae and legs black. Forewing violettish-black, with brown scales in the centre, with a small yellow basal spot. Hindwing
hyaline, somewhat brownish. Separated from regale Bltr. by the absence of the orange marking on the thorax and the larger width of the bands on the abdomen. 30—39 mm. Kiukiang.

**P. tricincta** Wilen. Body black, collar brownish-ochreous. Abdomen with 3 yellow rings, the first tricincta, of which is narrow, the second very broad, the third incomplete. Forewing blackish-brown, especially in the distal half. Margins, veins, and cross-vein black. ♀ 20 mm. Formosa.

### III. Antennæ of ♀ tufted.

**P. atkinsoni** Mr. (94 e). Body bluish-black, legs brown. Wings hyaline. Veins and margins black. atkinsoni. The streak at the cross-vein is black on the hindwing, orange with a black margin on the forewing. ♀ 35 mm. Sikkim.

**P. limpida** Le Cerf (94 e, f). Body bronze black, the second abdominal segment somewhat yellowish. limpida. Beneath at the base in the centre white, then follow 4 white fine margins. Legs black with some white places. Wings hyaline, with a slight yellow reflection. Cross-vein broad yellow with black scales. Hindwing less yellow, cross-vein more distinct, narrower. ♀ 28 mm. Java, Canton.

**P. pentazonata** Hmps. Body blackish-brown, with a slight blue gloss. Patagia and the posterior pentazona, end of the thorax edged with yellow. The 5 first abdominal segments finely margined with yellow. Beneath with 6 yellowish-white rings, the anal tuft whitish. Forewing yellowish hyaline. Veins and margins violet-ochreous. The base and the cross-vein with a metallic blue gloss, distally margined with golden yellow. Hindwing hyaline with black veins. Forewing beneath with a golden yellow streak below the costal margin. ♀ 26 mm. New Pomerania (New Britain).

**P. rangoonensis** Sivh. Body blackish-brown, somewhat glossy green. Collar pale ochreous. A similar stripe behind the thorax. Abdomen with a brownish ochreous lateral line and similar segmental margins, the middle line indistinct. Anal tuft greenish-black. Wings hyaline, with a yellow reflection, the marking vio-letish-black, broader on the forewing. Abdomen beneath with an interrupted brownish ochreous median line. 35 mm. Rangoon.

**P. flavifrons** Hmps. Body blackish-brown with a slight blue gloss. Collar yellow, patagia edged with flavifrons, yellow, thorax laterally and base of abdomen somewhat yellow. The 2 first segments beneath are margined with yellowish-white. Wings hyaline, veins and margins fine black. ♀ 34 mm. Dutch New Guinea.

**P. al bifrons** Hmps. Body blackish-brown with a violet lustre. Shoulders and metathorax with orange al bifrons spots. Abdomen with orange bands on the 2nd and 4th segments, beneath with 5 yellowish-white bands. Wings hyaline, veins and margins blackish-brown. Forewing with a broader black margin at the apex, but the bifurcation of veins 7 + 8 is still hyaline. Hindwing with white hair at the inner margin. ♂ 34 mm. Burma.

**P. canarensis** Hmps. Body blackish-brown. Collar with a white ring, metathorax a little white. Fore- canarensis wing yellowish hyaline, veins and margins blackish-brown, with a green gloss, cross-vein oblique. Marginal band at the apex broad, but the fork of veins 7 + 8 hyaline. Hindwing hyaline. ♂ 36 mm. Canara.

**P. caeruleimicans** Hmps. Similar to rangoonensis Sivh. Thorax and abdomen with hardly any trace caeruleimicans of orange marking. Legs less yellow. Forewing with a few sky-blue scales at the lower cell-end and behind it. ♀ 30 mm. Pegu.

**P. insularis** Flhr. (= productalis Wkr.). Body black with a blue reflection, thorax edged with yel- insularis, lowish-white. Wings hyaline, veins and margins black. ♀ 32 mm. Amboina, Borneo, Celebes.

**P. grotei** Mr. Body steel-blue. palpi and thorax reddish-yellow. Legs steel-blue with reddish-yellow grotei, hair above. Veins, margins and cross-vein steel-blue on both wings, apical band violet. This is the original description. — Hanssen describes the species as follows: Body black. Thorax with yellow lines, abdomen with yellow margins on all the segments except the first and third. Legs yellow and black. Wings yellowish, cross-vein of forewing broad black. ♀ 30 mm. Assam.

**P. oberthiiri** Le Cerf (= terribile Triwr.) (94 s). ♀; body black, collar and thoracal margins yellow. oberthiiri. Abdomen bluish-black with a large yellow spot on the second segment and 3 faded bands behind it. All the segments beneath margined with yellowish-white in the middle. Legs black and yellow. Wings hyaline. Forewing with a yellow basal spot, cross-vein blackish-blue, apical area with yellow scales. ♀; head and thorax almost quite yellow. Abdomen black, the 2 last segmental margins and the anal tuft orange. Forewing golden red with dark costal margin and fringe. A small hyaline area in the distal area. Hindwing hyaline. 25—30 mm. Queensland.

**P. isozona** Meyr. Thorax bluish-black, an orange spot laterally and behind. Abdomen bluish-black, isozona, the ♀ beneath with 6, the ♂ with 5 orange bands, 4 of which are continued above in the ♂, 3 in the ♀. Anal tuft of ♂ black, apically orange; of ♀ orange, laterally black. Legs bluish-black, tibiae somewhat yellow. Forewing hyaline. Median vein of ♂ black, of ♀ orange, cross-vein of ♀ orange. Distal hyaline area in the apical part of the ♀ orange, the ♂ only with a small orange spot. Veins of marginal area quite orange.
Fringer black. Hindwing hyaline, inner margin orange. The dark cross-vein is slightly bordered with orange. 20—22 mm. Queensland.

**P. trizonata Hmps.** Body black. Tegulae bluish-black, shoulders with orange spots. Abdomen with a fine yellow band on the first segment, a broad one on the fifth segment, and an interrupted band at the end. Wings hyaline, veins and margins black. On the forewing all is broad black, on the hindwing only the cross-vein. ♂ 24 mm. Sikkim, Canton.

**P. auricollis Hmps.** Body bluish-black, collar orange. Abdomen with orange bands on the 3 last segments, beneath on all the segments. Legs almost quite bluish-black. Forewing bluish-black with hyaline places in and below the cell and a small hyaline area behind it. Hindwing hyaline, margin and cross-vein broad black. ♂ 25 mm. Tenasserim.

**P. opalescens Hmps.** Body bluish-black, patagia golden yellow at the base and above. Tibiae with yellow hairs in the middle and at the end. Forewing hyaline, veins and margins violetish-black. A golden yellow transverse streak from the costal margin near the base. The distal hyaline area with a silvery blue gloss. The dark marginal band is broad, projecting notedly backwards. Hindwing hyaline. Forewing beneath with a fiery red cross-vein. ♂ 24 mm. Celebes.

**P. chrysochloris Hmps.** (≡ *metallica v. EecJce*) (94 f). Body dark bluish-black, with numerous golden yellow places on the thorax. The golden yellow abdominal bands are interrupted in the anterior part, the last 3 continuous. Tibiae also partly golden yellow. Forewing brown, lighter only near the anal angle. Hindwing yellowish hyaline. ♂ 50 mm. Assam, Sumatra.

**P. aurifera Hmps.** Body black. Golden yellow at the upper margin of the patagia and at the posterior margin of the thorax. Abdomen with golden bands on the second, fourth and sixth segments. Legs yellow. Forewing yellow, semi-diaphanous, veins and margins copper-brown. A golden yellow streak at the costal margin at the base, a triangular golden spot at the cell-end with dark scales, the cross-vein the same. Hyaline stripes in the marginal area above veins 5 and 7. Hindwing hyaline, veins and margin dark brown, fringe copper-brown. ♀ 38 mm. Assam.

**P. cupreivitta** (94 f). Body bluish-black. The 5th abdominal segment with a yellow ring, anal tuft bluish-black with 2 yellow stripes. Tibiae and tarsi yellow. Forewing brown, tinged with bluish-black, with fine hyaline yellow stripes between the veins. A bright copper-red streak in the cell-end, beneath it is more golden. Hindwing with a coppery cross-vein, brown margin and veins. ♂ 32 mm. Pegu, Canton.

**P. minutula Sch.** (94 c). Black. Thorax edged with orange. The 2nd, 4th and 5th abdominal segments margined with yellow; all the segments beneath margined with white. Legs black and brownish ochreous. Forewing hyaline, opalescent, veins and margins dark, marginal area brownish, cross-vein broad orange. Hindwing hyaline. ♂ 24 mm. Rangoon.


**P. semidiaphana Zulcow.** (94 g). Similar to the Japanese *pernix* (Vol. II, p. 409). Forewing black with a slight bluish reflection, somewhat diaphanous in the basal area. Hindwing black in the distal third, the rest hyaline. Body and legs as in *pernix*. Anal tuft not white. ♂ 27 mm. Canton.

**P. tristis Le Cerf** (94 g). The whole body bronze black. Forewing dark, somewhat glossy blue, the veins and margins broad black; beneath a fine white line at the costal margin. Hindwing hyaline, beneath with a white spot at the costal margin. ♂ 28 mm. Annam.

**P. sesiiformis Mr.** Body dark violetish-black, collar of a fine yellow. All the abdominal segments laterally with a deep yellow spot, only the third segment lacking the spot. Below each yellow spot a narrow red and blue line. Anal tuft black, yellow in the middle and laterally. Hind tibiae and tarsi yellow, like the anterior tibiae, the legs otherwise black. Forewing violetish-black, hindwing hyaline. Fringe brown. ♂ 25 mm. Java.

**P. cyanogama Meg.** ♂ thorax dark bluish-grey, abdomen violetish-black. Legs dark blue. Forewing black, dark red-brown in the cell and below it, the interior margin of the cell dark blue. Hindwing hyaline. ♀ body dark blue. Forewing also dark blue, only the fringe bluish-grey. Hindwing hyaline, the veins and margins dark blue. 30—47 mm. Johore.

**P. scintillans Bllr.** Body bluish-black. Palpi and legs chiefly yellow. Forewing golden coppery, with a slight pink gloss, with a fine hyaline line. The margins and the veins in the distal area violetish-
black. Hindwing golden coppery in the basal half, the rest hyaline yellowish. Veins black, inner margin coppery. 34 mm. New Britain.

P. charlesi Le Cerf (94 g). Body blackish-brown, the 1st and 4th abdominal segments finely margined charlesi, with yellow. Legs almost entirely black. Forewing hyaline below the cell, the rest violetish-black, with a blue reflection in the cell. A square hyaline area behind the cell. Hindwing hyaline with a broad black margin, cross-vein broad dark. ♀ 30 mm. Dutch New Guinea.

P. leucocera Hmps. Body blackish-brown with a slight blue gloss. Two thirds of the antennae creamy leucocera, white. Forewing blackish-brown with an intense silvery blue gloss excepting the costal and distal margins which exhibit a green reflection. A triangular hyaline spot between veins 3 and 6 in the distal area. Hindwing hyaline, the costal margin, the cell and the space below it with a silvery blue gloss. ♀ 34 mm. New Britain.

P. microthyris Hmps. resembles a small leucocera. Body and forewing the same, but the costal and distal margins exhibit a violetish-blue reflection. The hyaline spot in the distal area is small, between veins 3 and 4. Hindwing not different. ♀ 26 mm. New Britain.

P. meeki Ddc. (94 g). Antennae and body black, collar yellow. Forewing violetish-blue, black at the meeki, costal and distal margins. Hindwing hyaline, metallic blue in the cell and below it almost to the anal angle, the distal and inner margins black. 36 mm. Trobriand I.

P. caerulifera Hmps. Body blackish-brown with a blue gloss. Palpi, collar and legs somewhat white. caerulifera. Forewing black, with a metallic blue gloss as far as behind the cell, the marginal area with a violet gloss. Hindwing hyaline, the veins green. The costal margin as far as behind the cell, the cell and the space below it metallic blue with small hyaline basal spots, margin blackish-brown with a violet gloss. ♀ 32 mm. Queensland.

P. pulchripennis Wkr. (= ambigua Snell., andamana Le Cerf) (94 g) scarcely differs above from meeki, pulchripennis, though the blue gloss on the forewing extends to the distal margin which remains somewhat dark in meeki. Abdomen beneath with a yellowish-white median line, the two last segments finely margined with white. Abdomen beneath of meeki without any marking. Andamans, Borneo, Java.


P. rufifinis Wkr. (= celebica Le Cerf) (94 h). The long body bluish-black. Anal tuft orange red, rufifinis, beneath the same. Legs black, only the anterior tarsi white. Forewing bluish-black, somewhat violet beneath. Hindwing hyaline, the cross-vein broad black and also the cell partly so. Base and distal margin black. ♀ 42 mm. North Celebes.

P. javana Le Cerf (94 f) is very similar to rufifinis. The bluish-black marking on the hindwing is javana, greatly reduced, the dark margin also narrower. The end of the abdomen is more reddened. Abdomen beneath with a white spot at the base. Legs also with a few white spots. ♀ 38 mm. Java.

P. zygophora Hmps. Body blackish-brown, collar with white hair. Forewing blackish-brown with an intense blue gloss excepting the costal margin. Hindwing hyaline with a blue gloss. Cross-vein broad metallic blue, marginal area also metallic blue with hyaline streaks above veins 3, 5 and 6. ♀ 36 mm. Borneo.

P. lecerfi Hmps. (= oberthiiri Le Cerf) (94 h). Body and legs bluish-black. Forewing violetish-black lecerfi, at the costal margin, the rest lustrous coppery brown, somewhat violetish brown at the margin. Hindwing with the same copper colour but with 2 hyaline spots: one at the inner margin, the other somewhat remote from it at the distal margin. ♀ 36 mm. Batjan.

P. henrici Le Cerf (94 h). Body bluish-black with a slight violet reflection. Tegulae golden yellow, henrici, two orange red bands at the end of the abdomen, with an orange red anal tuft. Middle tibiae with black spurs, hind tibiae with pale yellow exterior spurs. Abdomen beneath paler at the end than above, with a yellow median band towards the base. Forewing lustrous blue; darker at the costal margin, at the cross-vein, and at the distal margin; bluish-violet behind the cell. Hindwing hyaline, cross-vein broad black. ♀ 36 mm. Burma.

P. metaxantha Hmps. scarcely differs from henrici. Tegulae white. The exterior spurs on the middle metaxantha, and hind tibiae white. Forewing metallic blue also in the distal area. Cell of hindwing dusted somewhat blackish-brown. ♀ 38 mm. Burma.

P. noblei Sck. Antennae reddish-yellow. Body bluish-black, collar with a pale yellow ring, tegulae noblei, with a golden yellow spot. Abdomen with orange spots above and white ones beneath. Anal tuft bluish-
black (in the type) or orange (f. jecunda Swh.). Tarsi with reddish-yellow and white rings. Forewing metallic blush-black with a violet lustre. Hindwing hyaline. 34 mm. Rangoon.

**P. gracilis** Hmps. Thorax orange; abdomen black, only the 1st and 3rd segments and the anal tuft orange, beneath with traces of orange bands. Forewing orange with black scales. Hindwing hyaline, veins orange. Fringes of both wings black. Legs black and yellow. 34 mm. Rangoon.

**P. sikkima** Mr. (94 i) differs from *noblei* in the antennae being black above. Thorax with a chrome-coloured lateral streak. Anterior tarsi white, middle and hind tarsi spotted white. 30 mm. Sikkim.

**P. metallica** Hmps. differs from *noblei* in the entirely bluish-black thorax. Abdomen also bluish-black with fine yellow segmental margins. Thorax beneath. Tarsi black. 32 mm. Burma.

**P. zonionota** Trnr. Thorax blackish, patagia dark grey. Abdomen blackish, the 5th segment margined with white, the following segments beneath the same. Legs blackish-brown. Forewing hyaline. The veins, the broad cross-vein and the marginal band dark brown with a violet gloss. Hindwing the same. 24 mm. Queensland.

The following species having been dealt with in the Palaearctic Part (Vol. II) belong also to the Indo-Australian fauna:

**regalis**

**bicineata**

**pernix.**

**P. formosicola** Strd. (94 i). As veins 3 + 4 of the hindwing are stalked, the generic name of *Paranthrenella* Strd. may be used for this species. Similar to the well-known *Syn. tipuliformis* (Vol. II, p. 384, pl. 51 d). Body bluish-black. Thorax with yellow margins. Abdomen with a yellow spot above at the base and 6 yellow rings of variable widths, anal tuft almost entirely yellow. Legs with violet and yellow rings. Wings hyaline, a blue gloss on the forewing. Costal margin and cross-vein of forewing broad black with yellow scales. The band at the distal margin is as broad as the hyaline area there, also with yellow scales, the inner margin narrow black, bordered in front by a yellow line. The cross-vein on the hindwing and the veins behind it yellow like the inner margin, the other veins and margins narrow black. 20 mm. Formosa.

34. Genus: **Micrecia** Hmps.

Proboscis stunted. Palpi projecting beyond frons, the second joint at the end with a scale-tuft in front. Antennae of 2 plain, the shaft slightly thickened, thinner towards the end, without a hair-pencil. Anterior tibiae with thorny hairs at the end. Middle tibiae with a tuft of thorny hairs at the beginning and end. Hind tibiae with hair-tufts on the middle and end spurs, tarsi with small tufts at the ends of the joints. Abdomen flattened with lateral hair-pencils near the end. Forewing without vein 3. Veins 4—6 well separated, 7 + 8 stalked, 11 absent. Hindwing: 3 + 4 strongly stalked, 5 absent, 6 from the middle of the cross-vein.

**M. methyalina** Hmps. Body black with a bluish-green gloss. Abdomen with a white line at the base on the second segment, the small anal tuft reddish-yellow. Abdomen beneath and the legs almost entirely white. Forewing black with a bluish-green gloss. Hindwing hyaline, the dark distal margin faded inwards. $\tilde{\varphi}$ 14 mm. Key I.

35. Genus: **Lophocnema** Trnr.

Proboscis absent in the $\tilde{\varphi}$, present in the 2. Palpi short. Hind tibiae of 2 with a large dense scale-tuft on the backside at the end. Middle tibiae of 2 thickened by long hair. Forewing densely scaled except between the bases of veins 4—7. Vein 2 absent, 7 + 8 stalked. Hindwing: veins 3 + 4 stalked.

**L. eusphyra** Trnr. Body black. Metathorax with orange spots. A whitish ochreous spot on the 2nd abdominal segment above, orange spots from the 4th segment to the end, anal tuft orange. Tibiae and tarsi dark brown and whitish ochreous. Forewing palce orange with black longitudinal streaks. A black spot and a tripartite hyaline area behind the cell. Hindwing hyaline, veins and margins black. 15—20 mm. Queensland.

36. Genus: **Diapyra** Trnr. (Glossecia Hmps.)

Proboscis well developed. Palpi not reaching to the frons, the 1st and 2nd joints moderately hairy in front. Antennae of 2 with long cilia, without a hair-pencil at the end. Tibial spurs and at the ends of the tarsal joints with tufts of thorny hairs. Abdomen flat with small lateral pencils except near the base. Veins of forewing as in *Micrecia*, but vein 11 present. Vein 6 of hindwing above the middle of the cross-veins.
D. igniflua Lucas. Thorax fiery red, black laterally and behind. Abdomen black, the segmental igniflua. margins yellowish-white, broadest in the middle. Forewing fiery red with a slight blue gloss. A basal spot and the veins black. A black macular band from the centre of the costal margin obliquely outwards, enclosing a fiery red subapical spot. Hindwing hyaline, distal margin fiery red with black scales. 15 mm. Brisbane.


Proboscis well developed. Palpi scarcely reaching to frons. Antennae of ♀ with long scales in the middle third, thinner towards the apex, ciliated, without an apical pencil. Legs as in Micrecia. Forewing: veins 2 and 3 stalked, the others separated, 7 and 8 from the same base. Hindwing: vein 5 absent, veins 6 and 7 from the upper cell-angle.


P. croconeura Meyr. Body bluish-black. Collar white laterally, tegulae yellowish at the apices. The croconeura. 1st and 3rd abdominal segments with a narrow yellow ring. Beneath yellow spots on the 1st and 2nd segments, the others with yellow rings. Forewing hyaline, with black margins. Veins and inner margin as well as cross-vein with yellow scales. Hindwing hyaline, veins yellow, margin black. ♀ 32 mm. Sikkim.


Two thirds of the ♀ antennae tufted. Palpi short, only the third joint somewhat longer. Proboscis well developed, abdomen wasp-like. Forewing: vein 1 absent, 8 + 6 + 7 stalked, 10 absent. Hindwing: veins 3 and 4 from the same base. Legs long and thin, with long spurs Type: violacea Le Cerf from Africa.

S. lasiocera Hmps. Body black with a bluish-violet gloss. Second abdominal segment with a white lasiocera. marginal line, beneath white from the base to beyond this place. Hind tibiae with a few thorny hairs at the beginning and end, tarsi mostly white. Wings hyaline. Forewing black at the costal margin, with a violet gloss, broader at the apex. Veins and margins of hindwing narrow black. ♀ 18 mm. Assam, Siam.


Proboscis present, antennae filiform, pulpi short. Forewing without veins 3 and 7. Hindwing without vein 5; 6 very near to 7 at the base. Middle tibiae and basal joints of tarsi with a dense scale-tuft. Hind tibiae with a crest of scales on the spurs. Type: apicalis Wkr.

T. antiphanopa Meyr. Body bluish-black, the last segment yellow above. Legs blackish with brown antiphano- and white hair. Forewing ochreous in the centre of the wing, hyaline blue and yellowish between the veins. Veins black. Hindwing diaphanous hyaline yellow, with a violet reflection. Veins and margins black. ∞ 18 mm. Perak.

T. apicalis Wkr differs in a triangular black spot behind the middle of the costal margin on the apicalis. forewing. Metallic bluish-black. Legs violet. Wings semi-diaphanous, iridescent, with golden yellow scales. Borneo.


Proboscis well developed. Palpi moderately long, broadly scaled at the base. Antennae of ♀ ciliated long, thinner at the ends, without a hair-pencil there. Anal tuft formed of strong lateral tufts. Anterior tibiae with thorny hairs at the ends. Hind tibiae in the middle and at the end with thorny hairs and broad scales. Tarsi with a long scale-tuft on the first joint above, and a crest of scales on the other segments. Forewing: vein 3 absent, the others from the cell, 7—9 from the same base. Hindwing: vein 5 absent, 4 from the lower cell-angle, 6 and 7 from the upper angle.

N. semihyalina Hmps. Body blackish-brown, anal tuft orange. Anterior tibiae and tarsi somewhat semihya- red-brown. Hind tibiae with red-brown thorny hairs, the scale-tuft on the tarsi yellow. Wings hyaline, veins and margins blackish-brown. Cross-vein of forewing broad; coppery in, below and behind the cell. ♀ 20 mm. Burma.

Antennae with two rows of long cilia. Palpi short, porrect. Anterior tibiae somewhat hairy. Middle tibiae and the first tarsal joint very hairy. Hind legs with 2 hair-tufts on the tibiae and one on the first tarsal joint. Abdomen with a lateral anal tuft. Forewing: veins 7 and 8 not stalked. Hindwing: Veins 2 and 3 from the same base, also veins 6 and 7; 5 absent. Type: *varipes* Wkr.


- **T. xanthospila** Hmps. Thorax blackish-brown with a green gloss, tegulae and shoulders orange, abdomen orange at the base. Legs orange and black. Forewing black with a green gloss, an elliptical orange spot behind the cell. Hindwing hyaline, somewhat black at the distal margin, orange at the base of the inner margin. ♀ 20 mm. Queensland.

- **T. varipes** Wkr. Metallic green. Thorax with brownish ochreous lateral stripes. Abdominal segments also margined with brownish ochre, under surface silvery white. Legs brownish ochreous with black and white places. Forewing not described. Hindwing hyaline, veins and margins metallic green. The margins of the abdominal segments may also be absent. Celebes.

- **T. cuprealis** Mr. Body black, collar and thoracal band yellow. Abdomen with 3 yellow bands, 2 of which are near the anal end. Anal end yellow beneath, the next 2 segments with white rings. Legs black above, white beneath. Forewing dark coppery. Hindwing hyaline, somewhat coppery at the distal margin. 25 mm. Shanghai.


- **T. intervenata** Hmps. Body blackish-brown with a leaden gloss. Collar with a yellow ring. Abdomen black, the second segment whitish ochreous, the following segments black, dusted with whitish ochre. Anal tuft whitish ochreous. Under surface yellowish white with black segmental margins. Legs chiefly orange. Forewing black. A fine reddish-yellow streak below the costal margin as far as the cell-end. A yellowish-white band below the cell and behind the cell, the latter somewhat reddish-yellow. Hindwing hyaline. ♀ 22 mm. Assam.

- **T. ruficincta** Hmps. Body black, thorax with fine red streaks, abdomen with red bands on the 5th to 5th abdominal segments, anal tuft reddish-brown. Legs golden brown. Forewing dark brown in the anterior half, lighter at the inner margin. A faded whitish ochreous spot behind the cell, brownish hyaline behind it. Hindwing brownish hyaline. ♀ 17 mm. India.

42. Genus: *Trichocerota* Hmps.

Antennae of ♀ with long tufts. Palpi thin, porrect. All the veins of the forewing stalkless, one vein absent. Hindwing: veins 2 and 3 from the same base, 6 and 7 the same, 5 absent. Hind tibiae without hair. Type: *ruficincta* Hmps.

- **T. radians** Hmps. Thorax black; tegulae, patagia and end of thorax with whitish ochreous stripes. Abdomen black at the base, the second segment whitish ochreous, the following segments black, dusted with whitish ochre. Anal tuft whitish ochreous. Under surface yellowish white with black segmental margins. Legs chiefly orange. Forewing black. A fine reddish-yellow streak below the costal margin as far as the cell-end. A yellowish-white band below the cell and behind the cell, the latter somewhat reddish-yellow. Hindwing hyaline. ♀ 22 mm. Assam.

- **T. intervenata** Hmps. Body blackish-brown with a leaden gloss. Collar with a yellow ring. Abdomen with orange scales on the second segment and narrow orange bands on the 5th and 6th segments. Legs and underside of abdomen dark copper-brown, with a white spot on the 5th to 7th segments. Forewing with semi-diaphanous brownish-white streaks between the veins and a small orange spot at the base at the costal margin. Veins and margins of both wings blackish-brown. ♀ 16 mm. Assam.

- **T. fulvistriga** Hmps. Thorax blackish-brown with a leaden gloss. The first 4 abdominal segments the same, an orange line at the base of the 4th segment. The 3 last segments are coarsely scaled greyish-brown, anal tuft red-brown. Abdomen beneath dark brown, with a white band on the 4th segment. Forewing blackish-brown. Brownish-white diaphanous streaks in, below and behind the cell. Hindwing brownish hyaline, veins and margins blackish-brown. ♀ 24 mm. Assam.
T. spilogastrea Le Cerf (94 i). Body black with a green gloss. The 4th abdominal segment with a red-brown band, the 6th segment margined with red-brown, anal tuft also of that colour. Base of abdomen beneath somewhat white, the 4th segment all white, and the beginning of the 5th segment white. Legs black and white. Forewing blackish-brown, a blue gloss behind the cell, a fine hyaline streak in the cell. Hindwing hyaline with a slight blue gloss. ♂ 22 mm. Burma.

T. dizona Hmps. (94 i). Thorax blackish-brown with a leaden gloss. Abdomen blackish-brown with dizonia. a narrow golden yellow band at the base of the 5th segment and a broad band on the 7th segment, white bands beneath on the 5th and 6th segments. Legs spotted white. Forewing blackish-brown with a coppery gloss and a fine hyaline streak below the cell. Hindwing hyaline. ♂ 26 mm. Assam, Canton.


T. univitta Hmps. Bluish-black, abdomen with a few orange scales and traces of bands on the 5th undivitta, and 7th segments. Forewing golden coppery in the marginal area, a narrow hyaline streak in the cell. Hindwing hyaline, veins and margins narrow black. ♂ 24 mm. Sikkim.

T. brachythyra Hmps. Body black with a blue gloss. Collar and shoulders somewhat orange-red. brachythra. Legs red and black. Forewing black with a metallic green gloss. Hindwing violet and with a silvery green gloss. Hyaline in the cell and below it in the basal half. The head and the whole anterior half of the thorax are carmine in the ♂. 20—26 mm. Celebes, Canton.


T. erythranches Meyr. Thorax bluish-black with 2 red lines, dusted red on the shoulders. Abdomen erythranches. blackish with red margins on the 2nd and 5th segments. The 6th and 7th brown. The 5th and 6th beneath red. Legs dark with reddish-yellow hair. Forewing dark brown, costal margin red at the apex, an oval red spot at the base, the inner-marginal half somewhat diaphanous. Hindwing diaphanous brownish ochreous. ♂ 22 mm. Sikkim.

T. antigama Meyr. Thorax black, with a blue gloss, behind yellowish-white. Abdomen blackish-antigama. brown, pale yellow rings on the 4th, 6th and 7th segments. The 4 last segments beneath yellowish white. Legs bluish-black with reddish-yellow hair. Forewing dark brown with a hyaline streak in the cell and a short one above vein 3. Hindwing hyaline. ♂ 19 mm. North India.

Subgenus: Zenodoxus Grote.

Antennae of ♂ bipicate as far as ¾ of their length. The two last abdominal segments with rough scales. Anal tuft large, with lateral scales.

T. proxima Le Cerf (94 i). Body brownish-black, the 3 first abdominal segments above and beneath proxima. dull black, then follows a white ring beneath. Legs blackish-brown. Forewing margined with bronze brown, the rest hyaline, somewhat reddish. Hindwing hyaline. ♂ 22 mm. Burma.

T. aurantia Hmps. Thorax black, collar orange. Abdomen black with orange bands on the first 6 aurantia. segments, the first of which are interrupted in the middle. Underside and legs orange. Abdomen of ♂ somewhat narrower at the base. Forewing blackish-brown with orange scales. The cell, a streak below it, and the space between veins 4 and 7 hyaline. Orange streaks at the base at the costal and inner margins, as well as at the centre of the costal margin. Forewing hyaline. Costal margin as far as the cell-end and the veins orange. Apex, ends of veins, distal and inner margins black. Orange in the ♂ thorax, the first 6 abdominal segments, antennae, and legs. Forewing more intensely orange at the base, 36—40 mm. Assam.

T. flavicincta Hmps. Body blackish-brown. Metathorax laterally orange. Abdomen with orange flavicincta. bands on each segment, anal tuft quite orange. Underside yellowish-white with black bands. Forewing blackish-
brown with orange scales especially in the distal area. A triangular hyaline spot in the cell and short streaks outside of it above veins 4–6. Hindwing hyaline, the base at the inner margin with yellow hair. ♀ 26 mm. Borneo.

taiwanellus.

T. taiwanellus Mats. Body blackish-brown, the 2nd and 4th abdominal segments yellowish-grey, yellowish-white beneath. Legs copper-brown with yellow places. Forewing copper-brown with a hyaline white spot above the cross-vein, but the original figure shows one small spot each before and behind the cross-vein. Hindwing hyaline, veins and margins coppery. ♀ 15 mm. Formosa.

43. Genus: Amphithales Meyr.

Proboscis present. Palpi thin, rising. Antennae of ♀ tufted. Forewing without veins 3 and 8. Hindwing; veins 3 + 4 stalked, 5 from the centre of the cross-vein, parallel to 7, 6 absent. Middle and hind tibiae with hair-tufts at the spurs. Hind tarsi with hair-crests on the two basal joints.

episcopopa.

A. episcopopa Meyr. Thorax bluish blackish-brown, laterally behind A. episcopopa iaiwanellus. Body blackish-brown, the 2nd and 4th abdominal segments yellowish-greyn, T. taiwanellus Mats. Thorax violettish-black, reddish-yellow behind the collar, grey at the end. Abdomen blackish with a white basal spot and one each on the 6th and 7th segments. Underside all white. Forewing dark blackish-brown, a large hyaline spot above the inner margin exhibits a brown gloss and is divided by 3 black veins. Hindwing brownish-hyaline. ♀ 12 mm. Burma.

44. Genus: Thamnoscelis Meyr.

Proboscis normal. Antennae plain in both sexes, without a pencil at the apex. Palpi moderately long, the second joint in front with rather thick scales. Hind tibiae and the 2 first tarsal joints with long hair-pencil. Anal tuft little developed. Forewing: veins 2 and 3 very near together, 7 + 8 stalked. Hindwing; vein 2 far from 3 and 4, 5 absent, 6 and 7 parallel.

indecemem.

T. indecemem Meyr. Thorax violetish-black, reddish-yellow behind the collar, grey at the end. Abdomen dark violetish-grey, the first segment whitish-grey, the 3rd to 6th with orange-red bands. Black and ochreous hair on the hind legs. Forewing violetish-black with a narrow hyaline stripe in the cell and a similarly long one below it. Marginal area variably hyaline. Hindwing yellowish hyaline, veins and margins black, also above the base of vein 2 black. 23–25 mm. Siam.

Alphabetical List

of the Indo-Australian forms of Aegeriidae with references to the original descriptions.

*) signifies that the form is also figured at the place quoted.

albignatus Macr. Haps. Fauna Ind. Moths 1, p. 194. *
atkinsoni Par. Mr. Lep. Atkin, p. 94.
aureliois Melan. Rothsche. Novit. Zool. 19, p. 120.
bombiformis Mel. Flkr. Reise Novara t. 75, f. 7.
chalybea Con. Wcr. Journ. Linn. Soc. Lond. 6, p. 82.
null
Original descriptions of the Indo-Australian Aegeriidae.


sikkina Par. Mr. Lep. Atkins, p. 9.


unicincta Con. Mr. Lep. Atkins, p. 8.


uniformis Trad. Su. Tijdsschr. v. Ent. 13, p. 34.


This family comprises only about 20 Indian Heterocera forms the grouping of which has been frequently changed, as we stated already in Vol. XIV (p. 501). It is undoubtedly a very old group exhibiting entirely the character of the so-called "Microlepidoptera". Like most of the Archaic genera, they are absolutely nocturnal, and as we mentioned in Vol. XIV, they can only be captured on the light. In Africa from where we had enumerated more than 100 species (Vol. XIV, p. 502—512, pi. 78) the family plays a much more important part than in the Indian fauna where its range is confined to the tropical districts between India, the Philippines and Formosa. Considering the old age of this lepidopteral group it is a remarkable fact that no representatives of it have yet been found in Australia and New Zealand.

The Indian genera differ from those occurring in Africa to such an extent that the Africans have been separated as a special family as which they were also treated in the African Part of this work. The Madagascan Metarbelid species Saalwüllertia stumpffi figured there from the type is the most imposing palaeartic species exhibiting a very characteristic African peculiarity: the two-pointed anal tuft corresponding to the monstrous hair-tuft in the Indian region, as we notice in the figure of Indarbela campbelli (93 g).

In opposition to the African Arbelidae which were given the family name of Metarbelidae, the Indian species were separated as Indarbelidae with the character of a special family. This is justified to a certain degree, for very ancient lepidopteral groups have distinctly developed some structural peculiarities, whereas recent forms mostly exhibit more superficial differences. Nevertheless it will — for the sake of synopsis — not be advisable to increase the number of families unnecessarily. The relations between the Indian and the Ethiopian Arbelidae are so very obvious that they may be easily comprised. Some Arbelidae seem to be merely the tropical representatives of palaeartic members of the genera Holocerus or Dyspessa, and their habitus and behaviour in their patria is often exactly like that ascertained in palaeartic Cossidae from the said genera. The live and dead specimens of Indarbela quadrinotata tetraonis are the very images of an intensely marked Holocerus nobilis, so that the resting lepidopteron can hardly be distinguished, and there are doubles to be found for nearly all the Indarbelidae: sometimes in the palaeartic region among the Cossidae, sometimes in Africa among the Metarbelidae. The habitus of Ind. magna and minima is decidedly more like that of the African Metarbelid Salogena transversa (Vol. XIV, pl. 78 d) or of Aethiopina argentifera (ibid. 78 e) than like that of the members of their own genus. The antennae, as we stated already in Vol. II, p. 421, have sometimes been regarded as decisive for the system in cases when they are inappropriate for it. We had also mentioned there that they even sometimes vary individually and may even differ considerably from each other topographically, as in Cossus of the same species originating from different habitats or districts. On the other hand, certain Indarbelid species sometimes exhibit such great resemblances to each other that it is difficult to distinguish them, and some of them might be regarded merely as the representatives of other species in other countries.

Little is known of the early stages. One larva has been described by R. Mell, that of Indarbela obliquifascia. Its exterior and habits are entirely Cossid-like. In the fork of a branch it eats a hole large enough to hide itself therein. From this place it browse the bark at night and, by means of dirt-lumps spun over with tiny chips of bark, it provides a cover below which a tunnel runs along, very similar to the one constructed by termites. The pupation takes place in the wood and, as in the Cossidae and Aegeiriidae, the pupa shoves itself far forward before the imago emerges. Similar habits are reported by J. de Joannis of the larvae of Ind. dea (93 h), which were found in Tonkin on the trees of Erythroxylum coca having been imported from South America.
1. **Genus: Indarbela** Fletcher.

Palpi stunted. Antennae with two rows of pectinations as far as the apices, the pectinations of the 3 being stronger than those of the 2. Hind tibiae with short terminal spurs. Forewing: veins 9 + 7 + 8 on a long stalk, the others separate. Hindwing: a bar extends from 2/3 of the anterior edge of the cell to vein 8; veins 6 and 7 arise close together, the others more separated. — In the annual report for 1930–31 of an Indian Institute for the extermination of pernicious insects, a species of *Indarbela* is mentioned to be pernicious to *Zizyphus jujuba*, *Phyllanthus emblica*, *Bauhinia purpurea*. The imagines emerged in May. The name of the species is unfortunately not stated.

**quadrinotata** Wkr. (= abruptus Wkr., tessellatus Mr.) (93 g). 3 pale rusty brown on the body and forewing, with rows of darker rusty red spots; below them more distinct spots at the cell-end and close behind it, as well as below the cell beginning from the base. Hindwing blackish-brown. 2 (= tessellatus) greyish-yellow. Forewing with darker spots than the 3. The light hindwing with lighter spots which are of a much neater shape. 34–50 mm. Calcutta, Ceylon. — **tetraonis** Mr. (93 g) are 33 exhibiting a series of more intense spots before the margin and at the margin on the forewing. The hindwing shows larger postcellular and subcellular spots instead of the fine striae. One specimen from the Coll. ATKINSON exhibits these spots only on the left hindwing, while the right hindwing shows fine striae. Calcutta, Bombay, Raipur.

**campbelli** Hmps. (93 g). Forewing dark red-brown with greyish-white streaks forming an interior, exterior, and submarginal line. Veins and submedian fold white. Some light streaks also in the cell. Hindwing lighter brown with rows of dark spots similar to those of *tetraonis*. 33 36 mm. Madras. The larva lives on *Ochna squarrosa*.

**phaga** 1. **phaga** Sieb. Forewing pale red-brown with dark red-brown fine striae and larger spots. Such a spot behind the cross-vein and some smaller ones in the cell. A prominent row of spots from the apex to about the centre of the inner margin. A radial whitish cloud in the submedian fold. Hindwing pale brown, without markings. 3 40 mm. Cherra Punji, Khasia Mts. — According to HAMPS, *phaga* is a form of *tetraonis*. Hindwing of the 3 blackish-brown.

**theivora** 1. **theivora** Hmps. Forewing dark brown, red-brown at the costal margin, in the cell and at vein 1. Traces of a black spot at the cross-vein, the marginal area finely striated dark. Hindwing very dark, without markings. The 3 is greyer with many dark striae on the forewing. 18–22 mm. Assam, Silhet. Larva on Tea and Mango.

**discipuncta** 1. **discipuncta** Wilem. Forewing whitish, base brownish. A black spot at the base below the cell, a smaller one above it. A brownish-grey spot at the cell-end. Inner margin and marginal area brownish-grey, except at the costal margin. Submarginal line whitish, irregular. According to the author, similar to *phaga*, but an exterior row of spots is not mentioned at all. 3 36 mm. Formosa.

**acutistriata** 1. **acutistriata** Mell (93 g). Forewing light brown with dark olive brown striae and spots. One very large one below the base of the cell and behind the cell. The spots of the submarginal row are also large; in one of 3 specimens prolonged far inwards. Hindwing also intensely spotted dark. Fringe as light as the ground-colour. 2 26–36 mm. Malang (Java).

**magna** 1. **magna** Joannis is almost a faded *acutistriata* (93 g). Ground-colour of forewing whitish with greyish-yellow striae. The brownish-black postcellular spot is large, the submarginal band distinctly contrasts with the finer transverse streaks. Black scales near the base, around the exterior band and at the distal margin. Fringe spotted white and greyish-yellow. The ground-colour and the numerous spots of the hindwing corresponding to the forewing. 25–40 mm. Hanoi.

**watsoni** 1. **watsoni** Hmps. Grey. Forewing with fine dark striae, suffused with darker grey, excepting only a triangular whiter central spot. A black basal streak below the cell, and a faded blackish oblique exterior band. A black discal spot before it, with a white dot outside. Traces of a submarginal line. Hindwing with numerous fine dark striae. 3 paler. 24–32 mm. Madras.

**obliquifasciata** 1. **obliquifasciata** Mell (93 g). Ground-colour of forewing whitish with fine greyish-yellow striae which are almost invariably absent in the cell. A long blackish wedge below the cell. A blackish-brown roundish spot behind the cell, and behind this spot begins a somewhat darkened exterior band running to the centre of the inner margin along which it extends in the shape of dark scales almost to the base. The spots of this band are finely edged with black. Fringe spotted dark. Hindwing purely white, a small dark spot near the anal angle at the fringe. 28–36 mm. Canton. — **grisescens** Mell may be a distinct species, as the author presumes. Forewing more faded, somewhat darker than *obliquifasciata*. The distal row of spots smaller and darker. But above all the hindwing is darkened especially at the veins, though without recognisable spots. 3 24 mm. Sumatra.

**baibarana** 1. **baibarana** Mats. is somewhat similar to a large *grisescens*. Forewing greyish-white with a brown marking. A spot below the base of the cell and at the cross-vein. Of the spots of the exterior band the
lowest below vein 2 is much darker in the original figure than the others which are without the black margins of *obliquifasciata*; but the row of spots extends divided on to the costal margin. The white fringe at the ends of the veins spotted brown. Hindwing grey, but rather lighter at the veins. ♀ 34 mm. Formosa.

I. *disciplaga* Sesh. (93 h). Forewing like that of *obliquifasciata*, but the exterior band is altogether *disciplaga* absent; my only specimen, however, exhibits the spot at the cross-vein prolonged far distally. Hindwing not different from that of *obliquifasciata*. ♀ 25—32 mm. Sarawak, Singapore, Tonkin. — *Squamicapilla arenata* Schultze, from the Philippines, seems to be the same species.

I. *flavina* Mell. (= *disciplaga* ♀ Sesh. (93 h) has a somewhat more yellow ground-colour than *disciplaga*. *flavina*. The small greyish-yellow spots are coarser. The spot at the cross-vein is rounder, as in *obliquifasciata*. No basal spot and no exterior row of spots. Hindwing white, but somewhat less than in *disciplaga*. 36—40 mm. Sumatra. — *Squamaria maculata* Heyl. is most probably the same species, although it is described as a *Cossida*. In this case the name *maculata* would be prior. It is mentioned from Sumatra and Tonkin.

I. *dea* Sesh. (93 h). Head white, the whole body brown with a few white hairs. Forewing dark olive *dea*, brown strewen with a few dark scales in the centre of the wing and at the costal margin. Fringe pale pink. Hindwing dark brown. The ♀ is paler with a dark postcellular spot on the forewing. 24—28 mm. Rangoon. According to Joannis, the larva lives on Erytroxylum coca in Tonkin.

I. *minima* Hmps. (93 h). Dark red-brown. Light reddish-yellow striae edged with black are in the *minima* basal area and at the costal margin of the forewing. Blackish at the cell-end, a reddish-yellow streak behind it. Fringe with 3 light spots. Hindwing golden brown without any marking. The long fringe at the inner margin white. ♀ 16 mm. Ceylon.

I. *millemaculata* Hmps. Body black with long orange hair. Forewing orange brown with numerous *millemaculata* black spots which are somewhat united in the middle of the distal margin. Hindwing black with golden yellow fringe. Abdomen of ♀ orange, only the end black. Wings orange, forewing black at the base except at the costal margin. A median band of fused black spots and behind it three rows of spots nearing each other towards the anal angle. Hindwing with a broad exterior band of fused black spots. 20 mm. Khasia Mts.


Palpi porrect. Antennae of ♀ shortly pectinated to the tips. Tibiae without spurs. Forewing: veins 10 + 9 + 7 + 8 stalked. Hindwing: veins 6 and 7 arise from the same place, 7 is bent so far upwards that it almost touches vein 8.

E. *stigmata* Hmps. (93 h). Body and forewing greyish-brown, with long hair. From the inner margin *stigmata*, near the base a dark red-brown band proceeds to the cell-end where it is expanded like a spot from which 2 short branches extend almost vertically to the inner margin. Besides a broadly V-shaped band proceeds from the cell-end, the two parts of which are directed towards the costal margin. Hindwing paler without markings. ♀ 38 mm. Nilgiris.

Genus: *Metarbela* Holl.

This genus has been dealt with in Vol XIV, p. 507. It really belongs to the otherwise African family of *Metarbelidae*, but the latter could be very well combined with the *Indarbelidae*, as we mentioned on p. 803. The only Indian species seems to resemble *Ind. dea* (93 h), as which it was determined in the collection of the Berlin Museum.

*M. marginemaculata* n. sp. (93 h). Ground-colour reddish-brown. Forewing with black spots at the costal margin. A row of black submarginal dots on the veins. Some dark streaks at the inner margin. The whole wing finely dusted dark. Hindwing dark brown, without any markings. ♀ 27 mm. Darjeeling. Type in the Berlin Museum
Alphabetical List
of the original descriptions of the Indo-Australian Indarbelidae.
* signifies that the form is also figured in the place quoted.

acutistriata Ind. Mell, Deutsche Ent. Zeitschr. 1923, p. 165.
disipuneta Ind. Wilim. Entomologist 48, p. 18.
flavina Ind. Mell, Deutsche Ent. Zeitschr. 1923, p. 165.
griseus Ind. Mell, Deutsche Ent. Ztschr. 1923, p. 165.
obliquifasciata Ind. Mell, Deutsche Ent. Zeitschr. 1923, p. 163.
25. Family: Cossidae.

Already in Vol. II (p. 417) we pointed out how very little we know of this family owing to the secluded habits of its members. From 200 Cossid forms known at the end of the last century (cf. Vol. XIV, p. 53) their number has increased to more than 500 to-day, from which fact we may infer the great number of species which will yet be discovered. Nevertheless the number of species ascertained in the more extensive districts is very different, though much less owing to climatic differences than to the dependency on the geohistorical age of the various countries. At the place quoted above (Vol. II, p. 417) we had already called the reader's attention to the archaic age of the Cossidae, according to which the greatest abundance in Cossidae is met with in the geologically oldest countries, so chiefly in Australia and Central Asia, the former country being included in the range of the fauna dealt with here. In Australia we also find the largest species of the family, the larvae of which live in the gigantic trunks of Eucalyptus and in the wood of tall Simarubeae, such as Ailanthus; the immense volume of the body can be seen from our figures on pl. 97 and 98.

Regarding the general characteristics of the family we may refer the reader to the places quoted above (in Voll. II and XIV). All the larger Cossidae are generally provided with uncommonly hard wings, contrary to most of the Hepialidae of which only some genera (such as Abantiades) have stiff, solid membranes of the wings, and contrary also to the otherwise Cossid-like Metarbelidae and Indarbelidae which exhibit an especially delicate and sensitive substance of the wings.

Considering this robustness of the wings enabling them to fly for long distances it is rather strange that the range of a great number of Cossidae is very limited on the Earth. Especially the smaller species, such as those of the chiefly palaearctic genera Dyspessa and Holocerus, often do not leave their restricted range, although it has been proved that they are very frequently imported to other countries, which is easily explained by the habits of the larvae living in wood resp. in the stalks of reeds or grasses. The numerous palaearctic Cossidae of Eastern Asia are also very easily distributed southward by the almost annual inundations in Indo-China, during which the enormously rising gigantic rivers take away big trunks of trees of all kinds as well as whole islands that have been torn off from the banks, floating far down to the south through Siam and Cambodja. But regarding the northern Cossidae only the Cossus-like Holocerus vicarius has been ascertained in Tonkin so far, besides the species Phragmatuccia castaneae, which is distributed over almost the whole of Asia and Europe, and (the southern) Xyleutes. This distinct limitation of the range can only be explained by the fact that the insects imported to foreign districts are opposed by certain enemies impeding their progress, for the Cossidae are not very sensitive to climatic influences.

Most of the Cossidae are apparently not protected by interior saps, so that they fall the victims to birds, especially to bats. Only the Zenzerinae, which also contrast with the Cossidae in the habitus and morphologically to such a degree that the opinion of some authors considering them to be separate families has much in its favour, are generally scorned by some insectivora (such as chickens) and therefore have a warning colour, as for instance the metallic blue-spotted Zeuzera indica (96 a), coffeae (96 b), and others.

Against diurnal animals — particularly reptiles and birds — the greatest part of the Cossidae are protected by a remarkably minute adaptation to their surroundings. We had stated in Vol. II at the place quoted above that the veins of the bark are preferably copied by them. The colour and marking of the wings of Cossus cossus, for example, are so exactly likened to the bark of willows on which the lepidopteron rests that it can only be discovered by the contours of its shape projecting from the bark. And even this treacherous behaviour is neutralized in some countries — as Mr. Karl Dietze has illustrated in a figure (i. 1.)
by a light yellow collar strikingly copying the image of the light yellow tips of the Polyporus-mushroom, whilst in especially arid countries, where this mushroom is rare or absent, the collar of Cossus cossus is barks-grey instead of yellow.

The more conspicuously coloured Cossidae are also rarely met with in the open air, and the small number of imagines found for instance of Zuezera indica even in plantations where they are destructive to vegetation can only be explained by the vigorous decimation of individuals during the larval stage. This is also verified by the very great number of relatively small eggs emitted for instance by a pubescent Zuezera indica ♪ from its voluminous, long and stout abdomen.

Although the Cossidae are absolutely nocturnal — many swarm even at a very late hour —, yet the small species are easily roused and then fly very swiftly also in the sunshine. All the species like to come to the light, also the gigantic Xyleutes (Dromitus) which have an expanse of up to 20 cm and whose females also often fly to the light. The Holocerus living in the steppes keep hiding during the day, and it is advisable to catch them on the lantern at night, when the imagines climb up the grass of the steppe and can then be more easily found. But there seem to be species the females of which do not like to come forth; it is at least a strange fact that not a single female specimen was to be discovered among myriads of certain South-American Cossidae (Hypopta ambigua Hbn.) covering the ground and sometimes flooding the gardens and streets of Argentine towns like swarms of locusts.

The long duration of the larval stage is a peculiarity common to the Indo-Australian Cossidae as well as to those of other faunae, but also to nearly all the wood-boring larvae from other families. Even in the Tropics, where all the stages of insect life are of a much shorter duration than in the cooler climates, the larvae, at least those of the large Xyleutes, presumably have a feeding period of several years. If this presumption should prove correct, this would mean a considerably longer feeding time and a slower growth than that of the northern Cossus, for the Indian region — at least most of its countries — is without the winter-pause interrupting the growth of the European larvae in winter. The long duration of the feeding period could then be explained by the easier and simpler assimilation of the food consisting of succulent herbs or of leaves abounding in chlorophyll, in opposition to the hard and dry wood-particles. The slowness of this process is proved by the relatively small excrement-balls discharged even by the gigantic larvae of Xyleutes. Moreover, the feeding in the wood is executed much more slowly owing to the greater resistance of the substance against the bite of the larval maxillae than for instance the feeding of the larva of a Celerio euphorbiae, which is able to cut out 4 to 6 bits a second from the tender petioles of Euphorbia. Thus there are two causes opposing an accelerated assimilation in the Cossid larvae. The real nourishment, in fact, is only the sap of the wood.

Considering the systematic position of the Cossidae, all the authors agree that, as we have stated at other places, they would be most correctly ranged under the Mierolepida. The relations of the genus Cossus to the Tortricidae (e.g. Carpocapsa) have been dealt with at large in Vol. II. In HAMPDEN'S pedigree (Cat. Phal. 1, p. 10) they descend directly from the Zygaenidae, and in his list of families (Novit. Zool. 25) they are placed between the Lasiocampidae and (together with the Ratardidae and Arbelidae derived from them) Psychidae; M. HERING ranges them between the Aegeriidae and Tortricidae; the latter arrangement presumably corresponds best to the general classification of to-day.

The morphological and biological conditions have been largely treated upon already in Vol. II and XVI. Zoogeographically, we may say that the Indo-Australian fauna is without, or almost without, the genera containing habitually small species, such as Holocerus, Stygia, Dyspessa, while the genera containing very large species, such as Xyleutes, develop a great abundance in forms especially in the southern part of the region. Next to this genus the Zeuzera are the best represented. While one, Z. pyrina (being absent in this region), is distributed over three continents — steadily gaining ground in North America —, we find in India and Australia more than a dozen species partly very similar to the European species, and we may expect a few more from New Guinea. Like the Indian Zeuzera of which multistrigata (figured also in Vol. II) in a certain measure continues the European form into the Indian region, there are vicariants from the genus Phragmatolaccia living in reeds in the Indian region, closely approximating the palaearcetic castaneae, part of which exhibit the very same exterior of the European form — as for instance sumatrensis —, the other part being so very near to the Asiatic minor that they can be hardly separated specifically. — Thus nearly all the districts of the Indo-Australian fauna agree with each other as well as with the European fauna in the peculiar fact that beside few large grey species there lives one white, dotted species and one adapted to the pale colouring of reeds; only Australia and perhaps New Guinea have more large forms.
1. Genus: **Cossus F.**

This genus has been dealt with already in Vol. II, p. 418, and Vol. XIV, p. 541.

1. **Group. Vein 6 of forewing arises from the cell-angle. Antennae of bipectinate to the tips.**

**C. acromyctoides Mr.** Forewing greyish-brown, greyer at the apex with black undulate lines obliquely acromyctoides. The border between the inner and exterior areas at the costal margin at 2/3, obliquely inwards, more distinctly inwards at vein 3 and then parallel to the upper part to 3/4 of the inner margin. Hindwing pale brown with indistinct reticulate lines. 32–44 mm. Bombay, Mhow, Nilgiris. It reaches the palaeartic region in Kashmir and was therefore dealt with in Vol. II, p. 420, pl. 52.

**C. nigromaculatus Hmps.** Body blackish-brown. Forewing brown, greyer towards the costal margin, nigromaculatus. A black spot at the costal margin near the base, a small one above the centre of the cell. A dark irregular submarginal band from the costal margin behind the cell to the upper inner-marginal vein, projecting to the margin at vein 3. Besides a black apical spot. Fine dark reticulate lines in the distal half of the forewing. Hindwing paler. ♀ 60 mm. Nilgiris.

**C. kinabalensis sp. n.** (93 i). Thorax ochreous, abdomen dark greyish-brown. Forewing reddish-brown at the base and inner margin, then turning dark brown as far as 2/3 of the costal margin, then vertically to the latter as far as vein 5, then distally convex and more indistinctly defined almost to the anal angle. The apical area behind it is creamy white, containing a few dark reticulate lines, chiefly at the costal margin and anal angle. A black wedge is in the middle of the lower inner-marginal vein. ♀ 60 mm. Kina Balu.

**C. cadambae Mr.** (93 i). Thorax and forewing dark red-brown. Two short dark lines in the cell-end cadambae. and a few in the marginal area, irregular, continuous. Sometimes the marginal area or also the inner-marginal area is lighter. Abdomen and hindwing lighter red-brown. 40–48 mm. Calcutta.

2. **Group. Antennae of longer pectinated, apically serrate. Areole of forewing larger.**

**C. parvipunctus Hmps.** Body and forewing brown with a few indistinct dark spots around the cell-end and 3 more distinct spots above the middle of the lower inner-marginal vein. ♀ 45 mm. Naga Hills.

**C. pallidulae Hmps.** Body whitish ochreous. Forewing white, slightly suffused with reddish-brown, especially in the cell. Numerous undulate dark streaks in the cell and below vein 2 as far as the inner margin. Some dark streaks also in the distal area. Hindwing white. ♀ 35 mm. Sikkim.

**C. polygrapha Lower.** Thorax whitish ash-grey, patagia edged with black. The two first abdominal segments are greyish ochreous, the third somewhat rusty red, the rest dark brownish-grey with white hair-tufts. Forewing light brown with round spots of white and black scales. The veins before the centre of the wing are black. A white shadow from the centre of the base to before the centre of the wing, bent downwards at vein 1 to 2/3 of the length of the wing, then widened to 2/3 of the costal margin and to the anal angle. 12–15 dark lines composed of striae from the costal margin almost to the inner margin. A small white spot in the submedian fold. A fan-shaped spot at the costal margin before the apex as far as vein 1. Hindwing dark brown at the base with brownish ochreous hair. ♀ 28–35 mm. Australia. Described as Cossus, but it may belong to Azygophleps.

3. **Group. Antennae of ♀ thickened and dentate, not pectinated.**

**C. fuscibasis Hmps.** Body dark brown, abdomen grey at the end. The interior two thirds of the forewing brown, dusted with dark brown. A lighter stripe below the cell, distally bordered by the black exterior band which has a very irregular course, being strongly angled at vein 4 and despatching an inward branch above vein 1. Distal area grey with dark striate and reticulate lines. Hindwing blackish-brown at the base, distal area grey with dark reticulate lines. ♀ 46 mm. Burma.

**C. chloratus Steh.** Body dark yellowish wood-coloured. Forewing reddish-brown as far as a faded chloratus. line from 2/3 of the costal margin to the anal angle, yellowish-white behind it. The whole wing with dark reticulate lines forming a larger indistinct spot behind the cell and three smaller ones above vein 2. Hindwing greyish-brown. 34–36 mm. Borneo, Minahassa, Bangka. — **subfuscus Sn.,** from Sumatra, is not very different, **subfuscus, smaller (♀ 25 mm).** The yellowish-white distal area is almost parallel to the distal margin. **subfuscus ♀ Sn.,** is chloratus ♀.
C. lepta West. Abdomen greyish-brown, thorax more whitish. Forewing white, scantily striated greyish-brown. A faded greyish-brown spot from the cross-vein obliquely to the costal margin near the apex. Hindwing greyish-brown. $ 29 mm. Luzon, Mindanao.

C. rufidorsia Hmps. (93 i) is at least very similar to chloratus. Body reddish-brown. Forewing reddish-brown in the interior area with dark brown striae. Some irregular dark lines close behind the centre. The whole marginal area is lighter. Hindwing dark brown. $ 34 mm. Sikkim.

2. Genus: Cula Wkr.

Antennae of $ long-pectinated to the tips. Palpi very long. Wings shaped similarly as in Cossus. Forewing: veins 2, 3, 4, 5 at almost equal distances. 6 below the upper cell-angle. 7 from near the apex of the areole, 8 + 9 from its apex, 10 + 11 from its anterior edge. Hindwing: veins 6 and 7 from the same basis. Hind tibiae with 2 pairs of spurs. Type: australis Wkr.

C. australis Wkr. (93 i). Body and forewing greyish-brown, with a violet gloss, with numerous dark reticulate lines. One of them in the centre and one before the margin mostly somewhat stronger, besides a short longitudinal streak in the cell-end. Hindwing much lighter brown. $ 65 mm. New South Wales, Queensland. The larva is flattened, bright pinkish red, 50 mm long, not unlike a Carabid larva. It lives between the bark and the wood. 50 specimens may feed in a single tree. A Latin name is not mentioned for the tree, it is only called: "red india-rubber tree".

caliginosa.

C. caliginosa Wkr. (= rhytiphorus Lower). Body dark slate-coloured. Thorax with a black transverse band in front and 2 lateral stripes. Forewing slate-coloured with numerous black transverse striae which are edged with white and ochre, forming erect lines. 5 irregular black streaks in the interior half of the costal margin extend interruptedly to the inner margin. A V-shaped mark in the middle of the costal margin, extending indistinctly to $ of the inner margin. 5 or 6 similar indistinct darker places in the distal half of the costal margin. Dark reticulate lines near the anal angle are cut by a black line extending from the base to the anal angle. Hindwing greyish-white. 66—70 mm. South Australia, Victoria.

cressa.

C. cressa Lucas. Palpi short. Body grey, with dark brown and black hair. Forewing grey with slaty grey and dark grey places and deep black striae. Whitish at the costal margin, the lines and streaks in the distal area reticulate. Hindwing from dark grey to black. Similar to caliginosa, but much smaller and with stronger lines. 25—40 mm. Brisbane.


Palpi not reaching the frons. Antennae of $ shortly pectinated to the tips. Hind tibiae with two pairs of spurs. Forewing: veins 3, 4, and 5 equably separated. Vein 6 from the upper cell-angle or below it, 7 + 10 + 8 + 9 stalked. Hindwing: veins 3 and 4 from the same basis, 5 a little above it, 6 and 7 well separated. Type: parva Hmps.

P. parva Hmps. Vein 6 of forewing from the cell-angle. Body and forewing pale greyish-brown, darker on the abdomen above. Forewing with fine dark striae, the interior area reddish-brown. A feeble black median line is slightly angled at the median vein, and excurved below it. A short line from the cross-vein to the costal margin, then continued inwardly at the median vein, extra-angular at vein 2 and then again inwards. The exterior line is more distinct, obliquely outwards, forming an outward angle at vein 4, then vertical and undulate to the inner margin, connected at vein 4 with the undulate submarginal line by a bar. Hindwing dark brown with darker veins, somewhat diaphanous. $ 26 mm. Ceylon.

furcata.

P. furcata Hmps. (93 k). Pale greyish-brown. Forewing with darker striae and red-brown lines. The interior one forked, enclosing an elliptic spot in the middle. Median line rather straight, connected in the submedian fold with the exterior line by a streak. Exterior line excurved as far as vein 5, bent inward at vein 4 and connected with the irregular submarginal line at vein 1. Hindwing pale brown. $ 32 mm. Pegu.


Kirby places one Australian species to this genus which has been dealt with in Vol. XIV, p. 543.

ligatus.

A. ligatus Wkr. Forewing dusty brown, narrow, with a pointed apex and numerous brown transverse streaks. Distal margin very oblique. Moreton Bay.

5. Genus: **Dudgeonea** Hmps.

Forewing: veins 8, 9 and 10 from the areole, the others at about equal distances from the discal cell. Hindwing: veins 3, 4 and 5 about equably separated, 6 and 7 close together. Antennae of ♂ very shortly pectinated, plain in the ♀. Type: *leucosticta* Hmps.

*D. leucosticta* Hmps. This species described from India has been dealt with already in Vol. XIV, p. 544 and pl. 79 e, and we have also stated there the little difference between the African form and that from India.

*D. actinias* Trnr. Thorax dark reddish-brown, with a double tuft behind. Abdomen whitish ochreous. Forewing dark reddish-brown, lighter at the costal and distal margins, at the base of the inner margin, and with numerous ochreous spots. 5—9 snow-white round spots above ½ inner margin in the centre of the wing. Besides 4 or 5 similar spots of different sizes at the distal margin. 3 or 4 similar spots before them, before the centre of the distal margin. Hindwing pale ochreous brown. 30—42 mm. Queensland.


Palpi rather long. Antennae of ♂ shortly pectinated to the tips. Forewing slightly concave at the centre of the costal margin. Veins 4 and 5 close together, 6 from the upper cell-angle, 7 + 8 and 9 from the apex of the areole, 10 from its anterior edge. Veins 6 + 7 of hindwing stalked. Hind tibiae without spurs.

*E. foedus* Such. Body yellowish-white. Forewing pale ochreous brown. A white indistinctly defined radial band in and below the cell. A similar transverse band before the distal margin. Hindwing white. ♂ 28 mm. Karachi.

7. Genus: **Pseudocossus** gen. nov.

Palpi long. Antennae of ♀ shortly pectinated. Wings similarly shaped as in *Cossus*. Neuration of forewing: vein 2 far back, 3—5 distantly separated, vein 9 from the upper cell-angle, 7 + 8 and 9 from the apex of the areole, 10 from its anterior edge. Veins 6 + 7 of hindwing stalked. Hind tibiae without spurs. Type: *fulvicollis* sp. n. (98 d). Head and collar light rusty brown. Body and forewing violetish-brown. *fulvicollis.* Thick black streaks obliquely distad in the basal half, a few indistinct streaks behind them. From below ⅔ of the costal margin to the anal angle extends a strong streak from which, at vein 3, a curved line branches off to the costal margin. Fine lines behind it. Abdomen and hindwing lighter, without markings. ♀ 56 mm. Australia.


Palpi absent, antennae of ♂ strongly pectinated to the middle, filiform in the ♀. Hind tibiae with small terminal spurs. Forewing: veins 2—5 separated, 6 from the areole or (mostly) below it, veins 7 + 8 and 9 from its apex, 10 from its anterior edge. Hindwing: the cross-vein is prolonged upward, so that vein 8 is connected with the cell by a bar. Type: *pyrina* L. from Europe. Some of the species mentioned here may belong to *Azygophleps*.


*Z. conferta* Wkr. (96 a). Body whitish, thorax and anal half of abdomen with black spots. Forewing whitish-yellow, scantly marked with black thick streaks, the space around the cross-vein free. Some fine black striae on the hindwing. ♀ 70 mm. Sylhet, Labuan.

2. Group. Vein 6 of forewing arises below the upper cell-angle.

*Z. indica* H.-Schäij. (= paucipuncta Wkr., postexcisa Sn. nec Hmps.) (96 a). Thorax with 3 spots *indica.* whitish-yellow, scantily marked with black thick streaks, the space around the cross-vein free. Some fine black striae on the hindwing. ♀ 70 mm. Sylhet, Labuan.


*Z. conferta* Wkr. (96 a). Body whitish, thorax and anal half of abdomen with black spots. Forewing *conferta.* whitish-yellow, scantly marked with black thick streaks, the space around the cross-vein free. Some fine black striae on the hindwing. ♀ 70 mm. Sylhet, Labuan.

2. Group. Vein 6 of forewing arises below the upper cell-angle.

*Z. indica* H.-Schäij. (= paucipuncta Wkr., postexcisa Sn. nec Hmps.) (96 a). Thorax with 3 spots *indica.* on each side, a dorsal row of spots on the abdomen, with lateral stripes and a sublateral row of spots; the thorax of the ♀ seems to have no spots. Forewing with few large bluish-black spots. A row of spots at the costal margin is equably distributed. A large spot in the cell at ½, a smaller one at ⅔, one at the base of vein 4, striigiform spots behind it on the veins. One row each above and below vein 1 b. Hindwing with marginal spots. The ♀ exhibits a more prominent first cellular spot on the forewing. The hindwing has a long black stripe below vein 2, a row of spots below it, a round spot below vein 3. This marking may also be reduced to a round spot at vein 2 and a similarly large one below it. 58—115 mm. Simla, Sikkim, Java, New Guinea.
In the following species the anal angle projects a little on the hindwing.

**Z. postexcisaa** Hmps. (96 a). Body with similar spots as in *indica*. Forewing with small round bluish-black spots. The few spots in the cell and towards the distal margin palar, the rows below the cell more intense. Hindwing with pale small postcellular spots of a variable number. The spots at the distal margin more distinct, particularly before the anal angle where the indentation is almost as strong as in *indica*.$\S$. $\S$ 50—52 mm. Ceylon, Kina-Balu. — Together with the $\S$ mentioned just now from the Kina-Balu a $\S$ was captured, which probably belongs to it, although its size is but little larger (57 mm). The spots on the forewing are nowhere faded. The hindwing shows the same small number of faded postcellular spots as in the $\S$. Beneath at the costal margin there are the same spots. The distal-marginal spots are large and round on both sides.

**Z. caudata** Joic. & Talb. All the spots on the forewing faded except those at the costal and distal margins. The spots in the cell round, those behind them oval, forming transverse bands. Marginal spots large, especially one at the apex. Spots of hindwing very indistinct. One is in the lower cell-end and a few are below it. More intensely black before the anal angle at the margin, and 2 smaller spots at veins 2 and 3. $\S$ 50 mm. Dutch New Guinea.

**T. aeglosipaa** Trnr. is also similar to *postexcisaa* (96 a). Spots on thorax and abdomen normal. Forewing scantly scaled, with numerous black spots with a green gloss; a row of spots at the costal margin, the last spot being larger. Three rows of spots in the cell and one row each between the veins, at the inner and distal margins. Small marginal spots on the hindwing are united near the anal angle into one large spot. 45—80 mm. Queensland. From the description it cannot be decided whether this species differs in fact from *caudata*.

**Z. lineata** sp. n. (96 b) is the last species with a projecting anal angle on the hindwing. The thorax seems to have only two spots in front. Abdomen with the normal dorsal rows and 2 lateral rows. Forewing yellowish (rubbed) at the costal margin and the lower inner-marginal vein. The spots at the costal margin and base deep black, also the streaks at the inner margin and anal angle. Round spots in the basal part of the cell, distally streaks, both faded. Faded black more or less continuous streaks behind the cell and below it, but no oval spots as in *caudata*. Faded spots above the lower cellular vein on the hindwing. Fine streaks below veins 2—4, no round spots. $\S$ 60 mm. Kina Balu. Type in the Berlin Museum.

**Z. multistrigata** Mr. (96 c). Thorax with black spots, abdomen blackish with brownish-white segmental margins. Forewing with numerous bluish-black spots and streaks. Thicker spots are at the base, in the centre of the cell, at its end, between veins 5 and 6, and at the anal angle; some are also fused, especially in the centre of the cell. Hindwing with spots in the cell, behind it and below it, but not at the inner margin. Marginal spots on both wings mostly intense. The spots on the hindwing of the $\S$ are greatly reduced. 55—105 mm. North India.


**Z. coffeaee** Niel. (= oblica Such., *coricyanea* Wkr.) (96 b). Thorax with black spots. Abdomen with dorsal and lateral spots. Forewing all around the margins with small black spots, those on the wing itself faded. Hindwing with marginal dots. The $\S$ shows more distinct spots on the forewing and a somewhat greater number of spots on the hindwing. 40—46 mm. India and Indo-China, Ceylon, Borneo, Java.

**Z. reticulata** Joic. & Talb. Similar to *coffeeae* (96 b). The faded spots on the forewing are all larger and more or less united into transverse lines (thus they may be no "spots" at all but streaks). Hindwing with many faded spots, all being isolated. Besides marginal spots at the ends of veins 1 b—7. $\S$ 40 mm. Dutch New Guinea.

**Z. bürgersii** sp. n. (96 b) differs from the slightly yellowish *coffeeae* in the white iridescent ground-colour. Black dots on the forewing at the costal margin, the base of the wing and the distal margin. Besides somewhat obsolete streaks in the cell and behind it, no spots, only the streaks at the inner margin more distinct again. The streaks on the left forewing of the type extend much more regularly than on the right forewing, so that we may assume that *reticulata* will also be variable. Hindwing white with strong marginal spots. Thorax without spots, abdomen with subdorsal stripes. $\S$ 34 mm. Kaiserin Augusta River (New Guinea). Type in the Berlin Museum.

**Z. neuropunctata** sp. n. (96 b). Body dingy white, abdomen with dorsal dots and perhaps also lateral ones. Wings hyaline white with black dots at the costal margin. Scattered dots on the partition-veins in the cell and on veins 2—10, besides marginal dots. In some places the dots are connected by fine black scales. No marking noticeable on the hindwing, only a little black before the anal angle. $\S$ 40 mm. Kutei (South-Eastern Borneo). Type in the Berlin Museum.

The two following species scarcely belong to *Zeuzera*, but they cannot be surely ranged under any genus, the first species might belong to *Dubreveria*, the second to *Azygophleps*.

**Z. pentasemaa** Lover. Thorax greyish-brown. Forewing whitish ash-grey, dusted with rusty brown. Whitish from the base to the centre of the wing excepting the costal margin, veins black. A rather large
round rusty yellow spot in the centre of the wing does not reach the margins and encloses spots of the light ground-colour. The veins are black also behind this large spot, with white streaks between them. Hindwing dark brown. ♀ 30 mm. Queensland.

**Z. perigypsa** Lower. Body dark brown with some white scales. Forewing dingy white with fine dark *perigypsa* striae, very densely so below the costal margin which is not striated. Hindwing pale whitish-grey with some fine dark reticulate lines. ♀ 44 mm. New South Wales.

**Z. tripartita** Lac. Body bluish-grey. Forewing dark reddish-brown, dusted with bluish-grey. Fine *tripartita* black striae between the veins. The first third at the costal margin is black, forming the ground-line of a triangle the apex of which extends towards the inner margin as far as ⅓ of the width of the wing. Behind it at the costal margin there are 4 spots from which lines proceed. A black spot at ⅔ of the costal margin extends towards the centre of the distal margin without reaching it, but dividing towards the apex and anal angle. Hindwing dark brown, dusted with grey, with darker striae. 44—50 mm. Brisbane. This and the preceding species surely do not belong to *Zeuzera*.

**Z. eumitra** Trnr. Body and forewing white, forewing with black marking. 7 quadrangular spots at *eumitra* the costal margin in the interior half. 3 transverse rows of spots in the basal third, 3 erect streaks behind them before the centre of the inner margin. A narrow band interrupted at the white veins extends from ⅔ of the costal margin to ⅔ of the inner margin, small spots in the disc before this band. A double sub-marginal row of spots and a single marginal row. 3 spots in the distal part of the costal margin, the last spot being largest. Hindwing white with black marginal spots at the anal angle and apex. ♀ 52—56 mm. Brisbane. Larva in *Eugenia ventenatii*.


Palpi short. Antennæ of ♀ finely serrate. Tibial spurs not stated. Wings shaped like those of *Cossus*. Forewing: veins 3—5 separated from each other, vein 6 and 7 8 from the upper cell-angle, 9 and 10 from the anterior edge of the cell near the angle, 11 far basad. No areole. Hindwing: veins 3—5 separated from each other, 6 and 7 likewise separated. A bar between 7 and 8 as in *Zeuzera*. Type: *celaena* B.-Bak.

**P. celaena** B.-Bak. (96 d). Thorax black with golden brown areas, abdomen black with a golden *celaena* brown base. Forewing greyish-black with fine black lines and spots. Darkest above the inner margin. Costal margin with 4 black spots and a black apex. Hindwing dark brown with a slight metal gloss, rather pointed at the apex. ♀ 38 mm. New Guinea.

**P. aurea** B.-Bak. (96 d). Body golden brown with a reddish gloss. Forewing the same, with a somewhat darker spot at the cell-end, and darker scales at the inner margin. Hindwing pale grey with a yellow tinge, reddish-brown in the original figure, diaphanous. ♀ 40 mm. New Guinea.


Antennæ of ♀ pectinated to the tips. Dorsum of abdomen very hairy. Forewing: vein 2 before the cell-angle, 3 + 4 stalked, distantly separated from each other, vein 6 and 7 + 8 from the upper cell-angle, 9 and 10 from the anterior edge of the cell near the angle, 11 far basad. No areole. Hindwing: veins 2—5 separated from each other, 6 and 7 from the upper cell-angle.

**I. littleri** Trnr. Thorax and forewing pale grey with indistinct white striae. A fine dark brown sub-*littleri* basal line is slightly bent outwards. A coetal-marginal row of somewhat lighter spots. 2 or 3 dark transverse streaks before the centre of the wing. Apical area dark grey, 3 black spots before it. Hindwing greyish-brown, fringe pale grey. ♀ 27 mm. Tasmania.


This genus has already been dealt with in Vol. II, p. 418, and Vol. XIV, p. 546. **Houlebert** has written monographs on most of the species treated upon here. The order adopted by him is also used here as far as possible. The species of this genus are becoming more common of late, owing to the decreasing number of their enemies, the Australian negroes who eagerly pursued the larvae in former times.

**X. grisea** nom. nov. (= edwardsi Houlb. nec Tepp.). Thorax and forewing greyish-white, densely dusted *grisea* black, with a more or less long dark blotch at the anterior edge of the cell. A series of short blotches before the distal margin may also be absent. Abdomen likewise grey. Hindwing darker than forewing, especially at the base and inner margin. 100—135 mm. Adelaide, Kuranda.

**X. magnifica** Rothsch. Forewing pale grey, 2 ♀♀ and one of 2 ♀♀ with scarcely traceable dark spots *magnifica* between the veins in the marginal area. **Houlebert**'s figure exhibits also a longitudinal streak below the costal margin. Hindwing white at the costal margin, the rest nut-brown, not grey as in *grisea*. Thorax grey, abdomen nut-brown, grey at the end; the ♀ abdomen also with a grey dorsal stripe which is also exhibited by the ♀ in the figure quoted above. 135—200 mm. Brisbane.
\textbf{X. boisdviali} Rothsch. (97 c). Forewing ash-grey with a faded exterior row of spots and a submarginal row, the distinctness of the spots varying much in both rows. Hindwing grey at the costal margin, the rest blackish-brown, with irregular radial grey spots at the margin. Thorax grey, black in the middle. Abdomen black with narrow greyish-white segmental margins. 150—210 mm. Queensland.

\textbf{X. rothschildi} Oberth. (= maculatus Rothsch.). ♂ ground-colour more ash-grey, paler at the apex in the centre of the wing. A long dark streak in the cell. An exterior row of spots close behind the cell. A large black spot below the cell is cut by the submedian fold and is nearer to the base of the wing than to the exterior row of spots. A row of strigiform spots near the margin. Hindwing brownish-black. ♂ 210 mm. Brisbane.

\textbf{X. turneriana} Oberth. Size and distinctness of the marking intermediary between boisdviali (97 c) and the following affinis. Forewing grey, the two rows of spots of boisdviali indistinctly defined. Hindwing blackish-brown, apparently darker in the ♂ than in the ♀. Thorax grey, abdomen black with white segmental margins and a grey median line and end. ♀ with a somewhat darker thorax, abdomen blackish-brown, grey at the end. 110—150 mm. Queensland.

\textbf{X. affinis} Rothsch. The submarginal row of dark brown spots on the forewing large and distinct, the exterior row of spots as in turneriana, the uppermost spot behind the cell being here also more intense than the others. Besides a dark shadow in the cell-end and one basad below the cell. Forewing of ♀ not so grey as in the ♂, but more yellowish-grey. Hindwing dark red-brown. Black spots at the ends of the veins on the forewing, also on the dark hindwing, though less distinct. The size varies much. ♂ 100—140 mm, ♀ 140 to 210 mm. Brisbane.

\textbf{X. sordida} Rothsch. ♀ similar to boisdviali (97 c), but the thorax dark brownish-grey, not pale grey with a black centre. The spot at the cell-end of the forewing is almost extinct, while it is distinct and large in boisdviali. Hindwing lighter brown. According to Oberthür, sordida may be only a small form of turneriana. The following differences might be stated: ♀ and ♀ with a lighter forewing; thereby the two rows of spots become more distinct, as in affinis. No black spots at the margin. The dark abdomen with light segmental margins and a light end. Hindwing of ♀ much lighter than in turneriana, except at the base, somewhat lighter in the ♀. ♂ 120—135 mm according to Rothsch.; ♀ 75 mm, ♀ 105 mm according to Oberthür. Brisbane, Taylor Range.

\textbf{X. mixta} Pagst. (96 d). Body and forewing yellowish-brown, the marking on the forewing reddish blackish-brown. A flatly-triangular spot at the costal margin begins close behind the base. A spot in the shape of a slanting square extends from the base of vein 3 obliquely outwards to the costal margin and from this border distally. Behind the prolongation of this oblique border as far as the inner margin, the ground-colour is more or less intensely darkened reddish as far as the distal margin. Besides the whole wing is covered with dark striae. In the type alone the second spot is so distinct, in all the others only the basal triangle is distinct, but the slanting square very faded. Hindwing somewhat reddish, striation indistinct. ♂ 34—48 mm. Amboina, New Guinea. Key I.

\textbf{X. maculatus} Sn. (96 c). Forewing grey, the two rows of spots of boisdviali more or less distinctly defined. Hindwing blackish-brown, apparently darker in the ♀ than in the ♂. Thorax grey, abdomen black with white segmental margins and a grey median line and end. ♀ with a somewhat darker thorax, abdomen blackish-brown, grey at the end. 110—150 mm. Queensland.

\textbf{X. lichenea} Rothsch. (= oblia Trnr.). Body brownish-black. Thorax lighter laterally and behind, abdomen with a grey end and median line. Forewing brownish-grey, the marking black. One large irregular black spot each in the cell near the base and at its end; the latter spot mostly obliquely from before the centre of the costal margin to the base of vein 3. A band from below the apex to vein 2 is broad in its lower end, formed of distally coherent spots between the veins. The ground-colour behind it is narrowly perceptible, reticulate lines only again directly at the margin. A stripe of reticulate lines below the cell.
Inner margin dark. Hindwing greyish-brown with few dark reticulate lines. Both wings with dark spots at the ends of the veins. 100—135 mm. Queensland.

**X. coccinolata** Trnr. (= *doddi* Rothsch.). Body and forewing olive grey. Thorax with a V-shaped black marking. Abdomen with brown bands. Forewing with densely reticulated drab lines. A conical black spot below vein 2 and a faded spot above it more basal; besides a spot at the cell-end. Traces of an exterior row of spots, and black marginal dots. Hindwing of ♀ white, of ♂ brownish-grey. The distinctness of the spots is rather variable. 75—110 mm. Queensland.

**X. houlberti** Oberth. Ground-colour of body and wings of the ♀ ash-grey with a slight violet reflection, houlberti. Forewing with very dense dark reticulate lines, hindwing unicoloured. The ♀ is unicoloured brown without the black margins at the patagia exhibited by the ♀. The ends of the veins black on both wings of the ♀ and ♀. 62—94 mm. Queensland.

**X. nephecosma** Trnr. (96 d). Ground-colour whitish-grey with darker grey striae and spots which are fadedly defined. Three of these spots form an interior band extending obliquely inwards, two form a median band, the two uppermost of each group are fadedly connected. A dark shadow and striae in the centre of the inner margin. Traces of a submarginal band. Hindwings of ♀ whitish, of ♀ grey. Thorax and abdomen grey in the ♀, abdomen of ♀ whitish-grey. 50—80 mm. Queensland. The larva lives in the trunks of *Melaleuca leucodendron*.

**X. phaeocosma** Trnr. Thorax grey, patagia with a black margin, abdomen blackish with light segmental margins and a light end. Forewing whitish with dense dark reticulate lines. An interior and median band of large faded dark spots. A light double spot between them below the cell to beyond the lower inner-marginal vein. A large dark spot close at the cross-vein. From this spot to the narrow interrupted row of spots before the margin it is also often lighter owing to the absence of the black striaion. Hindwing blackish, the veins of the ♀ in the marginal area grey. 120—150 mm. Port Darwin.

**X. lituratus** Don. (= casuarinae H.-Schäff.) (96 c). Thorax violetish greyish-brown, abdomen blackish-brown with light segmental margins and a light end. Forewing greyish-brown with innumerable blackish-brown striae which are reticulatively connected in the marginal area and fused spot-like in other places. A round spot below the base of vein 2, a long stripe in the submedian fold and sometimes also one above the inner margin. A long blotch behind the cell above vein 6, and 2 or 3 smaller ones below it. A submarginal band behind it extends to the stripe in the submedian fold. Hindwing very light at the costal and inner margins, the striation only distinct in the distal half. Abdomen of ♀ and the ground-colour of both wings darker. 100—160 mm. Queensland, Tasmania.

**X. fuscus** Sichel. Dark pinkish-brown, thorax grey outside. Wings with black transverse streaks. Forewing white directly at the base, and with a white spot at the cross-vein from where a white blotch extends to the apex. Fringes of both wings with dark spots at the ends of the veins except at the anal end of the hindwing. 110—135 mm. Queensland, New South Wales.

**X. donovani** Rothsch. (96 e). Body and wings greyer than in *lituratus*, just as profusely though more finely striated. A black spot at $\frac{1}{2}$ of the length at the costal margin, extending into the cell, and a mostly smaller one at $\frac{2}{3}$ of the costal margin. In the submedian fold there is one spot each below the spot at the costal margin. A distinctly defined macular stripe from near the apex. Hindwing dark below the cell as far as the inner margin. An indistinct row of spots before the margin. Both wings spotted dark at the fringes. 90—125 mm. Queensland.

**X. mackeri** Oberth. Similar to a large *lituratus* (96 e). The lateral margins on the thorax are mackeri narrower white! abdomen brown with white segmental margins, not light at the end. Forewing white, not so uniformly densely striated dark. The spots dark reddish-brown. One at the costal margin from near the base to the centre of the costal margin. The other marking below and behind the cell is quite similar, though stronger than in *lituratus*, especially the submarginal band is more distinct. The darkening directly at the margin is more distinctly defined inside. Hindwing of ♀ dark brown, somewhat lighter only at the margin which shows reticulate lines. Hindwing of ♀ somewhat darker than in *lituratus*. 130—175 mm. Queensland.

**X. striga** Rothsch. (= *acontucha* Trnr.) (98 a). Body and forewing whitish-grey. A black stripe of *striga* fused streaks at the costal margin as far as $\frac{1}{2}$ of its length, the streaks extending into the cell. A black radial streak at the lower inner-marginal vein extends from near the base and is bent up to vein 2; the area above this stripe is more purely white. Black dusting in the marginal area, but no lines. Hindwing of ♀ cream white, of ♀ olive grey, without markings. Both wings with black marginal dots at the ends of the veins. 70—90 mm. Queensland.

**X. duponcheli** Neum. Body dark brown, abdomen rusty brown at the base. Forewing dark brown *duponcheli*. with numerous darker striae. Hindwing dark brown, rusty brown at the base, fine striae traceable. ♀ 55 mm.
Victoria. The species is not mentioned by any other author, placed here by Houbeert between two much lighter species.

**X. pulchra** Rothschr. (98 b). The sexes of this species are extremely different, but they surely belong together, since they originate from the same species of trees. \(\varphi\) thorax and forewing with fine black dots, besides the thorax is provided with narrow black marginal lines on the tegulae and patagia. Forewing with 1 light blotch each behind the cell and below its centre, formed by the absence of the black dusting. Hindwing and abdomen dark reddish-brown, abdomen with a broad grey median stripe. The \(\varphi\) exhibits a golden brown mesothorax. A short black oblique band proceeds from the apex of the forewing. A large black spot in the cell-end. Two smaller black spots below vein 2, and five around the cross-vein. Besides a streak above the uppermost spot, and another spot below the lowest of the row, the inner margin darkened. Hindwing lighter brown than in the \(\varphi\); abdomen black at the base, the rest red-brown with black margins. 60—115 mm. Brisbane.

**X. molitor** Rothschr. (98 d). Body and forewing greyish-white. Marking pale brownish-grey, darker streaks at the costal and inner margins. The brownish spotting leaves over a narrow triangular spot of the ground-colour in the cell, and a larger irregular one below the centre of the cell, with a blackish triangle on its outside. Hindwing of \(\varphi\) purely white, of \(\varphi\) grey. Grey dots at the margins of both wings. 60—80 mm. Queensland. It may be that this species is merely a differently coloured form of *nephocosma* (98 d), though it is ranged separately by Houbeert.

**X. eluta** Rothschr. (98 d). Body and forewing greyish-white, somewhat yellowish. A few black streaks at the costal margin. A dark blotch in the cell-end and behind it. A similar band from the apex to beyond vein 3. Two black spots below it; behind the uppermost and before the lower one there is an oblong grey spot. Hindwing somewhat lighter. Both wings with dark marginal dots. \(\varphi\) 75 mm. Brisbane.

**X. eremona*ma** Trnr. Thorax and abdomen light brownish ochrous. Forewing white with numerous blackish spots and striae. Numerous spots at the costal margin from the base to the apex, partially touching the row below them, and some small spots also in the cell. Hindwing whitish, with dark reticulate lines in the distal area. \(\varphi\) 34—44 mm. Queensland.

**X. stenoptila** Trnr. Body grey. Forewing whitish, finely dusted dark brownish-grey. The darker marking is faded. One dark spot each at 1/4 and in the centre of the costal margin, connected below. A broad submarginal stripe, more pointed at the ends. Hindwing grey, base, inner margin and distal margin whitish. \(\varphi\) 120 mm. Queensland.

**X. methyehroa** Trnr. Body grey. Forewing whitish-grey, with a slight violet tinge on it, scantily striated dark grey. Hindwing dark brown. Fringes of both wings spotted dark. 64—96 mm. Queensland.

**X. zophoplecta** Trnr. (98 c). Thorax dark brown, abdomen dark grey. Forewing dark grey, costal-marginal area suffused with whitish-grey near the apex, the whole disc densely striated black, scanty streaks only at the base. Some whitish-grey scales in the lower part of the distal margin. Hindwing and fringes dark grey. 42—50 mm. Queensland. Our figure according to Rothschild does not quite correspond to the description. A non-coloured figure of the \(\varphi\) by Oberthür exhibits a dark thorax. The light area at the costal margin does not begin so far basad and also leaves the distal margin broader dark.

**X. dictyoschema** Trnr. (\(=\) dictyosoma Oberth.) (98 c). Thorax and abdomen dark brown, the segmental margins whitish in the \(\varphi\). Forewing dark brown with dense black striae. A lighter spot at the costal margin near the apex. Besides a light spot below the base of vein 2 (in the \(\varphi\)), a brightening at the anal angle and before the distal margin. Hindwing of \(\varphi\) whitish, of \(\varphi\) grey with dark reticulate lines in the distal half. 60—94 mm. Queensland. It is probably only a form of the small *zophoplecta* which, however, was described before.

**X. nigra** MIR. (99 a). Body and wings black. Forewing densely scaled grey, only a black spot behind the cell-end without this brightening. Hindwing with grey scales near the centre of the distal margin. 38 mm. Niligiris, Ceylon. Larva in coffee-trees.

**X. tenebrier** Wkr. (99 a). Ground-colour of forewing brown with black reticulate lines and spots. The dark spots similar as in *lituratus*, but the long stripe in the submedian fold is absent, instead of it there is a spot a little inwards from the one above it. The long dark stripe below the costal margin is very extensive. Hindwing of \(\varphi\) white to brown, red-brown in the \(\varphi\) with reticulate lines in the distal half. Thorax blackish, abdomen rusty brown in the \(\varphi\), blackish at the end. 90—150 mm. Queensland. According to Aurivillius, the hindwing of the \(\varphi\) is white with dark marginal spots. Abdomen yellowish-white, the 3 last segments and a lateral line black. Thus lighter than in the \(\varphi\).

**X. celebsa** Wkr. (98 c). Of Walker's description I have only used the statement "Celebs"., and otherwise 2 \(\varphi\) of the Coll. Stauring, which were labelled as *celebsa*. Body dark red-brown. Forewing lighter red-brown with dark red-brown streaks which are more intense at the costal margin, as in *tenebrier*, and very fine at the distal margin. A dark triangular spot below the cell from the base of vein 2 inwards,
a brightening behind it. No darkening below the costal margin. The spot behind the cell is narrow between veins 5 and 6, projecting distally above it as far as the parting of veins 7 and 8. Close behind begins the dark submarginal band extending between veins 6 and 3. A light space between the two dark areas between veins 4 and 6 is narrow between 6 and 7 and expands again at the apex. Hindwing red-brown, not striated dark. ♀ 120—145 mm. Celebes, Tonkin.

X. d'Urvilleana H.-Schäf. (= eucalypti H.-Schäf.) (98 a). Thorax light red-brown on the sides, abdomen of d’Urvilei. of blackish with light segmental margins, dark red-brown in the ♀. Forewing dark red-brown, also violetish-brown, with black striae which are more or less radially fused especially in the distal area. A broad white band from the base of the wing to below the base of vein 2, and a similar one from before the cell-end to the apex. Both are very variably distinct and interrupted by a black longitudinal blotch. Hindwing red-brown with black reticulate lines. An aberrative ♀ (97 d) has not any white at all on the forewing, the black striation forms long radial blotches. Abdomen and hindwing, however, lighter red-brown without dark reticulate lines.

120—180 mm. New South Wales. — angasi Fldr. is presumably only a greyer ♀ of d’Urvilei, without any other angosii. Difference on the body and forewing but that another row of round black spots is traceable below the white apical stripe, extending to the white stripe coming from the base. Hindwing also greyer than in d’Urvilei and with a similar exterior row of spots as on the forewing. ♀ 170 mm. Adelaide.

X. leuconochla Trnr. Thorax laterally white with blackish-brown scales. Abdomen whitish with dark brown segments. Forewing dark brown with somewhat white brightenings. A broad white streak from the base to the centre of the wing. From there indistinct white streaks to the apex, interrupted by dark brown striation. Hindwing dark brownish grey, lighter whitish at the apex and anal angle. ♀ 120 mm. West Australia.

X. leuconotus Wkr. (99 d ♀), from Kashmir to Ceylon and the Sunda Is., has already been dealt with in Vol. II, p. 418 and figured (the ♀) on pl. 53 a. According to Houlbert, persona Le Guill, is an older name for it. According to Snellen, however, persona is a synonym to strix. We cannot decide whose opinion is correct, for which reason we keep to the old name leuconotus.

X. fuscipars Hmps. Thorax dark brown with grey hair. Abdomen blackish-brown. Forewing dark brown at the costal margin, more or less densely white-scaled above the inner margin. Black spots at the inner margin itself. Hindwing paler red-brown, a large triangular white spot with black reticulate lines from the anal angle to vein 4. ♀ 40 mm. Sikkim.

X. strix Cr. (= signata Wkr., bubo Blkr.) (97 b). Body of blackish-brown. Forewing pale grey, strix, sometimes more brownish, densely striated dark. One larger spot each at the costal margin at the base, at ½ and at ¾, besides many small ones. A spot below the base of vein 2 mostly present, a large one behind the cell, a subapical spot at the distal margin of a variable size. Hindwing blackish in the basal area, the rest brown with dark reticulate lines. 75—130 mm. ♀: mesothorax and the ground-colour of the forewing yellowish-white. The spots at the costal margin relatively larger and connected with the spot below vein 2 by a broad brown irregular band, so that it shows great resemblance to leuconotus. A variable number of round black spots before the margin. Hindwing dark brown, distal margin broadly lighter with dark reticulate lines. The dark marginal spots are more distinct on both wings than in the ♀. ♀ 105—220 mm. Sikkim, Tonkin, Borneo, Java, Celebes, Philippines, Moluccas, New Guinea. According to Houlbert, the names granulata Gn. and tigrata Gn. not mentioned elsewhere are synonymous to strix. signata and bubo, however, he considers to be distinctly separated species. — nebulosus Don., the name of a "species" recurring in all books again and again, seems to me to be founded upon a damaged ♀ of strix. Moreover, it is almost certain that, judging from the size stated (19 cm) and the white thorax, leucoloplius Guér. is a ♀ of strix. The dingy white larva, of a finger’s length, lives in Celebes in the wood of Agati grandiflora. — formosica Strd., a name only conditionally given by the author himself, denotes a ♀ from Formosa, which may occur anywhere since the ♀ varies considerably in the intensity of the spotting and the extent of the striation.

X. anceps Sa. Mesothorax and abdomen yellowish-white, the rest black. Forewing brownish-white anceps, with black striae. The base at the costal margin is black; besides, a spot at ½ of the inner margin and an elongate spot before the distal margin and the dots at the costal margin are black. The three large spots are somewhat fused. Hindwing coloured like the forewing, with black striae and a narrow dark median band. ♀ 62 mm. Java.

X. bosschae Heyl. Thorax red-brown with a white centre. Abdomen light red-brown with a black bosschae, median and lateral line. Forewing yellowish-brown, grey above vein 10, coarsely dusted black. The space between veins 8 and 9 is white in front, brown behind. A black longitudinal streak above vein 7 is edged with white. Below it another similar stripe. Some small black transverse streaks between veins 3—6. From the base a black longitudinal streak extends along the first inner-marginal vein and goes vertically to vein 2, then before the distal margin upwards to vein 5. All that is without this line is silvery white with a few black striae. Some black longitudinal streaks edged with white are at the cross-vein. Hindwing brownish-yellow, densely dusted with black. 78—87 mm. Borneo.
**X. ceramicus** Wkr. (= ligneus Blr.) (99 b). Body dark wood-brown. Metathorax with a black lateral tuft, abdomen above and beneath with a black median line. Forewing dark wood-brown. A distinct black longitudinal streak above vein 6 is continued into the cell with variable distinctness, another streak above the fork of veins 7 and 8 extends distally, and above veins 4 and 5 there are fine streaks with broad ends before the margin. One or two fine streaks below the interior part of the cell, and a straight longitudinal streak from 3/4 of the inner margin to 3/4 of the inner margin, then vertical to vein 2, areately at vein 3 outwards and submarginally on. A white spot at the anal angle as far as vein 3, ring-spots above it at the margin. Hindwing brown, lighter in the middle of the distal margin with blackish striae; black wedges towards the apex between the veins. 75—150 mm. India and Indo-China, Sunda Is., Philippines, New-Guinea.

**X. mineus** Cr. (= hyphinoe Cr., alboatra Wkr., viridicans Eschach.) (99 c). The number of names shows how very variable the species is. Body and thorax black with a bluish-green shine. Wings golden red, with a violet gloss in a certain light, with bluish-black or greenish-black spots which are fused to variable bands; some smaller spots are regularly only at the costal margin and anal angle. Hindwing either only with large black spots, or often also quite black and not even yellow at the margin. There are specimens from New Guinea before me, in which the ground-colour of the forewing is pale yellow, though this tint may not be genuine. 57—125 mm. Queensland, Australia.

**X. decoratus** Szk. Pinkish-brown. A broad whitish band on each side of the thorax. White hair at the base of the abdomen and the bases of the wings. The forewing shows 4 longitudinal stripes with large white, more or less fused spots. The first row at the costal margin, its middle spots being largest. The second row from the centre of the cell to the apex, where there are large and double spots. The third row from the base to the distal margin, composed of double spots. The fourth at the inner margin. Hindwing somewhat white at the distal margin. ♀ 135—170 mm. Swan River.

The position of the 3 following species described by Walker is quite uncertain. Kirby ranged them here, but we cannot ascertain whether this is correct.

**X. bipustulatus** Wkr. Blackish. Forewing with irregular jet-black reticulate lines and a similar spot at the cross-vein. Hindwing brown with indistinct darker brown reticulate lines. ♀ 36″. Described as Cossus, Australia.

**X. opposita** Wkr. Brown. Thorax with 2 black oblique streaks in front, and 3 black, white-edged spots on each side. Abdomen with white segmental margins. Forewing with black reticulate lines and irregular white spots. Hindwing white, with a few brown reticulate lines at the costal and distal margins. ♀ 30″. Moreton Bay. Described as Zenevra.

**X. punctifimbria** Wkr. Ash-grey. Thorax with 2 bluish-black stripes, abdomen whitish with 6 black bands, wings with black marginal spots. Forewing with dense black reticulate lines and 3 incomplete black transverse bands. Hindwing white, with fine black reticulate lines at the costal and distal margins. ♀ 32 mm. Swan River. Described as Zenevra.

**X. kochi** Kfr. (97 a). The sexes of this species differ greatly in size and marking. It is a remarkable fact that veins 5 and 6 of the hindwing arise normally separated in the ♀ and ♂ types; and unite far before the distal margin. Vein 6 of forewing arises from the areole. Body of ♀ red-brown, patagia wood-coloured yellow. Forewing yellowish-brown, fine dark striae at the costal margin, a longer streak above vein 8. Veins 4 and 5 black, the space between them is darkened, and this darkening is continued into the cell. Below the cell lighter from the base to the anal angle. The same dark streaks at the inner margin as at the costal margin. Hindwing wood-coloured yellow at the costal margin, the rest grey, especially dark between the veins. Light again at the anal angle with dark striae. ♀: body greyish-brown. Forewing red-brown, with dark striae at the costal margin, light only near the apex and without striae. A light shadow in the cell before the centre of the cross-vein, and often a thick black streak behind this shadow almost to the distal margin; the dark streak above it as in the ♀. Margin broadly whitish-grey with black striae. Almost white between the two inner-marginal veins, less light and with dark striae at the inner margin itself. Hindwing grey, broadly whitish in the basal area and at the inner margin, dark reticulate lines above the anal angle. 36—60 mm. Central Luzon. It is strange that this apparently so common species has never been captured any more. The larva lives in the wood of Gliricidia spec. It is reddish-brown. Each segment with 12 dark dots. Head and anus brown.

**X. plesseni** Schulze (99 d). Wing-contours almost like those of pulchra, but not the colour. Forewing pale flesh-coloured, but the greatest part of the forewing covered with pale grey marbled spots. The ground-
colour is only left at the apex and inner margin. The original figure looks somewhat different. Hindwing flesh-coloured at the margin. $\xi\ 65$ mm. Manila. A specimen from Perak almost corresponds to the description, but the black striae at the inner margin of the forewing extend to the cell. The ground-colour of both wings is more ochreous. Black reticulate lines on the hindwing extend from the margin between the veins wedge-like inwards. We figure this specimen here.

X. keyensis Strdl. Body and forewing white, with distinct black striae forming reticulate lines in the keyensis, marginal area, partly with reticulate lines also at the inner margin. Brown spots at the margin on the veins. Besides a series of brown spots about 7 mm distant from the margin. Moreover, a band begins narrowly at the costal margin. 30 mm distant from the distal margin and extends in an irregular shape to vein 1 where it ends about 40 mm from the base. Besides 3 interior lines the innermost of which begins 14 mm from the base; all 3 parallel and extending to below the centre of the wing. Hindwing whitish, densely striated black in the marginal area. $\xi\ 46$ mm. Key I.

We add here 4 rather dissimilar species which are somewhat similar to Zeuzera and Azygophleps in the scheme of marking. Veins 4 and 5 of hindwing separated, but vein 6 makes a bend opposite the straight anterior edge of the cell, as in Azygophleps.

X. pardicolor Mr. (= pardalis Dudg.) (99 d). Thorax brownish-white, with 3 black spots on each side. pardicolor. Abdomen with black segmental margins, interrupted in the middle. Forewing brownish-white with large black streaks. A large round black spot behind the cell and a few more in the marginal area. Hindwing spotted dark brown, the veins lighter, light brown striate before the inner margin. $\xi\ 46$ mm. Luzon.

X. ruficeps Joann. (97 a). Body olive brown, patagia darker. Forewing brownish white, with somewhat ruficeps. Thicker black costal-marginal streaks than the others as far as the inner margin. Black from above vein 2 almost to the costal margin, with olive brown veins and similar spots and striae. Hindwing blackish-brown, Lighter in the submedian fold and with black striae. $\xi\ 45$ mm. Sumatra, Tonkin. The Sumatran specimen has been figured. I feel sure that it is identical with ruficeps.

X. stigmaticus Mr. (98 d) has been described as Cossus, then placed to Azygophleps, and finally to stigmaticus, this genus here. It is unlike any other species. Body and forewing ochreous with a few brown transverse lines and brown postcellular spots. A large reddish-black spot below the base of vein 2, and a small red one below it. Hindwing more yellow, without markings. $\xi\ 50$ mm. Sikkim.

X. magnigutta sp. n. (96 c). Thorax greyish-yellow with 2 black spots each in front and behind, magnigutta. Abdomen rusty brown with black segmental markings. Forewing olive brown, the thick black streaks somewhat like those of Zeuzera multistrigata (96 c). Costal margin greyish-yellow as far as the cell, not so at the end of the areole. A light triangle behind it almost to the apex. Further greyish-yellow places are the first third of the cell, the cell-end, a spot between veins 3 and 5, the distal margin, and the inner margin. Hindwing dark brown, with indistinct dark spots in front, the narrow margin somewhat lighter and spotted. $\xi\ 100$ mm. New South Wales. Type in the Berlin Museum.

X. tectorius Siew. According to the author somewhat like maculatus. One might also say, it resembles tectorius, a large mixta. Body greyish ochreous. Forewing white, finely striated brown. A large brown spot at the base from the costal margin to the median vein. A small square spot behind the centre of the costal margin, and a few before and behind it. Hindwing greyish-white with brown striae. $\xi\ 55$ mm. Salomons.

X. euphyes West. The whole body whitish mixed with brown. Forewing whitish with brown striae. Two euphyes, brown spots at the costal margin at $\frac{1}{2}$ and $\frac{2}{3}$ of the length of the wing, and one above the centre of the inner margin. Size not stated, but the species is said to resemble tectorius, from which we may draw conclusions. Hindwing white, finely striated brown in the distal area. $\xi\ 51$ mm. Luzon.

X. euphanes West. Also similar to tectorius. Body and forewing brown. Greyish-brown at the base euphanes, as far as $\frac{1}{2}$ of the costal margin and $\frac{1}{4}$ of the inner margin. This basal area is divided by a bone-brown streak which is divided by a similar one at the end of the basal area. A greyish-brown shadow from $\frac{2}{3}$ of the costal margin to the centre of the inner margin encloses two conspicuous bone-brown spots. One of them at the cross-vein, the other below the base of vein 2. Hindwing brown. $\xi\ 54$ mm. Luzon.

The following species described as Emodryga (Zeuzera) probably all or nearly all belong to this genus here. The descriptions do not show near which of the preceding species they might be ranged.

X. cretosa Trnr. Body blackish-grey with white scales. Forewing white with grey scales and marked cretosa. Black. Black streaks at the costal margin, besides a faded spot from $\frac{1}{2}$ to $\frac{2}{3}$ of the costal margin, from which streaks and lines proceed, extending along the inner margin. A blackish-brown spot composed of lines at $\frac{2}{3}$ of the costal margin. A series of groups of black lines before the distal margin extend to the centre of the inner margin, where they are reticulately dissolved. Hindwing grey and smoky brown, white at the distal margin and with dark reticulate lines. Both wings with black marginal dots. 80—115 mm. Brisbane.
X. secta Trnr. Body greyish-white with black scales. Forewing grey strewn with white and black scales. Black striae at the costal margin. A jet-black band from the costal margin near the base along the cell to below 3/5 of the costal margin, then faded to the apex. The costal margin before it is more purely white. The marginal area exhibits inside grey and black striae between the veins; faded white behind them. Hindwing dark greyish-brown with a few dark lines between the veins. ♂ 52—62 mm. Brisbane.

X. tempestua Trnr. Body greyish-white with black scales, one black spot on each side of the base of the abdomen. Forewing white with blackish-grey striae between the veins. A main band of oval spots on 1/3 of the length of the wing, fadedly continued at the inner margin to a rhombic spot at 2/3 of the inner margin, then broadly faded on along the distal margin. Less dense black lines between them and therefore "looking like a snow-storm". Hindwing dark with darker veins and grey lines at the inner margin. Similar to tigrina. ♂ 50 mm. Brisbane.

X. tigrina H.-Schdfj. (99d). Body white with a median row of blackish-brown spots. Forewing white with rows of black streaks and round spots. Olive brown from the base through the centre of the wing as far as 1/3, then again on 2/3 of the length and before the margin. Hindwing blackish-brown. Fringes of both wings speckled. Abdomen of ♂ yellow with black and white segmental margins. Hindwing with fused dark spots. ♂ 36 mm. Australia.

X. columbinia Trnr. Body blackish-brown, dusted with grey. Forewing blackish-brown, dusted dove-coloured. Short black submarginal streaks between the veins and before them a series of streaks from the centre of the inner margin to 3/4 of the costal margin, the central streaks fine. Hindwing somewhat lighter. Fringes of both wings spotted. ♂ 100—110 mm. Brisbane.


X. minutiscripta Trnr. Body grey with black and white scales. Forewing dark greyish-brown with lighter grey places, densely covered with black striae between the veins. The spots at the costal margin large. Hindwing light grey. ♂ 58 mm. Brisbane.

X. irretita Trnr. Body black with deeper black segmental margins on the abdomen. Forewing dark smoky brown with glossy black spots and reticulate lines between the veins. An indistinct black stripe from 1/3 to 3/4 of the inner margin and another one from there obliquely to 2/3 of the costal margin. A submarginal stripe behind it from the apex to half of the inner margin. Hindwing white with smoky grey marginal spots. ♂ 50—62 mm. Brisbane.

X. columellaris Trnr. Thorax blackish-brown, abdomen grey. Forewing blackish-brown, spotted white, with black straight and crooked striae between the veins. A dark faded band from 1/4 of the inner margin to the apex. Hindwing brownish ochreous. 56—64 mm. Brisbane.

X. insulana Trnr. Body blackish-brown, abdomen dusted grey and with black bands. Forewing blackish-brown with black and grey shadows and dispersed tufts of white scales. The veins as jet-black lines, black striae also between them. All is more indistinct in the ♂. The marking resembles "isolated islands surrounded by mud-banks". A band of spots from the costal margin near the base to half the length of the wing, where it is 1/3 distant from the costal margin, then to the distal margin close before the apex. The dark colouring encloses the whole centre of the wing and the distal half at the costal margin; besides the inner and distal margins are dark. Irregular black arcuate lines at the distal margin. Hindwing blackish-brown with black veins, rows of black streaks before the margin. 85—130 mm. Melbourne, Brisbane.

The following species described as Zeuzera certainly belongs to this genus here.

X. neuroxantha Lower. Body whitish, prothorax more densely covered with black scales. Abdomen with black segmental margins, anal tuft black. Forewing whitish with black marking, the veins more or less yellow. A wedge-shaped spot at the centre of the costal margin, its point extending downwards 1/3 of the width of the wing. Three costal-marginal spots before it towards the base. On 2/3 another wedge-spot, extending to the centre of the wing. Two spots before it at the costal margin, 2 or 3 behind it towards the apex. More or less large spots below them, not reaching to the apex or the base. The lower half at the distal margin is light. A whitish longitudinal patch above the inner margin at 1/3. About 3 or 4 narrow black rings at the distal margin in the lower two thirds. Hindwing blackish-brown, lighter at the base. ♂ 36—40 mm. New South Wales.


Antennae of ♂ long, filiform. Distal margin of forewing more oblique than in Xyleutes. Hindwing somewhat rounder. The only species is somewhat similar to pale specimens of Xyl. mineus (99 c).
AZYGOPHLEPS; PHRAGMATAECIA. By M. Gaede.

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C. lyonetii White (98 e). Thorax and forewing bluish-black, patagia white. Forewing with white spots, lyonetii, 2 of which meet at the base, forming a V. Behind it 2 large spots below the costal margin and 2 at the inner margin. Small white spots at the distal margin. Hindwing blackish-blue without marking. $\delta$ 66 mm. King Georges Sound, Australia.


Shape of wings and marking somewhat similar to Xyleutes. Antennae of $\delta$ pectinate, of $\varphi$ pectinate or dentate, hind tibiae without spurs. Veins 4 and 5 of hindwing arise from the same place, the other veins as in Xyleutes. Type: scalaris F.

A. scalaris F. (= bivittata Wkr.). This species which is also widely distributed in Africa has already scalaris, been dealt with in Vol. XIV, p. 545 and pl. 79 f. Ground-colour white with 2 orange stripes on the thorax and 2 similar radial stripes on the forewing. Forewing also with black reticulate lines. 40—56 mm. India and Indo-China, South China.

A. albofasciata Mr. (98 e). Body blackish-brown, collar yellowish-white. Forewing dark brown, with thick black streaks at the costal margin. A broad radial band below it is yellowish-white in the types, but white according to the description; then fine black striae and reticulate lines as far as the inner margin. Hindwing pale brown with indistinct reticulate lines. 55—65 mm. Cashmir, Sikkim. East African specimens of inclusa Wlk. (Vol. XIV, pl. 79 f) are sometimes very similar.

A. pusilla Wkr. (97 a). Similar to a tiny light albofasciata. Body white. Forewing white, densely striated pusilla, black at the costal margin and below the cell, so that a purely white radial stripe remains from the base to the distal margin below the apex. Hindwing white. $\delta$ 26—36 mm. North India. Closely allied to asylas Cr. from Africa.

A. congerens Sckh. (98 e). Body brownish-white. Wings white. Forewing with coarse black spots congerens, leaving a longitudinal stripe white in the cell and at the inner margin. A yellow radial streak of the original figure is not mentioned in the description, for which reason it probably does not exist; the resemblance to scalaris mentioned in the description is neither great. Hindwing white, the shape in the original figure wrong. $\delta$ 62 mm. New Holland.

A. coscinopa Lover is said to resemble neuroxantha treated here as Xyleutes, which fact does not coscinopa, result from the description. Body whitish ash-grey. Forewing dingy white, uniformly finely striated black. The middle third from the base to the margin below the apex is dark, most intensely towards the costal margin. Hindwing whitish, somewhat diaphanous, striated blackish at the apex and inner margin. $\delta$ 34 mm. West Australia.

A. vittata Wkr. may be similar to congerens (98 e). White. Thorax with 3 brown stripes, abdomen vittata, with 3 rows of black spots. Forewing with 2 stripes of brown spots, one at the costal margin, the other discal and divided by a yellow line. A yellow spot at $1/4$ of the lower margin at the first stripe. $\delta$ 39'. Swan River.

A. nurella Sckh. (97 a). Body and wings ochreous. Forewing with a greyish-brown costal margin; in nurella, the original figure also the distal third of the wing is greyish-brown. Both wings without any other marking, thus quite uncommon for a Cossid species. $\delta$ 50 mm. Chera Punji.


Antennae of $\delta$ as in Xyleutes. Neuration as in Azygophleps. Tibiae with short terminal spurs. Vein 6 of hindwing almost nearer to 5 than to 7. Abdomen of $\varphi$ extremely long in some specimens. Type: castaneae Hbn.

Phr. castaneae Hbn. (Vol. II, pl. 54 h). The forms sacharum Mr. and innotata Wlk. are surely only syno- castaneae, nyma, minima Hmps. is probably only a rubbed specimen of the very small form minor Mr. (25 mm, normally dark-coloured). Specimens from Canton are as small as minor, mostly finely and uniformly striated on the forewing, though single specimens also form transitions to the following form in the striation. — sumatrensis Snh. (93 k) may be mentioned as a form. The specimens before me from Sumatra have a rather light ground-colour with a dark cell. Between the veins behind and below the cell there are short black streaks which are partly fused horizontally. Specimens from Java are smaller, and darker at the costal margin. If the whole forewing is darker, as it occurs in Java and Formosa, it may be denoted as: sumatrensis Snh. If the dark forewing lacks the black stripes between the veins, it is impura Hmps. described from the Nilgiris. The latter two names are probably superfluous, — sordida Snell. (93 k), from Borneo, Java and sordida. Sumatra, may be light or dark on the forewing. It exhibits 5 small black spots directly behind the cell above the bases of veins 2—5, occasionally also one before the base of vein 2. In sumatrensis the rows of dots begin farther outside. The fringes often also exhibit some dark dots. — hansii Stvl. (93 k), from Formosa hansii. may be denoted as a combination of sumatrensis and sordida. The specimens are small (26 mm), dark on
the forewing. The row of streaks of *sumatrensis* is more concentrated into a submarginal row of spots, and besides there is a spot at the base of vein 2 and above and below the upper inner-marginal vein. Very pale somewhat larger specimens without markings originate from another habitat in Formosa. No ♀♀ are before me of any of these forms. — *longissima Canezé*, from Tonkin, is only a somewhat larger *kanzi* and *lata*, scarcely deserves a special name. — *lata Sn.* (93 k), from Sumatra, is rather light yellowish-brown, without any markings. The dark scales near the anal angle mentioned in the original description are very insignificant. The dark marginal dots resemble *sordida*, *lata* can probably be regarded as the (formerly described) ♀ of *sordida*. The shape of the wings in the two types of *lata* is rather broad, but this may occur also elsewhere, for instance in the type of *sacharum* Mr. Wileman has described 3 "species" from Formosa: *fuscata obscura* seems to be identical with *lata Sn.*, *cinacronoma* with *sumatrensis Sn.*, *obscura* Wilem. may be a distinct form. It resembles *sordida Sn.* (93 k), though of the spots at the cell-margin only two at the cell-end are present, the lower one being distinct, the upper one only fine. 32—37 mm.

*Phr. ceylanica Wlgr.*, from Sydney, is not to be recognized from the description, it is probably a Psychid form; *Met. elongata Sound.*, p. 738. — *Phrag. impedita Wlgr.*, is not from Sydney but from South America and identical with *Xyl. striigilata Fhr.*


Antennae as in *Xyleutes*, neuration similar to *Cossus*, but veins 8 + 9 of forewing are stalked. Palpi very small. Hind tibiae with 2 pair of spurs. Forewing narrow, distal margin very oblique.

**imparata.**

*D. imparata* Wkr. Dingy white. Abdomen of ♀ with long hair. Forewing with fine black streaks which are partly interrupted. 16". Sarawak.


Similar to *Degia*, but veins 9 + 10 stalked on the forewing, instead of 8 + 9. Antennae of ♀ pectinate almost to the tips.

**deficiens** Wkr. Very similar to **imparata**, but separated from it by the antennae. Dingy white. Abdomen long-haired. Forewing with blackish-brown transverse lines which are more or less interrupted, 12—14". Sarawak.


Palpi short. 3/4 of the antennae pectinate, serrate at the tips. Forewing with a forked partition-vein in the cell, terminating between veins 5 and 6. Vein 2 far before the lower cell-angle, 3 nearer to it, 4 + 5 stalked from the angle, 6 from below the upper cell-angle, 7 and 8 from the angle, 9 + 10 stalked, 11 separated. No areole. Hindwing: partition-vein the same, vein 6 above the centre of the cross-vein, all the veins free.

**cyrozona.**

*P. cyrozona* West. The whole body is blackish-brown, somewhat pinkish-brown on the abdomen. Forewing pinkish-brown, blackish-brown at the costal margin, striated blackish-brown in the distal third. With 3 radial stripes, the first from the upper cell-angle to the margin, one from the centre of the cell to the margin, the last below the cell from near the base to near the distal margin, slightly curved. Hindwing pinkish brown, suffused with dark brown. ♀ 24 mm. Mindanao.


Palpi as long as the head. Antennae of ♀ 2/3 of the length of the costal margin, somewhat shorter in the ♂, the pectinations of the ♀ antennae of an almost improbable length, shorter in the ♂. Veins 2—6 at about equal distances from each other. 7, 8, 9 from the apex of the long narrow areole, 10 a little more basal. All the veins of the hindwing well separated, vein 8 behind the cell very near to 7. The typical species *senex* Wkr. looks much rather like a *Losiocampida*.

**senex.**

*Pt. senex* Wkr. (longicornis Wkr., thoracicus Fhr.) (99 b). Thorax and forewing dark red-brown, thorax with white lateral stripes. Forewing with interspersed white scales and a median and distal band almost parallel to the distal margin; indistinct dark places inside before them. Abdomen and hindwing somewhat lighter red-brown. Fringes of both wings very long, 58—85 mm. New South Wales, Tasmania.

**antiqua.**


We append here two genera slightly resembling *Notodontidae*. 


Palpi broad. Antennae of half the length of the costal margin of the forewing, with one row of very long pectinations. Hind tibiae with 2 pair of spurs, abdomen broad, flat. Forewing with a straight costal margin, apex rounded.


The only species, from Ambon, has been described as a *Notodontida* by Felder. Antennae of ♀ very long, strongly pectinated. Wings broad. Nothing is mentioned about the neuration. Type: *subfulva* Wkr. from Brazil.

A. *ampa* Fldr. (♀ 47 c). Thorax and forewing yellowish-grey, dusted dark, with a light basal spot and *ampa*. 3 light bands. The interior one somewhat obliquely outwards, arched, the exterior one undulate, both edged with dark on the sides opposing each other. Submarginal band broad. Hindwing darker brown, abdomen black with light segmental margins. 65 mm. Ambon.


Cf. Vol. II, p. 421. — Of the many species dealt with there

H. *vicarius* Wkr. (Vol. II, pl. 53 d) has also been found in Hanoi (Tonkin).

*Casana trochiloides* Wkr. which is partly ranged under the *Cossidae* by the authors will be dealt with at the end of the *Hepialidae*. But owing to the hyaline hindwing it may be better placed near the African *Zeuzerops hyalinipennis*, Vol. XIV, pl. 79 4. Among the Australian species *Paraz. celaena* (♀ 46 d) may be similar.

**Alphabetical List**

with references to the original descriptions of the Indo-Australian *Cossidae*.

* signifies that the form is also figured at the place quoted.


micus Xyl. Cr. Pap. Exot. 2, t. 131 D.
sordida Phrag. Mr. Tijdschr. v. Entom. 43, p. 11.
stigmati Xyl. Mr. Descri. Lep. Atkin, p. 86.

The phylogenetic relations of this lepidopteran family have already been referred to in Vol. II (p. 433) and Vol. XIV (p. 553), and we may repeat here that it is just the Hepialidae of the Indo-Australian region, which exhibit the most conspicuous hints for the assumption that this family represents a preliminary stage of the whole other lepidopteran world. The previously mentioned habitus resembling the shape of a dragon-fly is nowhere more distinctly shown than in the genus Choragia, the most prominent species of which are figured on pl. 73 and 74. The round head with its enormous eyes in the male, which are almost contiguous above, the extremely long and slim abdomen composed of longish segments, the almost uniform shape of the long wings, the rudimentary antennae resembling short bristles, the remote parting points of the forewings and hindwings, all these features are most distinctly shown by the Choragia and make us reflect the more since the life-habits of the dragon-flies, from which all these properties seem to have been borrowed, are diametrically opposed by those of the Hepialidae. The fact that owing to the atrophy of the antennae the eyes are compensatorily over-large may be regarded as a convergency in the Hepialidae and dragon-flies, but the whole structure of the Hepialidae being adapted to the shape of the dragon-flies cannot possibly have the same purpose as in the Odonatae, as an extremely swift and skilful flight is of vital importance to the predatory dragon-flies, whereas it can hardly be regarded as a vital condition for the Hepialidae — at least for those forms that are the most similar to dragon-flies. Many Hepialidae, such as the palaeartic Hep. humuli and hecta L., are obviously not interested in flying swiftly and frequently from one place to another, the males flying in a dancing, oscillating way around the same places, the females whizzing slowly over the grass in order to scatter their eggs. Thus the first thought to be considered is whether there are no actual relations of the Odonatae and Neuroptera to the Hepialidae; this assumption has been supported by quite a number of other arguments in Vol. II and XIV on the pages quoted above.

The Indo-Australian fauna may in subsequent years prove to abound most in Hepialidae, since recent explorations have ascertained a very much larger number of Australian species than it had been assumed hitherto. The largest species of the family, for instance Zelotypia stacyi (T8 b) with an expanse of almost a quarter of a meter, live in Australia, though gigantic species are also found in Africa (Leto venus), America (Phassus giganteus), and even the eastern palaeartic region (Phassus signifer). Regarding the other distribution of the family we refer our readers to what has been stated in Vol. XIV (p. 553). The Hepialidae being a primitive and, no doubt, the geologically oldest lepidopteran branch are best represented in Australia and New Zealand, while those continents that were populated latest with lepidoptera, such as North America and the western palaeartic region, exhibit a very small number of mostly insignificant species.

Like very many archaic groups, the Hepialidae have neither proceeded yet very far beyond the larval life. The probably very long, mostly subterranean larval stage is followed by a short pupal stage and an extremely limited flying period. Both the life-time of the imago and particularly its flying-hour, which sometimes lasts merely for some minutes, are of a very short duration. From an absolute lethargy of nearly 24 hours, the images awake for a flight which often lasts only for 15 to 20 minutes and looks somewhat unwieldy in the large species owing to the apparently unrhymical fluttering of the single wings, whilst the small species with a somewhat stouter abdomen, especially the strongly built and vigorously flying Abantiades (pl. 57) fly rather energetically and swiftly. Some species fly rectilinearly, others in a zigzag way in ample oscillations, while large species float unsteadily along, small species often whizzing to and fro excitedly, or dancing in front of the tips of branches, of flowers or the like.

We had already stated in Vol. II that the females of the Hepialidae frequently make love to the males and, in doing so, they are probably guided by the scent; some males at least exhibit the hind tibiae transformed into cases which, lacking the tarsi, are filled with scent-hair and which probably become scent-
organs by the hair being spread out. Some *Hepialidae* have also an easily noticeable scent, similar to the *Cossidae*; *Hepialus hecta*, for instance, is said to have an odour of straw-berrys or pine-apple.

This odour also is intended as a protection against certain enemies, has not been decided, but it is rather improbable, and it seems that the *Hepialidae* are merely protected by their adaptation to the surroundings; according to the observations hitherto possible, they are greedily taken by all kinds of insecti-vora. Besides, the larva has to undergo such an immense number of dangers during its long subterranean or endophagous life that only very few of them survive until they have reached the stage of the perfect insect. The extermination is therefore opposed by an extraordinary fertility. The abdomen of a female specimen of *Tricentra labyrinthica* (75 a) proved to contain 15 000 eggs after having deposited already 29 100 eggs (B. Tindale), so that we might not wonder at discovering about 50 000 eggs in a sound ♀. As to the deposition of the eggs, the swarming ♀ simply drops them when flying across grassy plots or such places where the very common roots of Monocotyledons, of grasses, reeds, herbs etc. sprout forth. A number of larger species are supposed to keep not only to the roots, but to leave their hiding-places in the soil at night and to feed overground. Others again live in wood, and their imagines, which often exhibit a wonderful green and pink colour, cover the red with the green when at rest; in this way they are so well adapted to the leaves of Eucalyptus that they are almost undiscoverable. Thus they can be captured by hardly any other means than by breeding them from trunks showing their bore-holes, or when they come flying to lamps the light of which seems to attract all the *Hepialidae*. In Australia, numerous specimens of rare species were captured on the light-houses.

Regarding the jugum, which name is due to the opinion that it represents a leashing of the forewings and hindwings, we refer the readers to the statements already made in Vol. II. This opinion seems to be contrasted by the recent, very thorough investigations of Philpott, since the imago, when at rest, takes up a dorsal position; besides, the swarming ♀ of the large species makes the impression that the forewings and hindwings move rather independently from each other while the insect is flying.

In New Zealand, where the enemies of the *Hepialidae* from the animal kingdom are not so numerous as in Australia and South Africa, owing to the absence of nearly all the reptiles and all the insecti-vorous mammals, the *Hepialidae* meet with an extremely dangerous enemy, a fungus: *Cordyceps robertii*. The infected larva, the whole body of which is covered with the mycelium, after its death exhibits the fungal stroma growing forth behind the head in the shape of a stalk up to 10 cm long and about as thick as a knitting-needle, on which a long-extended pile of utricles is erected. All these larvae covered with fungi were formerly taken to be those of *Charagia virescens* Dbl. (74 a), but it seems that also the larvae of *Porina* are particularly attacked.

The larvae of nearly all the *Hepialidae* are oblong, either bare or studded with single short bristles, of the bone-white colour of the maggots and subterranean larvae, but with a honey-brown head and neck-shield and very strong teeth. They grow slowly, and many never leave their subterranean, tunnel-like habitations. Some of the gigantic Australian species, at the time of pupation, drive these dwelling-channels vertically upwards, so that the ascending branch extends from a depth of half a meter to close below the surface of the earth. The pupa is likewise uncommonly long, cylindrical, and the abdominal segments are broader than they are long, as in the larva. The cases of the legs and wings are only loosely attached and, compared with the extremely long abdominal part, so very short that those of the female pupa do not even reach the centre of the pupa. The pupa of the gigantic *Abantiades* ascends the channel only just before the emergence, by means of the rows of spines on the abdomen, until half of its body projects from the soil. The imagines often fly to the camp-fires of the Australian natives, drop into the flames and are roasted, whereupon the negroes fetch them out of the fire and immediately eat them. The harm done by the Hepialid larvae boring their channels into the timber is not so great as that of the *Cossidae*, because a great many of them bore more in the roots than in the valuable trunk-wood.

**Hepialidae.**

By R. Pfizner † and M. Gaede.

It is a most difficult task to supply a tolerably exhaustive description of the Indo-Australian *Hepialidae* as well as of the exotic *Hepialidae* on the whole. Many species are extremely rare, unique specimens in the collections, and are not sent away. One may live in the Hepialid country of Australia for decades without ever seeing the better species in nature. Collecting is very difficult, since most of the *Hepialidae* live in swampy districts or in the mountains. The collector will rarely make up his mind to collect in tropical marshes in the evening. The species of *Charagia* are obtained by breeding them; for this purpose the tree inhabited
by the larva is felled, a rather troublesome and expensive work. This is also the reason why the price of
these species is exorbitantly high. Some species may be captured on the light, but mostly by chance, still
more rarely in repose in the day-time, owing to their living concealed like all the other Heterocera and to the
protective colouring which is more or less green in the species of Charagia. Hudson reports (in his New
Zealand Moths): when he had once chance to discover a specimen of the large Charagia virescens, which
had settled on a trunk, he was forced to leave the place just for a moment and returning had the greatest
difficulty to find the insect again, although he exactly remembered the place where it was. Owing to the
difficulty of obtaining authentic specimens, the author is frequently dependent on repeating the literature
dealing with these species. But even this is scattered all over the globe and sometimes not easy to pro-
cure. I am therefore all the more indebted to Prof. Karsch, Berlin, as well as to the officials of the Berlin
Museums, and to Dr. Jordan (Tring), all of whom assisted me in this respect. — The Hepialid genera oc-
curring in the Indo-Australian region are: Hepialus F., with the subgenus Charagia Wkr., Oncopera Wkr.,

1. Genus: Hepialus F.

Head and thorax quite hairy. Antennae shorter than thorax. Eyes bare, no accessory eyes. Palpi
diminnutive; without a tongue: 2 round knots instead of it. All the wings with 12 veins and an inserted cell
between veins 4 and 5. Characterized by the hindwing also having 2 or 3 branches proceeding from the an-
terior median vein and extending into the costal margin. Legs short, shaggy, without spurs. Shape of wings
oblong-oval with a flatly rounded interior angle. The lepidoptera fly in the dusk and, in repose, keep
their wings very steeply roof-shaped. Distributed over the district with its centre in the Indo-Malayan region.

H. umbrianus Mr. (74 e). Semi-transparent, pale umber, with a claret tint distally, fringe dark reddish-
yellow at the base of the wing. Wings distally speckled with dark brown scales. Costal margins and fringes
dark purple brown, a dark row of lunules at the distal margin of the forewing. Beneath as above. Body,
legs, palpi, antennae deep umber. Base of thorax with dark reddish-yellow fringe. 50 mm. Darjeeling.

H. thermistis Lower (76 b). This species and the two following form a group distinguished by a com-
mon style of colouring: forewing brownish ochre, hindwing red of various shades. thermistis from Queensland
(Mackay) has an expanse of 108 mm (†). The Coll. Pfizner contains a specimen from the Trobriand Is.
with an expanse of 88 mm. Thorax, forewing brownish ochre, an indistinct dark macular band from the apex
into the inner margin; the Kiriwini-specimen exhibits only three feeble central spots. Hindwing rosy red,
abdomen brownish ochre, with reddish hair above in the Kiriwini-specimen. All the wings beneath rosy red,
abdomen brownish ochre, with reddish hair above in the Kiriwini-specimen. 74 mm. Lower.

H. ombroloma Lower. Much smaller, † 50 mm. Body and legs dark brown, anterior half of ab-
domen with bright orange-red hair. Antennae ochreous. Forewing brownish ochre, without any marking,
darker inside. Hindwing reddish orange. A dark brown band at the distal margin, broad at the apex, narrow-
ing towards the centre where it ends. Margin dark blackish-brown, reddish orange at the inner margin
and anal angle. All the wings beneath reddish orange. Forewing with a broad dark brown band at the distal
margin, hindwing with a similar band interrupted above in the middle by the ground-colour. South
Australia (Fort Lincoln).

H. tegulatus Pagst. (74 b). Forewing above yellowish-brown with numerous dark latticed lines and
imbricated stripes. Hindwing brick-red. All the wings beneath brick-red without any marking, hindwing with
a yellows tint. Thorax yellowish, abdomen reddish, legs reddish, antennae short, brownish. 90 mm. Amboina.

H. rosatus Pag. (74 b). This species introduces a small group of more or less greenish Hepialus forming rosatus.
the transition to the Charagia, rosatus from Amboina is whitish leek-green with a brownish, lighter spotted
head and a reddish tint of the anterior abdomen, as well as of the costal margin of the hindwing. Ant-
ennae very short. With remarkably large eyes which makes the insect look like an Odonata. 60 mm.

H. cyanochlora Lower (73 d, 76 b) is near rosatus, larger, of a brighter colouring. † distinguished from cyanochlora.
rosatus Pagst. by the more curved course of the median stripe of the forewing. Forewing leek-green. Costal
margin brownish, with light spots, an irregular white, darker edged transverse stripe to the apex. Hindwing
milky blue, reddish at the costal margin. Legs and thorax olive green, thorax lighter at the base. Two thirds
of the abdomen pink, its apex green, scent-tufts pink. ¾ larger, forewing green, hindwing red, almost
corresponding to the of the Char. eximia-group. — A closely allied species is

H. sordida R. & J., from British New Guinea. Head and Collar olive green, the rest of the thorax sordida,
and the legs dull greenish olive. Abdomen greenish. Forewing narrower than in cyanochlora. Apex pointedly
produced, the distal margin below it somewhat conceive, dull greenish olive with the usual olive brown striae.
A straight dark line from \(\frac{4}{5}\) of the costal margin obliquely through the centre of the wing, enclosing a few silvery spots edged with pink. Two brown submarginal spots between the 5th subcostal branch and the 2nd radial vein. Fringe not spotted. Hindwing dingy brown, with a slight pink reflection, somewhat greenish at the costal and distal margins. \(\varphi\) 75 mm. New Guinea.

2. Genus: **Charagia** Wkr. (Oenetus Rothsch.)

It can only be ranked as a subgenus. MEYRICK (Revision of Austr. Lep.) cancels it and unites the species with *Hepialus*, because there are no structural differences. Nevertheless it is advisable for practical reasons to keep up this subordinate group for the sake of perspicuity, and it can be substantiated by the fact that it is distinctly separated by conjoint marks. 1. In the shape: all the wings are more or less falcately extended. 2. In the colour: \(\varphi\) mostly iridescent greenish-blue, \(\varphi\) green and red of various shades. The strange merging of green and red tints is difficult to describe and probably unique in nature. 3. In the distribution: all the species belong to Australia and the neighbouring islands. 4. In the habits: the larvae live Cossid-like inside the trunks of trees. Another peculiarity is exhibited by the very conspicuous scent-tufts of the \(\varphi\), which are intended to allure the \(\varphi\). According to DODD (Entomologist 1902, p. 73), they are appendages of the stunted last pair of legs in which each hair is covered with an extremely delicate tunic and forms a gland containing a yellowish liquid. This liquid emits a more or less strong scent which is particularly strong and sweet in the large *Ch. mirabilis* from Queensland and even keeps on long after the lepidopteron has been inserted in the collection. — As to the nomenclature, great confusion is still prevailing, and owing to the resemblance of the frequently intergrading species and to the general variability of the *Hepialidae* it is hardly possible to obtain a clear and distinct notion everywhere. — We begin with the description of the *lignivorus*-group. It contains the smallest *Charagia*, but it is of an extraordinary beauty.

**Ch. lignivorus** Lew. (= venusta Scott) (74 b, 76 c). \(\varphi\) 40—48 mm. Head whitish. Antennae reddish ochre. Thorax green, collar and tuft white. Forewing green with a white costal stripe and a white “Hepialid triangle”, hindwing white. \(\varphi\) 50—64 mm. Head, antennae, thorax dark brown. Forewing dark brown, clouded reddish. Marking light green; a very large triangular blotch in the disc, an irregular, somewhat oblong blotch along the distal margin from the apex to below the middle, connected with the anterior one by a bridge in the hindwing. Hindwing reddish ochre. The most common *Charagia* occurring in Australia (New South Wales, Victoria, South Australia, Tasmania).

**Ch. lamberti** Wkr. (= lewinii Wkr.) (76 b) is very closely allied to *lignivorus*. \(\varphi\) hindwing greenish white. \(\varphi\) forewing from a more brownish-red to the most beautiful purple red. 44—58 mm. New South Wales. Rarer. Larvae in Casuarinae and other trees. Denoted “lewinii” in the plate.

**Ch. splendens** Scott (76 c) is by far the most beautiful form of the group. \(\varphi\) 60 mm. Forewing yellowish green, iridescent bluish-green in the median area and towards the distal margin. The very broad Hepialid marking, similar to that of *lamberti*, as well as a broad distal margin exhibit a silvery gloss. \(\varphi\) 80 mm, forewing from the most beautiful purple to purple brown. Apex and median area broad green, also a number of small spots at the inner margin and inner angle. Thorax dark green. Hindwing and abdomen pale purple red. New South Wales (Sydney) as far as Queensland. Larva in Casuarina, Eugenia smithi, Eucalyptus tereticornis, leucoxylon, and robusta.

Another very closely allied form, perhaps a local form, is described by Froggatt. He bred this species from “grasswattle” (*Acacia* decarenis). **Ch. acaciae** Pf. \(\varphi\) smaller than *splendens*, marking of forewing the same, but the brown tints much lighter, and the glaring green replaced by golden yellow. Hindwing and abdomen as in *splendens*, somewhat lighter. \(\varphi\) with pale green forewings, the white transverse band very slender, wings more pointed, less marbled, and the few spots in the posterior angles of the wings do not enclose a round ring. Hindwing pale whitish green. The larva, in contrast with other larvae of *Charagia*, bores only a hole 3 inches deep, and when it is ripe for the pupation it closes the entrance with a delicate, semi-transparent, skin-like lid. One generation per year, pupation in December, flying in January.

**Ch. ponalis** Suth. (77 d). \(\varphi\) apple-green, thorax with a yellowish-grey band, and similar hair at the base of the forewing. Hindwing and abdomen paler. Forewing with a thin greyish ochreous macular transverse band reaching neither the costa nor the inner margin. Wings beneath uniformly greenish grey, the apical parts with an intense yellow tinge. 65 mm. Queensland.

**Ch. tephroptilus** Trnr. has broad wings. Thorax grey, greenish in front, abdomen blackish-brown, whitish ochreous at the base. Forewing grey, greenish at the base and costal margin. A few triangular white spots in the basal half. An interrupted narrow white band from \(\frac{4}{5}\) of the costal margin almost to the centre of the inner margin. A finer white band between this band and the distal margin. Hindwing grey. \(\varphi\) 112 mm. Albany (Australia).

**Ch. astathes** Trnr. This species initiates the series of the greenish-red forms of *Charagia*, which are so very characteristic in Australia. The \(\varphi\) thorax is whitish-pink with a green median line. Abdomen whitish...
greenish or pink at the end. Forewing pale green or pink; in the latter case with or without green dusting, with irregular dark striae. A white streak at the costal margin as far as $\frac{3}{4}$ of its length. A fine streak from near the base to behind the centre of the inner margin, then bent upwards and parallel to the distal margin to $\frac{3}{4}$ of the costal margin. Hindwing with an undulate margin, white, greenish or pink at the anal angle. Forewing of the ♀ reddish-brown with a large green triangular spot below the costal margin from $\frac{1}{8}$ to $\frac{3}{4}$ of its length; the lower point of the triangle is rounded, extending to almost the centre of the inner margin. Hindwing pale red, brownish at the anal angle. 40—72 mm. Albany (Australia).

**Ch. scotti** Scott (76 a). Thorax and forewing in both sexes green with more or less distinct purple scotti. brown spots and macular band. Hindwing yellowish-red. Expand of ♀ up to 112 mm. Richmond River, New South Wales, Queensland. Larva on Wistaria. — **blackburni** Lew, may be only a subordinate form. Smaller **blackburni**. ($\varphi$ 75 mm), lighter. Forewing more yellowish-green, hindwing reddish salmon-coloured. Forewing with brown costal spots, a brown macular band extends from the inner margin to the apex. South Australia (Port Lincoln). — Another form to be ranged here is: **ducis** Suck, from West Australia (Swan River). Thorax and forewing grass-green, abdomen and hindwing red. Forewing with two white discal transverse bands bordered with brown, not quite reaching the costa and inner margin. The bands are well separated and parallel to the distal margin. They make the impression of macular bands, as they are composed of lunules. Distal and inner margins with a brown band, the margin white. Under surface uniformly reddish, the white band showing through from above. 110 mm.

**Ch. daphnandrae** Lucas. ♀: all the wings sharply pointed. Forewing dull green, the costa spotted brown, hindwing light ochreous at the distal margin, with a slight greenish hue in the middle, reddish at the base. Thorax greyish-green, abdomen reddish, green at the end. 70 mm. I received a peculiar aberration from Queensland, in which the green of the forewing and the yellowish-red of the hindwing are uniformly replaced by a dull creamy yellow which deepens somewhat at the costal margin of the forewing. The basal hair of the hindwing shows yet a faint pink shine; the colouring of the scent-pencils is the normal light brown colour. Thorax and abdomen likewise creamy, with a greenish tinge at the head and at the end. Legs and under surface creamy. I denominate this form which I received from Swinhoe: ab. **swinhoei** Pf. **swinhoei**. ♀ much larger. Head and thorax green, legs reddish. Basal third of abdomen red, the rest green. Forewing broad, triangular. Costal margin curved towards the apex, distal margin straight. Green with purple brown spots at the costal margin, especially in the middle third. Numerous indistinct short blush streaks or spots, moreover a dark line, interrupted between the veins, from $\frac{3}{4}$ of the costal margin to the centre of the inner margin. Veins deeper green. Small brown marginal spots between the veins. Fringe purple green. Hindwing vermilion, the rest yellowish-green, fringe olive green (**swinhoei** is figured in pl. 74 b, but named “rosatus” ♀ by mistake). **daphnandrae** chiefly inhabits Queensland. — **hilaris** Luc. ♀ 58—62 mm, body 34 mm. Head hiliaris. green, antennae red, thorax greenish ochre with dark grey lines, abdomen greenish ochre with a long orange pencil on each side. Forewing falcate, light pea-green, its entire length crossed by pearl-like rings and bands of a milky blue and light bluish-green colour, enclosing spots of the ground-colour, so that a very pretty speckled exterior is produced. Costa deep sea-green, a series of creamy white luminous silvery spots from below $\frac{3}{2}$ of the costa to vein 2 above the centre of the inner margin. A feeble row of pearl-like milky blue rings from $\frac{1}{2}$ of the costa to $\frac{3}{4}$ of the inner margin, a similarly coloured dentate one directly behind it, and another submarginal one with lunules concave and opposite to it. Fringe olive green. Hindwing milky blue, fringe olive green. ♀ 75—90 mm, body 45 mm. Head and thorax green, antennae red, abdomen red, posterior half green. Forewing pea-green, inner margin very oblique round, costa with purple red spots. Distal and inner margins edged with purple red, interrupted at the apex by veins. Pea-green and covered with small blended rings of sea-green between the veins, so that in contrast with the enclosed green ground a resemblance to a checkered floor is produced. More distinct in the distal part, less distinct at the base. Two small discal spots edged with purple brown. Hindwing salmon-coloured. Apex and inner margin light olive green. Fringe olive brown. Gippsland. In trunks of the “wattle-tree” (Acacia).

**Ch. eximia** Scott (76 c) may be regarded as the transition to the following group, the magnificent **eximia**. ♀ with a bluish-green forewing with an oblique postmedian band of golden spots, not reaching the two margins. Many short silvery streaks, those behind the band forming rows of rings. Hindwing greenish-blue. ♀ forewing and body darker green, abdomen pink in the centre. Forewing with purple brown spots at the costal margin. The band of brown spots, partly centred silvery. Hindwing dark pink, passing over into dark green at the apex. — Habits of the larva: the young larva eats a hole into the tree, covers it with a thin web. It bores down the trunk as deep as 5 ft., eats up the web before the meta¬

**Ch. ramsayi** Scott (73 a). This and the following (mirabilis-) group contains the most beautiful **Hepialidae ramsayi**. of Australia, perhaps of the whole world. The **ramsayi**-group is distinguished by the forewings of both sexes being profusely marked with silvery spots and by the size (♀ 100, ♀ 140 mm). ♀ pale green, ♀ forewing dark
green, hindwing with a red interior part, chang-ing into greenish. New South Wales to Queensland, living in Aemena etc. A very large ♀ of my collection, from Brisbane, exhibits a peculiar golden yellow to buff total colouring. Basal part of hindwing dull reddish, the silvery spots of the forewing contrast very prominently with the buff ground. I denominate this form: ab. chrysomallon (73 b). — scripta Scott, from West Australia (Albany), shows the characters of this group further developed. ♀ 75 mm. Forewing green, tinted yellownish behind, watered lighter. 4 silvery white bands, interior half strewn with short silvery white spots. Hindwing greenish-white. ♀ 100 mm. Forewing of a bright grass-green colour, the basal spots lighter than in the ♀. Two postmedian rows of large silvery spots between the veins. Besides 3 or 4 spots at the anal angle, and a dentiform silvery spot nearer to the base. Short silvery streaks at the costal margin. Hindwing yellowish-red, greener at the apex.

Ch. argyrographa Fabr. (76 c) we only know from Felder's figure (Novara-reise pl. 81, fig. 2). ♀ 84 mm. Forewing green, with a reddish tint towards the inner margin. Costa with dark grey and whitish spots, numerous small dispersed paler spots; 2 distal rows of white spots and an inner-marginal row. Hindwing deep yellowish ochre, reddish at the base. The patria mentioned is only "Australia", without any detailed habitat (perhaps also an Australian island?). This would be important to know on account of the following species. In the Coll. Staudinger which is now in the Berlin Museum I found a ♀ Charagia which is very similar to argyrographa Fabr. It has been determined as "lamberti" and is labelled "Ovalan, Fidji". Forewing and thorax dark green, 9 square black spots at the costa, 6 square silvery spots each at the inner margin, 2 bands of silvery spots from the costa in the last third to the inner margin, the distal one parallel to the distal margin, the interior one through the centre of the wing ending before the centre of the inner margin with one of the inner-marginal spots. The space between is marked with undulate, whitish, silvery double lines. Hindwing greenish, base pale red, abdomen reddish, end greenish. Beneath green, markings showing through from above, basal part with reddish hair, costa (also of hindwing) with black squares. 112 mm. Length of body 51 mm. I denominate this beautiful and interesting species: argyrodesines (argyrodines = with silvery waves) (73 c). [Felder's figure seems to me to be a ♀. The main difference of the figure from argyrodesines is the reddening at the inner margin of the forewing. The shape of the rows of silvery spots does not correspond completely, but to such an extent that one may be almost positive that argyrodesines is the ♀ of argyrographa (Gaede)].

Ch. mirabilis Roths. (73 d, 74 a). This most magnificent and largest species of the Charagia is distinguished by the deep iridescent blue changing into green like the waves of the sea on the ♀ forewing, while the hindwing is opalescent white, and by the greenish-yellow and purple brown ♀ forewing being marked leaf-like, effectively contrasted by the pale salmon-coloured hindwing. Size very different. According to Rothschild, a ♀ (from the Cedar Bay, North Queensland) has an expanse of 140 mm. The two ♀ of my collection have an expanse of 103 and 120 mm respectively, the ♀ 132 and 180 mm. Queensland. (The figure on pl. 73 represents the ♀, not the ♀).

Ch. wollastoni Roths. (100 a). Thorax apple-green, abdomen lighter, brownish at the end. Forewing chocolate brown, the green costal-marginal spots edged with white. The whole forewing is covered with white and green bands of X-marks, the white ones being filled with green. Hindwing pale brown at the base, the rest with a slight green hue, with a few greenish-white X-marks. ♀ 155 mm. Dutch New Guinea.


Ch. arfaki B.-Bak. ♀; head, thorax brown. Abdomen reddish ochre, brownish at the end. Forewing pale yellow-green, three reddish-brown spots near the centre of the costa, and a larger reddish-brown spot near the angle of the inner margin, a silvery white spot below the centre of the cell, a similar one below vein 2, and two above this latter spot at vein 5, one at each side of it. Hindwing light reddish creamy. 71 mm. Arfak Mts., New Guinea, February and March.

Ch. ninayana Pf. (76 a). Length of body: 36 mm. Head, thorax and end of abdomen olive brown. Abdomen very pale pink. Forewing with a pointed apex, very pale yellowish-green, feebly cancellated brown, 6 brown costal spots, a larger, angularly projecting brown spot in the centre of the inner margin, adjoining to it above there is a silvery stigma. 2 coherent silvery stigmata in the centre of the wing towards the apex; a particularly large silvery spot in the basal part above the inner margin towards the base, bordered by an equally large brownish spot. Hindwing very dull whitish pink, broadly whitish-green in the distal part. 63 mm. Dutch New Guinea. Central Arfak Mts., Ninay Valley. Observed from November to January 1909.

Ch. eugyna R. & J. ♀; body green, metanotum and abdomen — excepting apex — dingy white. Antennae pale greyish-yellow, brownish on the upper side. Forewing quite green or partly whitish; in the middle there is an almost straight darker green line bordered by small blackish-brown spots; a number of such small spots between this line and the margin, an indistinct row of small spots somewhat nearer the
margin than the discal line, a small oblong spot at the margin itself between the veins; five blackish-brown spots at the costal margin from the centre of the cell to the discal line. Hindwing white, greenish at the margin. Forewing beneath feebly reddish behind the costal margin, greenish distally, white behind, costal margin green, with brown spots. Hindwing white, green costally and distally. ♀: body green, metanotum for the greatest part as well as the first three abdominal segments and the sides of the fourth red. Forewing above green, markings similar to those of the ♂. Hindwing red, yellowish-green from the costal margin into the cell and at the margin, a red line extends from the anterior distal angle of the distinctly defined red area almost to the costal margin, a few small red spots are outside and inside this line. Wings beneath yellowish-green, red from the cell to the inner margin, both wings with distinct blackish-brown costal spots.

Length of forewing: ♂ 27—33 mm, ♀ 40 mm. British New Guinea (Biagi).

*Ch. eugynoides* Stdl. (73 a). Forewing greenish-yellow, undulated dark green; a slightly curved line of small coherent brown lunules from the centre of the inner margin to ⅔ of the costa. Brown costal spots and distal-marginal dots. Hindwing light red, margin broadly greenish-yellow. All the wings beneath reddish-yellow, mixed with greenish-yellow at the margins. Thorax greenish, abdomen reddish. From the d’Entre-causeaux Is. (Fergusson) and New Guinea.

*Ch. marginata* Rothsch. ♂: Forewing bright yellowish grass-green, broadly cancelled with a darker green; right above the centre a transverse band of seven luniform silvery spots, and slightly spotted brown at the costal margin. Distal margin with brown spots. Hindwing salmon-coloured with a green margin beginning from the centre of the abdominal margin, most extensive at the anal angle, gradually narrowing towards the costa. Under surface salmon-coloured with a green-spotted margin, costa brown, spotted green. Hindwing as in *rhapsody-* (73 a), but shorter, broader, and more pointed at the apex. Green, watered red, basal part red, costa speckled green and brown. Head, frouns, thorax dark green, mesothorax dark green, watered grey and with 2 brown spots, the rest of the thorax and abdomen as far as its half red, the rest green. ♀: forewing from golden green to greenish golden very intensely cancelled dark green, often forming complete transverse lines; a broad median band from the inner margin almost to the costa, composed of round brown variable spots. Hindwing darker red than in the ♂, distal margin rather yellow. Under surface: forewing red, shaded yellow towards the distal margin; hindwing yellow, watered red in the cell. Abdomen as in the ♂. Length of forewing: ♂ 37 mm, ♀ 60 mm. Kiriwini, Trobriand Is., March-April 1895. — *misi¬manus* Rothsch. ♂: band of hindwing considerably broader as far as the anterior angle. The band of the ♀ forewing is composed of 3 round brown spots, one behind the centre of the disc, two before it, and with a number of brown lines. St. Aignan (Misima), Lousiande Archipelago. August-November 1897. — *saturatior* saturatior Rothsch. ♀. The dark green reticulation on the forewing is more prominent. The distal chocolate brown band is more complete. The red places on the hindwing are darker, the marginal band narrower, less distinct. ♀ 117 mm. Dutch New Guinea.

*Ch. virescens* Dbl. (74 a). This large and peculiar species is endemic in New Zealand, where it is common, it is rarely seen. The specimens in the collections are obtained by breeding. A very interest¬ing piece of wood on which the insect was feeding, together with a prepared larva, is in the British Museum (South Kensington). As the lepidopteron flies to the light, it sometimes gets into houses, almost the only opportunity when the species is captured as an imago.

Ch. jordani Pf. (73 b. With this species which is unlike any other Charagia and which I have denominated in honour of Dr. Jordan (Tring) I conclude the species. I received only a single ♂ from West-Australia (Mornington) and have placed it to the Charagia for the present. I simply repeat here my description in Iris XXII, p. 138: Size 96 mm. Apex damaged on both sides. Nevertheless it is easily noticeable that the forewing had originally the well-known falciform apex of the Charagia-♂♂. Considering this, the real expanse must have been 100—110 mm. Length of the body: 45 mm, projecting but little beyond the anal angle. Thorax white above, with dull bluish-green hair beneath. Abdomen brownish-yellow, legs above bluish-green, beneath yellowish-brown. Hair-pencil on both sides cinnamon-brown. Head brownish-white, antenna filiform, 3 mm long, brownish. Wings broad, distal margin of forewing uniformly rounded. Relatively densely scaled. Upper surface: colour (excepting the rubbed-off places) uniformly chalky white. From the centre of the inner margin of the margin a yellowish olive brown line, about one millimeter broad, slightly curved in its upper part, extends into the costal margin, ending 10—15 mm before the apex; another similar one, though indistinct, is parallel to the distal margin. It is apparently uniformly bent and, provided its completeness, it would unite with the line mentioned before, forming the figure of an arc, the first line representing the chord. Beneath as above, but the veins more or less intensively bordered with brownish olive, especially at the costal margin of the forewing, which is broadly covered with brownish hair. The dark transverse lines are distinctly noticeable. The hairs of the bases of the wings exhibit a faint bluish-green tint. The ♀ of this peculiar, quite isolated species is entirely unknown. It presumably numbers among the largest forms of Charagia. Type in the Coll. Pfitzner in the Senckenberg Museum (Frankfort-on-the-Main).

3. Genus: Oncopera Wkr. (Oncoptera Meyr.)

Antennae short, only in the typical species (intricata) club-shaped at the end, almost wire-shaped, with a hair-tuft at the base, hanging over the eyes. Palpi moderately large, straight, scantily covered with long rough hair. Hind tibiae (of intricata) with a broad long hair-tuft parallel to the abdomen. In the other species, the hair-tuft does not extend beyond the tarsi.

0. epargyra Trnr. Body blackish-brown, greyish-white at the end. The broad forewing is dark brown, brown at the base and costal margin. 4 or 5 dark brown spots at the end of the costal margin. A variably large silvery white discal spot at ⅔ of the length of the wing, connected with a silvery white oblique streak which extends to the inner margin near the anal angle. Sometimes, however, this oblique streak is absent. Hindwing with a round apex, blackish-brown, whitish-grey at the apex with 4 dark spots in it. ♂ 36—40 mm. Queensland.

0. brachyphylla Trnr. Thorax brown, abdomen dark brown. Forewing broad also in this species, but the apex not so pointed as in epargyra. Forewing brown, sometimes dusted dark brown; costal-marginal area paler, with dark striae. A variable spot, connected with a line, as in epargyra. Besides there is sometimes a short faded white stripe extending from the base along below the centre. Hindwing blackish-brown. ♂ 35 to 40 mm. North Queensland.

0. intricata Wkr. (75 d) ♂ 31—41 mm, ♀ 48 mm. Brownish ochreous, forewing with a whitish marking. The habitus is somewhat similar to that of our H. fusconebidosa (velleda), but the wings are narrower and more pointed. Very variable. Victoria, Tasmania, from October to December, common.

0. mitocera Trnr. ♂ 32—46 mm, ♀ 48—59 mm. Head and thorax reddish-brown, greyish-brown in the ♀. Palpi dark brown, antennae filiform, slightly thickened at the end, dark brownish. Abdomen dark. Legs black. Forewing elongate and narrowly reddish-brown, darker in the ♀, marbled dull brown; sometimes with scattered whitish spots. Fringe reddish-brown with black rings. Hindwing dark with a whitish-ochreous blotch at the apex. Margin dark brown with some whitish-ochreous scales. — An aberration with a whitish line from the base to the interior angle where it meets a white transverse stripe may be denominated; ab. turneri. Queensland (Kuranda, Atherton, Herberton). — Some aberrations of this species have been denominated: ab suffusa Aur. Forewing brownish-ochreous with 3 irregular dark brown bands hardly reaching the costal margin, but connected at the inner margin. The two first of them are broad, the third submarginal band is excurred in the middle, all of them are strewn with small white dots. — ab. linata. lineata Aur. is rather uniformly spotted brownish-ochreous and dark brown on the forewing. A white undulate postmedian line, edged with dark, extends from vein 7 to the inner margin. — ab. vittata Aur. is brownish-ochreous on the forewing. A median band extends almost from the base to the cell-end, from where it is expanded into a large spot towards the apex and the anal angle. All the forms from Queensland.


Body and antennae similar as in the Lasiocampidae, but the antennae have 3 rows of pectinations, and a row of shorter dents is yet between the two main rows. Palpi very long, straightly porrect, somewhat knobbed.
at the end. Only two species belong to this genus, of which at least argentata is very variable. The species of the genus Abantiades H.-Schäff. have the same scheme of marking, but they are distinguished by the antennae showing only two rows of antennae. It is not advisable to use the generic name Pielus Wkr., although Pritzen had used it, as Walker had united therein species with antennae exhibiting two and three rows of pectinations. These genera have been thoroughly elaborated by Tindale only a short time ago, and it was proved that former authors had made considerable mistakes.

T. argentata H.-Schäff. (≡ argenteus H.-Schäff., labyrinthica Meyr., hydrographus Swh.). The species argentata, is figured as labyrinthica on pl. 75 a and c; already Meyrick, the author of the genus Trictena, had mixed up argentata H.-Schäff, and labyrinthica Don. Thorax and forewings of ♀ dark reddish-brown, abdomen and hindwing somewhat lighter. A very irregular silvery white stripe at the lower cell-margin and at the cross-vein is dentate and sometimes interrupted. A submarginal band proceeding from the apex may be broad or dissolved into small spots. — atripalpis Wkr. differs in the prolonged radial band being united with the marginal band, but considering the enormous variability of the species it is of no use to denominate forms. There may also be a row of white spots proximally to the marginal band, or an indistinct one directly at the margin, and peculiar twisted lines frequently also replace the row of spots. The ♀ is considerably lighter and more indistinctly coloured and marked. 100—180 mm. Queensland, New South Wales, South Australia, Tasmania. The species is very common, especially in arid districts. A captured ♀ deposited the fabulous number of 29 100 eggs, and that was not even its whole stock! This enormous number, however, is necessary, because the larvae, pupae, and imagines are eaten in masses by the natives.

T. argyrosticha Tvr. (100 b) is extremely similar to argentata, but somewhat lighter. According to the original description, the radial streak on the forewing is “rather broad”, but the only figure disposable by Tindale shows it to be rather uniformly narrow. The submarginal stripe is fine, but continuous, not divided into pieces as in those argentata which have a feeble band. Twisted spots and additional white spots occur also in argyrosticha. The inner margin of the forewing is broad pale brown. The pale brown hindwing is sometimes reddish at the anal angle. ♀ 106—120 mm. Queensland.

5. Genus: Bordaia Tind.

Neuration and scheme of markings not different from Trictena. Separated by shorter palpi and the antennae showing only two rows of pectinations. All the 4 species belonging to this genus have only recently been described. Type of genus: pica Tind.

B. pica Tind. (100 d). Antennae relatively long, pectinations thin. Thorax greyish-brown, abdomen pica, with white hair. Forewing broad, somewhat diaphanous, greyish-black with a silvery white marking. The irregular radial stripe is similar as in argentata, but prolonged yet behind the cross-vein as far as into the space between veins 7 and 8. Submarginal band uniformly broad and connected above vein 4 obliquely upwards with the other one by a bar. Within the submarginal band a row of 6 white dots, besides an interrupted white marginal line. Hindwing somewhat diaphanous, greyish-white, darker in the marginal area. ♀ 52 mm. South Australia, West Australia, and (?) Victoria.

B. moesta Tind. (100 b) is somewhat like the species of Oxycanus owing to the concave costal margin moesta, of the forewing. Body brown, forewing dark brown. A white radial silvery stripe from near the base does not extend around the cross-vein, but it proceeds a little beyond the origin of veins 3 and 4. At a small distance above it, between veins 5 and 6, a white band begins, which is horizontal at first, and then bends round towards the apex. Above the latter band there is another, almost parallel band; besides a submarginal band in the lower part. Base of hindwing and base of abdomen with white hair. ♀ 62 mm. West Australia.

B. furva Tind. Antennae of ♀ with stronger pectinations. Thorax brown, abdomen lighter, especially furva, at the base. Forewing blackish-brown, darkest at the base. A broad submarginal black band from the apex, where the white band extends in Tric. argentata. One rectangular white streak each in the band above and below vein 6, as well as at veins 5 and 8. Numerous light-dark twisted lines proximally to the black band, similar to those sometimes exhibited also by argentata (75 a, c as labyrinthica). Hindwing greyish-brown. ♀ 120 mm. West Australia.

B. paradoxa Tind. resembles pica (100 d) in the broader shape of the wings. Thorax reddish-brown, paradoxa, abdomen paler, somewhat pink. Forewing uniformly reddish-brown without any marking. Hindwing paler reddish-brown, with creamy white and pink hair at the base. Abant. hyalinatus (97 d ♀, 78 a ♀ as ingens) may sometimes look similar, but it has much smaller wings. ♀ 107 mm. West Australia.


It corresponds with the two preceding genera in the neuration and the strong build. Antennae of ♀ with one row of pectinations, the lamellae partly broad, partly very broad in the different species. Only in
A. **sericatus** Tind. This and the following species are small. **sericatus** ♂ is besides recognizable by the purely white hindwing. Thorax grey, abdomen whitish. Forewing grey with a few black scrolls. A white radial band from the base to the cell-end. The submarginal band from the apex to vein 2 is rather straight and not quite so irregularly defined as the radial line. Black and golden yellow circular spots penetrate into both the bands. Hindwing with white hair at the base. ♂ 55—60 mm. West Australia.

**A. ocellatus** Tind. (100 c). The ♂ differs from **sericatus** in the hindwing not being purely white but creamy white with a somewhat grey margin. Thorax grey, abdomen pinkish-white above. Forewing light brown with a silvery white marking. The radial band is bent up to the costal margin behind the cell; several black spots at its distal and lower edge. The submarginal band is more uniformly edged with black than in **sericatus**. Base of hindwing with pale pink hair. The ♀ is larger, the marking on the forewing less distinct. Abdomen and hindwing greyish-brown. 62—100 mm. West Australia.

**A. marcidus** Tind. Body grey, forewing brownish-black, with numerous greyish-white scrolled lines which are almost more extensive than the ground-colour. The irregular silvery white radial band is interrupted for about 3 mm in the middle. The submarginal band extends downward to about vein 4, then follows another spot at vein 3. The radial band has a projection at vein 6, but it does not reach the other band. A few light spots before the margin between the veins. The whole marking is finely edged with black. Hindwing grey, densely haired at the base. The bands of the ♀ are rather faded, only marked by grey dusting. 100—170 mm. South Australia, Victoria. Pupa, 80 mm long, lying in a spun-out channel 60—75 cm deep in the soil. The larvae, pupae, and lepidoptera of this species are eaten by the natives who call the lepidoptera “kunku”, the scientific name was only given to them now.

**A. hyalinatus** H.-Schäff. (= diaphanus H.-Schäff., ingens Wkr.) (97 d, 78 a ingens). The ♂ is yellowish ochreous on the body and wings, only the bases of the abdomen and hindwings exhibit a pinkish tint. The white radial band is also interrupted, it begins at a greater distance from the base of the wing, and its exterior part is much more slanting. The submarginal band is narrow. The ♀ (= ingens Wkr., pl. 78 a) corresponds with the ♂ in the ground-colour, but the marking is absent, the usual scrolled lines are very rarely met with, but its size varies much (130—175 mm). The ♂ is more variable and different names were given. In **imperialis** Olliff the ground-colour is brick-red, in **brownsen** Tind. it is dark brown. In both cases the white bands are normal. In **erythrinus** Wkr. the band-marking is absent, the ground-colour may vary from brownish ochre to brick-red. 100—175 mm. New South Wales, Victoria, Tasmania.

**A. byrsa** Pf. sp. n. (75 c) was described by Pfister as a form of **hyalinatus**: all the wings, especially the hindwings, from buff to reddish ochre. Forewing with a distinct silvery white stripe in the apex and rows of brown spots instead of the labyrinthic marking. From New South Wales, (Judging from the figure, the form may rather belong to **labyrinthicus** Don., than to **hyalinatus**, as its ♀ exhibits no other light spots. Gaede.)

**A. aurilegulus** Tind. By the pale brown colour of the body and wings it resembles **hyalinatus** ♀ and **brownsen** (75 d). The two bands are shaped as in **Tr. argenteata** (= labyrinthicus, 75 a), especially the submarginal band is also thickened in the middle. ♀ 95 mm, from the West Australian gold-fields.

**A. aurilegulus** Tind. By the pale brown colour of the body and wings it resembles **hyalinatus** ♀ and **brownsen** (75 d). The two bands are shaped as in **Tr. argenteata** (= labyrinthicus, 75 a), especially the submarginal band is also thickened in the middle. ♀ 95 mm, from the West Australian gold-fields.

**A. labyrinthicus** Don. (= argenteus Don., diversata Luc.) (75 c as **hyalinatus** ♀). Body greyish-brown. Forewing dark brown, margins greyish-white, with numerous undulate brown lines. The silvery white radial and submarginal bands similar as in **Tr. argenteata** ♀ (pl. 75 a as **labyrinthicus**), but the antennae form a sure mark of distinction. Hindwing greyish-brown, veins brownish-ochre. ♀: body brownish ochre, forewing pale brown. The silvery white bands of the ♂ are faded here, brownish-ochre. The undulate lines as in the ♂. In the ♀ of **argenteus** Don. the bands will be somewhat white, but shortened, while in **diversata** Luc. ♀ they are narrow and long. In the ♀ the bands are more intensely edged with dark, the radial band is divided into 3 parts by these marginal lines, **tasmaniae** Wkr. differs scarcely from **labyrinthicus**. The only denomination that may be justified is: **swainsoni** Scott in which the radial band is interrupted at about the base of vein 3 in both sexes. The remaining exterior part is distally widened and prolonged until it meets the submarginal band.

**A. leucochiton** Pf. sp. n. (75 a). Thorax and end of abdomen blackish-brown. Antennae strongly pectinated. Forewing dull light brown, dusted ash-grey as far as the distal and inner margins. The veined marks are finely surrounded with white. Silvery bands very strong, glossy, dividing the whole length of the wing as far as into the apex, as in the following **magnificus**, but more interrupted in the middle, bipartite. Chiefly distinguished from all the other forms of **Abantiades** by the milky white colour of the hindwing which shows only a slight grey tint at the costal margin. The larger half of the abdomen is also white. ♀: radial band
shorter owing to the absence of the basal end, hindwing darker. In both sexes the two bands of the forewing may be connected by a bar or not. 70—110 mm. Victoria.

A. magnificus Lac. (100 b). The \( \mathcal{J} \) resembles leucochiton (75 a) by the broad black margins of the white bands. Body and forewing greyish-brown. Both the bands broad, spindle-shaped. A white triangular spot at the base. Hindwing dull brown, brownish ochreous at the base. \( \mathcal{Q} \) body and forewing smoky grey. The bands dull grey, less thickly margined with black, somewhat more dentate. Hindwing dark grey, brownish ochreous at the base. 125—180 mm. New South Wales, Victoria.

A. hydrographus Fldr. (77 e). Body pale brown, only the base of the abdomen pink. Forewing brown, the distal and inner margins broadly lighter brown, the costal margin only lighter near the apex. Besides a few scroiled lines. The two bands distinct, not divided, narrower than in \( \text{magnificus} \). Hindwing pale brown, lighter at the costal margin, pink in the basal area. \( \mathcal{Q} \) similar to the \( \mathcal{J} \). Both wings at the bases and the base of the abdomen somewhat white. The latter, however, is not to be seen in Felder's figure. 140 to 195 mm. West Australia.

A. latipennis Tind. (100 d). The distal margin of the forewing is more oblique in the type in \( \text{latipennis} \). The other species. Body and forewing uniformly pale brown, in which it differs from \( \text{hydrographus} \). The bands finely edged with brown, similarly shaped as in \( \text{hydrographus} \). Traces of some scroiles at the inner margin. Hindwing pale brown, pink hair at the base. The \( \mathcal{Q} \) has a greyish-brown body. Forewing dark brown around the radial band, the rest dull brown with many curled lines. The two bands like those of the \( \mathcal{J} \), but more irregular. A thin line connecting the two bands may occur, similar as in leucochiton, but narrower. On the whole, one may say that \( \text{latipennis} \) is a small form of \( \text{hydrographus} \). 75—150 mm. Victoria, Tasmania.

A. barcas Pf. sp. n. (75 d, e). \( \mathcal{J} \): forewing fawn-coloured, a broad silvery longitudinal streak bordered with dark divides the wing from the base into the apex, interrupted in the middle, then expanded. Hindwing lighter, base with a reddish tint, also the anterior half of the abdomen. Thorax and head dark fawn-coloured. \( \mathcal{Q} \) more uniform, darker dull chocolate brown; silvery stripes relatively more indistinct. This form is characterized by the absence of the hieroglyphical marks in the \( \mathcal{J} \) and \( \mathcal{Q} \). 110—170 mm. Sydney.

A. albofasciatus Sneh. (100 e). Abdomen and forewing brown, with a reddish tint, forewing with the usual scroiled marks, a broad white longitudinal stripe from the base through the centre of the wing to \( 1/3 \) of the distal margin where it bends upwards to the apex, the sides of the stripe being more or less torn; right below in the \( \mathcal{J} \) 3 small spots, also a thin white submarginal stripe extending around to the apex. Hindwing and abdomen grey, covered with white hair at the base. Separated from all the other species by the fine marginal line of the forewing. The \( \mathcal{Q} \) is similar, the scroiled lines on the forewing more distinct. Legs greyish-brown, reddish below. \( \mathcal{J} \) and \( \mathcal{Q} \) 95—155 mm. West Australia (Swan River).

The two following species deviate a little.

A. fulvomarginatus Tind. Thorax blackish-brown, abdomen grey. Forewing dark grey with somewhat diaphanous white spots. Costal margin finely ochreous brown. A row of black spots in the centre of the wing, and a row before the margin. Hindwing broadly pale ochreous brown at the costal margin, marginal area grey. The marking in the \( \mathcal{K} \) is paler and very indistinct. Hindwing pale grey. 40—60 mm. West Australia.

A. aphenges Trnr. Thorax chocolate brown, abdomen greyish-brown. Forewing chocolate brown with numerous white lunae and streaks. Hindwing greyish-brown. \( \mathcal{Q} \) similar, but the white lunae and streaks double. 55—80 mm. New South Wales.


Antennae of \( \mathcal{J} \) plain. Palpi moderately large, stretched. Part of the surface of the \( \mathcal{J} \) hindwing covered with long dense hair. Two species in the Australian region, one in Africa. Cf. Vol. XIV, p. 555.

L. stacyi Scott (= stacyi Frog.) (78 a). Forewing greenish ochreous, \( \mathcal{J} \) with two whitish transverse stacyi bands from the costa towards the inner margin. Costal areas with red-brown spots and whitish rings. Anal-marginal area with red-brown and white lines, especially characterized by an irregular lighter-edged spot, resembling the ocelli of the Satyridae, with a dark narrow crescentiform pupil, distinctly projecting above the surface of the wing. Hindwing deep brownish reddish orange. — simosha Olif. is darker, of a more greenish tinge. \( \text{simosha} \). more brightly marked. This largest species of all the Hesperidae attains, according to Meyer, an expanse of 175 to 220 mm, both the \( \mathcal{J} \) and \( \mathcal{Q} \), but the \( \mathcal{Q} \) in the Berlin Museum (78 b as \( \text{stacyi-} \mathcal{Q} \)) belonging to the form \( \text{simosha} \) has an expanse of 240 mm. Regarding the expanse, \( \text{stacyi} \) is one of the largest lepidoptera known; it seems as if it were an antediluvian insect. Its patria is New South Wales (New Castle and Mammy River). Frogaatt writes about its habits: the larva lives in trunks of the “grey green” (Eucalyptus resinifera and tereticornis). It never bores upwards and closes the hole with a light silky web covered with pieces of bark; it makes a channel in the centre of the trunk, in which it descends to the roots. Metamorphosis in December, after
having replaced the former closure by a thick stopper of wadding close behind the opening of the bored hole. The pupa having grown hard pushes the wadding aside and moves freely and quickly up and down (10—12 inches), by the help of the peculiar file-like rings on the abdominal segments. Shortly before the emergence it shows itself especially in the afternoon, with its head in the hole, visible from outside. It emerges in March, until 3 p. m. — This species is also characteristic for its mimicry, strikingly copying the head of a snake or lizard, which peculiarity I witnessed in the Tring Museum. Another interesting statement may be mentioned here. THORNTON found a specimen by breeding, which he took to be a new species of this genus. He had found it in the bush, badly damaged and rubbed off. FROGATT also considers it to be new, at first sight it looks like a large Cicada owing to the shape of its head. — SCOTT established the genus Zelotypia for this species.


Antennae strongly developed, with two rows of pectinations in the ♀, palpi moderate, stretched. Hind tibiae densely and roughly haired. Vein 7 of forewing from the cell-angle, 8 and 9 from 10, beginning from the upper margin far before the angle. Hindwing like forewing. Distributed in New Zealand and Australia as far as New Guinea, very numerous and characteristic for the fauna. We begin with the New Zealand species which represent a more or less select group.

dinodes.

P. dinodes Meyr. (77 a). 70 mm. Forewing dark brown, marked white, especially at the base and distal margin, the markings crescentiform. Hindwing yellowish-brown. Antennae of ♀ strongly pectinated. New Zealand (Invercargill).

aurimaculata.

P. aurimaculata Philp. Similar to dinodes by the antennae being almost just as strongly pectinated. Thorax dark brown, abdomen brownish ochreous. Forewing brown, darker at the costal margin at the base. An irregular blackish-brown spot at the inner margin near the base, a similar one behind it, irregularly edged with white. A large oval blackish-brown spot below the centre on ¾ of the length of the wing touches a similar one obliquely below it, edged with white. A few white spots, partly centred dark, are in the centre of the wing. Some curved white lines at the centre of the costal margin. Before the distal margin there is a double row of dark spots partly edged with white, the middle ones with a golden centre. Dark spots at the margin are edged light. Hindwing brownish ochre. ♀ 70 mm. Mount Cook.

leonina.

P. leonina Philp. Antennae of ♀ likewise strongly pectinated. Thorax rather dark brown. Abdomen brown. Forewing dark brown with a few blackish-brown spots. Short irregular white striae below the costal margin from the base to ¼ of the length of the wing. A few worm-shaped white lines above the anal angle. A dark, white-edged spot at ½ of the inner margin. A reddish-yellow band edged with white on both sides extends from ¾ of the costal margin to the inner margin near the anal angle. Then an indistinct submarginal line with black spots. Hindwing red-brown. ♀ 62 mm. Mount Arthur.

senex.

P. senex Huds. 42 mm. All the wings scantily covered with hair-like scales. Forewing very pale, irregularly spotted with blackish-grey. Two rather large irregular patches of the ground-colour near the base, and two dark transverse bands. Hindwing brownish-grey. Body brownish ochreous with several very pale ochreous hair-tufts in the middle. Antennae strongly bipectinated. ♀, emerged in February from a pupa that was found by J. H. LEWIS below stones in the Old Man Range, Central Otago, 4000 ft. Altogether 4 or 5 ♀ of the species have become known besides. The ♀ is somewhat different. Thorax dark red-brown, collar white. Abdomen sooty black. Forewing smoky brown, marking white. A line below the costal margin extends from the base to ¾ of the length, where it meets a dark-centred ring-spot. A median band extending from the base is widened behind. Its lower edge almost touches a round spot in the disc at ¼ of the length of the wing. Below this spot there is a curved line above the inner margin. A large oblong-oval spot below the costal margin before the centre. An irregular triangular spot before the anal angle. An irregular band enclosing one or several dark spots extends from the apex to the centre of the wing, at ¾ of the length of the wing. White scales at the margin. Hindwing dark brown, a few white places at the costal margin. ♀ 40 mm. Wakatipu.

jocosa.

P. jocosa Meyr. Thorax lighter or darker brown, sometimes whitish behind, abdomen brown. Forewing dark brown, especially dark sometimes in the centre of the wing. A white, dark-edged spot at the base. Behind it, at ¼ of the length in the centre of the wing, there is another spot which is sometimes prolonged to a streak, and an irregular oblong spot behind the centre. At ¾ of the length of the wing there is a coalescent row of dark spots in white rings and sometimes also centred white, more distinct in the ♀. Sometimes there is proximally to this row another incomplete row of spots, which may be connected with a white spot below the centre of the wing. A white ring-spot at the costal margin near the apex. Dark, light-edged crescents at the distal margin. Hindwing dark-brown, exceptionally brownish ochreous. Fringes of both wings speckled dark. 40—50 mm. New Zealand.
**P. mimica Philp.** Similar to *jocosa*, but smaller, the antennae somewhat longer pectinated than in *mimica. jocosa*. Thorax brown, abdomen brownish ochreous. Forewing pale brown, dusted white. An indistinct dark brown median stripe from the base to 2/4 of the length of the wing encloses a few white spots; a round one near the base, 2 or 3 oval oblique ones at 2/4 of the length of the wing, an irregular triangular one at 2/4, and sometimes yet a short streak behind it. A white shadow from before the apex to the centre of the inner margin encloses a series of dark brown spots. A marginal row of dark, light-edged spots is sometimes absent. Hindwing pale brown, without the median stripe and the white shadow. The treble spot at 1/4 of the length of the wing is present, the lowest being the largest. An interrupted white undulate line extends from behind the apex to the centre of the inner margin. An indistinct row of white dots behind it, and white lunae at the distal margin. Hindwing pale brown. 34—38 mm. New Zealand.

**P. mairi Bull.** A single specimen of this apparently remarkable New Zealand species was discovered *mairi*, by Sir Walter Buller in the Ruahine Ranges, Wellington District in the summer of 1867, but the type was lost by a shipwreck in 1890, an irreparable loss. Thus we are dependent merely on the description by Buller:

"Expanse 5 inches (125—130 mm). Wings long, broad, forewing stretched, oviform-triangular, of a dull dingy brick-colour, 6 black spots terminate the veins at the distal margin, bordered by a marginal band of white crescents. A submarginal row of sagittate black spots and above this a series of round spots, the first 4 surrounded with white, the others with pale brown. Two broken black discal lines, filled with brown, a broad irregular band below the centre of the wing beyond the cell, composed of 3 black lines with a brown interspace; a triangular white spot below the cell, and a white patch at its end, traversed by two black crosses; 2 divergent black stripes, edged with white, in the centre of the cell, and a third stripe edged with dingy tortoise colour near the base; a large irregular patch, whitish-brown, below the cell-end, bordered by an interspace of 3 unequally shaped blotches which together form almost the sides of a large triangle. Two small spots at the base. Hindwing greyish, turning browner at the distal margin, traversed by 8 interrupted black streaks."

According to Hudson, this species is presumably the host of the fungus Cordiceps robertsii, not *Ch. virescens*, as was supposed, which lives only in trunks, never underground. The larvae of *Porina* live infected by the parasitic fungus, they dry out, while the fungus grows in a long stalk to the surface of the earth where it projects with its clubby end. If this parasite were allied just to *Porina mairi*, the mysterious fact that the conspicuous species was never discovered again might be explained by its extinction caused by the fungal disease. — According to Philipott (1906), *P. dinodes* is the real host of the Cordiceps. He considers it possible, however, that also other species are infected.

**P. enysii Blitr.** (77 a, 74 e). Both sexes 60—80 mm. Forewing dark orange brown, marbled lighter *enysii*, and darker, a very variable number of white, black-edged spots. Hindwing reddish-brown, reddish ochreous towards the apex. Very variable. December-January in forests. On the trunks of fern-trees, but difficult to discover; it comes also to the light. New Zealand, northern island. Rather rare.

**P. minus Huds.** is distinguished by its very small size (32 mm). Forewing dark yellowish-brown. Two *minus*, rather large white basal spots, two rows of white spots parallel to the distal margin, the exterior row not reaching the apex. The spot between veins 6 and 7 is very long. Hindwing pale yellowish-brown. Head and thorax brown, very hairy. Abdomen paler. New Zealand (Ophir).


**P. annulata Hamilt.** 50 mm. Recognizable especially by the black abdominal rings. Wings semi-diaphanous, forewing brownish-grey, irregularly covered with markings, chiefly ochreous spots, intermixed with smaller white marks. Hindwing brownish-grey, few yellowish spots in the apex. All the wings with dark reddish-brown fringes, relatively longer than in *P. cervinata*. Head and thorax yellowish-brown. Abdomen pale yellowish-grey with 7 or 8 black rings. New Zealand. Mt. Aurum, Stony Creek, 4000 ft. Flying around bushy places amid Gentianae.

**P. cervinata Wkr. (= fuliginosa Blitr., vexata Wkr., Pielus veristaris Gu.)** (74 e). About 45—50 mm. *cervinata*. Very variable from blackish-brown to dull yellow, a dark discal stripe and an undulate dark line near the costa. A few indistinct rings and spots. Common throughout New Zealand, especially in the Manawatu District. The figure belongs to a particularly pale form from Mt. Arthur. Imago in October; it likes to come to the light.
**P. despecta** Wkr. (74 c) resembles the darker forms of the preceding species and is separated by the longer and narrower wings, smaller body and antennae, and the absence of certain apical spots. January, generally taken on the light. New Zealand, southern island (Christchurch, Otira River, Lake Wakatipu).

**P. fusca** Philp. Thorax dark brownish ochre, abdomen grey. Forewing dark brownish ochre, the veins darker. A triangular white spot below $\frac{1}{3}$ of the costal margin is edged with black below. An undulate irregular radial white stripe as far as before the centre of the wing, edged with a faded black colour. A white spot above the centre of the inner margin, edged below by a $\triangledown$-shaped line. A series of dark, light-edged spots extends from the costal margin near the apex to the anal angle, where they end with a $\triangledown$-mark. A series of dark, white-centred spots before the margin. Dark triangular marginal spots between the veins. Hindwing dark brown. The $\varphi$ with an almost extinct marking and lighter ground-colour. A dark stripe below the costal margin from the base, and another stripe below it. A white spot in the centre of the wing. Hindwing lighter than in the $\varphi$. 32—35 mm. Wakatipu District (New Zealand).

**P. descendens** Huds. Similar to *fusca*. Body with reddish-brown hair. Forewing of $\varphi$ rather broad, pale whitish ochreous with an irregular brown marking. Costal margin narrowly reddish-brown with a distinct subapical spot. A faded reddish-brown subcostal stripe extends from the base to $\frac{3}{4}$ of the length of the body. A darker brown submarginal band encloses a few dark spots. A black streak at the cross-vein is distally edged with white. A very conspicuous black band above the inner margin is bent downward, finely edged with white towards the disc. A series of small blackish-brown spots within the submarginal band and below the apical spot. Marginal area spotted pale brown. Marginal spots light, centred dark. Hindwing dark brown. The $\varphi$ is pale ochreous brown, the marking finer, less distinct. Submarginal band absent. 40—50 mm. Arthur Pass (New Zealand).

**P. autumnata** Huds. Forewing intensely chocolate brown with a white and golden brown marking, but without a distinct radial streak. Oblong irregular white spots are at the origin of the veins 7—9. Six small spots follow behind them towards the margin. A large curved streak at the base of veins 4—6, and 3 triangular spots behind it. A few white spots behind the veins 2—4 near the base, and curved white marginal spots between veins 2 and 8. Nearly all the spots situate below the centre of the wing are edged with golden brown. Hindwing pale brown, somewhat diaphanous, the veins darker. $\varphi$ 45 mm. Wellington.

**P. oreas** Huds. Forewing of $\varphi$ chocolate brown, reddish towards the inner margin, with a white spot in the centre of the basal area. At the base below the middle there is an undulate black streak of about $\frac{1}{3}$ of the length of the inner margin, edged with white at the end above. 7 white, black-edged spots at the costal margin, one of them near the base, 2 before the centre, the 4 others near the apex in a row which is slightly bent downward. Indistinct dark spots before the margin, and a faded band before them. Ground-colour of $\varphi$ redder. The marking smaller, more indistinct and edged somewhat red. Hindwing brownish-grey in both sexes, somewhat diaphanous. 45—50 mm. Mt. Egmont (New Zealand).

**P. gourlayi** Philp. Antennae of $\varphi$ serrate and finely ciliated. Thorax from pale to bright ochreous brown, abdomen greyish-brown. Forewing whitish ochreous brown to bright brown, with many dark brown, light-centred rings, the most conspicuous of which are: a somewhat triangular one in the centre of the wing and one or two others behind it. Moreover a spot at the costal margin near the base and one obliquely outwards below it. An indistinct dark submarginal shadow behind which a series of spots follows, and sometimes also a series of spots before it. A blackish-brown band extends from the inner margin near the base nearly to the centre of the inner margin, dentate above and filled with whitish. Lunulate spots filled with dark are at the distal margin. Hindwing brownish ochre or grey ochre. Near oreas and descendens. $\varphi$ 34—38 mm. Mt. Arthur (New Zealand).

**P. ascendens** Meyr. Body pale brownish ochre. Forewing pale bronze brown. An irregularly defined greyish-white wedge-shaped stripe below the centre of the wing from the base to $\frac{1}{3}$ of the length of the wing, edged with blackish-brown above and in front. A submarginal row of white, dark-edged spots, and a similar row before it. The surroundings of the two rows are dusted greyish-white. Hindwing pale pinkish-grey, pale brown at the margin. $\varphi$ 42—52 mm. Mt. Arthur.

**P. umbraculata** Gn. (74 d). The most common Hepialida of New Zealand. Very variable in colouring and size (35—55 mm). Brownish-yellow, lighter or darker, a silvery white, dark-edged basal ray on the forewing is occasionally divided into 2 or 3 spots. Hindwing dull brownish ochreous, pink at the base. Distributed throughout New Zealand, from October to January, generally taken on the light.

**P. copularis** Meyr. Thorax pale brownish ochreous, partly somewhat darker. Abdomen pale brownish ochreous, darker in the $\varphi$ except at the anal tuft. Forewing similarly shaped as in umbraculata, but more concave at the costal margin. Forewing also pale brownish ochreous, darker in the $\varphi$. A white, finely dark-edged spot in the centre of the wing at $\frac{3}{4}$ of its length. An oblong postmedian spot. A smaller spot is in the $\varphi$ below the submedian fold between the two upper spots. An indistinct pale irregular transverse band at $\frac{2}{3}$ of the length of the wing, sometimes strewn with dark scales and also with dark spots behind the band. Hindwing brown. 38—50 mm. Invercargill (New Zealand).
P. signata Wkr. (= novae-zealandiae Wkr., variolaris Gdn.) (75 d). Near copularis, larger (up to signata. 60 mm). Forewing dark ochreous, dull white near the centre and at the distal margin. The blackish dark radial band contains a few white spots and extends through the centre of the wing. Irregular dark, light-centred spots near the veins and often forming 2 or 3 rows near the distal margin. Hindwing yelllowish-brown. Larva long-stretched, up to 70 mm long, yellowish, dorsum and stigmaea brown, head very hard, horny, dark brown, the 3 first segments with horn-shields, the others with leathery tubercles on which there are bristles. Very lively when being disturbed. It usually emits a quantity of black sap from its mouth and bites at the same time so as to frighten its enemies. It lives on the roots of grass. Imago in January till March, often common on the light. New Zealand, northern island (Napier, Palmerston, Wellington).


P. fusconaculata Wkr. (76 e). With this common and widely distributed species we begin the series of Porina from Australia Proper. $ 65—73 mm. Of a transparent dull brown colour, forewing mixed more or less with a lighter colour, with rows of brown transverse stripes and marginal spots. $ with long, strongly pectinated antennae. The form pardalimus Wkr., from South Australia (and Tasmania), is more brownish ochreous, especially on the abdomen and the margins of the wings. With 4 oblique bands of irregular square dark brown spots which are dusted somewhat ash-grey. Marginal spots dark brown, Victoria, South Australia, Tasmania. — The species Oxyg. sordidas mentioned by Herrick-Schäffer in “Australopädische Schmetterlinge” may belong to this place here. But nothing can be said about it, as it is not even sure that Australia is its patria.

P. aedesima Trnr. Thorax dark brown, abdomen lighter, reddish at the base. Forewing brown, densely covered with whitish ochreous hair-like scales. Costal streak blackish-brown. Obliquely distad is an oblong white antemedian discal streak, finely edged with blackish. Besides 3 oblique lines of blackish-brown spots, sometimes white-centred, variably developed. The first from the middle of the costal margin, excurred around the discal spot, then straight to $ of the inner margin. The second from $ of the costal margin to $ of the inner margin, almost straight. The third from $ of the costal margin to the anal angle, also almost straight. Sometimes another incompletely developed line near the base. Hindwing pale brown, reddish or quite pale reddish at the base. 65 mm. North Queensland.

P. bellista Trnr. Somewhat similar to rufescens (76 e). Thorax dark brown, abdomen more reddish. bellista. Costal margin of forewing strongly bent before the apex, apex pointed. Brownish ochreous, darker at the base. Costal margin dark brown as far as $ of its length. A round faded light brown spot below the cell at $ of the length of the wing. A series of faded similar spots from $ of the costal margin to the centre of the inner margin, and a similar row before the margin, the latter with dark centres. A few scattered dark spots behind them and very light spots close before the margin. Hindwing dull reddish, more intensely red at the base. Somewhat brownish ocreous at the apex. $ 100 mm. Queensland.


P. fasciculata Wkr. $ brownish yellow, ash-grey. Abdomen ash-grey. Forewing ochreous, pointed, fasciculata. with a white, black-edged longitudinal stripe near the basal part of the inner margin. Hindwing brownish ash-grey, slightly transparent. Length of body 17—18 mm, wings 35 mm. Australia.

P. dirempta Wkr. (76 d). Thorax blackish-brown, abdomen yellowish ochreous. Forewing dark brown, brownish ocreous in the disc in front. Costal margin narrowly blackish. A whitish radial stripe from the base through the centre, broadly faded brownish-white in the distal part as far as the anal angle. Two small triangular silvery white, dark-edged spots at the upper margin of the band before the centre. Two or three similar rows of spots are marked in the exterior part at the costal margin. Hindwing ochreous, $ 88 mm. South Australia.

P. determinata Wkr. $ 58 mm. Head, thorax rather dark brownish ochreous. Antennae as in australis (77 b). Forewing ochreous blackish-brown, with different indistinct continuous rows of somewhat faded dark dots; an oblique silvery white transverse macula, apparently composed of 3 spots, in the midst of the disc, bordered on both sides by a darker brown colour. Hindwing brownish ochreous. West Australia (?). according to Meyrick.

P. rufescens Wkr. (76 e). Thorax very dark brown, abdomen reddish at the base. Forewing dark brown with 2 or 3 blackish-brown spots in the centre of the wing in front and two rows of spots behind, all of them edged with brownish ocre. Besides 2 silvery white, dark-edged spots in the centre of the wing. Hindwing dull brownish ochreous, reddish at the base. Very variable. The 4 specimens in the Coll. Pittzner, from the mountains to the north of Melbourne, exhibit a much lighter brown of the forewing broadly intermixed with whitish ochre, especially at the distal margin, and bright reddish ochreous hindwings. The two silvery dots lying together in the centre of the disc of the forewing, mentioned by Meyrick in the Tas-
The following 4 species may be a single species according to the authors’ opinions.

**P. nigripuncta** J. & T. (100 c). Forewing greyish ochreous with a dark brown marking. A spot in the cell near the base, then 2 spots above the inner margin. In the centre of the wing there is a series of very unequally large spots which are continued below vein 2 as a fine line to the centre of the inner margin. Marginal area of forewing somewhat lighter, enclosing 4 rows of spots some of which exhibit a pale centre. Hindwing ochreous, indistinct marginal spots between the veins. ♂♂ 75 mm. Wandammen Mts.

**P. nigricosta** J. & T. (77 c). Forewing dark brown, costal margin blackish. Base of cell and its surroundings lighter, like the centre in the marginal area. The dark spots similar as in *nigripuncta*, united into 2 faded bands according to the original figure. ♂♂ 66 mm. Wandammen Mts.
P. subochracea J. & T. (77 e). Very pale greyish ochreous, the costal margin broadly darker. The type shows a broad light radial stripe through the centre, which is absent in 3 other specimens and is even replaced in one specimen by a dark stripe. The wing is traversed by 6 rows of more or less distinct light spots with dark centres. Besides a row of dark marginal dots. Hindwing pinkish ochreous. $ 60 mm. Wandammen Mts., New Guinea.

P. argentipuncta J. & T. (100 d). Forewing ochreous, brown at the costal margin, with silvery spots of different sizes: a small one in the base of the cell, a large square spot in the upper cell-angle, a small one above it, and 4 small ones behind it. Then follow 3 rows of small dark spots, the last row somewhat silvery. Hindwing pinkish ochreous brown. $ 56 mm. wandammen Mts., Dutch New Guinea.

We may range here a small species from New South Wales, which was denominated in honour of Mr. BANG-HAAS from whom Pfitzner received it:

P. banghaasii Pfi., sp. n. (78 d). Size: 40 mm. Forewing red-brown in the anterior part, grey in the banghaasii, anal part, separated by a dark transverse shadow to the apex. A few fine dark dots at the costa and inner margin, a comma-shaped white streak in the disc. Hindwing and centre of abdomen pale red. Thorax and the end of the abdomen brown. Beneath everywhere pale pink. 1 specimen from Paramatta (New South Wales).


Per. australasiae Don. (= Ellanna inconclusa Wkr., Pielus invarius Wkr.) (76 e). $ 37—42, $ 52 to 85 mm. Head and thorax ochreous or brownish, often tinged reddish. Forewing oblong, costal margin slightly curved, apex rectangular, distal margin oblique, much longer in the $ and the distal margin much more oblique. Ochreous, more or less tinged reddish, especially the $, scantily speckled dark brown and generally profusely marbled dark brown, more distinctly in the $; usually a more or less distinct irregular dark brown band from ¹/₂ of the inner margin to the apex, sometimes extinct. Fringe whitish ochreous, interrupted by dark. Hindwing of $ ochreous, slightly tinged reddish, sometimes more of less brownish, except at the base; hindwing of $ pale pinkish ochreous, apex more ochreous. New South Wales (Sydney and Blackheath, 3500 ft.). Victoria (Melbourne). February till April, common.

10. Genus: Hectomanes Meyr. (Fraus Wkr.)

Antennae of $ short, bipectinate. Proboscis present, short. Palpi very short, with long rough hair. as on the tibiae. Distinguished from all the others by the structure of veins 7 and 8. Veins 7 + 8 arise stalked from the cell-angle. 9 + 10 stalked and close by. A small genus, endemic in the Australian continent. Small delicate insects.

H. pteronela Low. $ 26—29 mm. Head, thorax and legs blackish-brown, antennae brownish ochreous, abdomen lighter brown. Forewing dark blackish-brown, lighter at the distal margin. A moderately well defined white longitudinal stripe from the base almost to the distal margin, broadly bordered with black on both sides. From the end of the stripe to the apex there are 2 or 3 blackish dots in whitish rings. A distal-marginal row of similar dots. A few blackish maculae at the centre of the distal margin. Fringe blackish-brown mixed with a lighter colour. Hindwing dark brown, fringe paler. 2 specimens on the Lithe, Sydney, Parkside, April 1892.


H. fusca Luc. Smaller than simulans, separated by the absence of the white line and colour. $ 18 fusca. to 20 mm. Forewing from chocolate brown to deep blackish-brown, hindwing smoky brown. $ 26—29 mm, greyish-brown or dull grey, markings extinct. Moe, Gippsland, 1000 ft. — We may append here:

X
**Ph* malabaricus** Mr. differs from the likewise similar signifer (Vol. II, pi. 54 a) in the pale chestnut-malabaria- 

**H. polyspila** polyspila. 

**kosempo** kosemponis herzi in Vol. II (pi. 54 a) does not represent herzi, but excrescens Btlr. — Meyr. A 30—35 mm. Head, antennae and abdomen dark brown, forewing oblong, distal noserodes. 

**Ph* sericeus** Swh. A head and abdomen brown. Forewing pale chocolate grey, costal margin marked sericeus. 

Wkr. (= chalybeatus Mr.) (Vol. II, pi. 54 a). This well-known, large, widely distributed signifer. 

**Ph. sigrtifer** Trnr. Body dark brown. Forewing almost oval, brownish ochreous; grey towards the inner and distal margins. Slightly strewn white between the veins. Hindwing grey. The forewing of the ♀ is also uniformly grey. 40—45 mm. Tasmania. 

**Ph. noserodes** Meyr. ♀ 30—35 mm. Head, antennae and abdomen dark brown, forewing oblong, distal margin very oblique, dark brown or whitish dark brown with longitudinal and transverse rows of darker, sometimes white-edged dots, sometimes a very thin straight longitudinal stripe which is intensely edged with dark above. Fringe blackish-brown. Hindwing dark brown or whitish dark brown. New South Wales, Sydney. May. 

**H. polypis** Meyr. ♀ 31 mm. Head, antennae and thorax brownish ochreous. Abdomen lighter. Forewing oblong-triangular, dark brown, veins and a broad costal stripe pale ochreous. Costal margin dark brown at the base. This part with numerous irregular, somewhat oval white dots. Fringe whitish ochreous, feebly interrupted with dark brown. Hindwing pale brown, costal margin and the veins towards the costal margin ochreous. Fringe as on forewing. One specimen from Victoria (Wimmera). 

**H. crocea** Luc. ♀ 26—28 mm. Mahogany-red, hindwing and abdomen more ochreous, a small black discal spot on the forewing. ♀ 36—38 mm, more vermilion, discal spot smoky brown, abdomen and hindwing ochreous. Brisbane. The prettiest species of Hectomones. 

**11. Genus: Phassus Wkr.** 

An extraordinarily characteristic genus. Antennae very short and thin. Palpi scarcely recognizable, proboscis absent. Abdomen very long, wings broad, the ♀ forewing falcately extended with golden or silvery stigmata. The habits of the usually brown or grey marbled Phassus recalls that of gigantic Phryganidae. The genus chiefly occurs in the tropical primeval forests; some of them reach the palearctic zone; its greatest development in number and size is to be found in the tropical regions of South America, where Ph. giganteus almost attains the Australian Leto stacyi. In the Indo-Australian region the genus inhabits Tropical India, China, and the Sundal Is.

**Ph. signifer** Wkr. (= chalybeatus Mr.) (Vol. II, pl. 54 a). This well-known, large, widely distributed species extends with its branches and subordinate forms into the expanded palearctic region (chalybeatus Mr., Darjeling; herzi Fixs., Korea, sinensis Mr., Shanghai) as well as into the Indo-Australian region, where its form *waldifer* Wkr. occurs in North India (Benares), extending also farther to Borneo and Ceylon. Its colouring is extremely variable. Forewing yellowish, flesh-coloured, or light greyish-brown, the median area nut-brown and olive brown with 2 silvery stigmata, hindwing from flesh-coloured to red-brown. ♀ darker, hindwing yellowish-brown. It has an expanse of up to 154 mm. The very closely allied form: *herzi* Fixs., belongs yet to this relation. On this occasion we must correct a wrong statement: the Hepialid form figured as *herzi* in Vol. II (pl. 54 a) does not represent *herzi*, but excrescens Blhr. — *kosemponis* Stbl. The ♀ is smaller than *signifer*, the 6 dark spots at the costal margin are differently arranged. The shape and arrangement of the silvery spots resemble those of *signifer*, also the dark triangular area in which they are situated. ♀ 86 mm. The ♀ is darker instead of lighter, the distal band as indistinct as in *purpurascens* (78 d). The submarginal spots also correspond better with those of *purpurascens*. ♀ 67 mm. Both the types are slightly damaged. Formosa. 

**Ph. sericeus** Swh. ♀ head and abdomen brown. Forewing pale chocolate grey, costal margin marked chocolate brown, the spots arranged in pairs. A white dot at the end of the cell, a broad brown spot filling the cell, indented above, leaves a pale interspace below the costal margin and expands far hindward. Two bands of brown spots before the distal margin reach the inner margin before the anal angle. Hindwing and under surface grey. 75 mm. Java (Malang). Distinguished from *sinensis* by the absence of the short white ray on the inside of the white cellular spot and the absence of the white spots near the base of the cell. 

**Ph. malabaricus** Mr. differs from the likewise similar *signifer* (Vol. II, pl. 54 a) in the pale chestnut-colour of the spots on the forewing, with small costal spots. Before the centre of the triangular area there is a yellowish-white spot or a longitudinal, not transverse, streak. The spots of the postmedian and submedian bands are rounded, not oblong. Hindwing reddish-brown, ♀ forewing grey or reddish-brown. ♀ 102, ♀ 120 mm. Canara, Nilgiri Plateau. 6—8000 ft.
Ph. viridis Hmps., likewise from the Nilgiri Mts. in South India, is characterized by a general sap-green colour (the only green Phassus). Abdomen and hindwing excepting the green apex dark brown. Scent-tuft brown. 86 mm.

Ph. albofasciatus Mr., also from the Nilgiri Mts. (7—8000 ft.). ♀ head, thorax and forewing greyish-brown; an indistinctly defined greyish-white band from the base to the apex, the median area reddish-brown. All the wings densely covered with undulate black stripes, dark spots and rings. Abdomen and hindwing blackish-brown. 64—84 mm.

Ph. damor Mr. (= similis Flbr.) (77 b). Distinguished by the strongly marked apex of the hindwing. Body and forewing greyish-brown with a few dark brown spots at the costal margin. A brown triangle in the cell is connected with an oblique irregular brown spot below the cell reaching to vein 1 and almost filling up the whole area at the cell-end, below it and behind it, so that only a pale streak remains in the upper cell-end. A spot at vein 1 close before the brown band, a streak behind the cell-end, besides 3 double oblique macular bands: one at the cell-end, a distal one, and one before the margin. Hindwing dark brown, a few brown spots near the apex. 65—85 mm. Assam.

Ph. punctimargo Soh. Head and thorax dark red-brown. Abdomen darker. Forewing dark red-brown. Two oblique bands in the interior area, with a glossy lead-coloured mixture in the distal area and distal angle. Some indistinct square spots at the costa. Two indistinct postmedian lines, the interior one with a white spot without the cell, the other line bent in the middle. Between these two lines a series of irregular ring-spots, a similar submarginal series. Rows of white spots at the distal margin. Hindwing pale brown with 2 very indistinct dark apical spots. Distal margin dark. ♀ paler red-brown. Forewing without white spots, postmedian line almost straight, a series of white spots and stripes at the distal margin on all the wings, more or less united into spots; variable in the different specimens. Assam.

Ph. purpurascens Mr. (78 d) is recognizable by the beautiful intensely purple brown, sometimes more reddish-brown colouring. A few dark brown, lighter-edged spots at the costal margin, a white lunule at the basal end of the cell, and one at the upper end of the cell. 1—4 white dots right behind the cell. Sometimes the ground-colour is somewhat reddened and a few white dots are scattered over the wing. 114 to 136 mm. Only ascertained from Ceylon.

Ph. niger v. Ecke. Ground-colour of body and wings dark red-brown; almost black in the centre of niger. Hindwing. A yellowish-white streak at the cell-end of the forewing. A series of very small yellowish spots between the apex and vein 2, about 10 mm distant from the margin. Besides small spots below vein 2 outside. Before and behind the row of dots there is one broad lighter band each, and a similar one at the inner margin. The whole wing is covered with somewhat reticulate dark lines. Hindwing without markings. ♀ 140 mm. Sumatra.

Ph. pfitzneri Odl. sp. n. (100 a). Similar to niger, forewing brown, somewhat lighter at the costal margin. A short yellowish-white streak at the cell-end is half as long as in niger, a similar dot close behind it. An oblong-triangular spot is above the base of vein 3, one small yellowish-white spot each above and below it. The interior one of the two bands of niger is narrow here, dark violettish-brown. The exterior one undulate and connected with marginal spots extending obliquely downward, as in signifer. Marking at the inner margin likewise similar, but much darker. signifer has a white spot in the cell, pfitzneri below the cell. 120 to 140 mm. Java.

Ph. aboe Mr. (= salsettensis Mr.) (76 d). ♀ dull brown on the body and forewing. A triangular dark aboe, spot in the centre of the cell extends from there downward on vein 2. Two dark spots in the upper cell-angle, two small ones in the lower angle. Four irregular bands in the marginal area, composed of ring-spots, the innermost band being bent below the costal margin and showing a white spot at that place. Some ring-spots also below the cell. Hindwing dark brown with 2 square spots in the apex. The first of the 4 bands in the ♀ is straiter and without a white spot. 65—85 mm. North India to Bombay. The ♀ figured is from the Khasia Mts.

Ph. auratus Hmps. (76 d). Head and thorax blackish-brown, forewing very dark brown. Basal half auratus, at the costal margin and the cell brass-coloured with a few brown spots at the costa. A brass-coloured spot at the apex, and at the centre of the distal margin. Hindwing dull brown. Scent-tuft ochreous. Bernardmyo, Burma; Khasia Mts. 42—48 mm.

Ph. damajanti Pj. sp. n. (76 d), originating from the Coll. Frunstorfer, is apparently a new Phassus- damajanti, form. Semi-transparent, glossy steel-grey. Forewing marbled with brownish ochre, a very sinuate broad brownish-ochreous blotch from the base almost to the distal margin, a golden spot in the disc, a small one towards the apex. Costa of forewing and hindwing brown and spotted steel-grey, fringe brownish ochreous. 68 mm. Assam (Khasia Mts.).

Ph. camphorae Sasake (78 c). This species having been discovered in the southermost part of Japan camphorae was already briefly mentioned in Vol. II, p. 438. In the south-east it probably crosses the frontier towards
the Indian region. We have figured it here for this reason. Moreover, it might be possible that also
excrescens. Ph. excrescens Btlr. extends into the Indo-Australian region. A remarkably large specimen (110 mm) from
the Coll. Pfitzner appears to originate from the southernmost districts of Japan, which are already tropi-
cal. The figure of excrescens is to be found in Vol. II, on pl. 54 a (marked “herzi” by mistake).


This interesting genus which is closely allied to Phassus is endemic in the Fidji Is. Palpi pocreet,
slightly bent at the end. Antennae short, filiform, legs hairy, tibiae and femora short. Neuration as in
Phassus Wkr., but with 2 transverse bars from the base of 12 to the costa of the forewing. Vein 1 a free,
1 c moderately long, a bar from 1 e to 1 c and to the median vein; 9 and 10 from a long fork in both
wings. Forewing of 5 and 9 falcate, longer than hindwing. A large scent-gland at the inner margin of the
5 forewing near the base. All the species give forth a strong scent.

odorevalvula. Ph. odorevalvula B.-Bak. (74 d). 5 70—102 mm. Forewing greyish-brown with a silver stigma. Hind-
wing dull brownish ochreous. Nausori. Also smaller and duller specimens.

guthrei. Ph. guthrei B.-Bak. (74 e). 5 100—115 mm. Forewing orange with silver spots, hindwing ochreous. 9
120 mm. Quite brownish grey with lighter, dark-centred spots. Viti Lewu, Rewa R.

binomorpha. Ph. binomorpha B.-Bak. 5 head, thorax and abdomen brown, forewing dark brown with spots. A dark-
centred spot without the cell in the angle of 3 and 4, and two similar spots near the tips of veins 3, 4 and 6.
Two lighter spots at the costa towards the apex. Hindwing pale ochreous. 114 mm. Viti Lewu, Rewa River.
Also smaller and paler specimens from the same habitat. It may be only a dark subform of guthrei.

nausori. Ph. nausori B.-Bak. (74 e). 5 119—125 mm. Forewing yellowish greyish-brown with fine silvery spots
which are sometimes absent; a dark patch in the apex; an H-like marking at the interior angle, hindwing
lighter. Nausori on the Rewa River.

rewaensis. Ph. rewaensis B.-Bak. (74 d). 5 110 mm. Forewing dark grey with a silvery spot in the centre.
Hindwing greyish ochreous. Nausori.

vitensis. Ph. vitensis B.-Bak. (74 d). 5 114 mm. Forewing orange, a silvery spot in the centre near the costa,
a silvery patch towards the distal margin, extending into the apex. Hindwing pale ochreous. Nausori.

albostrigata. Ph. albostrigata Rothsch. Thorax earth-brown, abdomen loamy yellow. Forewing earth-brown. The
basal half with irregular white spots containing small yellow spots with grey rings. A forked white post-
median transverse band, and white spots as far as the margin. Besides 4 or 5 rows of metallic pale yellow,
grey-edged spots and streaks from the centre of the wing to the distal margin. Hindwing yellowish earth-
brown with indistinct spots. Basal third with yellow hair. 5 70 mm. The only species from New Guinea.


Palpi absent. Antennae short, filiform. Forewing: vein 1 a and e short and delicate; a cross-vein
between 1 b and e and the median vein; both wings with stalked veins 8, 9, 10, and with 2 veinlets in
the cell, which are bent down and meet the centre of the median vein. Legs short, hairy, tibiae without spurs.
Distinguished from Hepialus by vein 8 arising from the cell in both wings of Hepialus. Larvae in the roots
of grass etc. Of the two chiefly palaeartic species known, algeriensis Joann, and nepalensis Wkr., only the
latter penetrates into the Indo-Australian region.

nepalensis. H. nepalensis Wkr. (= indicus Wkr., pauperatus Wkr., marcidus Wkr.) (Vol. II, pl. 54 d). This species
touching the palaeartic region in Kashmir is widely distributed in the Himalaya (cf. Vol. II, p. 437). We
mention here the form borneensis Pf. sp. n. (78 d). Larger than nepalensis with which it corresponds in
the marking. Forewing with 4 indistinct rows of small black spots or rings on indistinct oblique bands; a sub-
marginal row of dots or rings of light spots. The main difference from the typical form is, besides its much
larger size, the intense reddish tint of the total colouring, especially on the forewing. From Borneo (Kina-
Balu). Type in the Berlin Museum.


This genus is characterized by the relatively strong development of the palpi. Antennae shorter than
the very hairy thorax. Wings narrower, the interior angle of the forewing more projecting, not so flat
and uniformly rounded as in most of the other Hepialid genera. A small Indian genus. Small or very small
forms (with one exception).
**P. coerulescens** Suh. (75 b). 25—28 mm. Dark blackish-brown, with a bluish-black shine in a certain *coerulescens* exposure to light. Forewing with a conspicuous white dot in the middle of the cell, a less distinct dot below the apex. Hindwing spotted yellow. Assam, Khasia Mts.

A very closely allied species is: **P. pellicia** Suh. ♂♀ uniformly dark brown, a slight red tint on the pellicia hair of the legs. The white spot in the middle of the cell on the forewing is very small, often disappearing, no subapical spot. A moderately large yellowish spot at the distal margin of the hindwing. 20—29 mm. Khasia Mts.

**P. sordidus** Sn. Head and thorax brownish-grey, tinged with grey. Forewing somewhat lighter; some sordidus traces of rows of darker dots. Distal margin marked with brown dots; darker and more distinct, the more one approaches the inner margin, where the 2 or 3 last dots are almost black. — Some specimens exhibit a triangular light yellow dot at the base of the cell. Proximad to it 2 smaller ones obliquely below each other. The light edging of the dark marginal spots is fine white and distinct; this is: **notatus** Pf. form. nov. (77 c). notatus. Java.

**P. madurensis** Pf. sp. n. (76 d). Size: 37 mm. Dark brown, the centre of the wing lighter. Basal part of the forewing with 4 white stigmata, 3 of which are in a longitudinal row, the 4th above them. Dark lunae edged with golden brown are in the distal part. Fringe of hindwing yellowish in the centre of the margin. One specimen from Madura.

**P. sexnotatus** Mr. (Vol. II, pi. 54 e) is a chiefly palaearctic species; its form: **taprobanus** Mr. occurs in Ceylon. Forewing black, lighter in the inner-marginal half, six yellowish dots. Hindwing black with a yellow basal area, the fringe in the central part of the distal margin yellow. 30 mm.

**P. tavoyanus** Mr. pale claret-brown, the metathorax and the first abdominal segment covered with ochreous hair. Forewing with dark square costal spots, others in and below the cell. An irregular median band with a dentate margin. A series of small marginal lunules and a black spot above the distal angle. All these markings with ochreous margins. Hindwing dark claret-brown, ochreous at the base, the margin ochreous from the anal angle to vein 4. 77 mm. Tavoy.

**P. minutus** Hmps. (76 e) is the smallest Hepialid known to us. 17—18 mm. Wings relatively broad. The abdomen scarcely projects beyond the anal margin. Forewing yellowish-brown, speckled darker brown. Costa brownish, the distal margin broadly brownish, in this shading there is a row of 3 oblong white, black-centred dots extending into the apex. Hindwing dull greyish-brown, fringe ochreous. Khasia Mts.

15. **Genus: Casana** Wkr.

The question whether this genus really belongs to the Hepialid family cannot be decided here. I append it therefore with a reservation. ♂ body robust; no mouth-parts. Palpi porrect, strong, thickening, not projecting beyond the head. The 3rd joint conical. Antennae pectinated. Abdomen very long, projecting beyond the hindwing by $\frac{3}{4}$, at the end with a long thick tuft and two posterior tufts rectangular to the anal tuft. Legs stout, femora and tibiae slightly fringed. Hind tibiae with 4 long spurs. Wings narrow, distal margin convex, extremely oblique. The third lower vein is more than twice as far from the fourth as from the second to which it is very near.

**C. trochlioides** Wkr. (77 c). ♂ blackish-blue. Antennae black. Thorax with a silvery spot in front on each side. Dorsal shield silvery white. Abdomen with a black anal tuft, lateral tuft ochreous, tips below pale golden. Feet copper-coloured. Forewing black with numerous dots of a steel gloss, under surface metallic blue, partly green. Hindwing vitreous and broadly margined with black. Length of body 10 lines (= 21 mm), of the wings 16 lines (= 33 mm). Aru Island. (The species was placed here by Pfitzner. I only know the figure by Swinhoe, and according to this it may rather belong to the *Cossidae* [Gaede].)
Alphabetical List

of the original descriptions of the Indo-Australian forms of *Hepialidae*.

* signifies that the form is also illustrated in the place cited.

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fischeri Char. *Fdr*. *Reise Novara Lep.* 4, Taf. 80, Fig. 1.


hyalinaeus Ab. *H.-Schaff. Außereur. Schmett.* 1, Fig. 50.


Original descriptions of the Indo-Australian Hepialidae.

rubriviridans Char. White Taylor, Ika i Maui Taf. 1, Fig. 1.


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Errata and Corrections of Vol. 10.

P. 1, line 3 from below, cancel the reference (9 d) in partita.
P. 9, line 26 from below, for Myrmeleon read: Memecylon.
P. 11, line 25 from above, cancel the reference (2 b) in J. tricolor.
P. 33, line 1 from above, for (9 b) read: (6 b).
P. 62, line 14 from above, for Pollistes read: Polistes.
P. 62, line 24 from below, for more important read: more correct.
P. 65, line 9 from above, for flavibasis Hwps. read: hageni Sz.
P. 66, line 13 from above, add to hyalina the reference: (9 g).
P. 67, line 2 from above, add after flaviplaga: Wkr.
P. 67, line 4 from above, for albisignata read: albosignata.
P. 67, line 18 from above, for quadriplagiata read: quadriplagata.
P. 68, line 21 from below, for (Vol. 1, pl. 9 e) read: (Vol. 2, pl. 9 e).
P. 71, line 24 from below, for Jaintra read: Jainta.
P. 77, line 20 from below. Owing to the fact that a species Synt. catena exists already, this name is changed (Wileman, 1910) into: Synt. pictata Sz.
P. 87, line 23 from above, before E. pratti insert: “E. wahlæsi Rothsch. (12 i) exhibiting a black base of the abdomen originates from German New Guinea.”
P. 96, line 25 from below, for “parted” read: wedge-shaped.
P. 108, line 6 from below, to microphasma add the reference: (13 h).
P. 111, line 7 from above, for Mayr. read: Meyr.
P. 114, line 6 from above, after Poeclonota add: Hwps.
P. 120, line 14 from above, after Darantoides add: Hwps.
P. 121, line 12 from below, for trifasciata Moore read: trifasciata Snell.
P. 122, line 17 from above, after subfasciata add: Rothsch.
P. 123, line 19 from above, for Trischallis read: Trischalis.
P. 125, line 17 from above, for (13 a) read: (13 c).
P. 129, line 19 from above, for (13 k) read: (13 e).
P. 129, line 27 from above, for (13 k) read: (13 c).
P. 129, line 13 from below, cancel (13 g) after aroa.
P. 129, line 6 from below, to bicolora add the reference: (18 m).
P. 131, line 18 from below, for (13 f) read: (13 g).
P. 132, line 20 from above, for (13 k) read: (13 e).
P. 133, line 14 from above, to elegans add the reference: (18 h).
P. 139, line 22 from below, to gratiosa add the reference: (18 e).
P. 141, line 21 from above, for (18 e) read: (18 e).
P. 142, line 18 from below, to *incompleta* add the reference: (18 f).

P. 143, line 26 from above, to *fusca* add the reference: (17 d).

P. 149, line 18 from above, for *posphyrea* read: *porphyrea*.

P. 155, line 1 from above, to *unicolora* add the reference: (17 a).

P. 159, line 19 from below, the reference: (27 . . .) after *polygrapha* is to be cancelled.

P. 161, line 10 from below, the reference: (27 . . .) after *dagomei* is to be cancelled.

P. 164, line 9 from above, for (17 e) read: (17 e).

P. 171, line 17 from above, to *arama* add the reference: (26 a).

P. 171, line 20 from above, to *divakara* add the reference: (26 a).

P. 171, line 25 from above, to *dohertyi* add the reference: (26 a).

P. 171, line 16 from below, to *puer* add the reference: (26 a).

P. 172, line 13 from below, to *charybdis* add the reference: (26 a).

P. 173, line 20 from above, to *alboniaculata* add the reference: (18 g).

P. 174, line 13 from below, to *determinata* add the reference: (26 a).

P. 176, line 5 from below, for (16 f, a, b) read: (16 f).

P. 177, line 9 from below, for *caerulescens* read: *coerulescens*.

P. 206, line 11 from above, after *destriata-* insert: “nom. nov”.

P. 209, line 22 from below, after *chrysophleps* insert: (13 k).

P. 229, line 5 from below, for (26 i) read: (26 h).

P. 235, line 7 from above, the reference (26 e) of *marchali* is to be cancelled.

P. 239, line 22 from above, for (20 e) read: (20 e, 21 d).

P. 241, line 1 from below, the reference (21 b) of *punctilinea* is to be cancelled.

P. 243, line 26 from below, the reference (21 f) of *todara* must be: (21 c, f).

P. 243, line 12 from below, for (21 f) read: (21 d, f).

P. 250, line 23 from above, insert: *bifrons* Wkr. (19 h) may denote a deviating specimen of *D. semperi* Wkr.

P. 251, line 25 from below, for (24 b) read: (23 g, 24 b).

P. 256, line 4 from above, for (26 d) read: (26 e).

P. 256, line 9 from above, for (19 i) read: (19 i, 24 i).

P. 256, line 2 from below, for (24 f) read: (24 e, f).

P. 262, line 17 from below, for (26 f) read: (26 g).

P. 275, line 15 from above, for (29 i) of *uniplaga* is to be cancelled.

P. 275, line 11 from below, for (10 g) read: (30 g).

P. 275, line 4 from below, add: — *denticulata* Sa. exhibits the inner-marginal area white as far as the median vein, with 2 dull brown spots below the distal half of the cell. Sumatra, Java.

P. 276, lines 4, 5, 6 from below, for (26 i) read: (26 h).

P. 291, line 1 from above, for “5. Family” read: “6. Family”.

P. 292, line 25 from below, to *mendosa* add the reference: (38 a).

P. 292, line 24 from below, to *fusiformis* add the reference: (38 g).

P. 293, line 13 from above, to *queenslandica* add the reference: (38 c).

P. 293, line 21 from below, to *varia* add the reference: (38 d).

P. 294, line 22 from below, to *circulata* add the reference: (47 f).
P. 294, line 5 from below, for (47 a) read: (38 h).

P. 300, line 8 from above, for (47 a) read: (47 b).

P. 300, line 14 from above, to caligramma add the reference: (47 f).

P. 300, line 26 from above, to forbesi add the reference: (42 k).

P. 302, line 3 from below, to sagaira add the reference: (47 h).

P. 303, line 16 from below, to nigrofascia add the reference: (42 g).

P. 304, line 4 from above, at subnotata read: (42 g גד, 45 k ؛).

P. 305, line 22 from above, to plana add the reference: (42 f).

P. 305, line 20 from below, to substrigosa add the reference: (42 g).

P. 307, line 22 from above, to ochripalpis add the reference: (47 h).

P. 312, line 18 from above, to rufimarginata add the reference: (39 f).

P. 313, line 13 from above, to impressa add the reference: (47 d).

P. 315, line 16 from below, to destituta add the reference: (42 a as mindanensis).

P. 321, line 19 from below, to mathura add the reference: (40 g).

P. 329, line 1 from above, to venosa add the reference: (47 f).

P. 331, line 22 from below, to albicans add the reference: (42 k).

P. 333, line 3 from above, to limbata add the reference: (45 i).

P. 333, line 24 from above, to aurantiaca add the reference: (39 g).

P. 333, line 26 from below, to flavonigra add the reference: (45 d).

P. 333, line 26 from below, to subnigra add the reference: (45 d).

P. 333, line 3 from below, for (47 b) read: (47 c).

P. 335, line 12 from below, to paradoxo add the reference: (45 b).

P. 337, line 16 from above, to bimaculata add the reference: (45 h).

P. 338, line 1 from above, for (45 i) read: (45 g, i).

P. 338, line 23 from below, to plagiata add the reference: (47 d).

P. 340, line 6 from above, to obsoleta add the reference: (45 k).

P. 343, line 17 from above, for (47 c) read: (45 k).

P. 343, line 3 from below, to mirabilis add the reference: (43 h).

P. 344, line 20 from above, to atomaria add the reference: (45 k).

P. 347, line 17 from below, to ornea add the reference: (44 f as ornea).

P. 354, line 13 from below, to javaniana add the reference: (45 e).

P. 354, line 7 from below, lincea is to be cancelled.

P. 355, line 6 from below, to luteosa add the reference: (45 g).

P. 360, line 22 from above, to marginalis add the reference: (45 a).

P. 363, line 11 from below, for (57 e) read: (39 g as kinabaluensis).

P. 364, line 12 from below, for (57 b) read: (57 a).

P. 365, line 15 from below, to flavifascia add the reference: (58 a).

P. 366, line 17 from above, to ferruginosa add the reference: (58 a).

P. 366, line 21 from above, to reducta add the reference: (58 a).

P. 366, line 23 from below, to rubescens add the reference: (56 C e).

P. 366, line 29 from below, to addita add the reference: (58 a).

P. 366, line 16 from below, to minuta add the reference: (56 C e).

P. 366, line 3 from below, to pinguis add the reference: (58 a).

P. 367, line 8 from below, to simplex add the reference: (56 C e).

P. 367, line 3 from below, to plana add the reference: (58 b).

P. 368, line 29 from below, to xantharcha add the reference: (58 b).

P. 370, line 7 from below, to intornata add the reference: (58 b).

P. 371, line 15 from below, for (46 g) read: (36 c).
Errata and Corrections.

P. 380, line 17 from below, *Comana Wkr*. which was preliminarily ranged here, has been dealt with at large on p. 609.

P. 389, line 18 from above, for (51 c) read: (57 c).

P. 389, line 20 from below, for (51 a) read: (51 c).

P. 392, line 12 from below, for (Vol. 7 . . .) read: (Vol. 2 . . .).

P. 403, line 5 from above, for (35 d . . .) read: (32 d, 35 d . . .).

P. 421, line 5 from below, for (56 B c) read: (56 B b).

P. 430, add to *Omestia Bihak*: This genus has been ranged here only provisionally, in special accordance with American authors who put several genera that were formerly ranged under the Notodontids to this place. The elaborator of this family has quoted it once more in the *Notodontidae* on p. 707.

P. 439, line 1 from above, to *apicalis* add the reference: (57 g).

P. 439, line 12 from below, cancel the reference: (57 g) belonging to *kebeae*.

P. 445, line 25 from above. — Another form may be ranged after *rectificata Wkr.*, figured by Warren as *fuscitusa* on pl. 48 a; it is, however, not mentioned in the text, as he did not outlive the print.

P. 451, line 7 from below, to *hyalinata* add the reference: (48 e, as *hyalicosta*).

P. 455, line 18 from above, to *specularis* add the reference: (48 k as *specularia*).

P. 466, line 17 from above, for (49 d) read: (49 d, e).

P. 469, line 5 from above, for (49 g) read: (49 f, g).

P. 475, line 26 from below. Another form may be inserted after *curvaria*, which Warren had figured as „depressa“ from the Tring Museum, but which he has not mentioned in the text.

P. 476, line 3 from below may be the appropriate place for a *spectroreta*-form allied to the typical *hyalodisca*, which Warren figures as *grisea* on pl. 50 d, without mentioning it in the text. Original specimens in the Tring Museum.

P. 479, line 30 from below, for *P. extensa* read: *O. extensa*.

P. 500, line 22 from above, to *subcaeca* add the author: *Bov.*

P. 521, line 20 from above, for (56 C a) read: (56 C b).

P. 530, line 18 from above, for (56 c d) read: (56 C d).

P. 533, line 5 from above, for *mousoni* read: *mansoni*.

P. 534, line 18 from above, for *Gray* read: *Grey*.

P. 537, line 1 from above, place before Vol. II, pl. 37 c: (61 e and . . .

P. 558, line 5 from above, for (56 C c) read: (56 C d).

P. 559, line 17 from below, to *prometheus* add the reference: (65 c).

P. 560, line 14 from above, for (56 C c) read: (56 C d).

P. 560, line 24 from above, for (56 C c) read: (56 C d).

P. 560, line 22 from below, for *nigillum* read: *nigellum*.

P. 561, line 10 from above, for *novobudensis* read: *novebudensis*.

P. 562, line 4 from above, for (56 C c) read: (56 C d).

P. 562, line 18 from above, for (56 C d) read: (56 C e).

P. 565, line 26 from below, for (56 C d) read: (♂ 56 b; ♀ 56 C d as *polystictus*).

P. 567, line 29 from below, for *silchetensis* read: *silhetensis*.

P. 573, line 14 (to the left), for *burnensis* read: *burnensis*.

P. 633, line 24 from above, at *olivacea*, for (84 b) read: (83 f, 84 b).

P. 635, line 20 from above, the name at the margin: *microsticta* must be: *microsticta*.

P. 636, line 13 from above, for (84 f) read: (84 e, f).

P. 641, line 12 from above, for (80 d) read: (80 f).

P. 645, line 24 from above, to *punctifer* add the reference: (79 c).

P. 647, line 4 from above, for (80 b) read: (80 h).

P. 649, line 12 from above, for (Vol. I, pl. 48 g) read: (Vol. II, pl. 48 g).

P. 649, line 9 from below, for (p. 629) read: (p. 624).
Errata and Corrections.

P. 670, line 19 from below, for Aroeogia read: Araeogia.
P. 688, line 11 from above, after Birthana add the author's name: Wkr.
P. 693, line 26 from above, to otorina add the reference: (894).
P. 696, line 8 from below, cancel the reference (90 b) in alipuncta.
P. 697, line 18 from below, to luxa add the reference: (87 c, as lasca).
P. 718, line 19 from above, to dentilinea add the reference: (89 h).
P. 721, line 14 from below, for (90 h) read: (90 g).
P. 722, lines 11 and 14 from below, for (90 h) read: (90 g).
P. 734, line 20 from below, for Pernia read: Perina.
P. 747, line 19 from above, for (92 a) read: (93 a).
P. 748, line 16 from below, for (31 f) read: (91 f).
P. 789, line 23 from above, for doratiformis read: dorsatiformis.
P. 803, line 7 from below, for obliquifuscia read: obliquifasciata.
P. 808, line 14 from below, for: in Vol. II and XVI read: in Vol. II and XIV.
P. 817, line 6 from above, for (98 a) read: (97 d, 98 a).
P. 826, line 17 from below, for: ... are broader than they are long, read: ... are longer than they are broad.

P. 829, line 13 from below, the figure 78 b may represent a discoloured specimen of a form of eximia, the forewings of which were formerly green; it is therefore marked by Pfitzner on the plate as “dubia”.
P. 845, line 6 from below, for trochilooides read: trochiloides.
The number directly after the name indicates the page of the text. The names in capital initial letters mean the genera, and those in italics mean synonyms and occasional quotations.
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Corrections of the Plates of Vol. X.
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