THE MACROLEPIDOPTERA OF THE WORLD

A SYSTEMATIC DESCRIPTION OF THE
HITHERTO KNOWN MACROLEPIDOPTERA

IN COLLABORATION WITH WELL-KNOWN SPECIALISTS

EDITED BY

DR. ADALBERT SEITZ, PROFESSOR

▽

DIVISION I: FAUNA PALAEARCTICA VOL. 1—4
WITH SUPPLEMENT — VOL. 1—4

DIVISION II: FAUNA EXOTICA VOL. 5—16
PALAEONTOLOGY, MORPHOLOGY, BIOLOGY AND GEOGRAPHY
OF THE MACROLEPIDOPTERA — VOL. 17

▽

SUPPLEMENT TO VOL. 1.

ALFRED KERNEN, PUBLISHER, STUTTGART
1932

THE PALAEARCTIC BUTTERFLIES

WITH 16 PLATES

▽

SUPPLEMENT

▽

ALFRED KERNEN, PUBLISHER, STUTTGART

1 9 3 2

Printed in Germany.

Printed by H. Laupp jr, Tübingen.

Preface.

In publishing the 1st Supplementary Volume of the MACROLEPIDOPTERA OF THE WORLD, editor and publishers found themselves faced with a series of complex and entirely unexpected new problems. Fundamental alterations of all preconceived notions were necessary owing to the progress in technical art, the rapid accumulation of new scientific data and above all the constant changing perplexities and difficulties of the present times which were due to the unprecedented economic world crisis. The difficulty was therefore not only to carry out the arranged plan, but to combat with the fresh difficulties as and when they arose and of which at the present time no end is in sight. Only by working without cessation to produce the part issues quickly, was it possible to overcome the difficulties, and give at the same time equal consideration to pure scientists, as well as the larger circle of amateur entomologists.

The first "*Papilio*" chapters appeared in the autumn of 1929, nevertheless the "*Hesperides*" were completed in April 1931, merely 18 months in which all this matter had been elaborated. Besides two additional supplementary parts were published and simultaneously good progress was made with the 2 following Supplementary Volumes.

At the same time no delay was allowed to take place in the publication of the main series of Volumes, especially the conclusion of Volumes VI and X. During the lapse of time, i. e. from September 1929 to April 1931 we published 32 parts of the main series. As each of these parts contains 3 units, comprising printed matter or plates, some 170 units appeared in rather less than 2 years, a total of 240 — both of which were printed in the german and english languages.

Thus a period of barely 3 days, taking even Sundays and holidays into consideration, has been required to produce each sheet of text or plate and this remarkable achievement should be taken into consideration if some small inexactitudes are discovered.

The publishers have however not deliberately sought to create a record in speed. Both the editor and they have made every endeavour to profit by the latest inventions and improvements in graphic art for the benefit of entomology. The reader can judge to what extent this has been successful, in spite of the difficulties of the present times and the prohibitions and restrictions in intercourse between the nations. Just compare the plates given with the last parts published, for instance Supplementary Volume 3, plates 3 and 4 with the corresponding plates of the original Volume (plates 5—8 of Volume 3) and we are certain we may venture to feel sure of approval.

The great complexities that arise in the question of nomenclature, are dealt with in the introduction. Stress was laid (eompare pages 2 and 3) on the fact that nomenclature should never be otherwise than an auxilliary expedient and an aid to natural sciences. There is neither time nor space in the "MACROLEPIDOPTERA" to discuss the issue or enter into the disputes regarding nomenclature. The monographers can explain their attitude towards each individual denomination after studying the entomological catalogues that compile the material.

As, no doubt, has been observed in the original Volumes we sought to omit all names for abnormities, such as may occur in every species. It is now nearly 40 years since the introduction of such names as *minor*, *major*, *intermedia*, *obscura*, *pallida* etc. for all known species. Of this, TUTT was the chief exponent. Soon after commencing we were flooded with applications and complaints that TUTT's denominations had been "overlooked", "left out" or even "deliberately suppressed". It appeared that most subscribers desired a complete

register, the majority even required descriptions of all denominations hitherto given, no matter from what quarter. Everyone could then decide for himself, which of these names were of utility. For this reason we had to radically alter our outlook and intentions and we have now included all the names, except such as were contrary to the rules of nomenclature. Further wherever such names are not self-explanatory, we have sought to give a brief description.

In regard to the giving of names we have not allowed ourselves any criticism in the Supplementary Volume (neither did we in the original Volumes). It is open to doubt whether such denominations as for instance a form "*croceosemivirgatus-caerulescens*" *Tutt*, "*forma punctis-subtus-confluentibus*" or "*subtus-maculis-partim-extensis*" *Oberth.* can be held to be valid for forms in accordance with LINNÉ's nomenclature? Actually these are abbreviated diagnoses and one might just as well consider them as such. Later COURVOISIER and other authors similarly have attempted to introduce some consistency in denominations, by giving for instance for all forms with reduced markings, no matter to which species they belong, the name of "*forma privata*", whilst for such that are especially well marked "*decorata*", for such with abnormal spot markings the names *parvipunctata*, *parcipunctata*, *pluripunctata* etc. COURVOISIER himself has stated personally to the editor that he did not consider these denominations as of equal importance as for instance *Apatura ilia forma clytie* or *Vanessa antiopa forma hygiaea*. As however latterly he entered behind these denominations "mihi", he must have ultimately considered them as fully valid names. — We can see little to recommend either of these two methods of denomination, the compound names and the systematic as both have grave disadvantages.

The former, the utilising of compound abbreviated diagnoses instead of binary nomenclatural denominations represents a retrograde step towards pre-Linné chaos. The latter, COURVOISIER's schematic, systematic denominating would mean constant repetition and the indispensible necessity of additional distinctive designations. Such a naming of individual specimens and of immaterial, purely local aberrations or tendencies would create confusion regarding the accuracy of all previous records and illustrations in literature. The question whether a system of synonymical names would be feasible becomes unnecessary in cases where only the locality label enables one to definitely classify a form, where one requires date of capture to specify to which separately denominated generation a specimen belongs, or where one would not know at which specimen one denomination should cease and another commence in long series with every grade of transition.

There is however no reason why we should omit names of this nature that have already been given, nor have we any desire to withdraw them or replace them by others. The authors of the various Genera have occasionally made remarks as to the superfluity or dispensability of certain names, but each subscriber must decide for himself whether he agrees or disagrees with such comment. The attitude generally adopted in this work towards this (which has not unreasonably been called the "denomination mania") can best be judged from the fact that in Supplementary Volume 1, of many thousands of names enumerated only 39 are entirely new and even these are chiefly where other names have had to be substituted on grounds of prior use.

It is obviously true that the enumeration of names in the Supplementary Volume, especially those of sub-forms, has grown to enormous dimensions and the compilation of the Index reveals more than 9000 names. It was therefore no easy matter to keep this Volume within reasonable dimensions, as it might easily have far exceeded in bulk the original Volumes to which it is merely supplementary.

Closely allied to the question of denominations is the question of "races". It is unavoidable that in describing single specimens, purely individual characteristics are occasionally included as those of the race.

It is impossible to create general rules in regard to the applicability of definite characteristics required to designate a race. In this question each opinion varies and they frequently diverge quite considerably. As a professional rearer and breeder, having often been elected as judge in questions of "race" and whose opinion has often been sought in such matters, the editor has had exceptional experience in questions relating to the scientific establishment of races. Nevertheless he does not consider himself competent or qualified to influence or to seek to correct the opinion of previous authorities or even his collaborators without first making the most exhaustive study of each individual case. The expert scientist sees in many cases such a confusion of ideas in the layman on this question of "races", that it appears to him almost purposeless to endeavour to correct or revise opinions that have already become ingrained.

A work that tries to embrace all the names hitherto given, cannot hope to satisfy every single subscriber. Whilst many feel annoyed at the enumeration of many names that they deem dispensible, others check through each name in the most painstaking way, to try to find whether some name or other has been omitted. Some authors actually have felt hurt owing to the descriptive matter relating to one name being more ample than another and in some cases have in consequence even gone so far as to openly express adverse criticisms of the work as a whole.

That in spite of the difficulties of world conditions and despite such criticisms, it has been possible to complete the *Rhopalocera* of the world, the *Heterocera* of the palaearctic region, the exotic *Sphingidae* and almost

the entire *Bombycidae* of the whole world, encourages the editor to hope that in spite of the admitted shortcomings (small defects, omissions and errors are almost inevitable in such a stupendous task) subscribers are satisfied with the publication and find that it is to their advantage to possess such a work. Everyone connected with the work, the publishers, collaborators, artists, as well as the editor have been satisfied with a minimum of remuneration in spite of the increasing stress of the times in order to provide the public with the results of their labours at the very lowest cost. We therefore trust that the present volume will be received with kind indulgence in consideration of the indefatigable work and the difficulty of compressing so much comprehensive matter into such small compass.

The editor desires to express his especial thanks to the publishers, who have had to suffer more from present day difficulties than any of the other collaborators. The disintegration of the european Continent into such a plenitude of small States, each trying to effect economic independence, each creating Customs barriers and difficulties in the transmission of money etc., each with suppressed enmity, all against all, undermining the prosperity of great enterprises, sowing distrust throughout the world — these are all factors — coupled with a change from the pursuit of science and natural history to the fetish of sport — which could only be surmounted by the undaunted enthusiasm of all the co-workers in their desire to achieve their object. It must be plain to everyone that since a long time there has been no prospect of profit either for the publishers or editor or for the collaborators, so that they are only being urged forward by their idealism to complete the work that has succeeded so far and which after so much endeavour and labour should not be allowed to lapse before final success is achieved. The "Macrolepidoptera of the World" must be brought to completion, this alone urges them forward to further endeavour!

I would like therefore to record here my gratitude to the compilers of the individual chapters, also particularly to the art printers Werner & Winter (Hauser Press) in Frankfurt on the Main who have carried out the colour plates. — Even if among these thousands of illustrations one or another is not above criticism, nevertheless they compare favourably with any others, even such that are published at much higher prices. May we appeal here for indulgence in cases of minor inexactitudes and ask our subscribers not to be influenced by adverse criticisms of people who often in ignorance of the actual butterfly express unjust opinions. It is unfortunately human to err and it has proved practically impossible to avoid a mistake being made here and there. Sometimes this is due to an alteration in the denominations themselves.

Finally my best thanks are due to those collectors who have facilitated the work of the subeditors by the loan of types or specimens from collections. Prompt help in such matters is often of great value and the average time taken for the preparation of each colour plate, which was only 3—4 days with their crowded varieties of illustrations, could only be achieved by the unselfish aid of these friends of our work.

If we can progress in the same way we have every hope of rapidly completing Supplementary Volumes II—IV, which we are desirous of doing with all speed, as already now the need is being felt of supplementing the exotic *Rhopalocera* and this could then be definitely taken in hand.

Darmstadt 1st January 1932. Dr. Adalbert Seitz.

Introduction.

Δρυος πεσουσης πας ἀνηρ ξυλευεται

With the completion and publication in 1909 of the volume "The Macrolepidoptera of the World" dealing with the palaearctic *Rhopalocera* everybody was able to classify specimens and collections without trouble and without having to wade through a whole library of literature.

As was to be anticipated numberless specimens were found which as yet were unnamed. The immediate result was a flood of new names and descriptions.

Consequently in the last 20 years we are grateful to record a considerable extension in our knowledge of species, forms and aberrations, which is of great value to the science of entomology. It was however unavoidable that many hundreds of individual aberrations were named and it is extremely doubtful whether any useful scientific purpose is served by increasing the nomenclature in this way. When one considers that as many as 40 names have been bestowed on British *Vanessa Urticae*, twenty on Belgian *Apatura Ilia*, over fifty on the various possible shades of *Chrysophanus Phlaeas*, and more than 100 names on one species of *Parnassius*, it must be evident that things are going too far and science is being hindered. The time seems to have come when a stricter examination of names is necessary.

This elimination and discrimination, however, is not the task of our work which is chiefly to be a book of reference. The boundary line in nomenclature between that which is necessary, justified, superfluous or inadmissible is always difficult to define and probably varies with each individual. If too many details were to be gone into this supplementary work would assume such proportions as to become unwieldy.

In the supplementary part therefore a simplification has taken place in all cases where the naming appears to be in direct opposition to the prevailing usages of descriptive science, or where it is due to chance variations, whether these be pure chance or whether they have been obtained artificially. It has been found however that a distinction must be made between forms for which specific names are justified and those for which a special name would be superfluous. This was not done in Volume 1 of this work as there was then no urgent reason to do so. The named varieties at that time were so few that in mentioning them the size of the volume was scarcely increased. The reader could therefore decide which varieties he thought deserved separate names and which did not. The overwhelming number of forms, however, which have now been given separate names have indicated the serious consequences which may result if one starts admitting all names without consideration as to which are dispensable.

In many works a great many varieties have been described and even illustrated without names which could justifiably have claimed the right to a separate name. We call to mind the innumerable colour and marking possibilities described by Oberthür and others occurring for instance in the genus *Heliconius* in America. Of *Heliconius Vesta* or *Thelxiope* for example there are dozens of different illustrations *) each of which would be entitled to a name with just as much right as has been claimed for other *Rhopalocera* in cases of slightly broader margins, bands or spots. Such series of types would be possible with a great many tropical

*) Ch. Oberthür, Étud. d'Entom. 21.

species and in fact certainly with the majority of *Heliconiids*, and such a procedure could be continued by applying an enormous number of names on insects like *Abraxas Grossulariata* of which Oberthür illustrates 150 varieties naming only a very few. Such a nomenclature is unwarranted in all such cases where it is impossible to find a number of specimens exactly alike. Whilst it cannot be the task of this work or its supplements to lay down hard and fast rules or sift through all the names given up to now, every effort has been made not to unnecessarily increase the flood of purposeless names. A distinction must be made in the importance of such names and of irregular or artificial forms which have only been mentioned by way of parenthesis and without giving further details or characteristics. It is only if the same methods are adopted by others that one may hope to put an end in the future to this torrent of descriptions. These threaten to obscure accuracy and we wish to strive for quality rather than quantity.

If the present system of giving names to every chance variety is continued there is every likelihood that in the near future names will be allotted to such variations in colours and markings which may yet be possibly discovered. For instance with the majority of *Erebia* there exist specimens both with and without pupilled ocelli in the wings and it may be concluded that it is only chance that such anomalies have yet not been found in a great number of species, and that their discovery is only a question of time. Therefore anybody calculating on this may name all sorts of combinations by a simple form of mathematically applied "variety-formula" as already has happened for instance with the Elythren-markings of certain European coleoptera where names have been given to colour variations which are known to occur and also to colours that may eventually be found (or which it is expected will be found in the course of time) and with these latter a note is made that "should such and such an aberration be found it is to be named x. y. z.". There can be no doubt whatever that such methods and provisional denominations should be forbidden. It should be made obligatory that whoever claims the discovery of a new type should at least produce the specimen in question. This has however not proved practicable so far and therefore the whole matter of giving names remains a question of honour and trust. A case in point would be the yellow forms of the genus *Zygaena* which have occurred in many species and there might therefore reasonably be grounds for suspicion when claims are made of the discovery of specimens showing this variation in new species.

The question of new names becomes more difficult still in cases of structural abnormalities where abnormal vein formations have been given names. One sided displacement of nervures as occur for instance with *Aporia crataegi* in the monstrous forms of ab. *Karschi* and ab. *Enderleine*, are presumably possible in most of the *Rhopalocera*. Such cases being simply abnormalities are as little entitled to have a name of their own as a lame horse or a calf born with three legs would be entitled to be classified as a separate species and with a separate scientific name. A hare spotted irregularly, with white on its side would not be given a scientific name of its own, and an increase of the multitude of names beyond the limits of reason must be avoided.

Medical science, whose objects as regards nomenclature are naturally different to those of descriptive zoology, should not be referred to as a comparison. Names like *Cholera nostras*, *Typhus abdominalis*, *Erythema nodulosum*, occurring in Pathology, and *Pygopagus parasiticus* in Teratology, are entirely different in their way from scientific names for particular animals. We observe new diseases continually developing and for this reason must expect corresponding additions in nomenclature. With the Zoological nomenclature however there should be the final goal — even if at present it cannot be realised — viz. the time when all forms of animals deserving a name have been named with the consequent period of rest i. e. the time when a state of stabilisation has been reached. We might then hope to have got to a point where after all questions of priority had been settled and all parts of the world had been explored we might rest, or at least have reached a point where the addition of new names became a matter of rarity. However far off this time may seem it should not be made illusory. On the contrary it should always be the aim to which scientific nomination should strive.

In the following supplementary volumes to the main Work of "The Macrolepidoptera of the World" it is impossible to take up an extreme attitude either in the nomenclature or with the giving of new names. The supplementary volumes cannot very well contradict those sections of the Work to which they are a supplement.

The so-called international rules for nomenclature, however, could not be applied to the volumes appearing prior to 1914, as they had not been drafted at the time when the earlier chapters of the Work were written. Even to-day one must have the impression regarding several of these rules that the present drafting will not be final. Considerable differences may occur whilst the Work is being issued and these would cause apparent contradictions in the various chapters of the Work. It is hoped to avoid anything that might impair the usefulness of the Work. Wherever possible new names or the naming of forms already described has been avoided or old names have been adhered to.

When the "Macrolepidoptera" was first edited in 1905 the experts unexpectedly and flatly rejected the rules of nomenclature which had been submitted *). Since then their attitude has generally become a great deal more friendly and we are within measurable distance of and the adoption and approval of the working of many of the paragraphs of the year 1914 even in entomological circles. It is impossible as yet to speak of their definite and final acceptance by Lepidopterists. Rules that are quite old and simply common sense have not yet found universal acceptance. It has been recognised for instance long ago that a lepidopteral form should be given the name of the form first described also in cases where this name denotes a rarer and more inaccessible form. Taking as an example a butterfly most frequently mentioned in literature viz. *Colias electo (L.) forma crocea* Fourcroy; or according to others, *Eurymus electo L. crocea* etc. With the sole exception of the "Novitates Zoologicae" it is not described anywhere in this way. It is mostly mentioned either as "*edusa*" or "*Colias croceus*". Had we therefore strictly applied the rules of nomenclature to our Work, which is to be eventually a book of reference, we should find disparities in 900 out of 1000 cases. An examination of the Linnés Collection, or what there is left of it, has further shown that a similar state of affairs prevails with other species besides *Colias electo*. The African form and not the European was the basis for Linnés description and it had been sent to him by Mr. Brander, Swedish Consul in Algiers at the time. According to researches by Verity therefore it is probable that for instance the name (*Pap.*) *podalirius L.* refers to the form *lotteri Aust.*, so that the name of *P. sinon Poda* would be retained by the Central European Type. Staudinger had this name in his "Catalogue of Lepidoptera of the European Fauna" (1871). He, however, altered it again in the later edition (1901) of the catalogue of palaearctic butterflies into "*podalirius*", but defining it as the Central European Spring-form. From the same point of view the name *Epinephela janira L.* would have to be used for the Central European form of the species specified as *jurtina* as Linnés label for *jurtina* is attached to a specimen of the Algerian *fortunata Alpher*, which should now be named *jurtina*, with the synonym *fortunata*.

Although so much has been written on this question, it cannot yet be said that it has been satisfactorily solved. It is almost impossible to draw definite conclusions from the kinds of pins used, the setting, the labelling, the notes in Linnés manual etc., as to whether this or that specimen in Linnés collection (which is in itself now no longer in its original form) was based on a description which may be deemed as legally incontestable. So much, however, may be said, the points at issue are to-day much more confused than before the introduction of "the rules of nomenclature". One should bear in mind that nomenclature itself is not a science, but that it should be an aid to science. As soon as it proves itself the reverse it is worse than useless. and should be opposed.

We must ask ourselves to-day, whether the continually increasing alterations in names and disputes concerning same are not simply wasting valuable time which could be used to greater advantage in advancing the work of research. In any case "The Macrolepidoptera of the World" cannot enter into any disputes on the question of nomenclature. Only in cases where obvious mistakes have been made these should be corrected, but otherwise the space available to each species should be utilised for describing its natural history. Just as there are no definite rules for alterations in existing names, so there are no lines laid down as to the giving of new names. Seeing that it is becoming a custom to bestow new names wherever a constant, traceable difference between individual specimens occurs, the question arises whether also differences — which though they cannot be so readily observed by the eye — should be recognised and should be used for the introduction of new names. Just as the human ear cannot detect every kind of sound, it is impossible for the eye to discern every existing colour and a photographic plate shows spots and markings on the wings of an insect quite clearly that the human eye cannot see even with the aid of a magnifying glass. We mention for instance white spots in the red apical spot of the species *Teracolus*. A Work such as "The Macrolepidoptera" cannot undertake to decide this question either and must leave the final settlement to those that specialise in this department.

Of late new names have been given without even substantiating any distinct difference. Even when the particular form with its different shape, colour or marking could not be claimed to be constant or due to any particular locality or generation there was no hesitation in adopting a name. This plainly originates from the view held by some authors, that individual specimens of a species from different localities which are far apart could not belong to one race. Likewise the view is frequently held that specimens of different generations cannot be exactly alike in every particular, and that in those cases where the distinctions are not apparent they ought to be sought as they were sure to be found. On this point we are of the opinion that one should keep an open mind. We think names which can only be established by the aid of labels giving locality or date are unjustified. In spite of this there are of course cases where such varieties are mentioned, but without stating any further particulars. This is only for the sake of completeness and is not to be taken as a recognition of their validity.

*) According to statements by the Secretary of the German zoological Society which gave rise to this inquiry, only 5 or 6 of all those that were asked had unconditionally approved of the provisory drafting.

As what is known of the biology of most of the species has been outlined in the main volumes, and as what has been said there concerning the classification and groups should be sufficient for the purpose of "The Macrolepidoptera", the whole space in the supplement has been used for information regarding the differences between the various genera, species and their varieties. But even then it looked as if the enormously accumulating material would cause the text of the supplement to outgrow the size of the main Work. Space could not be found for details of all the chief differences of thousands of forms, however superficially dealt with, and as a rule only the most important and most apparent distinctions have been mentioned in the supplement. There is no room for critical discussion. As regards contents, the supplements follow closely the original volumes of the original work. Recognising that it is not yet possible to show a perfect genealogical sequence of species, no alteration has been made that might conflict with the order of the main Work. The classification already applied by classical authors has scarcely been altered so as to avoid any conflict which would be detrimental to progress.

The geographical delineation is exactly the same as that given in the original Work. There was no work in existence in 1905 dealing with this difficult subject which might have given the necessary guidance when the program for the Work was drawn up, so that the author had to decide for himself. A journey of exploration was undertaken by him of the palaearctic southern frontier in Asia and Africa with a view to studying this subject and after having crossed the boundary line in China some 18 times, making observations and notes both by day and night, he formed the opinions as set forth briefly in the „Verhandlung der Deutschen Zoolog. Gesellschaft" (minutes of the German Zoological Society P. 16). The results ascertained are due to statistical observations. All species met with in one country have not been assembled as forming a separate fauna as formerly was done. On the contrary allowance has been made for the different characteristics observed on entering a territory.

Naturalists of earlier days who had not the advantage of making personal observations were forced to group together all species known to occur in a certain territory and it was impossible for them to judge what part each species played in their surroundings. No consideration was given to the question of natural conditions and the possibilities of migration of the various species. This caused vast territories to be described as intermediate or transitory districts between the clearly defined frontiers of distinct Fauna. As a matter of fact the characteristics of the Fauna often seem to change quite suddenly. Species that appeared in great numbers suddenly become rare and others that we had hardly noticed become more plentiful with every step we take. This state of affairs cannot be shown of course in statistics of the names of insects occurring in any given frontier and this has often led to the importance of such boundaries being underestimated.

For instance the Southern Island of Japan, Kiushiu, with its genuine Indian Lepidoptera was declared to be a transitory district (that is to say belonging to the Indo-Australian Fauna) because *Danais Chrysippus*, *Plexippus*, *Vulgaris* and *Papilio Memnon*, *Mikado* and other undoubtedly Indian Species occur there. However, over a period of 7 months in the neigbourhood of Nagasaki, during which over 30 collecting excursions were made I found myself surrounded by *Pieris Napi*, *Colias Hyale*, *Satyrus Dryas*, *Limentis Sibylla*, *Chrysophanus Phlaeas*, *Lycaena Argia* etc. I also found forms of Apatura *Ilia*, *Vanessa Xanthomelas* and *Glauconia* so that the general impression made on me was one of a genuine Palaearctic Landscape. On the other hand in consequence of the appearance of a few cosmopolitan insects or northern insects invading Indo-Australian territory some authors ascribe the Island of Formosa (whose main features are undoubtedly Indo-Australian) to the Palaearctic region. This would be incorrect even for the Riukiu Islands which lie to the North of Formosa. From a thorough examination of the collections of Dr. Fritze at Okinawa which I was able to make at Tokyo I ascertained that the Fauna of the Lutchu Islands is undoubtedly Indian. Nor was I able to discover palaearctic characteristics in the insects of the southern slope of the Himalayas which clearly belong to the Indian Fauna. Assam and Burma with their mountain districts of Khasia and Naga have nothing in common with palaearctic Fauna and even the extreme south-eastern districts of Thibet and the entire southern part of the Chinese Western provinces are purely Indian in character: Ta-tsien-lu and Siao-lu are borderland districts in which palaearctic forms are being displaced by Indian fauna. The boundary line becomes more complicated in those districts that are intersected by tropical deep-cut valleys lying between high mountain ranges running from north to south, in which tropical insects invade palaearctic zones and where palaearctic species which naturally prefer more temperate climes appear far to the south on the high and cold mountain ridges: in such districts both Fauna are interspersed.

Precisely the same conclusions as I reached in 1890—92 in my studies of the Macrolepidoptera of Eastern Asia were also drawn by Caradja in his researches among the Microlepidoptera of Asia. He also states that the line of demarcation between palaearctic and tropical Fauna is exactly and well defined. It begins in the Bay of Hangchow, proceeds via Nanking, following approximately the 30th degree of latitude. In the Punjab it recedes far to the north so that in Cashmir the whole of the southern slopes of the Himalayas and the hot

plains adjoining thereto present a purely Indian Fauna. On the high ridges and plateaux, and in part also in the lower and cooler valleys the insects on the other hand show palaearctic characteristics.

Near Peshawar and beyond over the 24th degree of latitude the Indian Fauna retreats again to the south in Afghanistan leaving the cooler northern districts to the palaearctic animal world. The high plateau of Persia is decidedly palaearctic except for the narrow southern slope extending down to the Persian Gulf. Stoney Arabie Petraea is separated by a broad zone almost bare of animal life around the Tropic of Cancer from the more Ethiopian Arabia Felix, especially the Yemen, which again is bordered by the entirely lifeless Hadramaut. To the East of this near Muskat Indian Fauna again reappear.

The southern boundary of the palaearctic region forms itself very naturally in Africa. Egypt being almost devoid of insects reaches to the south in the deserts of Assouan, a sandy waste with scarcely any insect life. In Abyssinia and the Soudan we then find an entirely different animal world which has changed its character and is now purely Ethiopian. Scarcely any insect has been able to cross the endless waste of the Sahara Desert, large stretches of which are bare of vegetation. There is no possibility of a migration or intermixing of the Ethiopian and the palaearctic Fauna. Rio de Oro being almost bare of insect life also separates the Fauna and as to the Islands which may be called outposts to this district, the Canary Islands, are purely palaearctic, whilst the Cape Verde Islands are unquestionably Ethiopian.

It is clear therefore that perhaps with the exception of the more or less unexplored mountain districts in the Interior of China and South-Eastern Thibet there are no difficulties in the demarcation of the Palaearctic Region. The entire first part of "The Macrolepidoptera" has been drafted in accordance with the principles enunciated above and the supplementary volumes will deal with the subject in precisely the same way. It will always be possible that certain species inhabiting the frontier-districts will cross these boundaries. Only where this occasional invasion appears highly probable the species are mentioned in both regions. All Asiatic Insects found missing in the palaearctic zone will be found in the Indo-Australian Volumes and the Africans (with the adjoining Arabians) among the Ethiopian Fauna.

I. Family **Papilio** *L.*

In the palaearctic region for the few species of Papilio so far ascertained more than 200 names have been introduced and these names have particularly been given during the last years. Nearly all these types have long been known and are to be found in Museums and private collections and hitherto no one ever dreamt of giving them each a specific name. As mentioned in our introductory remarks (page 3) it is only possible for us to deal exhaustively here with the more remarkable forms or such that are well established as geographical or seasonal varieties.

Subgenus: **Pharmacophagus** *Haase.*

P. latreillei genestieri *Oberth.* (1 b) is the West-Chinese form of the species which is distributed in a few subspecies in North India (Vol. IX, pl. 19 b). Characterized by the lighter sulphur-grey ground-colour, hindwing with four large white spots from the 1st radial branch to the 2nd median branch, the foremost being much broader than in the other forms. Szechuan. *genestieri.*

P. philoxenus lama *Oberth.* (1 a and Vol. I, pl. 2 a). The first white spot of the hindwing is very variable; it may be almost absent or very large (= **philoxenides** *Fruhst.*) (1 a). In the latter case the Chinese form is very similar to *philoxenus polyeuctes Dbl.* (Vol. IX, p. 32) from North India, in which however the tails have a more pronounced red spot. We figure both the extreme forms from the same habitat in Szechuan. In **derufata** *Fruhst.* the red spots on the tails are entirely absent. West-Chinese specimens in which the white colour of the first spot is dusted with red were named **roseus** *Draeseke.* *lama.* *philoxenides.* *derufata.* *roseus.*

P. hedistus *Jord.* which is not considered palaearctic will be dealt with in Suppl. Vol. IX differs in the genital organs from all the forms of *dasarada*, whilst being very similar to that species. Hindwing with a broader white round spot before the large light spot, the last three submarginal spots also on the underside. Tail only slightly widened towards the tip, red spots very indistinct, head and body darker red. Scent-organ as in *dasarada*. Tali, Yunnan. 1 ♂ in the Tring Museum. Perhaps *dasarada ouvrardi Oberth.*, from the same locality, is the ♀ belonging hereto. *hedistus.*

P. daemonius *Alph.* (Vol. I, p. 9, and Vol. IX, p. 32). We illustrate here the genuine *daemonius Alph.* (1 b) which, according to Oberthür, only flies in Eastern Tibet (Batong). The form from Yunnan with larger submarginal spots was named *yunnana Oberth.* The ♀ of the latter is somewhat larger, with broader wings, the ground-colour of both wings above and below pale greyish-brown, only the marginal area of the hindwing containing the red crescents is black (Mell). *daemonius.*

P. nevilli *Wood-Mas.* (Vol. I, pl. 1 c). The size of the submarginal spots varies here, too, the two first are sometimes tinted red. A specimen with quite extinct spots was named **luctus** *Oberth.* *nevilli.* *luctus.*

P. mencius *Fldr.* (1 a). The genuine *mencius* is very common in Eastern, Central, and Western China. In Vol. I forms of *alcinous* were figured by mistake as *mencius*, and perhaps 3a (denoted as *impediens*) is a ♀ belonging hereto. A pair from the typical habitat of Ningpo is figured here. The male is easily distinguishable by the lustrous grey or white area on which the woolly organ lies, when the wings are not extended; the ♀, particularly in its northern zone, is considerably darker than the corresponding ♀ of *alcinous*. A female from Mokanshan near Hangchow, from the Coll. Bang-Haas, has remarkably large red submarginal lunae and is somewhat like *plutonius* ab. *decora Oberth.* Mr. O. Bang-Haas sent me another couple from Tsinlingshan (Liogang and Hweisi) in Eastern Kansu, which was specified by Dr. Jordan as belonging to *impediens*. This small north-westernmost race is figured here as *mencius* **tsinlingshani** *subsp. nov.* (*O. Bang-H.* i. l.) (1 b). ♀ lighter than in the typical form. The very interesting small South-West Chinese race the habitus of which is very much like that of *nevilli* (Vol. I, pl. 1 c), but which, owing to the [thickened] hind tibia, the scent-organ, and the copulation-organs belongs to *mencius*, was only recently described as **rhadinus** *Jord.* (1 c), from Yunnan. *mencius.* *tsinlingshani.* *rhadinus.*

impediens. **P. impediens** *Rothsch.* (1 d). A mostly wrongly identified species which appears to be very rare in West and East China and of which only the genital appendages were figured hitherto. Smaller than the forms of *mencius* flying in the same localities, hindwings very narrow, strongly dentated, the scent-organ remarkably short, the tails long and thin, the surface near the woolly organ being much darker than in *mencius*. The two anterior submarginal spots only distinct on the underside. The ♀ supposed to belong hereto is described by Oberthür as being very light yellowish-grey. The species is very closely allied to the quite differently coloured *febanus* from Formosa. Jordan even comprises the two forms in one species.

plutonius. **P. plutonius** *Oberth.* (1 c). The typical race is rather rare in West China as far as Northern Yunnan. A very large species, particularly light on the underside, with a short spatulate tail and a broad scent-organ. Only the ♀ is figured in Vol. I pl. 2 c (very dark); the specimen denoted as *plutonius* ♂ represents an aberration of *alcinous confusus*. The submarginal spots may be very differently developed, sometimes the lower two *decora.* spots are confluent and the red colouring is continued beneath in the tail. This is ab. **decora** *Oberth.* which was described as belonging to *alcinous confusus*. We have figured here a couple from the former Coll. Oberthür, from Tseku; the ♂ is the counterpart to ab. *decora Oberth.* as only the last submarginal spot still appears on the wings. From North India two more races were described.

alcinous. **P. alcinous** *Klug* (Vol. I, pl. 2 a). All the ♂♂ of *alcinous* are easy to recognize by the dark scent-wool. According to Jordan the Chinese *alcinous* belong to two subspecies which, however, intermingle. *alcinous confusus Rothsch.* flies in West China, ♂ and ♀ darker, in Vol. I pl. 2 c already correctly figured (to which probably also belongs the ♂ figured as *plutonius* underside, with a slightly varied macular marking). — *nana.* A small form from Omisien and Ichang was described as **nana** *Draeseke*, a specimen with reduced red spots as *parvum-* **parvummaculatus** *Draeseke.* — **mansonensis** *Fruhst.* (1 c), according to Jordan, is a subspecies from Central *maculatus.* and East China, flying also in Formosa. Very light females occur particularly in Central China, we illustrate *mansonen-* such a specimen taken near Nanking, from the Coll. Bang-Haas. — *alcinous loochooanus Rothsch.*, Vol. I, pl. 1 c, *sis.* from the Riu Kiu Is., also occurs in the Ishigaki Is. (= *bradanus Fruhst.*), but it has not yet been discovered in the palaearctic region. — From the genuine *alcinous Klug* from the large Japanese Islands several forms have been separated, such as *nagasakii Fruhst.*, but according to Jordan no geographical races with constant differences can be established, as in *pacificus Martin* described from a female from Shikoku. — The smaller *veris.* Japanese spring-form (Vol. I, pl. 2 b) was denominated **veris** *Shelj.*

aristo- **P. aristolochiae** *F.* In Vol. IX, p. 38, we already described the subspecies from the Liu-Kiu Is. as *tochiae.* *rhodopis Rothsch.* and the one from West, Central, and East China as **adaeus** *Rothsch.* (1 d); we illustrate here *adaeus.* the ♀ of the latter form, because it penetrates into the palaearctic region.

Subgenus: **Papilio**.

agestor. **P. agestor** *Gray.* In China several geographical forms seem to fly, unfortunately the statements of *agestorides.* the localities in the Coll. Oberthür are not always reliable. **agestorides** *Fruhst.* (1 d) is not identical with *restrictus Leech*, as stated in Vol. IX, but seems to belong to *agestor ouvrardi O. Bang-H.* (*nom. praeocc.*). The black colour on the surface of the hindwing is altogether absent here, so that this form approaches the Indian *agestor Gray.* From Lutsekiang, in Eastern Tibet, described from one specimen in the Coll. Oberthür, illustrated here according to a ♂ from the same collection, from North Yunnan (Siao-Ouisi ? = Siaolisce). — Oberthür described an aberrative male of *restrictus*, in which the intracellular stripes of both wings above and *undulosus.* underneath are peculiarly waved, as **undulosus** *Oberth.*

machaon. **P. machaon** *L.* Since the 1st volume was published an immense number of new aberrations have been described and figured, and more than 50 of them newly denominated. They are mostly quite insignificant deviations not deserving special names. In order to give our readers a survey, we enumerate here the names of the aberrations in their alphabetical order; they are partly transition and artificial forms produced by experiments of temperature; some are also chance forms (so-called "sports of nature") which may occur anywhere, but *adaperta.* deserve a scientific denomination as little as a deer with white spots or sparrows with a white feather. — In **adaperta** *Der.* the discal cell of the hindwing above and below is open, i. e. not closed by a black streak. — *aurantior* *benesignata.* *Krul.* is due to a wrong quotation, for *aurantiaca Spr.* — **benesignata** *Krul.* (= bella *Stätterm.*) shows the anal eyespot as in the race *sikkimensis* with a black partition-streak between the blue and red colourings. — In *benevittatus.* **benevittatus** *Cab.* the outermost yellow submarginal spot is absent, so that the dark band is not narrower. *biadaperta.* — In **biadaperta** *Metzg.* the yellow zone between the two cellular streaks in front is interrupted by black. — *brunnea.* As to **brunnea** *Weiß* we are unfortunately not able to supply any particulars. — **caeca** *Closs* lacks the red anal *caeca.* eyespot. — **cellularis** *Oberth.* shows a black spot at the distal end of the cell of the hindwing. — **circinatus** *Sibille* *cellularis.* *circinatus.* has a rounded apex to the forewing, the tails are short and broad. — **clavatus** *Cab.* (= conjuncta *Rocci*) shows the *clavatus.* black cellular streak of the hindwing connected with the dark submarginal band; more rarely in the 1st than in the

2nd generation. — **comma** *Stätterm.* shows almost the whole cell of the hindwing margined with black. — In **concavifasciatus** *Cuno* the black submarginal band of the forewing shows on the proximal side distally projecting bows. — In **convexifasciatus** *Cuno* these bows project inward. — **confluens** *Schultz* exhibits the two costal spots of the forewing fused into a broad spot along the costal margin. — **coronis** *Reuss*. The black submarginal band of the forewing has here whitish-grey and blue scales. — **cyanatus** *Stätterm.* The cell-end spot of the hindwing and the submarginal band are scaled blue. — **delunulata** *Stätterm.* (= demaculata *Stätterm.*) is a combination of *immaculata Schultz* and *tenuivittata Speng.* — **demaculata** *Schultz* nec *Stätterm.* Here the interior black costal spot is merely a very narrow streak. — *diaphorus Cab.* refers to 1 ♂ with jet-black bands slightly dusted with yellow, in the marginal band of the forewing there are tiny, yellow, oblong submarginal spots. Ground-colour very pale yellow, the cell-end streak 3 mm distant from the black band, moreover the two sides not quite equal. Name entirely dispensable. — In **dilobatus** *Cab.* the yellow spots project lobately, under the cell-end streak, into the black marginal band and their apices approach the blue embedment as near as 2 mm. — **diffusa** *Rocci* has remained unknown to me. — In **dissoluta** *Schultz* (= fenestrella *Cuno*) the cell of the hindwing shows a double black streak at the cross-bar. — **eminens** *Schultz*. The submarginal band, especially on the hindwing, as well as the black marginal band and the tails are lustrous blue. — **erardi** *Manon* has a yellowish-grey ground-colour and is somewhat transparent. — **estrigata** *Nitsche* lacks the dark streak of the cell on the hindwing at the cross-bar. — In **exocellata** *Cab.* the red anal spot is hazy. — **flammata** *Blach.* owes its name to the orange linguiform spots, which sometimes exhibit blue irroration and rest on the inside of the curvatures of the black bands on the hindwing. — **ferenigra** *Speng.* On the upper surface the costal area of the forewing, on the lower surface the whole forewing and part of the hindwing are irrorated with black. — In **incompleta** *Masl.*, on the upper surface, the upper one of the yellow crescentiform spots in the black distal band is absent. — **intacta** *Shelj.* is an *immaculatus*, the anal eyespot of which above has no black margin and hardly any blue irroration. — In **melanostica** *Rev.* the cell inside shows a black stripe which does not rest on a yellow ground, but is still distinctly prominent, whereby it recalls *alexanor*. — In **nebeskii** *Albert* there is a black lentiform spot between the basal spot and the median cellular spot in the cell of the forewing. — The name **niger-rubripunctatus** *Guth.* refers to a specimen of *niger Reutti* with a distinct red-brown anal spot. — Of *niger* 9 specimens are known so far. — **nigrociliata** *Stätterm.* is darker, with reduced yellow colour and black fringes of the wings. — **noviessignata** *Uffeln* refers to specimens in which there are 9 instead of 8 yellow marginal lunae. — In **oudemansi** *Strd.* the submarginal yellow spots, especially in the forewing, are so much widened that they form a yellow band of nearly 4 mm width, which is nearly fused with the margin; the anal eyespot is large, light hemochrome. — **pallida** *Tutt* are specimens with a very pale ground-colour. — **punctoclavatus** *Cab.* is on the forewings like the form *bimaculatus*, on the hindwings like *clavatus*, but still less marked. — **rubroanalis** *Stätterm.* lacks the blue in the anal spot of the hindwing, beneath there is slight white dusting. — **rufa** *Pionneau* has intense red spots on the wings beneath. — **rufopunctata** *Wheel.* (= rubromaculata *Schultz*, castini *Lamb.*) has red spots on the hindwing above — In **seminigra** *Oberth.* the black bands above are very much expanded and partly fused. — In **sphyroides** *Krul.* the black band of the hindwing is very near to the cell-end streak. — **spuleri** *Fischer* (= latevittata *Vrty.*) shows the dark submarginal band very much widened. — **symmelanus** *Lamb.* is a ♂ in which the black cellular spot is fused with the next costal for a long distance. — **tenuimarginata** *Stätterm.* (= tenuivittata *Speng.*) shows very narrow submarginal bands, particularly on the hindwing. — **tristis** *Lamb.* is based upon a very small (60 mm) pale specimen with a dull ochreous anal eyespot, the spots in the black band of the hindwing being more grey than blue. — In *tristis Stätterm.* the band of the forewing is mostly dusty yellowish not blue. — In **xanthophthalma** *Stauder* the anal eyespot is reddish-yellow. — Besides all these forms there are others yet with deviations in the veins, such as *lunatica Bryk* and *spengeli Reiff*, as well as artificially produced forms such as the *paradoxa Frings* from the hot season (yellow submarginal spots very large, in some places in a double row, dark submarginal band removed inwards).

comma. *concavifasciatus.* *convexifasciatus.* *confluens.* *coronis.* *cyanatus.* *delunulata.* *demaculata.* *dilobatus.* *diffusa.* *dissoluta.* *eminens.* *erardi.* *estrigata.* *exocellata.* *flammata.* *ferenigra.* *incompleta.* *intacta.* *melanostica* *nebeskii.* *niger-rubripunctatus.* *nigrociliata.* *noviessignata.* *oudemansi.* *pallida.* *punctoclavatus.* *rubroanalis.* *rufa.* *rufopunctata.* *seminigra.* *sphyroides.* *spuleri.* *symmelanus.* *tenuimarginata.* *tristis.* *xanthophthalma.*

machaon shows a very slight tendency to forming constant geographical races, and our knowledge in this respect is still very insufficient. In North America (excepting Alaska) we do not find the same species anymore, for *zolicaon Bsd.*, in my opinion, does no more belong specifically to *machaon*, in spite of the slight differences in the structure of the sexual organs. Moreover, it is only in Corsica and Sardinia that a form, *hospiton Guen.*, has developed, which may be regarded as a distinct species. (*machaon* which partly flies at the same places will probably have immigrated later on.) It is very interesting that just the North-African race *saharae Oberth.* (= hospitonides *Oberth.*) has a larva similar to *hospiton*. This is another proof again of the old age of the Tyrrhenic Islands and their close relations to North Africa, in accordance with the latest faunistic discoveries. *P. machaon* is excellent on the wing, so that the individuals from even far remote districts may interbreed. Another difficulty for recognizing local forms is shown by the differences of the generations, which are only very slight in Central Europe. Hardly any of the authors of local forms have paid attention to whether the form has one or two generations (in some districts there even occurs a third generation); they often did not possess both the generations from the same habitat. For all these reasons many of such recently described geographical forms are to be regarded very cautiously. Fruhstorfer considered as typical *machaon L.* the pale North-European form, its typical patria being Sweden. Similar specimens, however, fly also in Poland

and even Rumania. — From Lapland a large, very pale form with short tails and reduced black marking was described as **lapponica** *Vrty.* — The Central-European form (= *machaon Esp., Hbn.*) was separated as **gorganus** *Fruhst.* (= bojorum *Fruhst.*). The name of the second generation is: **aestivalis** *Shelj.* (= sphyroides *Vrty.*, rogeri *Shelj.*) — Specimens from alpine districts with one generation are denominated: **alpica** *Vrty.*, with short tails, a small anal eyespot, the dark submarginal band not being dentate. — Verity named the race from the southern parts of Central Europe **bigenerata;** he described it from specimens from the Vendée, but also mentions them from the Cottic Alps (Oulx). It is larger than *emisphyrus Vrty.*, the wings are said to be more oblong, the distal margin more curved, the veins less black on the dise, and the bands narrower and with a more curved distal margin. The paler 2nd generation of it was named: **aestivalis** *Vrty.* — **emisphyrus** *Vrty.* which we mentioned above is said to be characteristic of Central Italy, and *meridionalis Rocci* of Southern Italy. — It we want to separate also the Sicilian form, the name **vernus** *Zell.* has the priority for the 1st generation, and **aestivus** *Zell* for the summer-generation. — *sphyrus Hbn.* was probably figured from a Sicilian specimen of the 1st generation; this name has caused much confusion and it is best to cancel it. — In the little island of Ustica near Sicily a particularly dark form is said to occur: **usticensis** *Rocci*, similar specimens seem to occur also in Capri. — **gigantea** is the very large 2nd generation from the Adria and the Balkans. Specimens of the 3nd generation, according to Stauder, resemble more the 1st generation. A small, very light ♂ with pointed wings, from Uskub, which may be only a late emerged specimen of the 2nd generation, is somewhat similar to the still much smaller ab. *immaculata Vrty.*, which Verity considered to belong to a separate race **cypria** *Vrty.* Before me there are specimens of the 1st generation from Cyprus, which differ in no way from Macedonian ones and those from Asia Minor or from Rhodes I. In Malta the 2nd generation exhibits a very broad submarginal band beneath with a strongly dentate inner margin, frequently edged with reddish. The 1st to 2nd and last yellow marginal spots sometimes with orange colouring. — The North-African forms of *machaon* are divided by Rothschild into three different races — **maxima** *Vrty.* is the large form from Morocco, first described from Tanger, with its summer generation: **angulata** *Vrty.* The usual Algerian form is **mauretanica** *Vrty.*, whilst the desert-form was already mentioned in Vol. I as *saharae Oberth.* Tripolitanian specimens with an almost light abdomen above, belonging to the 2nd generation, were named **xanthosoma** *Trti.* — The Syrian form of the 2nd generation is **syriaca** *Vrty.* (= aestivus *Eim.*). In Turkestan *machaon* occurs in very different forms; we cannot yet decide about these races. The differences may be chiefly due to the great differences of altitude. According to Sheljuzhko the 2nd generation belongs to *centralis Stgr.*, whilst he describes the alpine form probably having but one generation as **oreinus** *Shelj.* with the typical habitat of Naryn. *oreinus* is said to occur also in the Tienshan, the Alai and Sarafshan, and probably in the western and southern parts of Pamir, whereas the eastern part of Pamir is already inhabited by *ladakensis Moore* (Vol. I, pl. 6 c). The small dark alpine form with short tails, from Sajan, was named **orientis** *Vrty.*, similar specimens fly in Taunuola and the Eastern Siberian mountains. — **amurensis** *Vrty.*, from the Amur, is above similar to the common *machaon*, beneath to *chinensis Vrty.* It may be that the North-Chinese specimens also belong to it. The large 2nd generation from the Ussuri District and Manchuria is named **ussuriensis** *Shelj.*; here there occur specimens with a distinct black streak separating the blue portion of the anal eyespot from the red one. — In Sakhalin we already find a transition to *hippocrates Fldr.*: **sachalinensis** *Mats.* (3 a). The North Japanese race from the Hokkaido, being smaller and lighter than *hippocrates*, was described as **septentrionalis** *Vrty.* The spring-generation of the real *hippocrates*, which it only resembles beneath, whilst above it is more like *machaon*, is named now: **hippocratides** *Vrty.* — From the Japanese southern island, Shikoku, Martin mentions a specimen of the spring-form with remarkably dark, broad bands. Specimens of the 2nd generation, from Central China (Prov. of Hupe), are already very similar to the race described from Western Szechwan, **chinensis** *Vrty.*, the colouring of which is above much lighter *(centralis)* and beneath similar to *hippocrates.* The much darker 1st generation from Tatsienlu was named **neochinensis** *Shelj.* which may be identical with the race *verityi Fruhst.* (= archias *Fruhst.*) already described in Vol. IX, though the black partition-streak in the anal eyespot is not always present. A melanotic specimen was named **erebennis** *Oberth.* We must probably distinguish also here between the alpine forms with one generation and those from the lower countries with two generations. The alpine race from the Rongbuk Glacier, captured by the Mt. Everest Expedition at an altitude of 15 to 17 000 ft. is intermediary between *asiatica* and *sikkimensis*, = **everesti** *Riley.*

lapponica. gorganus. aestivalis. alpica. bigenerata. aestivalis. emisphyrus. vernus. aestivus. usticensis. gigantea. cypria. maxima. angulata. mauretanica. xanthosoma. syriaca. oreinus. orientis. amurensis. ussuriensis. sachalinensis. septentrionalis. hippocratides. chinensis. neochinensis. erebennis. everesti.

P. hospiton *Gn.* (Vol. I, pl. 6 a). — **aliena** *Schultz* is an aberration with very short tails, more slender wings, and such a broad dark band of the hindwing, that it touches the cell; **biguttata** *Schultz* corresponds to the form *bimaculata Eim.* of *machaon*; in **flavoinspersa** *Vrty.* the blue colour of the band of the hindwing is almost entirely replaced by yellow scales; **machaonides** *Vrty.* refers to specimens forming a transition to *machaon*; **subrubicunda** *Schultz* exhibits red scales on the foremost yellow marginal luna of the hindwing, sometimes also on the last marginal luna and on the inside of the dark submarginal band; **solaris** *Fischer* is very aberrative, the forewing lacks the forked cellular spot, the submarginal band is much narrower, on the forewing strongly reduced along the veins, so that there is a black, blue-centred wedge on each yellow luna, and beneath a corresponding reduction of the black marking, the black marginal band being altogether broken up. Verity assumes a frequently occurring cross-breed with *machaon*, but he cannot prove it. Standfuss obtained a 2nd generation in August from Sardinian larvae.

aliena. biguttata. flavoinspersa. machaonides. subrubicunda. solaris.

P. alexanor *Esp.* (Vol. I, pl. 7 a). The following aberrations were described: **augustinus** *Oberth.* with a round dark black spot in the cell of the forewing, distally to the 2nd transverse band; **cincta** *Muschamp*, the band bordering on the cell of the forewing is here prolonged to vein M 3, where it is fused with the submarginal band; in **culoti** *Oberth.* these two bands are united forming one broad band; **latefasciata** *Culot* shows widened bands; **pallidior** *Schultz*, from the Alpes Maritimes, shows a very pale, almost white ground-colour. – The large race from the Balkans, with broad basal bands and increased blue irroration of the forewing (submarginal and median cellular bands), was named **magna** *Vrty.*; **adriatica** *Schaw.*, from the frontier-district between Herzegovina and Montenegro (Gacko), is presumably not very different from *magna*; it is much larger than the specimens from Southern France, somewhat darker yellow, the submarginal band of the forewing concave towards the base, the blue irroration as in *magna*; a small, darker yellow form with very broad bands (especially the submarginal one), from Attica, is **attica** *Vrty.* — It is very difficult with *alexanor* to distinguish geographical forms with constant marks of distinction; the exterior depends very much on the climate which may be very different in some years. It is also difficult to obtain large series of this species from various habitats. *augustinus. cincta. culoti. latefasciata. pallidior. magna. adriatica. attica.*

P. xuthus *L.* (= xanthus *L.*) (Vol. I, pl. 6 a). The following aberrations were denominated: **chinensis** *Neuburger*, from Shanghai; abdomen without a dark longitudinal band, quite yellowish-white; **decolorata** *Stätterm.*, anal spot light yellow, like the ground-colour of the wings, orange colouring absent, also beneath the orange spots reduced; **depuncta** *Stätterm.*, anal spot deep orange-red, its black centre absent; **igneus** *Shelj.*, from Ogaki, Japan, ground-colour above reddish fuscous, the blue scales also replaced by reddish ones (only above the anal spot a blue crescent), under surface less intensely coloured, the blue spots of the hindwing normal here. — **intermedia** *Stichel* was described from specimens of the summer generation, which only emerged in spring, similar in size, but with the colouring of *xuthulus*. — **latifasciata** *Schultz*, submarginal band of hindwing so broad that it almost reaches the discal cell.; **pseudozanclaeus** *Stätterm.*, similar to *decolorata Stätterm.*, the yellow dorsal line of the abdomen above only yet present on the three first segments; **rubrolunata** *Closs* is a form of *xuthulus* with very intensely red marginal lunae of the hindwing; **rubromaculata** *Stätterm.*, with orange-red spots in the marginal lunae of the hindwing and in the anal fold, even yet in cell 1, the orange colouring also more extensive beneath; **tripunctata** *Schultz* with a 3rd dot in the apical portion of the forewing; **unimaculata** *Warn.* has but one black spot (instead of two) in the apex of the forewing, as in *machaon*. — The Japanese race was named **hondoensis** *Fruhst.*, based upon summer specimens from Hondo, Nagasaki, and Tsushima; it is much darker, with broader black and yellow bands than Chinese specimens. — **neoxuthus** *Fruhst.* (=neoxanthus *Fruhst.*), typical habitat Tatsienlu, is the Tibetan and West-Chinese alpine form, according to Fruhstorfer distinguished from Canton and Japanese specimens by the absence of the cellular stripes and the larger light yellow circumcellular spots of the hindwing. Hereto belongs the spring generation **xuthina** *Fruhst.*, typical habitat Sialu. According to the same author typical *xuthus* originates from Canton or Hongkong. The species also flies in the Riu-Kiu, Bonin, and Guam Is., and an interesting mountain-form was recently also discovered in North Luzon (= *benguetana Joic. & Talb.*). *chinensis. decolorata. depuncta. igneus. intermedia. latifasciata. pseudozanclaeus. rubrolunata. rubromaculata. tripunctata. unimaculata. hondoensis. neoxuthus. xuthina.*

P. helenus *L.* The smaller spring-form **orosius** *Fruhst.* (probably = semnus *Fruhst.*), with a broader white area of the hindwing and larger yellowish-red spots on the hindwing beneath, of the South Japanese *nicconicolens Btlr.* has already been dealt with by Jordan in Vol. IX, p. 53. *helenus. orosius.*

P. chaon — **rileyi** *Fruhst.* is the West-Chinese race of this species, similar to the Formosa-form (*chaonulus Fruhst.*), but with still more reduced white discal spots of the hindwing; the yellow antemarginal lunae and the white maculae at the cubitus of the forewing are prolonged. *rileyi.*

P. polytes *L.* The Riu-Kiu forms *kuroiwae* and *okinawensis* described by Matsumura are presumably hardly justified; they are certainly not palaearctic. *richardi Dusmet*, from Northern Hunan, is only the ♀ of the Chinese form *borealis Fldr.*

P. memnon *L.*, with its 3 palaearctic races *agenor L.* from China, *pryeri Rothsch.* from the Riu-Kiu Is., and *thunbergi Sieb.* from Kiu-Shiu, has been largely dealt with in Vol. IX (p. 72, pl. 30 a, b). Of the latter we figure here the type of the spring-form **mela** *Fruhst.* (2 b); the habitat mentioned, "Yokohama", is questionable. *memnon. mela.*

P. demetrius *Cr.* I cannot decide whether the forms of the large Japanese islands differ from each other. It seems that Cramer's figure represents a relatively large specimen of the spring generation which is otherwise smaller and has a well developed red anal spot. In that case *okabei Shelj.* from Hondo and *carpenteri Btlr.* from Yesso would belong hereto as synonyms, whereas **nymphis** *Fruhst.* would have to be regarded as the name for the summer generation (from Hondo). **leocinius** *Fruhst.* was described from autumnal specimens from Nagasaki (Kiushiu), with a profusely blue-dusted basal region above, ♀ above with but one subanal luna. In Vol. IX, p. 76, Jordan places *sitalkes Fruhst.*, from Okinawa, which is said to be larger and more profusely decorated, to *liukiuensis Fruhst.* from Ishigaki. *demetrius. nymphis. leocinius.*

nausithous. **P. rhetenor nausithous** *Oberth.* (2 a). The smaller and darker race from Eastern Tibet and West China (Sialu and Tatsienlu), ♂ above without the white stripes on the forewing, with a larger red basal spot, anal eyespot of hindwing with more red colouring, also beneath more extensively red, inner margin without white; ♀ with a larger red basal spot of the forewing, on the hindwing only the large light spot is of a pure white, *platenius.* the spots around it darkened. It may be identical with **platenius** *Fruhst.* from Itchang and Szechwan, although its original description does not correspond with *nausithous.*

macilentus. minima. **P. macilentus** *Jans.* The smaller Japanese spring form from Hondo was named **minima** *Shelj.* — The West-Chinese race differs from the Japanese in the deeper red of the anal eyespot, and the larger marginal lunae beneath being inside scaled blue; above there are also traces of this blue irroration. — It is very doubtful whether *scaevola.* the name **scaevola** *Oberth.* (2 a) refers to a Chinese specimen. But it may for the present be used for the West- *mucius.* Chinese race. — **mucius** *Oberth.* is presumably only an aberration with beneath very much enlarged marginal lunae which in the ♂ are also visible above. In the ♀ the two marginal lunae next to the anal eyespot stand in a double row.

elwesi. cavalerici. **P. elwesi** *Leech.* From the south-western part of Central China (Kweiyang, Prov. Kweichow) a special race, **cavaleriei** *Le Cerf*, was described, in which the distal third of the cell and parts of the disc on the hindwing are spotted white. The discovery of this form recalling white-spotted *Papilio* of the *latreillei*-group and *Epicopeia* (Vol. II, pl. 10 b), being one of the rarest Chinese copiers, is of high interest.

nigricans. **P. bootes nigricans** *Rothsch.* (2 a). The West Chinese *nigricans*, according to Jordan (Vol. IX, p. 77), is extremely variable. In the same district there occur specimens differing from North Indian *bootes Ww.* (Vol. IX, pl. 27 b) only in the entirely black tail-end, besides such without any white spots above, as we have figured *rubicundus.* here. Between them there are all kinds of transitions, sometimes the spots above are red (= **rubicundus** *Fruhst.*) The ♀ figured here is very rare. A very peculiar race was sent to me by Mr. Bang-Haas: 1 ♂ each from Lutsekiang and from Rohand in the Province of Yunnan (Coll. Oberthür), ground-colour peculiarly bright, *parce-squamata.* white spots on the hindwing large, between the cubital branches a 3rd small white spot: **parcesquamata** *subsp. nov.* (2 c).

dialis. **P. dialis** *Leech* does not really inhabit the palaearctic region. By this name various Chinese forms of *bianor* have been described again and again. Already in the IX. Vol. (p. 77) Jordan pointed out the differences from *bianor* (narrower scent-stripes of the forewing, reduced red colouring in the marginal lunae of the hindwing above and uniform blue dusting throughout the broader and shorter tails). We figure here a ♂ from North-West Fukien, from the Tring Museum. The Chinese race *dialis Leech* seems to be extraordinarily rare. Its relation to *bianor bianor Cr.* is exactly like that of *dialis andronicus Fruhst.* to *bianor formosanus Rebel.*

bianor. **P. bianor** *Cr.* This species has a series of well discernible local races; unfortunately we still know too little about the forms from North and Central China. The northernmost race *maacki Mén.* with the spring form *raddei Brem.* is most easily recognizable by the green (in the ♀ sometimes yellow or white) band of the forewing and the broad green band of the hindwing. *sandigi Bryk* is an unimportant name for specimens of *maacki* with crescents inside bordered with red, whilst the form with 2 red bows of the crescents was named *androtropa.* **androtropa** *Bryk.* Specimens of the summer generation forming a transition to *raddei* were named **postvernalis** *postverna-lis.* *Bryk.* In Manchuria the spring-form exhibits, beside specimens with a pronounced *raddei*-character, such entirely recalling *japonica Btlr.* above, as we see from Martin's collection from Chikuancha. Summer-specimens from Shantung are hardly discernible from *dehaani Fldr.* The Manchurian form from Koshurei was recently *mandshu-rica.* named **mandshurica** *Mats.* In Szechwan and the adjoining parts of Tibet the species is very little variegated in both generations, still darker are some specimens from Hongkong, which in this respect even excel the Formosan specimens. One from Tatsienlu with a bronze-green band of the hindwing and very broad Indian-red crescents *superans.* was described as **superans** *Draeseke.* The race from the I. of Sakhalin is called **paradoxa** *Nakahara* (= sacha- *paradoxa. tulanus.* linensis *Mats.*) (4 a). From Yesso the form **tutanus** *Fenton* was described, being larger than *dehaani Fldr.* (= ? satakei *Mats.*, jezoensis *Mats.*, isshikee *Mats.*), wings stated to be more pointed, the white patches on the forewing beneath shorter and less distinct, the yellow scales of the hindwing paler, the violet colouring of the submarginal crescents more distinct. The form is said to be especically characteristic of the north of the island *hachijonis.* and not to interbreed with *dehaani* flying in the south at the same habitats. — **hachijonis** *Mats.* was described from the I. of Hachijo. The races *okinawensis Fruhst.* and *junia Jord.*, which are no more palaearctic, have already been dealt with in Vol. IX.

syfanius. **P. syfanius** *Oberth.* is a doubtful species from the mountains of Szechwan, Yunnan, and the adjoining Tibet, well discernible from *bianor* by the forewing beneath being quite unicoloured grey. There occur all kinds of transitions from quite spotless hindwings to those with pure white spots between the median branches (sometimes there is also a small white spot in the cell). Such an extreme specimen was figured in Vol. I, pl. 5b, *albomacu-lata.* it corresponds to ab. **albomaculata** *Vrty.* There are also specimens with yellowish spots on the hindwings.

P. paris chinensis *Rothsch.* (Vol. I, pl. 5 b), the West and Central Chinese form, shows a metal macula reduced from behind. Its smaller spring form **gemmifera** *Fruhst.* (Vol. IX, p. 79) is lighter lustrous golden, the red lunar spots also beneath lighter and broader. Described from the mountains of Szechwan. *chinensis.* *gemmifera.*

P. arcturus *Ww.* (Vol. I, pl. 5 c). The race from North West India, **arius** *Rothsch.* in which the blue spot of the hindwing extends somewhat farther to the base, and with smaller submarginal spots on both sides, was already described in Vol. IX (p. 80); in Cashmir it reaches the frontiers of the palaearctic region. The race from West China is **arcturulus** *Fruhst.*, being smaller, extreme forms with strongly reduced green colouring, but connected by transitions with North-Indian *arcturus Ww.*; **porphyrians** *Oberth.* deviates from it by larger red submarginal spots which are particularly conspicuous beneath; it corresponds to the aberrations *prillwitzi Fruhst.* of *paris gedeensis Fruhst.* and *porphyria Jord.* of *polyctor ganesa Bsd.* (Vol. IX, pl. 34 b). *arius.* *arcturulus.* *porphyrians.*

P. krishna charlesi *Fruhst.* (2 c) was described as follows: forewing almost quite black without green scales, the yellow band narrower and indistinct, submarginal spots beneath red instead of violet. Eastern Tibet, Sialu. Such extreme specimens, however, are opposed by such as the one figured from Szechwan, which differ but little from Sikkim-forms; the penultimate submarginal luna before the anal eyespot is mostly quite absent in this race. *charlesi.*

Subgenus: **Cosmodesmus** *Haase.*

P. (*Iphiclides*) **podalirius** *L.* *) (= sinon *Poda*, flammens *Fourcroy*). Since the 1st volume was published, a series of mostly insignificant deviations in colours and markings have also been described of this lepidopteron. We enumerate them here in an alphabetical order; part of them are monstra, faulty colours etc. — **atava** *Vrty.* is based upon a specimen of the summer generation, the anal eyespot being double on one side only. — **caeca** *Manon* has a blind eye of the hindwing, the blue colour of which is replaced by the ground-colours. — **caecigenus** *Manon* likewise shows a blind anal eyespot on the hindwing where there is a thick black dot instead of the blue colouring. — **cohaerens** *Stätterm.* is an aberration of *miegi*, in which the 1st and 2nd bands after the basal band are connected so that only a small light triangle remains at the costal margin. — In **confluens** *Vrty.* the anal eyespot is connected with the median band by a black spot. — **decolorata** *Stätterm.* Light, anal eyespot with yellowish scales, the blue marginal lunae almost extinct. — **destrigata** *Schultz.* The median band of the hindwing is absent altogether. — **diluta** *Selys. L.* Feebly marked, tail curved. — **disiuncta** *Gussich.* The 4th transverse streak (counted from the margin) is divided into parts by a white cross-line. — In **dissociata** *Manon* the last band but two is transversely parted. — **divisa** *Manon.* The hindmost band is parted vertically. — In **galenus** *Schultz* the very broad "band 3" only extends to the median vein, and the median band of the hindwing is shortened. — **interrupta** *Klem.* shows the 4th transverse stripe interrupted in cell 4. — **lucifer** *Avin.* (2 b) is the darkest aberration known, taken in the open air in the Gov. of Poltawa. Ground-colour greyish-black, orange band beneath inwardly whitish, marginal lunae blue. Orange spot large, recalling the species of the *alebion*-group, the rest of the marking normal. — **lugens** *Schultz* (= caecus *Stätterm.*, coretas *Stätterm.*, non lunulates Lucas ?). Hindwing outside broadly dusted with black, the blue marginal lunae darkened, anal eyespot without blue colouring. — **melanosticta** *Trti.* shows a small black spot 2 mm long in the cell of the forewing on the subcostal vein between the 3rd and 4th bands. — **minuslineata** *Vrty.* exhibits instead of the short band of the forewing through the centre of the cell 2 black spots at the costal margin. — **nebulosimaculata** *Sandb.* is said to have occurred near Weilburg. All the black transverse bands are faded, particularly the one in the discal area of the forewing. Next to the anal eyespot there is an oval dark spot, quite isolated from the eyespot and the distal band. — **nigrescens** *Eim.* shows the dark bands widened, particularly at the margin of the forewing (*nigrescens Vrty.* is a melanotic form with different bands). — In **nigromaculata** *Metschl.* the blue anal eyespot and the orange spot are blackened. — **obsoleta** *Metschl.* has reduced blue marginal lunae, the anal eyespot is almost quite rust-coloured yellow (vid. *lugens Schultz*). — **ornata** *Wheel.* has a broad orange stripe through the centre of the hindwing. — *ornata Manon* shows in the dark band at the cell of the hindwing a yellow interior line as ochreous as the surroundings of the anal eyespot. — **ornatissima** *Warn.* (= flavo-lineata *Stätterm.*) is an extreme form of *ornata*, in which the orange stripe of the hindwing extends to the anal spot. — In **pallistriga** *Schultz* of a yellowish ochre-colour the bands are brown. — In **privata** *Metschl.* the median band is absent on the hindwing above. — In **pseudozancleus** *Metschl.* the median band of the hindwing is lighter; abdomen dusted with grey, 1st generation. — **punctata** *Manon* similar to *decemlineatus*, but in the forewing there is an ovoid black dot outside the small accessory band. — In **punctatus** *Schultz* the short median stripe of the forewing has become a large circular spot at the costal margin. — In **reductus** *Schultz* we notice a great reduction of the marking, and the transverse bands are broken up into single stripes in the distal half of the *podalirius.* *atava.* *caeca.* *caecigenus.* *cohaerens.* *confluens.* *decolorata.* *destrigata.* *diluta.* *disiuncta.* *dissociata.* *divisa.* *galenus.* *interrupta.* *lucifer.* *lugens.* *melanosticta.* *minuslineata.* *nebulosimaculata.* *nigrescens.* *nigromaculata.* *obsoleta.* *ornata.* *ornatissima.* *pallistriga.* *privata.* *pseudozancleus.* *punctata.* *punctatus.* *reductus.*

*) We cannot discuss here VERITY'S opinion that LINNÉS description was given according to a specimen of the *feisthameli*-type (*lolteri* from Algier).

semistrigata. forewing. — In **semistrigata** *Stätterm.* the median band of the hindwing is angularly broken, ending at the cell-end. — *spoliatus.* **spoliatus** *Schultz* lacks the median bands 4 and 4 a. — *unipunctata.* **unipunctata** *Guss.* Instead of the transverse stripe, as in *pluslineatus Vrty.* only a black dot.

The same what has been said of the geographical forms of *machaon* on the whole refers also to *podalirius* which, however, does not rise to such altitudes in the mountains and has a less extensive range. It is absent in the north of Europe inclusive of Great Britain and in vast parts of Eastern Asia. To the north of the Alps there occurs generally but one generation which often flies for a long time. Only to the south of the Alps we regularly meet with a 2nd generation which distinctly differs from the mostly smaller spring-generation in the absence of the frontal tuft, the light-dusted abdomen and the lighter colouring of the wings. The *podalirius*-races may be divided into 4 groups. The first group (*podalirius*-type) comprises the forms from Central Europe to Central Asia, the second (*zanclaeus*-type) those of the Mediterranean zone without the Iberian Peninsula and North Africa, thus the Mediterranean countries from Southern France to Persia and Western Turkestan; a sharp separation of these two groups is impossible. The third group (*feisthameli*-type), from Spain and North Africa, has already changed so much that some authors such as Verity and Oberthür regard it to belong to a separate species; I myself am not of this opinion. Quite isolated is the representative of the fourth group (*podalirinus*) from West China, which is separated by vast districts from the next range of the species (in Eastern Central Asia). — A very hairy alpine form with extensive black colouring, short tails and a light yellowish anal spot was first described from the Engadine, but it also occurs in other parts of the northern *inalpina.* Alps: **inalpina** *Vrty.* — *zanclaeides. valesiaca.* **zanclaeides** *Vrty.* refers to the 2nd generation of the less hot countries (e. g. Lombardy), where the *zanclaeus*-type has not yet fully developed. — **valesiaca** *Vrty.* (= zanclaeides *Vrty.* p. p., aestiva *Fuchs*), described from the Wallis, is said to be a most variable species, the second generation of which is said to be very similar to *zanclaeus Zell.* (*zanclaeus* was first described from Sicily) though with the body of the 1st *plenissima.* generation; hereto belongs as the 1st generation **plenissima** *Vrty.* (type from Meran), being larger and yellower *elongata.* than Central-European *podalirius.* — **elongata** *Vrty.* are small, very white specimens of the 2nd generation with *intermedia.* very much extended hindwings, described from Herkulesbad. — **intermedia** *Grund* (2nd generation), from Croatia and Slavonia (similar specimens probably also in Dalmatia) and from Bosnia to Albania, is a transition to *zanclaeus.* (In some years also a third generation is said to occur, approximating more the 1st generation.) — *cretа.* The very large summer specimens from Greece, of a bright colouring, are called **cretа** *Vrty.* — From Asia Minor *leechi.* are the following races: **leechi** *Vrty.*, habitat not exactly stated, described to be very small and dark with short *nigrovenata.* tails, recalling *feisthamelii*; — **nigrovenata** *Ver.*, the 2nd generation from Brussa with rounded forewings, ground-colour especially of hindwings intensely yellowish, with broad and dark black bands, black veins, especially *persica.* prominent beneath, a larger eyespot than in *podalirius*, likewise similar to *feisthamelii.* — **persica** *Vrty.* with very long extended wings, tails at the end broad white, black bands darker. From Gulek in Persia (?). — The *flaccidus.* form with one generation from Eastern Russia (Gov. Wjatka and Kasan), **flaccidus** *Krul.*, is larger and paler than Central-European *podalirius*, with longer tails, dark abdomen, and a frontal tuft. The next race from *centralasiae.* Tian-Shian, **centralasiae** *subsp. nov.* (= juldussica *Bang-H.* i. l.) (3 b) (according to specimens from the beginning to the middle of June from the lower forest-zone of the mountains to the north of Dcharkent in the Ili District) is small, yellowish, with intense black bands on both wings, the 3rd and 4th after the basal band (bands 6 and 8 according to Eimer) approach each other at the costal margin and enclose a gate-like yellow area as far as the median vein. It may be an alpine form with one generation with all the marks of the 1st generation. *miegii.* — **miegii** *Th.-M.*, based upon the 1st generation from North Spain, is prominently distinguished from South-Spanish and African *feisthamelii Dup.* (= maura *Vrty.*) by the straight distal margin of the forewing. — In Spain and North Africa there occur now and then specimens exhibiting a return to the *podalirius*-type. Verity described such a presumable hybrid between *feisthamelii* and *podalirius* from the mountains of Grenada as *feisthamelides. primularis. interjecta.* **feisthamelides.** — **primularis** *Oberth.* is a specimen of the African summer generation *lotteri Aust.* with a yellow instead of bluish ground-colour. — A very striking specimen very similar to *podalirius* is **interjecta** *Vrty.*, from Tanger (?); this name originally was to designate the 1st generation of *podalirius* from hot districts.

eurous. **P. eurous** *Leech.* The genuine *eurous eurous Leech* is very common in Central China and particularly *cashmirensis. panopaea.* West China; **cashmirensis** *Rothsch.* (Vol. I, pl. 8 b) belongs to it as a subspecies. — **panopaea** *Nic.* is the form from Tseku. As large as *eurous Leech* and similarly coloured, but, as in *sikkimica Heron*, it lacks the black median band on the hindwing above, and the three black distal bands are here but feebly developed.

glycerion. **P. glycerion** *Gray.* The common West Chinese race is *mandarinus Oberth.* (Vol. I, pl. 8 a, b). The median band of the hindwing is sometimes absent above. The ♀ does not differ from the ♂.

tamerlanus. **P. tamerlanus** *Oberth.* Particularly common in Szechwan and the adjoining Tibet, the ♀ being very rare. In Vol. I (pl. 8 a) not recognizably figured. The species is separated from *alebion Gray* (3 b) especially by its larger size, the broader and more yellowish wings, as well as the narrower and more uniformly broad median band of the hindwing (whilst in *alebion* it is broad at the costal margin and then gradually narrows down). — *incertus.* **incertus** *O. Bang-H.* shows the space between the 8th and 9th bands of the forewing (the submarginal band)

filled up with black. But there are also transitions to the typical form. It may be that *parus Nic.* is identical with it; it was described as a distinct species, according to a specimen with aberrative band-marking, from Tseku. The specimen figured in Vol. I, pl. 8 a also originates from Tseku (Coll. Ney), at the frontier of the palaearctic region. — **taliensis** *O. Bang-H.*, from Tali in West Yunnan. The submarginal band of the forewing is remarkably broad, on the hindwing the black irroration of this band is continued to the cell. Not yet ascertained in the palaearctic region. *taliensis.*

P. alebion alebion *Gray* (= hönei *Bang-H.* i. l.) (3 b), from Eastern China is rather rare, characterized by the white ground-colour. Faultily figured in Vol. I; figured here after a specimen from Nanking. — **timur** *Ney* is the Western Chinese form with darkened bands, the ground-colour being darker, too. Easily recognizable by the invariably dark-edged 3rd median branch of the hindwing. *alebion.* *timur.*

P. agetes hönei *Mell.* With this race the species approaches the border of the palaearctic region which it may perhaps reach. It is the smallest race from the mountain-forests in the north of the Prov. of Kwantung. The 2nd band of the forewing touches the inner margin, the median band of the hindwing is also above visible, the red anal spot paler, broadly bordered upward. Head and thorax apparently without red colouring. *hönei.*

P. cloanthus *clymenus Leech.* The specimen figured in Vol. I, pl. 8 c belongs to the larger summer generation, the smaller spring generation has narrower black bands. *cloanthus.*

P. sarpedon *L.* The Chinese race *semifasciatus Honr.*, according to Jordan, occurs in some places in three forms, a spring generation with broad bands, a summer form with narrow bands, and a 2nd summer form with a more or less obsolete band on the hindwing. We figure of both generations specimens from Szechwan with a very much reduced green band of the hindwing (1 d and 2 c). — The Japanese race **nipponus** *Fruhst.* (in Vol. I as *sarpedon*) differs little from the Chinese, and the diferences stated by Jordan in Vol. IX, p. 95 (a more intense blackening of the veins crossing the green band and a distinct development of the grey submarginal line in the posterior portion of the forewing beneath) apparently do not always occur in northernmore specimens. The band of the hindwing is presumably never so much reduced as in extreme Chinese specimens, in f. **sarpedonides** *Fruhst.* broader than in the summer generation. *sarpedon.* *nipponus.* *sarpedonides.*

P. leechi *Rothsch.* (2 d). Only the type figured here (Tring Museum) from Chang-Yang in Central China was known. Before me there are hardly different specimens from the Yunling Mts. in Szechwan. Above and beneath much lighter than *bathycles Zink* (Vol. IX, pl. 44 c), with very pale green spots, so that the ligth costal-marginal spot of the hindwing is but feebly prominent. The penultimate discal spot of the forewing is prolonged to the cell, sometimes fused with the large basal spot, but between both there is always a black spot left projecting along the vein like an arrow into the green colouring. A row of small spots between the submarginal and discal rows of spots on the hindwing is mostly present. Beneath the red spots of the hindwing are more yellowish, near the base there is a conspicuous round yellowish-red spot (as in *bathycles* from Java). Vein-streaks very feebly marked. The woolly scent-organ is strongly developed. *leechi.*

P. bathycles clanis *Jord.* (Vol. IX, p. 100), described from Fukien, may also extend yet into palaearctic China. Notrare at its habitats. *clanis.*

1. Genus: **Teinopalpus** *Hope.*

T. aureus *Mell* (2 c). This South-Chinese representative of *imperialis Hope* (Vol. IX, pl. 49 c) approaches the frontier of the palaearctic region and may also wander still farther to the north; in the shape of the wings (the forewing being rounded at the apex) and in the gigantic development of the golden yellow discal spot of the hindwing, however, it shows such differences that it may be regarded as a distinct species. It is one of the most interesting discoveries of the author having so successfully explored the Chinese fauna. Rare in the mountain-forests of Northern Kwangtung; ♀ still unknown. *aureus.*

2. Genus: **Luehdorfia** *Crüger.*

It was Sheljuzhko's view already in 1910 in the "Revue Russe d'Entomologie" and later on in 1913 in the "Iris" that *puziloi Ersch.* and *japonica Pryer* are probably two different species. Evidently ignorant of the works of Sheljuzhko, Rothschild in his "Novitates Zoologicae" separated the two species in 1918 and distributed the hitherto named races upon it. He describes, as Sheljuzhko, the quite differently structured and coloured ovipository bags, being richly sculptured in *puziloi* with a large, distinctly defined median terminal

lobe which is indicated at most in *japonica*. The colouring of this bag is brown in *puzilei*, black in *japonica*, the first abdominal segment of the ♀ in *japonica* above more hairy than in *puziloi*. By recognizing the long-known continental *chinensis Leech* as a race of *japonica* (what Seitz hinted at already in Vol. I) and by discovering Japanese forms of *puziloi* a further proof was produced for the difference of the two species, so that Bryk's contrary assertion cannot be correct. The fact that the forms of different species from the same habitats approach one another in the colouring is proved by innumerable examples in the whole animal kingdom.

puziloi. **L. puziloi** *Ersch. Bryk* denominated out of 12 specimens from Wladiwostok no less than 6 aberrations in the marking of the hindwing in *puziloi puziloi Ersch. ampliusmaculata Bryk* is based upon a specimen in which there is beside the internerval spot between the 1st and 2nd cubitus another one between the 3rd median and 1st cubitus; in *anarchista* (!) *Bryk*, an aberration hardly worth mentioning, the internerval spots border on the red anal spots; *coccinella Bryk* shows very much developed internerval spots; *harakiri Bryk* is the female form with a widened dark marginal band as in *japonica*; in *mandarina Bryk* we see the exterior red anal eyespot towards the margin bordered by a dark streak without the usual blue centre; in *sandigi Bryk* the band *ochrea.* extending from the costal margin to the 3rd median along the cell-end is broken up into two spots; **ochrea** *coreana.* *Shaw* (♀) exhibits a deep ochreous, almost brownish colouring. — **coreana** *Mats.*, from Kaishu, Heizan (Korea), *inexpecta.* could no more be compared. — The Japanese race described first is **inexpecta** *Shelj.*, from Sendai, on the north-eastern coast of Hondo. The posterior half of the 4th black band of the forewing is just as broad in the ♀ as in the ♂ (in *puziloi puziloi*-♀ widened as a rule), the red anal spots of the hindwing more broadly margined, the *yessoensis.* lower median lobe of the ovipository bag broader and longer (the latter according to Rothschild). — **yessoensis** *Rothsch.* (2 d), from Yesso (Hokodate), having been described 5 years later, is said to have darker and broader bands of the forewings and a broader margin of the hindwing. As the fauna of Yesso differs in many ways from that of Hondo, this name may perhaps remain.

japonica. **L. japonica** *Pryer.* — *japonica japonica Pryer* was described from Central Hondo, another race with broader black bands of the forewing is mentioned by Rothschild from Formosa (*formosana Rothsch.*). Of the Eastern Chinese race *chinensis Leech* which was already described in the 1st volume, we figure here a couple (2 d). A scantily marked deviation with an almost entirely decomposed costal spot of the hindwing (3 black *rebeli.* transverse bands) was called **rebeli** *Bryk*. I am unable to ascertain whether the forms established by Matsumura (Thous. Ins. Add. 3, 1919): *jezoensis*, *nakamurae*, *takamukana*, *tobae*, and *yazawae*, all of which except the first are described from Hondo, belong all to *japonica*.

3. Genus: **Armandia** *Blch.*

spinosa. **A. lidderdalii spinosa** *Stich.* All the light bands are more intensely yellowish (though not so yellow as in *thaidina Blch.*). On the forewing the 5th light transverse band is more convex (in rare cases also in the typical form), the two next bands from the costal margin to the 1st median branch more curved and nearer together, on the hindwing in front in the marginal portion the light dusting is increased, the yellow marginal spots being reduced. Described from a ♂ of the Coll. Fruhstorfer from Szechwan.

4. Genus: **Sericinus** *Ww.*

The first generation of all the races differs from the summer-generation in being mostly much smaller (though also some specimens of the second generation may be very small), besides in the shorter tails and the red spots on the forewing (only in the summer generation of *montela Gray* frequently indicated). On the hindwing of the ♂ the red spot between the 1st and 2nd median branches is large as a rule, in the ♀ the red spots form more or less a continuous red band. Male specimens of the first generation, which only show red spots in the cubital and anal regions of the hindwing, are very similar to the summer generation. It has not yet been ascertained how far the species proceeds to the west of Peking, a ♂ from the Prov. of Shansi (1st generation) probably belongs to *telmona Gray*, although the central cellular spot of the forewing is much smaller than in Gray's figure as well as in Vol. I, pl. 9 c. The form from Southern Shantung, in both generations, is more similar to *amurensis Stgr.* (resp. *telemachus Stgr.*) than to the first described race *telamon Gray* from Peking. If *absurdus.* constant differences from *amurensis* should be really ascertained, the name **absurdus** *Bryk* (based upon 1 ♂ of the summer generation) would have to be applied to it. It is a curious fact that between Shantung and the Amur-Ussuri-District the darkest race occurs: *koreana Fixs.* from Korea. The summer form from Charbin, *mand-* for which the name **mandschurica** *O. Bang-H.* i. l. was proposed differs in the male from *koreana* in the exterior *schurica.* halves of the wings being very much darkened, though the black basal irroration of the forewing and the dark band through the centre of the cell on the hindwing are absent. 1 ♀ from Badogu in Northern Manchuria hardly shows any more traces of the light ground-colour on the forewing. The 1st generation from Shikuanshan in Southern Manchuria, of which a large number are before me, shows in nearly all the ♂♂, in the cell of the forewing, proximad to the discocellular spot a dark patch interruptedly extending obliquely hindward and

outside to the posterior margin; base of forewing only very narrowly dusted with black. The race from the Yangtsekiang, *montela Gray* (♀-fortunei *Gray*) which is always well discernible by the much larger cellular spot occurs also in the Province of Kiangsu, thus approximating the range of the South-Shantung race. — Variegated specimens of the ♀ were named **cressoni** *Reakirt*, ♂♂ with an obsolete submarginal marking of the forewing *cressoni.* **elegans** *Bryk*, whilst a ♂ with a series of small dark brown spots on both sides of the cell-end on the hindwing *elegans.* was denominated **strandi** *Bryk.* — The specimens denoted in Vol. 1. pl. 9 a and c as *montela* belong to the subsp. *strandi.* **leechi** *Rothsch.* from Changyang with reduced black spots in both sexes. On the contrary, a very large darkened *leechi.* race with broader black bands and a much larger cellular spot of the forewing as well as a narrower red anal band on the forewing above was described as **magnus** *Fruhst.* To the south of the Yangtse R. from the Province *magnus.* of Kiangsi. The name *ehrmanni Ehrm.* is synonymous with *tel. montela Gray.*

5. Genus: **Thais** *F. (r. Zerynthia O.)*

The ranges of the three species are distributed in such a way that all three do not occur together anywhere. *rumina* inhabits in North Africa Algier and Morocco, in Europe the Iberian Peninsula and Southern France. *cerisyi* occurs from Northern Albania and Bulgaria to Southern Macedonia and Thracia, in the whole of Asia Minor, then to the south as far as Syria and Palestine, moreover, excepting Greece, in the large islands of Candia, Rhodes and Cyprus, to the east as far as Western Persia and to the north in Transcaucasia, reaching the northern most point at about 43·4°, on the eastern coast of the Black Sea. *polyxena* is spread fan-like from Southern France to the east, inhabiting the whole continent of Italy, Sicily, the whole of the Balkan, and penetrating into the north-easternmost part of Asia Minor. The northern frontier of the species extends across the Ticino (in Switzerland it was only found once in the Rhine valley of St. Gall) to Lower Austria and Moravia (in Germany it was only ascertained near Weltenburg on the Danube, which habitat was already stated by Schrank) and across Hungary, the northernmost part of Rumania to Podolia. In Eastern Russia *polyxena* flies in the Southern Ural and along the Wolga from Sarepta via Saratow as far as the Kama R. in the Government of Kazan (Districts of Spassk and Tchistopol), where it reaches the northernmost point at about 55°.

Th. cerisyi *Godt.* (Vol. 1, p. 17). In addition to the forms mentioned in Vol. 1 there are yet a number *cerisyi.* of insignificant aberrations, such as ab. **subflava** *Schtz.* with a bright yellow ground-colour in which also the *subflava.* red spots are of a yellowish tint. — In **charis** *Schtz.* the ground-colour of the forewings is whitish, the black *charis.* spots being increased. — **margarethae** *Bryk* has the forewing above extremely darkened. Hindwing above with *margarethae.* black basal dusting filling the cell, the margin being broadly bordered with dark as far as the red ocelli, otherwise of a bright yellow colouring, beneath the otherwise yellowish-green spots have quite dark fillings, the ground-colour is a pure white; 1 ♀ from Palestine. — In **deflexa** *Schtz.* the 1st costal spot is very short *deflexa.* and hardly extends into the cell, the 2nd is only present in the posterior portion of the radial stem, the 3rd developed into a longitudinal spot not reaching to the cell. — **spoliata** *Stichel* (= destrigata *Schtz.*, parnassoides *spoliata.* *Bryk*). Here the costal spots 1, 3 and 5 are reduced. — **separata** *Shelj.*, described from Pontus, shows the 2nd *separata.* costal spot divided into two spots, and in **divisa** *Shelj.*, mentioned from Batum, the 1st costal spot is split in *divisa.* two. — **melaina** *Shelj.*, also from Batum, shows the black marking considerably intensified. — **nigripuncta** *melaina.* *nigripuncta.* *Shelj.* shows the costal ocellus without the red centre; described from Batum, and in **caeca** *Shelj.* the red colour *caeca.* has entirely vanished on the hindwing above, whilst beneath it is still present. — The contrary are **completa** *completa.* *Shelj.* ♀♀, likewise from Batum, which have a red-centred spot also between the radius and the 1st median branch. — Beside these quite futile denominations, however, there are also some races and local forms not based upon single specimens, such as: **ferdinandi** *Stich.* (3 c), a very large continental European form with *ferdinandi.* feebly developed black bands. The 3rd costal spot particularly in the ♂ is very much reduced; the 1st and 5th are mostly small, too, the latter isolated at the costal margin. The two black twin-spots on both sides of the 1st cubital branch are large, the innermost of the 3 discal bands is invariably absent in the ♂, in the ♀ it is mostly only represented by a black streak between the 2nd cubital branch and the analis, or absent altogether. At first described from Bulgaria to the north of the Balkan (Shipka Pass, Lowetch), similar specimens also occurring in Northern Albania (the north-western frontier of the species), Macedonia, Eastern Rumelia, and Thrace. — In Greece itself the species has not yet been ascertained. The races in Asia Minor are still rather confused, the statements of the patriae are often very doubtful, taking no notice of the altitudes, and bred specimens are also here of very little use. I accord with Stichel in regarding as the typical subspecies of *cerisyi* the form from Smyrna with a very differently developed 3rd costal spot; the ground-colour is never whitish, the ♀♀ always show traces of the blue dusting behind the red ocelli of the median and cubital regions. This blue dusting is also absent in those specimens from western Anatolia, which are intermediate between the typical form and *deyrollei Oberth.* To the latter form I add, in the first place, all the specimens from Asia Minor except those from the Smyrna district, although, especially in certain years, there occur transitions to the typical form. I can neither recognize any constant difference in specimens from Syria and Palestine, which, according to Stichel, are mostly smaller and darker, with (particularly in the ♀) shorter tails, and for which

he introduced the name *speciosa Stich.* Only much farther to the north-east, in Transcaucasia, the continental *cerisyi* appears in a distinctly altered exterior. *caucasica Led.* which was already described in the 1st volume and is based upon specimens from Kutais is probably also distributed still farther in South-WestTranscaucasia (Borshom, Batum). Rather questionable is the patria Suchumkalc in Abchasia, for only one degrec farther to
katshukovi. the north, near Sotchi (Black Sea) we find the very well characterized race **katshukovi** *Shelj.* (3 c) with smaller red spots and a reduced black marking of the hindwing, the forewings being much lighter, especially in the ♀ which occurs almost only in a pale yellow form similar to the ♂. — From Lagodechi in Cachetia (Eastern Trans-
cachetica. caucasia) a closely allied race was described: **cachetica** *Shelj.* Hindwing of ♂ with a black costal spot on both sides, the red spots of thc band being reduced to tiny dots, in both sexes with shorter dents on the third median branch and the two cubital branches. — Similarly as in Crete (*cretica Rbl.*), special insular forms have also
martini. developed in Rhodes and Cyprus: **martini** *Fruhst.* (3 c) which is very near to typical *cerisyi.* More than half of 15 ♂♂ exhibit yellowish instead of red spots on the hindwings, all the 5 costal spots of the forewing being more or less uniformly long, the 3rd rarely shortened. In the ♀ which has not yet been described, the red spots of the band on the hindwing are closer together and orange, the black margin is narrower, the blue dusting
cypria. distinct. I. of Rhodes. — **cypria** *Stich.* ♂ with a shortened 3rd costal spot, hindwing very feebly marked, with shorter tails than in the typical form; ♀of a bright yellow, the red spots on the hindwing united into a complete band as far as the 1st median branch, inwards very narrowly edged with black, the blue dusting very distinct.
louristana. I. of Cyprus, local. - From Western Persia, Luristan and Arrak, **louristana** *Le-Cerf* (3 c), was described. A highly specialized, tailless form the unmarked ♂ of which with its reduced 1st and 3rd costal spot strongly recalls *cretica Rbl.* In the ♀ the 2nd costal spot is rounded, the 3rd interior discal band very strong, the hindwing with a coherent black prelimbal band of crescents, in both sexes the red macular band is removed inwards, the
hermanni. red spots very feeble, the costal spot mostly red. — Thc name **hermanni** *Stich.*, originally given to the whole race, was later on confined to the ♀♀ with increased black colour in both wings and an almost circular 2nd costal spot being isolated in the cell and strongly contrasting with the ground-colour. In the same district, though at somewhat greater altitudes, another form of *cerisyi* was found which is said to differ from *deyrollei* from Asia Minor only in the more yellow ground-colour and the reduced black marking on the hindwing, so that Stichels presumption that *louristana* may be a separate species is corroborated, the more since also the copulation-organs exhibit considerable differences. The resemblance with *cretica Rbl.*, however, is probably not due to any close relationship but to be regarded as a convergency.

polyxena. **Th. polyxena** *Schiff.* The aberrativc denominations of *polyxena* partly refer to the ground-colour
meta. partly to the more or less developed black spots and their red centres. — ab. **meta** *Meig.* (= rumina alba *Esp.*) are specimens with an uncommonly light, almost white ground-colour and yellow instead of red spots; —
subalbida. **subalbida** *Schtz.*, likewise very light, is a transition to it. — **vitrina** *Rothsch.* has also a lighter ground-colour, but
vitrina. the wings are semi-diaphanous. — On the contrary, **chrysochroma** *Niep.*, from Dalmatia, shows a brilliant
chryso-chroma. golden yellow ground-colour. — **rufescens** *Oberth.*, like *vitrina*, exhibits orange instead of red spots in the
rufescens. hindwing. — Sometimes also the 5th black costal spot above is red-centred, as in **bipunctata** *Cosm.* (= cassandra
bipunctata. *Mén.*); it may even have 2 red centres (= **meridionalis** *F. Hoffm.*), or also three (= **tripunctata** *Zel.*). — Moreover,
meridio-nalis. the black spots may be confluent, as in **confluens** *Schtz.*, where the costal spots of the forewing are united. —
tripunctata. In **fasciata** *Berger* the 5th costal spot is connected with thc exterior anal-marginal spot, which may occur in
confluens. the typical form as an aberration, in the other forms as a rule more or less frequcntly. — **lativittata** *Schtz.* shows
fasciata. the 2nd costal spot forming a band together with the interior anal-marginal spot. — Furthermore, also the black
lativittata. spots or their red centres are often reduced: in **bella** *Neub.* the costal spot 3 is more or less reduced, the veins
bella. of the forewing being broadly edged with black. — In **punctata** *Schtz.* the 1st costal spot of the forewing is merely
punctata. a dot. — In **springeri** *Roenn.* the black costal spots 2, 4 and 6 above are quite absent. — In **xenia** *Schtz.* the 1st
springeri. and 3rd costal spots of the forewing are reduced. — In **mülleri** *Bryk* the black streak distal to the costal ocellus
xenia. is absent; — in **demaculata** *Schtz.* both the anal-marginal spots of the forewing are absent. — **unimaculata** *Zel.* are
mülleri. specimens without the interior anal-marginal spot on the forewing. — On the contrary, in **nigromaculata** *Zel.*,
demaculata. the black streaks in the cell of the hindwing are confluent; — whereas in **reducta** *F. Hoffm.* thcy have disappeared
unimacu-lata. more or less. — **skalae** *Zel.* shows the 1st costal spot of the forewing united with the interior anal-marginal
nigromacu-lata. spot forming a band; the 2nd costal spot is very large, the third divided into 2 very small spots well separated
reducta. from each other; the 4th forms an arcuate stripe, the 5th is merely a small dot below the costa. The disc of
skalae. the wings is outside very light. —Of thc red centres all may be absent except the costal ocellus of the hindwing,
derubescens. or they may bc thickly covered with black; this is ab. **derubescens** *Züllich*; from Marshegg. — In **inornata**
inornata. *Pionneau* (= inornata *Vty.*) the forewing is without any red spots, described in the form *cassandra Hb.* — In
kreusa. **kreusa** *Tomala* (= nora *Schtz.*) the costal ocellus of the hindwing lacks the red centre. — In **marpha** *Schtz.* all
marpha. the red has disappeared beneath, whereas in **rubra** *Zel.* it is very much increased. — **neurochola** *Bryk* (3 a)
rubra. shows a very aberrative marking caused by the abnormal neuration. The bands into which the spots above
neurochola. are flown together have, as the figure shows, a very peculiar course, and the whole scheme of markings and neuration, unmistakably recalls the ab. *elunata Spøngel* of *machaon*; the specimen is a monstre just like the latter.

This great disposition of *polyxena* to individual aberrations is opposed by a slight tendency to forming well discernible constant races. The first described *polyxena Schiff. & Den.*, from Lower Austria, Moravia, and Hungary, is beside the Eastern-Russian the lightest form, the black discal band of the forewing (connection of the 5th costal spot with the exterior anal-marginal spot) is but very feebly developed, in many cases it is absent altogether. The much darker *cassandra Hbb.* (= creusa *Meig.*) exhibits shorter yellow crescents at the distal margin, the wings being rounder, too; the Southern-French form may be regarded as the type. — From Italy several so-called races have been described, such as **reverdini** *Fruhst.*, from Liguria (surroundings of Rapallo), (larger than *latiaris Stich.* and *creusa Meig.*, yellow marking very light and extensive), **nemorensis** *Vrty.*, a small race sharply contrasting with the large broad *cassandra Hb.*, from the pine-woods on the coast of Toscana. According to the material at my disposal there is a dark form similar to *cassandra* (= creusa *Meig.*) and a lighter one in which the dark discal band of the forewing is always present though peculiarly diffuse, in great contrast with the pure yellow ground-colour. This form was already described from Petagna as *hypsipyle F.* (this name being synonymous with *polyxena Schiff. & Den.*) from Calabria (Aspromonte) and very well recognizably figured, it flies also in Central Italy and is to be named **latiaris** *Stich.* (type from the Albanian Mts.). Italian explorers have stated that the darkened specimens have increased of late near Florence. — The very dark, broad-banded form from Sicily, **latevittata** *Vrty.* (= creusa *Mann.*, creusa *Dahl M. S.*) is well worth being named. — Whereas the specimens from South-Eastern Europe frequently incline to the *ochracea*-formation, there flies in Macedonia a form which is particularly darkened towards the base, with intense red spots on the forewing beneath, the ground-colour being invariably light yellow. I denominate it **demnosia** *Frr.*, although it was described from the coast of Fiume where even bright yellow specimens are said to occur (*chrysochroma Niep.*). To *demnosia Frr.* I place *albanica Riemel* (from the district of Tirana) which was described after bred specimens, and *thusnelda O. Schultz* from Thessaly. — In Southern Greece (Kalamata near the Taygetos Mts.) flies a darkened form with a bright yellow ground-colour and also above very intense red spotting: **taygetana** *subsp. nov.* (1 ♂♀ in the Munich State Collections, other specimens in the Coll. Ernst Pfeiffer, Munich). — **polymnia** *Mill.*, from Euboea, is particularly bright yellow and less darkened in the ♂. — The small form from Bithynia with a neat black marking and very narrow costal spots was denominated **gracilis** *O. Schultz.* I am unable to decide whether the species always occurs in this shape in Asia Minor. — The very light form from the Wolga (Saratow, Kamyschin), **thesto** *Fruhst.*, is very well distinguished by the very feebly developed dark discal band of the forewing and the interior hindmarginal spot being more or less reduced. Rothschild (Nov. Zool. 25 (1918) p. 72) mentions a couple from the Talych on the Caspian Sea, which is large and intensely marked, the spots being as in ab. *rufescens*. No other forms have been reported so far to the south-east.

nemorensis. *latiaris.* *latevittata.* *demnosia.* *taygetana.* *polymnia.* *gracilis.* *thesto.*

Th. rumina *L.* To the forms enumerated in Vol. I, p. 17—18 the following may be added now: **andalusiana** *Stich.* with reduced red spots above was described as a race, but it occurs among normally coloured Andalusian specimens. — In **andalusica** *Rbb.* the cell of the hindwing is partly filled with red and the red spots are much larger, whereby it corresponds to ab. *honoratii* of the Southern French form *medesicaste Ill.* — In **derubescens** *Schtz.* the red colour above is reduced, since only the 5th costal spot on the forewing is centred red. — **divisa** *Schtz.* shows the 2nd costal spot of the forewing divided into two spots. — **petheri** *Vrty.* is an insignificant alpine race from the Sierra Nevada, approximating *castiliana Rühl*, the black marking being intense, partly covered by whitish scales. — **ornatissima** *Blach.* shows a red-centred spot also between the radius and the 1st median branch — *henrietta Timins*, reported from Smyrna (probably a mistake), has still more red than *ornatissima*, so that it may coincide with *honnoratii* — In **xanthe** *Schtz.* (= mackeri *Holl*) the otherwise red spots are yellowish — The African form figured in Vol. I (pl. 10 a) though not named has been denominated in the meantine as: **africana** *Stichel* (= mauretanica *Schtz.*, ornatior *Blach.*); it is as a rule more intensely coloured and more red-spotted than European specimens. Moreover, the North-African form of *rumina* varies a great deal, and beside the mentioned *ornatissima* we find *nebulosa Holl* and *nigricans Holl* as names for extremely dark or blurred specimens. — *distorta Rothsch.* refers to a specimen with abnormal (smooth) contours of the hindwing, and *irregularis* to a specimen with a projecting tooth in the marginal marking of the hindwing.

rumina. *andalusiana.* *andalusica.* *derubescens.* *divisa.* *petheri.* *ornatissima.* *xanthe.* *africana.*

6. Genus: **Hypermnestra** *Mén. (Ismene Nick.)*)*

Larva with 2 large frontal hooks, imago at the base of the forewing with a peculiar, hand-shaped, chitinous formation. Both these structures represent adaptations to the pupation in the earth.

---

*) Cf. Le Cerf Ann. Hist. Natur. Tome II, fasc. 2, Paris, Leroux 1913. In this excellent work to which unfortunately little attention is paid, the genera *Hypermnestra*, *Thais*, *Parnassius*, and *Doritis* are morphologically compared. Hence it follows that these genera are allied to each other to such an extent that the establishment of the subfamilies *Zerynthiinae* and *Parnassiinae* is unjustified. In spite of the 5-branched radius, *Dortis* is certainly the most derivative genus and by no means closely allied with *Parnassius*. It is questionable which radial branch got lost in *Hypermnestra* and *Parnassius*. According to Le Cerf it is the first, to Rebel the third, to Stichel the fifth, but the latter opinion is probably incorrect.

helios. **helios** *Nick.*, the form described first (Vol. I, 10 b ♂), from Transcaspia, flies especially near Merw.
persica. The North-Persian form (Vol. I, 10 b as *helios* ♀), from Shakuh, must be called **persica** *Neuburger*, although this name was originally intended only for aberrative specimens with no red colour on the forewings. A small race with strongly developed black marginal marking also in the ♂. — Between *helios Nick.* and *maxima Gr.-Grsh.*
balucha. there occur all kinds of transitions. — **balucha** *Moore*, from the mountains between Quetta and Nushki (Baluchistan), in spite of the long description, is not safely separable from *maxima Gr. Gr.* The type according to Rothschild smaller than *maxima*. Moreover, Quetta and its surroundings are no more palaearctic. The
ochracea. following individual deviations were denominated: **ochracea** *Vrty.*, ♂ from Namangan, ground-colour intensely
phaeton. yellowish, with lighter red spots, on the forewing the black cellular spots are feebly traceable. — **phaeton** *Bryk*: instead of the black-edged red subcostal spots on the forewing there is only a black streak at the exterior cell-end between the 1st and 2nd median branches, hindwing only in the anterior half with an extremely narrow
poverina. black border, with hardly any ocelli. Beneath without decorative spots. Tcherdchul. — **poverina** *Bryk*: decorative spots of forewing light yellow, ocelli of hindwing strongly reduced, above only represented by very narrow streaks.

7. Genus: **Doritis** *F.* (*Archon Scudd., Dorarchon Rothsch.*)*)

apollinus. **apollinus** *Hbst.* Very dark females were denominated: **nocticolor** *Stich.* (3 d) (to which also *nocturna*
nocticolor. *Schaw.* belongs, described after a couple treated with cold). Like *Parnassius apollo*, also *apollinus* changes greatly in breeding, so that bred specimens are little to be considered injudging the geographical forms. I. a. the red colouring often increases very much in bred specimens, as for instance a series from Aleppo bred by Max Korb shows. An extremely red-coloured ♀ from this series with an almost entirely red hindwing was named
pretiosa. **pretiosa** *Schaw.*, whilst in **ochracea** *Wgn.*, which was likewise based upon bred specimens from the Antilibanon,
ochracea. the light parts of the wings are ochreous; **aurantiaca** *Culot* refers to brown ♀♀ of the race *bellargus Stgr.* from
aurantiaca. Beirut. — The geographical forms may be divided into three groups: 1) specimens from Thracia and Asia Minor (*thracica Buresch, apollinis Hbst., amasina Stgr.*); 2) the more variegated form with a broader margin of the hindwing from Syria and Palestine (*bellargus Stgr.*), 3) the more alpine specimens from Armenia and Kurdistan (*apollinaris Stgr., mardina Stich, armeniaca Shelj.*). In Asia Minor the species (type from Smyrna) seems to fly in almost the same form. The cell-end spot characterizing *amasina Stgr.* occurs but very rarely in deviations, except in *amasina*. (The specimens denoted as *amasina* in Vol. I, 10 d do not exhibit this mark, they appear to
thracica. me to originate from the south-eastern part of Asia Minor.) — **thracica** *Buresch*, from the Kurn Dagh in South-Eastern Thracia, chiefly differs from typical *apollinus* in the black costal-marginal spots in the cell being more or less broadly connected, the ♀ with strongly developed red spotting. The first European habitat ascertained.
armeniaca. — **armeniaca** *Shelj.* is somewhat larger than *apollinaris Stgr.*, intensely dusted with grey, hindwing with hardly any yellow ground-colour, always with a distinct cell-end spot. From Turkish Armenia, Ak-Bunuz between Bajburt and Kalki, also taken near Erzerum.

8. Genus: **Parnassius** *Latr.*

Mnemosyne-Group.

mnemosyne. **P. mnemosyne** *L.* (Vol. I, p. 20, pl. 10 e). — The following condition-forms have been newly described. Opinions may differ as to their validity, yet they are mentioned so as to ascertain their range as exactly as possible.
albovenata. ♂ ab. **albovenata** *Kammel*, from Giesshübel near Moedling, shows the whole neuration of the wings covered
flavidovenata. with white, instead of black, scales. — ab. **flavidovenata** *Reisser*, a form of *tergestus*, shows the veins coloured
perfusa. yellow, above white-scaled; fringes black. — In ♂-ab. **perfusa** *Bryk*, from Styria, the white on the wings above
leucothea. is strewn with black scales. — From Lower Austria, Reisser describes ab. **leucothea** which is said to be no albino. It is scaled chalky white, with yellow veins which are sealed white above, with white instead of black fringes. It is to be reckoned to *subsp. mesoleucus Fruhst.* — A form hardly worth being denominated is ab.
subochracea. **subochracea** *Bryk* the veins of which are said to be amber-coloured. — A transition to *melaina Honr.* (Vol. I,
hemimelaina. p. 20) is called by Bryk ♀-ab. **hemimelaina**, from Erstfeld, belonging to *tergestus Fruhst.* The forewing is entirely greyish-black, transparent (*melaina*). In the hindwing the whole basal area inclusive of the disc is sooty black and not hyaline. Around this partially melanotic area there is grey powdering in which we notice distinct costal spots and a *fasciata*-band. The margin of the wing is lighter. — For small forms of all the races Verity
minuscula. introduces the name: **minuscula** (= minuscula *Trti. & Bryk*). — For aberrations of all the races, exhibiting
lunulata white lunar spots in the hyaline margin of the forewing, Sheljuzhko introduces the name: **lunulata.** — ab.

*) Cf. Rothschild Nov. Zool. 25 (1918), p. 219, who considers the name *Archon Scudd.* based upon Hübner Syst. Alph. List 1822, to be inadmissible, because it was already used 1816 by Hübner in the "Verzeichnis bekannter Schmetterlinge" (List of the Lepidoptera known) in the sense of *Eques Linné* and since it is nomenclaturally composed just like Linnés *Papilio*. I do not agree with this opinion.

kammeli *Hirschke & Kunz* differs in the submarginal band and the hyaline border being confluent and forming a uniform band. This is a racial mark in *subsp. adolphi Bryk.* — ♀-ab. **nox** *Bryk* refers to aberrations of all the races which normally show lunar spots and in which they are aberratively absent. It was described from the Alexander Mts. of *subsp. gigantea Stgr.* — ♂ ab. **abducta** *Kammel*, from Pürgstein in Bohemia, the submarginal band is extinct. The white scaling in the centre of the wing extends to the white-scaled lunar spots (*lunulata*-state) and unites with them so that it now extends serrate-dentately with 5 five points into the rest of the hyaline margin. — ♀ ab. **ottonis** *Bryk* belongs to the largest forms. It is an inverse ♀ from Buchara with a very narrow not hyaline margin. — ♂-ab. **marginata** *Bryk* has an extinct submarginal band, the hyaline band therefore looks very narrow. — If a subcostal spot occurs in male gynaecotropic races *), they are called ab. **bergeri** *Hirschke & Kunz*; from the Adamello District. — Males without any subcostal spot on the forewing are ab. **benanderi** *Bryk*, from Aland. — In ab. **ruhmanni** *Hoffm.* the two cellular spots of the forewing are as narrow as streaks. — ab. **antiquincunx** *Bryk* shows the spot at the cell-margin of the forewing enlarged across the cell-end vein towards the costa. This aberration is typical of *nubilosus*, *problematica*, and *adolphi Bryk.* — In the form **incerta** *Bryk* the spot at the cell-margin of the forewing is removed to the lower cell-wall. — In ab. **ernestinae** *Bryk* the discocellular spot is reduced and separated, described from a male of *subsp. karjala Bryk.* — The discocellular spot is divided into two spots in ab. **emilii** *Bryk.* — ab. **conjuncta** *Trti.* is the same as *halteres Musch.* (Vol. I, p. 20). — ab. **conflua** *Kammel* is a form of *halteres*, since the two cellular spots are connected by a bar which, however, is very narrow. At the posterior margin the black *maculata*-spot appears. In the hindwing the typical black spot of the ♀♀ is absent, but the basal spot of ab. *siegeli Bryk* is strongly present. The anal spots are very strongly developed and connected with the basal spot by a closed bar. From the Adamello District, Val di Genova, 1600 m. — A very magnif cent species is ab. **maxbarteli** *Bryk* (= barteli *Bryk*) from the Issykkul. On the under surface the discal spots exhibit beautiful, rounded yellow centres (occurring also in *athene Stichel.* — ab. **atroguttata** *Bryk* belonging to *hassicus* is a slightly melanotic form. From the cell-end towards the base a slight shadow forming a small though distinct tail, and from the direction of the basal spot blackish scales sometimes penetrate into the discal cell. — ab. **fermata** *Bryk* (= addenda *Std.*) has a wedge-spot between the base and the anal-marginal spot. — Males with a distinct anal-marginal spot are ab. **maculata** *Bryk* (= apollonia *Kammel*). Aberrations of the hindwing are: ab. **hyalomarginata** *Hoffm.* showing the distal margin edged with a hyaline band of 4—5 mm width, not very rarely in males, but also in the female. — A very remarkable condition-form hitherto found among *hassica Pagenst.* is ab. **siegeli** *Bryk.* The costal spot in the hindwing seems to be extinct or it has wandered towards the base, where it forms a "gigantic interbasal spot". The basal third of the discal cell is intensely blackened, and the black parts at the anal margin extend to the centre. — From Northern Russia Krulikowsky described ab. **intacta** which, however, may occur everywhere. They are lepidoptera in which the black dusting at the cell-end, the spot at the cell-margin of the hindwing may be hardly marked or entirely absent (Vol. I, pl. 10 e, ♂). — The reverse of it is ♂-ab. **desintacta** *Bryk* with a monocellular feeble cell-end spot adjoining to the disc; it was hitherto found among an otherwise intact race from Schonen in Sweden. — Females of an androtropic race, which beside the two cellular maculae of the forewing and the blackening of the anal margin of the hindwing do not exhibit any other markings on the hindwing, are called ab. **inversa** *Bryk.* — ab. **arenaria** *Stichel* (= arcuata *Hirschke*) has typical forewings, but the hindwing lacks the subcostal spot, and the upper surface exhibits in the marginal area a very prominent band which is serrate-dentately sinuous. In the ♂♂ the black markings are reduced, in the ♀♀ rather increased. The markings beneath are like those above, but they are less distinct. — In ab. **cardinalis** *Bryk* the subcostal spot is connected with the cell-end spot by a thick black bar, the forewings being normal. — In **fasciata** *Hirschke* (= semifasciata *Hirschke*, taeniata *Hirschke* nec *Stichel*, ulrichi *Vorbrodt*) the forewings are likewise normal. but the hindwing above shows a closed median band extending broadly arched from the costal margin to the anal margin and being very conspicuous, since the marginal area is without any marking. — A very similar though not so prominent form is ♂-ab. **herrichi** *Bryk* in which, however, the small costal band of the forewing is connected with the anal-marginal spot by a distinct bar. — A combined form is ♀-ab. **habichi** *Bohatsch* (*arenaria* + *cardinalis*) being very similar to *arenaria Stichel*, though more intensely dusted dark, with a broad hyaline margin of the forewing, and in the white marginal area of the hindwing with a blackish, notched, crescentiform macular band. Likewise combined is ab. **taeniata** *Stichel* (= *herrichi* + *cardinalis* + *arenaria*). — A tricellular anal-marginal spot formed by the union of the cell-end spot with the anal spot causes this aberration occurring in the male to be denominated: ab. **perversus** *Bryk* (= bargeri *Rischer*). — Males lacking the anal spots 3 between the 1st and 2nd cubitus are: ab. **kerneni** *Bryk.* — Some of the aberrations enumerated above are hardly worth mentioning, but still less interesting are the following forms with neural aberrations. They are mentioned here merely by reason of completeness: ♀-ab. *kramlingerianus Kammel.* In the forewing only media 1 and 2 are developed beside the costal vein. whilst the other marginal veins are only partly present and confusedly arranged. In the hindwing only the subcostal vein and the cellular vein are present, the other veins as in the forewing. Wings normally shaped; the black markings are increased and stronger. — The third radial vein is very near to the first, and in a ♀ it is even symmetrically coalescent, in another ♀ only on one side to the right. These abnor-

kammeli. *nox.* *abducta.* *ottonis.* *marginata.* *bergeri.* *benanderi.* *ruhmanni.* *antiquincunx.* *incerta.* *ernestinae.* *emilii.* *conjuncta.* *conflua.* *maxbarteli.* *atroguttata.* *fermata.* *maculata.* *hyalomarginata.* *siegeli.* *inlacta.* *desintacta.* *inversa.* *arenaria.* *cardinalis.* *fasciata.* *herrichi.* *habichi.* *taeniata.* *perversus.* *kerneni.*

*) With the expression "gynaecotropic" Bryk denotes ♂♂ with the tendency to female markings and with "androtropic" ♀♀ with the inclination to male markings.

mities observed in *ugrjumovi Bryk* are denomined by Bryk as f. *symplecta* *). — In ab. *enderleini Bryk* the third radial vein rises from the united radial + 1st median branches. — In ab. *spuleri Bryk* the radial vein 2 is only rudimentary. — In ♂ ab. *rebeli Bryk* the two lower median veins (media 2 and 3) of the forewing and hindwing rise from the lower cell angle. — In ♀ ab. *reuterides Bryk*, on the left side of the hindwing a surplus fragmental vein rises from the 1st median branch. — In f. *schulzei Bryk* the media 3 is forked in the forewing. — Between the cubital vein 1 and 2 there is yet a surplus vein. This may occur both in the forewing and hindwing and is denominated: *intercubitalis Bryk* (= antintereubitalis *Bryk*). — If all the 4 wings show a forked cubital vein, it is ab. *kolari Bryk*; if it is only the case in the hindwing, it is ab. *krulikowskyi Bryk*. — Lepidoptera in which the disc of the hindwing is not closed are f. *sergeji Bryk*. — In ab. *bemmeleni Bryk* the discal cell is open, and in the monstrous and likewise superfluously named ab. *euclidiana Bryk* the antennal club is pointed Sphingid-like.

If one has the opportunity of elaborating a really copious material of the newly established subspecies and races, one gains the conviction that most of them can be identified also without the label of their patria. Six main groups or circles of forms can be set up, the first containing races grouped around *ariovistus*. All of
ariovistus. them exhibit the light marking in the males and females. — **ariovistus** *Fruhst.* (3 c), from Southern Wirtemberg, the Donau Valley, Ulm, is a large very significant race of the general *mnemosyne*-type. The males are light insects, not resembling the dark *hartmanni* and are somewhat smaller than the latter. In the hyaline margin of the forewing there are frequently some small white maculae. The ♀♀ are more like *subsp. hartmanni*, because they are relatively dark, but they always adhere to the type of *ariovistus* and are much lighter, also in the darkest specimens, than the lightest *hartmanni*-♀♀. — From Ratisbon to the Austrian frontier beyond Passau we meet
batava. with a likewise very large race, **batava** *Fruhst.* The males are of a pure white ground-colour, the ♀♀ pronouncedly androtropic and with very scanty markings. The transcellular costal spot of the forewing is always badly developed in the ♂ and ♀. Between the radial veins of the ♂♂ and the median branches of the ♀♀ there are white intranerval interspersions recalling *athene Stichel*. The hyaline margin of the males is square and more slanting and broader than in the females. — Another representative of the *ariovistus*-circle has penetrated as
ultrabella. far as *Schaffhausen*, in the North-Eastern Swiss Jura; it is subsp. **ultrabella** *Fruhst.* The females are likewise chiefly androtropic, and dark forms seem to be quite absent. It constantly differs from *ariovistus* in the broader hyaline margin of the forewing which is always shorter. The cell-end spot of the hindwing mostly forms a band
hassicus. with the anal spots. — subsp. **hassicus** *Pag.*, from the Vogelsberg, generally shows in the ♂ and ♀ the same light type, it is of a somewhat dull white slightly darkened ground-colouring. The males exhibit a darkened hyaline margin being broad above, tapering and disappearing towards the centre of the wing. The upper cellular spot of the forewing is jet-black, almost triangular, its point downward, the middle cellular spot roundish. The black inner-marginal colour penetrates a little into the ground of the cell and extends almost to the anal angle, encompassing the cell at its lower edge. The veins are somewhat dusted blackish from the direction of the margin. No other spots. The ♀♀ exhibit darker dusting. The broad hyaline margin of the forewing extends to the anal angle and its lower portion shows three white spots increasing in size downward. The grey submarginal band reaches to the apex of the discal cell which shows two jet-black oblong cellular spots. In the hindwing the posterior margin is broadly blackened, and the blackish cell-end spot is often united with the anal-marginal spot forming an uninterrupted band. Sometimes also a faded subcostal spot occurs, and there are females showing a tendency to *subsp. hartmanni* with very dark forewings and a darkened basal third and distal margin of the hindwing. Characteristic of the race is the *siegelli*-condition. Size ♂ 56—58 mm, ♀ 55—60 mm. — The
hercynia-nus. next representative of the German *mnemosyne* occurs in the Harz: *subsp.* **hercynianus** *Pag.* They are lepidoptera of medium size, ♂ 55 mm, ♀ 48 mm; the ♂♂ show a conspicuous white ground-colour. They approach the Swedish forms. with a broad hyaline distal margin of the forewing, which however only reaches to centre of the wing and mostly bears five small white spots arranged like a band. The interior edge of the hyaline margin is slightly undulated. The discal end spot is deep dark black, of an irregular shape, the discal middle spot is more roundish, sometimes smaller and then quite round. Hindwing with a very broadly black-scaled anal margin and another small black discal end spot, as well as traces of anal spots. In the smaller females the hyaline distal margin of the forewing extends almost to the anal angle, the submarginal band to the apex of the cell. The black discal spots are smaller than in the ♂. Anal-marginal spot dull black. On the hindwing the cell is enclosed by the basal black scaling and likewise accompanied by a narrow maeular band extending from the cell-apex to the anal angle, and separated by narrow light ground-colour from the anal-marginal
fasseliana. blackening. — *subsp.* **fasseliana** *Fruhst.* flies in the Erzgebirge, Northern Bohemia (Strobnitz near Ossegg) and forms an interesting transition from the darker Central German races of the Harz and Vogelsberg to the large light Bohemian — Moravian — Hungarian group of races. It is smaller than *silesiacus*, with rounder wings. The margin of the forewing is shorter though extended farther beyond mediana 1. The black dusting on the hindwing is moderate, now and then there are slight accumulations of scales outside the discal cell. The ♀♀ are generally androtropic, and the light ♀♀ are so little powdered with blackish-grey on the forewing

*) No zoologist would ever dream of denominating a sheep with two heads or deformed legs.

that they are at once discernible by it from the extremest albinotic *silesiacus* which are very similarly marked but always abundantly powdered. On the hindwing there is sometimes only a black cell-end spot and an isolated subanal spot, occasionally these maculae are confluent forming a considerable broad, distinctly defined band. *fasseliana* is much smaller than the Silesian and Eastern Bohemian races, the ♀♀ show a darkening of the forewing never occurring in *subsp. bohemien Bryk*, approaching, however, in but very few cases the melanotic Silesians. — A few other races of the *ariovistus*-circle are grouped around the Moravian *subsp.* **demaculatus** *Fruhst.* Large lepidoptera with an expanse of wings of about 52 mm in the ♂♂, and 50—52 mm in the ♀♀. The males exhibit a light white ground-colour with a very feeble yellowish tint and very few black markings. They are characterized by the absence of the hyaline subcostal spot and the remarkably narrow and small discal spots of the forewing. The hyaline margin extends to the centre. On the hindwing the black anal-marginal colouring extends a little into the discal cell and then to the anal angle. The cell-end spot is mostly absent. The ♀♀ are somewhat darker, the hyaline margin of the forewing is more projecting, the cellular spots are larger and blacker, a pale costal spot is present. — From Gross-Wosek on the Elbe in Bohemia Bryk describes another *subsp.* **bohemien** (= subsp. bohemicus *Fruhst.*). A decidedly androtropic race. The ♂♂ chiefly exhibit the "*intacta*"-stage, rarely a monocellular cell-end spot occurs. Subcostal spot and often both the anal spots are absent. On the forewing the band of lunular spots is very rarely absent. The subcostal spot is monocellular or extinct. The females exhibit in the hyaline margin a row of more or less light spots; the submarginal band enclosing the lunar band sometimes occurs shortened as in the ♂, and only extends to the third median. The little subcostal band is likewise shortened. Cell-end spot small, discal cellular spot roundish and suspended. Hindwing without the anal-marginal spot. — *subsp.* **litavia** *Bryk*, from the Leitha Mts., is very closely allied to *bohemien* and *mesoleucus Fruhst.* Rather a large and light race. The males with a band of lunar spots, the submarginal band extends only to mediana 3, whilst the hyaline margin reaches to the cubital vein 2 or a little beyond it. Subcostal spot present, small, the cell-end spot small, triangular, with the point inward, discal cellular spot oval and free. Hindwing with hardly any black markings, only the anal margin scaled blackish as far as the discal cell. The ♀♀ are marked differently from *mesoleucus* and vary rather much. — *subsp.* **mesoleucus** *Fruhst.*, from the Tatra and the Carpathian *Mts.*, has hitherto been much disputed, but it is very well separable and well characterized. The ♂♂ have uncommonly large cellular spots, the small costal band is tricellular. The hyaline margin is broad and extends to the cubital vein 2. In the hindwing the cell-end spot is present, moderately large, not attached. The anal-marginal blackening is extended a little to the base of the discal cell and mostly reaches to the cubital vein 2. The females show somewhat feebler markings on the forewings, whereas on the hindwing the cell-end spot forms a band with the anal spot, and this band is confluent with the anal-marginal blackening. The discal cell in the basal third and beyond

demaculatus.

bohemien.

litavia.

mesoleucus.

it blackened. — In Silesia, especially in the mountain-districts *subsp.* **silesiacus** *Fruhst.* occurs in many places. The ♂♂ are light-coloured with a broad hyaline margin extending to the centre of the wing. The cellular spots are black and small. In the hindwing the cell-end spot is marked blackish, and the anal margin is but narrowly blackened. Much more darkened are the females; specimens occur in which the whole forewings are entirely darkened except slight traces of white in the disc, like the hindwings, too, which besides exhibit a more or less strongly developed costal spot, as well as a submarginal notched band. The cell-end spot is frequently connected with the anal angle like a band (= *melaina Honr.*). — Another *demaculatus*-form is var. **grossei** *Bryk*, from Eastern Galicia, the Zlota-Lipa Valley, around Hodow. This is a feebly marked androtropic race. The ♂♂ as a rule belong to the *intacta*-form, rarely the discal spot is present in the hindwing, the subcostal spot almost invariably extinct. Anal margin little blackened, the anal spot being mostly absent or diffuse. In the forewing the hyaline band extends taperingly beyond the 1st cubital vein. Spots moderately developed, subcostal spot sometimes absent (= ab. *benanderi Bryk*), discal cellular spot oblong, posteriorly not touching the cell-wall. The ♀♀ only very rarely with an anal-marginal spot in the forewing. The small subcostal band reaches to the median vein 2. The hyaline band sometimes extends to the anal margin, but more frequently than in the ♂. The hindwing is very scantily marked. Subcostal spot almost invariably absent; if aberratively present, only strigiform, Anal spots bicellular, otherwise as in the ♂. — Bryk describes another race from the surroundings of Strij in Galicia, which he denominates **schillei** according to the discoverer. It seems, however, to be too little founded for the present to be acknowledged as a race, it might perhaps be placed as an aberration to *grossei*. — *subsp.* **thaleia** *Fruhst.*, from the Kaiser Mts. in the Tyrol, is the last race belonging to the *demaculatus*-group. It corresponds to the very similar race *cuneifer Fruhst.* which, however, already belongs to the following *hartmanni*-group. The ♂♂ differ in much smaller and shorter black cellular spots and a broader hyaline margin of the forewing. The hindwing only exceptionally shows a black cell-end spot which occurs regularly in *cuneifer*. The ♀ is entirely androtropic, and *thalia* represents a purely white local race even in the ♀. Basal and distal black dusting entirely absent. In the forewing the jet-black, almost roundish cellular spots are conspicuously contrasting with the ground-colour of the wing. The hyaline margin is shorter and lighter than in *cuneifer*; hindwing with typical *cuneifer*-spots. The spots, however, are less intense and invariably smaller than in South-Tyrolese specimens. — The races grouped around *hartmanni Stdfss.* are well characterized. They are alpine forms with abundantly marked males and still darker or entirely black scaled females. A condition-form of the ♀ belonging to *subsp. hartmanni* (Vol. I, p. 20), ab. **umbratilis** *Fruhst.*, from Kufstein

silesiacus.

grossei.

schillei.

thaleia.

umbratilis.

and Königsee, is quite black on both wings, and besides there occur above the Königsee specimens with likewise black wings, in which, however, the median veins of the hindwing are slightly covered with light grey
tubulus. scales. — In *subsp.* **tubulus** *Fruhst.* (= anbulus, anbalus *Pag.*), from the Schoberstein in Upper Austria, the ♀ is distinguished by the peculiar yellowish ground-colour and the broad hyaline margin occupying almost half of the forewing, being very dark and reaching to the anal angle. The costal spot is prolonged to beyond the discal cell which is darkened; anal-marginal spot present. Hindwing with a distinct costal spot, the cell-end spot forming a band with the anal spots. The ♂♂ likewise show a whitish ground-colour with blackened veins. The hyaline margin runs taperingly to the anal angle. The black cellular spots are small and roundish. The blackening of the anal margin penetrates into the discal cell. Cell-end spot small or absent. — *minor Stichel*
parvus. (Vol. I, p. 20) also belongs to this place and must now be named **parvus** *Stichel*, because the name is preoccupied. — From the Plöcken District Dannehl denominates a *subsp. carnica* which he mentions to be an „extraordinarily varying, rather small local race, in which presumably all the denominated dark forms are to be ascertained". According to this description it will probably be impossible, even if there be a label of its habitat affixed, to recognise Dannehl's "*subsp.*" (!). The description of *susbsp. karawankensis Dannehl*, from the banks of the Drau, Rosental, and low parts of the Karawanken Mts., is just as insufficient. It is said to be of medium size and entirely light, here and there also with a slight yellowish hue. Black markings more closely together, distinctly defined, often reduced. The two forms are only mentioned here so as to show in what way names
hungaricus. are often produced. — *subsp.* **hungaricus** *Rothsch.*, from Transylvania, Kronstadt and Herkulesbad, is a very large race (♀ 58, ♂ 68 mm). The ♂♂ show a white ground-colour. The hyaline margin is very broad and runs taperingly to the centre of the wing, mostly decorated with 5 white small spots forming a band. The cellular spots are small, like the costal spot, too. In the hindwing the anal margin is narrow black, discal end spot more or less developed. The ♀ is somewhat darker, in the hyaline margin of the forewing likewise small white internerval spots, the cellular spots mostly somewhat larger than in the ♂, the small costal band grey, frequently extending to the cell-apex. On the hindwing the anal margin is narrow black, often a small costal spot is present.
leonhardiana. Discal end spot frequently united with the anal spots in the shape of a band. — *subsp.* **leonhardiana** *Fruhst.*, from Bosnia, has the male wings above uncommonly densely covered with more yellowish than white scales. The ♀♀ resemble less intensely coloured *orminion Fruhst.* from which they differ in their more yellowish ground-colour and less intense black scaling. In the hindwing the lunar band at the margin is absent. — From
dejotaurus. the Rila Planina in Bulgaria, Fruhstorfer describes a *subsp.* **dejotaurus** which he states to be a diminutive form of *demaculatus Fruhst.* and separates by the extensive cellular spotting of the forewing and the small size. The ♀♀ are entirely androtropic, little marked black on the hindwings. Shape of wings short and roundish. —
orminion. In the Velebit flies *subsp.* **orminion** *Fruhst.*, a very large race. The ♂♂ show the hyaline margin of the forewing broader though shorter than in *leonhardiana Fruhst.* from Bosnia, and the black spots are very large and prominent. The black anal margin of the hindwing is broader and more densely scaled than in any other of the southern forms of the former Austrian Monarchy. Cell-end spot present. The ♀♀ develop two extreme forms, a lighter one chiefly occurring near Agram and a darker one recalling *melaina* and *hartmanni*. Both, however, are more transparent on the whole upper surface, more hyaline and purer white than the more yellowish-hued Bosnian melahyaline specimens. Cellular spots of forewing in both sexes very large and broad. The ♀♀ are much more darkened than the ♀♀ from Carniola, Croatia, Serbia, and the Hungarian lowlands. The blackening of the forewings is more complete than in the darkest *mesoleucus*-♀♀ from the
ophrinion. Tatra, but without a submarginal band. — *subsp.* **ophrinion** *Fruhst.*, from Carniola and Croatia, is allied with South-Hungarian races and also with *parvus Stich.* The ♂♂ are moderately gynaicotropic. The imagines of this race flying near Laibach and Agram very rarely show a *taeniata*-formation; *arcuata*-forms are unknown. — var.
bureschi. **bureschi** *Bryk*, from Hudowa in Macedonia, is a small, densely scaled, androtropic race distinguished from all the races by the small submarginal band not running parallel as in the typical species, but projecting towards the base near mediana 3 and then suddenly being cut short. In the ♀ this is more distinct than in the ♂. The hyaline band extends yet beyond the 1st cubital vein and forms small indistinct hyaline spots in the lunar band which is almost extinct in the ♂. Subcostal spot monocellular in the ♂, in the ♀ only forming a hyaline streak between media 1 and 2. Cellular spots black and strong, the distal one at the cell-end *antiquincunx*. The anal-marginal spot is absent in the ♀. The ♂ is "intact" with a distinctly blackened anal margin. The ♀ exhibits all the typical spots of female *mnemosyne*. In the base of the cell no black colour whatever. — From Albania
parvisi. Turati described the *subsp.* **parvisi** (= variabilis *Trti.*). It resembles *mesoleucus Fruhst.* and still more *leonhardiana Bryk*, but it is distinguished by the chalky yellowish-white colouring exhibited by both the sexes which also have a broad hyaline margin tapering off towards the anal margin and extending to the 2nd cubital vein. The ♂ has moderate cellular spots and also the costal spot. In the hindwing the cell-end spot and anal spots are present and invariably connected with the anal-marginal blackening. The latter frequently penetrates into the discal cell which it almost fills up. Anyhow this race is extremely variable in the marking. The ♀♀ have in the forewing a small distinct costal band, the cellular spots are large and strong, especially the central spot which is oblong quadrangular and fills up the whole width of the cell. In the hindwing the costal spot is present, the cell-end
wagneri. spot is large, frequently united with the anal spot and forming a band. — The race **wagneri** *Bryk*, from Hatcara, Distr. of Prahova (Rumania), is a densely scaled form the ♂♂ of which mostly occur in the "*intacta*"-state; rarely with a monocellular cell-end spot in the hindwing. Anal margin very little blackened. Hyaline

band moderate, both cell spots sharply bordered, freqeuntly oblong. The ♀♀ are much more richly marked with black than the galician. The end cell spot usually divided and not quite touching. Subcostal spot more or less pronounced, the second anal spot is present. Hindmargin not strikingly black. Transparent margin of forewings reaches to 1st cubital diffusing. The end cell spot often inclines to *antiquincunx*, the middle cell spot is elongated and oblong. — *subsp.* **deutschi** *Bryk* occurs at Kelchsau differing from neighbouring forms by the brownish yellow tone of the wings. In the hindwings end cell spot is joined to the anal spot and this again with the black dusting of the hindmargin, encircling disc. The markings delicate. The ♂♂ are as a rule marked similarly to *estonicus*, but the subcostal spot may occur striated. The anal spots reach to the 2nd cubital. Subcostal spot in the forewings strikingly pronounced, the transparent margin reaches to the anal angle in a sharp narrow point, no lunules. The ♀♀ are lighter than the ♂♂, the subcostal band reaches to media 2. The discoidal spot is weak and elongated. The transparent margin is wide diffusing towards the hindmargin. Hindwings without subcostal spot, end cell spot joined up with the hind margin. The size is 31—32 mm. — *var.* **ausonica** *Bryk* originates from Cima d'Asta in the Dolomites. The ♀ has elongated forewings, thereby immediately distinguishable from *cuneifer Fruhst.* Underside without markings, lighter scalings on the surface less shaded and pale slightly greenish. Discoidal spot oblong and slanting, clear cut towards the base, diffusing towards the apex. Discal end spot longish, costal bands straight, not bent 2-celled, seldom 3-celled parallel to the discal end spot. Submarginal bands wide, reaching to the 2nd cubital, transparent margin correspondingly long. Lunules always preserved. Hindmarginal spot indistinct. The base of the forewings and the neighbouring costal margin yellowish. The ♂ with black cell spots in the forewings indifferently developed. The subcostal spot reaches to the 2nd media and is clearly one-celled, luniform submarginal band to media 3 and small transparent margin reaching 2nd cubital. The ♀♀ are 30—36 mm, the ♂♂ 33—35 mm. Wagner brought a striking race from the Venetian Alps from an altitude of 1000 m, named *subsp.* **venetus** *Wagner* (= venetanus *Pag.*). The ♂♂ are thickly white scaled, the forewings with a wide transparent margin, bold cell spots and grey hyaline subcostal spot to media 2. The cell end spot and anal spot of hindwings banded together shaded with black rather widely and intensively merging with black hindmarginal markings. The ♀♀ are of a more brownish white colouring, the transparent margin is wider than in ♂. An almost completely grey transparent band traverses the forewings to hindmargin. The black markings of hindmargin and the base of wings much more extended than in ♂. The costal spot is distinct. The most striking, constantly recurring characteristic of this race in both sexes is the remarkably close and strongly developed black marking at the close of the disc in forewings and at hindmargin of hindwings as against the otherwise relatively light character of wing markings. Such a contrast does not occur in the darkest specimens of *hartmanni* and *melaina*. — *subsp.* **cuneifer** *Fruhst.* comes from Tione in the Ortler range and closely resembles ♂ *hartmanni*, but it has not the blackish submarginal area of hindwings of the latter. Forewings have large black cell spots and hindwings a pronounced end cell spot. The ♀♀ vary more. Transparent margin of forewings relatively wide, often with large white submarginal spots. Hindwings with striking large black subcostal mark and at end of cell and in anal angle an unusual long cuneiform spot. In contrast to this androtropic race of *cuneifer Fruhst.* from an altitude of 565—770 m we have *subsp.* **adamellicus** *Kunz* which is gynaecotropic flying at a height of 1400—1650 m in the Adamello region of the S. W. Tyrol. Ground colour more or less dirty white, especially in the ♀♀ remarkably yellowish (ab. *ochracea Aust.*), which with their golden yellow scaling and hairs remind one of *P. stubbendorfi* var. *citrinarius Motsch.* Size 49—57 mm. Discoidal spot generally even larger than in *cuneifer*, but very irregular like blots of ink especially in ♀♀ and touching on the top discoidal nervure. Cell end spot large often extending to costa (= *antiquincunx*). Hindwings as in *cuneifer*. Discal end spot and anal spot well developed but scarcely ever uniting. The following aberrations were observed: f. *lunulata Shelj.*, *maculata Bryk*, *antiquincunx Bryk*. A small race is *subsp.* **carmenta** *Fruhst.* found in the Vorarlberg district. ♂♂ are most like very small *hartmanni Stdfs.* from Reichenhall, but differing through the absence of black discal end spot of hindwings and the longer and very pronounced black cell spots of forewings being all the more striking owing to the small size of the insect. Transparent margin decidedly shorter converging at the anterior mediana (M 1) and then disappearing, whilst in *hartmanni* it almost always continues to anal angle. ♀♀ have thinly scaled, darkly dusted forewings appearing consequently quite brownish. Wide transparent border without lunules diffusing towards anal angle. Very wide subcostal band joins up at mediana 2 on the one hand with transparent band and on the other with end cell spot completely encircling same. This creates four white *lunulata*-like spots between hyaline margin and subcostal band. Hindmarginal spot distinct, gradually diffusing itself into basal dusting. Hindwings similar to *falsa Bryk*, end cell spot isolated not uniting either with subcostal spot or anal spots. — From the valley of Oy in the Algauer Alps the race of **korbi** *Bryk* (4 a) closely approximates to *carmenta*, especially in ♂♂, whilst ♀♀ show more variation. Cell end spot of hindwings is distinct and does not rest on cell, as generally with *carmenta*. In disc of forewings end spot is *antiquincunx*, just as central spot is diffused and suffused, almost converging, otherwise only the rule with the races from South Tyrol. — *subsp.* **lysandra** *Fruhst.* from Hoehentilching in the Mangfall valley of South Bavaria: ground colour purer white than in *hartmanni*, transparent margin narrower and cell spots smaller. Hindwings show only rarely a slight dusting at end of cell or just beyond same. The ♀♀ have a more

deutschi.

ausonica.

venetus.

adamellicus.

carmenta.

korbi.

lysandra.

yellowish ground colour, the transparent margin is wide and pronounced with striking isolated subcostal spots in the forewings. The outer margin only occasionally delicately powdered with black. The cell spots are relatively small and as the cell is not filled out with black as in *hartmanni* the yellowish anterior area encircled by black, which is so characteristic of this race cannot develop in *lysandra*. A further race from the Algauer
irena. Alps which is very close to *korbi Bryk* is *subsp.* **irena** *Fruhst.* The ♂♂ have rounder wings and a purer white ground colour than *hartmanni* and *lysandra*. The hyaline margin is narrower and shows whitish submarginal sprinklings as in *ariovistus* and *batava Fruhst.* Characteristic are the large irregular almost starshaped black cell spots of the forewings, which with their dentate points look as if they had been torn out and stuck on. Sometimes these spots are joined up through these protruding points uniting and forming small connecting bands. The ♀ reminds one of *tergestus* and *symphorus Fruhst.*, as *irena* has similar large, widely spread cell spots of the forewings. There are two forms: firstly a form with forewings covered completely with black dustings, where the cell of the hindwings remains yellowish white, secondly a form with forewings only slightly suffused, but where the hindwing cell is almost completely covered with black dust having an almost unscaled distal patch. The first form approaches the *hartmanni* of Reichenhall and the Salzburger district, whilst the latter connects up with the races of mid and southern Switzerland. — Verity establishes a race called *helvetica* without giving any specific locality and without any definition and which can at the best be termed a "*supersubspecies*" name
excelsa. for all the Swiss races, but what sense would this have? At the same time his race **excelsa** *Vrty.* from Mount Cenis should be admitted. This is a high Alpine form, the ♂♂ are with little marking. The transparent margin is very wide running to a point and clearly luniform. The cell spots are fairly pronounced. The discoidal spot oval elongated, suspended. In the hindwings a small half-celled cell end spot. Hindmarginal black marking extending slightly into the discal cell. ♀♀ are richly marked. The very wide transparent margin extends to the hindmargin. The subcostal spot is strong reaching to media 2, hindmarginal spot only indistinctly indicated. In the hindwings the costal spot clearly united with the almost square two-celled end cell spot. Anal spots large and joined up loosely by a few scales with the end cell spot. Hindmargin heavily marked with black scarcely
benacensis. extending beyond the edge of the cell. — *subsp.* **benacensis** *Duerck* from the district of Mte. Baldo on the Garda Lake measures on the average 57 mm (♂) — 58 mm (♀). The race is distinguishable by its intense, close pure white scaling which in the ♀ resembles ivorywhite and the consequent clearcut contrasting markings. The transparent border of the forewings is wide running straight in ♂ to media 3, then decreasing at a sharp angle to ⅓rd at cubitalis 1, in ♀ on the other hand it continues equally wide to cubitalis 2 or even as far as the hindmargin. In the transparent margin in both sexes there is a continuous row of white crescents (*lunulae*) which are more or less sharply outlined and which can converge forming a submarginal band. Besides this the transparent margin is powdered thinly with black scales. The discoidal spot is rectangular, the cell end spot is cordiform with point towards the base often inclining towards a *halteres* form. In ♂♂ the subcostal spot is sometimes absent, sometimes distinctly developed, whilst in the ♀ it is always present, often forming a subcostal band stretching to media 2. In the ♀ there is often an indefinite black hindmarginal spot on the forewings. The hindmargin of hindwings is scaled like *cuneifer Fruhst.* In the ♀ usually also a lappet shaped upper cubital spot. Further often a subcostal spot often uniting with cell end spot as well as with anal spot thereby forming a band. Just as often however these spots remain separated and isolated. — A beautiful race from the Valais
mixtus. occurring from the Rhone Valley to the Simplon, at Bérisal and the Loetschen Valley is named *subsp.* **mixtus** *Fruhst.* As the name already indicates nearly all the marking and colour combinations are repeated in this race such as are known in the Swiss races with the exception of the melahyaline dark shading typical of *tergestus*, although in rare cases this also occurs. The ♂ has larger cell spots on the forewings than *temora* and *tergestus*. The ♂♂ are interesting having the distal area of the veins of the hindwings darkened and a black costal spot analogous to *hartmanni Stdfs.* There are several varieties of ♀ frequently the costal spot unites with the discal end spot on the hindwings, whilst in ♂ cell spots sometimes combine (*halteres* form). Especially noticeable are the ♀♀ in which the dark hyaline areas contrast with the yellowish ground colour. On these areas the black spots stand out closely knit and glossy. There are also ♀♀ in which the cell of the hindwings is almost completely darkened, where however nevertheless the distal area retains its yellowish ground colour. Finally there are also androtropic ♀♀ and one can say that in regard to varieties *mixtus* beats all other Swiss races. — *subsp.*
sire. **sire** *Bryk* from Macugnaga belongs to the smaller races, distinguishable by the truncate apex. The ♀♀ are a mixture of *calabrica* and *pyrenaica Trti.* The transparent band reaches to hindmargin tapering off gradually. The subcostal band reaches to media 2, frequently being prolonged weakly by a stroke to media 3. Hindmarginal spot strongly developed. The ♂♂ have no lunulae on the forewings. The subcostal spot leans on the end cell spot, which is very small, almost only a streak. Discoidal spot elongated and suspended. In the hindwings all three spots are present. The end cell spot is pronounced stretching one and a half cells. The shading at the base and at hindmargin is unusually heavy. Fruhstorfer received from the Valais a form with strikingly
symphorus. rounded wing shape which he named **symphorus.** The ♂♂ have a transparent border stretching to the middle and decorated with small white spots. The black cell spots are only small and rounded. In the hindwings there is a small delicate cell end spot and only a narrow blackening of the hindmargin. In the ♀ one is struck by the deep black marking at base and the remarkably strongly developed cell spots, especially the bold middle cell spot which fills out the whole of the middle area of the cell forming a band and at the same time there is an

inclination for the two spots to converge similar to a *halteres* form. The ♀♀ most resemble very dark forms of *parmenides Fruhst.* — The *subsp.* **temora** *Fruhst.* from Canton Glarus, the lake of Talap, Braunwald and Susten is described by the author as a so remarkably androtropic race that no diagnosis is necessary to separate it from its closely allied *tergestus Fruhst.* from the Canton of Uri and *mixtus Fruhst.* from the Valais district. The cell spots of the forewings are black and larger even than in *carmenta* and *tergestus*, the hyaline margin is narrower than in *mixtus*, wider than in *tergestus*, otherwise as in *carmenta* but sometimes ending at media 1. Hindwings sometimes with a black base spot, the black dusting of the basal area is generally more pronounced than in *carmenta.* — ♂ *subsp.* **tergestus** *Fruhst.* reminds one of the types of the more southern races. It is from the district of Erstfeld in Canton Uri. It is chalky white, less transparent than *hartmanni* and has at the same time a narrower and shorter transparent margin of the forewings. The black cell spots are large: the glossy margin strongly incurved and rarely there are unimportant round white spots in it. The hindwings are very poor in black markings as compared with *hartmanni*. Common to all ♀♀ is the black scaling of the discal cell of the forewings showing all degrees from fine powdering to quite thick scaling. The transparent margin of the forewings extends to the anal angle, subcostal bands are present, the black hindmargin of the hindwings continues round the cell and continuing to the anal angle making a band with the large cell end spot. A pretty variety of the ♀ is described by Fruhstorfer as ab. **subochracea**. The forewings are deeply blackened with small indications of soft yellow patches, hindwings on the other hand are dark cream coloured and underneath dull yellow with a striking wide greenish anal margin. — The last of the Swiss races to be enumerated here is *subsp.* **thebaida** *Fruhst.* from the foot of the northern slopes of Mte Camoghé in the Valley of Moggina in Tessin. It is most closely related to *cuneifer Fruhst.* The wing contour of the ♂ is rounder, and the ground colour is yellower than the other Swiss ♂♂. Forewings very rarely with costal spots. The discal middle spot is irregular, often rounded, and then again sometimes rectangular, rarely touching the lower wall of the cell. Hindwings with dark discal end spot. The basal area of the hindwings of both sexes powdered with grey, not deep black as for instance in *temora*, generally lighter than in *mixtus*. The hyaline margin more regular and narrower than in *mixtus* generally with yellowish white scaley patches. ♀♀ throughout androtropic only rarely with scant and sparsely distributed powdering on the disc of the forewings. In the hindwings there is a small greyish subcostal spot, end cell spot and a lower cubital spot between cubitalis 1 and 2. — The races of *mnemosyne* flying in Italy and South France form a natural series of types and have as a general characteristic feature the good development of the ocelli spots on the hindwings, sometimes forming true ocelli. From Mte Aurunci, Gran-Sasso we have *subsp.* **aquilensis** *Trti.* It is smaller than *comitis*, which it closely resembles and also *fruhstorferi*. It is 33 mm. The ♀♀ have the subcostal band reaching to mediana 2. Hindmarginal spot almost extinguished, base of cell pure and not dusted. On the hindwings the small cell end spot is not joined to the diffuse second anal spot. Hindmargin heavily blackened, more so than in *fruhstorferi*. The ♂ differs completely from *comitis*. The subcostal spot is missing, the end cell spot is not triangular, one-celled. Otherwise the hindwings are heavily powdered with black at the hind margin. **fruhstorferi** *Trti.* comes from the Sabine mountains in Abruzzia and is closely related to the previous form, but should be easily distinguishable from it. The ♂ thickly scaled with white with a wide transparent border extending just beyond media 3, submarginal band almost equally long. The cell spots are small, the middle one suspended contrasting strongly with the white ground colour on account of its deep black colour. The subcostal spot is absent or only faintly indicated. The hindwings with small end cell spot and the peculiar hindmarginal dusting which is characteristic of the forms from Asia Minor. — *subsp.* **calabrica** *Trti.* (3 d) from the Aspromonte District of Calabria looks very similar to *nubilosus Christ*, but is nearly one third smaller in size. The ♂ has 5—6 white spots in the transparent margin which is very wide stretching to mediana 3. The cell spots in both sexes are unusually large, especially in view of the smallness of the race and at the same time they are intensely black. Chracteristic of the type-form is the *halteres* marking, separating this variety from ab. **normalis** *Bryk* though otherwise identical. The ♀♀ have a transparent margin that is abt 8 mm wide and which stretches down to the hind margin and which is ornamented with a row of about 7 clearly defined white spots forming a band of lunules. On both the upper and undersides of all wings the ♀♀ are strongly suffused with black reminding one thereby of *hartmanni Standfuss*. Of this race Turati described ab. **roseopicta** which corresponds entirely with *maxbarteli Bryk* in regard to the position of the markings of the underside and which varies only through the rosey red pupilled ocelli of the hindwings. In regard to the value of the following variations of *calabrica* established by Stauder the only thing to be said is that fewer would have been better. — f. **megalomanos** *Std.* has all black spots nearly double normal size, almost as large as in *gigantea Stgr.*, also the upper side of the hindwings shows deep black which is not diffused. — f. **turatii** *Std.* shows the black markings of the upper and underside of the hindwings from the base to costa continuously united by a convergence all spots. — ab. **punctilineata** shows diminished cell spots which form an oblique line of spots. — ♂ ab. **ovalimacula** has the end cell spot in the form of a large crescent which joins up with a similarly formed middle cell spot creating a large black oval mark the edges of which always touch the wall of the cell. — In f. **aspersa** the middle cell spot is divided up into a number of small spots and points, sometimes as many as 8. — f. **addenda** has an additional spot which is quite clearly marked lying on the hindmargin of the forewings. — In f. **mandarina** the shape of the hindwings so varies on both sides that it appears symmetrically almost pentagonal. — When the outer edge of the forewings is falcate it is called **falcata** and when the hindmargin of the hindwings is not rounded as in normal specimens

temora.
tergestus.
subochracca.
thebaida.
aquilensis.
fruhstorferi.
calabrica.
normalis.
roscopicta.
megalomanos.
turatii.
punctilineata.
ovalimacula.
aspersa.
addenda.
mandarina.
falcata.

postiecelongate. comitis. but runs in a straight line it is denominated as **posticelongate** *Trti.* — *subsp.* **comitis** *Bryk* from Majella flies in the first half of July, which is late in the year as most Italian specimens. The ♂♂ are pure white, the hyaline margin to cubitalis 2 gradually getting narrower and joining with the submarginal band finishing at mediana 3 and with 5 distinct white spots. The subcostal spot is one-celled but clearly defined. End cell spot is triangular, not very striking, discoidal spot medium sometimes unattached. The hindwings can be described as "intact", as the end cell spot is scarcely discernible. Hindmargin suffused with black as usual. The ♀♀ are more richly marked. The transparent margin is very wide, tapering off only slightly towards the anal angle, becoming diffuse from cubitalis 1—2. Lunulae are present. Subcostal band wide and reaching to media 3. The end cell spot triangular, middle cell spot roundish, lying unattached in the cell. The base of the forewings suffused as with soot. Hindmarginal spot distinct, oblong, excurved towards the base. On hindwings the subcostal spot is absent, on the other hand the small end cell spot lying attached to the cell joins up with anal spots and hindmargin forming a continuous band which with the black marking of the hind margin encloses an oval white spot over two and a half cells. The ♀♀ closely resemble the *ariovistus* from Urach, but differ by *constantinii.* the longer and wider subcostal band. Turati describes the race of **constantinii** from the Emilianic Apeninnes; it is similar to *fruhstorferi* and differs to such a slight degree that it is questionable, whether it should be further *esperi.* considered. — *subsp.* **esperi** *Bryk* is the race from Piedmont. The ♀♀ remind one somewhat of *comitis.* They have a still wider transparent border, nearly always extending to the hindmargin and with very clear lunules, which in the last sections are open crescents. The hindmarginal spot is sometimes present, but mostly absent. The subcostal band stretches to media 3. The end cell spot deep black, triangular and nearly always of "*antiquincunx*" formation. The discoidal spot roundish, oval, suspended or undetached and also deep black. The hindwings show a pronounced *dentata* submarginal band. The subcostal spot is present. The end cell spot just as with *comitis* joined up with the hindmargin and enclosing a white spot. The base of the cell mostly more darkly coloured with black than usual. The ♂♂ distinguish themselves by their pure white ground colour and by the S-shaped sinuated submarginal band, which can be even wider than transparent border. Both are separated by a continuous band of spots. The submarginal band breaks off at media 3 where the junction takes place diffusing from here to the hindmargin. Subcostal spot is present mostly one-celled. End cell spot triangular, middle cell spot roundish lying unattached in middle of cell area. Hindwings without any subcostal spot, end cell spot usually small or even absent. Base and hind margin deep *costarum.* black. — The race of **costarum** *Bryk* from Mount Aurunci, in the Valle de Petrella (Caserta) is quite distinct from *fruhstorferi*, although closely allied to same. The transparent band is longer, stretching along the whole border to hindmargin, becoming considerably narrower and having *lunulata.* The subcostal band is pronounced, running to a point at media 3, middle cell spot distinct, discal cell exceptionally wide. End cell spot of the hindwings is rather smallish, one-celled and dependant. An anal spot between cubitalis 1 and 2. The ♀ varies still more from *fruhstorferi.* The hindmarginal spot is particularly characteristic. On hindwings besides a strongly marked subcostal spot there is a two-celled end cell spot. Anal spot is two-celled and together with the dark marking of the hindmargin it encloses a light area between cubitalis 1 and 2. The *nebrodensis.* race **nebrodensis** *Trti.* (3 d) comes from Sicily from Madonie, Mount Nebrodi. It approaches *nubilosus Christ*, but has a more rounded wing shape. Between the hyaline marginal and submarginal bands one observes 5—6 small dart shaped spots with points pointing inwards. The costal spot is clear, mostly one-celled. The two cell spots deep black, shaped as in *athene.* The hindwings poor in markings, and except for a quadrangular, one-celled end cell spot there is only a weak and diffused anal spot. The faint markings of the hindmargin *schawerdae.* penetrate somewhat into base of discal cell. — subsp. **schawerdae** *Bryk* from Mount Pennino, 1500 m, and Mount di Camerino-Piceno is a small race midway between *calabrica* and *fruhstorferi.* The ♀♀ can easily be distinguished from *fruhstorferi.* Instead of the curious dusting of the hindmargin which is peculiar to types from Asia Minor *schawerdae* show only a black streak and the ♂♂ differ from *calabrica* by the absence of the second anal spot. The ♀♀ are only weakly scaled. The glass band and submarginal band join together or stretch to the hindmargin with narrow reduced crescents. Subcostal band usually extends to media 3. Cellspots are strongly marked. Hindmarginal spot clear or also absent. Hindwing markings scarcely distinguishable from *calabrica*, but the *cardinalis* bar, which regularly occurs in *calabrica* is absent. Black scaling of underside much reduced. ♂♂ very similar to those of *calabrica.* Submarginal band extends only to media 3. Subcostal spot can be absent or clearly marked on hindwings. The end cell spot sometimes pronounced and at others only represented by a streak. It is a very variable race. — Among the races *cassiensis.* from south France **cassiensis** *Siepi* from Mount St. Cassien (Baume) is a light form. ♂♂ are of light, white ground colour and have a wide hyaline margin stretching not quite to the middle of the wings having white lunules. The cell spots are small and narrow, hindmargin and base of the narrow hindwings are shaded with black. The discal end spot is missing. The ♀♀ also light insects, thinly scaled like *matuta*, submarginal band reaching to cubitalis 2 wide with very small lunules. Middle cell spot is more strongly marked than in *parmenides.* — Bryk *matuta.* describes the race of **matuta** from Mount Authion, 1300 m altitude, near Sospel. ♀♀ are as light as specimens from Asia Minor. Transparent band narrow and reaches to cubitalis 2, whilst submarginal band is somewhat shorter. Band of lunules clear but narrow. Hindmarginal spot distinct but small and sometimes absent. Triangular end cell spot small. Black marginal markings of hindwings reduced not extending beyond discal cell. All the usual three spots are distinct, excepting subcostal spot, which is only narrow and sometimes quite absent. ♂♂ characterised by pale white

scaling. Submarginal band extends to media 3, subcostal spot is faint, but nevertheless distinct. Middle cell spot small but clear. Subcostal spot and hindmarginal spot usually only occur exceptionally. *matuta* stands between *dinianus* and *cassiensis*. — From the Alpes Maritimes there is a further race viz: **parmenides** *Fruhst.* this is a small and melanic local form, closely allied to *dinianus*. The ♂ has the cell spots of the discal cell black and the median ocelli of the hindwings are more magnificent than in ♂♂ of *dinianus*. The white submarginal spots are absent. The forewings of the ♀♀ are throughout nearly always glossy, only the top cell area and the median area of the forewings dusted in addition with whitish grey. The subcostal spot is hyaline and curved and much more striking than in *dinianus* and even than in *nebrodensis Trti*. The hindwings are richer in black than *dinianus* with isolated, circumcellular maculae which unite as in *athene*. — Digne in the Basses-Alps is the home of **dinianus** *Fruhst.* Both ♂ and ♀ differ from *athene* and *nebrodensis Trti.* through the narrower, shorter and less hyaline transparent margin of forewings and much larger whitish lunulae in the ♀♀. Subcostal spot is mostly absent, when it is present it is square and small and in the ♂♂ it is quite absent. The black marking of hindwings is strongly reduced, in the ♂♂ cell end spot missing or scarcely discernibly indicated. Anal spots are missing, the black marking of hindmargin und the basal region is weak. The var. *parvimacula Rothsch.* cannot be separated from *dinianus Fruhst.* and can be deemed identical. — The *subsp.* **pyrenaica** *Trti.* (= pyrenaica *Vrty.*, pyrenaicus *Fruhst.*, vernetanus *Fruhst.*, vernetensis *Rothsch.*, turatii *Fruhst.*, pyrenaiana *Bryk*) flies as the name indicates in the High Pyrenees. The white ground colour has a somewhat earthy tone, particularly noticeable in the ♀. The submarginal band joins with the transparent margin and is particularly dark towards the edge of the wing, it stretches pronouncedly to the middle of the wings diffusing towards anal angle. Crescents are not discernible. The subcostal band appears as a wide black band. Hindmarginal spot is clear and deep black. Hindwings with a submarginal band dusted with black, apparently clearly outlined. The veins of the ♀ are strikingly suffused with black and not to the same degree in the ♂. Thorax and abdomen have yellowish hairs, which are almost ochre yellow in the ♀. The form described by Fruhstorfer as **turatii** and which emanates from Gèdre in the High Pyrenees may be merely a local or seasonal form of *pyrenaica*: they are rather more richly decorated with black, but seem to fly in the same locality as *pyrenaica*. Althogether the ♀♀ of *pyrenaica* incline to the *hartmanni*-form, nevertheless adhering to the circle of the southern french races by their characteristic markings. — A further group of races is formed by the northern and Russian races stretching into the Caucasus, characterised by exceptional size. In Denmark, in Seeland we find *subsp.* **bang-haasi** *Bryk* which is a gynaecotropic race. In the ♀ in the transparent margin and the rather undulating submarginal band there is a row of crescents increasing in size towards the hindmargin. The subcostal band is triangular with the point reaching to media 2: the cell end spot is triangular and deep black as also is the roundish clear middle cell spot. The costal spot is missing in the hindwings. The narrow end cell spot appears to be loosely united up with the anal spot by a band of small striations of scales. The dusting of the hindmargin is sparse only slightly extending beyond the cell nervure to cubitalis 2. In the ♂ the united wide transparent border reaches to media 3, continues more narrowly then at an angle and extends beyond cubitalis 1, showing only one or two distinct glossy spots. The subcostal spot as in ♀ reaches to media 2 and is also pointed and triangular. The small almost point-like black middle cell spot in the centre of the discal cell is very striking. In the hindwings the cell end spot is rhomboidal and well developed, the anal spots barely indicated by a few small scales collected on the relative nervures. The sealing in the base of the cell and on hindmargin is stronger than in the ♀. — In the south of Sweden in the Province of Schonen there occurs a splendid race called **argiope** *Fruhst.* In size it exceeds even the span of the wings of *subsp. borussianus Fruhst.* The ♂♂ of pure white ground colour, the transparent margin of the forewings is wider than in the finnish *mnemosyne* and just as short as in *borussianus*. Forewings as a rule without the hyaline subcostal spot. The hindwings completely white and just as with *demaculatus* without black markings, with the exception of the dusting on the hindmargin which barely reaches the lower median nervure. The ♀♀ have a wide transparent border reaching to cubitalis 1 brightened up by *lunulata* towards the end. The costal spot is occasionally one-celled, but also stretches to media 2 as a definite band. Cell spots pronounced, black, the middle cell spot rectangular elongated. In the hindwings the cell end spot is small and not touching or else large and then touching. The anal spot is small, the black marking of the hindmargin smaller than in *bang-haasi* scarcely penetrating into the basal area of the cell. Bryk has denominated this form from the Aaland Islands as *ugrofennica* a superfluous name. — From the neighbourhood of Stockholm, in Baeka, on Bjorkoe, Groddoe, Radmansoe there is a type that differs slightly and is called *subsp.* **romani** *Bryk*. It is an androtropic form. The ♂♂ have a very wide transparent area stretching to media 3 tapering off suddenly here and continuing obliquely to cubitalis 1 and diffusing to the hind margin. The subcostal spot is glossy and one-celled: very rarely extending in a band to media 2. ♂♂ without any subcostal spot on forewings are called f. **benanderi** *Bryk* cell spots medium large. The hindwings in the best case have reduced markings, which can be entirely absent (ab. *inversa Bryk*) the black markings of the base and hindmargin are less intensive or extended. The ♀♀ are as a rule smaller and pronouncedly androtropic. The transparent margin is fairly wide and stretches in a straight line to the hindmargin becoming only slightly narrower from cubitalis 1. Subcostal spot as in the ♂. The cell spots are weaker than in the ♂. The hindwings frequently show no markings, other than the rather lively dusting of the hindmargin as compared with ♂. The end cell spot occurs, but can just as often be absent. According to Bryk *mnemosyne* occurs in Finland in various races. He describes *subsp.* **karjala** from Ladogisch Karelia, as a large light coloured race, the ♂♂ being 52 mm,

parmenides. *dinianus.* *pyrenaica.* *turatii.* *bang-haasi.* *argiope.* *romani.* *benanderi.* *karjala.*

the ♀♀ on the average 60 mm large. The ♀♀ are of white slightly dusky colour. The transparent margin of the forewings is wide, slightly curved and extending beyond cubitalis 1. The submedian nervures are rather more heavily marked with black towards the margin. The subcostal spot is blackish and pointed reaching to media 1. Cell spots deep black and strongly marked. Hindmarginal spot roundish, dull black. Subcostal spot of hindwings also roundish, striking and dull black. The shading of the hindmargin extends round the cell uniting with the large cell end spot. Anal spots large and the upper one pointed upwards nearly uniting with end cell spot. Nervures slightly blackened at the hindmargin. The ♀♀ have a yellow collarband and there are traces of yellow also in anal area of underside of the wings as well as on legs. The abdomen itself is glossy black with yellow in the region of the markings. This yellowish colouring occurs in most of the races and also in the type form. In the middle of the abdomen there is a longitudinal line of bristle like hairs. The ♂♂ differ through the almost complete absence of the subcostal spot as well as of the hindmarginal spot: the hindwings are practically bare of marking, neither subcostal spots, end cell spots nor anal spots and only a delicate black marking of the hindmargin

perkele. is left. — From West Finland there is another form, **perkele** *Bryk*, which is thoroughly gynaecotropic. It flies around Aebo, Pargas and Kakskaite. It is distinguishable from *karjala* by the wider hyaline margin, which reaches down to the hindmargin and which is divided between cubitalis 1 and 2 through a wide mark corresponding with the ground colour. The subcostal spot is distinct, somewhat diffuse up of mediana 1. Cell spots and hindmarginal spot clear, there are often glossy, dusted patches at base and in the cell. In the hindwings the submarginal band more or less well developed, as also subcostal spot, a two-celled end cell spot converging with the black marking of the hindmargin extending round the cell. The point of the anal spot reaches almost to the end cell spot. The ♂♂ only have the oblong end cell spot leaning on and in front of the discal cell as in the Karelian race, otherwise they are just the same as the butterflies from Aaland. In the

genuina. South of Finland the race of **genuina** named by Bryk has its home. He considered this the type form and the same as was before Linné when he described his *mnemosyne*: this assertion is however not proven and can be contested. It is far removed from the form which we consider ourselves justified to consider the type form today. It is an androtropic race, which Espers illustrated in his Butterfly Book Volume 7, Plate 1, f. 3, of

estonicus. which the ♀ is pictured. Whether this is a race that can be maintained is open to doubt. — *subsp.* **estonicus** *Bryk* from East Estland to which can also be counted the butterflies caught around St. Petersburg (Leningrad) is so strikingly marked on the hindwings of the ♂ that a separate denomination is justified. In the transparent margin of forewings there are often half transparent lunules and middle cell spot is elongated as in *karjala*. The subcostal spot is nearly always absent. The end cell spot often oblong, two-celled, not attached to discocellular nervule, so that two small spots of ground colour appear between the relative nervules. In *karjala* this spot is always attached to disc. The anal spot between cubitalis 1 and 2 sometimes preserved, anal hindmarginal streak more or less distinct, sometimes suffusing into the black marking of hind margin. The ♀♀ show more of the characteristics of the finnish than of the russian races. The hyaline band stretches out over cubitalis 2 becoming more transparent between media 3 and cubitalis 1. Subcostal band somewhat shorter than in *karjala* reaching only as far as media 2. The hindwings are peculiar because of a somewhat elongated narrow two-celled end cell spot, sometimes uniting in a band with anal spot. Subcostal spot oblique and streak-like, when not altogether absent. Only the base of cell is suffused with shading

borussianus. of hind margin. — From Rominton in East Prussia there is the large race of **borussianus** *Fruhst.* The ♂♂ are very similar to *bohemien Bryk* and unusually large, even larger than the South Russian races. The transparent margin does not reach to cubitalis 1 and is less shaded than in *demaculatus*. The hyaline area with large white scaley patches, which can only be compared for perfection of development to the most beautiful south European forms. Cell spots large and deep black. Dark hindmarginal edge of hindwings relatively narrow, but stronger than in *ugrjumovi* and *karjala*. End cell spot scarcely ever occurs, the *intacta* marking is most general. ♀♀ strongly androtropic and compare most closely with *ugrjumovi*. Hyaline band reaches to cubitalis 2 and shows a clear form of *lunulata*. Subcostalband reaches to media 2. Hindwings with an indistinct subcostal spot and scarcely perceptible end cell and anal spots nearly always "intact". Black marking of hindmargin extends into lower

ugrjumovi. third of base of cell. — *Subsp.* **ugrjumovi** *Bryk* is a rather small race from Jelabuga in the Province of Wiatka. The ♂♂ have a fairly wide hyaline band tapering off strongly towards the end somewhat behind cubitalis 1 practically without lunules, only between media 3 and cubitalis 1 a scarcely perceptible white spot. The subcostal spot glossy and stretches to media 1. End cell spot nearly larger than the roundish or sometimes angular middle cell spot which is unattached in cell. In hindwings there may be a small streak-like subcostal spot, which may also be absent. Cell end spot is pronounced, if one-celled then unattached: if two-celled then attached to discoidal nervures. The anal spots only weakly developed or quite absent. The cell powdered with black at the lower base and on hindmargin. On underside the yellow spots which are so characteristic of the aberration

craspedon- *maxbarteli Bryk* are a constant feature. — From Saratow in South Russia we have *subsp.* **craspedontis** *Fruhst.* which

tis. is larger than *ugrjumovi*. The ♂♂ have a very wide hyaline band reaching to cubitalis 1, submarginal band breaks off suddenly without decreasing in size at media 3. Lunules are distinct. Cell spots very large, larger than in *ugrjumovi*. Hindwings devoid of markings, only hindmargin and base of cell are weakly shaded. Transparent band of ♀♀ much wider reaching to cubitalis 2 and with or without scarcely perceptible lunules. There is a subcostal spot on hindwings and also a two-celled end cell spot and

strongly marked anal spots. The lower base of the cell and the hindmarginal shading which reaches to the end cell spot is heavier than in the ♂. No submarginal band. — Uralka near Orenburg and Kisilkaja in the Urals is the home of *subsp.* **uralka** *Bryk* which corresponds in size with the south Russian *craspedontis Fruhst.* *uralka.* The ♀♀ are pronouncedly androtropic, i. e. always with hindmarginal spot, they closely resemble *ugrjumovi* and have similarly the yellow *maxbarteli* markings of the large ocelli on the underside, but they are much larger than these. ♂♂ also distinctly distinguishable from *craspedontis*, which are usually "intact". They are more strongly marked than *ugrjumovi*. They would best be described as a *craspedontis* form with appearance of *ugrjumovi*. — Verity describes from Kuban in the Caucasus the *subsp.* **caucasia** with *caucasia.* which according to the author the race of *delgranprincipe Bryk* from Adschara, Elbrus in Caucasia is synonymous. The ♂♂ have a wide transparent margin which narrows down towards the anal angle extending to cubitalis 2. The subcostal band is distinct and often extends to media 2. The end cell spot is large but narrow the middle cell spot wide and oval taking up nearly the whole width of the cell. Hindmarginal spot indistinct only indicated by a few scales. In the hindwings a streak-like oblique subcostal spot. End cell spot two-celled, narrow joined up with the black dusting of the hindmargin encircling the discal cell. The anal spot is also united similarly and pointing towards end cell spot without however definitely uniting with same. The ♀♀ are much more richly marked. The transparent margin is unusually wide, only becoming slightly narrower towards the hindmargin and slightly undulating inwards. The subcostalband stretches in an arc down to media 3. Cell spots smaller than in the ♂ but nevertheless clearly outlined and black. The hindmarginal spot distinct. Base of the wings darkly suffused. In the hindwings a streak-like small costal spot. The shading of the hindmargin stretches towards the base into the cell encircling same and uniting with the large rectangular two-celled end cell spot. Also the anal spots are united with same; they are large and sometimes forming a band with end cell spot enclosing a more or less large white area. A weak submarginal band is clearly perceptible and the nervules towards the margin are increasingly suffused with black. — The following races from Asia Minor are typically characterised by their fine marking and distended cell spots. *subsp.* **adolphi** *Bryk* (= hyrcana *O. B.-H.* i. l. louristanus *Rangnow*) from Sultanabad in Louristan (Persia). *adolphi.* This is a light race related to *nubilosus Chr.* The ♀♀ have relatively pointedly elongated forewings, they are scaled closely yellowish white with black and black glossy *felderi* markings. The hyaline band runs narrowly to the hind margin and is separated from the submarginal band by a wide band corresponding to the ground colour of the wings. This is strikingly blackish hyaline, wide, at first parallel to the transparent border to the subcostal band, then it runs off at an angle almost vertically to the hindmargin and finally parallel to the sidemargin. Costal band is blackish hyaline. Hindmarginal spot is a longish black streak. Cell spots are large and deep black, the end cell spot is *antiquincunx*. In the hindwings there is a beautiful, darkish hyaline submarginal band. Subcostal spot narrow and longish. Cell end spot joined up with the anal spot forming a band. Basal and hindmarginal shading is sparse and black. Underside of the wings without markings only the cell spots are faintly indicated and otherwise the markings of the upper side reflect through. The ♂♂ lighter and much less richly decorated. The transparent margin is widely separated from the submarginal band and both break off at cubitalis 2, the submarginal band bends out like an arc towards margin. Subcostal band stretches to mediana 3, interrupted by mediana 1 and radialis. End cell spot narrow and oblong, the middle cell spot twice as wide filling up the whole width of the cell. Both are deep black. The costal area is sprinkled with black down to the base. Hindmarginal spot is absent. In the hindwings the markings are still more impoverished. The subcostal spot is absent and the submarginal band is only represented by a few insignificant scales which are scarcely perceptible. The cell end spot although two-celled and united loosely with the hindmargin consists of loosely distributed blackish scalings just as does the shading of hindmargin. — Bryk describes from Lebanon the new race of **libanotica.** The cut of the wings — both fore and *libanotica.* hind — especially in the ♀ is shorter and more rounded so that the apex appears foreshortened. The transparent margin is wide and separated from the narrow, undulating S-shaped submarginal band by a narrow band. Subcostal spot small only indicated by a few scales up to media 1. End cell spot is large *antiquincunx*, middle cell spot wide almost square, attached and deep black and very striking. Hind marginal spot barely indicated by a few isolated scales. Costal border tinged weakly with grey. The hindwings have all markings only faintly indicated. The subcostal mark is only indicated by still fainter and softer streaks than the end cell spot. The cubital spot, between cubitalis 1 and 2 is slightly more pronounced. The base is not shaded. Hindmargin narrowly suffused with grey at the edge. In ♂ the hyaline border is separated by a narrow *lunulata* like band of ground colour from the gently curved submarginal band: both taper off at cubitalis 1. Subcostal spot one-celled small and delicate. Both cell spots are much smaller than in ♀, but just as deep black and thickly marked. Hindmarginal spot is absent. The hindwings very poor in marking and without any black marks, only base of hindmargin suffused by very few blackish scales. The race from the Hermon Mountains named **syra** *Verity* may be a form due to local conditions: it cannot be termed a separate race. *syra.* The chief difference lies in the development of the cell spots in forewings. The cell end spot small and narrow, whilst cell middle spot is also small like a point. In hindwings there is only an elongated small cell end spot observable. The shading of the hindmargin as in *libanotica*. The base of all wings is not shaded

akbesiana. as in *libanotica*. From Cheiklè bes Akbes in Syria there is described *subsp.* **akbesiana** *Shelj.* also closely similar to *libanotica Bryk*. The differences are scarcely enough to justify a separate race. In both sexes the middle cell spot of the forewings is smaller. In the transparent border there are isolated crescents, which never form a continuous band. The submarginal band and the subcostal band are much wider in the ♀ and the former is much longer, the hindmarginal spot is obvious. The cell end spot of the hindwings is larger in the ♀ and the dusting of

problematica. the hindmargin is somewhat thicker. — The Persian race of *subsp.* **problematica** *Bryk* (4 a) is very remarkable. It is an androtropic race: the ♂♂ are very light and very poor in markings. The transparent band and submarginal band reach to cubitalis 1 and are separated by a band of *lunula*-like marks. The subcostal spot is faintly present. End cell spot narrow: the middle cell spot is characteristic, it hangs obliquely in the cell and whilst being small has the shape of a hook or a stud. No hind marginal spot. The hindwings may be without any marking but they sometimes have a hindmarginal spot. The hind margin shows sparse dark scaling. The ♀♀ are rather more brightly marked, the transparent margin and submarginal band are fairly wide and reach to the hindmargin, they are separated by a continuous band of lunules. The subcostal band extends a little beyond media 2. End cell spot is small, whilst the narrow, somewhat pointed middle cell spot lies close to the lower median nervure. A hindmarginal spot occurs. The subcostal spot on the hindwings is indicated: the end cell spot is more strongly yet delicately marked and is two-celled. The triangular anal spot reaches to cubitalis 2. The shading of the hindmargin through innumerable dark scales stretches often far into the discal cell. A somewhat aberrative form was chosen for the illustration: the submarginal band is shown rather longer and the middle cell spot not so small and not free. The cell spots of the ♀ are considerably smaller in typical specimens and the anal spots of the hindwings

pseudo-nubilosus. are never so large and crescent shaped. — *subsp.* **pseudonubilosus** *Vrty.* (= nubilosus *Vrty.*) comes from Trebizond. The ♂♂ have pure white ground colour. In the forewings the hyaline band is very wide, the inner margin gently undulating and S-shaped and with a wide band of lunules stretching to cubitalis 1. The hindmarginal spot is absent but occurs as an aberration. The subcostal band extends to media 2. The cell end spot is strong, black and *antiquincunx*, the middle cell spot ribbon like, fairly wide filling up nearly the whole width of the cell. The end cell spot in the hindwings is clearly two-celled, but narrow, almost like a streak and forming a loose band with the hindmargin. The base of the discal cell and the hindmargin deep black, becoming lighter towards the anal angle and diffusing. The ♀♀ are more heavily marked. The wide transparent border stretches to cubitalis 1, the submarginal band is dentated on both sides and wavey and reaches to cubitalis 2, tapering off at the hindmargin. Both bands are separated by a wide, whitish band corresponding with the ground colour. The subcostal mark very striking to media 3. The end cell spot deep black and *antiquincunx* a characteristic of this race. The middle cell spot as in the ♂. In the hindwings a subcostal spot, as well as a large two-celled end cell spot which unites with the anal spot forming a wide black dentated band. The shading of the hindmargin is sparse as if blown on. — In the kilikic Taurus

sheljuzhkoi. a further race occurs viz *subsp.* **sheljuzhkoi** *Bryk* which is of medium size and in which the ♀♀ have an angular transparent and submarginal band reaching to cubitalis 2 and a narrow *lunulata* band. The subcostal band is diffused to media 2. The cell end spot small yet somewhat larger than the oval round free middle cell spot. Hindmarginal spot is scarcely perceptible. The hindwings show an elongated narrow faint subcostal spot. The end cell spot is two-celled attached and generally converging with the angular anal spot. Hindmargin faintly suffused with black. In the ♂♂ marginal bands are similarly formed to those of the ♀♀, reaching only as far as media 3. The subcostal spot obsolete. The cell end spot small and oblong, middle cell spot pentagonal and suspended. Hindmarginal spot absent. In hindwings only the cell end spot is developed,

strix. it is two-celled narrow and attached: hindmargin sparsely sprinkled with black. — *subsp.* **strix** *Bryk* comes from Nikolajewka in Armenia and is a gynaecotropic race. The ♂♂ show a submarginal band that stretches to cubitalis 2 in an arc-like scallop which is longer than marginal band ending at cubitalis 1. The subcostal band is strongly developed and ends at media 2. End cell spot small, middle cell spot strong like a ribbon filling the whole width of the cell. Hindmarginal spot square and clear but may be absent. Subcostal spot in hindwings clear, sometimes uniting with the two-celled adjoining end cell spot (ab. *cardinalis Hirchke*): anal spots merge into hind marginal marking ending at cubitalis 1. The base of diseal cell shaded with black marking of hindmargin. The ♀♀ show a more pronounced and richer marking. The two marginal bands unite forming a broad transparent margin reaching to hindmargin tapering off only slightly and showing scarcely discernible traces of *lunulae*. The subcostal band is very wide and ends with a small tapering end at madia 3. Both cell spots are deep black and bold, the end cell spot elongated and square, middle cell spot almost as wide but like a ribbon and filling out the width of cell. Hindmarginal spot large with a point upwards at the side which reaches up to and touches the middle cell spot at cubitalis 2. In the third of the cell near base are shaded areas. The hindwings show narrow elongated rectangular subcostal spots and two-celled bold adjacent cell end spot and anal spots that bend towards the margin extending beyond cubitalis 2. The medium heavy black marking of hindmargin also penetrates into basal third of cell and base of wings. — From Armenia, from the

subnubilosus. lake of Wan we have the fine race of **subnubilosus** *Bryk* (3 e). The shape of wings of the illustrated specimen is too rounded. Especially in ♀ wings are much narrower longer and more pointed, approximately like *hoenei Schweitzer* on Plate 4 a. They differ at a glance from *adolphi* through these elongated wings and through the tone colour of wings which is much more ivory-like. The band of ground colour between narrow transparent margin and submarginal band neither so wide nor so clear as in the race referred to.

The ♀♀ closely resemble *pseudonubilosus Vrty.* from Trebizond. — There is a further group of races which is characterised by its rich markings and the enlargement of the cell spots of the hindwings and which is found on the central Asian Mountain ranges. On the Hissar Mountains in Buchara we find *subsp.* **bucharana** *Bryk* which approximates *nubilosus Christ.* and *gigantea Stgr.* The ♂♂ with wide hyaline margin reaching to cubitalis 1, diminishing only slightly and interspersed with a row of small white crescents. Generally a small grey subcostal spot is present. The end cell spot is crescent shaped, the middle cell spot rhomboidal and attached. The hindwings are only marked by a minute end cell spot and sparse powdering of the hind margin. The ♀♀ are more richly marked. The hyaline border wider and often only terminates at cubitalis 2. The inner edge of the submarginal band is gently curved like an S.-A row of whitish crescents more or less distinctly separates the two marginal bands. The grey, delicate subcostal band extends to media 2. The cell spots are larger than in the ♂, but not so deeply black. The colouring of the hindwings is dull grey, the spots not being so deeply black. Sometimes all the spots from the costal spot to the hindmargin form a more or less loose band. The hind margin lighter and more sparsely scaled than in the ♂. The ab. *ottonis Bryk* belongs here and has in spite of its large size only a narrow transparent margin. — *subsp.* **falsa** *Bryk* has its origin at Aulië Ata in Turkestan and approaches the form of *gigantea Stgr.* These are large specimens of light whitish ground colour. The ♂♂ have a wide transparent margin stretching to cubitalis 2, bifurcated at the end by a light tongue of ground colour showing a row of lunulae. The costal spot extends diffusing to media 2. The cell spots are large, the end cell spot forms a triangle pointing inwards. The middle cell spot is roundish, very large and attached. The hindwings have a square subcostal spot, a large two-celled end cell spot which is loosely connected with the very large anal spots. From the base of the costal margin a wide band transverses a good third of the discal cell, the shading of the hind margin extends as far as the anal spot. The ♀♀ are more gorgeously marked. The transparent margin is darker and the light crescents are better developed, as also is the subcostal band. The end cell spot is crescent shaped and the middle cell spot touches both cell nervures as a wide ribbon. Hindmarginal spot distinctly present. The hindwings have a bold subcostal spot. The end cell spot is well outlined, two-celled and uniting with the anal spot which suffuses in the shading of the hind margin extending all round the cell. Thereby a three-celled light spot is formed. The discal cell at its lower base participates in the shading. I was able to see a series of the race of **pytania** *Bryk* from some typical specimens of Bryk's and a further number of specimens from Alai. The ♂♂ and ♀♀ are strongly marked. The transparent margin is wide with a *lunulata* condition. The costal band reaches to media 1. The end cell spot is elongated, the middle cell spot is rhomboidal and strongly marked. In both sexes the subcostal and end cell spots occur on the hindwings and sometimes in the ♀♀ these converge with the anal spots forming a band.

bucharana.

falsa.

pytania.

P. stubbendorfi *Mén.* (= immaculata *Mén.*) (Vol. 1, p. 20). According to the latest views *stubbendorfi* is to be considered a *subspecies* of *P. mnemosyne L.* a denomination that would be quite natural when considering the whole appearance of the insect and the territory where it occurs. It has been found that where in the east of Asia *mnemosyne L.* ceases, there *stubbendorfi* commences. Ménétriés never used the name of *immaculata Mén.* as a specific name for *stubbendorfi.* Ménétriés only speaks of a *mnemosyne* with "alis maculatis" and adds "? spec.". The form of the ♂ in which the transparent border is covered with white scales so that it is obscured is called **niphetodis** *Bryk.* When the end cell spot of the forewings exceeds the discoidal nervure towards the costa we name the variety **antiquincunx** *Bryk.* With *P. citrinarius Motsch.* (= glaecialis *Btlr.*) and *tsingtaua A. B.-H.* we have different forms of ab. **ernestinae** *Bryk* which has the middle cell spot free and unattached in the discal cell, whilst otherwise in the races mentioned the middle spot fills out the whole width of the cell. ♀♀ which have a well developed hind marginal spot in the hindwings are called ab. **maculata** *Bryk.* If the subcostal spot is developed on the hindwings of the ♂♂ the name is ab. **arnoldi** *Bryk* (= moltrechti *Bryk*). In the ♀ ab. **aporiides** *Bryk* the end cell spot of the hindwings has disappeared and is not discernible. Also nervure aberrations have been named: ab. *symplecta Bryk* shows the first median nervule grown together with the last bifurcated radial nervure and often moved considerably towards the margin. In ab. *hoffmanni Bryk* on both sides of the middle cell arising from the first cubitalis there is a small bit of a nervule which Bryk considers is a reversion to a third median nervure, which in the normal way has disappeared in the discal cell. — f. *clathrata* has the sub-median nervure (R 4 + 5) joined up with the first median nervule (media 1) by means of a transverse nervule, thus forming an additional cell. Bryk denominated as *subsp.* **typica** specimens from Ongodai in the Altai Mountains and considered this form the type form. This cannot be considered right and at the best it may be a case of a new race. The cut of the wings is said to be more pointed, but the author qualifies this by saying cautiously that this may be merely "an aberration". The middle cell spot is absent. Subcostal band occurs. In the hindwings there is only a faintly developed subcostal spot. The ♂ is very similar to the ♀, differs chiefly through the absence of the subcostal band, through a short submarginal band and a somewhat more pronounced shading of the hind margin of the hindwings. Bryk remarks further that this form is very close to and almost identical with *subsp. tartarus Aust.* (4 a and b). To the last named race belongs also f. **lewi** *Bryk* which has the submarginal band separated into separate individual spots. O. Bang-Haas described a new race from Sung-pan (= Sumpanting) in the North of Szechuan (West China): **funkei** of which the ♂♂ are 48 mm and the ♀♀ 41 mm across the wings on an average. The race is fairly close to *tartarus,*

stubbendorfi.

niphetodis.

antiquincunx.

ernestinae.

maculata.

arnoldi.

aporiides.

typica.

lewi.

funkei.

but is mueh smaller, daintier and with less marking. Both sexes have a distinct submarginal band on the forewings. The hind margin of the ♂ to the source of cubitalis 2 as well as the base of the middle cell are shaded with black, whilst in the ♀ the diseal eell remains clear, whilst the whole hind margin up to eubitalis 2 as well as the terminal nervure of the eell up to media 3 are blaekish. The raee from the Sotka and Sehipka-
bodemyerei. Passes in East Siberia are denominated **bodemeyeri** *Bryk* and they form a transition to the main form of the Ussuri butterflies. There are so many aberrations that it is seareely possible to denominate the really characteristic features. This is especially so with the ♀♀, the safest feature of whieh is always their loeality label. The ♂♂ are very elose to *koreana Vrty.* (= amurensis *Vrty.*) but differ at the first glance owing to the middle eell spot the anterior of which is only retained as a rudiment. The submarginal band is more or less well developed, one ♂ even belongs to ab. *marginata.* The light eolouring of both sexes and their size are charaeter-
jeholi. istie. The *subsp.* **jeholi** *O. B.-H.* eonneets the siberian races with *tsingtaua O. B.-H.* from Shantung. *jeholi* flies in Chili and Jehol on the eastern slopes of the Chingan Mountains at Lin-si-hien. The wings measure 65 mm in the ♂♂, 67 mm in the ♀♀. This is therefore a much larger raee than any of the north Siberian raees and it is also of lighter ground eolour. The forewings of the ♂♂ are without any marking. The middle eell spot lies along the upper eell nervure, the end eell spot is only faintly indieated. The hind margin of the hindwings is deep black. The ♀ has eell spots in the forewings, the marginal and submarginal bands are only faintly indicated. — From the neighbourhood of Tsingtau there are specimens, whieh owing to their size,
tsingtaua. through their elearer white differ so mueh from neighbouring races that their denomination as **tsingtaua** *O. B.-H.* appears justified *). The ♂♂ have generally larger and wider eell spots than *citrinarius Motsch.* but on the other hand the submarginal band is nearly always absent or it is only faintly developed, whilst in japanese speeimens it is regularly and rather pronouneedly marked. As an aberration we have under the typical form
govindraei- the ♀ ab. **govindraeides** *Bryk* where the hind diseal eell nervule is dusted with black from the discoidal eell
des. nervure to the base and also all the nervules arising from the eell are blackened at their base giving one the impression of stepping stones. In the hindwings in the cell there is a hair-like fine streak along the length
nankingi. of the middle eell, which does not oecur in any other Parnassius. — Closely related is *subsp.* **nankingi** *O. B.-H.* (4 b) from the East of China, from Kiangsu on the mountain of Paoschan near Nanking. The ♂♂ measure from 56—78 mm, the ♀♀ from 54—73 mm. The ♂♂ have a beautiful light sulphur yellow ground eolour. Forewings with bold eell spots which converge like a ring and surround the nervure media 2 to eubitalis 2 forming a small triangle, whilst the submarginal band is only very faint disappearing already between media 3 and eubitalis 1. The hindwings are bare of marks exeept for a narrow blaek marginal band and very heavy and deep blaek marking of the hind margin which extends over the basal half of the discal eell surrounding same narrowly to media 2. The markings of the ♀♀ are exceedingly variable; there are some very dark speeimens and again lighter forms, but the hind margin of the hindwings is always deep blaek. Our illustration shows
siegfriedi. the typieal markings of the ♀♀ very well. From Tai-ping-lin in Manehuria we have *subsp.* **siegfriedi** *Bryk* (4 b). The two illustrated butterflies are not quite typieal but aberrative. Of all the *mnemosyne* this raee in the ♂ approaehes most elosely to *Aporia Craetaegi L.* The ground colour is nearly pure white in the ♀, whilst the ♂ has a slightly yellowish tone. The typical ♀ has an uninterrupted transparent border, there is no band of the ground eolour intervening as oecurs in European *mnemosyne.* Also the hindwings have a very wide transparent band whieh is faintly dusted towards the margin. There are also speeimens whieh have a white spot in the hind margin such as *hoenei Schweitzer.* The hyaline margin is so narrow that one scarcely notiees it, the end cell spot is bold but less striking than in the Ussuri race. Middle eell spot nearly always absent, also the submarginal band, but both of these markings ean be faintly indicated. The hind margin is very deep
niphetodis. black. As an aberration the ♂ is sometimes heavily scaled with white and is ealled ab. **niphetodis** *Bryk.* The
melanophia. form figured as *nigricans* next to the ♀ *siegfriedi* is called **melanophia** *Honr.* (Vol. 1, p. 20). — The very small
standfussi. *subsp.* **standfussi** *Bryk* has its home around Nikolajewsk at the mouth of the Amur. Both sexes are small, the ♀♀ (56—60 mm) are richly marked and occur in two forms, one melahyaline and the other thiekly sealed with light scales as the *tartarus* raee. The middle cell spot is very narrow, the submarginal band is wide indented in a sharp arc. On the hindwings there is a very narrow submarginal band. The subcostal spot of the forewings is not visible. Palpi yellowish. The dark hyaline form has all the markings of *P. mnemosyne* with the exeeption of the seeond anal spot on the hindwings. The ♂♂ all have a distinet submarginal band, whieh in more poorly marked speeimens only reaches to media 3 or eubitalis 1 and a distinct white band of lunules. In specimens without the middle cell spot the black of the hind margin extends to eubitalis 2, in more riehly marked speeimens up to the end of the eell. The middle cell spot is interrupted in the middle. Subcostal spot is seldom present. On the hindwings all the veins are lined with blaek along their length from the distal end to midway, all
koreana. that remains of a marginal band. — *subsp.* **koreana** *Vrty.* (= amurensis *Vrty.*). This type has nothing to do with the corean type and it flies on the Island of Askold and around Vladivostock, also oeeurrring in the middle and North Ussuri and at Progranitznaja on the mandchurian boundary. Verity therefore later named it *amurensis* and then used the same of *koreana* for the corean raee. This is not permissible according to the rules

*) "The rich series of *tsingtaua* in the collection of Eisner, Berlin-Dahlem varies considerably from the characteristics mentioned in the first diagnosis. All the specimens are rather darker, caused by the richer markings in both sexes and also owing to the submarginal bands being better developed than in *citrinarius*."

of nomenclature and therefore we must retain the misleading name for the Amur race. The race is very large, whiter than the type form. The hyaline margin and the submarginal band are both very wide and separated by a continuous row of narrow white internerval lines and stripes, which run from the margin to the submarginal and give the impression of dentations. In the forewings of the ♂ there is a narrowish cell end spot, which in the ♀ is wider. On the other hand the middle cell spot has disappeared, but in the ♀ it is still indicated by a few adhering scales. In the ♂ the transparent margin and the submarginal band are wider and stronger and the black marking of the hind margin is more extensive and darker, it surrounds the cell to the submedian. The ♀ has similar black marking but the hind margin is rather fainter. As conditional forms we mention here: ab. **horniana** *Kardakoff* from Narwa in the South Ussuri territory. These are small, dainty butterflies which have very narrow diffused cell spots on the forewings. Submarginal bands are distinct but not wide. In the hindwings the base of the discal cell and the hind margin are deep black, lighter towards the anal angle. Size is 47 mm ♂, 50 mm ♀. — ab. **narvensis** *Kardakoff* flies among the typical *koreana Vrty*. The markings are exceedingly poor, the cell spots are scarcely discernible and the same applies to the marginal and submarginal bands. On the hindwings the base of the disc and the hind margin are deep black lighter towards the anal angle. *subsp.* **koreae** *Bryk* (= koreana *Vrty*.) is very close to koreana. The ground colour tone of the wings is yellowish. The hyaline margin of the ♂ is double as wide as the submarginal band. Both bands are separated by a band of lunules. The subcostal spot is two-celled. The end cell spot is large and converges with the subcostal spot and the submarginal band and at the same time with the ribbon-like middle cell spot surrounding the upper and cell veins. Hereby an oval ocellus is formed in the disc. The hindwings are shaded, the ends of the nervules are arrowlike with the points inwards, forming a border to the wings. The black marking of the hind margin penetrates to the basal half of the discal cell and surrounds it widely to media 3. The ♀♀ have a still wider submarginal band than the ♂♂, which unites with the transparent margin and has an indistinct *lunulata* band near the border. The cell spots are smaller and not so bold as in the ♂, but they have the same form. In the hindwings one sees a distinct submarginal band, other markings as in the ♂. The *subsp.* **esakii** *Nakahara* from Odomari, South Sacchalin and Pilwo, Toyohara, Namikawo in North Sacchalin is a stately race of 60—62 mm wing measurement. It resembles the subsp. *hoenei Schweitzer* from Japan but is smaller and in this approaches the local type form. In the forewings the end cell spot is small, middle cell spot is present. The margin of the wings is almost the same colour as the rest of the wings, but it is not translucent. There is no submarginal band. The base and the submarginal area of the hindwings are more fully covered with black than the main type form. The basal quarter of the discal cell is just as black as the hind margin. The cell end spot is formed like a streak and joins up with the anal spot and the adumbration of the hind margin. From the Kurulian Isles a form of ♂ occurs that has been named ab. *subsp.* **doii** by Matsumura. No decisive verdict can be given in regard to its right to claim to be a race, as only a ♂ has been presented for description and nomination and the ♀♀ are not yet known. The ♂ shows close relationship to *hoenei Schweitzer*, but differs by having a brownish postmedian band on the forewings and through narrow brownish lined veins towards the apex. The hind margin of the hindwings is not adumbrated in the apical third except at the extremity. The description is an almost literal translation of the diagnosis of the author. I have never seen the butterfly myself. Synonymous with *sulphureus Antram* is *citrinarius Motsch.* and also the following conditional forms: ab. **marginalis** *Bryk* are specimens where the submarginal band is absent, which otherwise is always a characteristic of this *subsp.* ♂ ab. **kunzi** *Bryk* occurs in Japan and has the submarginal band united with both cell spots; the band of ground colour may be absent in this form or else it may be retained. ♀♀ with a mid basal spot between the hind margin and the base are called ab. **fermata** *Bryk*. A fine race is **hoenei** *Schweitzer* (4 a) from Hokkaido in Province Iburi. It is larger than the type form. The ground colour of the ♂♂ is chalky white, the veins very thin and black. The grey hyaline border at the apex and outer margin of the forewings very narrow, sometimes only faintly indicated. Cell spots of the forewings weak. The submarginal band is absent. Hindwings are without markings with the exception of the black suffused hind margin and the adumbration extending from same to cubitalis 1 and 2 and in a very small degree to median nervures. In the hind marginal area a large white spot. Neck, hips, abdomen and hind margin of hindwings with silver grey hairs. ♀ is the same size as the ♂, the black veins are even somewhat thinner, the middle cell spot of the forewings a little bolder but still very dainty. There is no hyaline border to the forewings, or else it is scarcely perceptible. Submarginal band is absent, but there may still be faint traces, which are scarcely visible. In the black suffused hind marginal area at the apex a white spot as in the ♂. Neck, hips and sides of the abdomen with orange hairs. The orange colour is not so intensive as with *citrinarius Motsch.*, but nevertheless redder than in the type form. If in specimens of this race there is a cell spot, they are called ab. **schweitzeri** *Bryk*. The absence of the cell spot is characteristic. — subsp. **jezoensis** *Mats.* from Hokkaido, Jozankei in Japan. Matsumura had only a few ♀♀, the ♂♂ are unknown as yet, the ♀♀ are said to be a quite spotless race of *stubbendorfi*. The colour of the wings is much darker and at the same time the wings are more hyaline than in the type form and the cut of the wings is narrower and more elongated. There are no cell spots in the forewings. The basal half of the discal cell of the hindwings is adumbrated. In between the veins the area is dark and slightly scaled with yellow. The lobal pockets of the ♀♀ are shorter and stretch barely half way down the abdomen. The top of the abdomen is black without any yellow, but with a few yellow hairs.

horniana. *narvensis.* *koreae.* *esakii.* *doii.* *marginalis.* *kunzi.* *fermata.* *hoenei.* *schweitzeri.* *jezoensis.*

2. Clarius-Group.

felderi. **P. felderi** *Brem.* (Vol. 1, p. 21) is latterly mostly grouped to *eversmanni Mén.* as a subspecies because both races have never yet been found at the same locality. The chief difference lies in the ♂♂ which as is well known are white, whilst the *eversmanni* ♂♂ are coloured a nice yellow. Apart from this yellow colour *felderi* *flavescens.* corresponds quite well with *subsp. maui O. B.-H.* The ♀ ab. **flavescens** *O. B.-H.* from the Sajan Mountains shows a yellowish colouration but not so bright as fresh specimens of *eversmanni* ♂♂. — ab. *subdiaphana Vrty.* *herrichi.* is synonymous with *atrata Graes.* (Vol. 1, p. 21). — ab. **herrichi** *Bryk* are ♂♂ which have a fully developed subcostal band and which are found at Radeffka. ♀♀ without white pupils to their beautiful ocelli either on *rubinus.* the upper or on the underside are known as ab. **rubinus** *Bryk.* If the median cell of the hindwings has no red, *semicaeca.* an aberration that frequently occurs, it is called **semicaeca** *Shelj.* (= mediocaeca *O. B.-H.*). Much rarer are *caeca.* specimens which have both ocelli black without a trace of red, these are named **caeca** *Shelj.* (= caeca *O. B.-H.*). *obliterata.* Still rarer are specimens in which the median ocelli has quite vanished. Sheljuzhko called them **obliterata** *reciproca.* (= medio-extincta *O. B.-H.*). In ♂♂ **reciproca** *Bryk* (= reciproca *Shelj.*) the median ocellus has also disappeared and the subcostal ocellus is quite black. Besides these there is no subcostal spot on the forewings.

eversmanni. **P. eversmanni** *Mén.* (Vol. 1, p. 21). The same aberrations occur in this species as described in *felderi*: *semicaeca.* **semicaeca** *Shelj.*, **caeca** *Shelj.*, **obliterata** *Shelj.* and **flavescens** *O. B.-H.* Besides from the Sajan Mountains the *caeca.* *obliterata.* ♀ ab. **ampliusdecora** *Eisner.* In this variety the *ampliusmaculata* spot on the upper and under sides has a red *flavescens.* pupil. — *subsp. septentrionalis Vrty.* from Witim and Wilui in East Siberia corresponds with the type form. *ampliusdecora.* The variations mentioned "smaller size, richer yellow colouration in the ♂, fire red ocelli" carry no weight as they are just as likely to occur in typical *eversmanni.* There is a better reason to consider the specimens from *altaica.* the Tschuja Mountains in the Altai as a recognisable race. — *subsp.* **altaica** *Vrty.* They are remarkable through their smaller size, have paler colourings which are semi-transparent and the outlines diffused. These markings are at the same time larger and more extended. The subcostal band stretches to the hind margin, being interrupted between media 3 and cubitalis 1. Half of the discoidal cell and the hind margin are powdered with white. On the hindwings one observes a pronounced transparent dentata submarginal band. The median ocelli *liloreus.* converge with the anal spots forming a diffused, wide, shaded band. The transition to *felderi* is *subsp.* **litoreus** *Stichel* (Plate 4 b) from the neighbourhood of Nikolajewsky at the mouth of the Amur. Both sexes are larger than the main form and vary chiefly through the reduction in the size of all the dark markings. The ground colour of the ♂ is somewhat paler yellow and the ♀ shows a slightly greenish tone in the white. On the forewings of the ♂♂ the transverse subcostal band is absent only a little remnant of a band remaining reaching to media 2. The hindwings are almost without markings. The subcostal cell is distinctly black and larger than the very small median ocellus which is also diffused. Anal spot and adum bration of the hind margin is medium. The ♀♀ are somewhat more richly marked. There is a long triangular wedgeshaped spot touching the middle cell spot and situate in the basal third of the disc and the lower basal cell. Subdivided by the radialis and media 1 are two spots all that is left of the subcostal band and the hind marginal spot. The submarginal *dentata* band of the hindwings is faintly preserved and the ocelli are boldly black, as also is the large obliquely pointed anal spot which reaches almost to the median ocellus. The base of the wings, a third of the disc and the hind margin are thickly marked with black. Larger than the former and the main type is the closely related race *maui.* of **maui** (*Puengeler* i. l.) *Bryk* from the coastal mountains Sichotinalin, Tjutiché Bay 400 km and Ternej Bay which is 600 km north of Vladivostock. It flies over a long period round about July. The ♂♂ are a deeper yellow than the main form and are considerably larger, whilst the black markings are finer. The hyaline margin and the submarginal bands are narrower and do not reach as far as the hind margin, generally only to cubitalis 2. The subcostal band can transverse the wings, or else be so reduced that only a few spots remain along the veins. The ocelli of the hindwings can show various shades of red and sometimes both or at other times only the upper one are pupilled in this way. The submarginal band is only faintly indicated. The narrow anal spots reach to cubitalis 2 and are deep black as also is the hindmargin and the base of the cell. O. *mauoides.* Bang-Haas describes the 1st generation from the same locality as **mauoides** which according to Dr. Moltrecht of Vladivostock flies regularly three weeks earlier than *maui.* One presumed that in the latter case the eggs, whilst in *mauoides* the larvae hibernated. *mauoides* lies between *maui* and the main form in regard to size. In regard to the markings it is nearer to the specimens from the Sajan Mountains and the bands of the forewings are wider whilst the hindwings bear large, red ocelli. Kardakoff who caught both forms in the Ussuri region asserts in his Fauna of the South Ussuri territory that he always caught both forms in the same locality and at the same time of the year and that therefore *mauoides* can at best be an aberration *). — ab. *monocula.* **monocula** *Kardakoff* (= mediocaeca *O. B.-H.*) flies with *maui* and has the upper ocellus red and the middle

*) Also Mr. Eisner-Dahlem who received collections from the localities named from Dr. Moltrecht confirms this and considers *mauoides* only an aberration with clearer darker markings and red ocelli bands.

one quite black. On the underside both ocelli have white pupils. The bands on the forewings are medium sized. — Also from Japan from Mount Daisetsu in the Province of Isikari in Hokkaido there is a race which has been named **daisetsuzana** *Mats.*: the ♂♂ have a wider discoidal band and the submarginal band reaches to the hind margin, the marginal band only to cubitalis 2. Hindwings with red subcostal ocellus, whilst the median ocellus is smaller and paler. The submarginal band reaches in a round arc to the anal angle. The ocelli on the underside have white pupils. The ♀♀ have ocelli spots on the hindwings of the same colour as the ground colour of the wings and the red scales are absent. The submarginal band is much wider and extends as far as the hind margin. There are no red spots visible on the underside. The whole appearance is more sombre than the specimens from the Sajan Mountains. An aberration of the nervures has also been given a name, ab. *donovani Bryk* — it has a precostal spur as is typical for the genus *Sericinus Donovan*. The precostal spur is bifurcated, the knot-like stump turns towards the base, the longer more pointed towards the apex. *daisetsuzana.*

P. clarius *Mén.* (Vol. 1, p. 21). A variety of the female is ab. **novarae** *Bryk* (= *semicaeca*, ab. mediotextinta *O. B.-H.*) in which the subcostal band of the forewings is almost and the hind marginal spot is quite absent. In the hindwings the yellow red eyespots are missing, there is only one black subcostal ocellus and the middle one has practically disappeared. The submarginal band is only slightly indicated. On the underside the highly coloured markings are scarcely discernible. — As against this variety, there is the very richly marked ab. **eminentissima** *Haude* (Plate 4 c). This is a ♂ with female marking and is strikingly like a *dentata* ♀. The bands of the forewings and the glossy margin are all well developed, there are *lunulata*. The end cell spot is *antiquincunx*, the middle cell spot wide and ribbon-like filling up the whole width of the cell. Subcostal, median ocellus and the triangular cubital spot are filled with red and all three are joined together by bold black streaks. Strong *dentata* submarginal band. The base of the cell and the hind margin widely suffused with black to the anal spot. *clarius.* *novarae.* *eminentissima.*

P. nordmanni *Mén.* (Vol. 1. p. 22). A large number of forms of this variable species have been given names; a beautiful somewhat albino-like ♀ is ab. **atroguttata** *Aust.* (4 c). Especially the hindwings are beautifully decorated, the subcostal ocellus is joined up with the median ocellus, which is divided in the middle by the median nervure through the *cardinalis* bar. Both ocelli are brightly filled with red, just as the cubital and anal spots, so that there is a five-eyed decorative band. As a characteristic feature there is a further round black spot in the apical part of the discal cell. The base of the wings and of the cell and the hind margin are widely suffused with black. In the Caucasus we find a ♀. ab. **ochroleuca** *Aust.* which is a very large form with pale ochre yellow wing colour, which varies strikingly from the main type. The thorax and abdomen are thickly haired with reddish yellow and not with pale grey as in normal specimens. The ♂ variety **lunulata** *Bryk* are ♂♂ of the main type but which have a distinct row of crescents in the glossy margin of the forewings as is a constant feature of the race of *minima Honr.* — ab. **leonhardi** *Bryk* are also ♂♂ from Dolmissis in the Zweri Pass of the Caucasus in which the apical costa of the forewings is not hyaline, so that the border of the wings is surrounded by a toothlike process. A row of crescents as in *lunulata Bryk*. The subcostal marking absent, end cell spot normal. Both ocelli of the hindwings without red pupils. Anal spots have disappeared. On the underside the red pupil of the median ocellus is retained. From Kurush in the Caucasus we have the ♀ variety **fermata** *Bryk*. It has the middle cell spot united with the base of the cell by a black bar. On the hindwings there is an interbasal spot (*Fermata* spot) between the subcostal cell and the base of the wings. The form mentioned in Bryk's Catalogue as ab. *nigripuncta Trti.* is a *bremeri* form. *nordmanni.* *atroguttata.* *leonhardi.* *fermata.*

P. bremeri *Fldr.* (Vol. 1, p. 22). A very variable species of which actually Bremer and not Felder is the author. — ab. **theiodes** *Bryk* (nec *theoides Bryk*) are ♀♀ which have a very pronounced and at the same time a very dark glossy band. The hyaline band of the forewings is covered with white scales. The marginal and submarginal bands are absent in ab. **niphetodis** *Bryk* (= inornata *Mats.*). The submarginal band of the forewings has dwindled to a few scales at the fork of the radialis in the ♂ variety **marginata** *Bryk* from Radde. — ab. **albida** *Shelj.* are ♂♂ in which the hindmarginal spot of the forewings and the subcostal band have disappeared and only a few scales remain at the fork of the radialis and mediana 3. ♂♂ with reduced end cell spots not overlapping the cell are called ab. **quincunx** *Bryk*. — ab. **rubropicta** *O. B.-H.* is an aberration that can occur in all races and which is characterised by two red pupilled subcostal spots. It occurs more rarely in the ♂♂ than in the ♀♀. — ab. **obscurata** *Vrty.* from Raddeffka is a very dark ♀ in which brown scales outline the nervures more or less widely throughout their course extending over the whole cell. A pretty variety is the ♂ ab. **doerriesi** *Warnecke*. On the upperside all traces of red are absent, both in the basal area as also in the two eyespots which are quite black, this = *nigripuncta Turati*. — ab. **dentata** *Bryk* are ♀♀ with a distinct submarginal band in the hindwings. — In ab. **cardinalis** *Bryk* (= connexa *O. B.-H.*) the subcostal ocellus is joined by a bold and distinct bar with the median ocellus. The subcostal ocellus is often triangular and unites with the hind marginal spot by a bar with an elongated point ab. **sublacrimans** *Bryk*. — ♀♀, which have a red basal spot in the median base cell are called **schenklingi** *Bryk* and when besides both deep red ocelli are *bremeri.* *theiodes.* *niphetodis.* *marginata.* *albida.* *quincunx.* *rubropicta.* *obscurata.* *doerriesi.* *dentata.* *cardinalis.* *sublacrimans.* *schenklingi.*

united by a bar they are called ab. **excellens** *Bryk*. This aberration occurs most frequently in the race of *graeseri Honr.* — ab. **flavomaculata** *Moltrecht* has all spots coloured buttercup yellow. There is no trace of red in the basal spot of the hindwings in the ♂ ab. **melanconicus** *Bryk*. Hindwings without anal spots and the median ocellus black without red on the upperside, but red naturally on the underside is ♂ ab. **horni** *Bryk*. A two-celled anal spot is decorated with a red spot in **margopupillata** *Bryk* and in ab. **decora** *Bryk* a similar two-celled anal spot has two red pupils. An aberration of the nervures is ab. *enderleini Bryk*, it has radialis 3 + 4 + 5 and mediana 1 all emanating from the same origin arising from the upper corner of the discoidal cell. From Borochojewa in the Malchan Mountains at an altitude of 600 m, a western branch of the Apfel Mountains of Southwest Transbaikal O. Bang-Haas has described *subsp.* **jaetensis.** This is the westernmost representative of *bremeri*. According to the few specimens available this is a small and striking race. The ♀♀ show on the forewings a wide marginal and submarginal band and the anterior subcostal spot centred with red. On the hindwings there is a submarginal band. The ♂♂ are remarkable through their small very reduced cell spots on the forewings. The race flying in Northern Mandchuria around Buchalu, Chingan Mountains in the Province of Holungkiang **solonensis** *O. B.-H.* is very close to *graeseri Honr.* which flies over 550 km further north. The subcostal spots often have red pupils, but also yellow coloured ocelli (= *flavomaculata O. B.-H.*) occur comparatively often. In other races yellow pupilled forms are considered great rarities. Especially characteristic is the strong development of the submarginal spots on all wings. The ♀♀ have a very striking broad black toothed *(dentata)* submarginal band on the hindwings. — *subsp.* **mandarinus** *Bryk* described from a single ♂ from the Hoang-yongshan Mountains near Peking at an altitude of 2500 m, which the author originally thought was a new species. According to Bryk it varies from *bremeri* through the following features. In the forewings the middle spot reaches to the posterior cell nervure and the middle cell spot touches the lower branch of the cell vein ("in many hundreds of *bremeri* ♂♂ that I have seen from the most widely separated localities I have never seen a single specimen with a similar aberration" O. Bang-Haas) the ribs on the underside are light yellowish. The ocelli are distinctly pupilled with white. Bryk writes further that had the antennae been ringed he would have ascribed the specimen to *delius*. The three subcostal spots are dissolved. The red pupil is different. The hind marginal spot is small, missing on the underside etc. Until the ♀ is found it is impossible to take a definite decision as to the species to which this insect belongs. Is it possibly the unknown ♂ of *davidus Oberth.* which flies in the same locality? At the gold mines at the river of Amguny a tributary of the Amur 200 Wersts from Nikolajewsk there occurs the race of **amgunensis** *Shelj*. The antennae are black and with white rings, the palpi, the hairs of the head, the underside of the thorax and abdomen as well as the legs are whitish. The fringes are white. The butterflies are smaller than *graeseri Honr.* especially the ♂♂ which they are very like. The contour of the wings is more rounded and less elongated, the veins only distinctly scaled with black at their extremities. Ground colour of the ♂♂ is always pure white, that of the ♀♀ mostly so. Ocelli of the hindwings are always filled with red, sometimes on the surface with a distinct white pupil. There is an inclination in the ♂♂ for the black markings to be reduced, especially the submarginal band. The marginal line in the ♂♂ is sometimes white. Subcostal spot generally with a red pupil. On the hindwings of the ♂♂ there is mostly a red basal spot, which does not occur in the ♀♀. The ♀♀ are altogether richly decorated with red, the forewings are more extensive and have dark scaling. The hyaline margin and the marginal band are particularly strongly developed in the ♀♀. The general style of the ♀♀ reminds one strongly of *graeseri Honr.*, The variability of this race is considerable and the following forms have been named: ab. **casta** *Shelj.* the hind marginal spot of the forewings is absent. — ♂ ab. **centripuncta** *Shelj.* has the middle cell spot of the forewings rounded off and pending in the cell. In — ab. **inornata** *Shelj.* the subcostal spots and the hind marginal spots of the forewings are not filled with red. If the subcostal spots have a single red spot in them it is ♂ variety **monopicta** *Shelj.* in which often a hind marginal spot also has a red pupil. The commonest form of this red pupil marking of the costal spots is with two red spots which should therefore be considered the typical form and in the ♀♀ there is a further red pupil to the hind marginal spot. ♀♀ with 3 pupils of red in the subcostal spot and one red centre spot to the anal spot are ab. **tripicta** *Shelj.* — The ♀ ab. **quadripicta** *Shelj.* has 4 red pupils to the subcostal spots and the hindmarginal spot with one red pupil, more rarely the latter has a double red spot. When the sub-cubital and anal spots are absent from the upperside it is ♂ ab. **immaculata** *Shelj.* The red ocelli on the upperside of the hindwings have a distinct white pupil. ♀♀ of an intensive buttercup yellow ground colour are called ab. **flavicans** *Shelj.* — The *subsp.* **mongugaica** *Kardakoff* from the valley of the Mongugai river at Barabash in the South Ussuri region is of medium size, the ♂♂ 60—75 and the ♀♀ 63—70 mm. The ♂♂ show a distinct yellowish colouration. The discoidal spots are mediumsized. The subcostal spots are distinct, rather more pronounced in the ♂♂ chiefly owing to adumbration. The hindmarginal spot appears strikingly in both sexes, also the submarginal band which generally extends to cubitalis 2. The hyaline margin of the ♂♂ is fairly wide touching cubitalis 1 and separated by a band of lunules which expands towards the anal region. In the ♀♀ the hyaline margin is still wider and reaches almost to the hindmargin. On the hind wings the highly coloured ocelli are of medium size, almost round, the subcostal being larger than the median. The base of the wings, one third of the cell at the lower base and the hind margin are widely and intensively coloured black. In both sexes the anal spot distinctly touches cubitalis 1. Only in the ♀♀ is a hyaline margin visible on the hindwings and here also the ends of nervures

excellens. *flavomaculata.* *melanconicus.* *horni.* *margopupillata.* *decora.* *jaetensis.* *solonensis.* *mandarinus.* *amgunensis.* *casta.* *centripuncta.* *inornata.* *monopicta.* *tripicta.* *quadripicta.* *immaculata.* *flavicans.* *mongugaica.*

are outlined with black. In the ♂ there are traces of the submarginal band left, in the ♀ they are almost always absent only aberrative, melanotic ♀♀ show them very prominently. One form of the race is ab. **lunigera** *Kardakoff* from Barabash. The highly coloured ocelli have a crescent shape the points of which turn towards the base of the wings. — A ♂ variety **brykiana** *Kardakoff* also from Barabash has much narrower wings especially the forewings. The cell spots are only small and faintly marked with black. The subcostal band is wide, indentated and diffused up to mediana 3. The submarginal band is indistinct, widely interrupted in the space of the median nervures, the hyaline margin narrow. Hindmarginal spots like streaks moved close to the origin of cubitalis 2. The highly coloured ocelli of the hindwings small, only the top one with red pupil, the median one with scarcely perceptible red scales. Anal spot is diffused converging with the median cell and this again with the subcostal by faint shading. The costal margin of the forewings, the base of both wings and the wide hind margin to the anal angle intensively scaled with black. The *subsp.* **olgensis** *Kardakoff* from the neighbourhood of Olga and the Olga Bay has only been caught in the ♀ sex, but may be considered a new race. It is of medium size and shows a light yellowish colouration. The antennae are ringed with white, the cell spots fairly large and black. The subcostal spots are united with the hind margin through a diffuse adumbration. In spots 1 and 2 one sees two rose coloured little pupils and between mediana 1 and the radialis the blackness of the oblong spot is as pronounced as the neighbouring middle cell spot and the large round hind marginal spot. The hyaline margin and the somewhat dentated submarginal band transverse the whole wing and are very clear and fairly dark. The band of lunules distinct. The hindwings have light veins the highly coloured ocelli are orange red, surrounded with deep black and with clear white pupils. The double anal spot has two bright orange red pupils. The submarginal band is dentated, the marginal band narrow somewhat extended at the veins. The four basal spots are orange red, the two upper ones often with withe scales. The border of the wings is black with white fringes. The base of the forewings and the costal margin are richly suffused with black: in the hindwings the base of the wings up to half the cell and the hind margin to the anal spots and diagonally to media 2 are an intensive black. On the underside the two highly coloured ocelli and the orange centred anal spots each have a white pupil. This is one of the finest *bremeri* forms, which approaches *graeseri Honr.* in many respects, but in its whole style is similar to *delius*. From the coastal province of Sichotin, the Alin Mountains and from the bays of Terncj and Tjituché in the South Ussuri region O. Bang-Haas received and described a new race which he denominates as **orotschonica**. The ♂♂ strike one by their rounded wing shape as well as by the small ocelli of the hindwings. The costal spots of the forewings often have a red pupil. The ♀♀ have the tendency to form many varieties, sometimes they are suffused with black and sometimes they have a slightly yellowish ground colour. Light ♀♀ are strikingly like ♀♀ of *phoebus F.* The aberration described by Stichel in Vol. 1, p. 22 and called **conjuncta** *Stgr.* deserves to be a separate race. Staudinger had already described it as a "var." The race described by Bryk as *subsp.* **moltrechti** corresponds with *conjuncta*. Its origin is Sutschan in South Ussuri and from the Ussuri river at Vladivostock. — In Corea on Mount Hakuto we find *subsp.* **hakutozana** *Mats.* which is fairly large ♂ 65—66 mm and ♀ 68—70 mm and it is nearest to *conjuncta*. The difference is that the subcostal spots and the hind marginal spot are absent and of the latter only a few traces are left. The ocelli are narrower. The ♂♂ have the submarginal band of the forewings reaching to cubitalis 1. The median ocelli of the hindwings are without or with only a weak red pupil. The submarginal band is distinct and extends from the costal to the hind margin. The basal spots show no trace of red scales. The ♀♀ have submarginal and subcostal bands in the forewings. In the hindwings besides the submarginal band there is a red spot at the base *).

lunigera. *brykiana.* *olgensis.* *orotschonica.* *conjuncta.* *moltrechti.* *hakutozana.*

P. delius *Esp.* (Vol. 1, p. 22). The following varieties belong to the large group of races of the european *phoebus* (= delius *Esp.*) but single specimens can occur among the asiatic races of *phoebus F.* A very dark ♂ similar to ab. *melaina Stdfs.* of *P. mnemosyne L.* is ♂ ab. **barthae** *Hirschke*. The hyaline band converges with the submarginal band and is very black. The cell spots are very large and in the base of the cell there is a large wedge shaped spot, so that one can say there are three deep black cell spots. The subcostal band has 4 red spots. The hind marginal spots have three red pupils. In the hindwings the two ocelli are very large and with red centres. The median ocelli have two white pupils. The anal spots have two pupils also, but red. All these spots are united with deep black. The marginal area as black as in the forewings, the middle area coloured yellowish white. The black veins contrast strongly with the ground. The basal area deep black with red spot, just as deep black as the hind margin. The highly coloured band of ocelli are surrounded with white towards the margin. The underside generally lighter. From above Sulden in the Tyrol. Another richly decorated form is the ♂ ab. **rubrocatenulata** *Bryk*. The forewings with wide hyaline border and the blackish submarginal band curved like an S, separating both a wide *lunulata* band which expands towards the anal angle. All these three bands reach to cubitalis 1. Subcostal band with three conjoined red spots. Hindmarginal spot filled with red. On the hindwings the highly coloured ocelli have white pupils and are joined together by a bar of scattered

delius. *barthae.* *rubrocatenulata.*

*) Since the above description of Matsumura was printed I had an opportunity of inspecting many hundreds of specimens in Eisner's collection. The diagnosis corresponds with a few of the specimens, but the race is so variable, also in regard to size, that it is easy to pick out specimens of any particular "race" of *bremeri*. Therefore this is a race that can only be recognised by means of the locality label.

red scales. The anal spots with two red spots. Transparent margin narrow, submarginal band almost complete. On the underside the forewings show three red subcostal spots, on the hindwings the upper red basal spots are small, the two lower ones long and wedge-shaped. The ocelli have large white pupils, they are connected by a red bar. Both anal spots are red, the upper one with white pupil. A further very pretty aberration is
ines. **ines** *Kertesz.* It combines the features of f. *nigrescens Wagner* (viz. strongly blackish), *hardwicki* (viz. forewings with four red subcostal spots), *cardinatis Oberth.* (viz. ocelli of the hindwings joined together with a black bar), *anna Stich.* (viz. hindwings with red basal spot) besides which the median ocellus is joined with the hindmargin and on the upperside there are two, on the underside three red anal spots and the red basal spots
suffusa. are considerably extended on the underside. The ♀ variety **suffusa** *Hoffm.* from Styria has all the black
cervinicola. spots and bands on the upperside of the wings suffused and without distinct outline. The ab. **cervinicola** *Fruhst.* from Zermatt shows only faint surround of the forewings and the distal dusting is often absent. The submarginal
reducta. bands in both sexes are sometimes completely obliterated. — ab. **reducta** *Reverdin* has no submarginal band on
binaria. the forewings and the anal spots on the hindwings are scarcely perceptible. The aberration **binaria** *Stich.* from Larche resembles the main type but it has a curiously split middle cell spot, although the spots may easily be connected. The spot resembles the outline of a cloven hoof. This aberration is included in the new race of
nigropunctata. *eisneri Bryk.* — ab. **nigropunctata** *Bueren* is like *inornata Wheel.* (Vol. 1, p. 35) but the lower subcostal spot is
rubra. reduced to a point as also is the median ocellus of the hindwings. The ♀ ab. **rubra** *Christ.* like *hardwicki* (Vol. 1, p. 35) has three red spots in the subcostal band, but also the hindmarginal spot of the forewings and all spots
rufomaculata. of the hindwings have red pupils (= **rufomaculata** *Hoffm.*). The ab. **casta** *Stich.* has no black spot on the
casta. hindmargin of the forewings as shown in Esper's illustration of *delius.* In ♂ ab. **muelleri** *Uffeln* the black sub-
muelleri. marginal band in the hindwings of the ♂ is separated into spots. ab. **continua** *Ruhmann* has the three anal
continua. spots connected and with the median ocelli and this again by a bar with the subcostal ocelli. Vorbrodt
excedens. gives the name of ab. **excedens** (= bicincta *O. B.-H.*) when the outer marginal spot of the hindwings is so expanded that a second spot surrounded by black is formed. Staettermeyer describes a variety from the
nigrolunulata. Grossglockner region ab. ♀ **nigrolunulata** which is characterised by a bold black hook shaped cell end spot similar to *Pap. machaon L.* — *delius* is inclined to form subsidiary ocelli and there are specimens in which the
bachmetjevi. white pupilled median ocelli are separated into two parts by a black transverse line, this is called ab. **bach-**
graphica. **metjevi** *Eisner.* Quite similar to this is ab. **graphica** *Stich.* which has a white pupil to the median ocelli which
cordiformis. however is divided by a red streak. — ab. **cordiformis** *Bryk* is a ♀ of ab. *aurantiaca Spuler* (Vol. 1, p. 22) which
pseudoromanovi. has heartshaped ocelli on the hindwings. ♀ ab. **pseudoromanovi** *Staetterm.* has enormously increased ocelli which are completely filled with light red and also the three red subcostal spots of the forewings are strongly
elliptica. developed. Among the ♂♂ of the St. Bernhard Pass ab. **elliptica** *Stich.* is quite common. The anterior eye spot
brunneomaculata. is quite filled out with red and it is of a distorted narrow elliptical shape. — ♀ ab. **brunneomaculata** *Ruhmann*
maculata. has the ocelli with pupils of brown red. In the ♂ variety **maculata** *Bueren* the ocelli of the hindmargin
diffusa. are as big as in the ♀. — ab. **diffusa** *Bryk* has quite small ocelli in the hindwings, which at the same time are diffuse and only marked by the conglomeration of a few scales; from Sulden in the Ortler range. —
decora. ab. **decora** *Schultz* has anal spots with red pupils. In contrast hereto we have ab. **trosti** *Hoffm.* where the anal
trosti. spots are quite black without the least trace of red and uniting with the adumbration of the hind margin.
rubrobasalis. This is a rare variety in the ♂, but frequent in the ♀♀. From Reichenstein we have ab. **rubrobasalis** *Staetterm.* (= biexcelsior *O. B.-H.*) in which both the basal spots of the hindwings are filled with red, so that the whole basal area has a red tinge. An aberration of the veins is the ♂ ab. *kerteszi Bryk.* In the hindwings cubitalis 1 is bifurcated and mediana 2 originates in a short fork ex the discal cell. A very fine race occurs
styriacus. at Reichenstein near Eisenerz in Styria and named as **styriacus** (4 c) by Fruhstorfer. The ♂ illustrated belongs to the rare form of *novarae Bryk.* Typical ♂♂ are characterised by the pale white colour. A narrow hyaline margin and a sharply indentated submarginal band that is only half as wide reach barely to cubitalis 2, both bands are divided by a distinct *lunulata* band. Subcostal spots often have red pupils, chiefly only the upper one. The hindmarginal spot can be absent or retained and as an aberration with red centres. On the hindwings normal types have ocelli with carmine red centres which are mostly with a white pupil. Base and hindmargin an intensive black. The black anal spots also occasionally vary in size. In the ♀♀ the white ground colour sets off attractively from the adumbrated wings, as the illustration of a typical specimen shows. A ♀ variety
plurimaculata. ab. **plurimaculata** *Nitsche* has a second hindmarginal spot. There is another ♀ form ab. **confluens** *Hoffm.* (=
confluens. halteres *Bryk*, zeta-album *Bryk*) in which we have a very dark aberrative form with the subcostal spot and cell spots so enlarged that they converge and fill out nearly the whole cell. From greater Venice and greater
hansi. Glockner we have the race of **hansi** *Bryk* (= hermiston *Fruhst.*). Although this insect originates from the territory nearest *styriacus*, its characteristics are furthermost removed from this race. Both sexes have a yellowish instead of a white wing colour. The ocelli of the hindwings are generally smaller and the white pupils reduced in size. The hyaline margin is less clearly marked, the submarginal band is not very distinct and the
expectatus. disc of the forewings is thickly suffused with black. — *subsp.* **expectatus** *Fruhst.* from the Passeier Valley at an altitude of abt 1200 m: the ♂♂ and ♀♀ are white on the upperside, differing thereby immediately from *sacerdos Stich.* (Vol. 1, p. 22) from the Engadine and the Grisons. It is closely related to *styriacus* but considerably larger. The black spots of the forewings of both sexes are quite considerably smaller, also the red subcostal spots

are mostly smaller. In the hindwings ocelli of ♂♂ show an elliptical shape which is less striking than in the styrian race. The ♀♀ are mostly androtropic, but these also show a wide hyaline margin, sometimes confluent with the submarginal band although generally distinctly separated. The *dentata* submarginal band of hindwings is not so clear as in *styriacus* ♀. — *subsp.* **confederationis** *Fruhst.* *) from the Central Alps as far as Algau is smaller than *confederationis.* *delius Esp.* from Valais. Its ground colour is a fuller shade of yellow than the former. Hyaline margin narrow, little developed and only rarely exceeds media 1. The whole of the black markings are smaller and more reduced than in the race from Valais. The adumbrated hyaline part of forewings more extensive, disc densely suffused with black, the hyaline margin of the hindwings is not so distinct nor so clearly outlined as in *delius* from Valais. The basal area of the wings is much darker. The basal red on the undersides of the hind wings is less extensive. Also the Alps of Tessin from the Vercasca group on both sides of the Cagnone Pass at an altitude of 1800—2400 m has its own race: **tessinorum** *Fruhst.* This is a transition from the yellowish androtropic west forms to the larger *tessinorum.* gynaecotropic east races. Both sexes are more stately than the race from Valais, but smaller than *sacerdos Stich.* The milky-white ground colour differentiates it from both, in the ♀♀ this ground colour has a slightly bluish-white tone. The black cell spots are narrower than in *expectatus.* As in *styriacus* the submarginal is widely separated from the very considerable hyaline margin and reaches mediana 2. The subcostal spots are faintly developed. The ocelli are considerably reduced as compared with the other Swiss races, the anterior are mostly rounded and the median are mostly square, elliptical or even reniform. A red spot in the subcostal spot of the forewings is always absent and only seldom developed even in the ♀♀. The ♀ is most like *styriacus* and without a locality label it is scarcely possible to discriminate between smaller specimens of *styriacus* and *tessinorum. tessinorum* ♀♀ incline to be melanic and the greywhite submarginal band is therefore only slightly noticeable in the adumbrated hyaline outer area of the wings. In the hindwings the hyaline margin is fairly wide and the submarginal band is prettily *dentata* formed. The ocelli are smaller than in allied races and not very markedly pupilled with white. From the southern slopes of the Simplon in the Valley of the River Antigorio there is another race differing considerably from *tessinorum*, the *subsp.* **blachieri** *Fruhst.* This forms a transition to the more lightly coloured *blachieri.* and dainty races of western Piedmont. Although this occurs so far south nevertheless it inclines to be somewhat melanic. The ♂♂ are smaller than the main type, the hyaline margin of the forewings is longer, generally spreading as far as the cubitalis. In the subcostal spot there is rarely a red spot, but if there is then it is always small. On the hindwings the ocelli remain very small but have a wide black border, the red centre generally has a small white pupil. ♀♀ easily distinguished from main type. The grey-black suffusion of forewings reaches nearly as far as wall of cell. Hyaline margin not so wide as in *tessinorum* and submarginal band yellowish and always distinct, it is more complete than in the main form, especially on the hindwings. The ♂♂ sometimes occur purely white flying with the yellowish ♂♂ and similarly to *tessinorum.* In the Alps of west Piedmont from Courmajeur, Val Ferret we have *subsp.* **serenus** *Fruhst.* Both sexes are of light yellow ground colour, the highly-coloured *serenus.* ocelli small, surrounded with black, varying in shape, mostly squarish and irregular but large. In the ♀♀ the hyaline margin of the forewings is very wide and the black submarginal band is separated from it by a nicely curved *lunulata* band. Disc of forewings is not suffused with black. In hindwings submarginal band less prominent than in forewings, but nevertheless retained and curved in a nice arc. Basal and hind marginal black marking as well as the anal spots give a somewhat paler impression. The black is just as if it has been scattered on which is in contrast to the races so far described. — Bryk describes a further race from Larche which closely resembles *serenus*: **eisneri** *Bryk*, it is smaller than the former and not so brightly marked. The hyaline margin *eisneri.* is narrower, the transverse band creamy yellow, the ocelli smaller, clearer but more narrowly surrounded. The anal spots are reduced to streaks, the hyaline band is narrower, the submarginal band much shorter, very similar to the ♂ but not so diffused. Subcostal spot black with a red pupil, middle cell spot elongated. The black marking at the base of the hindwings is reduced. Also ♂♂ are small but differ less from closely neighbouring races than ♀♀ which as a rule are inverse. In the margin of forewings whitish spots penetrate into narrow hyaline border: hind marginal spot present. The ab. *binaria Stich.* is a form of this insect as already mentioned. Widely distributed over Asia and in many races we have *phoebus F.* (Vol. 1, p. 23) to which according to further explorations a whole new series has to be added. In Turkestan from the mountains in the surroundings in Barkul on the lower slopes of the Himmels Mountains we have the beautiful race of **rueckbeili** *Deckert*, which looks very much like *actius.* It is smaller than *uralensis* *rueckbeili.* *Mén.* (Vol. 1, p. 23). The ♂♂ are characterised by a rather narrow margin and a submarginal band which is curved in the shape of an S somewhat longer than the hyaline margin reaching to cubitalis 1. The two subcostal spots are united by rather weak scaling. End cell spot large and almost in the form of a crescent according to the *antiquincunx* style and united with the large rectangular suspended middle cell spot. The hind marginal spot is only small and scarcely perceptible. Costal margin yellowish-grey faintly scaled with black, hind margin yellowish suffused with greyish black. Hindwings decorated with two red centred ocelli, the median is longish and oval. Submarginal band only indicated by a few faint blackish scales. The darker ♀♀ generally speaking are similar to the ♂♂, only the hyaline margin and

*) This group name for the races from the Central Alps to Algau in southwest Bavaria is scarcely tenable and it is difficult to understand how Fruhstorfer, who otherwise was so ready to give names to new races even though the forms were very closely related, could unite such heterogenous insects.

the submarginal band appear to be wider and they stretch to close to the hind margin separated only by a narrow *lunulata* band, whilst in the ♂♂ this is wider and distends towards the anal angle. The subcostal band proceeds strongly to mediana 2 and even continues beyond that. Hind marginal spot large, the cell spot as in the ♂. On the hindwings there is a distinct hyaline margin with a *dentata* submarginal band. The highly-coloured ocelli are larger than in the ♂ and are united by a weakly scaled bar. The hind marginal spot is large diffusing towards the median ocellus forming a nearly closed band stretching from the costa almost to
virginea. the hind margin. As a variety of this form we have ab. **virginea** *Aust.* from Chamyl. The submarginal in the hindwings has disappeared and in place thereof the two ocelli are considerably increased in size. Further we
leucostigma. have here the ♂ ab. **leucostigma** *Aust.* the highly-coloured ocelli appear filled with yellowish-white instead of red. All the black markings appear a fainter greyish and therefore the insect makes almost an impression
intermedius. of an albino. A few new forms of the beautiful race of **intermedius** *Mén.* (Vol. 1, p. 23) have been described.
alpestris. ab. **alpestris** *Vrty.* from the mountains of Tschuja at an altitude of 1800—2400 m is a true mountain form, smaller than *intermedius*, the ♂♂ much paler and all the black markings considerably reduced, the same
melanica. applies to the ♀. — var. **melanica** *Vrty.* are ♀♀ from the Altai Mountains which are extraordinarily dark, so that only a few white spots stand out from the adumbrated ground colour of the wings on which nevertheless all the black markings stand out clearly. From the cell to the subcostal spot there are three larger longish white patches, and between the latter and the submarginal band there are three indistinct smaller spots. The *lunulata* band is also white and consists of roundish spots which become diffused towards the hind margin: further a large white spot on the hind margin. In the hindwings the upper black ocellus is embedded in white, one half of the disc and a narrow arc running parallel with the dark band from the costal cell to the hind margin is a dirty white. This form is a counterpart to *dis Gr.-Grsh.* of *nomion Fisch.-Wald* — A further highly peculiar
punctata. form is the ♂ ab. **punctata** *Pag.* (4 d). 52 mm size, from the Altai Mountains. The ground colour of the wings is yellowish-white. The marking is very poor still more so on the hindwings than on the forewings. Only the median ocellus is left as a small black point. Half the discal cell and the hind margin however are still
fortuna. fairly strongly black. — The last of the known races is *subsp.* **fortuna** *O. B.-H.* from the Sajan Mountains. This is characterised not only by the size, but by the resplendent pale white colour of the ground. The ♂ is about 58 mm, has white ground colour, blackish hyaline margin, strong black submarginal band reaching cubitalis 1 and divided by a *lunulata* band double as wide as the submarginal. Two separate deep black subcostal spots lie along the costa and the radialis and media 1. Cell spots are large, deep black, hind marginal spot small round and also deep black. In the hindwings both ocelli are carmine red, the cubital spot roundish being attached above the small diffuse anal spot. The base, almost half of the cell and the hind margin widely deep black. The ♀♀ have a size of 66 mm over the wings and show a very wide hyaline margin with a dentated wide and black submarginal band joining to the anal angle. There are two large black subcostal spots with red centres separated by a soft shadow. Cell spots are large, end cell spot as in a ♂ *antiquincunx*. The hind marginal spot is as large as the middle cell spot, all deep black and the latter with a few red scales loosely connected with the subcostal spot through a few scattered black scales. The hindwings have a fairly distinct *dentata* submarginal band and very large ocelli filled with carmine red loosely joined together and also forming a band with the three deep black anal spots through a few scattered scales. Base and half of the discal cell and the hind margin are widely deep black. On the underside the costal spots of the forewings are red as also is the hind marginal spot. The hindwings have bold red basal spots. The ocelli are large, carmine red with white pupils and the anal spot is red. The submarginal band has a strong *dentata*-like formation and the margin is wide and dark.

apollo. **P. apollo** *L.* (Vol. 1, p. 23). A very pale form of the ♂ is **albens** *Trti.* The hyaline margin only narrow
albens. becoming narrower to cubitalis 2 and dark smoke-coloured: submarginal band shows traces of scattered dark scales and is scarcely perceptible. Subcostal spots reduced to the size of points, on the other hand cell spots are large and intensively black. A hind marginal spot clearly present. — A still lighter almost albino-like form is the
isabellina. very rare aberration **isabellina** *Vrty.* (= albina *Vrty.*, albino *Oberth.*, lamperti *Bryk*) (6 a). The ground colour is white with a slightly yellowish suffusion in general appearance of light creamy colour, all the dark markings are light grey or pale brown and very reduced. Hyaline band and submarginal band very narrow and scarcely reach to cubitalis 1, both separated by a wide band of the ground colour. Subcostal spot and median spot faintly discernible. Cell spots and hind marginal spots bold but only softly coloured blackish. Hindwings have a soft grey margin sparsely suffused and submarginal band only retained by a faint suffusion. Ocelli pale reddish surrounded by a soft brownish-grey and sometimes with a slight white centre. Base and hind margins sparsely black, at the base an indication of red spots. The anal spots are small and with red pupils. — On similar lines we
depravata. have ab. **depravata** *Weiss*, which belongs to the *pyrenaicus* race. In the forewings the subcostal spots are very reduced and the median spot retained only faintly developed. On the hindwings the anal spots are almost extinct. The black of the hind margin is only faint and diffusedly grey and all the bands are pale greyish. On the other hand the cell spots and hind marginal spots of the forewings contrast by being deep black
albina. and well developed, standing out strikingly from the very pale ground colour. — f. **albina** *O. B.-H.* (nec *Verity*) are specimens with transparent and thinly scaled wings on which all the black and red markings are covered

with a whitish hue. The aberrations – · f. *albicans O. B.-H. inversus Kammel* are synonymous with *inversa Austaut* (Vol. 1, p. 25). — The ♀ variety **theiodes** *Schaw.* (= chryseis *Vrty.*, flavicans *O. B.-H.*) are specimens with a golden tone to their yellowish wings and differing thereby from all other races. Still more yellowish, almost brown-yellow ♂♂ which distinguish themselves through this from the former are called **chrysoptera** *Std.* — The ab. **diaphana** *Trti.* (= hyalina *Bryk*) differs in another way. Here the pale ground colour of the wings is hyaline and all the black markings contrast strongly from it. — The form described by Stauder as f. **lepidaporia** a form of *pumilus Stich.* scarcely differs at all. With the indifferent diagnosis of this author we cannot ascertain anything precise. A large number of forms named by him are mentioned here solely for the sake of a complete record, although really there is no justification for these names. The ♀ **fumata** *Rougemont* (= perfumigata *Std.*) has the whole upper and underside of the wings obscured by a smoke-brown. — ♀ ab. **melahyalina** *Std.* is a counterpart to *umbratilis Fruhst.* of *P. mnemosyne L.*, a form which shows all the black markings diffused into a blackish ground colour and representing the extreme of nigrismus. For ♂♂ which havea distinct female marking Fagnoul has created the name *pseudofemia*. — This nomination seems superfluous. As belonging to the race of *melliculus* f. **velata** *Belling* reminds one of *nigricans Car.* and need not have been named. In the forewings between cubitalis 2 and the submedian nervure as well as in media 3 there is a 5 mm wide black dusted spot and further towards the margin from the lower subcostal spot and inclining towards the submarginal band to the hind margin the black adumbration leaves only a few pale spots. ♂♂ strongly scattered with black scales occur only rarely and are called ab. **perfusa** *Vrty.* — A ♀ from Mount Alto in the Aspromonte region appears with upper and underside "intensively glossy and oily", remarkably weakly scaled, the wings asymmetrical, therefore a distinct pathological form which Stauder has called *satyrus*. — The ab. **bergeri** *Otto* (5 d) is a very fine aberration with black feelers. The forewings and hindwings are dull black, the hind marginal spot, the subcostal spots and the cell spots deep black, the lower subcostal spot with a red pupil. Hyaline margin narrow. The hindwings with large ocelli of dark red colour surrounded with deep black of which the median has a white pupil. The anal spots have pale red centres: fringes of all wings deep black. The hairs also. On the underside the lower subcostal spot and the hind marginal spot have a red centre. The hindwings have both ocelli as well as the upper anal spot with white pupils, the lower anal spot has red streaks in the centre. At the base are four large red basal spots. — ab. **nexilis-decora** *Sagarra* is a very richly marked form. The hyaline margin joins up with the submarginal band and is very wide scarcely converging at all towards the hind margin and only decorated with a few lunules. The subcostal spot unites with the enormously large hind marginal spot through heavy scaling in the form of a middle band. There is a third cell spot at the base of the cell through a partial adumbration. The whole ground is richly suffused with black and there are only white spots in the disc between the three patches and on each side of the middle band. Hindwings with a wide hyaline margin and a *dentata* band. The ocelli unite together forming a band with the anal spot. The black marking of the hind margin extends towards the base covering half the cell and also round this to cubitalis 1. To the race of *laufferi Bryk* there also belongs ab. **albidociliata** *Bryk* which has cream coloured fringes: f. **albofimbriata** *Std.* has on the other hand pure white fringes. — The ♂ ab. **derennei** *Mezger* has a yellow-grey thorax, abdomen, back and belly, as well as a few such hairs on the upperside on the hindwings. The same colour shows itself in the nervules specially on the hindwings of which the margin and fringes are of the same colour. — ab. **rubricollis** *Fagnoul* has hairs on the neck of almost the same red colour as the ocelli as in *suevicus Fruhst.* — Small specimens are called ab. **minuscula** *Vrty.* (= nana *O. B.-H.*, nana *Rbl.*) and specially large specimens are called ab. **majuscula** *Trti.* (= magna *O. B.-H.*). In specimens where the markings of the wings are asymmetrical Stauder has given the name of ab. *asymmetrica*. Aberrations of the forewings are named as follows: — f. **triangulum nigrum** *Std.*, are ♂♂ on the lines of ab. *perfusa Vrty.* having the whole area between the middle cell, end cell and hind marginal spot darkly covered with black scales and forming an almost exact equilateral triangle. When in the forewings all the spots are so unusually enlarged that they almost touch we have the ♀ ab. **exophthalmos** *Std.* — In f. **felkeli** *Std.* on the upper-side the black scales of the anal area are irregularly interspersed with fine reddish scales from the base to beyond the centre. — In ab. **niphetodis** *Stich.* the hyaline band as well as the rest of the ground colour of the wings is thickly scaled with white scales that have a pale yellow tone. — A similar aberration is shown by ♀ **aicheli** *Bryk* (= emarginata *Vrty.*, immarginata *O. B.-H.*), but in this case the white scales covering the hyaline band have a milky appearance. — In ab. **limbovariegata** *Trti.* (= interruptus *Luetkemeier*) the hyaline band has white scaled cuneiform spots pointing inwards. In ab. **defasciata** *Schaw.* (= pura *Trti.*, marginata *Bryk*, reductus *Kammel*) the submarginal band is absent except between radialis 3 and 4 and what is left consists of a few quite loosely connected scales. In ab. **nox** *Bryk* (= hypermelas *Std.*, elunata *O. B.-H.*) the marginal and submarginal bands converge to a wide hyaline margin and the intermediate band of crescents is absent. ab. **bimacula** *Std.* (= reducta *O. B.-H.*) has the submarginal band and the hind marginal spot absent. — In **cellopura** *O. B.-H.* (6 a) the middle cell spot in the forewings is absent and the end cell spot is very reduced, *quincunx* form. ab. **bryki** *Schaw.* shows a further reduction of the cell spots, here both cell spots on the upper and under side are absent and on the latter the additional diffusion of the deeply vermilion red spots is characteristic. — The ab. **quincunx** *Bryk* (= mnemosynoides

theiodes. *chrysoptera.* *diaphana.* *lepidaporia.* *fumata.* *melahyalina.* *vetata.* *perfusa.* *bergeri.* *albidociliata.* *albofimbriata.* *derennei.* *rubricollis.* *minuscula.* *majuscula.* *triangulum nigrum.* *exophthalmos.* *felkeli.* *niphetodis.* *aicheli.* *limbovariegata.* *defasciata.* *nox.* *bimacula.* *cellopura.* *bryki.* *quincunx.* *nexilis-decora.*

Trti.) is characterised through the end cell spot which never reaches beyond the discocellular nervule. —
unimaculata. **unimaculata** *Bryk* (= monomaculatus *Bryk*) has spots much reduced in size and only the hind marginal spot is retained on the upper-side. — The ♂ *eremita Std.* has on one side in the right forewing only an indication of the middle cell spot whilst all the other spots are absent and the crescent band is much reduced. The veins are slightly deformed, the middle cell is contracted longitudinally. The left wing is normal, therefore this is
smidtianus. again a monstrosity which Stauder has named. — In ab. **smidtianus** *Bryk* the upper discal spot extends
ernestinae. towards the base between radialis 1 and the radial nervure to the central basal spot. — ab. **ernestinae** *Bryk* (= extrabescens *O. B.-H.*) belongs to the race of *carelius Bryk* in which ♂♂ and ♀♀ have the middle cell spot
emilii. unattached in the cell. — ab. **emilii** *Bryk* has the same divided into two separate spots. Another superfluous name *appropinquata Std.* has been given to specimens in which through an increase in the size of the end cell spot the distance to the middle cell spot is reduced so that they appear to be nearer together. — Synonymous to *cohaerens Schultz* (Vol. 1, p. 25) are ab. *ponsoni Culot*, ab. *confluens Trti.* and *halteres Bryk*. On the other
subtushalteres. hand the name of ab. **subtushalteres** *Bryk* can be retained for specimens which only on the underside have
zetaalbum. the two cell spots of the forewings united by a bar. — In ab. **zetaalbum** *Bryk* the cell spots are joined by a mutual longitudinal distortion in shape to form a latin Z, a form which could easily be united with *cohaerens.*
mediomaculata. *Schultz.* — f. **mediomaculata** (*Frank & Riemel* i. l.) *Osthelder* has an additional black spot and f. **basipunctata**
basipunctata. *Belling* (= hexamacula *Std.*) shows a spot at the base analogous to the middle cell spot which is not united with the base but has been created by the adumbration which has penetrated into the cell. — In f. **antoniae**
antoniae. *Std.* there is a distinct additional spot which may be roundish or elongated and lying beyond the cell below
heptamacula. the middle cell spot. — f. **heptamacula** *Std.* represents a combination of this form and *basipunctata Belling.*—
omega-apertum. f. **omega-apertum** *Std.* are specimens which have the submedian nervule thickened and the two cell spots united thereby. When this condition also occurs in the upper nervules then a circle is formed in the cell and
orbifer. Rebel named this form **orbifer** (= omegaaclausum *Std.*). The aberrations *herrichi Bryk* and *fasciatus Kammel*
splendida. are practically identical with ab. *fasciata Stich.* (Vol. 1, p. 25). — ab. **splendida** *Osth.* represents specimens with
semipicta. a strongly developed subcostal band. — ab. **semipicta** *Kammel* have the first subcostal spot absent and ab.
duomaculata. **duomaculata** *O. B.-H.* (= duomaculatus *Kammel*) have also the hind marginal spot absent. — In ab. **trimacula**
trimacula. *Schaw.* both subcostal spots are absent so that only the two cell spots and hind marginal spots are retained.
tridua. Stauder gave the name of **tridua** to specimens where the subcostal band is divided into three sharply separated
commaculata. spots. It is further reduced in ab. **commaculata** (*Frank & Riemel* i. l.) *Osth.* where the subcostal spot and the upper-median spot are like streaks and the usual junction through a conglomeration of scales is absent as also is the lower
monopicta. median spot. — ab. **monopicta** *O. B.-H.* represents specimens with the subcostal spot with only one red pupil: if
deseps. the upper median spot also has a similar red pupil then it is called ab. **deseps** *Bryk* (= rubropicta *O. B.-H.*) and
unipupillata. if only the upper median spot has a red pupil then the form is called ab. **unipupillata** *Rbl.* (= monopupillata *Bryk*).
tripicta. If all three spots of the subcostal band have a red pupil it is called ab. **tripicta** *Kammel.* In all these aberrations and
pupillata. also in the following unless otherwise mentioned the red pupil is on the upper-side. — In ab. **pupillata** *Bryk* besides
perfecta. the red pupil to the upper median spot, the hind marginal spot has a similar pupil and in ab. **perfecta** *Fagnoul*
albicincta. the subcostal spot also has a red spot. — In ab. **albicincta** (*Frank & Riemel* i. l.) *Osth.* the upper median spot
albipupillata. on the under-side has a red pupil which is surrounded by a white ring. If this red pupil instead of having
elongata. a white ringlet has a white pupil then it is called **albipupillata** *Osth.* — ab. **elongata** *Std.* has the hind marginal
porrecta. streak remarkably elongated so that in extreme cases the point nearly reaches to the base. — In ab. **porrecta** *Osth.* the hind marginal spot is elongated with the point towards the origin of cubitalis 2 and in extreme cases it touches it. There are two further forms named by Osthelder for which there is no justification, these are f. *definitiva* in which the hind marginal spot is distinctly developed, and f. *amplificata* in which it is considerably enlarged. When only the hind marginal spot in the forewings has the red pupil the aberration
polyphemus. is **polyphemus** *Bryk* (= monopupillata *Trti.*, unipupillata *Trti. & Bryk*, monopupillatus *Kammel*, margopupillata *Bryk*). — From Wachau we have the striking aberration **caeruleo punctata** *Koschabek* which belongs to *cetius*
caeruleopunctata. *Fruhst.* This is a ♂ of deep yellow ground colour with still deeper yellow coloured fringes to all wings and with a streak-like subcostal spot. Characteristic is the blue centre of the hind marginal spot which is somewhat
subcentrica. eccentric but finely surrounded with black. — In ab. **subcentrica** *Trti.* the hind marginal spot on the under-
nigrosecta. side has a red pupil: in ab. **nigrosecta** *Osth.* the hind marginal spot has a red centre separated into two by a black streak. The rich ornamentation of the hindwings with the many aberrations has given a favourable
sphenagon. opportunity for the nomination of more numerous forms even than the forewings. — The ab. **sphenagon** *Schaw.* shows internerval dark hyaline cuneiform spots pointing inwards in the hyaline margin. An extreme specimen
frigida. of this form is called by Stauder **frigida.** These are ♂♂ where the marginal and submarginal bands converge making the hyaline margin as wide as in the forewings and practically without scales. — When the edge of
marginata. the margin is wide and blackish the form is called **marginata** *O. B.-H.* — A dentated strongly outlined sub-
dentata. marginal band characterises ab. **dentata** *Bryk* (= lunigera *Trti.*, arcuata *Galv.*, dentata *O. B.-H.*, ostentata
rubromarginata. *Osth.*). — ♂ ab. **rubromarginata** *Shelj.* shows the margin of the hindwings on the under-side decorated with numerous red scales creating a distinct red marginal band stretching from the radial nervule to cubitalis 1,

a few red scales are also found in the costal and hind margins. Also on the upper-side of the wings at the margin there are a few sparse red scales. — In ab. **phoibogryphos** *Bryk* there is no submarginal band on the under-side. — In ab. **pagenstecheri** *Bryk* the terminal vein of the disc is covered with black scales on the under-side. — In ab. **ampliuspunctata** *Osth.* there is an additional spot on the upper-side between the conglomeration of scales of the disc and the median ocellus. Osthelder named a form **taeniata** in which a black band runs from the increased scaling of the edge of the disc to the costal margin between the base and the subcostal ocellus. — ab. **magnifica** *Bryk* (*Ksienzopolski* i. l.) was originally described from the race of *alpherakyi Krul.* from the Altai Mountains, meanwhile it has been found among many other races. The ♀♀ are characterised by enormously large ocelli. The Altai form differentiates from the other ♀♀ through a yellowish tone to the wings instead of a white ground and by strikingly black markings. Hyaline margin and submarginal converge so that there is scarcely any of the ground colour left in the form of spots. The second costal spot has a yellow pupil with a thick streak towards the disc. The hind marginal spot is rectangular and as large as the middle cell spot. The whole surface of the wings is richly suffused with black also the hindwings upon which there is also a convergence of the hyaline margin and submarginal band so that there are no "*nubilosus*" spots. The ocelli are large, the subcostal quite orange, the median also and further with a white pupil. The anal spots have large pupils and are enlarged so that they look like two further ocelli. All the ocelli spots are surrounded with deep black appearing like a diffused halo which unites with the black marking of the hind margin and all the markings surrounding the disc. This large adumbration leaves only a few of the yellow spots of the ground colour apparent, as for instance half the cell and small neighbouring areas. This is one of the finest of the Apollo forms amongst the Asiatic and European races. — The ab. **flavodilatata** *Std.* is a combination of the following aberrations *magnifica Bryk* + *flavomaculata Deck.* + *pseudonomion Christ.* + *deseps Bryk* + *decora Schultz* + *subcentrica Trti.* All these markings are coloured a bright yellow instead of red. An extreme is ab. — **decoratissima** *Vrty.* The ocelli are very large, the anal spot more widely red and rounded than in *decora Stich.* — ab. **microstigma** *Trti.* (= novaraeformis *Std.*) characterises specimens with a reduction of the ocelli to very minute points. — The ab. *tisiphone Std.* (= extrema *Bryk*) is identical with the former, but perhaps slightly more reduced, the type of Stauder is in fact only left-sided. This unjustified denomination of quite immaterial aberrations can only be described as perfect nonsense. The same applies to ab. *uniformis Std.* (*Feuerherdt* i. l.), in which both ocelli on the upper and under sides are equally large and *aequivalens Std.*, which is described similarly cannot exonerate the author from the above reproof. — ab. *quadratula Std.* from the Valley of Inn has rectangular ocelli and ab. *posticelongata Kammel* has red elongated oval ocelli. Turati has further nominated ab. **semiluctifera** (= semicaeca *Trti.*) a form with minute ocelli which however also shows the subcostal reduced to a black spot. — ab. **euclidiana** *Bryk* has "rhomboidal and diagonal ocelli, rectangular hind marginal spot and tetragonal white pupils on the ocelli". ab. **rubrofasciata** *Fagnoul* has the highly coloured occlli of the undersides united with a wide red bar surrounded with black. — ab. **laticincta** *Vrty.* are specimens with the occlli more widely surrounded with black, especially in the ♂ in which there are often very striking specimens where the white pupils are also enlarged at the expense of the red. Stauder mentions an extreme form of this, ab. *hecate* in which the surrounding black has reduced the red to a minute pupil. Contrasting with this are specimens with a very narrow black ringlet which Verity described as **tenuicincta.** — In ab. **fractecingulata** *Std.* this narrow surround of the ocelli is frequently interrupted by the veins which remain white. — In ab. **luctifera** *Vrty.* the ground colour is pure white and the ocelli black, there are still some traces of red in the occlli and the basal spot on the upper-side. — ab. **caeca** *Trti.* (= leonhardi *Bryk*) has quite black ocelli on the upper-side whilst on the under-side they are more or less red. Among *bartholomaeus, rubidus* and *pumilus* Stauder found specimens in which the ocelli were not uniformly filled out with the same colour and he called these **tetrachoma.** — ab. **rubromaculata** *Kammel* applies to specimens with both ocelli bright red and without white pupils on the upper-side. — ab. **oinophthalmos** *Std.* have light claret coloured ocelli with an inclination to violet iridescence. There are further denominations of various colour shades of the ocelli as follows: ab. **rosaceomaculata** *Std.* with rose-red centres, ab. **pyrophora** *Std.* with fire-red centres, a mixture of red and yellow, ab. **aurantiacomaculata** *Std.* reddish gold yellow slightly iridescent, ab. *rubidochraceomaculata Std.* "ocelli vermilion red to light ochre yellow". We should like to know what the author himself thinks of this colour description. — ab. **sticheli** *Std.* is said to look like the previous aberration but combined with the peculiarities of ab. *nigricans Car., appendiculata Trti., cuneifer Fruhst.* and *pseudonomion Christ.* — The ab. *nevadensis Spul.* and *flavomaculatus Stich.* correspond to ab. *flavomaculata Deck.* (Vol. 1, p. 25). — ab. **ladogensis** *Bryk* (= flavibidomaculatus *Std.*) has ocelli and other red marks changed to yellow. — ab. **limoniti** *Bryk* (= ochreomaculata *O. B.-H.*) has ochre-brown ocelli almost Terra di Siena. — ab. **ochreomaculata** *Kammel* (= xanthosticta *Std.*) has both ocelli with ochre-yellow pupils, also on the under side all spots that are usually red are all ochre-yellow colour. Both ocelli have distinct white pupils ab. **binocularis** *Bryk* (= bispupillata *Trti.*, albopupillata *O. B.-H.*). If both ocelli have such large white pupils that the red is reduced to quite narrow rings and the white mirrors show hyaline unscaled places this is ab. **diaphana** *Trti.*

phoibogryphos.
pagenstecheri.
ampliuspunctata.
taeniata.
magnifica.
flavodilatata.
decoratissima.
microstigma.
semiluctifera.
euclidiana.
rubrofasciata.
laticincta.
tenuicincta.
fractecingulata.
luctifera.
caeca.
tetrachoma.
rubromaculata.
oinophthalmos.
rosaceomaculata.
pyrophora.
aurantiacomaculata.
sticheli.
ladogensis.
limoniti.
ochreomaculata.
binocularis.
diaphana.

hydrargyrostigma. The large white pupils of the highly coloured ocelli irradiate looking like quicksilver in ab. **hydrargyrostigma** *Std.* — To the race *carinthicus Stich.* belongs the ♂ ab. **trachomophthalmos** *Std.* from Carinthia, it has orange-red costal ocelli lighter in the centre, the median ocelli are orange-red with clear white pupil and the surround heavily black. The orange coloured parts are suffused with black. On the underside the ocelli show normal colouring. — The ab. *jucundula Std.* is an *intertexta Stich.* (Vol. 1, p. 26). — ab. **zirpsi** *Bryk* has the ocelli on the underside filled out with red and ab. **expupillata** *Rocci* (= rubromaculata *O. B.-H.*, depupillata *Trti.*, smidti *Bryk*, rubromaculatus *Kammel*) has both ocelli on the upper and underside without white pupils. — In ab. **inaequata** *Trti.* the subcostal ocelli on the upper and undersides are not equally large and those of the underside towards the base reflect through by half their size. — In ab. **commatostigma** *Std.* the subcostal ocelli are formed like a comma in red and delicately surrounded with black. The form is very similar to *P. delius*, but one can at once recognise the *apollo* from shape of the antennae. — ab. **commafixum** *Std.* has the costal ocellus continued with a comma-like tail and ab. **cuneifer** *Std.* has the costal ocellus cuneiform. — In ab. **profluata** *Osth.* a black streak stretches along the costa as a direct continuation of the black surround of the subcostal ocellus. — In ab. **azona** *Std.* the subcostal ocelli are without black surround, on the other hand the median ocellus shows still a few traces of it. In **unipupillata** *Rbl.* (= monopupillata *Bryk*) only the subcostal ocellus has a red pupil. — The ab. **lacrimans** *Marschner* (= nexilis *Schultz part.*, lacrimaeformis *O. B.-H.*) shows the red of the subcostal ocellus formed like a tear towards the basal spot, whilst in ab. **sublacrimans** *Bryk* a black bar unites the costal ocellus with the basal spot. A similar aberration on the underside is ab. **subtuslacrimans** *Osth.* uniting the subcostal eye with the second basal spot through a wide streak filled with red. — ab. **musagetes** *Std.* is said to have the median ocelli almost "half the size" of the subcostal ocellus. — In ab. **steimmigi** *Std.* the middle ocellus has the exact form of a crescent. In ab. **reniformis** *O. B.-H.* the median ocellus is reniform and in ab. **pseudocorybas** *Std* it is cordiform, pointing obliquely forwards. The median ocellus is elongated in the direction of the anal spot and sometimes separates a small appendix ocellus which is like a black appendix to the cell. Turati named this form **appendiculata** (= bicincta *O. B.-H.*, posticelongatus *Kammel*). Stauder gave the name ab. *siepeni* to a type when the appendix is separated or only loosely attached by a few scales. The median ocellus can be divided by a black streak and is called ab. **bachmetjevi** *Ugrjumov*, the ocellus as such retains its normal form: synonymous is *nigrodivisa Osth.* — The f. *omikron apertum Std.* occurs under ab. *magnifica Bryk* and is said to have the upper black surround of the ocellus open. Naturally this form is nothing more than *fractecingulata Std.* and of the same value. If the median ocelli in spite of pure white pupils have a few black scales in the red ring such specimens are ab. **trachophthalmos** *Bryk.* — In ab. **immaculata** *Ruhmann* (heseboloides *Schaw.*) both cubital spots and the anal spot on the upperside of the forewings are absent whilst the latter still occur on the underside. — In **unimaculata** *Bryk* (= monomaculatus *Bryk*) only the anal spot is retained on the upperside of the wings. — In ab. **ampliusmaculata** *Vrty.* a third anal spot, the upper cubital spot is present. If the *ampliusmaculata* spot besides the other anal spots has a red pupil it is ab. **rubrocatenata** *Std.* (= ampliusdecora *Eisn.*). Both cubital spots on the upperside may have red pupils, such specimens are then called ab. **kailasiophana** *Bryk*, on the underside the anal spot unites with the two cubital spots forming a band. — ab. **rufodilatata** *Lacreuse* represents a combination of forms viz.: ab. *pseudonomion* + *expupillata* + *ampliusmaculata* + *decora*. — ab. **semidecora** *Bryk* has the lower cubital spot with a red pupil. — ab. **margopupillata** *Bryk* (= decora *O. B.-.H*) has the anal spot with a red pupil on the upperside. — ab. **tetradynamos** *Std.* has the red anal spot and the lower cubital spot on the upperside with a white pupil. ♀♀ with a red anal spot having a white pupil are **tripupillata** *Std.* — If the lower cubital spot and the anal spot on the underside of the wings have a white pupil the specimens are called **marschneri** *Bryk.* — In the ♂♂ specimens occur having a basal marking of the upperside so reduced in size that they correspond exactly with the red basal marks on the underside: the white ground colour and the black markings are very sharply bounded. They are described as ab. **basireducta** *Fagnoul.* On the upperside there are two red basal spots in ab. **biornata** *Osth.* (= biexcelsior *O. B.-H.*). On the underside all four basal spots can be absent and such specimens are called **nordmannides** *Bryk*, if all four are present and with nice red and white pupils we have ab. **leucophorus** *Bryk.* — The ab. *wiskotti Oberth.* (Vol. 1, p. 26) should have been called **dilatata** *Thierry-M.* —

trachophthalmos. *immaculata.* *unimaculata.* *ampliusmaculata.* *rubrocatenata.* *kailasiophana.* *rufodilatata.* *semidecora.* *margopupillata.* *tetradynamos.* *tripupillata.* *marschneri.* *basireducta.* *biornata.* *nordmannides.* *leucophorus.* *dilatata.*

Aberrations of the shape of the wing, mostly monstrosities have been described and very reprehensibly named: naturally the author of most is again Mr. Stauder. If the outer margin of the forewings is sharply bent inwards, undulating almost like an S we have ab. *falcata Trti.*, and if the outer margin of the elongated forewings instead of being nicely rounded is almost straight it is ab. *posticelongata Vrty.* All the now following nominations are from Stauder: f. *papilionidea* wing shape approximately as Pap. *photinus* in Seitz, Fauna Americ, Vol. 5, plate 1 d. — f. *charaxina* has wings similar to *Charaxes doubledayi*, hindwings as Pap. *morania* *) (both the species mentioned are African). — f. *anaeina* has a wing contour like the american *Anaea alberta* **). — f. *stupida* has forewings abnormally large and exceptionally

*) Vol. 13, Plate 32 c and 7 c.

**) Vol. 5, Plate 119 d.

fully rounded, the hindwings also but at the same time relatively small. — f. *postice rotundata* is a ♀ of *oenipontanus Fruhst.* that with normal forewings has the anal part of the hindwings so extended that when set they almost touch the abdomen. — The ♂ ab. *simonoides* has the forewings as the ♂♂ of *P. simonius* in Vol. 1, pl. 16 e. — f. *execta* has the forewings cut out sharply just behind the apex. — ab. *pentagonalis* has almost pentagonal hindwings, analogous to *P. mnemosyne L.* of the same name. — In ab. *minimoides* the hindwings are as *P. minimus* of Vol. 1, pl. 11 c. — The crown of all these denominations is probably the ab. *asymmetrica*, which Mr. Stauder has denoted for all specimens with otherwise asymmetrical wings. We have still to enumerate the aberrations from normal veins as far as they have fallen victims to this epidemic of denominating. On the forewings and hindwings media 2 + 3 are deformed at the entrance of the median cell in ab. *rebeli Bryk*. On the forewings and hindwings cubitalis 1 is absent in ab. *jordani Bryk*. — The following aberrations all refer to the veins of the forewings. — Cubitalis 1 is absent in ab. *verityi Bryk* and cubitalis 2 is absent in ab. *aurivillii*. — Cubitalis 2 bifurcates 5 mm before reaching the margin in ab *furcata Osth.* — In ab. *bosniacki Bryk* media 1 originates directly from the discocellular. — In ab. *haudeanus Bryk* media 1 has a surplus vein running upwards connecting with radialis 5 transversely. — The upper media 1 originates radialis 4 + 5 instead of uniting at origin in ab. *latreillei Bryk*. — The ab. *redtenbacheri Bryk* has the discoidal cell open between media 1 and 2. — In ab. *antecubitalis Fagnoul* a supernumerary nervule arises from the disco-cellular between media 3 and cubitalis 1. — In ab. *enderleini Bryk* radialis 2 + 3 arise beyond the cell without however forming cohesion with radialis 1. — In ab. *baroniides Bryk* radialis 3 is missing. — In ab. *symplecta Bryk* radialis 3 + 2 have grown together with radialis 1 before reaching the apex. — ab. *spuleri Bryk* has a surplus vein between radialis 1 and 3. — In ab. *charlesi Bryk* radialis 5 is missing.— In ab. *turatii Fagnoul* a supernumerary vein arises from the axillaris which inosculates in cubitalis 2 forming a secondary cell. The following denominations were given to variations in the hindwings: in ab. *embriki Bryk* cubitalis 1 is absent and in ab. *seitzi Bryk* cubitalis 1 arises ex cubitalis 2. — In ab. *postintercubitalis Bryk* (= intercubitalis *Bryk*) a supernumerary nervule is shown between the two cubital veins. — In ab. *reuteriides Bryk* a supernumerary vein arises ex media 3, whilst in ab. *reuteri Bryk* there is one between media 1 and 2. — In ab. *ferdinandi Bryk* media 2 is absent. — In ab. *ruhmannianus Bryk* the upper radialis arises ex mediana 1 and in ab. *kunzianus Bryk* there is a supernumerary vein at the anterior radius.

The races of *apollo* can be classified in circles or groups according to their geographic occurrence. These groups more or less approximate and indicate their homogeneousness by characteristics common to all. As belonging to the first complex of races which also includes the main type we begin with the Scandinavian races continuing with the Finnish-Russian, the Siberian and those from the Caucasus. — The *subsp.* **norvegicus** *Menthe* from Norway differs only slightly from the main type. The black marking of the forewings is more strongly marked, especially in the ♀♀, the hyaline margin and submarginal band reach only to cubitalis 2 and on the hindwings the ocelli are smaller. — The black marking of the base of the wings is less compact and black, but it reaches far into the basal area of the cell, which it also widely surrounds up to the upper mediana. — In the Aaland Island and in the Schaeren around Aabo **fennoscandicus** *Bryk* flies. The black marking of the forewings is very pronounced, the submarginal band much more dentated than in *finmarchicus Rothsch.*, and on the hindwings the submarginal band is very distinct. — The black marking of the basal and hind margins as *norvegicus*. On the underside the subcostal spots are often with red centres. The upper anal spot is always so, it looks in consequence like a small ocellus and is attached to the deep black narrow streak-like lower anal spot. — A further Finnish race is **finmarchicus** *Rothsch.* from South Finland. The ♂♂ are a beautiful white with a very slight yellowish tone. The hyaline margin wide reaching to and contracting just beyond cubitalis 2 longer than the arched submarginal which is angular in its upper part and which is united there with the hyaline margin by scaling on the relative veins. Subcostal spots small, deep black and isolated, the cell spots only medium, whilst the hind marginal spot is quite large, round and also deep black. On the hindwings the round ocelli are a beautiful red boldly surrounded with black and with white pupils. Basal and hind marginal black marking similar to the previous races, but perhaps a little lighter and not surrounding the cell. On the underside both anal spots have red centres. The ♀♀ are very much darker and more faintly scaled with white, faintly suffused with black. The hyaline margin and submarginal converge near to the hind margin and are separated by a fairly wide white *lunula* band. The marking of the spots is less pronounced than in the ♂. On the hindwings the ocelli are larger than in the ♂ with larger white pupils. Hyaline margin narrow, submarginal band wide, separated by a rather indistinct *lunula* band. Anal spots pronounced, deep black, with red centres on the underside, mostly however only the upper. — In Ladogic Carelia there is a striking race, *subsp.* **carelius** *Bryk*. The ground colour of the ♂ is pure white, the fringes also; the hyaline margin scarcely touches cubitalis 2 and is separated from the narrow undulating grey submarginal band by a wide band of the ground colour. The costal spots are united by a few scattered black scales the first not so black as the other deep black macula. The ocelli are large, heavily surrounded with black and with white pupils. The anal spots joined together like a band sometimes with scattered red scales. The submarginal band only barely indicated by a few scattered greyish scales. The black marking at the base very faint. The ♀ is larger more boldly

norvegicus.

fenno-scandicus.

finmarchi-cus.

carelius.

marked with black and shows besides on the forewings traces of black suffusion. The hyaline margin is very wide, contracting and reaching to the hind marginal shortly before which it converges with the fairly wide but diffused submarginal band. Both are separated by a wide white band of the ground substance interspersed with a few black scales. The ocelli are fairly large, well marked narrowly surrounded, with eccentric white pupils, the upper one only faintly. Marginal and submarginal bands fairly wide and distinct. Anal spots united, the lower one generally somewhat tinged with reddish. On the underside in both sexes the ocelli have very large white pupils at the expense of the red, the surround is black narrow and diffusing. The anal spots are so richly filled with red that the black is almost displaced. — From the Island of Gothland the type of the Torsburg
linnei. the race of **linnei** *Bryk* (6 a) does not tally with the Nordic Races. It is much closer to *vinningensis Stich.* (Vol. 1, p. 24, pl. 12 a). The size is smaller than all northern races. The ♂♂ are pale white with narrow hyaline band stretching to the hind margin, partly the submarginal band is absent and the subcostal spots are only moderately developed. The basal area of the wings is faintly sprinkled with black. The carmine red ocelli of the hindwings have white pupils and they are narrowly surrounded with black. The base and hind margins are moderately suffused with black which often extends on the cell margin to the upper mediana. Anal spots deep black, narrow, mostly united. Pale almost poor white ground colour of the wings is characteristic of the ♀♀ as also the weakly haired abdomen. The hyaline margin is not very wide, faintly bordered with black and with white fringes. It is separated from the diffused rather wide submarginal band by a quite narrow pale band of the ground colour which often dissolves into small crescents. The subcostal spots are strikingly suffused with black forming a band between the lower wall of the cell and the hind marginal spot. In the hindwings the ocelli are large, beautiful carmine red and with white pupils. The suffusion of black in the basal area rather more pronounced than in the ♂, hyaline margin very narrow, submarginal diffused, pale, scarcely showing any white crescents. Anal spots bold, sometimes connecting with the median ocellus through scattered scales. On the underside the ocelli have bright white pupils and the anal spots are broadly filled out with red. For the Russian Race of *democratus Krul.* (Vol. 1, p. 35) Sheljuzhko described an aberration *satanas* from Kasan,
lunigera. Wiatka, which cannot be differentiated from ab. *bergeri Arn.* — The ab. **lunigera** *Fruhst.* belongs to *subsp. sibiricus Nordm.* (Vol. 1, p. 25) is the form illustrated by Verity, Rhop. Pal. t. 13, f. 2 as Hybrid of *P. apollo sibiricus* + *P. discobulus Stgr.* Fruhstorfer is quite right in designating this only as an individual aberration which occurs in many parts of Asia. Among the *apollo* of the West Siberian plains Sheljuzhko separated
meinhardi. *subsp.* **meinhardi,** the type from Petropavlowsk, ♂♂ of 82—89 mm and ♀♀ of 80,5—90 mm across the wings. In the forewings all the black spots are well developed, especially the middle cell spot is particularly wide. The hyaline margin reaches in the ♂♂ to cubitalis 2 or even slightly further, whilst the submarginal band only barely reaches the upper cubital vein. In the ♀♀ both bands, the latter of which is diffused and almost converges with the hyaline margin, reach to the hind margin. The ocelli of the hindwings are medium size surrounded with black and generally with a distinct white pupil which can be absent in the ♂. The anal spots are well developed and sometimes filled with red. The ♀♀ are with moderately dark scaling, especially in the disc of the forewings and in the centre of the wings between the cell and submarginal band. *meinhardi* differentiates from *sibiricus Nordm.* through the wider hyaline margin and more pronounced surround of the ocelli, also the middle cell spot, especially in the ♀, is much wider and more strongly developed. It fairly corresponds with *alpherakyi* in regard to size, but the black markings of the latter are larger and more pronounced especially the submarginal band of the forewings which is inclined to be reduced in *meinhardi* ♂♂. Yellow forms such as occur so beautifully in *alpherakyi* (= ab. magnifica *Bryk*) are absent in *meinhardi.* — In the Juldus Territory
minerva. *subsp.* **minerva** *O. B.-H. flies.* The ♂♂ show less heavy white scaling than *hesebolus*, but they have heavier black spots and the hyaline margin and the dentated crescent band are more striking. The red ocelli have distinct white pupils. The ♀♀ are smaller than *sibiricus*, less elongated wings, the hyaline margin is narrower and separated from the diffused submarginal band through a narrow band of small crescents. The ocelli of the hindwings are beautiful carmine red with eccentric white pupils and narrowly but boldly surrounded with black. The hyaline margin is only narrow, the submarginal band on the other hand fairly wide even if interrupted and somewhat diffuse and separated by a narrow band of the ground colour. The black marking of the hind margin penetrates the basal half of the cell and surrounds it as far as the upper median vein. Anal spots very bold and wide the lower one with small red spots. On the underside the ocelli have large white pupils and both anal spots are filled with red. The ground colour is white toned slightly yellowish, the scaling faint, scattered with
sojoticus. black dust, somewhat hyaline. — The *subsp.* **sojoticus** *Bryk* from Arasun-Gol is a *hesebolus* form in which in both sexes all markings are considerably reduced. The narrow tapering hyaline border reaches to media 3, the very delicately curved submarginal band reaches somewhat further than cubitalis 1, both are separated by a wide band of the ground colour, which is two and a half times as wide as the submarginal band. The subcostal spots are small and the lower between media 1 and 2 triangular with a blunt apex. The end cell spots *antiquincunx*, the middle cell spot elongated hexagonal, the hind marginal spot narrow, streak-like and placed vertically. Of all the small ocelli in the hindwings the median is the largest. The anal spots are also small. The basal black marking takes up one third of the cell and surrounds it as far as media 3. The ♀♀ vary still more from *hesebolus* and are more inclined to resemble a form of *P. phoebus intermedius* from the Altai: also they are considerably darker than the ♂♂. The black spots on the forewings are larger and

parts beyond the cell have a few scattered black scales, more considerably so on hindwings. The ocelli are double the size of those of the ♂♂ as also is the exceedingly developed anal spot. The adumbration of the base and the hindmargin is more pronounced and stretches almost over the whole cell covering nearly half of same. The ocelli have no white pupils on the upperside whilst they have them on underside as well as four small red basal spots. — The race **alpherakyi** *Krul.* (5 d) comes from the Altai. The ♂ of pure white ground colour, *alpherakyi.* the hyaline margin slender, narrowing to a point and reaching to cubitalis 1, the submarginal band barely to media 2. The subcostal spots are small forming a crescent arc pointing outwards. The end cell spot is semicircular, the middle cell spot rounded, just as large as the strong hindmarginal spot. The light red ocelli of the hindwings nearly always with white pupils and narrow black ring. The anal spots remarkably small. The base and hindmargin intensively blackened, it extends far into the cell and surrounds it nearly to the middle media. On underside the hindmarginal spot of forewings and the upper anal spot of hindwings have red centres. The ♀ is considerably darker through more copious scaling of the light areas and an increase of the black markings. In the forewings a more or less wide band of ground colour separates the wide white marked hyaline border from the narrow submarginal band which inclines to the *dentata* form. The subcostal and median spots are faintly united by grey scales. Cell spot and hindmarginal spot are larger than in the ♂. The area below the cell between median and hindmarginal spots in form of a triangle is darkly suffused and separated from the submarginal band through pale parts of the ground colour. The base and hindmargin down to the hindmarginal spot are heavily suffused with grey-black. The hindwings are more heavily scaled with grey. The marginal scaling is narrowly separated by the paler ground colour from the submarginal band. These traverse as a wide band to the subcostal ocellus enclosing the median ocellus, surrounding the apical part of cell and uniting with the blackening of the hindmargin and base leaving only small white spots between the median ocellus and cell and upper anal spot. The ocelli are very large, deep red, roundish to irregularly rectangular, strongly bordered with black. The white centres sometimes absent, more often they are heavily enlarged at the expense of the red. Anal spots deep black but small with and without red scales. On the underside the anal spots are always filled with red the upper one generally also white centred. Krulikowsky named a form of the ♀ with yellowish ground colour of wings as **fumigata.** — In Thian-shan two races occur. in the west subsp. *fumigata.* **merzbacheri** *Fruhst.* (= chryseis *Oberth.*, graslini *Fruhst.*, nec *Oberth.*, hesebolus *auct.* nec *Nordm.*, sibiricus *auct.* *merzbacheri.* nec *Nordm.*). It is characterised by the widest black border of the ocelli of all the *apollo* forms as well as by the sharply outlined wide hyaline margin contrasting strongly with the yellow-grey moderately scaled ground colour. Dublitzky names an aberration from Khum-Bel in Transilanic Ala-Tau ab. **lydia.** The forewings have *lydia.* only very small cell spots and the hyaline margin is narrower than in the ♂♂ of the subspecies, the submarginal band is absent. The hindwings are uniformly white without ocelli or any black marks, only the hindmargin is faintly black and the ends of the nervules edged with black. The underside resembles the upperside but in the forewings the cell spots are still fainter and in the hindwings also the dark marking of the hindmargin. — ab. **sawljuk** *Dubl.* only known in the ♂ sex resembles ab. *novarae Oberth.* (Vol. 1, p. 25) but differs through the *sawljuk.* fainter subcostal marks and the hindmarginal spot on forewings and the poorly developed anal spots on hindwings. Besides the costa of forewings is dazzling white with a suspicion of grey scales. — The *subsp.* **mongolica** *mongolica.* *Stgr.* (= tarbagataica *Vrty.*) is the representative of *apollo* in the eastern part of Thian-shan. The ♂♂ are somewhat smaller than *sibirica Nordm.* (Vol. 1, p. 25, plate 12 a) and have also smaller ocelli with much larger white centres so that the red is compressed to a narrow ring. Also in the ♀♀ these large white pupils occur but nevertheless they are smaller than in *sibirica* ♀♀. The ground colour is much lighter than in these because it is less suffused with black. The almost uniformly sized large black spots of the forewings and also the anal spots of the hindwings which are united with the median ocellus through dark scales stand out strikingly from the almost pure white not yellowish ground colour. As an aberration belongs here ♂ ab. **nadezdhae** *Bryk* from *nadezdhae.* Chamil-Hami. The ground colour is cream coloured. The hyaline margin narrows to cubitalis 1, the dentate brownish-black submarginal band to the hindmargin. The first subcostal spot is small, the second double as large and heavy. The end cell spot *antiquincunx*, the middle cell spot oblong almost touching the lower wall of cell: the hindmarginal spot roundish, dull black. Of the submarginal band of hindwings there are distinct internerval fragments retained in the shape of an arc. The moderate subcostal ocellus round, filled with red, the median more distorted, otherwise the same but with white centre. Both anal spots heavy. Base, a third of the cell and the hindmargin moderately suffused with black. On the underside all the markings of the upperside are retained, those of forewings somewhat reduced, on hindwings on the other hand increased, a third anal spot is added. Both the others have red centres. The ocelli with large white centres, the base of wings with four red spots. — Of the races from the Caucasus **suaneticus** *Arnold* from the Leila Valley resembles *suanelicus.* a large *geminus Stich.* (Vol. 1, p. 24). The ground colour in both sexes is pale yellowish. The ♂♂ have on the hindwings a hyaline margin and the submarginal band indicated internervally by faint black suffusion of arrow-like spots and the orange-red ocelli are similar to *nevadensis* (6 b and Vol. 1, p. 24). More characteristic are the ♀♀ which are strongly melanic in colour. The wings are darkly adumbrated so that the broad submarginal band is quite suffused. The upper subcostal spot, both cell spots and the hindmarginal spot are well developed and deep black, the median cell spot fainter and diffuse. In the hindwings the ocelli occur relatively small,

from pale to very deep orange, strongly surrounded by black but with only faint white centres. Not materially different *caucasicus Pag.* from Borshom. The race denominated **ciscaucasicus** *Shelj.* described from a single ♀ is probably identical with *suaneticus* and in the best case can only be retained as an individual aberration. The race described but not named by Pagenstecher from the Adzhara Mountains (Mounts Sapilet, Arzhimet and Seswintria) is newly enumerated **adzharensis** *Shelj.* The ground colour is a dirty white on which the dark markings constrast less strongly. The ♂♂ show a constant dark scaling on the middle of the forewings and only a fairly narrow hyaline margin. The submarginal band is less distinctly marked. The size of the ocelli varies. In the ♀ sex there is always a partial fairly considerable adumbration. The hyaline margin suffuses generally with the fairly wide but not very distinctly outlined submarginal band so that the outlines are difficult to distinguish. — From the Villajet Trebizond Sheljuzhko describes the race **tirabzonus.** It differs sharply from all Armenian. Syrian and other races from Asia Minor and rather approaches those of the Caucasus and northwest Trans-Caucasia. Expanse ♂ 72—75,5 mm, ♀ 75—77 mm. In the ♂ the hyaline margin of forewings is fairly wide and dark without pale spots. Marginal line intensively black, fringes white, sometimes black and white checked. All black spots large. The subcostal spots sometimes narrowing to a band. The submarginal reaches cubitalis 1 or 2. The disc is lightly scaled with dark scales. The hindwings at the base, half of the cell and the hindmargin as far as the anal spots are intensively scaled with black. Sometimes even the apical third of the cell is black so that only the middle remains light. The anal spots are large, filled with red on underside. The ocelli are medium size with white pupils, widely bordered with black. Submarginal only retained in faint traces, the hyaline margin more or less well developed. The ♀♀ have a wide hyaline margin which sometimes converges with the submarginal band and in one ♀ has five indistinct white crescents in the upper half. The disc is strongly scaled with dark scales. The hindwings with wide intensive dark submarginal band transversed by pale veins. The large confluent anal spots are united with the median ocellus by intensive black scalings. The ocelli are larger than in the ♂ with wide black border, median ocellus with distinct, the upper with indistinct white centres. Another ♀ has a more yellowish ground colour and fainter dark scaling, also the markings are reduced and less pronounced (ab. *theiodes Schaw.*). The aberration *intertexta* which generally occurs with the races from Borshom and Abastuman is absent here. — The Crimea has also its own race *subsp.* **breitfussi** *Bryk.* It is very close to *suaneticus Arnold* with its white ground colour. The ♂ measures 75 mm across the wings, the hyaline margin is slender narrowing to a point to the hindmargin and only a short poorly developed submarginal band. The black marking is as usual. The ocelli are only small and without centres. The black marking at the base medium. The anal spots with red centres. The submarginal band is subdivided into separated internerval roundish spots of faint grey colour. The ♀♀ measure about 78 mm, have all the black markings of forewings more strongly developed. The costal spots are united to a small band. The hindmarginal spot small and roundish. In the hindwings the submarginal band is well developed, the margin adumbrated. The ocelli are larger than in the ♂, have distinct white pupils, both anal spots are filled with red with a white pupil and a small *ampliusmaculata* spot is present. At the base and the hindmargin the black scaling is strongly developed. — — A further race complex groups around **nivatus** *Fruhst.* from the lower slopes of Chasserol at Neuveville in the Jura, 500—600 m. These are striking pale coloured races from the hilly region of the Central Mountains and the Alps. *nivatus* has elongated wings and shows on the upper and underside of the wings a striking pale ground colour, particularly when compared with specimens from Zermatt and the Engadine. In the forewings the hyaline margin is very narrow, the submarginal very narrow, narrower than in *bartholomaeus Stich.* (Vol. 1, plate 12 c, d), it contrasts distinctly from the pure white ground colour. The subcostal spots are small. In hindwings the ocelli are only medium large, narrowly bordered with black, the anal spots considerably reduced, especially the lower one is very narrow. The submarginal band is very narrow and extremely delicate as also is the antemarginal suffusion on veins. On the underside the intensive red of basal spots is particularly striking. The upper anal spot is roundish, the lower one pointed and cuneiform. — Very closely allied to this is the French race from Franche Comté, Doubs, Ornans, les Brenets, the *subsp.* **wiskotti** *Oberth.* Whilst in the commonest forms it is scarcely separable from *nivatus*, its extreme forms belong to the most luxuriant specimens of the *nivatus* group in contrast to the poorest *suevicus* from the North. It is one of the most variable races, the ♀ of pure white ground colour. The hyaline margin is broad reaching to the anal angle frequently transversed by internerval white streaks and separated widely from the narrow sinuous submarginal band. The subcostal band reaches to media 3, the median spot is as large as the end cell spot and narrows suddenly to a small point at media 3. The end cell spot roundish-oval, the middle cell spot elongated rectangular, the hindmarginal spot round, all spots intensively deep black. Margin of the hindwings with wide streaks lying along the veins which are faintly marked to the submarginal band which is only faintly indicated. Ocelli are medium, the upper half as large as median, both bordered narrowly by black and with small white pupils. Base, half the cell and the hindmarginal area suffused strongly with black, the cell as far as the upper media surrounded with black. The anal spot two-celled in the form of streaks. On the underside the hyaline margin and submarginal band is well developed on all wings, the median spot is only faintly present but filled with red, the ocelli have bright white centres as also have the two separated, black bordered, anal spots. Also closely related to *nivatus* and only slightly differing is the

ciscaucasicus. *adzharensis.* *tirabzonus.* *breitfussi.* *nivatus.* *wiskotti.*

race of **meridionalis** *Pag.* (= sevensis *Kesenh.*) from Sundgau, Maasmünster and the Lake of Sewen, chiefly in the development of the red spots on the underside. The ♂♂ are 74 mm large, of white ground colour, thickly scaled. The hyaline margin 4 mm wide distinctly separated by a band of the ground colour from the strongly sinuous grey-black submarginal band which stretches over the middle of the wings. Hindmarginal spot and cell spots strongly developed. On hindwings moderately suffused with black at the base: both anal spots are united and deep black. Of the deep red ocelli the upper one is roundish, the median one more elongated, both with white centres and black bordered. On the underside the submarginal band is distinctly visible, the ocelli are diffusedly white centred: of the three anal spots only the two lower ones are centred with red and with diffuse white pupils. On the forewings the red centres of the median spot and hindmarginal spot are striking. The basal spots nearest the base of the hindwings are bright red bordered with black. The ♀♀ are of the same size as the ♂♂ with pale yellowish tinge in the white ground colour. The hyaline margin is wider, 6 mm, and the strongly sinuous submarginal band extends with it to the anal angle. Costal spots are a bright black and separated: the upper one roundish, the median spot very elongated as large as the end cell spot. The middle cell spot roundish as the hindmarginal spot. The ocelli are large, round and bright red, the median somewhat elongated basally, both with white pupils. The black marking of the base and the hindmarginal area more pronounced than in the ♂. Anal spots black and strong. The submarginal band faintly developed. On the underside this and the hindmargin have more copious black marking, the anal spots are here centred with red. The ocelli with more copious black borders and diffuse white centres. — The geographically nearest neighbouring race is that of the Black Forest, **marcianus** *Pag.*, the ♂♂ of 68—72 mm, the ♀ of 72 mm across the wings. Generally the Black Forest *apollo* has smaller costal spots on the forewings, smaller and rounder and separated from one another. The hyaline margin is also narrow, 2—3 mm, expanding a little over the middle of the wing, sometimes veins with whitish patches, separated from the submarginal band with distinct paler cuneiform spots. The submarginal band more or less well developed and not reaching further than the hyaline margin. The other black spots are mostly roundish. The hindwings have copious black markings on the base. The upper anal spot roundish, the lower one more streak-like and with red scales. Rarely a further small *ampliusmaculata* spot is present. The carmine red ocelli are small, roundish, sometimes elongated, black bordered, the median small with white centres, the upper generally centred with red or with a faint white streak. The submarginal band and hindmarginal dusting of the ♂♂ is very faint on the upperside or quite absent, on the underside however round, more pronounced in the ♀♀. These appear generally to be somewhat darker dusted, having also stronger black spots, the submarginal more distinct, the ocelli larger and the anal spots heavier. On underside there are often red scales in the costal spots and the hindmarginal spot, if only rarely they may be quite centred with red. From the specimens from the Mosel the ♂♂ of the Hochtental differ through their smaller more fully centred, roundish ocelli, the ♀♀ through the rarer and faint white pupils of the large roundish ocelli. — In the Swabian Alps we have the race **suevicus** *Pag.* (6 a, b) measuring on the average 65—70 mm across the wings of the ♂♂. The ground colour is yellowish-white and not to any degree different from that of the 80 mm ♀♀, which have only a slight dark dusting. The black spots and bands are slightly larger and heavier in them. The ♂♂ have a narrow hyaline margin 2—3 mm wide often interrupted with white dustings along the veins. The submarginal band is distinctly separated, black-grey, not strongly sinuous and extending beyond the middle of the wings. The costal spots are separated, often irregularly bordered as are the cell spots, the hindmarginal spot roundish. In the hindwings the copious basal and hindmarginal black marking surrounds the middle cell. The carmine red ocelli are only small, narrowly black bordered, the upper one almost always centred with red, in contrast to the median rarely with small white pupil. The anal spots small like streaks, the lower one occasionally with red scales. The submarginal band only faintly indicated, more strongly so on the underside. The ♀♀ are slightly dusted with black at the base and in the disc of the forewings, the development of the black spot markings is better, also the hyaline margin is wider and extends beyond the well marked submarginal band. On hindwings strong basal black markings are observable and the ocelli are larger, generally more strongly black bordered and only centred with red, only rarely having white pupils, chiefly in the median. The marginal and submarginal bands and the anal spots are distinct and heavy. On the underside there are frequently red scales in both the costal spots and the hindmarginal spot, as also in the anal spots of the hindwings which have the submarginal band more distinctly developed. — The race from the Valley of the Danube around Ulm, Neu-Ulm in the Lauter Valley and Herrlingen, **thiemo** *Fruhst.*, differs from *suevicus* through the considerably larger size of the ♂♂ as also through the more expansive spots of the forewings and the large more heavily developed anal spots of the hindwings. In the ♀ the heavier and stronger marking is still more striking reminding one in their general appearance of the forms from the Bavarian Alps and the lower Alps, especially with the melahyaline submarginal band on upperside of all wings. — Bryk has ascertained from Hohentwiel a separate race **phonolithi** which is smaller than *suevicus*. The hyaline margin is narrower and narrows suddenly at media 3 in order to disappear already between the two cubital veins. The submarginal band is much narrower, the costal spots deep black, scarcely united through the darker scaling, the lower one is rhomboidal, the cell spots smaller. In the hindwings the submarginal band is curved in a fine arc, the ocelli are elongated roundish, very narrowly black bordered, the median with large, the upper one with small white pupils. The anal spots deep black, the upper one sharply cuneiform, the lower one linear.

meridionalis.

marcianus.

suevicus.

thiemo.

phonolithi.

Basal and hindmarginal black marking faint. On the underside of the forewings all the black spots and bands are reduced, the median spot scaled with red. In the hindwings one is struck by the heavy *arcuata* submarginal band as well as by the large white centres of the ocelli. There is a third anal spot which united to the other two shows a cuneiform shape and there is a thin dusting of red scales in the middle one. The ♀ is more strikingly marked, all the black spots in the forewings are much stronger than in *suevicus*, the hyaline margin is narrower, from cubitalis 1 to the hindmargin it is very narrow and acute. The narrow very distinct submarginal runs in a curve to media 2 and from there perpendicularly to the anal angle so that a very wide patch of the ground colour is formed which especially characteristically strikes the eye. In the hindwings the marginal band quite narrow, the submarginal which is widely removed is of the *arcuata* type transversing from the costal to the hindmargin. The ocelli are roundish very much larger than in *suevicus*, the white pupils sometimes very large, leaving only a narrow red ring, and sometimes quite absent reduced to a minute white pupil in the median ocellus. The black border is always narrow and sharply outlined. Anal spots as in the ♂, faint basal and hindmarginal dusting. — The ♀ underside is changed relatively to the ♂ marking. Around *melliculus Stich.* (Vol. 1, plate 12 c) are grouped a number of races with their home in the Central Mountains. In the upper Palatinate in the neighbourhood of Regensburg we have

bajuvaricus. **bajuvaricus** *Fruhst.* (= franconicus *Fruhst.*) which differs from *melliculus* by its more elongated wings which are never roundish. The hyaline margin narrow, dark, the submarginal band exceedingly strong reaching to media 3. The cell spots square and large. The dusting at the base of the hindwings very dense to the middle of the wings then becoming thinner and reaching to the heavy anal spots. The ocelli are symmetrically bordered with black, the white pupil displaced to the upper periphery. The race described by Fruhstorfer as *subsp. bajuvarius* without an exact locality presumably from the North Vosges, is nothing else than *meridionalis* and should be denominated as such. The same applies to the race from Solenhofen described by Bryk as *lithographicus*. On the other hand *ancile*

rebelianus. *Rbl.* said to emanate from Carlsbad in Bohemia, which is very doubtful, should be renamed **rebelianus** *Fruhst.* as it differs from *ancile Fruhst.* The form of the wings is more round and thereby approaches *melliculus*. The hyaline margin of the ♂ and the half as wide submarginal band running almost parallel to it leave a wide straight band of the ground colour between and reach to cubitalis 2. The costal spots are large and separated: the large square cell spots and the oval hindmarginal spot are just as striking. The ocelli in the hindwings are relatively large and with large white pupils. The basal and hindmarginal dusting is very copious and surrounds the cell widely to the upper media. The anal spots very strong, constricted in the middle. On the underside of forewings the black markings are more reduced whilst in the hindwings the marginal and submarginal bands which are scarcely

ancile. indicated on the upperside stand out very strongly. The upper anal spot has a red centre. — The actual **ancile** *Fruhst.* from the Fichtel Mountains is said to have been exterminated by the brutal collecting and stupidity of a gardener's wife who had the butterflies collected by children in order to pin them on to bouquets of flowers given to departing tourists and guests. The last specimen was observed in 1909: when collecting was prohibited by law it was too late. Nothing was left to be protected. The ground colour of the wings which are remarkable by their very elongated form in both sexes is somewhat yellowish white, not pure white. In the ♂ the width of the hyaline margin is changed but the submarginal band is almost straight in both sexes only slightly curved above. Characteristic are still the small separate subcostal spots, the fainter cell spots, the fainter submarginal band of the forewings and in the hindwings the more oval, smaller white pupilled median eye spots, which are all developed larger in *melliculus*. — The *apollo* of the Saale Valley which Fruhstorfer has described as *subsp.*

posthumus. **posthumus** has also suffered the same fate as *ancile* through the stupidity of collectors and it appears to be exterminated. The size is smaller, the wings rounder, the ground colour more yellowish than in the Silesian *apollo*. In the forewings the submarginal band is almost extinct, this applies especially to the underside. The ocelli of the hindwings are small reniform instead of roundish. The subcostal spots are also small and distorted. The hindmarginal spots are smaller than in related types. The base of the hindwings and the hindmargin are strongly dusted with black. The anal spots are narrower than in *ancile* but more pronounced than in the races closely related to *albus Rbl. & Rogh.* (Vol. 1, p. 25, plate 12 e). — The races grouping around *albus* occurring in the Central Mountains are distinguished by their yellowish ground colour, strong marking, and by the copious darkish dusting of the ♀♀ coupled with their stately size. The largest and most striking race of the *albus* group

silesianus. of the Silesian *apollo*, *subsp.* **silesianus** *Marschner*, became extinct in the eighties of last century. That is to say it died out at the localities where it occurred in the Raben Mountains near Leibau. The ♂ had a purer white ground colour than the more yellowish ♀. The size is large and very stately. All the black spots in the forewings are very large and heavy, the end cell spot sometimes dentiform anteriorly. The costal spots united to a band are falcated with the concave side posteriorly chiefly formed by the enlarged median spot. The eye spots of the hindwing are very large and widely bordered with black, on the upperside in both sexes mostly without white pupil, only the median ocellus sometimes faintly. In the ♂ the hyaline margin is very narrow to cubitalis 2, the fairly wide submarginal band is heavy somewhat shorter reaching to cubitalis 1. The median ocellus is elongated transversely, the anal spots bold and the submarginal band indicated by light grey. The ends of the veins show a blackish adumbration in a characteristic way. The ♀♀ show on forewings coarse if only sparse dusting. The hyaline margin is wider than in the ♂ extending to the hindmargin. The submarginal band almost straight, fairly dark and forming white crescents anteriorly towards the hyaline margin through arc-like dentations. The median spot is like in the ♂ but a little coarser, also the hindmarginal spot which is as big as

the good sized middle cell spot. In the hindwings the margin is fairly widely shaded and the lead grey submarginal band is wide and distinct. The median ocellus with small eccentrically placed white pupil. The anal spots more than double as large in the ♂, with an *ampliusmaculata* spot. The base and half the cell near to the hindmargin fairly heavily dusted. The underside is similarly marked, as strongly as the upperside. — In the same way in the eighties of last century *subsp.* **friburgensis** *Niepelt* was exterminated in its habitats, the Salzgrund near Fuerstenstein in the neighbourhood of Freiburg and in the Silesian valley (Weistritztal). It differs from *albus* through its considerably larger size, more elongated wings, fainter grey dusting in the ♀, a more strongly curved submarginal band which in the ♀ is much narrower and shorter than in the *albus* ♀, as well as through the larger white pupil of the median ocellus. It differs from *silesianus* through its smaller size, a considerably fainter black marking, especially of the much smaller median spot, also through the more strongly curved submarginal band of the forewings. In the hindwings the differences are: the much smaller ocelli, of which the median ocellus has always a white pupil, as well as the vein ends of the ♂ which are not shaded with black. — *subsp.* **isaricus** *Rbl.* from a ♂ which is said to come from Kamenice near Eisenbrod, gives the impression of a small *albus* ♂ and the race with its otherwise trivial differences cannot be maintained until the ♀♀ have been found and exact locality particulars are given. — Also the *subsp.* **bohemicus** *Rbl.* (= ventidius *Fruhst.*) with locality Ratsch near Teplitz in North Bohemia is by no means definitely justified. They differ from *albus* through the much smaller size as well as through the more truncate wing shape, smaller cell spots in forewings and stronger grey dusting of the ♀. From *isaricus* it differs also through the median spot in forewings which is not falcate. The ♂ has no grey dusting of the white ground colour, especially the margin of the hindwings is free of it. The hyaline margin and the curved submarginal band of the forewings is very narrow and reaches only to cubitalis 1. The anal spots are very strong, the dusting of the hindmargin normal. The ♀ has the wings fairly strongly dusted with grey more so than in the typical albus ♀. The hyaline margin is wide and separated by a row of lunules from the otherwise fairly strongly marked and dentate submarginal band. Both bands end at the hindmargin. The subcostal spots are heavy and separate. The hindmarginal spot larger than the end cell spot. Costa and base of wings dusted with greyish black. In the hindwings the margin and submarginal band are distinctly indicated. The median ocellus is oval, the upper roundish, both with white centres, narrowly bordered with black, larger than in the ♂ also the anal spots are stronger. The base, half the cell and the hindmargin are strongly dusted with greyish-black. The underside is normal. — The *subsp.* **sicinius** *Fruhst.* from the neighbourhood of Teschen in North Moravia is somewhat smaller than the Silesian *apollo* but larger than *posthumus*. The hyaline margin in both sexes reaches to media 3, it is anteriorly more strongly undulate than in *posthumus*, the strongly curved submarginal band is more pronounced than in allied races. The ♀ is most close to *albus Rbl. & Rogh.* The hyaline margin and the submarginal band are separated by the yellowish *lunulata*-band of the ground colour. The black spots in the forewings are highly prominent. The hindwings partly show an indistinct hyaline margin and a diffuse submarginal band which generally is only lightly marked by a few scales. The black border of the ocelli is less than in *albus* and smaller in both sexes. In the ♂♂ the submarginal band of the forewings is more extended and heavier than in *albus*. — *subsp.* **vistulicus** *Rbl.* from the Vistula Valley, the former boundary between Austrian Silesia and Hungary, has been established by an old pair of which the ♂ can only certainly claim a definite locality. It is large with very elongated wings of yellowish white ground colour. The submarginal band is wide, not dentated, slightly curved and extending to cubitalis 1. The black spots of the forewings resemble those of *albus*. The upper ocellus in the hindwings is round, the median relatively small clearly reniform, fairly widely black bordered and with large white pupil. The black anal spots are not confluent. The margin of the hindwings pure white. According to appearances the ♀ does not belong to it. It is relatively small and the ground colour of the wings instead of being the expected yellowish is transparently white, more strongly dusted with grey than *albus*: the submarginal band of the forewings is narrower than in the ♂, clearly dentate, extending beyond cubitalis 1. The ocelli of the hindwings are relatively very small, the median also here oblique, reniform, widely black bordered and with distinct white pupil. — The submarginal band is indicated through a few isolated grey patches. *vistulicus* is nearest to the race of **strambergensis** *Skala* from the neighbourhood of Mistek and Kotouc (Oelberg, 590 m) near Stramberg and Hochwald (Nesseldorf) in eastern Moravia in the region of the Beskids. This type is confined to a small locality, is distinguished by elongated wings extended distally and a distinct apical angle of the hindwings. The ground colour is yellowish-white, the spots of the forewings are medium size, the end cell spot with a so-called anterior dentiform. The ocelli of the hindwings are almost circular, narrowly black bordered large white pupils, sometimes missing in the ♂ in the upper eye spot. The dusting of the ♂♂ faintly grey, the subcostal spots small, separated, the lower one often centred red. The hyaline margin wide stretching as the submarginal band only to cubitalis 1, strongly curved, wide and bold, somewhat dentated. Hindmarginal spot round and large. The margin of the hindwings white, the ocelli almost circular, the anal spots small not confluent, deep black. Base, half the cell and hindmargins strongly suffused. The larger ♀ fairly heavily dusted with grey. The hyaline margin wide as also is the curved and dentated submarginal band which never reach to the hindmargin. The circular, never oval, ocelli narrowly black bordered and especially the median with large white pupil. The anal spots black more diffuse occasionally confluent, the upper often with red centre. Base, half the cell and hindmarginal black marking copious also enclosing the cell widely up to the submedian. The ♂♂ 62—70 mm, the ♀♀ 70—76 mm expanse. The race is very inclined to aberrations, also ab.

friburgensis. *isaricus.* *bohemicus.* *sicinius.* *vistulicus.* *strambergensis.*

sztrecsnoensis. *zirpsi Bryk* and *novarae Oberth.* are found among it if only rarely. — The race of **sztrecsnoensis** *Pax* from the mountain slopes at the sonthern entrance to the Sztrecsno Pass is very close to *carpathicus Rbl. & Rogh.* (Vol. 1, p. 25). The yellowish ground colour of this thickly scaled race is much more striking than in *carpathicus*. The forewings are very wide and the hind margin is distinctly concave. The narrow hyaline margin extends almost evenly wide to the middle of the wing and like the submarginal band it is only faintly developed. The ocelli of the hindwings always have white pupils the sharp border however is not as sharply marked as in the other races from the Carpathian region. By the absence of the submarginal band on hindwings and the only very faint dusting of hindmargin it approaches *subsp. strambergensis*. Expanse of the ♂ 65—67 mm. A local race *posterior.* from the water course of the Rossudec has been described ab. **posterior** *Peschke*. It is said to be larger than specimens from other localities. In the ♂ the ocelli are smaller with heavy black borders, sometimes without red, especially the subcostal ocellus. The ♀♀ are distinguishable by the extraordinarily wide contour of wings. *subsp. interversus Bryk* (= intermedius *O. B.-H.* i. l.) from Löwenstein in the Ullara Pass may be deemed identical, the differences are too small. Similarly the race of *artemidor Fruhst.* is doubtful; it has been described as from the Carpathians without closer particulars as to locality. — From the Buekk Mountains, abt 900 m *cominius.* altitude in the county of Borsod we have *subsp.* **cominius** *Fruhst.*, closely allied to *sztrecsnoensis Pax*. The ground colour of the ♂♂ is purer white than in the latter. In the forewings the cell spots are large, steeply inclined, sharply edged, appearing narrower in consequence than in closely related races. The upper subcostal spot is extinct. In the hindwings the ocelli are dark carmine red with strong black borders. Base of wings and hindmargin deep black, surrounding the cell. Anal spots extremely heavy and well defined. Submarginal band distinctly *dentata*-like, marginal edge dark. The ♀ with much narrower marginal edge and considerably reduced submarginal band than *carpathicus*. Forewings less densely dusted with black than the race named, as also the hindwings, but the submarginal is extended towards the anal region and the hyaline margin is *candidus.* sharply defined. — The *subsp.* **candidus** *Vrty.* from the surroundings of Barlangliget in the chalky mountains of Bela differs from all other *apollo* races of the Carpathians through its colour. The ground colour in both sexes is pure white without the slightest admixture of any yellowish tone, the black markings of the forewing very strong and contrasting. The hyaline margin and the submarginal band are very wide in both sexes, separated in the ♂ by a row of white lunules, whilst in the ♀ the deep black submarginal merges directly with the hyaline margin. The ocelli of the hindwings nearly always have white pupils and have deep black borders; the anal spots of the ♂ are only indistinctly developed, whilst in the ♀ they are almost entirely merged in the black marking which extends from the base of the wings to the arc of the submarginal band and together with the diffuse adumbration of all the wings reminds one of *brittingeri Rbl. & Rogh.* The ♂♂ measure 76—79 mm, the ♀♀ 73—75 mm across the wings. — A further race is found in the Eastern Carpathians *transsyl-* in the county of Czik in Transylvania, *subsp.* **transsylvanicus** *Schweitz.* The average expanse is 79 mm for the *vanicus.* ♂ and 80 mm for the ♀. The ground colour of the ♂♂ is pure white, the hyaline margin 4—5 mm dusted with black, the submarginal distinct, both reaching to cubitalis 1. All the black patches on the forewings are glossy black. The margin of the hindwings narrow, hyaline and dusted with black. Submarginal band faintly indicated. The base and the upper ⅔ of the hindmarginal area densely scaled with black, surrounding the cell with a wide band to the upper media. The ocelli bright carmine red, small, very strongly black bordered, generally only one small black anal spot present. The ♀ somewhat larger with stronger markings and generally throughout very darkly suffused. The ground colour is pure white wherever there are no black spots so that the contrasts are lively. The hyaline margin is very wide, 5—6 mm, densely scaled with black converging with the black submarginalband. The separation of these bands is indicated by a few pale scales so that a hyaline margin of abt 9 mm width results. All the black spots are very large and glossy black; only rarely and aberratively red scales occur in the costal and hindmarginal spots. The light ground of the forewings dusted with black. The hindwings also show a hyaline margin of barely 3 mm width along the whole border of the wing and a strong submarginal band which is separated by a row of faint white dots, otherwise both bands are confluent and form a wide dark margin of abt 6 mm width. The base and ⅔rds of the hindmarginal area form a densely black scaled patch. The ocelli are round, abt 2—4 mm in diameter, brightly carmine red, the upper one always blind, the median generally with minute white pupils. The border is very deep black. Both *maurus.* anal spots are heavy, black often confluent. The ♀ race described by Fruhstorfer as **maurus** from Györgyo, St. Miklos, in the county of Czik is scarcely other than the dark ♀ from of *transsylvanicus* and this name could *jaraensis.* have been retained in any case also for this type. — *subsp.* **jaraensis** *Kertesz* comes from Járovize near Gyaluenses in West Transylvania, it compares closely with *carpathicus* and differs from *transsylvanicus* through the more yellowish ground colour of the wings and from *carpathicus* through the more distinct hyaline margin as well as *rosenius.* through the very wide black borders of the ocelli, which it has in common with *transsylvanicus*. — **rosenius** *Fruhst.* (5 f) from the Bukowina is a beautiful race. The ground colour of the ♂♂ is a pure white, the hyaline margin and particularly the submarginal band of the forewings is still wider than in *transsylvanicus Schweitz* and the other hungarian races and they are also of a more intensive black. The black markings of the forewings, especially the subcostal marks are larger. In the ♀♀ the melanotic adumbration reaches its maximum as regards the hungarian races and excels all races known from that district in this regard. One can almost describe the forewings as completely black with white spots scattered in the cell, between the spots and a

narrow band next to the inner margin of the submarginal band. Also the hindwings are exceedingly dusky, especially the base and the hindmarginal area, the submarginal band is very well developed. The ocelli are dark carmine red with a wide black border. — — In nearest conjunction with these we have the races of the Balkans and Greece which will no doubt render many a new form on further investigation. Schawerda makes known the race of **herzegovinensis** from the Herzegowina. The ♂♂ have an expanse of 70 mm, the ♀♀ 75—80 mm. *herzegovinensis.* The ground colour is yellowish white, not dusted with black in the ♂, often pure white. Most of the ♀♀ have the disc of forewings and the patch next to the hindmargin dusted with black. The black spots of the forewings are not especially well developed. The hindmarginal spot is often considerably reduced in the ♂♂, the subcostal spots are often absent. The hyaline margin does not extend quite to the hindmargin, sometimes not to beyond the middle of the wings, in the ♀♀ it generally reaches to the anal angle and also the submarginal band is much more strongly developed, being sometimes confluent with the hyaline margin. In the ♂ the anal spots are sometimes absent or only faintly developed, whilst in the ♀♀ they are strong and sometimes centred with red. The ocelli of the ♂ are small and red of varying form but always with faint black border, sometimes with white pupils, in the ♀♀ they are nearly always very large. — *subsp.* **dardanus** *Rbl.* from the districts *dardanus.* surrounding Vunsajs and Naguti 1400—1700 m altitude in North Albania are best ranged next to *bosniensis Stich.* (Vol. 1, p. 25) or *liburnicus.* The specimens are on an average smaller than those from Herzegowina. the black cell spots of the forewings are heavy, the ocelli small, deep red. The ♀♀ are sometimes heavily dusted with black with enlarged hindmarginal spot on the forewing. — Fruhstorfer describes the race of **jelicus** *jelicus.* from the Jelica Pass in Servia. The ground colour is yellowish, but not the intensive almost ochre yellow of many *bosniensis Stich.* ♀♀ from Koricna and Trebewic. The ♂♂ are otherwise nearest to this form, have however considerably more copious black dusting at the base and the hindmargin of the hindwings. The ocelli are dark carmine red with faint white pupils, the anal spots smaller. The ♀♀ show great similarity to *liburnicus Rbl.* & *Rogh.* from Velebit, but still more to *albus Rbl.* from Leipnik in Bohemia, but they are considerably larger and have less copious black dusting in the basal area of the wings. The hyaline margin of the forewings is narrower than in *liburnicus* and the submarginal as well as the band separating it from the hyaline margin are indistincter and more diffused. The hindwings show quadratic distorted ocelli with sharply defined black borders. — The *subsp.* **omotiomoius** *Fruhst.* from Vitosch near Sofia in Bulgaria is a striking, very pale and poorly marked race. *omotiomoius.* The ground colour is preponderatingly whitish with a little tinge of yellowish. The hyaline margin does not reach to the hind margin. In the hindwings of the ♀♀ sometimes there is a complete absence of dusting at the base, whilst the submarginal band is very wide, nevertheless diffuse and very loose, slightly better indicated in the ♂. The black cell spots of the forewings are very large also the very heavily black bordered dark red ocelli of the hindwings. The anal spots are faint in the ♂, distinct and roundish in the ♀. The distal area of the wings in the ♂ without, in the ♀ with quite faint black dusting, *omotiomoius* is nearer to *herzegovinensis* than the races from Rilo-Dagh and it reminds one of an enlarged *melliculus* by its bright carmine red ocelli with their wide black borders in an otherwise plain hindwing. It is remarkable in this race that 5% show the ab. *flavomaculata.* — *subsp.* **rhodopensis** *Markowitsch* from Rilo-Dagh (= yglanus *Fruhst.*) is an exceedingly *rhodopensis.* variable race both in regard to size and markings. The hyaline margin extends in all ♀♀ to the hindmargin, the submarginal band in the more richly marked ♀♀ wide and dark and equally extending to the hindmargin: in the pale ♀♀ it is markedly reduced. Subcostalband is mostly well developed. The eyespots are large, in pale specimens with large white pupils, sometimes only the subcostal quite centred with red, generally both. Whilst in the pale ♀♀ the hindmarginal dusting is almost absent, the more richly marked specimens show a dusting reaching to the end of the cell. The edge of the hindwings is often hyaline. The ♂♂ show as a rule the hyaline margin as the ♀♀ and also the submarginal band is usually dark: the eyespots of the hindwings just as in the ♀♀ but not so large. — *subsp.* **amphytion** *Fruhst.* from the Pirin Mountains is smaller than the Bulgarian *amphytion.* races and is nearest to the preceding. The contour of the wings is however rounder, the hyaline margin in the ♂ narrower and the submarginal band more sharply defined and the cell spots narrower. The ocelli of the hindwings are smaller and more circular. Also the ♀♀ approach *rhodopensis* closely but the submarginal band is more extended and the cell spots more round. The ocelli of the hindwings are also much smaller and the basal dusting less obvious. — At an altitude of 1300 m on the Schipka Pass in the Balkans the race of **hermiston** *hermiston.* *Fruhst.* flies. The ♂♂ are nearer to *liburnicus Rbl.* than *omotiomoius Fruhst.* and are also smaller than these. The hyaline margin is darker grey than in *liburnicus*, the submarginal is narrower than in the Bulgarian races and those from Velebit, ceasing already at media 1. The subcostal spot is very small reminding of *grajus Stich.* The hindwings with faintly bordered ocelli reminding one of *liburnicus.* The basal dusting more heavily marked than in the races compared. Anal spots very distinct but small. The hindwings are plain with the exception of a few accumulations of scales at the margin. In the ♀ the hyaline margin is narrower than in *liburnicus*, the submarginal band very distinct, rectilincar, sharply defined as no other Balkan *apollo* shows. The black cell spots narrow somewhat rounded. Hindwings with medium sized, dark carmine red ocelli with relatively small white pupils. Submarginal rather indistinct, the anal spots small and faint. — *subsp.* **grajus** *Stich.* (= ? pel- *grajus.* oponnesiacus *Pag.*, graecus *Ziegl.*) (6 d) from Greece has a yellowish white ground colour in the ♂, only a narrow hyaline margin excurved inwardly, diffuse from cubitalis 1 and diffusing indistinctly to the hindmargin. The submarginal is delicate and disappears at cubitalis 1, separated from the hyaline margin by a wide band of

the ground colour. The upper subcostal spot black and very small, the median spot larger, distortedly quadrangular. The end cell spot very large, squarish, the middle cell spot more rounded. Hindmarginal spot roundish, costal and base of wings faintly dusted. The median ocellus of the hindwings is double as large as the upper one, finely bordered with black, pale red, the median with small white pupil. Submarginal band distinct but only delicate. Anal spots small, the lower one heavier, base and hindmargin faintly suffused and also the cell fairly widely enclosed by the black dusting up to the upper media. On the underside the submarginal is distincter and the upper ocellus shows two reddish ringlets round the white pupil. — The race of types around *brittingeri* includes a number of races of mostly rather small, very richly marked specimens having their habitat in the higher and high mountain altitudes; their ♀♀ throughout incline
adonais. towards the *nigricans* condition. — In the Wendelstein region and the Inn Valley we find **adonais** *Fruhst.*, the ♂♂ of which are distinguished by a fairly wide submarginal band, ceasing at media 3. The discoidal area is generally copiously dusted with black, otherwise the ground colour is pure white without any creamy admixture as in *manillius Fruhst.* The ♀ has forewings thickly powdered with black, but without such intensively melahyaline patches as *claudius Belling* ♀. The hindwings in contrast to the forewings show considerable clarification, although there are also specimens having a very wide hyaline submarginal band.
alemanicus. The hyaline margin of all wings in both sexes is striking and characteristically narrow. — *subsp.* **alemanicus** *Fruhst.* from Falkenstein (1200 m) near Fuessen and Oberstdorf in Algau represents a peculiar little race, being a transition between *bartholomaeus Stich.* (Vol. 1, p. 25, plate 12 c, d) and the races of the Vorarlberg and Oetztal mountains, being considerably smaller than these. The wing contour is somewhat rounder, the hyaline margin and particularly the submarginal band are narrower, so that the dividing band is wider. In the ♂ the ocelli of the hindwings are larger and have larger white pupils. In the ♀♀ the forewings are much less copiously dusted
luitpoldus. with black than in *bartholomaeus.* — *subsp.* **luitpoldus** *Fruhst.* (= luitpoldi *Pag.*, luitpoldianus *Bryk*, maximilianus *Fruhst.*) from Oberammergau when compared with *melliculus* differs in the ♂ by the more elongated, less round forewings and the black subcostal spots which are more oblong than quadrangular. In the hindwings the ocelli have smaller white pupils, sometimes constricted as in *vinningensis.* The dusting at the base is in most specimens denser, more extended and deeper black. The ♀♀ resemble *bartholomaeus* and *brittingeri* by the dense black dusting of the upper surface of the forewings. In the hindwings the anal spots are strikingly widely spread. The demarkation of the submarginal band on all wings is characteristic, it is always distinct and
claudius. especially clear on the forewings. — **claudius** *Belling* from the Karwendel district is very close to the previous race only differentiated with certainty in large series. A constant feature is the especially wide hyaline margin and the frequent occurrence of black suffusion over the hindwings of the ♀♀. The ♂♂ are scarcely distinguishable
pandolfus. without the indication of the locality. — **pandolfus** *Fruhst.* from the Algau Alps and upper Lechtal in the Tyrol is also very close to *maximilianus*, but it is larger and on an average is decorated with larger ocelli and also the black markings of the forewings are heavier. The ocelli are in both sexes an intensive carmine red and resemble thereby the south tyrolean *rubidus* forms. The hindwings are fairly heavily suffused, but never so
panon. heavily as occurs in *claudius Belling.* — **panon** *Fruhst.* from the Kofel, Oberammergau, is very closely related to *luitpoldus* and also *cetius Fruhst.* The forewings of the ♂♂ are narrow, elongated and not round as in *melliculus.* The cell spots are confluent like a band and not like blotches as in the Regensburg and Franconian specimens. The hyaline margin is wider and the strongly undulating submarginal band is robuster than in the races named. The cell of the hindwings broadly surrounded with black from the shading of the base and the hindmargin. The ♀♀ very much resemble *ancile Fruhst.*, but the submarginal band is still more pronounced. The ocelli of the hindwings in both sexes have smaller white pupils than *melliculus* and with reduced black borders. — A
manillius. very interesting race is **manillius** *Fruhst.* from Hinterkaiser near Kufstein with habitat between *bartholomaeus* and *alemanicus* and which belongs to the poorest marked forms that we know. The ground colour is slightly yellowish white, the hyaline margin of the forewings is quite narrow extending barely to media 2: the submarginal is widely separated from it, very narrow and zigzag extending to cubitalis 2. Cell spots and hindmarginal spots heavy black, subcostal spot faint, united with the well developed median spot by faint shading. The ocelli are relatively large, round, widely black bordered and with small white pupils. The base, half the cell and the hindmargin faintly dusted with black. Both the anal spots small but deep black. South of the Chiem lake
artonius. near Kössen the race of **artonius** *Fruhst.* forms a transition between *manillius* and *claudius Belling* from the Karwendel district in the west of the Bavarian Alps with *bartholomaeus* in the east. By its powdery dark ground colour and similarly formed hyaline margin it has similarity with the latter, but on the other hand the submarginal is closer to that of *claudius*, which is not so wide as that of *manillius.* The cell spots are very striking, the subcostal band is shorter than the latter. The basal part of the hindwings is more extensively dusted with black. The ocelli are dark red, with wide black borders. The ♀ has white forewings with a delicately black powdered disc, the submarginal band narrow and strongly undulating. The black spots are smaller than in allied races. The hindwings show narrow hyaline margin and also submarginal, whilst the ocelli, do not exceed those of the ♂ in size, as is usually the rule in allied races. From Lofer in Salzburg we have a very neat
loferensis. dwarf race, **loferensis** *Kolar* which comes close to *bartholomaeus* but deserves to be separated on account of its small size. The wings are more rounded and have an expanse of 58—62 mm, are white and precisely marked.

The hyaline margin is abt. 4 mm wide and extends to the hindmargin. The subcostal and hindmarginal spots are only small and roundish. In the hindwings the round ocelli show large white pupils. — *chetus Fruhst.* from Salzkammergut, the Priel and Schoberstein is not distinguishable from *brittingeri Rbl. & Rogh.* — The race **juvavus** *Kolar* from the Hagen and Tännen Mountains and Werfen also forms a special race of only medium *juvavus.* size, 65—70 mm expanse with fairly rounded wing contour. The ground colour is white contrasting strongly from the heavy black markings, the hyaline margin fairly narrow, abt. 2—3 mm wide. The elongated oval ocelli of the hindwings have a white pupil, mostly in the upper half. — The race from Mauterndorf in the Lungau, **noricanus** *Kolar*, is particularly striking in the ♀ sex. It is of a stately expanse, 78—89 mm and more *noricanus.* elongated wings. The black marking is heavy, middle cell spot square and large, hindmarginal spot irregular. In both sexes the forewings are dusted with black. Hindwings have a *dentata*-like submarginal band, ocelli are large, deep red with white pupils. Anal spots confluent. The almost 6 mm wide hyaline margin, in conjunction with the weak scaling giving an almost glassy appearance to these insects, is particularly characteristic. — From the Wachau and the woods of Vienna we have the fine race **cetius** *Fruhst.* The ♂♂ closely resemble the *cetius.* Ravensburg specimens. Ground colour white, sometimes with slight yellowish tinge. Hyaline margin narrow tapering more or less to media 3, the blackish submarginal band sharp and dentate in the upper half, then ending weakly and diffused around cubitalis 2. Both bands separated by a wide white band. Upper costal spot small, median spot considerably larger, not confluent. Cell spots are large, deep black, heavily marked. The round hindmarginal spot similarly formed. Costa and base weakly dusted with black. The carmine red ocelli of the hindwings mostly with eccentric white centres, the upper one often blind filled only with red. It varies in shape being often round, oval or distorted, but always heavily surrounded with black. The black marking of the base and hindmargin penetrates into the base of the cell, surrounding it in varying extent, often extending beyond the end of the cell. Anal spots are fairly heavy, generally conjoined. Submarginal band mostly absent or scarcely indicated, the margin always pure white never scaled with black. On the underside the submarginal and the border of the hindwings lightly shaded with black. The ocelli here have very much larger white centres; both anal spots almost always red, narrowly surrounded with black, never without an *amplius-maculata* spot. Basal spots very large and richly marked with red. The ♀♀ are very darkly adumbrated; the hyaline margin is wide and united with the sharply angulated submarginal band, but decorated with a continuous row of lunules. The subcostal band united with the deep black round hindmarginal spot by a wide black dusting of the area between the cell and the submarginal. Also the costal margin, base, half the cell and the hindmargin to the hindmarginal spot very profusely dusted with blackish-brown. On the hindwings the margin and the submarginal are distinctly darkly scaled and the whole surface of the wings with the exception of the distal half of the cell is richly darkly powdered, so that the ocelli and the 3 anal spots are quite surrounded thereby and by the black dusting of the hindmargin. The ocelli are larger than in the ♂, have heavy white pupils and are very heavily surrounded with black. The anal spots nearly always with red centres. The underside as in the ♂ but with brighter red markings. — In the race **vindobonensis** *Kolar* from the neighbourhood of Vienna the ♂ *vindo-* has a white ground colour with very sparse scaling, hyaline margin very narrow with a sharply dentate sub- *bonensis.* marginal band separated from the former by a band of the ground colour and ending at cubitalis 2. The costal spots are small and roundish, widely separated. Cell spots relatively small, hindmarginal spot roundish. Costa and base show faint blackish dusting. Submarginal band absent on hindwings. Ocelli fairly large, the median with heavy, the upper with small white centres. On the underside of the hindwings the marginal and submarginal bands are dusky. Anal spots with red centres, the upper one mostly with white pupil. A small *amplius-maculata* spot is present. The ♀ shows a somewhat yellowish tone but fairly purely white specimens also occur: the upperside heavily powdered with black. Hyaline margin comparatively narrow as against the very wide zagged somewhat diffuse submarginal band. Both bands end at the hindmargin. Costal band fairly long reaching to media 3. Cell spots more heavily developed than in the ♂, hindmarginal spot very large, almost as large as middle cell spot. Inner margin of forewings, base and area between cell and media 3 heavily powdered to cubitalis 2. Hindwings still more heavily darkly dusted. There is often a small red spot at the base near the costa. Ocelli larger than in the ♂, morely widely surrounded with black and with eccentric white centres. Three anal spots are present of which the 2 lower ones have red centres. Margin and submarginal band heavily dusted with black. The black marking of the base and hindmargin almost fills half the cell and surrounds it widely up to the media. On the underside the ocelli have larger white centres, both anal spots are filled with red with white pupils. — *subsp.* **marcomanus** *Kammel (Rebel i. l.)* from the Thaya Valley in Lower Austria is a *marco-* medium sized race with narrow and elongated wings. The ♂♂ show pure white ground colour on all wings, the *manus.* hyaline margin very narrow stretching to media 3 and the submarginal band strikingly weakly developed. Subcostal spots reduced, hindmarginal spot medium, in contrast to the large and deep black cell spots. Costal margin and base powdered with blaek. In the hindwings the median ocellus has a larger white pupil than the upper one: anal spots weakly developed and small: submarginal indicated by traces of dark internerval scaling. Base, one third of the cell and hindmargin with black scales. The black markings of the forewings of the ♀♀ still more reduced than in the ♂, also the hyaline margin and submarginal band are more weakly developed although they can be distinctly traced to cubitalis 2. The hindwings as in the ♂, only the submarginal is more

clearly retained. There is a darker form of the ♀ of this race which shows all the black markings and also the hyaline margin better developed and besides has black scales strewn over the entire upperside of the wings. —

serpentinicus. *subsp.* **serpentinicus** *Meyer (Rebel i. l.)* flies on the Serpentine Mountains of the hungarian boundary at 800 m. The ♂♂ are of pure white ground colour, the forewings widely truncate, the outer margin arched. The hyaline margin extends widely to cubitalis 1, the submarginal distinct, narrow, separated from the hyaline margin by an equally wide *lunulata* band and ending at cubitalis 2. All spots of the forewings large, deep black. Hindwings with deep red ocelli, the median double as large as the costal, narrowly surrounded with black and with small white pupils. Anal spots distinct, sometimes with red centres, sometimes having a red basal spot (*excelsior Schultz*). Hindmargin fairly widely powdered with grey. Expanse 80—100 mm. Contour of the wings of the ♀♀ same as with the ♂, hyaline margin and submarginal divided by a wide *lunulata* band, both reaching to the hindmargin. Subcostal spots united in a band with the hindmarginal spot through wide scaling, which stretches to the cell and the submarginal between media 3 and cubitalis 2. Costa, base and one third of the cell thickly powdered with grey. Hindwings show unusually large ocelli of deep red colour, the median often with white pupil. Anal spots mostly filled with red and united with the median ocellus by an *amplius-maculata* spot and compact scaling. The dark margin usually united with the submarginal band by scaling on the nervules. Base, half the cell and hindmargin scaled with deep black. The black marking of the hindmargin encircles the cell with lighter scaling, extends almost to the middle ocellus and the anal spots to the hind margin. The race closely resembles *cetius Fruhst.* from Wachau, but is eonsiderably larger and the surround of the ocelli is more narrowly black. The ♀♀ also show a mueh heavier black powdering. In the region of Grossglockner there is a

glocnerica. further race viz: **glocnerica** *Vrty.* (= glocneriana *Bryk*, glocnerius *Fruhst.*, montanus *Belling*). The ♂♂ and ♀♀ are powdered with black dust and incline to melanism. In the ♂♂ the hyaline margin is narrow, the submarginal sharply dentate and separated by roundish lunules. The subcostal spots are large roundish and united by dark shading. Cell spots stately in size and oblong shape show deep black colour. Hindmarginal spot is round. On the hindwings there are faint dark shadows on the ends of the nervules faintly indicating a submarginal band. Ocelli are round, sharply surrounded by black and with white pupils. Base and basal half of the cell also filled with the very heavy black marking of the hindmargin which encircles the lower part of the cell and apex of same. The ♀♀ show a liberal blaek dusting on the forewings, hyaline margin narrow and submarginal band strongly sinuous and curved. The area between median spot, hindmarginal and cell heavily dusted with dark scales, as also the costa and base of the wings. On the hindwings the margin is dusted and the very striking sinuous submarginal band extends from the costa to the hindmargin. Ocelli are larger than in the ♂, as also are the anal spots whieh are mostly supplemented by a small *amplius-maculata* spot. The black marking of the base of the wings still heavier than in the ♂: the butterfly has a generally dusky appearance. Very closely

determinatus. related to it is the race **determinatus** *Bryk* from the Ziller Valley. The ground colour of the ♂♂ is lightly tinged with yellow, the hyaline margin reaches narrowly to the hindmargin and stretches along same characteristically: the blaekish and dentate submarginal band extends quite vertieally to the hindmargin being separated from the hyaline margin by a wide band of ground colour. Subcostal spots moderately large, indistinetly united. End cell spot small, median irregular, blotchy. Hindmarginal spot round, all spots of deep black colour. Ocelli of hindwings only small, brick-red, roundish, but heavily surrounded with black and with white pupils. Submarginal distinctly present, anal spots blaek, large and eonfluent. The blaek marking of the hindmargin fills half the cell and encircles same narrowly to the media. Markings of underside vary little, ocelli with such large white pupils that the brick-red appears like a ringlet. Black surround very fine. Anal spots quite red and with only a fine black border left as a surround, white pupils often shown. The red of the basal spots strikes the eye owing to its expanse. The ♀♀ are marked as the ♂♂, but the ocelli have larger white pupils, the anal spots more filled with red and always have white pupils with heavy but fine black surrounds. On account of the

badelensis. rich black scaling the specimens seem to have a very dusky appearance. — The race of **badelensis** *Lax.* comes from Badelgraben near Peggau in the neighbourhood of Graz. The ♂♂ are large with well developed submarginal band on the hindwings: the ♀♀ are smaller than the ♂♂, of compact shape and with broad rounded wings. Submarginal of the hindwings is dissolved into large generally very dark spots, *dentata* condition very frequently occurring. Further, the disunited unusually large costal spots are striking and the hindmarginal spot is deeply

imperialis. black and contrasts strongly with the pure white not powdered ground colour of the wings. — **imperialis** *Bryk* from the Karzerwand near Guggenbach and Peggau is not a special race and should be attached to *brittingeri Rbl. & Rgh.* It has a narrow hyaline band as *cetius Fruhst.* whieh it strongly resembles and the submarginal is also narrow, faintly dusted and very sparse. Middle cell spot is oblong, subcostal spot divided, rarely united. Median spot often of crescent shape and not reaching to media 3. Hindmarginal spot only small. On the hindwings the small ocelli are of varying form, surrounded very narrowly with black and generally with a distinct white pupil. Anal spots occur united and separated, more or less strongly developed, sometimes with red seales in the second. Basal and hindmarginal dusting scant, generally encircling the eell as far as in *brittingeri.* Ground colour is pale, hyaline margin mostly milky glassy. The specimens look as if they have been

starved. — **rhea** *Poda* described from Carniola 1761 is not quite clear, Stichel places it with ? to *geminus*, more likely it could be placed with **ottonius** *Fruhst.* which also originates from the Austrian coastlands and Carniola. The type is recognisable by its smallness and relatively strikingly wide hyaline margin. The ♀♀ differ considerably from *brittingeri* from Styria, lower Tauern and Lunz am See. From the Julier Alps Stauder gives us the race **julianus.** It embraces specimens of medium size which approach *carinthicus Stich.* (Vol. 1, p. 24) and *montana Stich* (Vol. 1, p. 24, Plate 13 a), but which are easily distinguishable by their dull grey-white ground colour, which is caused by sparse scaling. As a special characteristic the author mentions the regularly wide hyaline band of the forewings extending to the hindmargin. Submarginal is divided by lunule spots and runs at first with a slight bend and then vertically to the anal angle. The otherwise deep black spots are only very dull black here. In the ♂♂ the ab. *fasciata Stich.* constantly occurs, which does not happen frequently even in otherwise more adumbrated races. A further characteristic of the ♂♂ lies in the ochre yellow filled ocelli of the hindwings which are mostly of uniform size. The ♀♀ are remarkable by their unusually bulged wings, a wide hyaline margin with only a narrow lunule band separating the submarginal. On the hindwings the ocelli are also coloured ochre to yellow and the submarginal band more or less distinctly present as in the ♂. — *subsp.* **wenzeli** *Bryk* (= oenipontanus *Std.*, wenzelius *Fruhst.*, bryki *Schaw.*) flies in the Sill Valley from Wilten near Innsbruck to Patsch in the Tyrol. The ♂♂ have an expanse of 68—70 mm, the ♀♀ 70—74 mm. A large stately race of pure white ground colour, but there are conglomerations of black scales on the veins and in the disc which considerably influence the ground colour. The relatively narrow hyaline border as also the strongly angular submarginal with clear lunule spots reaches to the hindmargin, or also only to cubitalis 1. All black spots large and square. Ocelli of the hindwings relatively not large, roundish, mostly with white pupils and heavily surrounded with black. Anal spots large and often with red centres. Black marking of hindmargin extensive. Outer margin hyaline, adumbrated, submarginal mostly distinct. On the underside the cell spots are intensively black, ocelli red with heavy black surrounds, frequently *intertexta* condition as a characteristic. The underside has an oily glossy tone. The ♀♀ are also of white colour and with very heavy black marking and moderate black dusting of the base as well as the area between the subcostal and hindmarginal spots. On the hindwings the area of the surface of the wings is more heavily dusted with black between the two ocelli which are surrounded by black shading. Also the very extensive black shading of the hindmargin extends strongly in and around the cell. The very large ocelli are almost circular, heavily surrounded with black and mostly with white pupils. The colour of the ocelli varies as in the ♂. Hyaline margin of the forewings and the granulated diffuse black submarginal enclose a narrow white band which as in ab. **nox** *Bryk* can be absent, hindwings are inclined to have a hyaline outer margin. — **rubidus** *Fruhst.* (Vol. 1, p. 36) from the Eisack Valley has served as representative of very many neighbouring races. Habitually it is somewhat like *liburnicus Rbl. & Rgh.* and larger than *melliculus Stich.*: through its extended black and red spotting it reminds one of the races of the upper Palatinate and Franconia. Wing contour, however, is elongated, ground colour yellowish and the ♀♀ are much more richly scaled with black. Hyaline margin is wide and submarginal distinct, costa thickly powdered. Cell spots very striking. In the hindwings the base and hindmargin are strongly adumbrated, the shading penetrating deeply into the cell and surrounding it posteriorly and apically. The lower anal spot is linear, the upper roundish. In the ♂♂ there are only these two whilst in the ♀♀ there is a third the *amplius-maculata* spot which has an inclination to a red centre. The deep red ocelli are very large with relatively moderate white centres. The black surround clearly outlined inwards but diffuse outwards. The median ocelli incline to distortions, especially rectangular dilatations. In both sexes specimens occur without white pupils. Fruhstorfer names those forms *rubidus* and other alpine races f. **thermophila** which occur more in the valley and middle zone of the high mountains up to abt. 1000 m. These are said to be larger, lighter and more brightly marked in contrast to the forms of the high alps which he named f. **humicola.** These are smaller, darker and less brightly marked. — *subsp.* **bellarius** *Fruhst.* from Terlan and Meran in the south Tyrol has pure white ♂♂ with a very light tinge of yellowish and black and white checked fringes which however can also be quite black. Wing contour roundish: hyaline margin tapering off and stretching to the hindmargin, as also does the black slightly sinuous dentate submarginal band which is separated by a band of lunules. Subcostal spots heavy and separated. Cell spots large and oblong: hindmarginal spot round and bold: all spots deep black and glossy. Hindwings have fairly large, light red, round ocelli with narrow, washed-out black surrounds and more frequently with white pupils although sometimes blind. Anal spots generally isolated but if united then constricted, they are lareg often filled with red centres. The black marking of base and hindmargin encloses half the lower cell encircling same and filling also the apex widely. Submarginal only weakly present and often shows the ends of the nervules with black scales at the margin. On the underside the submarginal of all wings and in the hindwings the margin heavily darkly marked. Anal spots completely filled with red, the upper one generally a genuine ocellus with heavy white pupil. *amplius-maculata* spot often absent. The ♀♀ are very dark in the upper wings, and hyaline in all areas that are not yellowish-white or with black spots. Hyaline margin forms together with the submarginal band which runs almost straight to the hindmargin, a wide 12—14 mm glassy

rhea. *ottonius.* *julianus.* *wenzeli.* *nox.* *rubidus.* *thermophila.* *humicola.* *bellarius.*

border having a continuous row of small round white spots. Costal spot small, median spot large also the cell and hindmarginal spots. The latter resembles the middle cell spot both in size and in its oblong rounded form. In the hindwings the median ocellus is double as large as the upper, oval, widely surrounded with black, carmine red, with eccentric white pupil. Marginal and submarginal bands show heavy black dusting: the latter dissolved into separate loosely connected lunules. Black marking at base more strongly pronounced than in the ♂ so that only quite a small light area is left in the cell. All light patches have a faint blackish suffusion. On the underside of the forewings the black markings are reduced and the hindmarginal spot has a small red centre. In the hindwings the white pupils of the ocelli are heavier and the fine black surrounds have a wider diffuse grey halo. Anal spots as in the ♂. Both marginal bands heavily marked. — The race **cognatus** *Belling* from Ritten in the South Tyrol resembles the former and still more *rubidus*, to which latter according to Fruhstorfer it forms the *humicola* form. It is smaller than same with an expanse of ♂♂ 62—70 mm, ♀♀ 68—75 mm. The ground colour is not yellowish but rather chalky whitish, in any case it is lighter than Eisack specimens. Hyaline margin only 4—5 mm but narrower than in *rubidus* ending at cubitalis 2 or somewhat previously. The submarginal band which is just as long is well developed. Black markings are smaller the black of base reduced. On the hindwings the submarginal is only faintly indicated or extinct, dusting of base also lighter. Ocelli are sometimes large and sometimes small, rarely of as large size as in *rubidus*, lighter red with white pupil. There are two anal spots. In the ♀♀ the base and costa of the forewings shaded. Cell spots fairly large. Hyaline margin abt. 6 mm wide separated from the submarginal by small spots of the ground colour. On the hindwings the sinuous submarginal is distinctly separated from the margin, hindmargin richly scaled with black, penetrating therewith into the base and point of the cell and encircling same posteriorly. Both anal spots heavily marked, frequently a small third one in addition: ocelli are stately with full black surrounds and generally with white pupils. It is not always easy to separate this high mountain race from the *rubidus* specimens of the valley. — **mendolensis** *Dann.* from the Mendel region is, as almost all forms, closely related to *rubidus* generally best recognised by studying the locality label, in any case the most practised specialist's eye is necessary to distinguish same. Ground colour of the ♂♂ is lightly tinged with yellow, hyaline margin tapering off narrowly to cubitalis 2, the straight dentate submarginal extends similarly and is separated widely by a band of the ground colour. Subcostal spots generally very large and often confluent: cell spots large roundly oblong and deep black: hindmarginal spot deep black roundish of varying size. Costa, base and the area below the cell powdered with black. In the hindwings the margin has a blackish tone at the extremities of the nervules and the submarginal is indicated by faint arcs. Ocelli are not large, brick-red, distorted roundish, heavily surrounded by black and with eccentric white pupils sometimes scarcely perceptible. Anal spots are isolated sometimes a small third one indicated. On the underside both bands are distinctly indicated, anal spots show red centres, sometimes even the third, the middle one almost always with white pupil. In the very dusky ♀ the areas that have remained light are purer white and more sparsely scaled than in the ♂, hyaline margin and submarginal are confluent in a wide glassy band which is interspersed by a row of small white lunules. Also on the hindwings both bands are glassy and dusted with black. The black of the base and hindmargin is so extended that only a small light, faintly powdered patch is left in the middle of the cell. Underside is similarly marked and also heavily dusted. — *subsp.* **montebaldensis** *Fruhst.* (= baldensis *Dann.*) from the Monte Baldo region differs immediately from neighbouring races, especially those of the Dolomites by its small size: it is habitually little larger than *pumilus Stich.* (Vol. 1, p. 24, Plate 13 c). Hyaline margin of the forewings is narrow and very dark, submarginal very pronounced. Subcostal spots extremely striking distinguished thereby from the north italian forms as well as from *agiens Fruhst.* from the Seiser Alps. Cell spots are somewhat roundish. In the hindwings the cell is surrounded by the intensively black dusting of the base. Anal spots very striking: ocelli only relatively small, elliptical with small white pupils and faint black surround. The ♀♀ are distinguished by the glassy submarginal bands of the forewings and hindwings which distinctly reach to the hindmargin, as well as through the lightly dusted disc of the forewings. On the underside the carmine red, white pupilled ocelli and the roundish anal spots stand out strikingly. — **tridentina** *Dann.* from parts of the alps of Trent in the southern Monte Baldo region at an altitude of 1200—1600 m is so indifferently described that no clear comparison can be made without having specimens from that part. It is said to be small and thinly scaled: the outer transverse band (sic!) on the hindwings fairly straight, ocelli especially small, sharply outlined with black. — *subsp.* **phrynius** *Fruhst.* comes from the valley of Oetz. The ♂♂ are mostly smaller than the ♀♀, generally of medium size, all black spots of the forewings well developed, costal spots reaching to over media 2, frequently uniting in a small band. The hyaline margin reaches only narrowly barely to the hindmargin and is separated from the submarginal, which is grey-black, dentate and well developed, by a wide band of the ground substance. Hindmarginal spot is large and round. In the hindwings the margin and submarginal are more or less faint, nevertheless distinctly developed. The red ocelli often irregular not round in shape: they are with narrow black surrounds sometimes with pupils, sometimes blind, the race is very variable. The black anal spots are generally confluent. The black marking of base and hindmargin fills half the cell and encircles same to the middle media. The ♀ is heavily dusted with black and correspondingly dusky, at the same time richly marked. The forms

cognatus.

mendolensis.

montebaldensis.

tridentina.

phrynius.

graphica Stich. and *decora Schultz* occur frequently and with copious red in the anal spots which often have also an additional *amplius-maculata* spot. The latter and also the additional spot are particularly richly scaled with red on the underside. — On the lower reaches of the valley of Schnals Belling found a race which he called **venustus** varying from the high altitude form *phrynius* of the Oetz valley. It is more stately, the ♂♂ expanding 67—68 mm and the ♀♀ 70—74 mm being of elongated wing contour. The ground colour of the ♂♂ is light with heavy scaling, hyaline margin of the forewings 5 mm wide reaching to cubitalis 2 as also does the distinctly separated submarginal band. The black marking is heavily developed, hindmarginal spot round. The black marking of base and hindmargin encircles the cell and penetrates sometimes as far as the apex of same. Margin and submarginal moderately dusted. Two anal spots and frequently indications of a third are present. Ocelli are round but small with heavy black borders, lively carmine red, mostly white pupilled. The ♀♀ have a wider hyaline margin and heavier submarginal than the ♂♂. The disc of the forewing is shaded, the black markings large and sharply outlined. Hindwings dusted with black. The black marking at the base is extensive and heavy. There are always three anal spots. Margin shows faint shading, submarginal distinct. Ocelli have a diameter of abt. 7 mm, *decora* marking often observable. — South-east of Bozen in the Eggen Valley at the village Birchabruck we find *subsp.* **laurinus** *Belling*: the race is smaller than *rubidus* the ♂♂ expanding 60—65 mm, the ♀♀ 65—70 mm. Wing contour less elongated, margin bulges rather more. The ground colour is whitish without the slightest tinge of yellow. Black marking is less than in *rubidus*. The submarginal is well developed sometimes interrupted in the middle. Hyaline margin 3—4 mm wide. Black marking of base and hindmargin is heavy and penetrates into the base of the cell, surrounding same posteriorly and at the apex. Ocelli are moderately large, surrounded with black, mostly with white pupils. Anal spots small, isolated, very rarely with red centres in contrast to *rubidus*. The margin of the wings shows faint shading. The ♀ has a hyaline border 5 mm wide and a well developed submarginal band with rich black colour and more strongly dusted disc than in the ♂♂. The ocelli of the hindwings are larger than in the ♂ but smaller than in *rubidus*. — Around Sigmundsburg near the Castle of Fernstein and the Fernstein Lake we find the race **castellanus** *Belling*, a medium large form with 65—73 mm expanse in the ♂. It shows light white ground colour and the base and costa of the forewings more or less heavily marked with black. The hyaline border and submarginal are not broad but well developed and end at cubitalis 2: they are separated by a band of the ground colour. Subcostal spots moderately developed, the upper very small, the lower one prolonged to media 1 or 2. Cell spots contrast strikingly, also the moderately developed roundish or angular hindmarginal spot. Black marking of base and hindmargin extends to the base of the cell and surrounds same to the media. The margin and submarginal indicated by shading. There are two round or rather streak-like anal spots with red scalings to which occasionally an *amplius-maculata* spot is added. The ocelli are roundish or distorted, filled with bright red with a white pupil and inclining to *graphica* formation. On the underside the submarginal is well developed and all three anal spots filled with red, the middle one generally also having a white pupil. The ♀♀ are somewhat larger: all black markings heavier, the hyaline border and submarginal wider and reach to hindmargin. On the hindwings the submarginal is separated by a wide band of ground colour from the darkly dusted margin: the eye spots are large nearly always with white pupils. The underside has still larger white pupils in the ocelli and the margin and submarginal are more heavily dusted with grey and very distinct. — *subsp.* **agyiens** *Fruhst.* (= agieus *Belling*) from Ampezzo, Andraz, St. Ulrich in the Groedener and Enneberger Valleys of the south Tyrol is a high alpine form of this territory and correspondingly only small. Expanse of ♂♂ 60—65 mm, the ♀♀ 65 to 69 mm. Wing contour less elongated than in *rubidus*, also the black spots more extensive and the fairly wide submarginal band more striking. Ocelli smaller in both sexes, but with richer black surrounds. The ♀♀ remind one more of the dusky ♀♀ from the northern Tyrol than of those from the south. The forewings are always thickly powdered with black in the disc. — **ladinus** *Belling* is the form from the valley and the lower reaches down to 1100 m. It is somewhat larger and more robust, expanse of ♂♂ 65—70, the ♀♀ 75 mm. The ground colour is lighter sometimes with yellowish tinge: wing contour more elongated than in *agyiens*. The 5 mm wide hyaline margin and the striking submarginal band reach nearly to the hindmargin. The black spotting and marking of the base of the forewings and of the hindmargin of the hindwings is well developed. The anal spots are generally confluent, the submarginal nearly always distinctly present. Ocelli show roundish form, but sometimes they are elongated: they are bright carmine red, frequently with white pupils. In the ♀♀ the marking generally is heavier than in the ♂. Both bands in the forewings reach fully to the hindmargin and the larger ocelli of the hindwings are sometimes with white pupils and sometimes blind. The margin shows distinct dark dusting and the submarginal is always present. — *subsp.* **victorialis** *Fruhst.* from the surroundings of Trent in the south Tyrol belongs to the thermophila group of Fruhstorfer. It is one of the most stately forms of the southern alpine region which in regard to size is only exceeded by the ♀♀ of the apollo from the Val Antigorio in Piedmont. The ground colour is more yellowish than in the closely related *rubidus* and the wing shape is still narrower and at the same time shorter. Hyaline margin and submarginal are strikingly reduced and the black markings are also poorer, although the disc of the forewings and the hindmargin of the hindwings still show dark dusting. — The corresponding high mountain form of this race is **tonalensis** *Bryk* from the

venustus.

laurinus.

castellanus.

agyiens.

ladinus.

victorialis.

tonalensis.

Tonale Pass in the south Tyrol. The ♂♂ are of smaller form and often quite chalky white ground colour. Submarginal is much narrower and graphite grey, not so accentuated as in the allied *rubidus*. In the subcostal band the small tail of the median spot which otherwise generally occurs is absent: generally the single spots are only loosely connected or the upper subcostal spot is quite isolated. Ocelli of the hindwings are smaller. anal spots streak-like, no *amplius-maculata* spot. The black marking of the base and hindmargin is weak, graphite grey. The ♀♀ have a more yellowish tone and also only a narrow submarginal and are smaller than *rubidus*. — ab. **kitti** *Bryk* has a small end cell spot formed as an extreme *quincunx* spot. — **altitudinis** *Bryk & Eisner* (altitudinis *Bryk*) is a high mountain form from Cortina: it is characterised besides being exceedingly large by a remarkable *dentata* marking, especially in the ♂♂, such as the race *determinatus Bryk* from the Ziller valley shows: besides this the black marking of the base of the inner margin does not extend so near to the anal spots as in *agyiens* from Tre-Croci. — From the neighbourhood of Landeck on the Inn in west Tyrol Belling denominated an apollo race flying there as **confinis.** Expanse of ♂♂ 65—70 mm having a pure white ground colour, sometimes with light yellow tinge with dense scaling and somewhat extended wing contour. The subcostal band is weak being prolonged over media 2. Costa and base faintly spotted and dusted. Hyaline margin is 4—5 mm wide and stretches down to cubitalis 2: submarginal dentate interrupted also distinctly to cubitalis 2 and distinctly separate. Cell spots small and oblong, hindmarginal spot round or square. Base and hindmargin of the hindwings strongly dusted with black surrounding the cell filling out the base and apex of same. Anal spots are striking by their smallness the upper one sometimes with red scales. Ocelli are medium large with black surrounds, mostly with white pupils, the costal only faintly: sometimes the pupils are absent. Marginal and submarginal bands moderately dusted or else quite extinct. Expanse of ♀♀ 69—74 mm showing rich black dusting on the upperside. Hyaline margin 5—6 mm wide separated by crescents from the heavy dentate submarginal band, both extend generally to the hindmargin. Subcostal spot only small, median spot large, reaching to media 3. The cell spots are also strongly developed, end cell spot apically convex, posteriorly concave. Hindmarginal spot roundish and as large as the costal ocellus of hindwings. Costa and base dusted with black. Hindwings show more or less glassy border, separated distinctly from the deeply ex-curved submarginal by a band of the ground colour. Base, half the cell and the hindmarginal area dusted with black. The black marking surrounds the cell and penetrates into the apex of same. Upper ocellus is longish obliquely oval, the median larger, roundishly square, both carmine red, heavily surrounded with black with white pupils, rarely blind. Anal spots are heavy, generally an *amplius-maculata* spot is present. — **stelviana** *Dann.* from the northern slopes of the Ortler and Stilfser Joch is more thinly scaled than the forms of the valley, more transparent but at the same time more inclined to be darker, with coarser scaling and band markings, medium large, the red fairly dull, the surround of the ocelli fine and lacking in rich black as is particular to the forms of the valley. Owing to the insufficient description it can chiefly only be defined according to the locality label, probably being synonymous with *montanus Stich.* (Vol. 1, p. 36). — From the neighbourhood of Lugano from Mount Tamero Fruhstorfer describes a race **triumphator** of which the ♂♂ are remarkable by their narrow hyaline border and by a wide submarginal band which is angulated in the upper part. The subcostal band reaches heavily to media 3. cell spots are large and deep black. Costa and base weakly dusted. In the hindwings the ocelli are very large and intensively carmine red with large eccentrically placed white centres. The black surround not very thick nor very striking. The black marking of the hindmargin and the base is coarsely granular, reaches deeply into the cell and encloses same to the radialis; from radialis 1 it extends obliquely down to the anal spot which is deep black just as the stately cubital spot. The submarginal faintly indicated. The ♀♀ show the transparent patches more strikingly than the ♂♂. The whole black markings of the forewings are heavier; the median spot is larger than the middle cell spot, also the hindmarginal spot which is not inferior to the middle cell spot in regard to size. The row of costal spots is united with the hindmarginal spot through widely scattered band-like situate scales. Hyaline margin and submarginal reach to the hindmargin and are as in the ♂ separated by a *lunulata* band. In the hindwings the large dark red, heavily black surrounded, ocelli strike one, which in contrast to those of the ♂♂ only have small eccentric white centres. The black marking of the base of the wings is lighter than in the ♂ but equally extended. Anal spots are very large confluent, a small isolated and deep black *amplius-maculata* spot is present. Marginal bands are indicated by faint scalings of the ends of the nervules and internervally. Submarginal is more distinct than in the ♂. The closest relationship *triumphator* shows is with the geographically far removed *pedemontanus Fruhst.* from the southern slopes of Mont Blanc: by its short wings it is far removed from *heliophilus*, it reminds one of *adulanus Fruhst.*; it has the long subcostal band in common with *generosus Fruhst.* but the cell spots and the whole appearance are larger. — The Swiss races of apollo are not less numerous and they vary just as do those of the eastern alps according to whether they occur more northerly or southerly. On the Churfirsten and in the Säntis district of the canton of Appenzell we find **helias** *Fruhst.*, the ♂♂ are smaller than the *nivatus Fruhst.* from the Jura mountains, of pure white ground colour without any tinge of yellow. Hyaline margin is smaller and much darker and submarginal band only faintly developed. Ocelli of the hindwings are only slightly smaller than those of Jura specimens but somewhat more distinctly surrounded with black. Basal zone is distinctly more adumbrated. In the forewings the subcostal spots are very large, the cell spots smaller than in *nivatus*. The ♀

kitti. *altitudinis.* *confinis.* *triumphator.* *helias.* *stelviana.*

stands out from all other alpine races by its milky white ground colour. The white band between the hyaline margin and submarginal is very striking. The ocelli of the hindwings are all large size with remarkably large white pupils sometimes inclining to a *graphica* form. — **sotirion** *Fruhst.* from the Rigi, Pilatus, Unterwalden and Rossberg is very different from the previous race and approaches more to *geminus Stich.* (Vol. 1, p. 24) by its richer ground colour and extensive hyaline margin and the considerably wider submarginal band where naturally the yellow galeate spots between the strongly compressed ocelli of the ♀♀ are not so apparent as those in *helias*, and the black spots of the forewings are less prominent. The ab. **thermophila** *Fruhst.* of this race from the neighbourhood of Goldau shows the characteristics of a thermophile increase of the black markings in both sexes as well as of the ocelli and their black surrounds. — From the Wallen-See and on the Glärnisch in the canton of Glarus, which is always rich in rain, we have the race **tenebrosus** *Fruhst.* which in humicola discolouration represents the extreme found in Switzerland so that especially the ♀♀ might be mistaken for *subsp. bartholomaeus Stich.* (Vol. 1, p. 25, Plate 12 c, d). It is a habitually small form which has a wide hyaline margin and an equally wide submarginal band in the forewings. The subcostal and cell spots are heavy and strikingly developed as also is the hindmarginal spot. In the hindwings the ♀♀ show only a narrow hyaline margin, but a prominent submarginal band and distinct anal spots. Ocelli have a roundish form, being of dark red colour with distinct white pupil. Forewings of the ♀♀ are very strongly melanic and at the same time very hyaline and richly powdered with black. — **rhaeticus** *Fruhst.* is the race from the neighbourhood of Silva-Plana in the Engadin. The ♂♂ are sparsely scaled with white, have a narrow hyaline band and as a rule as a special characteristic only poorly developed submarginal bands which are moderately sinuous and widely separated from the hyaline margin ending with same at cubitalis 2. Subcostal spots are heavy mostly separated but rarely united together by wide black. Cell spots moderate in contrast to the hindmarginal spot, which is of equal size to the middle cell spot. Hindwings are more densely scaled with white, both marginal bands very delicately indicated. Anal spots heavy, mostly confluent and sometimes filled with red. Black marking of base and hindmargin heavy, filling out the basal third of the cell and encircling same. On the underside the bands of the hindwings very distinct grey-black, anal spots mostly filled with red. The ♀♀ are darker and especially the forewings are thinly scaled with white and powdered with black appearing glassy. Hyaline margin and submarginal confluent, forming a wide band to the hindmargin and decorated by a continuous row of lunules. Subcostal band very moderate united with the very large hindmarginal spot by wide black scaling along the wall of the cell. Cell spots are very pronounced. Hindwings are more closely scaled with white, less powdered with black than in the ♂♂ except in the strongly black powdered discal area. Both bands are more or less strongly developed. Black marking of base and hindmargin is heavier than in the ♂ as also the anal spots which are sometimes scaled with red. Ocelli in contrast to those of the ♂♂ very large, dark red, often blind. Underside appears to be very glassy, bands are not sharply outlined, ocelli as in the ♂, but larger, both anal spots filled with red, the upper one with white pupil. — *subsp.* **valesiacus** *Fruhst.* from Zermatt and the Simplon is characterised by very remarkably wide glassy submarginal band of the forewings of the ♂♂ and the unusually wide hyaline margin of the hindwings in the ♀. The very stately ♂♂ are of white ground colour with faint yellowish tinge. The fairly wide hyaline margin tapers off to the hindmargin and unites here with the straight submarginal band which is mostly of an *arcuata* form, it is separated from the hyaline margin by a wide continuous row of crescents of the ground colour. Costal spots are heavy, glossy, deep black as all the markings of the forewings and narrowly united together, the median spot ends in a narrow tip pointing towards the cell. Cell spots and hindmarginal spot large, roundish. Costa and base faintly powdered with black. Hindwings scaled somewhat more heavily and glossy white, margin more or less shaded with black: submarginal delicately indicated grey-black. The surround of the carmine red, fairly large ocelli very heavily black, with white pupils. Anal spots band-like not large. Base, half the cell, hindmargin and the wide surround of the cell are heavily powdered with black. On the underside anal spots mostly filled with red and with white pupils. The ♀♀ strongly adumbrated, very thinly scaled and glassy. Hyaline margin and submarginal confluent forming a wide glassy band quite straight on the basal side and with a continuous row of small white lunules. Subcostal band very wide and striking through the darker scaling along the cell uniting same with the hindmarginal spot, which is as large as the middle cell spot. Base of the cell and hindmarginal area heavily dusted with black. Hindwings more glassy white, marginal border unusually wide and submarginal always distinctly developed. Ocelli are moderate to large, roundish and distorted, with heavy black surrounds and rarely without white pupils. Both anal spots medium large, confluent and a small *amplius-maculata* spot generally present. Sometimes one or another has red centres. Underside thinly and sparsely scaled, the dark markings reflecting through on the upperside. Ocelli mostly with very large white pupils narrowly surrounded with black. Red basal spots are large and often with white pupils, both anal spots filled with red sometimes also a third. White pupils frequent. Fruhstorfer separated ab. **xerophila** for the lighter ♀♀ from the warmer regions. — subsp. **salevianus** *Fruhst.* (= saboianus *Fruhst.*, subvianus *Fruhst.*) from the Salève, Geneva at a level of abt. 800—1200 m is very close to the neighbouring races of *nivatus* and *valesiacus Fruhst.* and combines several of their characteristics. It is smaller than both in size. Ocelli are beautifully developed but do not reach the size of those of *nivatus*, but they have the very striking black surround of those of *valesiacus*. The black cell spots are in the same proportion

sotirion. *thermophila.* *tenebrosus.* *rhaeticus.* *valesiacus.* *xerophila.* *salevianus.*

as the races named. Androtropic ♀♀ in quite pure white form as in *nivatus* appear to be absent on the Salève, although light ♀♀ occur in a larger number than dark ones. Basal area of the hindwings is always more extended
generosus. and deeper black than in *nivatus*. — *subsp.* **generosus** *Fruhst.* from Mount Generoso, 1200—1600 m high, is a very rare almost extinct race which is strikingly small and of pale appearance. Hyaline margin of the forewings of the ♂♂ is very narrow, submarginal band unusually neat, sharply angulated in its upper range between the radial nervules and the mediana. Black cell spots not roundish but oblong, consequently smaller and appearing steeply oblique. In the ♀♀ the hyaline margin equally strongly reduced, submarginal only indicated, interrupted in places. Ocelli with narrow surrounds, median ocellus nearly always widely reniform reminding one thereby
adulanus. of *vinningensis*. — *subsp.* **adulanus** *Fruhst.* from the Val-Blenius between Camperio (1200 m) and Aquacalda (1500 m) forms a natural transition from the weakly banded *rhaeticus* to the lighter forms from the southern slopes of the alps. The ♀♀ are remarkable by their unusually wide glassy submarginal band, the relatively narrow but very dusky hyaline margin of the forewings and the very large ocelli of the hindwings. In contrast to the valley forms of the Tessin the forewings are thickly dusted with black in the cell similar to the darkest humicola apollo forms of the northern Swiss Alps. Basal area of the hindwings usually diffuse, rather more greyish than black, the adumbration extends almost always also over the apical end of the cell. Anal spots are very large in the ♂ and ♀ as also are the black spots on the forewings. The general colour impression in nearly
heliophilus. all ♀♀ is darker than in those from Val-Verzasca, Val-Maggia and Val-Bavona. — *subsp.* **heliophilus** *Fruhst.* (= turatii *Rothsch.* part., valesiacus *Pag.* part.) from the Tessin, Val-Cavizzeva, Val-Bavona, Val-Maggia, Airolo, is a very fine race still larger than *adulanus*. The ground colour in both sexes is white, in the ♀ frequently milky white or bluish-white instead of pale yellowish as in *adulanus*. The appearance gives the impression of being glassy owing to the sparse and thin scaling. Submarginal band is present in both sexes, very delicate and narrower than in *adulanus*. Disc of the forewings in the ♂ is scarcely dusted, in the ♀ very rarely, on the other hand the latter generally has a band between the subcostal band and hindmarginal spot such as is
redivivus. characteristic for *adulanus*. Ocelli are bright red, with heavy black surrounds and over medium size. — **redivivus** *Bryk* (= turatinus *Fruhst.*, turatii *Rothsch.*) from Macugnaga in the Mt. Rosa territory is very close in the ♂ sex to *valesiacus Fruhst.* Ground colour is white with slight yellowish tinge. Hyaline margin narrow tapering off to the hindmargin and very daintily interrupted by the white scaled nervules. Submarginal is more or less narrow, but heavy, separated from the margin by lunules. Subcostal band extends to media 2 and somewhat beyond, cell spots are medium large mostly oblong, deep black, as also is the roundish hindmarginal spot. Costa and base faintly dusted. Hindwings sometimes have the border narrowly shaded and submarginal faintly indicated. Ocelli not large, roundish, the mediana often elongated oval, heavily surrounded by black and with white pupils. Anal spots are small, band-like, sometimes separated. Base, the lower half of the cell and the apex of the cell are suffused with the heavy dusting of the hindmargin. On the underside all the band markings, especially on the hindwings, are strongly developed: ocelli with larger white centres and anal spots filled with red. The ♀♀ are very dusky and richly dusted. Hyaline margin and wide submarginal are confluent and form a wide glassy band, decorated by small diffuse lunules. Subcostal band is very wide crescent shaped: cell spots equally large, deep black. Costa and base heavily scaled with black. Hindwings have both bands distinctly present, ocelli very large, carmine red with wide black surrounds, anal spots heavy, confluent. Black marking of base and hindmargin as in the ♂ and also underside equally developed in the ♂ correspondingly to the ♀.
xerophilus. Between Mesocco and Soazza in Tessin Fruhstorfer found a race which he called **xerophilus** and which is a transition from *rhaeticus* to the hilly thermophile races of the Tessin. The ♂♂ are pure white, very large, wing expanse 75 mm and exceed in size the largest ♀♀ from Mesocco. All the black spots of the forewings are larger than in *rhaeticus* and also *heliophilus Fruhst.* Submarginal band of the forewings is always very bold but only faintly indicated on the hindwings. Ocelli are moderately large, smaller than in *heliophilus* and with
agyllus. finer surrounds. — *subsp.* **agyllus** *Fruhst.* from Val-Poschiavono (Puschlav), between Brusio and Le Press, 800—1000 m, and Alpe-Romeria, 1800 m is a small race, the ♂♂ only 60 mm, ♀♀ 65 mm expanse and they belong to the smallest of the Swiss mountain races. The ground colour is white adumbrated by profuse black powdering. Hyaline margin is darker than in *rhaeticus*, submarginal band always very distinct, mostly *dentata* state. Cell spots of the forewings are smaller than in *xerophilus*. Base of the hindwings is deep black and surrounds the cell falcate. Ocelli are small, scarcely perceptibly centred with white and moderately surrounded by black. *agyllus* is a race of most pronounced *humicola* and mountain appearance and is in direct contrast to the light thermophile races from the southern valleys of the Grisons. There is a similarity to *alemanicus*
caloriferus. *Fruhst.* from the Algau mountains. — **caloriferus** *Fruhst.* from Foppiano in the upper Val-Antigorio and Laquintal on the southern slopes of the Simplon, 1500 m, is a small banded high mountain form. The ♂♂ are usually small, very light: base of the hindwings only faintly dusted especially in the androtropic ♀♀. Submarginal band of the forewings is very poorly developed and reminds one thereby of *rhaeticus Fruhst.* from the Engadin. Ocelli of the hindwings with narrow black surrounds in contrast to *valesiacus*. The ♀♀ have a narrower hyaline margin and a narrow but distinct submarginal band. Ocelli have white pupils as in the ♂. The ground colour is

pure white but without the milky patches which distinguish *heliophilus* and *redivivus* and quite free of yellow scaling. The valley form from Isella, 650 m, is quite different from the one from high altitudes, the specimens vary considerably in size and the enormous xerophile ♀♀ which are also purely androtropic show on the uppersides dusky black dusting and thickly black surrounded ocelli with less pronounced white pupils.

piedemontanus *Fruhst.* (= pedemontanus *Trti.*) from the region of the springs of Dora-Balta, Courmajeur and the southern slopes of Mont Blanc is one of the most striking races of the Southern Alps, belonging already to the *humicola* forms, being the mountain extreme of *rubidus* from which it differs chiefly through its smallness and more rounded wing contour. Hyaline margins of fore and hindwings expand considerably being inclined to converge with the submarginal band. Discal area of forewings always blackish and base of hindwings considerably darker than in allied races penetrating deeply black far into the cell. Ocelli still deeper carmine red than in *rubidus* and resembling those of *valesiacus* as to size, that is to say they are smaller than in *heliophilus* and larger than in *substitutus* and **valderiensis** *Trti.* from Valdieri and Gran-Sasso. The latter is a mixture form of quite curious constitution: specimens combine the characteristics of all alpine races, but generally the ocelli remain characteristically small. — **nobilis** *Bryk & Eisner* comes from Monte Denti di Govala in Piedmont at an altitude of 1275 m. It is closest to the ♀ of *redivivus Bryk* from the Val-d'Anzasca and resembles also *caloriferus Fruhst.* in the ♀ sex, whilst the ♂♂ approach more to the italian *emilianus* ♂ from the Appenines of Modena. The ♀♀ differ chiefly from the above mentioned races by the band of ground colour between the hyaline margin and submarginal band which especially at the lower end has crescents pointing inwards: these are absent in the three races compared above. The ♂♂ are of pronouncedly pale appearance with relatively large ocelli. Submarginal band is narrower and less dusted with black than in ♂♂ of *redivivus* and *caloriferus*, hindmarginal blacking is more reduced and does not encircle the cell, which must be denoted as typical of ♂♂ *redivivus*. Both sexes are larger than those of neighbouring races. The *subsp.* **debilis** *Fruhst.* comes from lake alps of Thorens, Mount Baron near Annecy, Alpe-Cenis in the Jalouve Mountains and Val de Giffre. It is a curious mixture race of small and rounded wing contour. Hyaline margin only narrow and submarginal diffuse. Ocelli of the ♀♀ small, rarely with white pupils. Adumbration at the base of the wings grey-black: the black spots of the forewings especially the subcostal spots are much reduced. Ground colour of the ♂ is white, hyaline margin narrow diffusing to the hindmargin, submarginal band narrow, dainty slightly excurved to cubitalis 2 and separated from the hyaline margin by a wide band of ground colour. Costal spots sometimes unite forming a band reaching just beyond media 2. Middle cell spot round, twice as large as end cell spot, hindmarginal spot round: all spots deep black. Hindwings more closely scaled with white, ocelli uniformly large, roundish, finely surrounded with black and with white pupils. Anal spots blackish, small, scarcely united almost linear. Hindmarginal blacking heavily black extending into the cell and encircling same fairly far anteriorly. Marginal and submarginal bands are absent. On the underside of the forewings the median spot is frequently filled with red: on the hindwings which are more yellowish white the submarginal band is clearly defined but there is no trace of a darkening of the border. Ocelli have larger white pupils so that the red is like a ringlet and the black surround is hairfine. Both anal spots have red centres, a third is indicated. — *subsp.* **lozerae** (*Oberth.* i. l.) *Pag.* (6 c) from Florac, Lozère in France is a large race with an average expanse of 85 mm of which the ♂♂ have a nice yellowish tone of ground colour. Hyaline margin fairly wide tapering off just beyond cubitalis 2: submarginal band slightly sinuous, excurved, rather narrow and scaled with greyish black, separated by a band of the ground colour narrowly at the top, widely at the bottom from the hyaline border. Subcostal spots are medium sized, the upper one inclined to be small but very striking, quite isolated, cell spots not large but contrasting very strongly by their deep black colour and clear outlines, being roundish to oblong in shape. Hindmarginal spot relatively very large irregularly round and generally almost of same size as middle cell spot. Costal and basal scaling scant. Margin of hindwings lightly dusted, submarginal mostly absent or scarcely perceptibly indicated. The round ocelli are dark carmine red with white pupils and heavy black surrounds. Anal spots small the upper one punctiform to roundish, the lower one streak-like narrow, sometimes the upper one with a few red scales. Black marking of base and hindmargin fills half the cell, often encircling the apex of the cell. On underside all markings distinct, especially the marginal and submarginal bands of the hindwings being very pronounced and clear. The white pupils of the ocelli are larger and the upper anal spot with regular red centre. Median and hindmarginal spots of forewings often have red scales. The ♀♀ are more richly marked with a fainter yellowish tone. Hyaline margin is much wider reaching to the hindmargin as also does the very heavy submarginal band, which sometimes is widely separated as in the ♂ and sometimes almost converges with the hyaline margin being then only separated by small lunules. Cell spots are also more heavily developed than in the ♂ and deep black as the sometimes enormously enlarged hindmarginal spot. Dusting of the costa and base somewhat extended but scant. Also in the hindwings the margin has distinct grey arcs and the submarginal, separated widely by the ground colour, consists of similarly shaped arcs. Anal spots are much larger and deep black, an *amplius-maculata* spot is always present often with red scales inter-

piedemontanus.

valderiensis.

nobilis.

debilis.

lozerae.

spersed. Basal and hindmarginal dusting more extended. Ocelli enormously increased, the upper one diagonally oval, the middle one round with large white pupil and widely surrounded. On the underside all bands well developed, costal spots, hindmarginal spot and anal spots with red centres — of the latter the upper usually *cebennicus.* with white pupil. Ocelli with still larger white centres. — *subsp.* **cebennicus** *le Cerf* is found in the Cevennes, Gorge du Tarn, Cause Mende at 1000 m altitude, a distinguished race with white instead of yellow ground colour with melanic ♀♀ characterised by a striking submarginal band and the narrow but pronouncedly melahyaline glassy border. The ♀ measures 84 mm is of white ground colour scarcely tinged with yellow and shows well developed black markings. Ocelli generally larger than with *lozerae,* seldom with white pupils mostly blind. Submarginal band weakly developed on forewings and extends same as hyaline border to cubitalis 2, widely separated by a diffuse band of ground colour. Anal spots in the hindwings are small, the black marking of the hindmargin extends to the base and apex of the cell and encircles it posteriorly. ♀♀ are large, expanding 82—85 mm of lighter colour than *lozerae Pag.* Hyaline margin is united with the weakly dusted hyaline straight submarginal with a separating band of small round spots of the ground colour. Both bands extend to the hindmargin. Subcostal spots heavy, deep black united together by faint dusting and with the very heavy roundish hindmarginal spot which is almost as large as the middle cell spot. Costa and base sparsely scaled with black. Hindwings with wide glassy border weakly dusted and only narrowly divided from the arcuate excurved submarginal band. The dark carmine red ocelli are much larger than in the ♂, heavily surrounded with black with small eccentric white pupils. Anal spots form a black conjoined band. Base dusted as in ♂ but more pronouncedly black. On the underside in both sexes bands of the forewings distinct and widely separated, the black spotmarks striking. On the hindwings the ocelli have such large white centres that only a narrow red ringlet remains with a hairfine black surround. Submarginal distinctly present in the ♂, the border on the other hand without shading: in the ♀ both bands of the hindwings occur distinctly hyaline and wide. In both sexes anal spots filled with red, the upper one with white pupil. In the ♀ the lower red *leovigildus.* basal spot has a streak-like white mark. — A beautiful and stately race **leovigildus** *Fruhst.* comes from Digne in the Basses Alpes, the ♂♂ of which have a white ground colour with a yellowish tinge. They have a narrow pointed hyaline band extending to cubitalis 2 and widely separated from it a somewhat sinuous submarginal dusted with grey. Subcostal spots small and isolated. Cell spots medium sized roundish and oblong, hindmarginal spot small and round: all spots deep black and contrasting from the pale ground colour. On the hindwings ends of nervules show traces of black dusting and also the submarginal is barely indicated. The carmine red ocelli are only small with relatively large white pupils but narrow black surrounds. Anal spots small, constricted. Basal and hindmarginal area deep black filling half the cell and encircling its apex. The ♀♀ are larger than the ♂♂ and appear rather dusky owing to the wide hyaline margin, the dark generally widely separated submarginal as well as the wide dusting of the costa and base. Both bands extend to the hindmargin. The scaling is sparser. The costal band reaches with the tip of the median spot to media 3: cell spots are large, deep black in comparison with which the hind marginal spot is round and small. Ocelli of hindwings are oval and especially the median ones are distorted, both bright carmine red and with white pupils. Analspots streak-like and small. The margin more or less widely dusky, submarginal always distinct even if only narrow. Black *substitutus.* markings of base and hindmargin as in ♂. — **substitutus** *Rothsch.* from La Graves in the Hautes Alpes 1500 to 1800 m is placed between *brittingeri* and *rhaeticus* has usually smaller ocelli and generally a small size. The ♂♂ have a narrow hyaline margin and widely separated, slightly sinuous, somewhat dentate narrow submarginal band, which is faintly dusted with black. Subcostal band is narrow and extends somewhat concavely towards the cell at media 2. Black marking is moderate, but deep blaek. The ground colour is white, fairly thinly scaled: costa and base powdered with black. No submarginal visible on hindwings, margin remains pure white. Ocelli are small, light red with white pupils and especially the eostal one with minute black surround. Shading at base is moderately dense but it penetrates to the base and point of the cell. Anal spots united into a band *lioranus.* and constricted. — From Auvergne of Lioran and Cantal we have the race **lioranus** *Fruhst.* having the same marking characteristics as *lozerae* but it has discarded the yellow eolouring so characteristic of this race and inclines on one side to *nivatus* and on the other to *leovigildus Fruhst.* The large ocelli with only slightly smaller pupils remind one of *nivatus,* but it differs through the hyaline margin and submarginal which in both sexes are darker and the latter is much wider. The whole basal area shows more intensive black marking than in *venaissi-* allied races. — *subsp.* **venaissimus** *Fruhst.* from Mount Ventoux (1900 m) in Provence is a transition between *mus.* the race from Auvergne, *lioranus,* and that from Digne. This race is the palest representative with *nivatus* characteristics in southern regions. The large bright red ocelli, the black marking at the base of the hindwings and the very redueed submarginal of the forewings show the relationship to *nivatus* of which as far as at present *chrysopho-* known it is a weak reproduction driven to extremes. — *subsp.* **chrysophorus** *Fruhst.* found in the Pyrenees at *rus.* Vernet-les-Bains reminds one by its yellowish ground eolour of *lozerae Pag.,* differing thereby from the pure white races of the Central Pyrenees. All black spots redueed, those of the cell almost quadrangular, not round. Hyaline margin narrow, submarginal separated from it by a wider interval than in *pyrenaicus Harc.* Ocelli

of the ♀♀ are more vermillion than carmine red, much smaller and with less pronounced black surround than in *pyrenaicus*. On the underside one is struck by the reduction of the red basal spots. In contrast to *pyrenaicus Harc* the ♀♀ are androtropic and a similarity to *antijesuita Bryk* is clearly perceptible. The spanish *apollo* races have only of recent years become better known and in further exploration many a discovery is to be expected. From Aragonia (Alta Aragon) we have the stately large race of **aragonicus** *Bryk* which comes between *nevadensis Oberth.* (6 d) (Vol. 1, p. 24) and *pyrenaicus Harc.* (Vol. 1, p. 24, plate 13 b), Ground colour of the ♂ is white with a yellowish tinge. The narrow hyaline margin is widely separated from the submarginal band which is dentate in its upper part, it is fairly heavy, dusted with grey-black and ends somewhat sinuously as does the hyaline margin at cubitalis 2. Subcostal spots are small, deep black and generally not united. Cell spots of moderate size, roundishly oblong: hindmarginal spot sometimes large, sometimes small, it is roundishly square. Costa and base faintly dusted with grey-black. On the hindwings the ocelli are only moderately developed, carmine red, somewhat distorted circular, narrowly surrounded with black and generally with white pupils. Adumbration of base and hindmargin fills half the cell and encircles it narrowly at close of cell. Anal spots small, streak-like to almost extinct. Margin scarcely shaded and submarginal only indicated here and there by a few single blackish scales. The ♀ is much darker in tone and more richly marked with black, so that inspite of the white ground colour it makes a dusky impression. The hyaline margin although fairly broad at the top tapers off to a point at the hindmargin, as does the heavy grey-black dusted wide submarginal band, which encloses a scarcely interrupted narrow white band. Subcostalband reaches to media 3 with the small tip of the median spot which is turned towards the cell and is nearly always united by wide dusting with the strikingly large hindmarginal spot. Below the latter there is still a small black streak close to the hindmargin and a small punctiform red spot is discernible such as also is shown by the median spot. Costal and basal area is more extensive but dusted dispersedly. In the hindwings one is struck by the much larger ocelli than in the ♂: they are roundish, the median ocellus larger than the costal, widely surrounded with black and with large white pupil. Margin and submarginal wide and heavily powdered with black-grey. Anal spots band-like and deep black. Hindmarginal dusting lighter than in ♂: it extends only slightly into the base of the cell and surrounds same narrowly to the upper media. In the ♂ on the underside the median spot of the forewings has occasionally a red centre. All the black markings reduced in size. In the ♀ both costal spots and hindmarginal spot have red centres. Ocelli with large white pupils so that the red is reduced to a narrow ringlet as also is the black surround. Anal spots have red centres. The red of the basal spots is much reduced, the two lower ones often to a few scarcely discernible minute spots. All bands distinct. — **asturiensis** *Pag.* is a race from Asturia, established from specimens bred from pupae by Pagenstecher in Germany, which he had obtained from Asturia. For this reason they are declared to be scientifically valueless by Fernandez and other experts. According to the description they closely resemble *pyrenaicus*. Expanse of ♂♂ is 58—62 mm, they have truncate wings of yellowish ground colour. Hyaline margin up to 5 mm wide bulging somewhat in the middle tapering off to a point at the posterior angle. Submarginal shorter, fairly heavy. Black markings of the forewings throughout small. Hindwings have small white centred ocelli: anal spots are punctiform or linear. Black marking of base and hindmargin weakly developed and narrow. The ♀ is also yellowish and very darkly dusted, it has a 7 mm wide hyaline margin which is confluent with the very wide submarginal and extends to the hindmargin. The disc is darkly dusted. Costal spots are heavy, the lower one with red scales. Hindwings have a very heavy border. Anal spots are heavier, the black dusting of the base more extended than in the ♂. Submarginal unites with the margin anteriorly and posteriorly. Red ocelli are strongly marked with black surrounds and white pupils. Undersides have a lively yellow tone, both costal spots have red centres as also has the upper anal spot. — The race **ardanazi** *Fernandez* comes from Puerto de Oliva, Espinama and other localities in the district of Potes in the Province Santander, it is larger than *nevadensis Oberth.* (6 b) expanse on an average 68—73 mm therefore smaller than many european races. Ground colour of the ♂♂ is white, not quite so pure as in *escalerae Rothsch.* (6 c). Hyaline margin only moderate, submarginal band well developed. sometimes even wide. Subcostal spots less separated from one another than in *escalerae* not rarely forming a band together. Other black markings distinct but small. Ocelli of the hindwings normal, in the ♂♂ there is sometimes a more or less distinct light brown ring between the black surround and the red centre. Submarginal band is always faint nevertheless distinctly developed. Ground colour of the ♀♀ is light but the melahyaline patches are fairly extensive so that generally the contrast between the black marking and the pale ground colour is very striking to the eye. Ocelli not rarely show a tone of sienna instead of red. — The habitat of the race **krichelдorffi** *Eisner* lies between that of *asturiensis* and *ardanazi*, but higher 1800—2000 m in Asturia on the Picos de Europa. The ♂♂ have not such an elongated wing contour as *ardanazi* and are smaller making a lighter impression. Subcostal spots just as hindmarginal spot only small reminding one of *escalera* (6 c). Cell spots moderately large the middle one roundish, suspended. Hyaline margin tapers off somewhat pointedly just beyond cubitalis 1, as does the heavily dusted rather widely separated submarginal band. Ocelli of hindwings small, approximately as in *escalerae*: subcostal ocellus usually larger than the median ocellus and then with larger white centre. Black marking of hindmargin and anal spots reduced fairly similar to *escalerae*.

aragonicus.

ardanazi.

krichel-dorffi.

Submarginal distinct, ends of nervules faintly shaded. A ♂ that as a variation from the rule shows fringes black throughout, was named ab. **nigrociliata** *Eisner*. The ♀♀ are somewhat larger than the ♂♂ and inspite of their rich markings they appear to be pale. The band of ground colour is always distinct, never diffused as in allied races. There is a wide black dusting between costal band and hind marginal spot. Margin of hindwings is dusted with black and the submarginal band is fairly wide and very pronounced. Anal spots are band-like, fairly wide with red centres a third small spot clearly present. Dusting at base is heavier and more extensive than in the ♂. Ocelli are much larger with wider black surrounds and larger white pupils. — *subsp.* **escalerae** *Rothsch.* (= hispanicus *Oberth.*, guadarramensis *Fruhst.*, guadamarensis *Fruhst.* errat.) (6 c) from San Ildefonso in the Province of Castile, is a stately race with wing expanse 72—76 mm. The ♂♂ of white ground colour faintly tinged with yellow with fairly narrow inwardly dentated hyaline margin scarcely exceeding cubitalis 1. Submarginal delicately dusted with grey, gently sinuous, separated very widely by a band of ground colour from the glassy border and diffusing widely just beyond cubitalis 2. Black markings of forewings generally very reduced and dusting of costa and base sparsely grey. Hindwings also very poor in markings, extremities of nervules sometimes weakly dusted and the almost extinct submarginal indicated by a few single greyish scales. The deep red ocelli are small with fairly large white centres and heavy black surrounds. Black marking of base and hindmargin not very heavy or extended. Lower basal spot curvated, black, the upper small, roundish, delicate light grey, sometimes with a red spot. On underside all markings further reduced but distinct. Submarginal of forewings and hindwings better developed. Black marking of the basal area still lighter and thinner, the red basal spots small and vermillion red as the ocelli. The ♀♀ are very brightly marked and inspite of rich and heavy markings make a light impression. The whole surface of the forewings is dusted with granular greyish black, only two patches in the cell retain the light ground colour, the parts on each side of the subcostal spots and the hindmarginal spot, as well as the band of the ground colour which inclines to *lunulata* form. Hyaline margin tapering off to the hindmargin is much narrower in its lower extremity than the submarginal band which is heavily dusted with grey and expands downwards reaching fully to the hindmargin. All the black markings and especially the irregularly shaped hindmarginal spot are deep black and contrast strongly: subcostal and hindmarginal spots often have a red centre. The enormously large ocelli of the hindwings with their bright carmine red colour and heavy black surrounds are striking. Marginal and submarginal bands are well developed as also are the anal spots which are always increased by one or an indication of one *ampliusmaculata* spot. Black marking of base and hindmargin heavier and more extensive than in ♂. Undersides more yellowish, all bands very nicely and still more heavily marked than on uppersides. With the exception of the cell spots, all spots nearly always have some sort of a red centre and the white pupils of the ocelli are so expanded that only a ringlet of red is left. — **laufferi** *Bryk* comes from the neighbourhood of Saragossa and is smaller than all spanish races. The fringes are as with *escalerae* (6 c) black and white checked. In the ♂ the hyaline margin is very narrow, bulging inwards between media 2 and 3. Submarginal band is narrower than in *aragonicus* and *escalerae* being often interrupted between media 1 and 2 and from thence indistinct. Hindmarginal spot heavier than in *escalerae*. Base and hindmargin of hindwings strikingly deep black and more extensively scaled than any of the races mentioned in comparison. Ocelli are small and anal spots little developed. The three red, black surrounded basal spots are often missing on the underside. Ground colour is whitish like the apollos from the Pyrenees. The ♀♀ are larger than the ♂♂ of typical high altitude form, strongly melanic, ocelli with distinct white pupils. Black marking of base heavy encircling the cell. — **maurilianus** *Fernandez* from Palencia, Sierra del Brego and Villa Fria is a transition form between *escalerae* and *ardanazi*: it is larger than the latter but in all other characteristics it approaches more to the former. — *subsp.* **antijesuita** *Bryk* (= ferreri-antijesuita *Aichele*) from Catalonia has a fairly narrow hyaline margin sometimes extending to cubitalis 2, the submarginal is sinuous consisting of sharp crescents and is shorter than the hyaline margin. The first subcostal spot is small, the second very much larger and generally with faint reddish scales. Cell spots and hindmarginal spot are very large and deep black. Ocelli of hindwings are large, the median many times the size of the upper and with fine white pupil. Of the three anal spots the upper one is free, the middle one united, with red centre. Submarginal is absent. Subcostal spots on underside have red centres. Hyaline margin only rudimentary retained around the ends of nervules, submarginal distinctly present and sinuous. On the hindwings the middle anal spot has a white pupil and the submarginal is retained by faint arcs lying internervally. — Fernandez has described still an ab. **basimaculata** from the Sierra Nevada of Puerto del Lobo which shows an additional small black spot in the base of the discoidal cell and which is smaller than the middle cell spot. — Stichel makes known the race of **apenninus** from the Apennines of Tuscany. "Of small size, the white ground colour more or less dusted with black, the transparent border of forewings very wide, being confluent with the blackish submarginal band. Eyespots of the hindwings pale red, frequently orange red." According to Calberla the specimens are only distinguishable from Alpine specimens by the denser scaling of the wings causing same to appear whiter, they always have white pupils in the red eyespots which are as reduced in size as the black spots. — Verity has described as f. *rothschildi* a ♂ from Italy without any particulars as to locality and according

nigrociliata. *escalerae.* *laufferi.* *maurilianus.* *antijesuita.* *basimaculata.* *apenninus.*

to a single specimen, which is possibly identical with one of the known races but which cannot be defined with certainty. — The race **euappenninus** *Vrty.* (= apenninus *Oberth.* nec *Stich.*, appenninus *Trti* and *Vrty.*, appennina *Trti.*) from Pizzo-tre-Vescovi is very stately with an average wing expanse of 72—73 mm. Ground colour is a nice white with quite faint tinge of yellowish. Hyaline margin abt 4 mm wide extending to cubitalis 2 as does the very sinuous narrow and dentate submarginal band both being separated by a band of ground colour which expands downwards. Costal spots are heavy, black sometimes united by grey scaling, the median ending in a tip inclined towards the cell. Cell spots only moderately large but deep black, oblong and rounded: hindmarginal spot as large as the middle cell spot elongated oval or oblong placed obliquely. Costa and base only lightly granularly dusted. No submarginal band in the hindwings, ends of nervules lightly scaled. Ocelli fairly large, carmine red, the costal one generally blind, the median with small white pupil. Anal spots separated. small but deep black. Black marking of hindmargin very extensive and heavy, it fills still ¾ of the cell and encircles also the apex of same widely. On the underside of the forewings the median and hindmarginal spots have small red centres. Both ocelli of the hindwings have fairly large white pupils and often both anal spots. otherwise only the upper one have red centres often with white pupils. The somewhat larger ♀ is more dusky than *italicus Oberth.* Both bands of the forewings are confluent forming a wide hyaline band of about ⅓rd of the width of the wings and a separating band is only observable by a few scarcely indicated somewhat lighter blotches. Cellspots medium size, hindmarginal spot on the other hand still larger than the middle cell spot, glossy black as all the spots. The upper costal spot is only small and grey, the median obliquely oblong very large and with distinct tip and intensively black. Costa, onethird of the cell and base as well as the hindmargin are dusted widely with granular black along the cell to media 2, the submarginal and the hindmarginal spot. There are only two light patches in the cell, a wide one from the end cell spot to the submarginal and a spot each side of the hindmarginal spot. Hindwings have the border adumbrated by large glassy lunules to which are attached the narrow white separated arcs of the submarginal which is dusted with blackgrey. Anal spots are deep black elongated oval and separated. Ocelli very large, the median double the size of the costal both carmine red with white pupils and fairly widely surrounded with grey-black. Dusting at base same as in ♂. Undersides correspond with uppersides, only the ocelli are brick-red as also are the large basal spots and the centres of anal spots. — *subsp.* **emilianus** *Trti.* from the Apennines of Modena is of stately expanse. The ♂♂ have a yellowish ground colour with a faint tinge of grecnish. The hyaline margin tapers off moderately extending nearly to the hindmargin and is separated from the more or less well developed arcuate fairly straight and narrow submarginal band by a wide band of the ground colour. The subcostal spots are narrow generally forming a band. Cell spots large and of irregular shape, deep black. Hindmarginal spot is only small and roundish. Costa and base faintly dusted with black. The margin of the hindwings is faintly suffused, the *arcuata*-like submarginal more or less pronounced. The carmine red ocelli small with narrow black surrounds and white pupils. Both anal spots conjoined forming a narrow band: basal and hindmarginal dusting very heavy and extensive, filling half the cell and encircling same widely at the apex. The somewhat larger ♀♀ have the same ground colour which however is heavily suffused by more copious black dusting and an extension of the black markings. Hyaline margin and submarginal are considerably wider, especially the latter which is separated from the hyaline margin by only faint lunules: both extend to the hindmargin. The submarginal is nearly always united by copious dusting with the heavy subcostal band and the subcostal again by band-like dusting with the deep black and enlarged hindmarginal spot. Cell spots and dusting somewhat heavier than in the ♂. In the hindwings the margin is also fairly widely suffused throughout its course and the submarginal runs concurrently being wide and of *dentata* formation: in some specimens it is strongly reduced. Ocelli are larger, irregularly round with fine black surrounds and mostly with white pupils. The anal spots and black marking at base heavier than in the ♂. — In Abruzzia on Mounts Majella and Gran-Sasso we find *subsp.* **italicus** *Oberth.* a medium large race with wing expanse 63—70 mm. The ♂♂ show a faintly yellowish tone and a narrow only 3—4 mm wide hyaline margin running sharply to a point just beyond cubitalis 2, just as far as the equally long distinctly *dentata*-formed submarginal. A wide band of the ground colour separates both bands. Costal spots are separated. the tip of the median extends just beyond media 2. Cell spots are large, deep black, hindmarginal spot small and roundish. Costa and base widely, coarsely dusted. In the hindwings the small round ocelli are deep red with small white pupils and narrow black surrounds. Anal spots moderately large and separated. Dusting of base and hindmargin dense and heavy — it fills half the basal cell and penetrates at the lower and apical ends slightly into same. Along the margin the extremities of the veins often show slight shading: submarginal is indicated by very faint remnants of arcs lying internervally. On the underside anal spots are mostly both filled with red and the submarginal as well as the ends of the veins generally distinct. The ♀♀ are heavily adumbrated by coarse black scaling of the forewings, the hyaline margin is as wide as in the ♂♂, but the submarginal is much wider almost as wide as the former being confluent with same at the hindmargin and enclosing a row of large lunules. Hindmarginal spot very much larger than in the ♂, round and intensively black as the other spots. The coarse black dusting covers the whole costa. the lower third of the cell, continuing along same broadly

euappenninus.

emilianus.

italicus.

to the median spot uniting there with the submarginal. The very large light carmine red ocelli of the hindwings are striking, the median is twice the size of the costal and with much larger white centre: the black surround is wide and heavy. The margin has an arcuate border and the submarginal distinctly *arcuata* formation. Anal spots fairly large, the lower one with red centre. Black dusting at base more extensive than in ♂. Underside markings more lively. Ground colour, especially of the hindwings heavily yellowish: bands of all wings more heavily marked than on the upperside, all markings standing out more boldly. Both costal spots and hindmarginal spot of forewings have red centres: ocelli of hindwings with copious white centres, leaving only a narrow red ringlet in the black surround. Both anal spots with red centres, the upper one with white pupil: an *amplius-maculata* spot is distinctly present. Basal spots very large, brick-red as the ocelli. — The last group of races consists of the apollo forms from Syria and Asia Minor. — **levantinus** *Rothsch*, from Aintab in North Syria described from a pair. It is nearest to *liburnicus*, but smaller with less extensive hyaline margin of forewings, a more obsolete submarginal band and smaller cell spots. The submarginal band of the hindwings is formed by a row of sagittate spots which are larger and distincter: the margin is not so heavily scaled. The ♀ is nearest to *carpathicus*, it is whiter and shows all dark and hyaline patches as well as the marginal and submarginal bands more clearly and distinctly. — The race **auerspergi** *Rbl.* from the kilikian Taurus is described from ♂♂ only. These are very white and large, length of wings being 46—48 mm. Submarginal short reaching only to media 3 and also the hyaline margin ends just before cubitalis 1. Ocelli are very large with wide white centres. Anal spots distinct. On the underside the submarginal is only indicated by black suffused spots. It is nearest to *levantinus Rothsch.*, differing from same by purer white colour, the elongation of the costal spot of the forewings towards the base and the shorter hyaline margin. — *subsp.* **peroneurus** *Bryk* (6 d) from Amasia, Ak-Dagh is a pale and stately race. The ♂♂ of pure white ground colour, which may sometimes be tinged yellowish with white or yellowish fringes and sharply pointed narrow hyaline margin ending at cubitalis 2. Submarginal is grey-black, faintly dusted and disjointed, separated from the hyaline margin by a wide band of ground colour. Costal spots are strikingly small and isolated, but glossy black like the large cell spots and the hindmarginal spot. The whole surface of the wings very faintly dusted with black. Hindwings sometimes have a shaded border and the submarginal band scarcely perceptibly indicated. Ocelli are fairly large, yellowish red to brick red, widely surrounded with black, the median mostly with large white pupil, the costal with a small one. Anal spots only weakly developed and not confluent. Black marking at base not dense but extensive. The ♀♀ are larger, dusted all over with dark grey. Hyaline margin narrow, not wider than the heavy, dentate somewhat diffuse submarginal band, separated from same by large yellowish white patches. Both bands end at the hind margin. Median spot large rectangular, deep black with tip extended towards the cell. Cell spots large, oblong: hind-marginal spot very large, all spots intensively black. The margin of hindwings is narrowly dusted with blackish and separated by wide yellowish white from the diffuse, wide submarginal which is thinly dusted grey-black. The carmine red ocelli are very large roundishly distorted with very heavy black surrounds. The costal with small, median with large white pupils. Anal spots heavy not confluent. The black marking at base very sparse, rather light grey but extensive. On the underside the large white centres of the ocelli are striking, they compress the yellowish red to a narrow ringlet. Black surrounds minute. Anal spots filled with yellowish red: basal spots faint and small, yellowish red. All bands well developed. — **anatolicus** *Pag.* (5 f) from the Sultan Mountains of Asia Minor has larger ♂♂ than those of *peroneurus*. Wings are very thinly scaled, pure white, appearing transparently milky. Fringes are plain yellowish or checked with black. Hyaline margin narrow, sharply pointed and reaching to the hindmargin. Submarginal only extends to media 3 and is indicated by faint scaling. Costal spots very small, not confluent, glossy black. Cell spots small, end cell spot oblong, middle cell spot oblong or round, hindmarginal spot oval, placed vertically: all spots deep black and glossy. Costa and base very faintly powdered. On the hindwings in place of the extinct marginal bands there are here and there scarcely perceptible shadows of a few grey scalings. Ocelli medium to fairly large, oval or round, heavily surrounded by black, carmine red with white pupil, the upper one often blind. Anal spots heavy but not large, the upper one round, the lower one band-like and separate. Dusting of base and hindmargin faint, not dense. The ♀♀ are larger with deeper yellowish tinge. The submarginal band of the forewings heavier than in the ♂, extending to the hindmargin. Hindmarginal spot very massive. Extremities of nervules shaded with black on hindwings and submarginal distinctly present scaled with grey. Ocelli are larger and anal spots large and blacker, also the dusting at base denser. All wings lightly powdered with grey. — The race **kashtshenkoi** *Shelj.* (5 e) from Ararat consists of large butterflies with wing expanse of 90 mm. The ♀♀ are thinly scaled, very transparent, white with yellowish tinge. The very wide hyaline margin forms a wide band with the submarginal and is separated by whitish hyaline crescents: it ends at the hindmargin. Costal spots are large, conjoined and the median ends with a pronounced tip at media 3. Cell spots are large, oblong and placed obliquely. Hindmarginal spot roundish, very large. Dusting of the costa and base sparsely blackish. In the hindwings the margin is duskily transparent, submarginal wide, diffuse, faintly dusted with black. The brick-red ocelli are enormously large, the median double the size of the costal, widely surrounded with black and with large

levantinus.

auerspergi.

peroneurus.

anatolicus.

kashtshenkoi.

white pupils. The anal spots are heavy almost crescent shaped, conjoined, sometimes with red scales. Basal and hindmarginal area extensive but not densely scaled with grey-black. On the underside one is struck by the large white centres of the ocelli which are encircled by narrow yellowish-red ringlets and moderate black surrounds. Anal spots yellowish-red the upper one still has a white centre. Basal spots indicated by yellowish-red. ♂♂ somewhat smaller and not so richly marked. In them the subcostal spots are not confluent and the ocelli of the hindwings are also smaller, generally both have white pupils and are heavily surrounded with black. Submarginal band mostly quite extinct and dark dusting at base very reduced. — Very closely related is *subsp.* **dubius** *Bryk* (= armenicus *Pag.*, araraticus *Pag.*, kastschenkoi *Pag.*, suaneticus *Vrty.*) from Kagysman *dubius.* in Armenia which is also a very large race. The ♂ of white ground colour scarcely tinged with yellow and fairly sparsely scaled. The wide hyaline margin sharply pointed extending somewhat beyond cubitalis 1, as also does the fairly wide but only faintly black dusted and loosely connected submarginal band which is separated by a wide band of ground colour. Costal spots are only small and isolated. Cell spots only small relatively to the size, end cell spot almost triangular, middle cell spot oblong and rounded off. Hindmarginal spot large and obliquely oval: all spots heavily black. Costa and base faintly dusted. Hindwings without discernible bands. Ocelli remarkable for their size, they are round, somewhat distorted, brick-red, narrowly surrounded with black and with large white centres. Anal spots are bold not conjoined, blackish as the moderate dusting of the base and hindmargin which extends over half the cell. The slightly larger ♀ shows a somewhat more yellowish tone and is partially dusted with black on the forewings. The wide hyaline margin is confluent with the grey-black dusted submarginal band, extending to the hind margin scarcely interrupted by a row of small crescents and spots. Costal spots almost conjoined by faint dusting, the median is very large with a pronounced tip pointing towards the cell and reaching media 3. Cellspots moderately large, as also the strikingly large round hindmarginal spot. The dusting between the costal band, the cell and the hindmarginal spot is just as sparse as the dusting of the costa and base. Hindwings are more heavily dusted. The margin is adumbrated, submarginal wide, diffuse, faintly dusted. Ocelli are very large, brick-red with wide black surrounds and white pupils. The centre of the costal ocellus is in the middle, that of the median is moved to the periphery, the latter is considerably larger. Anal spots very striking, not connected. The blacking of the base very extensive but only thin and not obscuring the ground colour. In both sexes the black markings are distinct on the underside, somewhat reduced as compared with the upperside but more sharply outlined. Blackish dusting is absent. The white centres of the ocelli are larger and anal spots are filled with red. — The race **zarathustrae** *zarathu-* *Bryk* from Malatia, West Kurdistan attaches itself to the large and stately forms of Asia Minor: it is even larger *strae.* than *peroneurus*, the ♀♀ have yellowish ground colour and sparse scaling. Hyaline margin is narrow with small triangles of whitish colour lying internervally and pointing inwards, it only extends to cubitalis 1. Submarginal is heavier than in *peroneurus* and consists of small sagittate spots pointing inwards, often finishing at media 3 and thereafter scarcely perceptible through a few traces to cubitalis 2. Costal spots deep black, the larger median with the characteristic tip. Cell spots relatively small, but hindmarginal spot large, all intensively black. Hindwings similarly marked to *peroneurus*, but the carmine red ocelli have larger white centres, the upper one rarely blind. Anal spots small but distinct, not united, pronouncedly black. The ♀♀ are still larger than the ♂♂, sparsely scaled with white and of transparent appearance, seeming dusky owing to fairly copious dusting. The wide hyaline margin converges with the equally wide somewhat hyaline heavily scaled submarginal, reaching to the hindmargin and having a row of small whitish spots. Costalband is very strikingly wide and massive, stretching with a bold tip to media 3, whilst the cell spots appear in comparison to be small. They are narrowly oblong rounded off and contrast strikingly with the enormously enlarged hindmarginal spot which is deep black and as all the spots stands out boldly from the ground colour. In the hindwings the margin is scarcely shaded, whilst the submarginal is very wide, somewhat diffuse but copiously darkly dusted. The carmine red ocelli in their enormous extent correspond quite to those of *kashtshenkoi*: they are widely surrounded with black and have large white centres. The three anal spots are scarcely or not at all connected, the lower one with a red streak. The black marking of the base and hindmarginal area very extensive but not dense. On the underside all markings are very pronounced. In the enormous ocelli the white centres compress the red to a narrow ringlet and both lower anal spots are always filled with red. The submarginal very distinctly marked with bold large triangles lying internervally as in the ♂.

P. apollonius *Eversm.* (Vol. 1, p. 27). Avinov has described ab. **unica** (= novarac *Avin.*, = novarae- *apollonius.* *unica.* unica *Avin.*) from Alai. It is distinguishable by a considerable reduction of the black antemarginal row of spots, as well as by the completely black spots which otherwise have red centres.

P. nomion *Fisch.-Wald.* (Vol. 1, p. 27). As a denomination of the name type form Bryk has quite *nomion.* unnecessarily proposed the name *pseudenomion* and described further the following aberrations of the veins which are analogous to those already previously described: ab. *enderleini*, ab. *jordani* and ab. *reuteriides*. — The ab. **fischeri** *Bryk* shows all wings with black fringes instead of the typical checks in which also the otherwise *fischeri.*

internervally situate light conical patches of the ground colour in the hyaline margin are absent. On the upperside of the forewings all the red is missing and the subcostal spots are remarkable by their smallness. In the hindwings the costal ocellus is nearly double the size of the median, it is elongated oval extending to the costa. The basal spots on the upper side are also not red. — Verity describes from Transbaikalia the subsp.

transbaicalensis. **transbaicalensis** which is placed between *nominulus Stgr.* (Vol. 1, p. 28) and *mandschuriae Oberth.* (Vol. 1, p. 27). It is exceedingly variable and not easily recognisable in all forms, but the ground colour is purer white, the

titan. black spots more intensive and the red colour of the spots brighter. — subsp. **titan** *Fruhst.* from Sutshan. 100 km east of Vladivostock (not from North Afghanistan as Fruhstorfer erroneously wrote) has the ♂♂ generally larger than the ♀♀ of *mandschuriae Oberth.* and they differ from the ♂♂ of same by the very dark red ocelli of the hindwings, as well as by the more hyaline margin which is often confluent with the heavy submarginal. On the forewings the black spots are better developed, especially the subcostal spots which often unite forming a falcate band extending to media 3. Red centres often occur in the median spot and hindmarginal spot. The dusting of the hindmarginal area is extensive. The ♀♀ are more sparsely scaled, the forewings very hyaline, both marginal bands confluent, forming a wide glassy band which is decorated by a row of faint

bipupillata. yellowish-white dusted crescents. As aberrations of this race we have: ♀-ab. **bipupillata** *Kard.* in which only

bipicta. the upper subcostal spot is present on the forewings with a red centre on the inner margin. — ♀-ab. **bipicta**

octoginta. *Kard.* has only the lower subcostal spot which has a red centre on inner margin. — ♂-ab. **octoginta** *Kard.* has heavy black surrounds to the ocelli of the hindwings, the upper shaped like an "0", the lower like an "8", both

melanconicus. together "80". ab. **melanconicus** *Bryk* has the upper basal spot without red. — ♂-ab. **duplicatus** *Biener* shows

duplicatus. with normal colouration the hindmarginal spot of forewings duplicated and the ocelli of the hindwings consi-

mandli. derably reduced and egg-shaped instead of round. — ♀-ab. **mandli** *Biener* has the cell spots of forewings considerably reduced not extending to the upper cell nervure. Hyaline margin forms a continuous band and is not dissolved in spots: otherwise just as in ab. *nexilis Schultz* in which the black marking of the hindmargin

ternejana. of hindwings does not enclose half the cell as in normal specimens. — The race of **ternejana** *Kard.* from Ternej Bay in the South Ussuri is somewhat smaller than *titan Fruhst.* but larger than *nominulus Stgr.* (Vol. 1, plate 14 a) from the Sajan district. All the black spots of the forewings are reduced and also the ocelli of the hindwings are only small showing traces of white scales. The submarginal of the hindwings is divided into small spots

halteres. and not very distinctly marked in both sexes: hyaline margin clear but narrow. — Bryk described ab. **halteres** of the subsp. *mandschuriae Oberth.* (Vol. 1, p. 27) in which both cell spots are united by a bar, so that between

quincunx. them 2 light spots arise and ab. **quincunx** is analogous to the same form of *P. apollo.* — ab. **novarae** *Bryk* from

novarae. Tai-ping-lin in Mandchuria shows a greenish yellow ground colouration. Hyaline band extends to hindmargin: submarginal is faintly interrupted and shorter. The first subcostal spot of forewings is absent, the second strongly reduced. Hind marginal spot smaller but elongated, cell end spot of *quincunx* formation. Both subcostal spots and also the submarginal are absent on the underside. Hind marginal spot divided in two by the nervure of the fold which is dusted over with white. Hindwings have characteristically large black ocelli: the subcostal is oval almost divided into two spots by the subcosta which is suffused with white. Submarginal is absent,

chosensis. basal spots without red. — Matsumura describes the race **chosensis** from Mount Hakuto in Corea, which is close to *mandschuriae*, distinguishable however from same by a light yellowish tone to the wings of both sexes. The ♂ has small spots in the hyaline margin, of which the three lower ones are wider and the submarginal band has narrower lunules. Ocelli of the ♀ are almost the same as those of the ♂, they have a wide black ringlet and white pupil. The first anal spot without red. Expanse of ♂ is 80—84 mm and of the ♀ 90 mm. — The race of

tschiliensis. **tschiliensis** *O. B.-H.* is from the province of Chihli, from Lin-si-hien on the eastern side of the mountains of Chingan. It is smaller than *davidis Oberth.* (Vol. 1, p. 26) which flies 300 km southwest, wing contour more elongated and pointed, black markings more heavily developed. Subcostal and hindmarginal spots of forewings generally with red centres. The ♀ is more darkly hyaline than *chosensis Mats.* and dusted especially on the forewings with black-brown between the median and hindmarginal spots widely from the cell to the submarginal band. Hyaline margin of hindwings is wide, with whitish triangles in the margin forming thereby large somewhat truncate glassy cones. The submarginal consists of narrow, fairly heavily black falces. Anal spots are deep black united by a black dusted area with the submarginal and median ocellus. — The subsp. *anna Bryk* from the Chingan Mountains is not distinguishable from *davidis Oberth.* (recte *davidi Oberth.*) all the differences mentioned being aberrative. *davidis Oberth.* (Vol. 1, p. 26) is not a separate species but must be deemed a subspecies of *nomion*. ab. *schaufussi Bryk* is identical with *virgo Schauf.* (Vol. 1, plate 14 b). —

oberthueria-nus. The race of **oberthuerianus** from Hoang-yong-shan (Mountains west of Peking) is a very variable race, the chief characteristics of which are the size and the strikingly light colouration. The ♀ is very pale, margin white and black, hyaline margin and submarginal narrow as in *davidis*, the submarginal however not so dark only extending to cubitalis 2. The three spots in the forewings that are typical of *nomion* are fully filled with red with black surrounds. Base of forewings not so dark as with *mandschuriae* and *davidis*. In the hindwings the round red ocelli are uniformly surrounded with black Both anal spots only moderately developed. The red spot above the base of the cell is ruby red. The submarginal is reduced to five leadgrey spots situate internervally: hyaline margin similarly considerably reduced. Extremities of nervules show black fringes.

On the underside the 4 basal spots are more faintly developed than in *davidis*, and the ocelli have white pupils: of the 3 anal spots the middle one has a red centre. From the middle of the hindmargin to the end of the cell there is a faint black band. Antennae are scaled with creamy yellow. In the hyaline margin of the ♂ large light sagittate spots stretch from the border forming thereby a glassy arc-like band. Submarginal dissolved into loose spots and reaching to cubitalis 2. Ocelli of the hindwings smaller than in *davidis:* subcostal oval with elongated white centre, the median with small white centre. Half the basal cell is filled with the black marking of the hindmargin which unites also with the anal spots and surrounds the cell to the end of same. Submarginal extinct except for a few indistinct scalings. The extremities of the nervules have long cuneiform glassy marks which are edged with black towards the base almost touching the submarginal. Wing contour elongated, somewhat pointed. In ab. **divisionista** *Bryk* which belongs here the first subcostal spot has a double red centre. — subsp. **theagenes** (*Fruhst. i. l.*) *O. B.-H.* comes from the mountains around the town of Lantchow in east Kansu. Ground colour white and the ocelli are smaller than in *richthofeni O. B.-H.*, also the submarginal generally extends beyond cubitalis 2. The *graphica* condition appears to occur frequently, the colour of the ocelli is generally less dark red than in *richthofeni*, the variability is fairly great in contrast to the closely related subsp. **sinensis** *O. B.-H.* from the neighbourhood northwest of the town of Hsining of Tsingschilin in the eastern slopes of the Nan-Shan. This is a considerably smaller race than *theagenes* which has a wider hyaline margin in both sexes than *richthofeni*. The margin is generally not interspersed with white spots and when this is the case they are smaller than in allied races. Submarginal in both wings more pronounced than in *theagenes*, ocelli brighter but considerably smaller than in this race. — From the Richthofen mountains south of the town of Liang-chan in the north of Kansu subsp. **richthofeni** *O. B.-H.* the most beautiful and variable of all *nomion* races flies. It is remarkable by its extremely luxurious markings and the size of the ocelli, as well as the extension of the red markings. The variability is enormous and in order to give the fullest possible description of the race I record the following most frequent aberrations given by O. Bang-Haas. In the forewings: ab. **monopicta** *O. B.-H.* has only the 3rd subcostal spot with red centre. — ab. **rubropicta** *O. B.-H.* with 1st and 3rd subcostal spots with red centres, this is the most frequent form in contrast to the former which is extremely rare. — ab. **albipicta** *O. B.-H.* has the red subcostal spots with white centres. — ab. **tripupillata** *O. B.-H.* has subcostal spots 1, 3 and 4 with red centres, this is a more common form than ab. **tripicta** *O. B.-H.* which has the 1st, 2nd and 3rd subcostal spots with red centres. — In ab. **quadripicta** *O. B.-H.* all 4 subcostal spots have red centres. — Very darkly dusted specimens which especially occur in the ♂♂ sex are ab. **nigricans** *O. B.-H.* — On the hindwings there are also frequent variations: if both anal spots are without red it is ab. **indecora** *O. B.-H.* and if only the first anal spot has a red centre then it is ab. **semidecora** *O. B-.H.* — If the submarginal is dissolved into spots and very reduced we have ab. **reducta** *O. B.-H.* and when the submarginal is extinct ab. **totireducta** *O. B.-H.* — Specimens with rose red coloured ocelli are called **roseomaculata** *O. B.-H.*, if with yellow ocelli colouration ab. **flavomaculata** *O. B.-H.* — If the ocelli are quite red without white pupil it is **rubromaculata** *O. B.-H.*, if the white spot in the ocelli is divided then it is ab. **graphica** *O. B.-H.*

divisionista. *theagenes.* *sinensis.* *richthofeni.* *monopicta.* *rubropicta.* *albipicta.* *tripupillata.* *tripicta.* *quadripicta.* *nigricans.* *indecora.* *semidecora.* *reducta.* *totireducta.* *roseomaculata.* *flavomaculata.* *rubromaculata.* *graphica.*

P. discobolus *Alph.* (Vol. 1, p. 28) should actually be called **thianschanica** *Oberth.* as this name has two years priority. The species described by the American Ehrmann *P. goniscus*, *P. imhovi* and *P. wahlbergi* are identical with *discobolus* according to the researches of Avinov. — In place of *romanovi Gr.-Gshm.* (Vol. 1, p. 28, Plate 14 c) which is preoccupied the name of **grumbrshimailoi** *O. B.-H.* should be substituted. — **nigricans** *Stgr.* (Vol. 1, p. 28) is not a conditional form but a race from the western part of the Thianshan, a counterpart to the race from the eastern Thianshan, Lob-Noor and Bowo-Goro, the subsp. **erebus** *Vrty.* (*Gr.-Grschm.* i. l.). This is an extreme *nigricans* form in which the whole upper surface of all the wings is almost uniformly scaled with black. A conditional form belonging thereto is ♂-ab. **rotundata** *Vrty.* with very truncate wing contour and more roundish lunules which separate the 2 marginal bands on the forewings and hindwings. — ♀-ab. **nero** *Shelj.* is more uniformly scaled with dark black, marginal bands confluent and without light lunules. Ocelli and other markings are normal. — ab. **erema** *Stichel* is very close to the name type form but without trace of a submarginal band on all wings. — The ab. **quincunx** *Bryk* has the end cell spot analogous to the already described aberration in other species. — ♀-ab. **rhododaktylos** *Bryk* shows the union of the subcostal band with red centre and a 3rd anal spot on underside also with a red centre: from Karaigetan, Narynsk. — ♂-ab. **virgo** *Bryk* from Wernej has no red in the subcostal band on the upperside, on the other hand on the underside a minute red centre in the 2nd subcostal spot. — The ab. **perfusa** *Bryk* has no red scaling on the forewings. On the hindwings, of the very large ocelli the subcostal has a few red scales whilst the median shows a semicircular deep red centre. On the underside the purple-red centres of the ocelli have wide black surrounds. At the base the first basal spot shows a few red scales, otherwise all spots are deep black. On the upperside the forewings around the disc and the hindwings are completely covered with fine black scales. — ab. **caeca** *Shelj.* shows ocelli of the hindwings on the upperside quite black, on the underside with still a few red scales, which are embedded in the large black ocelli. There are no white pupils. Anal spots and also the spots of the forewings are quite black on the upper and undersides. — ♂-ab. **lacrimans** *Niepelt* comes from Thian-Shan and has intensively red

thianschanica. *grumbrshimailoi.* *nigricans.* *erebus.* *rotundata.* *nero.* *erema.* *quincunx.* *rhododaktylos.* *virgo.* *perfusa.* *caeca.* *lacrimans.*

rubromarginata. lacriform ocelli running out from the base. — From Naryn we have ab. **rubromarginata** *Shelj.*, a ♂ with the marginal border of the hindwings covered with red scales on the underside so that a distinct red border occurs
tancrei. from the radialis to cubitalis 1. — var. **tancrei** *Deck.* from Lob-Noor is a very melanic race scarcely separable from *erebus Vrty.* and at the best can be considered a conditional form of same. The whole forewings are powdered with black with the exception of the cell, the spots of which are sharply outlined. Subcostal band shows 2 red spots. Hindwings, especially in the ♀ completely powdered with black, ocelli lively red widely surrounded with black. Fringes white and black checked. Ground colour of the ♀ is yellow, both marginal bands of all wings separated by a band of yellowish-grey lunules. The ab. *spuleri Bryk* and ab. *clathrata Bryk* already described are mentioned as aberrations of the veins.

actius. **P. actius** *Eversm* (Vol. 1, p. 28, Plate 4 f). In form ab. **casta** *Fr. Wgn.* (= castus *Bryk*) the hindmarginal
casta. spot in the forewings is absent and in **fasciata** *Fr. Wgn.* an aberration of the ♂ the subcostal band is united
fasciata. by a band with the hindmarginal spot. — The median spot of the subcostal band has a red centre on the
rhododaktylos. upperside in ab. **rhododaktylos** *Bryk* (= tripicta *O. B.-H.*). The ab. **jambicus** *Bryk* described from subsp. *brutus*
jambicus. *O. B.-H.* is a ♀ with 4 highly coloured patches in the subcostal band which are coloured quite pale yellowish.
nova. — ♂-ab. **nova** *Bryk* from Werneyj has the intermediate cells of the forewings densely scaled with white reminding one thereby of the hyaline margin of *nomion* and besides no red on the upperside of the forewings, whilst on
excelsior. the underside only the subcostal spot has a red centre, as is typical in *P. delius.* — ab. **excelsior** *Bryk* has the 2nd basal spot with a red centre on the upperside and with a white centre on the underside of the hindwings.
cardinalis. ♂-ab. **cardinalis** *Wgn.* (= connexa *Wgn.*, conjuncta *O. B.-H.*) has the ocelli united by a black bar. — From
ornatus. Chotan in east Turkestan we have the largest and finest of all the *actius* races, the subsp. **ornatus** *O. B.-H.* The ♂♂ have an expanse of 60 mm, the ♀♀ 65 mm and both sexes have pure white ground colour and large deep red ocelli. In the forewings both subcostal spots, rarely also the 3rd and the hindmarginal spot have red centres; the marginal band is fairly wide and extends to cubitalis 1, whilst the shorter submarginal occurs very faintly and sometimes interrupted. The submarginal is absent in the hindwings, the marginal band on the other hand heavily developed. On the underside the forewings and hindwings show well developed submarginal bands, whilst the margin is only faintly adumbrated. — *ornatus* is smaller than *actinobolus Stgr.* and more heavily marked, whilst *superbus Rühl* (Vol. 1, p. 28) is more heavily marked, especially the marginal bands. — subsp.
brutus. **brutus** *O. B.-H.* from the Pamir (Kisiljahr and Beik, also from Mustagata, western Yarkend) distinguishes itself from the previous by its narrower wing contour also above all the ground colour is of a more dirty white and the red markings are more reduced. Compared with the name type form it is generally larger and the markings
flora. stand out more sharply. — From the north Alai (Ispajran, 3400 m) we have the race **flora** *O. B.-H.*, which also distinguishes itself by the dirtier white ground colour and the strikingly elongated wings. The ♀♀ are heavily adumbrated and often the subcostal and submarginal bands are confluent. Hyaline margin narrow, widely separated from the heavy grey-black dusted submarginal. Hindmarginal dusting extensive but not uniting with the band-like conjoined anal spots. Ocelli are small, widely surrounded with black, especially the upper one towards the base. The red is very suppressed, especially in the median ocellus which is also smaller than the upper one. Hyaline margin of the ♂ is narrow and reaches diffusedly to cubitalis 1, in the margin there are narrow internerval sagittate marks. The submarginal is only distinct anteriorly. Cell spots only small
melaniticus. especially the middle one which exceeds the hindmarginal spot slightly in size. Ocelli as in the ♀. — **melaniticus** *O. B.-H.*, the darkest of all the *actius* races comes from the south-east Thian-Shan, from Kourgak-Taon in the Kutscha mountains north-west of Karashahr. The markings of the race correspond with those of *minuta Vrty.* described lower down, but it is much more darkly dusted and extreme specimens occur in which the wings are almost quite black with white patches near the cell and the base. Both marginal bands are often so confluent
miranda. that only a very small row of white spots is discernible. ab. **miranda** *Niepelt* belongs here as a conditional form. The ground colour is more white, all spots as in the name form but without red. The costal spots are united in a band by faint scalings with the hindmarginal spot. Ocelli are large and bold, pitch black, the dusting at the base is dense and black as also the anal spots. The upperside without any red. Hyaline margin of all wings strikingly wide and dark. Fringes black and white checked. On the glassy underside all spots of the upperside reflect through: in contrast to the upperside the ocelli have faint dark red centres. — Verity described the
minuta. very similarly marked race **minuta** from Juldus and Issyk-kul. It is smaller than the name type and the ♂♂ have a slight yellowish tinge in the white ground colour. Hyaline margin is darker, submarginal wider and more heavily grey-black reaching to cubitalis 2. In the hindwings the marginal band is very wide and dusted along its entire course and not interrupted. Submarginal is widely separated and consists of heavy grey-black dusted, loosely connected, triangular and arc-like spots. Ocelli are larger and with wider black surrounds. In the ♀ one is struck by the extraordinary adumbration. Hyaline margin and submarginal confluent to a wide band and scarcely separated by small faint light dusted patches. The area formed by the cell, subcostal

spots and hindmargin spot is still darker than the submarginal with which it is united. The margin of the hindwings is widely dark hyaline, dusted with black. The sagittate marks of the submarginal, which are joined together, are large and dusted grey-black, being separated by faintly powdered narrow patches of the margin. Ocelli are large and widely surrounded by black. Anal spots connected with the ocelli and the extensive black marking of the hindmargin which fills three quarters of the cell. — In contrast to these dark forms we have the race **dubitabilis** *Vrty.* (= apolliformis *Vrty.*, separanda *Vrty.*) from Karaigatan. This is a much larger form in which the ♀♀ are distinguished by their striking white ground colour. Both marginal bands are wider and extend generally to cubitalis 2 and are separated by a wide band of ground colour, which can sometimes be of *lunulata* character. The subcostal band varies in size, but is always richly marked with red. On the hindwings the large ocelli are characteristic. — The race described by Stichel as *ambrosius* is synonymous with *superbus Rühl* (Vol. 1, p. 28). *dubitabilis.*

P. jaquemonti *Bsd.* (Vol. 1, p. 29). Von Rosen has described the following conditional forms belonging to the race *variabilis Stich.*: ab. **casta** has a strongly reduced hindmarginal spot and ab. **monopupillata** has a red centre in the hindmarginal spot and all the other spots of forewings quite black without red. — In ab. **monopicta** the first subcostal spot has a red centre, in ab. **rubropicta** two subcostal spots have these marks and in ab. **tripicta** all three subcostal spots have red centres. — In ab. **caeca** the ocelli of the hindwings have no red centres and in ab. **conjuncta** the ocelli are united by a black bar. — ab. **excelsior** shows red basal spots. — subsp. **pamira** *O. B.-H.* (= impuncta *Aust.*, ehrmanni *Ehrm.*) from the southern Pamir (the mountains near the River Ljangar) and from Beik in the north-eastern Hindukush when compared with *rubicundus Stich* (Vol. 1, p. 29) shows a less pure white ground colour. Also the subcostal spots in the forewings are smaller and only rarely with red centres and the ocelli of the hindwings are also of smaller size. Generally appearance is larger than *variabilis Stich.* — From Gilgit in the Baroghila Pass in north Kashmir Tytler describes the race **baroghila.** It is not so dark as *discobolus* and approaches otherwise closely to *variabilis Stich.* The ♀♀ have no red spots on the hindwings and agree in this respect with *discobolus.* Expanse of the wings of the ♂♂ is 66—70 mm and of the ♀♀ 64—70 mm. — A very similar race is **hunzaica** *Tytl.* from Misgar in Hunza (Kashmir) on the average it is somewhat smaller and the ♀♀ are darker. The race is more closely allied to *variabilis Stich.* than the former. — The smallest and palest of all the indian races of *jacquemonti* is **shandura** *Tytl.* from the Shandura Pass in north Chitral. The ♂♂ are very white in ground colour and have just as the ♀♀ no or only very faint dark dusting of the wings. — In subsp. **himalayensis** *Elw.* (Vol. 1, p. 29) the condition form of the ♂ ab. **archonis** *Bryk* has often been observed. It has red scales distributed on the underside in the submarginal band which in some cases extend to the hyaline margin. — The already known ab. *enderleini* and *reuteri Bryk* and the newly described ab. *strandianus* are observed in regard to aberrations of the veins. The latter has a reversional radial nervule retained on both sides and shows also a constricted subcostal ocellus. The upper anal spot on the upperside has a white centre. — Verity describes the following ♀♀ aberrations of colouration of subsp. *thibetanus Leech* (Vol. 1, p. 30): ab. **alba,** ab. **flava** and ab. **nigra.** — From northern Kansu in the Richthofen mountains south-west of Liang-chow we have a much smaller race **actinoboloides** *O. B.-H.* (4 f) which reminds one of *P. actius-actinobolus.* The ground colour of the ♂♂ is pure white. The marginal band of the forewings is often quite absent or consists only of a black sharply dentate line. Submarginal quite absent. Also about one third of all ♀♀ shows the same reduction in the marks, but in the majority in both wings there are distinct submarginal rows of spots and also on the forewings often a continuous costal band. In both sexes there are nearly always two red centred subcostal spots. The race described by Fruhstorfer as var. *cyrnus* from Aksu is probably due to a mistake in the locality and should be ascribed to *mercurius Gr.-Grsh.* (Vol. 1, p. 29). *jaequemonti. casta. monopupillata. monopicta. rubropicta. tripicta. caeca. conjuncta. excelsior. pamira. baroghila. hunzaica. shandura himalayensis. archonis. alba. flava. nigra. actinoboloides.*

P. epaphus *Oberth.* (Vol. 1, p. 30). To the main (name) type ab. **rubropicta** *O. B.-H.* belongs, it has both costal spots with red centres. — ab. **erema** *O. B.-H.* is without the row of submarginal spots and ab. **aurantiaca** *O. B.-H.* has orange-red coloured ocelli. — subsp. **hillensis** *O. B.-H.* from the mountains around the town of Poo, Spiti in the State of Bashahr is a very variable race and it is difficult to characterise it briefly. It is similar to *cachemiriensis Oberth.* (Vol. 1, Plate 15 c), can however well be distinguished from it as there are constant differences between them. The wing contour of *hillensis* is more truncate, ocelli and all red markings are larger and the latter also more numerous. ab. **posticelongata** *O. B.-H.* has the median ocelli often elongated. ab. **flavomaculata** *O. B.-H.* is very rare, the ocelli have yellow colour as more frequently occurs in *cachemiriensis.* — ab. **caeca** *O. B.-H.* in which the ocelli have no red centres was only observed once amongst a great number of specimens. — Specimens with richer markings are not rare and a large number of combinations of the various aberrations occur which it would be useless to mention individually. — Similarly in the region of the north-west of Himalaya in Chotan, Schahidulla, a much smaller and daintier race occurs in comparison with the main type of *epaphus* viz: **subtilis** *O. B.-H.* The ♂♂ have a wing expanse of 45—50 mm the ♀♀ somewhat larger. *epaphus. rubropicta. erema. aurantiaca. hillensis. posticelongata. flavomaculata. caeca. subtilis.*

bashahrecus. Ocelli smaller and subcostal spots considerably reduced. — The species originally described as **bashahrecus** *O. B.-H.* is now deemed by the author to be a hybrid between *P. epaphus jacquemonti Bsd.* Both species occur in the same habitat and similar or identical specimens were taken also in later years which are all more similar in their markings to *epaphus*, it is therefore difficult to decide whether we are dealing with a hybrid. The habitat is in the highlands of Spiti in the State of Bashahr. Expanse of the wings 65 mm. — A further doubtful hybrid *epaphactius.* **epaphactius** between *epaphus* and *actius* was described by O. Bang-Haas from a number of specimens from the neighbourhood of Chotan. The specimens look like large *epaphus* but have more elongated wings like *P. actius ornatus* as well as a duller colour of the ocelli and often interrupted dusting of the marginal. — *phariensis.* The race **phariensis** *Avin.* which is distinguishable from *sikkimensis Elw.* (Vol. 9, Plate 50 d) by the enormously increased development of all the black markings, is caught in the Central Himalaya at Phari-Jong (Bhutan). The red centres of the spots and ocelli are very marked on both pairs of wings: the ocelli of the hindwings are *hima-layanus.* usually united by a dark bar. — **himalayanus** *Riley* (= dongalaica *Tytl.*) is a race that flies at an altitude of 14—17 000 ft in the eastern Mount Everest region of which the ♂♂ are more similar to subsp. *sikkimensis* than *everesti Riley.* They are more transparent and of greyer tone. The grey submarginal of the forewings is very characteristic, the crescents forming same are so large that they are equal to the marginal band and only weakly dentate. Submarginal of hindwings is also well developed, but the internerval crescents are not conjoined. In the forewings there are no red markings. In the hindwings only the ocelli are filled with red. The ♀ with more obscure ground colour but without blackish dusting. The upper subcostal spot in the forewings *everesti.* and anal spot in the hindwings with red centres. The subsp. **everesti** *Riley* from the Rongbuck Glacier at an altitude of 18 500 ft in the Mount Everest region, and afterwards also found in Tinki-La at 16 500 ft, in Thibet, is a small but distinct race: it is of the size of *sikkimensis* and *phariensis*, but has a constant variation from both, especially from the latter by the greater obscurity of the white of the ground colour and the remarkable reduction of the black markings of all wings. In the ♂ the crescents on the hindwings are almost absent, in the ♀ they are retained faintly indicated. The same applies to the development of the submarginal of the forewings although not to quite such a marked extent. The red markings are large and striking both on upper and undersides. — To the subsp. *poëta Oberth.* (Vol. 1, p. 307) we have to add the following conditional forms: *ocellata.* ab. **ocellata** *Bryk* with subcostal spots filled with red and besides with white pupils: this form seems to be typical *nigerrima.* for *poëta*. — ab. **nigerrima** *Vrty.* shows all spots and ocelli quite black without any red. No submarginal in the hindwings and black marking of the base so strongly developed that it fills out the whole cell including the anal *vittata.* spots and reaches almost to the median ocellus. — ab. **vittata** *Vrty.* has the ocelli united by a band. — subsp. *abruptus.* **abruptus** *O. B.-H.* from Kansu 45 km north of the town of Hsining, Tsingshilling, flies isolated on a precipitous and dangerous rocky mountain top 2500 m high and it is distinctly distinguishable from *beresowskyi Stgr.* (Vol. 1, Plate 15 c) by the darker marking and the narrower shape of the wings. In the markings it resembles *abruptus* of the race of *phariensis Avin.*, but it is considerably larger. Both costal spots and hindmarginal spot of the type have red centres, the ocelli of the hindwings are elongated.

4. Hardwickii-Group.

hardwickii. **P. hardwickii** *Gray* (Vol. 1, p. 31). The ab. **viridicans** *Fruhst.* (Vol. 9, Plate 50 c, d) had already been *viridicans.* dealt with in the indian part of the Macrolepidoptera p. 111, it is moss-green on the underside and was recently captured on the western Mount Everest region from Nyenyam and the Rongshar Valley at an altitude of *natuposte-* 12 500—14 000 ft. — ab. **natuposterior** *O. B.-H.* is the autumn brood taken at Mount Kufri near Simla. It is *rior.* quite distinct from the spring brood *albicans Fruhst.* (Vol. 1, p. 31). All the markings in the autumn form are more pronounced and richer. In the forewings there are 2 or 3 subcostal spots as well as the hindmarginal spot with red centres and the marginal band is much more widely black. In the hindwings the dusting of hindmargin is more extensive, the ocelli are large with red centres: there are 5 blue marginal ocelli and a distinct black border, which are generally quite absent in the spring generation. ab. *bosniackii Bryk* must be mentioned here, it is an aberration of the veins.

szechenyi. **P. szechenyi** *Friv.* (= amdensis *Vrty.*) (Vol. 1, Plate 15 e). A fine ♂-ab. **rubrosubmarginata** *O. B.-H.* *rubrosub-* is described from Tatung, it has distinct red coloured submarginal bands on the upperside of the fore and *marginata.* hindwings. An analogous red colouration occurs in *archonis Bryk* of *jacquemonti* on the underside. — O. *germainae.* Bang-Haas proposes to write **germainae** for *germanae Aust.* (5 a) (Vol. 1, p. 32) because Austaut had dedicated *frivaldszkyi.* the subspecies to his niece Germaine Vautrin. Therefore the name should be *germaineae.* — The race **frivaldszkyi** *O. B-.H.* comes from Kansu in the Richthofen mountains southwest of Liang-chow which differs from the main type by lighter ground colour of the fore and hindwings in both sexes. Marginal and submarginal bands very faintly developed and the middle area of the forewings is very pale in colour.

orleans. **P. orleans** *Oberth.* (Vol. 1, p. 32, Plate 13 c). The following conditional forms come from Szechuan from *distingu-* Sumpanting and Ta-tsien-lu: ab. **distinguenda** *Bryk* with no red in the highly coloured band of the forewings so *enda.*

that only the hindmarginal spot has a red centre. — ab. **meyeri** *Bryk* is orange-yellow in the ground colour band over the whole expanse of the forewings, whilst ab. **walteri** *Bryk* is only thus coloured between cubitalis 1 and 2. — ab. **sphenagon** *Bryk* is a ♂ with distinct wide hyaline margin of the forewings with a simultaneous reduction of the *limbovariegata* condition typical of this species. — ab. **binocularis** *Bryk* shows the ocelli with large white centres reminding one thereby of the ocelli of *szechenyi*. — ab. **graphica** *Bryk* like the former aberration but also with a divided white pupil of the median ocellus. — ab. **expupillata** *Bryk* has no white pupil in the red ocelli. — ab. **semidecora** *Bryk* has only the middle anal spot with red centre. — ab. **clericalis** *Bryk* has a black anal band without red. — ab. **communista** *Bryk* shows a distinct red centre in the basal spot of the disc of the hindwings. — ab. **usurpator** *Bryk* shows no white centres in the red basal spots. — In the aberrations of the veins *parnassica Bryk* has media 1 arising directly from the corner of the cell. — In subsp. **bourboni** *O. B.-H.* from the Richthofen mountains southwest Liang-chow in northern Kansu we find a characteristic reduction of the black marks as occurs in the races from this region. In comparison to *groumi Oberth.* (Vol. 1, Plate 16 b) the ♂♂ have no submarginal spots of the forewings and hindwings and also the marginal band is very reduced or even extinct, especially on the hindwings. The blue anal ocelli of the hindwings consist of minute spots. Also the ♀♀ share in this lighter colouration and show the submarginal band of the forewings dissolved into single spots and the costal band often interrupted. The dusting of the hindmargin in the hindwings is fainter and the marginal band is often quite extinct.

meyeri. *walteri.* *sphenagon.* *binocularis.* *graphica.* *expupillata.* *semidecora.* *clericalis.* *communista.* *usurpator.* *bourboni.*

P. cephalus *Gr.-Grsh.* (Vol. 1, p. 32, Plate 16 b). — **maharaja** *Avin.* from the Tagalang-la Pass 18 000 ft altitude and from Sugetdavan in Chinese Turkestan must be preliminarily placed here if one does not discern in it a separate species. The ♂♂ have white ground colour and in the forewings a brown hyaline margin and a row of dark lunules in the submarginal band which extends to beyond cubitalis 2. The subcostal band is crescent form and very faintly dusted extending to media 3. Cell spots are well developed and black: hindmarginal spot only faintly indicated. Margin of hindwings is dark, submarginal only discernible by a few dark scales. Instead of ocelli only a few dark scales are present which form a faint dark spot in place of the subcostal ocellus. An intermediate basal spot is faintly visible. The ♀ has better developed markings, especially on the hindwings which show a narrow but faintly dusted submarginal which is widely separated from the hyaline margin. The ocelli are indicated by brownish spots which are larger and heavier than in the ♂. In the subcostal ocellus one can discern faint reddish scalings. The dusting of the base and hindmarginal area is copious in both sexes: the fringes are black as in *simo* (5 e). The ground colour of the underside of the hindwings and the apex of the forewings shows the same reddish tone as *P. przewalskyi* (Vol. 1, p. 31), also the veins have no white scales along their course as in this species. The legs are pale red. In general appearance it resembles large *delphius* forms, whilst the sharply elongated contour of the forewings reminds one of a large *simo*.

cephalus. *maharaja.*

P. delphius *Eversm.* (Vol. 1, p. 32, Plate 15 d, e). The newly described conditional forms of this species have been placed under the relative races as the scope of variability of the various races is too little known so far. — ab. **caeruleomaculata** *O. B.-H.* has 4 blue filled submarginal ocelli and seems to occur widely. — The aberration of the veins *parnassica Bryk* is the same as that described under *P. orleans.* — **intermedia** *Gr.-Grsh.* (= intermedia *Vrty.*) from Kuldscha in the western Thian-Shan is a form closely resembling *infernalis* which on the other hand strongly approaches *namangana Stgr.* In colouration it is midway between *juldussica* and the light form of the same *candidatus.* — The following conditional forms have to be added to subsp. *albulus Honr.* (5 a) Vol. 1, p. 33. The ♀ illustrated on the left of plate 5 is a combination of **pura** + **semiextincta** + **mediextincta** *O. B.-H.* Small specimens with an expanse of 50—55 mm are denominated ab. **nana** *O. B.-H.*, and specimens with an expanse of 65—70 mm are named ab. **magna** *O. B.-H.* — ab. **nigricans** *O. B.-H.* are dark *albulus* with glassy appearance and pure white ground colour which are often mistaken for *infernalis.* — ab. **scotina** *Stich.* are *nigricans* without red centres to the anal spots. In ab. **satanas** *O. B.-H.* one finds the extremest melanism, the specimens show no trace of white scales but have the ocelli filled with red. — ab. **immarginata** *Niepelt* has the hyaline margin missing on all wings, being displaced by the white ground colour. — ab. **barteli** *Aust.* shows the submarginal row of spots conjoined instead of detached as otherwise. — In ab. **tancrei** *Aust.* the submarginal spots are absent but the hindmarginal spot is retained. A similar series of variations occurs in **chrysopis** *Aust.* (ab. *reducta* + *flavomaculata O. B.-H.*) where the submarginal on all wings is extinct and at the same time the ocelli are filled with yellow. — In ab. **rubropicta** *O. B.-H.* both costal spots have red centres. — In ab. **desipiens** the first costal spot is absent and in ab. **omegascriptum** *Std.* all 3 costal spots are united together so that they form a distinct greek omega. — In ab. **amelia** *Stich.* there is no red anal spot in the hindwings and ab. **liturata** *Aust.* is marked as *amelia* — having however the subcostal band in the forewings united with the hindmarginal spot and in the hindwings both ocelli united by a bar. — ab. **cocles** *Aust.* has the hyaline margin widely dusted with black and the subcostal ocelli without a red centre. — ab. **ochreomaculata** *O. B.-H.* has the ocelli filled with orange-yellow and ab. **flavomaculata** *O. B.-H.* shows the ocelli centred with yellow. — ab. **eugraphica** *Std.* has a divided white centre to the median ocellus. — ab. **juno** *Std.* shows enormously increased ocelli on the upperside. — ♀-ab. **leucostigma** *Std.* shows both ocelli or only one of them with a white centre. — In **fere-azona** *Std.* the ocelli are scarcely perceptibly surrounded with black. — The ab. **inaequata**

delphius. *caeruleomaculata.* *intermedia.* *pura.* *semiextincta.* *mediextincta.* *nana.* *magna.* *nigricans.* *scotina.* *satanas.* *immarginata.* *barteli.* *tancrei.* *chrysopis.* *rubropicta.* *desipiens.* *omegascriptum.* *amelia.* *liturata.* *cocles.* *ochreomaculata.* *flavomaculata.* *eugraphica.* *juno.* *leucostigma* *fere-azona.* *inaequata.*

Std. has the ocelli of the upper and undersides so formed that they do not quite synchronise. — In ab. **agra-**
agrapho- **phomena** *Std.* the red basal decoration is replaced by black. — In ab. **nordmanniides** *Std.* the basal spots are
mena. missing on the underside (analogous to Bryk's *apollo* form). — ab. **caeruleomaculata** *O. B.-H.* has 4 submarginal
nordmanni- ocelli filled with blue. — **constans** *O. B.-H.* from the Aksu Valley (Chantengri) is remarkable by its pale colouring
ides. and wing expanse of 55—62 mm. Ocelli generally elongated (ab. *posticelongata*). The upper one is oblique, the
caerulco- median vertical. Generally the subcostal band is conjoined with the hindmarginal spot on the forewings
maculata. (*fasciata* form). Hyaline margin is well developed on all wings in both sexes and separated on the forewings
constans. by a band of ground colour from the traverse dentate submarginal band. — **juldussica** *Vrty.* from the Juldus
juldussica. in eastern Thian-Shan may be deemed a transition form between *namanganus* (Vol. 1, Plate 16 a) and *infernalis* (Vol. 1, Plate 15 f). The markings are finer and sharper than in *intermedia Vrty.* and have a considerably darker appearance. Anal spots generally with red centres. — At the same time and in various places in the Juldus
candidatus. we also have the race **candidatus** *O. B.-H.* which is much paler than *juldussica* and corresponds according to all the markings more closely with *albulus Honr.* (5 a): it is more neatly built, contour of wings more elongated, scaling sparser and development of the bands more delicate and narrow. In spite of these apparent differences both races are united by transitions so much that it is impossible to definitely distinguish between them. For reasons of priority *candidatus* should be the type form whilst the name *juldussica* should apply to the paler
hamiensis. specimens of the race. — O. Bang-Haas describes a further race **hamiensis** from Hami (= Chami) in the extreme east of the Thian-Shan. Expanse of the ♂ is 49 mm, of the ♀ 50 mm. The race is generally close to *candidatus* in the weak development of all markings, but it differs constantly by the uniformly fine black dusting of the upperside of the wings. The small ocelli are striking, they are widely surrounded with black and the upper one is often reduced to a minute spot. Both the minute anal ocelli have small blue centres. — A further race described from the most eastern Thian-Shan north-west of Karashahr (in the Kutscha mountains 3500 m) is
karas- **karashahrica** *O. B.-H.* It is fairly large, the ♂ expanding 60 mm, ♀ 67 mm. The butterflies have a more dusky
hahrica. appearance than *juldussica* and pale specimens are not known to occur aberratively. The marginal and submarginal bands of all wings are wide and black and separated by a transverse band of small pale spots. Subcostal band generally has red spots (= rubropicta *O. B.-H.*) and converges in an arc with the hindmarginal spot (= ab.
fasciata. **fasciata** *O. B.-H.*) by an adumbration extending to the cell and the base of the wings leaving only a small round spot near the hindmarginal spot towards the base. In the hindwings the anal spot seldom has a red centre.
interjecta. As varieties we observe: ab. *styx*, ab. *caeca* and ab. *semicaeca*. The subsp. **interjecta** *Vrty.* from Transalai, Kysyl-su, Alai-Ispajran, is according to the authors very insufficient description "A constant race from Transalai which is a transition between *infernalis* and *illustris*". In order to identify specimens from these districts it will be best to follow Ruehl's advice to denominate all pale specimens from Alai and Transalai which form a transition between *infernalis* and *illustris* as *interjecta*. From the same habitat Bryk described
arcadisus. 2 varieties: ab. **arcadisus** (= arcadius *O. B.-H.* err.) in which the subcostal band is dissolved into arc-like spots
nordmanni- and which does not traverse exactly angulated as generally in all *delphius* forms: — and ab. **nordmanniides**
ides. which does not show any trace of basal spots, not even on the underside. This is a form which frequently occurs
transiens. in typical *illustris Gr.-Grsh.* — **transiens** *Aust.* must be deemed a form of the last named race. It is not synonymous with it as stated in Vol. 1. p. 33 but it is a pale form of constant yellowish ground colour showing besides the ocelli joined by a bar (*conjuncta* form). — According to a single ♂ from Alitshur on the Lake of
kiritschen- Jachil-Kul in south Pamir the race **kiritschenkoi** *Avin.* is described. Verity considers this a transition form
koi. between *illustris* and *stoliczkana*. The illustration of this type gives the impression of a pale *illustris*. Hindmarginal spot of the forewings is minutely small and all the other spots are reduced or appear to be reduced to an extreme. In the hindwings both anal and submarginal spots are absent. Whether the race is justified
hodja. depends upon examination of further material. — The race **hodja** *Avin.* from Hodja-barku in the mountains of eastern Buchara is closely related to *staudingeri O. B.-H.* (Vol. 1, p. 32, Plate 15 e) and is perhaps only a variety of same. It is distinguished by the wider more clearly marked bands and from *infernalis Gr.-Grsh.* by the wider brown outer margin of hindwings. The red ocelli are often conjoined by a bar (= *conjuncta O. B.-H.*).
darvasica. The race **darvasica** *Avin.* which is closely related to *illustris Gr.-Grsh.* also emanates from Darwas in Buchara. The main differences are that in *darvasica* we have very hyaline wings which are extremely transparent, quite apart from the condition of the specimens. Besides this the ocelli are very much brighter red and remind one of *hunza Gr.-Grsh.* (Vol. 1, Plate 16 b). The development of the submarginal markings is midway between
jakobsoni. *illustris* and *kiritshenkoi Avin.* — subsp. **jakobsoni** *Avin.* from Pshart and Kisil-jar in central Pamir is said to lie between *staudingeri O. B.-H.* and *chitralica Vrty.* According to an illustration given by the author *jakobsoni* has much wider submarginal bands on all wings than *illustris* and the small subcostal ocelli are without red
semicaeca. centres (**semicaeca** *O. B.-H.*). — ab. **rubrojuncta** described by O. Bang-Haas as relating to subsp. *cardinal Gr.-Grsh.*
rubrojun- (Vol. 1. p. 33, Plate 15 f) is a rare variety which generally only occurs in this race. The bar between
cta. the 2 ocelli is filled with red. — subsp. **abramovi** *O. B.-H.* (= sobolevskyi *Avin*) (5 a) from the Kwen-Lün
abramovi. mountains of Schahidulla lying north of the Karakorum Pass and from the Kiljang Pass belongs closely to *juldussica Vrty.* Ocelli are still smaller and show a tendency to adumbration. At the same time red centres

more rarely occur in both ocelli. The margin of all wings is wide and brown and separated by small white lunules from the equally very heavy submarginal band. Anal spots are faint without blue colouration. The black marking of the basal area in the hindwings stretches to the ocelli. — In the name type form of *hunza Gr.-Grsh.* the ♀ has the median ocellus reduced to a small black spot which in ab. **deficiens** *Avin.* (= exoculata *O. B.-H.*) *deficiens.* has quite disappeared so that the ocelli are quite absent there. — Verity describes the race **chitralica** from *chitralica.* the Baroghil valley, 3600 m high, in Chitral which he denominates as being closely related to *hunza*. It differs from this by its generally smaller size and much darker appearance. All the black markings in the forewings are more copious, bands wider but very diffuse. Also the submarginal of the hindwings is heavier than in *hunza* and extends to cubitalis 1 being distinctly separated from the hyaline margin by a band of the ground colour. Ocelli are larger and both ocelli are always developed also in the ♀. — The race **kafir** *Avin.* flies in the mountains *kafir.* between Kila-Drosh and Kafiristan: it is close to *chitralica Vrty.* but the band conjoining the cell and submarginal which always occurs in *chitralica* is absent in it. The brownish submarginal of the hindwings always has a few pale spots. The form of the hindwings is especially narrow with distinct sharp angle at media 1. The ♂♂ have deep black anal spots and dark median ocelli. In the ♀ the anal spots are faintly indicated by a few scales and the median ocelli show pale blood red centres. The subcostal ocelli are black in both sexes. — Among a series of *nicevillei Avin.* a single aberrative ♂ was found which according to the investigations of O. Bang-Haas should be determined as belonging to a special race. This is **cardinalina** *Avin.* from the Burzil *cardinalina.* Pass north-east of Gurais in north Kashmir. It is a transition between the indian and turkestan *delphius* races and differs from *cardinal Gr.-Grsh.* (Vol. 1, Plate 15 f) only by the dark margin of the hindwings and the absence of white centres on the underside. — subsp. **mamaievi** *O. B.-H.* (*Avin.* i. l.) (5 b) from the ravine of Jurrus, west *mamaievi.* of the town of Ladakh (Leh), Shamm in the lower Ladak is the most southern of *delphius* races. The ground colour is white: the traverse submarginal bands of all wings are very heavy and widely separated from the hyaline margin by a band of ground colour. The hindmarginal spot of the forewings is rectangular or oblong. Ocelli are mostly filled with red or yellow, sometimes however quite black. There are 2 distinct anal ocelli present with blue centres. — Avinoff describes the race **workmani** from a ♀ from the Saltoro Glacier in Baltistan *workmani.* which is said to be a transition between *mamaievi* (5 b) and *hunza* (Vol. 1, Plate 16 b). The submarginal bands resemble those of *mamaievi* but are very reduced and dissolved into single dark spots. Subcostal ocellus is black. The middle area of the forewings similar to *hunza*. The wings are covered with dark scales along the veins (in the third media).

P. stoliczkanus *Fldr.* (Vol. 1, p. 33, Plate 16 c) according to the latest investigations of O. Bang-Haas *stoliczkanus.* is to be considered a separate species from *delphius*. Felder and Elwes had previously come to the same decision. There are constant and striking differences and no transition forms have yet been discovered. In *stoliczkanus* the marginal and submarginal bands are generally confluent to a wide black band. Marginal ocelli to the extent of 5 present, occasionally only a 6th occurs as a faint spot, the colouration of the same is dark blue to black generally with a light blue centre. The median ocellus with a red centre lies closer to the margin than in *delphius* and the submarginal ocellus often consists of a faint spot or is quite extinct. The vesicular pouches of the ♀♀ are small and the 2 lobes are more truncate than in *delphius*. As belonging to the name type form ab. **immaculata** *Avin.* (= exoculata *O. B.-H.*) was described from "a hill in the south of Rupshu" *immaculata.* in which both ocelli are totally absent. According to the new conception the following subspecies belong to *stoliczkanus*: *atkinsoni Mr.* (Vol. 1, p. 33), *stenosemus Honr.* (Vol. 1, Plate 16 b). The following new races are described: **rileyi** *Tytl.* from Astor in the Rupal valley and Farsat Pass leading to Chilas. The forewings have *rileyi.* a distinct costal band. The hindwings have a round median ocellus moderately large as well as 4 to 5 very small submarginal ocelli. — Avinoff describes the race **nicevillei** from the Burzil Pass, northeast of Gurais *nicevillei.* in north Kashmir. It can be considered a transition from *atkinsoni* to *stoliczkanus* and it is smaller than the former. It differs chiefly through the darker markings, especially in the discal area of the forewings, also the black bands appear to be narrower. The median ocellus of the hindwings is large and pale red, sometimes narrowly surrounded with black. It is much larger than the subcostal ocellus which seldom has a red centre and sometimes may be quite absent. It reminds one thereby of *stoliczkanus*. The blue ocelli are placed in a darker submarginal zone than in *atkinsoni*, the paler intermediate areas are narrower or absent. — subsp. **zogilaica** *Tytl.* (5 b) from the Zogila Pass on the way from Srinagar to Leh in north Kashmir shows a yellowish *zogilaica.* ground colour and heavy marking of the forewings. The hyaline margin is separated by a continuous row of longish spots from the broad brownish submarginal band and extends to the hindmargin. The subcostal band extends to media 3 and is angulated then and considerably reduced in size to somewhat over cubitalis 2. In the hindwings the median ocellus is unusually large, almost quadrangular and dull red as the anal spot, both narrowly surrounded with black. The subcostal spot is almost always absent in both sexes. In the wide marginal border there are 6 submarginal ocelli of which the 2nd to 5th have blue centres. — From the Tum Tum Thang mountains in Spiti, northwest of Poo in a northerly direction from the Sutley river the race of

spitiensis. **spitiensis** *O. B.-H.* is found in July at an altitude of 5000 m, it has expanse of 45—54 mm. The forewings have wide marginal and submarginal bands whilst the subcostal band is mostly absent or only faintly indicated. Hindmarginal spot is often extinct. Marginal band of the hindwings is very wide and decorated with 5 marginal ocelli generally having blue centres. In fresh specimens the median ocellus and anal spot are iridescent red with quite faint black ringlets. In the ♂♂ the anal ocellus is often reduced and the subcostal ocellus either *florenciae.* entirely absent or reduced to a faint spot. — The race **florenciae** *Tytl.* (= kumaonensis *Riley*) from east Thibet and north Kumaon is very close to *spitiensis O. B.-H.* but is still considerably smaller. Marginal and submarginal bands are wide and well developed. The costal band is absent but the hindmarginal spot occurs. The median ocellus in the hindwings is only small and the subcostal ocellus absent or indicated by a faint spot. Specimens occur having the latter with red on both sides of the wings. In the marginal band there are 4 marginal ocelli *obliterata.* of which the two first have blue centres. — The ab. **obliterata** *Vrty.* is said by Dr. Jordan to belong here. This is a type described from a rubbed ♀ having the median ocellus of the hindwings only indicated and the anal spot yellowish.

acdestis. **P. acdestis** *Gr.-Grsh.* (Vol. 1, p. 33, Plate 16 b). The subsp. **priamus** *Bryk* is found in central Thian-Shan *priamus.* in the Aksu valley at Chantengri. The forewings are triangular with truncate apex and hindmarginal angle. The fringes are pale, the markings as in *delphius*. The wide costal band and quadrangular hindmarginal spot are not so dark. The middle cell spot is pointedly elongated and does not extend to the posterior cell nervure. Submarginal band of the hindwings is dissolved into 5 loosely connected streaks which are however united in the ♀ and separated from the hyaline margin widely by the ground colour. In the ♀ there are 2 white spots *semicaeca.* in the last 2 submarginal arcs. The ocelli are filled with orange-yellow and are not rounded. — In ab. **semicaeca** *exclamationis.* *Bryk* the subcostal ocellus is quite black and besides this in ab. **exclamationis** *Avin.* the 2 ocelli are also united *patricius.* by a bar. — The race **patricius** *Niep.* from Narynsk, Thian-Shan, differs from *priamus* thereby that the submarginal spots are quite extinct on the hindwings and also all the other black markings are reduced. The small black ocelli are moved further distally from the cell than in *delphius* and are suffused with a layer of smoky- *ladakensis.* black scales like a cloudy shadow, so that the whole patch has an irregular blotch-like appearance. — **ladakensis** *Avin.* (5 b) described from a ♂♀ at Shera Pass in east Ladak and represents a large very pale race. The wing contour is more truncate than in *rupshuana*, the marginal spots of the hindwings are larger, the other black markings very reduced. The middle cell spot of the forewings is little larger than the faint hindmarginal spot. — *rupshuana.* The further race of **rupshuana** *Avin.* flies at Rupshu, Tagalang Pass, in the southwest Ladak at an altitude of 17 500 ft. It flies over loose stony regions at the top of the Pass almost touching the ground and with a similar flight to a bat. The author compares it with *lampidius Fruhst.* (5 c) but it is larger and the submarginal band in the hindwings is more reduced. The marginal spots in the hindwings are almost absent, only the second one is faintly retained, but it shows no blue colour. The wing contour is more elongated and the inner margin *lathonius.* of the hindwings is incurved at the 4th nervule. — subsp. **lathonius** *Bryk* from Gyantse, Kampa-Jong in Thibet and not as erroneously indicated by Bryk from the Alai. Expanse of the wings is about 57 mm and the upper media is ingrown with radialis 4 to 5 at the entrance into the anterior cell corner. The antennae are ochre-brown at the base otherwise black. Forewings as in *delphius*, the middle cell spot oblong not extending to the posterior cell nervure. The first subcostal spot in the distinct subcostal band occurs with reddish scales. The ocelli of the hindwings are characteristic being vermillion red without pupils, widely surrounded with black. The whole middle area of the wings including the ocelli zone is dusted with black as does not occur in *delphius*. The vermillion red spot in the 2nd basal spot reflects through on the upperside. Both marginal ocelli in the marginal band without blue centres. The margin of the hindwings faintly hyaline to cubitalis 2. The outer margin on the underside and the fringes of all wings with white scales. Forewings without markings except for the cell spot which is faintly retained. The extremities of nervures to the glassy submarginal band faintly *whitei.* powdered whitish. The red ocelli as on the upperside. — subsp. **whitei** *Bingh.* (= macdonaldi *Rothsch.*, pundit *Avin.*) (5 f) from the frontier of Thibet towards Sikkim and Bhutan occurs at considerable altitudes and differs from all other races of *acdestis* by the strong adumbration of all wings. Specimens occur in which all the wings are uniformly coloured black so that there is only a paler patch in the cell between the 2 deep black cell spots. *centripuncta.* Generally the costal and submarginal bands are confluent. — In ab. **centripuncta** *O. B.-H.* a small black spot is found in the cell between the 2 cell spots.

acco. **P. acco** *Gray* (Vol. 1, p. 34). According to the investigations of Riley of the British Museum the habitat of the name type form is to be found between Nepal and Thibet (compare O. Bang-Haas, Horae Macrolep., Vol. 1, p. 27 etc.) and it differs considerably from the race of *hampsoni Avin.* flying at Karakorum. General size is smaller, wing contour narrower and spots reduced. The submarginal band is formed of crescents of reduced size. In contrast to the name type form which has lively red coloured ocelli, the ocelli here are filled *punctata.* with pale red. — **punctata** *Tytl.* from Marsimik Pass, 15 000 ft, east of Leh on the frontier of Thibet is denominated without description from a black and white illustration. To judge by the illustration it is apparently a strikingly small race with very darkened wings.

The submarginal of the hindwings is distinctly indicated by a row of spots. The reduction of the ocelli to minute black spots is characteristic. — The race **tagalangi** *O. B.-H.* flies in July on the Tagalang Pass, 5000 m altitude, south of Gya in southern Ladak. The race is said to resemble *acco* illustrated in Vol. 1, plate 16 c, it is intermediate between Verity's figure of *acco* and *hampsoni Avin.*, but it is smaller and paler than the former. In the forewings all three bands are well developed and heavier than in *hampsoni* and the submarginal spots of the hindwings also. — The subsp. **pundjabensis** *O. B.-H.* (5 c) comes from the Tum-Tum-Thang Mountains 5000 m, north of the Sutley River and of Poo (Pu) in East Spiti where it occurs in July and is closest to the name type form. All three bands of the forewings extend fully to the hindmargin. There are frequently three red spots in the costal band. Ocelli and basal spot of the hindwings are extremely bright red, but the red soon pales and can even turn to a yellowish shade. On the undersides freshly caught specimens show a beautiful peach red. — The ab. **bidentata** *O. B.-H.* occurs as a variety of this race, in which the two submarginal lunules between media 2 and cubitalis 1 unite forming a crescent, which is caused by the absence of media 3 in the hindwings. The number of marginal lunules is thereby reduced from the usual 6 to 5: generally this aberration is only found on one side, but symmetrical specimens also occur. — A closely allied race is **chumurtiensis** *O. B.-H.* from Chumurti, Shilang (Shining) Pass in West Thibet, flying from the end of July to the middle of August at an altitude of 4800 m. It is generally darker than the previous and has a wider marginal in the forewings: the spots of the submarginal are smaller and the costal band is frequently interrupted. In the hindwings the lunules of the submarginal are larger and the upper two often confluent. — In the Chumbi valley 15 000 to 17 000 ft and at Pang-la the small and poorly marked **hanningtoni** *Avin.* (= hunningtoni *Avin.*) (5 e) flies in April and as a matter of fact generally near the habitat of the much larger and more richly marked *gemmifer Fruhst.* (Vol. 1, p. 34). Perhaps *hanningtoni* is a new species, but it cannot be denied that there is a possibility that *acco* has two generations. A decision can only be reached after examination of further material and careful investigations. All bands and black markings of the forewings are enormously reduced and in the hindwings only small points are left representing the submarginal band besides the black marking of base and hindmargin. Ocelli quite extinct. — The race of **mirabilis** *O. B.-H.* has been established from a ♀ from Gyantse in central Thibet. Its expanse is 53 mm and it distinguishes itself from all known races by its strong adumbration and completely variant markings. On the forewings the 3 bands are almost confluent only slightly separated by light patches of ground colour. In the hindwings the melanism is still more striking, they are almost completely black with the exception of a fine white line between the black margin and the marginal ocelli of which the first two are filled with blue. The two ocelli and the basal spot of the upperside are brilliant red, on the underside peach red, as in all fresh *acco*. — The largest race of *acco* is probably **baileyi** *South* which occurs at the end of May at Litang, Yatang and Rama-la in S. E. Thibet at an altitude of 12 000—15 000 ft. Wingshape is rather more rounded and the adumbration of forewings, especially the hindmargin is heavier than in *mirabilis*. Hindwings are lighter, submarginal being only indicated by a few faint streaks lying internervally. The margin is only narrowly shaded and the ocelli much smaller than those of *mirabilis*. —

tagalangi. *pundjabensis.* *bidentata.* *chumurtiensis.* *hanningtoni.* *mirabilis.* *baileyi.*

P. simo *Gray* (Vol. 1, p. 34) (5 c). The same as has been said of *acco* applies in regard to the habitat of the type of the name form. Formerly so many heterogeneous races were united under *simo*, that we must expect sub-divisions of the species as and when more material is available and further observations give a better perspective of the distribution of the various races. — ab. **nigroinspersa** *Vrty.* is a strongly melanic form of the ♀, which is more or less uniformly covered with browny black leaving only a few pale patches on the forewings and whitish bands on hindwings. — ab. *seitzi Bryk* is an aberration of the veins of forewings, cubitalis 1 being ingrown with cubitalis 2. From Karakorum in the North and from Shahidulla south of Chotan we have a race very close to the name form, **confusus** *O. B.-H.* which the author mistook for same before he had been informed of the actual home of the name form. It is much more darkly marked, has larger red ocelli, but above all the ♂ has much more elongated wing contour. O. Bang-Haas describes a new race **peteri** from a pair caught on the Shipki Pass on the thibetan border of the Bashahr State. It is of chalky white ground colour on the forewings and the costal band is not fully developed. It is only distinct to media 2, then scarcely perceptible to the faint hindmarginal spot. The submarginal band is finely dentate: in fresh ♀ the ocelli are red, the only ♂ is somewhat rubbed. — O. Bang-Haas obtained in August the new race **simoides** *O. B.-H.* from Zanskar, S. W. of the town of Leh (Ladak) 4800 m, which varies considerably from the name type. Expanse is 39—41 mm, i. e. much smaller than *confusus* from the northern slopes of Karakorum. The marginal and submarginal bands of the forewings are wide and in the ♀ the wide costal band extends to the hindmargin, but in the ♂ it is not complete and the costal spots and hindmarginal spot are isolated and not united. Submarginal band of hindwings distinctly dentate, similar to *acconus Fruhst.* (Vol. 1, p. 34). The ground colour is white with a tinge of yellowish, varying from *peteri* which is purer white and at the same time with lesser black markings; on the other hand *confusus* is more thinly scaled and more transparent. — The subsp. **avinoffi** *Vrty.* (= avinovi *Avin.*) from the Beik Pass 18 000 ft in Hindukush is very close to *simulator Stgr.* (Vol. 1, p. 34). It is characterised

simo. *nigroinspersa.* *confusus.* *peteri.* *simoides.* *avinoffi.*

by the fairly pointed, lancet-like wings and yellowish toned ground colour due to agglomeration especially on the hindwings, although the scaling is sparser than in *simulator*. It varies from same by a more faintly developed middle band of the forewings. Marking of hindwings very variable, specimens occur with well developed saggitate submarginal marks and others without any submarginal, but these can nevertheless always be
simplicatus. distinguished from allied races by the markings of the forewings. — The race of **simplicatus** *Stich.* (= subdiaphana *Vrty.*) is found at Altyn Dag south of Lob-Noor. It is thinly scaled in both sexes of similar size to the name type but differing from same by more heavily developed dark markings. Ocelli of hindwings are united
grayi. by a dark streak and the submarginal lunules are bold partly conjoined. — **grayi** *Avin.* (5 c) is the largest of all *simo* races and is close to *simonius Stgr.* (Vol. 1, plate 16 d) but differs from same by its size and the very heavily developed submarginal markings on all wings. The dark markings stand out well from the densely scaled wing surface. Wing contour is broad as in *simonius* and not so pointed as in *simulator Stgr.* which otherwise is the same size as *grayi*. In contrast to *simulator* the submarginal band does not consist of sharp
lorimeri. saggitate spots but it forms a continuous traverse band on the hindwings. — **lorimeri** *Tytl.* from the Kine-Chish Pass, 14 000 ft in S. W. Gilgit is, according to the author, related with *boëdromius Pueng.* (Vol. 1, plate 16 d). The costal spots of forewings are absent as well as the connecting band, but the submarginal band instead extends considerably inwards. Median ocelli of hindwings are strikingly approximated to close of cell. — ab.
suffusa. **suffusa** *Vrty.* (= diaphana *Vrty., Avin.*) is a conditional form of *boëdromius* in which the upper side of the wings is heavily dusted with black scales. — The following three races so closely resemble *boëdromius* in their whole shape and appearance that they might be deemed subspecies of same if one were to recognise same as a higher
candida. entity: **candida** *Avin.* from the neighbourhood of Sary-Jas in central Thian-shan is of approximately the same size as *boëdromius* and differs by more truncate wing contour of both pairs of wings especially the apex of forewings. Both cell spots of forewings are small and not so dark as in *boëdromius*: the middle band is only faintly indicated, whilst the submarginal is distinctly separated by a wide row of light lunules from the marginal band. Ocelli of hindwings reduced to minute points: the conjoined arcs of the submarginal are better developed
pygmaeus. than in *boëdromius* and *pygmaeus O. B.-H.* so that the row of spots of the margin is reduced. — **pygmaeus** *O. B.-H.* is a smaller race from the Juldus valley in the eastern Thian-shan. It is darker than *candida* and the markings are more clearly and sharply defined. The middle band of forewings extends to the hindmargin. —
hohlbecki. **hohlbecki** *Avin.* (5 c) is still darker, it comes from the eastern part of the Alexander Mountains. The 3 bands of the forewings are wider, darker and more sharply defined and the patch between the submarginal and cell and media 2 and the hindmargin is thickly scaled with brown. In the hindwings the small black ocelli spots
kozlovi. are generally united by a streak and besides the median ocellus widely with the anal spot. — The race **kozlovi** *Vrty.* (= kozlowyi *Vrty.* [*Alph.* i. l.] (5 c) is very close to *acconus Fruhst.* (Vol. 1, p. 34) from Amdo. The chief difference lies in the hindwings. Whilst in subsp. *acconus* the margin is without any adumbration, *kozlovi* has a distinct if only narrow black margin and the submarginal consists of a traverse row of arcs in contrast to the large sagittate submarginal band of *acconus*. The ocelli have small red centres and the median is united in a band with the anal spots.

tenedius. celtopura. **P. tenedius** *Eversm.* (Vol. 1, p. 34, plate 16 c). A conditional form ab. **cellopura** *O. B.-H.* occurring end of June at Chulgaisha (2300 m) in the Sajan mountains is distinguishable by having the end cell spot of the forewings reduced and the middle cell spot quite absent, besides the hindwings have only black subcostal ocelli
semicaeca. like ab. **semicaeca** *O. B.-H.*

5. Charltonius-Group.

imperator. alticola. luctuosa. rex. **P. imperator** *Oberth.* (Vol. 1, p. 34, plate 16 f). According to Verity the ♀ ab. **alticola** probably originates from Ta-tsien-lu from high altitudes and it is distinguished by almostly completely black ocelli. — ab. **luctuosa** *Oberth.* has black marginal ocelli. — subsp. **rex** *O. B.-H.* from Hsining, Nanchan Mountains. Tatung in Kansu differs from *musageta Gr.-Grsh.* (Vol. 1, plate 16 e) by its yellowish white ground colour and dark dusting. —
semicaeca. ab. **semicaeca** *O. B.-H.* is a ♂ with large subcostal ocelli of hindwings of black colour without red centre.

charltonius. **P. charltonius** *Gray* (Vol. 1, p. 35). This type is found between Nepal and Thibet according to Riley (compare notes under *acco* and *simo Gray* in this regard). A ♂ with potential ♀ markings has been named ab.
catenata. haudei. **catenata** *Bryk.* — ab. **haudei** *Bryk* has the costal band attached to the cell, after having conjoined with the elongated distorted cell marginal stripe, forming in the middle of the wings an enormous "Y" through the two
fermata. cell stripes resting on a deeply dark triangle. — ab. **fermata** *Bryk* has an isolated intermediate basal mark such
rubrocatenata. as is often found in *P. mnemosyne*. — In ab. **rubrocatenata** the two ocelli of the hindwings are united by a red bar:

in this type the anal spots also have red centres. — ab. **flavomaculata** *Bryk* of the race of *ducalis* have yellow ocelli. — Stichel describes a conditional form of subsp. *princeps* (Vol. 1, p. 35), which Bryk felt himself induced to christen **novarae.** Markings of forewings are nearly extinct and it has a black spot on hindwings in place of the whole row of red spots. — ab. **mendica** *Bryk* is a ♂ with unicoloured black subcostal ocellus. — ab. **geminella** *Bryk* is a ♂ with the highly coloured ocellus subdivided in two. — ab. **graphicoides** *Bryk* has two white spots in the centre of the median ocellus. — In ab. **atroguttata** *Bryk* there is an isolated black spot on the underside in the disc of the hindwings. — The inevitable vein aberrations also occur — viz: ♀-ab. *parnassionima Bryk* of the race of *ducalis* in which the 3rd radialis arises from the anterior corner of cell. — **ducalis** *Boullet & le Cerf* (= occidentalis *Bryk*) from Chitral at an altitude of abt 14 000 ft is a race that according to the dates of capture must have an extended flying period: specimens were captured on 8th June and up to 5th August. The ground colour is grey white with sharply outlined black markings, which are better developed than in the name type form. The development of the black dusting from the base of hindmargin to the anal ocellus on hindwings is striking and the enlarged rather elongated ocelli with their bright carmine red colour, always without white centres are characteristic. Submarginal band with its blue ocelli is separated by a narrow band from the marginal band. — Verity denominates as **deckerti** the race from Cashmir, 4200—4800 m. It is of pale white ground colour with enormously distended ocelli of bloodred colouration. The inner side of the surround of the median ocellus is much enlarged and contrasts with the otherwise narrow black surround. The anal spots are of the same colour as the ocelli. *deckerti* was considered by previous authors to be an aberration of the name type form in the belief that its habitat was at Cashmir, but as already mentioned this has proved to be erroneous. — The race **bryki** *Haude* is widely distributed in the Niling Pass, 14 000 ft, Tsuling Pass to the Shipki Pass in Spiti, N. W. of Poo (Pu) and the Tum-Tum-Thang mountains. It is smaller than *deckerti* and the name type and it has a traverse costal band like the latter, but the arcs of same are more rounded than pointed. Hindwings are more densely dusted and appear lighter consequently. The submarginal is somewhat reduced, almost as in *princeps Honr.*, but with well developed marginal ocelli, not touching the median or anal ocelli. The ocelli are smaller than in the previous races and in freshly caught specimens they show deep red colouration and always with white centres. Variability is very great and unless otherwise mentioned the variations above described by Bryk belong here. O. Bang-Haas has enumerated the following forms with the remark that with the numerous material before him, he can increase same ad. libitum: ab. **rubromaculata** *O. B.-H.* ocelli deep red without white pupils. — ab. **roseomaculata** *O. B.-H.* ocelli rose-red. — ab. **flavomaculata** *O. B.-H.* ocelli yellowish and ab. **vinosa** *O. B.-H.* ocelli wine-red. — ab. **caeruleocaeca** *O. B.-H.* marginal ocelli without blue centres. — ab. **subpuncta** *O. B.-H.* anal spot and median ocellus are united. — ab. **magna** *O. B.-H.* are unusually large with an expanse up to 78 mm. — ab. **nana** *O. B.-H.* are dwarf-like, expanse only 50 mm. The name **romanovi** *Gr.-Grsh.* should be used instead of *princeps Honr.* (Vol. 1, p. 35, plate 16 e) as it has precedence by priority. — ab. **vaporosus** *Avin.* comes from the east of Darwas, it is close to *princeps Honr.* but differs through more faintly developed cell spots in the forewings and more pronounced submarginal and costal bands, generally also the dusting is sparser. The red median ocellus is elongated obliquely and the inner black margin is heavier forming an almost straight line: the margins are generally darker than in *princeps*, almost like *charltonius*, *vaporosus* appears to be the palest of all known races. — The race **autocratur** *Avin.* (6 e) from the Gushnon Pass at Darwas at the frontier of S. W. Pamir is probably the most beautiful of all *Parnassius* forms. A single ♂ was caught, it may be the representative of a separate species. In the forewings the submarginal is confluent with the costal band from media 2, forming a "Y"-like marking. On the hindwings the median ocellus and anal ocelli form a band of beautiful orange red being abt 15 mm long and 7 mm wide. — The race **voigti** *O. B.-H.* described from the Pagman mountains, 30 miles North of Cabul on the An-Suchas Pass (3500 m). It is the poorest in marking of all *charltonius* races, being nearest to *vaporosus Avin.* The black markings of the forewings are darker than in the latter and the costal band is complete. On the hindwings one is struck by the smallness of the median ocellus which is quite circular and with wide black surround. So far only the ♀♀ are known.

flavomaculata.
novarae.
mendica.
geminella.
graphicoides.
atroguttata.
ducalis.
deckerti.
bryki.
rubromaculata.
roseomaculata.
flavomaculata.
vinosa.
caeruleocaeca.
subpuncta.
magna.
nana.
romanovi.
vaporosus.
autocratur.
voigti.

P. loxias *Pueng.* (Vol. 1, p. 35). Avinov describes a new race **raskemensis** from a ♀ specimen found on the Kilang Pass (5040 m), north of Shahidulla, west of the Raskem Mountains. It differs from the name type form of the Thian-shan by a reduction of the hyaline marginal border of all wings and by the considerable extension of the submarginal markings. In the hindwings the marginal ocelli are elongated inwards and the blue colouring is reduced. The base of the hindwings is more heavily dusted with black.

loxias.
raskemensis.

Alphabetical List

of all palaearctic Papilionidae forms mentioned in Supplement Vol. 1.

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

biadaperta Pap. *Metzg.* Lambillionea 27, p. 98.
bidentata Parn. *O. B.-H.* Hor. Macrolep. 1, p. 23. *
bigenerata Pap. *Vrty.* Entom. Record 31, p. 88.
biguttata Pap. *Schultz* Societ. Entomol. 26 (1911), p. 33.
bimacula Parn. *Std.* Iris 35 (1921), p. 26.
binaria Parn. *Stich.* Zeitschr. Wiss. Ins.-Biol. 14, p. 197.
binocularis Parn. *Bryk* Arch. Naturg. 87 A. 10, p. 234.
binocularis Parn. *Bryk* Entom. Ztschr. 36 (1923), p. 56.
biornata Parn. *Osth.* Schmett. Südbayerns 1, p. 51.
bipicta Parn. *Kard.* Entom. Mitteil. 17, p. 267.
bipunctata Th. pol. *Cosm.* le Naturaliste, 14, p. 254.
bipupillata Parn. *Kard.* Entom. Mitteil. 17, p. 267.
bipupillata Parn. *Trti.* Atti Soc. Ital. Sc. Nat. 57, p. 40. *
blachieri Parn. *Fruhst.* Entom. Rundsch. 38 (1921), p. 16.
bodemeyeri Parn. *Bryk* Int. Ent. Ztschr. 8, p. 12. *
bohemicus Parn. *Fruhst.* Societ. Entom. 36 (1921), p. 13.
bohemicus Parn. *Rbl.* Ann. Wien. Hofmus. 33, p. 68.
bohemien Parn. *Bryk* Int. Ent. Ztschr. 8 (1914), p. 35.
bojorum Pap. *Fruhst.* Entomol. Rundsch. 39, p. 13.
borussianus Parn. *Fruhst.* Societ. Entom. 31 (1916), p. 49.
bosniácki Parn. *Bryk* Societ. Entom. 27 (1912), p. 53.
bosniensis Parn. *Stich* Insect.-Börse 16, p. 303.
bourboni Parn. *Bryk* Entom. Ztschr. 42 (1928), p. 61.
bradanus Pap. *Fruhst.* Entomolog. Ztschr. 22, p. 46.
breitfussi Parn. *Bryk* Mitt. Münch. Ent. Ges. 51, p. 73. *
brunnea Pap. *Weiss* Treb. Ins. Catal. 1915, p. 3.
brunneomaculata Parn. *Ruhm.* Entom. Ztschr. 26 (1912), p. 129.
brutus Parn. *O. B.-H* Deutsch. Ent. Ztschr. 29, p. 94.
bryki Parn. *Haude* Societ. Entom. 27 (1912), p. 75. *
bryki Parn. *Schaw.* Ztschr. Oesterr. Ent. Ver. 6, p. 1.
brykiana Parn. *Kard.* Entom. Mitteil. 17, p. 266 *.
bucharana Parn. *Bryk* Societ. Entom. 27 (1912), p. 101.
bureschi Parn. *Fruhst.* Entom. Tidskr. 42, p. 114 *.

cachetica Th. *Shelj.* Iris 41 (1927), p. 203.
caeca Pap. pod. *Manon* Proc. Verb. Soc. Linn. Bord. 78, p. 37.
caeca Parn. feld. *Shelj.* Ztschr. Wiss. Ins.-Biol. 10, p. 6.
caeca Parn. ep. *O. B.-H.* Iris 29 (1915), p. 183.
caeca Parn. *Ros.* Mitt. Münch. Ent. Ges. 11, p. 86.
caeca Parn. *Shelj.* Ztschr. Oesterr. Ent. Ver. 10, p. 87.
caeca Parn. ap. *Trti.* Ann. Mus. Zool. Nap. 3, p. 5.
caeca Pap. *Closs* Int. Ent. Ztschr. 10 (1916), p. 63.
caeca Th. *Shelj.* Iris 41 (1927), p. 204.
caecigenus Pap. *Manon* Proc. Verb. Soc. Linn. Bord. 78, p. 37.
caecus Pap. pod. *Stätt.* Entom. Anzeig. 4, p. 134.
caeruleomaculata Parn. *O. B.-H* Iris 29 (1907), p. 157.
caeruleomaculata Parn. orl. *O. B.-H.* Iris 29 (1915), p. 157.
caeruleopunctata Parn. *Kosch.* Ztschr. Oesterr. Ent.-Ver. 6, p. 42.
calabrica Parn. *Trti.* Ann. Mus. Zool. Nap. 3, p. 12.
caliginosa Parn. *Aust.* Int. Ent. Ztschr. 6, p. 87.
caloriferus Parn. *Fruhst.* Entom. Anzeig. 1, p. 41.
candida Parn. *Avin.* Hor. Soc. Ent. Ross. 40, p. 13. *
candidatus Parn. *O. B.-H.* Iris 29 (1915), p. 159. *
candidus Parn. *Vrty.* Rhopal. Palaearct., p. 305.
cardinalina Parn. *Avin.* Trans. Ent. Soc. Lond. 1915, p. 356. *
cardinalis Parn. brem. *Bryk* Entom. Mitteil. 3, p. 79. *
cardinalis Parn. mn. *Bryk* Societ. Entom. 27, p. 112.
cardinalis Parn. *Wgn.* Entom. Mitteil. 2, p. 53. *.
carelius Parn. *Bryk* Arch. Naturg. 80 A. 6, p. 154 *.
carmenta Parn. *Fruhst.* Arch. Naturg. 82 A. 2, p. 26.
carnica Parn. *Dann.* Entom. Ztschr. 39 (1925), p. 6.
caschmirensis Pap. *Rothsch.* Novit. Zoolog. 2, p. 407.
cassiensis Parn. *Siepi* Ann. Mus. Marseill. 12 (1909), p. 5.
casta Parn. *Ros.* Mitt. Münch. Ent. Ges. 11. p. 85.
casta Parn. *Shelj* Mitt. Münch. Ent. Ges. 18. p. 7.
casta Parn. del. *Stich.* Wytsm. Gen. Insect. 58, p. 18.
casta Parn. *Wgn.* Ent. Mitteil. 2, p. 53. *
castellanus Parn. *Bell.* Deutsch. Ent. Ztschr. 1922, p. 193.
castini Pap. *Lamb.* Rev. Mens. Namur 1903, p. 2.
catenata Parn. *Bryk* Int. Ent. Ztschr. 7, p. 154.
caucasia Parn. *Vrty.* Rhopal. Palaearct., p. 320. *
caucasicus Parn. *Pag.* Mitt. Münch Entom. Ges. 3, p. 21.
cavaleriei Pap. *le Cerf* Bull. Mus. Hist. Nat. Paris 1923.
cebennicus Parn. *le Cerf* Bull. Soc. Ent. Pr. 1913, p. 460. *
cellopura Parn. *O. B.-H.* Horae Macrolepid. 1, p. 29.
cellopura Parn. ten. *O. B.-H.* Hor. Macrolep. 1, p. 29.
cellularis Pap. *Oberth.* Ét. Lép. Comp. 3, p. 103. *
centralasiae Pap. pod. *Ros.* Seitz Macrolep. Suppl. I, p. 14. *
centripuncta Parn. *Shelj.* Mitt. Münch. Ent. Ges. 18, p. 7.
centripunctata Parn. *O. B.-H.* Hor. Macrolep. 1, p. 34. *
cervinicola Parn. *Fruhst.* Insecten-Börse 24, p. 109.
cetius Parn. *Fruhst.* Int. Ent. Ztschr. 3 (109), p. 161.
charaxina Parn. *Std.* Deutsch. Ent. Ztschr. 1924, p. 17.
charis Th. *Schultz* Entom. Ztschr. 21 (1909), p. 267.
charlesi Pap. *Fruhst.* Societ. Entom. 1902, p. 73.
chetus Parn. *Fruhst.* Entomol. Anzeig. Wien 1, p. 30.
chinensis Pap. *Rothsch.* Novit. Zoolog. 2, p. 385.
chinensis Pap. *Vrty.* Rhopal. Palaearct., p. 16. *
chitralica Parn. *Vrty.* Rhopal. Palaearct., p. 317. *
chosensis Parn. *Mats.* Ins. Matsumur. 1, p. 162. *
chryseis Parn. *Oberth.* Ét. Lép. Comp. 8, p. 81. *
chryscis Parn. *Vrty.* Rhopaloc. Palaearct., p. 102.
chrysochroma Th. *Niep.* Int. Ent. Ztschr. 15, p. 198.
chrysophorus Parn. *Fruhst.* Entom. Anzeig. 1, p. 65.
chrysopis Parn. *Aust.* Int. Ent. Ztschr. 5, p. 366.
chrysoptera Parn. *Std.* Societ. Entom. 36, p. 11.
chumurticnsis Parn. *O. B.-H.* Entom. Ztschr., 42 (1928), p. 59.
cincta Pap. *Musch.* Bull. Soc. Lép. Genève 1, p. 168.
circinatus Pap. *Sib.* Lambillionea 27, p. 74.
ciscaucasicus Parn. *Shelj.* Mitt. Münch. Ent. Ges. 14, p. 47.
clanis Pap. *Jord.* Seitz Macrolep. 9, p. 100.
clavatus Pap. *Cab.* Rev. Mens. Namur 1911, p. 77.
clericalis Parn. *Bryk* Entom. Ztchr. 36 (1923), p. 56.
coccinella Luehd. *Bryk* Ztschr. Oesterr. Ent. Ver. 6, p. 33.
cocles Parn. *Quest.* Int. Ent. Ztschr. 5, p. 359.
cognatus Parn. *Bell.* Int. Ent. Ztschr. 21, p. 379.
cohaerens Pap. *Stätt.* Entom. Ztschr. 35 (1921), p. 16.
cohaerens Parn. ap. *Schultz* Berl. Ent. Ztschr. 49, p. 274.
cominius Parn. *Fruhst.* Entom. Anzeig. 1, p. 77.
comitis Parn. *Bryk* Societ. Entom. 27 (1912), p. 65.
comma Pap. *Stätt.* Entom. Anzeig. 4, p. 134.
commaculata Parn. *Osth.* Schmett. Südbayerns 1924, p. 50.
commafixum Parn. *Std.* Neue Beitr. Ins.-Kunde 2, p. 85.
commatostigma Parn. *Std.* Neue Beitr. Ins.-Kunde 2, p. 85.
communista Parn. *Bryk* Entom. Ztschr. 36 (1923), p. 56.
completa Th. *Shelj.* Iris 41 (1927), p. 203.
concavifasciatus Pap. *Cuno* Entom. Ztschr. 22, p. 133. *
confederationis Parn. *Fruhst.* Entomol. Rundschau 38, p. 20.
confinis Parn. *Bell.* Int. Ent. Ztschr. 21, p. 296. *
conflua Parn. mn. *Kamm.* Ztschr. Oesterr. Ent. Ver. 7, p. 22. *
confluens Parn. del. *Hoffm.* Int. Ent. Ztschr. 4 (1910), p. 227.
confluens Pap. *Schultz.* Nyt. Mag. Naturw. 44, p. 107.
confluens Parn. ap. *Trti.* Atti Mus. Zool. Nap. 3, p. 5.
confluens Pap. *Vrty.* Rhopal. Palaearct. p. 292. *
confluens Th. pol. *Schultz.* Ent. Ztschr. 22 (1908), p. 79.
confusus Pap. *Rothsch.* Novit. Zoolog. 2, p. 270.
confusus Parn. *O. B.-H.* Hor. Macrolep. 1, p. 27. *
conjuncta Pap. *Rocci* Bull. Soc. Ligust. 1919, p. 30. *
conjuncta Parn. *O. B.-H.* Iris. 29 (1915), p. 9.
conjuncta Parn. *Ros.* Mitt. Münch. Ent. Ges. 11, p. 85.
conjuncta Parn. *Stgr.* Hor. Macrolep. I, p. 10.
conjuncta Parn. mn. *Trti.* Att. Soc. Ent. Ital. 57. *
connexa Parn. *Wgn.* Entom. Mitteil. 2, p. 53.
constans Parn. *O. B.-H.* Iris. 29 (1915), p. 158.
constantini Parn. *Trti.* Atti. Soc. Ital. Sc. Nat. 58, p. 162.
continua Parn. *Ruhm.* Entom. Ztschr, 26, p. 126. *
convexifasciatus Pap. *Cuno* Entom. Ztschr. 22, p. 134. *
cordiformis Parn. *Bryk* Lepidopt. Catalog. 27, p. 203.
coreana Luehd. *Mats.* Ins. Matsum. 1, p. 163.
coretas Pap. *Stätt.* Entom. Anzeig. 4, p. 134.
coronis Pap. *Reuss* Int. Ent. Ztschr. 10, p. 46.
costarum Parn. *Bryk* Societ. Entom. 34 (1922), p. 13. *
craspedontis Parn. *Fruhst.* Entom. Ztschr. 22 (1908), p. 12.
cressoni Seric. *Reak.* Proc. Ent. Soc. Phil. 3 (1864), p. 494.
creta Pap. *Vrty.* Rhopal. Palaearctica, p. 292.
cretatus Parn. *Shelj* Iris. (1914), 28, p. 18. *
crloti Pap. *Oberth.* Ét Lép. Comp. 3, p. 105. *
crucifer Parn. *Fruhst.* Entom. Ztschr. 22 (1908), p. 12.
cyanatus Pap. *Stätt.* Entom. Anzeig. 4, p. 134.
cypria Pap. *Vrty.* Rhopal. Palaearct., p. 13. *
cypria Th. *Stich.* Entom. Ztschr. 21 (1907), p. 178.
cyrnus Parn. *Fruhst.* Societ. Entomol. 21 (1906), p. 139.

daisetsuzana Parn. *Mats.* Insect. Matsum. 1 (2) p. 103. *
dardanus Parn. *Rbl.* Sitz.-Ber. Ak. Wiss. Wien (1) 126, p. 771. *
darvasica Parn. *Avin.* Trans. Ent. Soc. Lond. 1915, p. 358. *
debilis Parn. *Fruhst.* Entom. Anzeig. 1, p. 77.
deckerti Parn. *Vrty.* Rhopal. Palaearct. p. 85. *
deckerti Parn. *Rothsch* Novit. Zoolog. 25, p. 258.
decolorata Pap. *Stätt.* Entom. Anzeig. 4, p. 133.
decolorata Pap. pod. *Stätt.* Entom. Anzeig. 4, p. 134.
decora Pap. *Oberth.* Ét. Lép. Comp. 9 (2), p. 45. *
decora Parn. *Bryk* Entom. Mitteil. 3, p. 79.
decora Parn. del. *Schultz.* Entom. Ztschr. 20, p. 117.
decoratissimia Parn. *Vrty.* Entom. Record. 31 (1919), Nr. 5.
defasciata Parn. *Schaw.* Verh. Zool.-Bot. Ges. Wien 63, p. 143.
deficiens Parn. *Avin.* Hor. Soc. Ent. Ross. 40, p. 50.
definitus Parn. ap. *Osth.* Schmett. Südbayerns 1, p. 19. *
deflexa Th. *Schultz* Entom. Ztschr. 21 (1908), p. 267.

dejotaurus Parn. *Fruhst.* Arch. Naturg. 82 A. 2, p. 26. *
delgranprincipe Parn. *Bryk* Societ. Entom. 27 (1912), p. 88. *
delunulatus Pap. *Stätt.* Lepid. Rundsch. 1, p. 96.
demaculata Pap. *Schultz* Societ. Entomol. 26 (1911), p. 33.
demaculata Pap. *Stätt.* Entom. Anzeig. 4, p. 134.
demaculata Th. pol. *Schultz* Entom. Ztschr. 21 (1908), p. 267.
demaculatus Parn. mn. *Fruhst.* Entom. Ztschr. 22 (1908), p. 12.
demnosia Th. *Frr.* Neuere Beitr. 1. *
dentata Parn. ap. *Bryk*, Arch. Naturg. 80 A. 8, p. 146.
depravata Parn. *Weiss*, Treb. Mus. Catal. Barcel. 1920, p. 12.
depuncta Pap. *Stätt.* Entom. Anzeig. 4, p. 133.
depupillata Parn. *Trti.* Atti Soc. Ital. Sc. Nat. 57, p. 41. *
derubescens Th. rum. *Schultz* Entom. Ztschr. 21 (1908), p. 267.
derubescens Th. *Züll.* Ztschr. Oesterr. Ent. Ver. 7, p. 37.
derufata Pap. *Fruhst.* Entomol. Ztschr. 22, p. 72.
deseps Parn. *Bryk* Arch. Naturg. 87, A. 10, p. 235.
desintacta Parn. *Bryk* Societ. Entom. 36, p. 21.
desipiens Parn. *Std.* Mitt. Münch. Ent. Ges. 14, p. 59.
destrigata Pap. *Schultz* Societ. Entom. 26 (1911), p. 33.
destrigata Th. *Schultz* Entom. Ztschr. 21 (1908), p. 267.
determinatus Parn. *Bryk* Entom. Tidskr. 42, p. 118.
deutschi Parn. *Bryk* Societ. Entom. 37 (1922), p. 23.
diajano Parn. *Avin.* Oberth. Ét. Lép. Comp. 17, p. 83.
diaphana Parn. *Trti.* Ann. Mus. Zool. Nap. 3, p. 7.
diaphana Parn. *Vrty.* Rhopal. Palaearct. p. 78. *
diaphorus Pap. *Cab.* Rev. Mens. Namur. 1911, p. 76.
diffusa Pap. *Rocci* Atti Soc. Ligust. 30, p. 15.
diffusa Parn. *Bryk* Lepidopt. Catalog. 27, p. 204.
dilalata Parn ap. *Thierry-M.* Ann. Soc. Ent. Belg. 54, p. 467.
dilobatus Pap. *Cab.* Rev. Mens. Namur 1911, p. 77.
diluta Pap. *Selys* Ann. Soc. Ent. Belg. 1831, p. 4.
dinianus Parn. *Fruhst.* Int. Ent. Ztschr. 2 (1908), p. 17.
disjuncta Pap. *Goss.* Glasnik 29, p. 211.
dissociata Pap. *Manou* Proc. Verb. Soc. Linn. Bord. 78, p. 36.
dissoluta Pap. *Schultz* Societ. Entomol. 15 (1900), p. 58.
distinguenda Parn. *Bryk* Entom. Ztschr. 36 (1923), p. 56.
distorta Th. *Rothsch.* Novit. Zoolog. 25, p. 75.
divisa Pap. pod. *Manou* Proc. Verb. Soc. Linn. Bord. 78, p. 36.
divisa Th. cer. *Shelj.* Iris 41 (1927), p. 203.
divisa Th. rum. *Schultz* Entom. Ztschr. 21 (1908), p. 267.
divisionista Parn. *Bryk* Int. Ent. Ztschr. 8, p. 39.
doerriesi Parn. *Warn.* Int. Ent. Ztschr. 13, p. 25.
doii Parn. *Mats.* Insect. Matsum. 2, p. 201.
dongalaica Parn. *Tytl.* Journ. Bomb. Nat. Hist. Soc. 31, p. 249. *
donovani Parn. *Bryk* Arch. Naturg. 82 A. 5, p. 43. *
dubitabilis Parn. *Vrty.* Rhopal. Palaearct., p. 313. *
dubius Parn. *Bryk* Jahrb. Nassau. Ver. Nat. 65, p. 11.
ducalis Parn. *Boull. & le C.* Bull Soc. Ent. Fr. (1912), p. 143.
duomaculata Parn. ep. *O. B.-H.* Ztschr. Oesterr. Ent. Ver. 2, p. 18.
duplicatus Parn. *Bien.* Iris 35 (1921), p. 3.

ehrmanni Seric. *Ehrm.* Enc. Ent. Lép. 1, p. 91.
eisneri Parn. *Bryk* Societ. Entomol. 44 (1929), p. 17.
elegans Seric. *Bryk* Arch. Naturg. 79 A. 3, p. 1.
elliptica Parn.-*Stich.* Int. Ent. Ztschr. 5, p. 7.
elongata Parn. ap. *Std.* (= perlongata) D. Ent. Ztschr. 1924, p. 17.
elongata Pap. *Vrty.* Rhopal. Palaearct. p. 292. *
elunata Parn. ap. *O. B.-H.* Iris 29 (1915), p. 183.
embriki Parn. *Bryk* Arch. Naturg. 80 A. 7, p. 157. *
emilii Parn. ap. *Bryk* Arch. Naturg. 80 A. 7, p. 155. *
emilii Parn. *Bryk* Societ. Entom. 29, p. 28.
emineus Pap. *Schultz* Societ. Entom. 26 (1911), p. 33.
eminentissima Parn. *Haude* Societ. Entom. 27 (1912), p. 5. *
emisphyrus Pap. *Vrty.* Entomol. Record 31, p. 88.
enderleini Parn. *Bryk* Arch. Naturg. 79 A. 3, p. 2.
enderleini Parn. nom. *Bryk* Int. Ent. Ztschr. 8 (1914), p. 40.
enderleini Parn. *Bryk* Societ. Entom. 27, p. 50.
epaphactus Parn. *O. B.-H.* Iris 29 (1915), p. 96.
erardi Pap. *Manon* Proc. Verb. Soc. Linn. Bord. 78, p. 39.
erebennis Pap. *Oberth.* Ét. Lép. Comp. 9 (2) p. 44. *
erebus Parn. *Vrty.* Rhopal. Palaearct. p. 312. *
erema Parn. *O. B.-H.* Iris 29 (1915), p. 95.
erema Parn. *Stich.* Int. Ent. Ztschr. 4, p. 277.
ernestinae Parn. *Bryk* Int. Ent. Ztschr. 8 (1914), p. 35.
ernestinae Parn. ap. *Bryk* Societ. Entom. 28 (1913), p. 65.
esakii Parn. *Nakah.* Ins. Ins. Menstr. 14, p. 46.
escalerae Parn. *Rothsch.* Novit. Zoolog. 16, p. 9.
esperi Parn. *Bryk* Societ. Entom. 37 (1922), p. 15. *
estonicus Parn. *Bryk* Societ. Entom. 37 (1922), p. 5.
estrigata Pap. *Nitsche* Verh. Zool.-Bot. Ges. Wien 1910, p. 221.
euappenninus Parn. *Vrty.* Bull. Soc. Ital. Sc. Nat. 45, p. 140.
euclidiana Parn. *Bryk* Berlin. Ent. Ztschr. 52, p. 261. *
euclidiana Parn. *Bryk* Societ. Entom. 28 (1913), p. 42.
eugraphica Parn. *Std.* Mitt. Münch. Ent. Ges. 14, p. 60.
everesti Pap. *Ril.* Trans. Ent. Soc. Lond. 75, p. 120.
everesti Parn. *Ril.* Trans. Ent. Soc. Lond. 1922, p. 463. *
excedens Parn. *Vorbr.* Mitt. Schweiz. Ent. Ges. 12, p. 433.
excellens Parn. *Bryk* Societ. Entom. 28 (1913) p. 95.
excelsa Parn. *Vrty.* Rhopal. Palaearct. p. 320. *
excelsior Parn. *Bryk* Mitt. Münch. Ent. Ges. 5, p. 31.
excelsior Parn. *Ros.* Mitt. Münch. Ent. Ges. 11, p. 85.
exclamationis Parn. *Avin.* Oberth. Ét. Lép. Comp. 19 (2), p. 56. *
exocellata Pap. *Cab* Rev. Mens. Namur 23, p. 29.
exoculata Parn. *O. B.-H.* Iris 29 (1915), p. 184.
exophthalmus Parn. *Std.* Neue Beitr. Ins.-Kunde 2, p. 88.
expectatus Parn. *Fruhst.* Entomol. Rundsch. 38, p. 21.
expupillata Parn. *Bryk* Entom. Ztschr. 36 (1923), p. 56.
exsecta Parn. *Std.* Neue Beitr. Ins.-Kunde 2, p. 87. *
extabescens Parn. *O. B.-H.* Iris 29 (1915), p. 183.
extrenea Parn. *Bryk* Lepidopt. Catalog. 27, p. 88.

falcata Parn. *Std.* Societ. Entom. 36 (1921), p. 11.
falcata Parn. *Trti.* Atti Soc. Ital. Sc. Nat. 57, pl. 6. *
falsa Parn. *Bryk* Lepid. Catalog. 27, p. 180.
fasciata Parn. mn. *Hirschke* 13. Jahresb. Wien. Ent. Ver. (1912) p. VIII.
fasciata Parn. orl. *O. B.-H.* Iris 29 (1915), p. 157.
fasciata Parn. *Wgn.* Entom. Mitteil. 2, p. 53. *
fasciata Th. *Berg.* Ztschr. Oest. Ent. Ver. 3, p. 13.
fassoliana Parn. *Fruhst.* Societ. Entom. 26 (1921), p. 41.
febanus Pap. *Fruhst.* Ent. Ztschr. 22, p. 46.
feisthamelides Pap. *Vrty.* Rhopal. Palaearct. p. 293. *
felkeli Parn. *Std.* Entomol. Anzeig. 3, p. 1.
fenestrella Pap. *Cuno* Entom. Ztschr. Stuttg. 22, p. 133. *
fennoscandicus Parn. *Bryk.* Arch. Naturg. 80 A. 6, p. 166. *
ferdinandi Parn. *Bryk* Arch. Naturg. 80 A. 6, p. 164. *
ferdinandi Th. *Stich.* Entom. Ztschr. 21 (1907), p. 177. *
fercazona Parn. *Std.* Mitt. Münch. Ent. Ges. 14, p. 60.
ferenigra Pap. *Speng.* Zoolog. Jahrb. Abth. Syst. 1899, p. 47. *
fermata Parn. *Bryk* Societ. Entom. 26, p. 62. *
fermata Parn. nordm. *Bryk* Societ. Entom. 23 (1913), p. 95.
fermata Parn. *Bryk* Int. Ent. Ztschr. 8, p. 24. *
finmarchicus Parn. *Bryk* Berl. Ent. Ztschr. 55, p. 257.
fischeri Parn. *Bryk* Societ. Entom. 28 (1913), p. 71. *
flaccidus Pap. *Krul.* Societ. Entom. 23, p. 2.
flammata Pap. *Blach.* Bull. Soc. Lép. Genève 3, p. 80. *
flammeus Pap. *Poda* Entom. Paris. 2, p. 242.
flava Parn. jacq. *Vrty.* Rhopal. Palaearct. p. 106.
flavescens Parn. *O. B.-H.* Iris 29 (1915) p. 182.
flavibidomaculatus Parn. *Std.* Societ. Entom. 36 (1921), p. 10.
flavicans Parn. *Shelj.* Mitt. Münch. Ent. Ges. 18, p. 8.
flavidovenata Parn. *Reiss.* Ztschr. Oesterr. Ent. Ver. 9, p. 63.
flavodilatata Parn. *Std.* Deutsch. Entom. Ztschr. 1924, p. 14.
flavoinspersa Pap. *Vrty.* Rhopal. Palaearct. p. 295.
flavomaculata Parn. *Bryk* Jahrb. Nassau. Ver. Naturk. 65, p. 8.
flavomaculata Parn. brem. *O. B.-H.* Hor. Macrolep. 1, p. 21.
flavomaculata Parn. ep. *O. B.-H.* Iris 29 (1915) p. 184.
flavomaculata Parn. nom. *O. B.-H.* Hor. Macrolep, p. 17.
flavomaculata Parn. Orl. *O. B.-H.* Iris 29 (1915), p. 157.
flavomaculatus Parn. ap. *Stich* Insect.-Börse 16, p. 25.
flora Parn. *O. B.-H.* Iris 29 (1915), p. 174. *
florenciae Parn. *Tytl.* Journ. Bomb. Nat. Hist. Soc. 31, p. 251. *
formosana Luehd. *Rothsch.* Novit. Zoolog. 25, p. 65.
fortuna Parn. *O. B.-H.* Iris 26 (1912), p. 103.
fractecingulata Parn. *Std.* Neue Beitr. Ins.-Kunde 2, p. 85.
friburgensis Parn. *Niep.* Int. Ent. Ztschr. 6, p. 259.
frigida Parn. *Std.* Deutsch. Ent. Ztschr. 1924, p. 14.
frivaldskyi Parn. *O. B.-H.* Ent. Ztschr. 42 (1928), p. 60.
fruhstorferi Parn. *Trti.* Natural. Siciliano 21, p. 34. *
fumata Parn. ap. *Roug.* Catal. Lép. Jura Neuch.*
fumigata Parn. *Krul.* Societ. Entom. 21, p. 49.
funkei Parn. *O. B.-H.* Hord. Macrolepid. I, p 6.
furcata Parn. *Osth.* Schmett. Südbayerns 1, p. 51.

galeuus Pap. *Schultz* Berlin. Ent. Ztschr. 47, p. 126.
gemmifera Pap. *Fruhst.* Entom. Ztschr. 22 (1909), p. 170.
generosus Parn. *Fruhst.* Societ. Entom. 35, p. 28.
genestieri Pap. *Oberth.* Bull. Soc. Ent. Fr. 1918, p. 187.
genuina Parn. *Bryk* Societ. Entom. 36 (1921), p. 17.
germainae Parn. *O. B.-H.* Ent. Ztschr. 42 (1928), p. 60.
gigantea Pap. *Vrty.* Rhopol. Palaearct. p. 295.
gloeneriana Parn. *Bryk* Arch. Naturg. 1914 A. 9, p. 144.
gloenerica Parn. *Vrty.* Rhopal. Palaearct. p. 303. *
gloenerius Parn. *Fruhst.* Entom. Anzeig. 1, p. 30.
gorganus Pap. *Fruhst.* Entomol. Rundsch. 39, p. 13.
govindrae Parn. *Bryk* Int. Ent. Ztschr. 8, p. 24.
gracilis Th. *Schultz* Entom. Ztschr. 21 (1908) p. 267.

graecus Parn. *Ziegl.* Berl. Ent. Ztschr. 46 (1901), p. 11.
grajus Parn. *Stich.* Wytsm. Gen. Insect. 58, p. 56.
graphica Parn. *Bryk* Entom. Ztschr. 36 (1923), p. 56.
graphica Parn. nom. *O. B.-H.* Hor. Macrolep 1, p. 17.
graphica Parn. *Stich.* Insecten-Börse 16, p. 312.
graphicoides Parn. *Bryk* Int. Ent. Ztschr. 7, p. 154.
graslini Parn. *Fruhst.* Societ. Entom. 21 (1906), p. 139.
grayi Parn. *Avin.* Trans. Ent. Soc. Lond. 1915, p. 358. *
grossei Parn. *Bryk* Lepidopt. Catalog. 27 (1923), p. 181.
grumgrschimailoi Parn *O. B.-H.* Hor. Macrolep. 1, p. 18.
guadarramensis Parn. *Fruhst.* Entom. Ztschr. 23, p. 151.

habichi Parn. *Boh.* 20. Jahresb. Wien. Ent. Ver. (1909), p. 133. *
hachijonis Pap. *Mats.* Thous. Ins. Add. 3, p. 477.
hakutozana Parn. *Mats.* Insect. Matsum. 1, p. 163. *
halteres Parn. nom. *Bryk* Mitt. Münch. Ent. Ges. 5, p. 26.
halteres Parn. mn. *Musch.* Entom. Record 16, p. 52.
hampsoni Parn. *Avin.* Trans. Ent. Soc. Lond. 1915, p. 352. *
hanningtoni Parn. *Avin.* Oberth. Ét. Lép. Comp. 17, p. 80.
hansi Parn. *Bryk* Lepidopt. Catalog. 27, p. 212.
harakiri Luehd. *Bryk* Ztschr. Oesterr. Ent. Ver. 6 (1921), p. 33.
hassicus Parn. *Pag.* Jahrb. Nass, Ver. Naturk. 64, p. 289.
haudei Parn. *Bryk* Jahrb. Nass. Ver. Naturk. 65, p. 5.
haudeanus Parn. *Bryk* Arch. Naturg. 80 A. 8, p. 151.
hedistus Pap. *Jord.* Novit. Zoolog. 34, p. 165. *
helias Parn. *Fruhst.* Entom. Anzeig. 3, p. 55.
heliophilus Parn. *Fruhst.* Entom. Anzeig. 1, p. 41. *
helvetica Parn. *Vrty.* Rhopal. Palaearct. p. 320.
hemimelaina Parn. *Bryk*, Societ. Entom. 28 (1913), p. 16.
heptamaculata Parn. *Std.* Deutsche Ent. Ztschr. 1924, p. 15.
hereynianus Parn. *Pag.* Jahrb. Nass. Ver. Naturk. 64, p. 288.
hermiston Parn. *Fruhst.* Entomol. Anzeig p. 1, 89.
hermiston Parn *Fruhst.* Entomolog. Rundsch. 39, p. 11.
herrichi Parn. *Bryk* Mitt. Münch. Ent. Ges. 5, p. 26.
herrichi Parn. *Bryk* Societ. Entom. 27, p. 112.
herrmanni Th. *Stich.* Ztschr. Wiss. Ins.-Biol. 7, p. 37. *
herzegovinensis Parn. *Schaw.* Verh. Zool.-Bot. Ges. Wien 62, p. 116.
heseboloides Parn. *Schaw.* Verh. Zool.-Bot. Ges. Wien 64, p. 351.
hexamacula Parn. *Std.* Deutsche Ent. Ztschr. 1924, p. 15.
hillensis Parn. *O. B.-H.* Iris 29 (1915), p. 175.
himalayanus Parn. *Ril.* Trans. Ent. Soc. Lond. 1922, p. 463. *
himalayensis Parn. *Elw.* Trans. Soc., Ent. Lond. 1922, p. 463. *
hippocratides Pap. *Vrty.* Rhopal. Palaearct. p. 16. *
hispanicus Parn. *Oberth.* Ét. Lép. Comp. 3, p. 116.
hodia Parn. *Avin.* Hor. Soc. Ent. Russ. 40, p. 18. *
hönei Pap. *Mell* Deutsch. Ent. Ztschr. 1923, p. 153.
hoenei Parn. *Schweitz.* Entom. Ztschr. 25 (1912), p. 57.
hoffmanni Parn. *Bryk* Int. Ent. Ztschr. 8 (1914), p. 1.
hohlbecki Parn. *Avin.* Hor. Soc. Ent. Ross. 40, p. 13. *
hondoensis Pap. *Fruhst.* Entom. Ztschr. 22 (1908), p. 47.
horni Parn. *Bryk* Entom. Mitteil. 3, p. 80. *
horniana Parn. *Kard.* Entom. Mitteil. 17, p. 265. *
humicola Parn. *Fruhst.* Entom. Anzeig. 3, p. 59.
hungaricus Parn. *Rothsch.* Novit. Zoolog. 16, p. 2.
huntingtoni Parn. *Avin.* Trans. Ent. Soc. Lond. 1915, p. 351. *
hunzaica Parn. *Tytl.* Journ. Bomb. Nat. Hist. Soc. 31, p. 250 *
hyalina Parn. *Bryk* Arch. Naturg. A. 8, 80, p. 145.
hyalomarginata Parn. *Hoffm.* Ztschr. Oesterr. Ent. Ver. 9, p. 23.
hydrargyrostigma Parn. *Std.* Mitt. Münch. Ent. Ges. 12, p. 18.
hypermelas Parn. *Std.* Entom. Anzeig. 1 (3) p. 1.

igneus Pap. *Shelj.* Iris 27 (1913), p. 15.
immaculata Pap mach. *Vrty.* Rhopal. Palaearct., p. 13.
immaculata Parn. stol. *Avin.* Oberth, Ét. Lép. Comp. 17, p. 81.
immaculata Parn. ap. *Ruhm.* Entom. Ztschr. 26 (1913), p. 186. *
immaculata Parn. *Shelj.* Mitt. Münch. Ent. Ges. 18, p. 8.
immarginata Parn. *Niep.* Iris 25 (1911), p. 132.
impediens Pap. *Oberth.* Novit. Zoolog. 2, p. 270.
imperator Parn. *Oberth* Bull. Soc. Ent. Fr. (6) 3, p. 77.
imperialis Parn. *Bryk* Mitt. Münch. Ent. Ges. 5, p. 75. *
inaequata Parn. *Std.* Mitt. Münch. Ent. Ges. 14, p. 60.
inaequata Parn. ap. *Trti.* Atti Soc. Ital. Sc. Nab. 57, p. 47. *
incerta Parn. mu. *Bryk* Societ. Entom. 27, p. 72.
incertus Pap. *O. B.-H.* Horae Macrolep. 1, p. 1.
incompleta Pap. *Hasl.* Polsk. Pisma 2, p. 130. *
indecora Parn. nom. *O. B.-H.* Hor. Macrolep. 1, p. 17.
ines Parn. *Kert.* Arch. Zoolog. 1, Nr. 8 (1909). p. 29. *
inexpectata Luehd. *Shelj.* Iris 19 (1913), p. 19. *
inornata Parn. brem. *Shelj.* Mitt. Münch. Ent. Ges. 18, p. 7.
inornata Th. *Pionn.* l'Échange 1925. Nr. 420, p. 7.
inornata Th. *Vrty.* Entom. Record 31, p. 88.
intacta Pap. *Shelj.* Iris 27 (1913), p. 17.
intacta Parn. mn. *Krul.* Societ. Entom. 23, p. 3.
intercubitalis Parn. ap. *Bryk* Berl. Ent. Ztschr. 58, p. 206.
interjecta Pap. *Vrty.* Rhopal. Palaearct., p. 291.
interjecta Parn. orl. *Vrty.* Rhopal. Palaearct., p. 316.
intermedia Pap. pod. *Grund* Societ. Entom. 23 (1908), p. 81.
intermedia Pap. *Stich.* Int. Entom. Ztschr. 4 (1910), p. 36.
interrupta Pap. *Klem.* Spraw. Kom. fiz. Ak. Krak 45, p. 49.
interruptus Parn. *Lütkem.* Entom. Ztschr. 36 (1922), p. 22.
intertexta Parn. *Stich.* Seitz, Macrolep. 1, p. 26.
interversus Parn. *Bryk* Lepidopt. Catalog. 27, p. 121.
inversa Parn. *Bryk* Societ. Entom. 36 (1921), p. 18. *
inversa Parn. mn. *Bryk* Societ. Entom. 26, p. 18. *
irena Parn. *Fruhst.* Entom. Anzeig. 4, p. 78.
irregularis Th. *Holl* Bull. Afr. Nord 3, p. 8. *
isabellina Parn. *Vrty.* Rhopal. Palaearct., p. 312.
isaricus Parn. *Rbl.* Ann. Wien. Hofmus. 33, p. 68. *
italicus Parn. *Oberth.* Ét. Lép. Comp. 3, p. 116.

jacobsoni Parn. *Avin.* Trans. Ent. Soc. Lond. 1915, p. 357.
jaetensis Parn. *O. B.-H.* Hor. Macrolep. 1, p. 9. *
jambicus Parn. *Bryk.* Int. Ent. Ztschr. 8, p. 4.
jaracensis Parn. *Kert.* Rovart. Lapok. 26, p. 31.
jelicus Parn. *Fruhst.* Entom. Anzeig. 1, p. 87.
jezoensis Luehd. *Mats.* Thous. Ins. 1, Add. 3, p. 492. *
jezoensis Parn. *Mats.* Thous. Insect. 1, Add. 3, p. 494. *
jordani Parn. ap. *Bryk.* Arch. Russ. Ges. Biol. 9, p. 683. *
jordani Parn. nom. *Bryk.* Int. Ent. Ztschr. 8 (1914), p. 40.
jucundula Parn. *Std.* Deutsch. Ent. Ztschr. 1924, p. 17.
juldussica Parn. *Vrty.* Rhopal. Palaearct. p. 316.
junia Pap. *Jord.* Seitz. Macrolep. 9. p. 78.
juno Parn *Std*, Mitt. Münch. Ent. Ges. 14, p. 60.
juvavus Parn. *Kol.* Entomol. Anzeig. Wien. 2, p. 42.

kafir Parn. *Avin.* Trans. Ent. Soc. Lond. 1915, p. 357. *
kailasiophana Parn. *Bryk* Arch. Naturg. 80 A. 8, p. 148. *
kammeli Parn. *Hirschke.* Ztschr. Oesterr. Ent. Ver. 7, p. 23.
karashahrica Parn. *O. B.-H.* Iris. 29 (1915), p. 159. *
karavankensis Parn. *Dann.* Entomol. Ztschr. 39 (1925), p. 6.
karjala Parn. *Bryk* Societ. Entom. 26 (1911), p. 37 *
kashtschenkoi Parn. *Vrty.* Rhopal. Palaearct. p. 305. *
kashtshenkoi Parn. *Shclj.* Rev. Russ. Ent. 7, p. 232.
kastschenkoi Parn. *Pag.* Mitt. Münch. Ent. Ges. 3, p. 21.
kerneni Parn. *Bryk.* Societ. Entom. (1922), p. 19. *
kerteszi Parn. *Bryk* Arch. Naturg. 80, A. 6, p. 169. *
kiritshenkoi Parn. *Avin.* Hor. Soc. Ent. Ross. 39, p. 228. *
kolari Parn. *Bryk* Ztschr. Oesterr. Ent. Ver. 7, p. 1.
korbi Parn. *Bryk* Societ. Entom. 37 (1922), p. 23. *
korea Parn. *Bryk* Lepidopt. Catalog. 27, p. 221.
koreana Parn. *Vrty.* Rhopal. Palaearct., p. XXIII. *
koreana Parn. *Vrty.* Rhopal. Palaearct., p. 101. *
kozlovi Parn. *Avin.* Mitt. Münch. Ent. Ges. 7, p. 44.
kozlowyi Parn. *Vrty.* Rhopal. Palaearct., p. XXI. *
kramlingerianus Parn. *Kamm.* Ztschr. Oesterr. Ent. Ver. 7, p. 23. *
kreusa Th. *Tom.* Entom. Rundsch. 29, p. 84.
kricheldorffi Parn. *Eisn.* Int. Ent. Ztschr. 22, p. 309. *
krulikowskyi Parn. *Bryk* Berl. Ent. Ztschr. 58, p. 205. *
kumaonensis Parn. *Ril.* Ent. Month. Mag. (3) 62, p. 277.
kunzi Parn. *Bryk* Int. Ent. Ztschr. 8, p. 9. *
kunzianus Parn. *Bryk* Int. Ent. Ztschr. 8 (1919), p. 39.

lacrimans Parn. *Bryk* Arch. Naturg. A. 8. p. 148.
lacrimans Parn. *Marsch.* Iris 10 (1912), p. 131. *
lacrimans Parn. disc. *Niep.* Lepid. Niepelt. 2, p. 4. *
ladakensis Parn. *Avin.* Trans. Ent. Soc. Lond. 1915, p. 354. *
ladinus Parn. *Bcll.* Deutsche Ent. Ztschr. 1923, p. 289.
lamperti Parn. *Bryk* Jahrb. Nass. Ver. Naturk. 65, p. 33.
lapponica Pap. *Vrty.* Rhopal. Palaearct., p. 295. *
latefasciata Pap. *Cul.* Bull. Lép. Genève 1, p. 266. *
latefasciata Pap. *Schultz* Societ. Entom. 26, p. 34.
latevittata Pap. *Vrty.* Rhopal. Palaearctica, p. 295. *
latevittata Th. *Vrty.* Entom. Record 31, p. 88.
lathonius Parn. *Bryk* Arch. Naturg. 79 A. 6, p. 123.
latiaris Th. *Stich.* Wytsm. Gen. Insect. 59, p. 11.
laticincta Parn. *Vrty.* Apollo Formenkr, p. 101. *
lativittata Th. *Schtz.* Entom. Ztschr. 21 (1908), p. 267.
latreillei Parn. *Bryk* Societ. Entom. 29, p. 9.
laufferi Parn. *Bryck* Societ. Entom. 38 (1923) p. 29. *
laurinus Parn. *Bcll.* Deutsch. Entom. Ztschr. 1923, p. 271.
lecchi Pap. *Vrty.* Rhopal. Palaearct, p. 293. *
lecchi Seric. *Rothsch.* Novit. Zoolog. 25, p. 79.
leocinius Pap. *Fruhst.* Entom. Ztschr. 22 (1909), p. 175.
leonhardi Parn. *Bryk* Jahrb. Nass. Ver. Naturk. 65, p. 27.
leonhardi Parn. *Bryk* Societ. Entom. 28 (1913), p. 94.
leonhardiana Parn. *Fruhst.* Arch. Naturg. 82 A. 2, p. 25. *
leovigildus Parn. *Fruhst.* Entom. Ztschr. 23. p. 151.

nigroinsparsa Parn. *Vrty.* Rhopal. Palaearct. p. 107.
nigrolunata Parn. del. *Stätt.* Ztschr. Ver. Naturbeob. 2, p. 24. *
nigromaculata Pap. pod. *Metschl,* Int. Ent. Ztschr. 19, p. 25.
nigromaculata Th. pol. *Zel.* Entomol. Rundsch. 32, p. 59. *
nigromaculatus Parn. *Niep.* Lepid. Niepeltiana 2, p. 25. *
nigropunctata Parn. *Bür.* Entom. Ztschr. 24 (1910), p. 134.
nigrosecta Parn. *Osth.* Schmett. Südbayerns 1, p. 51.
nigrovenata Pap. *Vrty,* Rhopal. Palaearct, p. 5.*
niphetodis Parn. *Bryk* Entomol. Mitteil. 3, p. 78.
niphetodis Parn. *Bryk* Int. Ent. Ztschr. 8 (1914), p. 9.
niphetodis Parn. ap. *Stich.* Int. Ent. Ztschr. 5 (1911), p. 7.
nipponus Pap. *Fruhst.* Entom. Ztschr. 22 (1908), p. 46.
nivatus Parn. *Fruhst.* Societ. Entom. 21 (1906), p. 138.
nocticolor Dor. *Stich.* Wytsm. Gen. Insect. 58, p. 49. *
nora Th. *Schultz* Entom. Ztschr. 21 (1908), p. 267.
nordmannides Parn. *Bryk* Arch. Naturg. 80 A. 8, p. 147. *
nordmanniides Parn. *Std.* Mitt. Münch. Ent. Ges. 14, p. 60.
noricanus Parn. *Kol.* Entom. Anzeig. 2, p. 42.
normalis Parn. *Bryk* Societ. Entom, 37 (1922), p. 22.
norwegicus Parn. *Menthe* Int. Ent. Ztschr. 6 (1912), p. 244.
nova Parn. *Bryk* Mitt. Münch. Ent. Ges. 5, p. 31.
novarae Parn. clar. *Bryk* Societ. Entomol. 28, p. 95.
novarae Parn. charl. *Bryk* Jahrb. Nass. Ver. Naturk. 65, p. 6.
novarae Parn. nom. *Bryk* Jahrb. Nass. Ver. Nat. 65, p. 31.
novarae Parn. op. *Oberth.* Ét. d'Ent. 14, p. 7.
novaraeformis Parn. *Std.* Societ. Entom. 36 (1821), p. 11.
noviessiguata Pap. *Uff.* Jahresb. Westfäl. Ver. Wiss. 1926, p. 5.
nox Parn. *Bryk* Entom. Tidskr. 42, p. 118.
nox Parn. *Bryk* Societ. Entom. 28 (1913), p. 95.
nubilosus Parn. *Vrty.* Rhopal. Palaearct. p. 98. *
nymphis Pap. *Fruhst.* Entom. Ztschr. 22 (1909), p. 175.

oberthüirianus Parn. *Bryk* Int. Ent. Ztschr. 8, p. 40.
obliterata Parn. *Shelj.* Ztschr. Wiss. Ins.-Biol. 10, p. 4. *
obliterata Parn. *Vrty.* Rhopal. Palaearct., p. 317. *
obscurata Parn. nordm. *Vrty.* Rhopal. Palaearct., p. 303. *
obsolete Pap. *Metschl,* Int. Ent. Ztschr. 19, p. 25.
occidentalis Parn. charl. *Bryk.* Jahrb. Nass. Ver. Naturk. 65, p. 9.
ocellata Parn. *Bryk* Societ. Entom. 29 (1914), p. 77.
ochracea Dor. *Wgn.* Int. Ent. Ztschr. 3 (1910), p. 270.
ochracea Parn. *Aust.* le Naturaliste 13 (1891), p. 180.
ochrea Luehd. *Bryk* Ztschr. Oesterr. Ent. Ver. 7, p. 10.
ochrea Th. *Vrty.* Rhopal. Palaearct., p. 108.
ochreomaculata Parn. ap. *Kamm.* Ztschr. Oesterr. Ent. Ver. 2, p. 19.
ochreomaculata Parn. *O. B.-H.* Iris 29 (1915), p. 157.
ochroleuca Parn. *Aust.* Entom. Ztschr. 24 (1911), p. 224.
oenipontanus Parn. *Std.* Entom. Anzeig. 1, p. 123.
oinophthalmos Parn. *Std.* Deutsch. Entom. Ztschr. 1924, p. 16.
okabei Pap. *Shelj.* Iris 27 (1913), p. 14.
olgensis Parn. *Kard.* Entom. Mitteil. 17, p. 266. *
omegaapertum Parn. *Std.* Deutsche Ent. Ztschr. 1924, p. 14.
omegaclausum Parn. *Std.* Deutsche Ent. Ztschr. 1924, p. 14.
omegascriptum Parn. *Std.* Mitt. Münch. Ent. Ges. 14, p. 59.
omotiomoius Parn. *Fruhst.* Entomol. Anz. Wien 1, p. 87.
ophrinion Parn. *Fruhst.* Arch. Naturg. 82 A. 2, p. 25.
orbifer Parn. ap. *Rbl.* Verh. Zool.-Bot. Ges. Wien 1920, p. 103. *
orcinus Pap. *Shelj.* Neue Beitr. Syst. Ins. 1, p. 124.
orientis Pap. *Vrty.* Rhopal. Palaearct., p. 297. *
orminion Parn. *Fruhst.* Arch. Naturg. 82 A. 2, p. 25. *
ornaca Pap. *Wheel.* Butterfl. Switzerl., p. 7.
ornatior Th. *Blach.* Ann. Soc. Ent. Fr. 1908, p. 214.
ornatissima Pap. *Warn.* Int. Ent. Ztschr. 18, p. 157.
ornatissima Th. *Blach.* Ann. Soc. Ent. Fr. 1908, p. 211.
ornatus Parn. *O. B.-H.* Iris 29 (1915), p. 94. *
orosius Pap. *Fruhst.* Entomol. Wochenbl. 25 (1908), p. 38.
orotschonica Parn. *O. B.-H.* Hor. Macrolep. 1, p. 10. *
ostentata Parn. ap. *Osth.* Schmett. Südbayerns I, p. 50.
ottonis Parn. *Bryk* Societ. Entom. 27 (1912), p. 72.
ottonius Parn. *Fruhst.* Int. Ent Ztschr. 3, p. 161.
oudemansi Pap. *Strd.* Entomol. Ztschr. 25 (1912), p. 253
ouvrardi Pap. agest. *O. B.-H.* Horae Macrolep. 1, p. 1.
ouvrardi Pap. *Oberth.* Bull. Soc. Ent. Fr. 1920, p. 202.
ovalimaculata Parn. *Std.* Mitt. Münch. Ent. Ges. 12, p. 29.

pacificus Pap. *Mart.* Iris 35 (1921), p. 8.
pagenstecheri Parn. *Bryk* Int. Ent. Ztschr. 5 (1911), p. 156. *
pallidior Pap. *Schultz* Societ. Entomol. 26, p. 33.
pamira Parn. *O. B.-H.* Hor. Macrolep. 1, p. 19.
panopaea Pap. *Nic.* Journ. Bomb. Nat.-Hist. Soc. 13, p. 172.
papilionidea Parn. *Std.* Deutsch. Ent. Ztschr. 1924, p. 17.
paradoxa Pap. *Frings* Societ. Entom. 27, p. 22. *
paradoxa Pap. *Nakah.* Brookl. Entom. Soc. 29, p. 38.
parcesquamata Pap. *Ros.* Seitz Macrolep. Suppl. 1, p. 12. *
parmenides Parn. *Fruhst.* Entom. Ztschr. 22 (1908), p. 12.
parnassica Parn. *Bryk* Entom. Ztschr. 36 (1923), p. 56.
parnassoides Th. *Bryk* Int. Ent. Ztschr. 5, p. 263.
parus Pap. *Nic.* Journ. Bomb. Hist. Nat. Soc. 13, p. 172.
parvimacula Parn. *Rothsch.* Novit. Zoolog. 16, p. 7.
parvisi Parn. *Trti.* Natural. Sicil. 1909 Nr. 7, p. 14.
parvummaculatus Pap. *Dracs.* Iris 37 (1923), p. 56.
parvus Parn. *Stich.* Wytsm. Gen. Insect. 58, p. 11.
patricius Parn. *Nicp.* Int. Ent. Ztschr. 5, p. 274.
pedemontanus Parn. *Trti.* Ann. Mus. Zool. Nap. 3, p. 4.
peloponnesiacus Parn. *Pag.* Societ. Entom. 28 (1912), p. 43.
pentagonalis Parn. *Std.* Mitt. Münch. Ent. Ges. 12, p. 18.
perfecta Parn. ap. *Fagn.* Mitt. Bad. Ent. Verg. 1, p. 40.
perfumigata Parn. *Std.* Deutsch. Entom. Ztschr. 1924, p. 16.
perfusa Parn. *Bryk* Jahrb. Nassau. Ver. Nat. 65, p. 30.
perfusa Parn. *Bryk* Societ. Entom. 27 (1912), p. 87.
perfusa Parn. *Vrty.* Rhopal. Palaearct., p. 312. *
perkele Parn. *Bryk* Societ. Entom. 36 (1921), p. 17.
peroneurus Parn. *Bryk* Mitt. Münch. Ent. Ges. 5, p. 72. *
persica Pap. *Vrty.* Rhopal. Palaearct., p. 292. *
persica Th. *Neubrg.* Illustr. Ztschr. Entom. 5, p. 330.
perversus Parn. mn. *Bryk* Societ. Entom. 27 (1912), p. 48 *.
peteri Parn. *O. B.-H.* Hor. Macrolep. 1, p. 27. *
petheri Th. *Romei* Entom. Record 39, p. 137.
phaeton Th. *Bryk* Societ. Entom. 28 (1913), p. 94. *
phariensis Parn. *Arin.* Trans. Ent. Soc. Lond. 1915, p. 360. *
philoxenides Pap. *Fruhst.* Entomol. Ztschr. 22, p. 72.
phoibogryphos Parn. *Bryk* Jahrb. Nass Ver. Naturk. 65, p. 31.
phonolithi Parn. *Bryk* Arch. Naturg. 60 A. 10, p. 166.
phrynius Parn. *Fruhst.* Entom. Anzeig. 1, p. 30.
piedemontanus Parn. *Fruhst.* Entom. Ztschr. 23, p. 152.
plateuius Pap. *Fruhst.* Entomol. Wochenbl. 25 (1908), p. 38.
plenissima Pap. *Vrty.* Entom. Record 38, p. 176.
plurimaculata Parn. *Nitsche* Verh. Zool.-Bot. Ges. Wien 93, p. 20.
pluslineata Pap. *Vrty.* Rhopal. Palaearct. p. 292. *
polymnia Th. *Mill.* Ann. Soc. Nat. Cannes 10. *
polyphemus Parn. *Bryk* Arch. Naturg. 87 A. 10, p. 239.
ponsoni Parn. *Cul.* Bull. Soc. Lép. Genève 1, p. 167.
porphyrians Pap. *Oberth.* Ét. Lep. Comp. 9 (2), p. 44. *
porrecta Parn. ap. *Osth.* Schmett. Südbayerns 1. p. 50.
posterior Parn. *Peschke* Int. Ent. Ztschr. 15 (1921), p. 35.
posthumus Parn. *Fruhst.* Societ. Entom. 36, p. 13.
posticelongata Parn. ep. *O. B.-H.* Iris 29 (1915), p. 184.
posticelongata Parn. *Kamm.* Ztschr. Oesterr. Ent. Ver. 2, p. 19.
posticelongata Parn. *Trti.* Atti Soc. Ital. Sc. Nat. 57, p. 79. *
posticelongata Parn. *Vtry.* Bull. Soc. Ent. Ital. 45, p. 204. *
posticerotundata Parn. *Std.* Deutsche Ent. Ztschr. 1924, p. 17.
postintercupitalis Parn. ap. *Bryk* Arch. Naturg. 82, A. 5, p. 39. *
postvernalis Pap. *Bryk* Int. Ent. Ztschr. 17, p. 58.
poverina Th. *Bryk* Arch. Naturg. 79 A. 3, p. 2.
pretiosa Dor. *Shaw.* Ztschr. Oesterr. Ent. Ver. 10, p. 45.
priamus Parn. *Bryk* Societ. Entomol. 29, p. 24. *
primularis Pap. *Oberth.* Ét Lép. Comp. 10, p. 28. *
privata Pap. *Metschl,* Int. Ent. Ztschr. 19, p. 25.
problematica Parn. *Bryk* Societ. Entom. 27 (1912), p. 65.
profluata Parn. *Osth.* Schmett. Südbayerns 1, p. 51.
pryeri Pap. *Rothsch.* Novit. Zoolog. 2. p. 313.
pseudocorybas Parn. *Std.* Neue Beitr. Ins.-Kunde 2, p. 88.
pseudofemia Parn. *Fagn.* Mitt. Bad. Ent. Verg. 1 (1914), p. 34.
pseudonubilosus Parn. *Vrty.* Rhopal. Palaearct. p. 231.
pseudoromanowi Parn. *Stätt.* Zeitschr. Ver. Naturbeob. 2, p. 24. *
pseudozancleus Pap. *Metschl,* Ber. Natur. Ver. Regensb. 16, p. 10.
pseudozanclaeus Pap. *Stätt.* Entom. Anzeig. 4, p. 133.
punctata Pap. *Manon* Proc. Verb. Soc. Linn. Bord. 73, p. 36.
punctata Parn. *Pag.* Jahrb. Nass. Ver. Naturk. 65, p. 85. *
punctata Th. *Schultz* Entom. Ztschr. 21 (1908), p. 267.
punctatus Pap. *Schultz* Berl. Ent. Ztschr. 47 (1902), p. 127. *
punctilineata Parn. *Std.* Mitt. Münch. Ent. Ges. 12, p. 17.
punctoclavatus Pap. *Cab.* Rev. Mens. Namur 1911, p. 77.
pundit Parn. Avin. *Oberth.* Ét. Lép. Comp. 19 (2), p. 62. *
pundjabensis Parn. *O. B.-H.* Hor. Macrolep. 1, p. 23. *
pupillata Parn. *Bryk* (= bipupillata) Arch. Naturg. 80 A 8, p. 147.
pygmaeus Parn. *O. B.-H.* Iris 24 (1910), p. 28.
pyrenaiana Parn. *Bryk* Societ. Entom. 27, p. 66.
pyrophora Parn. *Std.* Deutsch. Ent. Ztschr. 1924, p. 16.
pytania Parn. *Bryk* Lepid. Catalog. 27, p. 188.

quadratula Parn. *Std.* Neue Beitr. Ins. Kunde 2, p. 83.
quadripicta Parn. nom. *O. B.-H.* Hor. Macrolep. 1, p. 17.
quadripicta Parn. *Shelj.* Mitt. Münch. Ent. Ges. 18, p. 8.
quincunx Parn. *Bryk* Mitt. Münch. Ent. Ges. 18, p. 7.

quinctnx Parn. *Bryk* Societ. Entom. 15 (1911), p. 97. *
quinctnx Parn. nom. *Bryk* Societ. Entom. 28 (1913), p. 71. *

raskemensis Parn. *Avin.* Trans. Ent. Soc. Lond. 1915, p. 359. *
rebeli Luehd. *Bryk* Ztschr. Oesterr. Ent. Ver. 6 (1921), p. 33. *
rebeli Parn. ap. *Bryk* Societ. Entomol. 27 (1912), p. 53.
rebelianus Parn. *Fruhst.* Societ. Entom. 36 (1921), p. 13.
reciproca Parn. *Bryk* Societ. Entom. 28 (1913), p. 95.
redivivus Parn. *Bryk* Arch. Naturg. 80 A. 9, p. 141. *
redtenbacheri Parn. *Bryk* Entom. Tidkr. 39, p. 45. *
reducta Parn. ap. *O. B.-H.* Iris 29 (1915), p. 183.
reducta Parn. nom. *O. B.-H.* Hor. Macrolep. 1, p. 17.
reducta Parn. *Rev.* Bull. Soc. Lép. Genève 2, p. 45. *
reducta Th. pol. *Hoffm.* Krancher's Jahrbuch 1916, p. 172.
reductus Parn. ap. *Kamm.* Ztschr. Oesterr. Ent. Ver. 2, p. 18.
reniformis Parn. *O. B.-H.* Iris 29 (1915), p. 184.
reuteri Parn. *Bryk* Societ. Entomol. 27 (1912), p. 61.
reuteriides Parn. nom. *Bryk* Societ. Entom. 27, p. 62.
reuterdiies Parn. *Bryk* Societ. Entom. 28 (1913), p. 27.
reverdini Th. *Fruhst.* Int. Ent. Ztschr. 2, p. 58.
rex Parn. *O. B.-H.* Entom. Ztschr. 42 (1928), p. 68,
rhaeticus Parn. *Fruhst.* Societ. Entom. 21 (1906), p. 139.
rhea Parn. *Poda* Ins. Mus. Graec. (1761), p. 66.
rhododaktylus Parn. *Bryk* Mitt. Münch. Ent. Ges. 5, p. 32.
rhodopensis Parn. *Mark.* Arb. Bulg. Nat. Ges. Sof. 4 (1910), p. 12.
rhodopis Pap. *Rothsch.* Novit. Zoolog. 15, p. 167.
richardi Pap. *Dusm.* Bol. Soc. Espan. 12 (1912), p. 302.
richthofeni Parn. *O. B.-H.* Hor. Macrolep. 1, p. 16. *
rogeri Pap. *Shelj.* Rev. Russe Entom. 9, p. 383.
romani Parn. *Bryk* Societ. Entom. 36 (1921), p. 18. *
romanovi Parn. *Gr.-Grsh.* Roman. Mém. Lép. 2, p. 236.
rosaceomaculata Parn. *Std.* Iris 36 (1922), p. 1.
rosenius Parn. *Fruhst.* Entom. Anzeig. Wien 3, p. 41.
roseomaculata Parn. nom. *O. B.-H.* Hor. Macrolep. 1, p. 17.
roscopicta Parn. *Trti.* Atti Soc. Ital. Sc. Nat. 57, p. 77. *
roseus Pap. *Draes.* Iris 37 (1923), p. 55.
rotundata Parn. *Vrty.* Rhopal. Palaearct. p. 312. *
rubicundus Pap. *Fruhst.* Entom. Ztschr. 22 (1909), p. 176.
rubidochraceomaculata Parn. *Std.* Societ. Entom. 36 (1921), p. 10.
rubidus Parn. *Fruhst.* Societ. Entom. 21 (1906), p. 137.
rubinus Parn. *Bryk* Mitt. Münch. Ent. Ges. 5, p. 26.
rubra Parn. *Christ.* Bull. Soc. Maurit. (1897), 11 p.
rubra Th. *Zel.* Ztschr. Oesterr. Ent. Ver. 1 (1917), p. 20.
rubricollis Parn. *Fagn.* Mitt. Bad. Ent. Ver. 1, p. 34.
rubroanalis Pap. *Stätt.* Entom. Anzeig. 4, p. 134.
rubrobasalis Parn. *Stätt.* Ztschr. Ver. Naturbeob. 2, p. 24. *
rubrocatenata Parn. *Bryk* Jahrb. Nass. Ver. Naturk. 65, p. 7. *
rubrocatenulata Parn. *Bryk* Arch. Naturg. 80 A. 9, p. 140. *
rubrofasciata Parn. *Fagn.* Mitt. Bad. Ent. Verg. 1 (1924), p. 108.
rubrojuncta Parn. *O. B.-H.* Iris 29 (1915), p. 184.
rubrolunata Pap. *Closs* Int. Ent. Ztschr. 11, p. 195.
rubromaculata Pap. *Schultz* Nyt. Mag. Naturv. 42, p. 39.
rubromaculata Pap. xuth. *Stätt.* Entom. Anzeig. 4, p. 133.
rubromaculata Parn. del. *Hoffm.* Int. Ent. Ztschr. 5, p. 227.
rubromaculata Parn. ap. *Kamm.* Ztschr. Oesterr. Ent. Ver. 2, p. 19.
rubromaculata Parn. nom. *O. B.-H.* Hor. Macrolep. 1, p. 17.
rubromarginata Parn. disc. *Shelj.* Entom. Anzeig. 5, p. 37.
rubropicta Parn. orl. *O. B.-H.* Berl. Ent. Ztschr. 49, p. 323.
rubropicta Parn. *O. B.-H.* Hor. Macrolep. 1, p. 16.
rubropicta Parn. *O. B.-H.* Iris 29 (1915), p. 95.
rubropicta Parn. ap. *Ros.* Mitt. Münch. Ent. Ges. 11, p. 85.
rubrosubmarginata Parn. *O. B.-H.* Ent. Ztschr. 42 (1928), p. 60.
ruckbeili Parn. *Deck.* Bull. Soc. Ent. Fr. 1909, p. 108.
rufa Pap. *Pionn.* l'Echange 1924, Nr. 416, p. 16.
rufescens Th. pol. *Oberth.* Ét. d'Ent. 14, p. 25.
rufodilatata Parn. *Lacr.* Bull. Soc. Lép. Genève 1, p. 383.
rufopunctata Pap. *Wheel.* Butterfl. Switzerl., p. 53.
ruhmanni Parn. *Hoffm.* Entomol. Rundsch. 24 (1912), p. 157.
ruhmannianus Parn. *Bryk* Arch. Naturg. 80 A. 6, p. 164. *
rumina-alba Th. *Esp.* Schmett. Abbild. I, p. 64. *
rupshuana Parn. *Avin.* Trans. Ent. Soc. Lond. 1915, p. 354. *

saboianus Parn. *Fruhst.* Entom. Anzeig. 3, p. 59.
sachalinensis Pap. *Mats.* Journ. Agr. Coll. Sapp. 4, p. 40.
sachalinensis Pap. bian. *Mats.* Journ. Coll. Agr. 15 (3), p. 89.
salevianus Parn. *Fruhst.* Societ. Entom. 29, p. 32.
sandigi Luehd. *Bryk* Ztschr. Oesterr. Ent. Ver. 6, p. 32.
sandigi Pap. *Bryk* Int. Ent. Ztschr. 17, p. 54.
sarpedonides Pap. *Fruhst.* Entom. Ztschr. 22 (1908), p. 46.
satanas Parn. *A. B.-H.* Iris 26 (1910), p. 27.
sawljuk Parn. *Dubl.* Societ. Entom. 41 (1926), p. 17.
scaevola Pap. *Oberth.* Ét. d'Ent. 4, p. 37.
schawerdae Parn. *Bryk* Societ. Entom. 37, p. 11. *
schenklingi Parn. *Bryk* Entom. Mitteil. 3, p. 79.
schmidtianus Parn. *Bryk* Arch. Naturg. 87 A. 10, p. 236.
schweitzeri Parn. *Bryk* Int. Ent. Ztschr. 8, p. 7. *
scotina Parn. *Stich.* Int. Ent. Ztschr. 4, p. 277.
shandura Parn. *Tytl.* Journ. Bomb. Nat. Hist. Soc. 31, p. 249. *
sheljuzkoi Parn. *Bryk* Societ. Entom. 27, p. 65.
shillei Parn. *Bryk* Societ. Entom. 40 (1925), p. 30.
seitzi Parn. simo *Bryk* Arch. Naturg. 82 A. 5, p. 40.
seitzi Parn. ap. *Bryk* Arch. Russ. Ges. Biol. 9, p. 688. *
semicaeca Parn. acd. *Bryk* Societ. Entom. 29 (1914), p. 24.
semicaeca Parn. orl. *O. B.-H.* Iris 29 (1915). p. 184.
semicaeca Parn. ten. *O. B.-H.* Hor. Macrolep. 1, p. 29. *
semicaeca Parn. *Shelj.* Ztschr. Wiss. Ins.-Biol. 10, p. 4. *
semicaeca Parn. ap. *Trti.* Ann. Mus. Zool. Nap. 3, p. 5.
semidecora Parn. *Bryk* Societ. Entom. 29, p. 15.
semidecora Parn. orl. *Bryk* Entom. Ztschr. 36 (1923), p. 56.
semidecora Parn. nom. *O. B.-H.* Hor. Macrolep. 1, p. 17.
semifasciata Parn. mn. *Hirschke* 13. Jahresb. Wien. Ent. Ver. (1912), p. VII.
semilactifera Parn. *Trti.* Atti Soc. Ital. Sc. Nat. 57, p. 42. *
seminigra Pap. *Oberth* Ét. Lép. Comp. 3, p. 103. *
semipicta Parn. ap. *Kamm.* Ztschr. Oesterr. Ent. Ver. 2, p. 18.
semistrigata Pap. *Stätt.* Entom. Anzeig. 4, p. 135.
semnus Pap. *Fruhst.* Entomol. Wochenbl. 25 (1908), p. 38.
separanda Parn. *Vrty.* Rhopal. Palaearct., p. 313. *
separata Th. *Shelj.* Iris. 41 (1927), p. 203.
septentrionalis Pap. *Vrty.* Rhopal. Palaearct., p. 299. *
septentrionalis Parn. *Vrty.* Rhopal. Palaearct., p. 319.
serenus Parn. *Fruhst.* Entom. Rundsch. 38 (1921), p. 17.
sergeji Parn *Bryk.* Berl. Ent. Ztschr. 58 (1913), p. 205. *
serpentinicus Parn. *Mayer* Ztschr. Oesterr. Ent. Ver. 10, p. 3. *
sevenensis Parn. *Kesenh.* Entom. Ztschr. 35 (1921), p. 64. *
sicinius Parn. *Fruhst.* Societ. Entom. 36 (1921), p. 14.
siegeli Parn. *Bryk* Societ. Entom. 27 (1912), p. 65. *
siegfriedi Parn. *Bryk* Int. Ent. Ztschr. 8 (1914), p. 12. *
sikkimica Pap. *Heron* Ann. Mag. Nat. Hist. (7) 3, p. 120.
silesiacus Parn *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 124.
silesianus Parn. *Marsch.* Berlin. Ent. Ztschr. 1909, p. 68.
simonides Parn. *Aust.* Int. Ent. Ztschr. 5, p. 360. *
simonides Parn. *O. B.-H.* Hor. Macrolep. 1, p. 104.
simonides Parn. *Std.* Neue Beitr. Ins.-Kunde 2, p. 86.
simplicatus Parn. *Stich.* Wytsm. Gen. Insect. 58, p. 43.
sinensis Parn. *O. B.-H.* Hor. Macrolepid. 1, p. 16. *
sire Parn. *Bryk* Societ. Entom. 37 (1922), p. 19. *
skalae Th. *Zel.* Ztschr. Oesterr. Ent. Ver. 1 (1917), p. 37.
smidti Parn. *Bryk* Arch. Naturg. 80 A. 8. p. 147. *
sojoticus Parn. *Bryk* Societ. Entomol. 27, p. 11. *
solaris Pap. *Fisch.* Societ. Entom. 23 (1908), p. 130.
solonensis Parn. *O. B.-H.* Hor. Macrolep. 1, p 11. *
sotirion Parn. *Fruhst.* Entom. Anzeig. 3, p. 56.
spengeli Pap. *Reiff* Zeitschr. Wiss. Ins.-Biol. 7, p. 3.
sphenagon Parn. *Schaw.* Entom. Ztschr. 36 (1923), p. 56.
sphyroides Pap. *Krul.* Rev. Russe Entom. 9, p. 109.
sphyroides Pap. *Vrty.* Rhopal. Palaearct., p. 12. *
spinosa Luehd. *Stich.* Wytsman Gen. Insect. 59, p. 17. *
splendida Parn. *Osth.* Schmett. Südbayerns 1, p. 50.
spoliata Th. *Stich.* Wytsm. Gen. Insect. 59, p. 8.
spoliatus Pap. *Schultz* Berl. Ent. Ztschr. 47, p. 127. *
springeri Th. *Roenn.* Jahresb. Wien. Ent. Ver. 21, p. 37. *
spuleri Pap. *Fisch.* Societ. Entom. 23 (1908), p. 130.
spuleri Parn. *Bryk* Societ. Entom. 27 (1912), p. 53.
standfussi Parn. *Bryk* Societ. Entom. 27 (1912), p. 73.
steinmigi Parn. *Std.* Neue Beitr. Ins.-Kunde 2, p. 86.
stelviana Parn. *Dann.* Entom. Ztschr. 39 (1925), p. 19.
stichcli Parn. *Std.* Societ. Entom. 36 (1921), p. 10.
strambergensis Parn. *Skala* Verh. Natur. Ver. Brünn 50, p. 26.
strandi Seric. *Bryk* Arch. Naturg. 79 A. 3, p. 1.
strandianus Parn. *Bryk* Arch. Naturg. 80 A. 7, p. 159.
strix Parn. *Bryk* Societ. Entom. 29 (1914), p. 43. *
stupida Parn. *Std.* Deutsche Ent. Ztschr. 1924, p. 17.
styriacus Parn. *Fruhst.* Entom. Wochenbl. 24 (1907), p. 199.
suanetieus Parn. *Arn.* Entom. Ztschr. 23, p. 159. *
suaretieus Parn. *Pag.* Verity Rhopal. Palacarct. Pl. 56. *
subalbida Th. *Schultz* Entom. Ztschr. 21 (1908), p. 267.
subdiaphana Parn. *Vrty.* Rhopal. Palaearct., p. 94. *
subdiaphana Parn. *Vrty.* Rhopal. Palaearct., p. 108. *
subflava Th. *Schultz* Entom. Ztschr. 21 (1908), p. 267.
sublaerimans Parn. *Bryk* Societ. Entom. 28 (1913), p. 66.
subnubilosus Parn. *Bryk* Societ. Entom. 29 (1914), p. 44. *
suboehraeea Parn. *Fruhst.* Societ. Entom. 27 (1912), p. 87.
subrubieunda Pap. *Schultz* Nyt. Mag. Naturv. 42, p. 40.
substitutus Parn. *Rothsch.* Novit. Zoolog. 16, p. 10.
subtushalteres Parn. *Bryk* Arch. Naturg. 80, A. 8, p. 146. *
subtuslacrimans Parn. *Osth.* Schmett. Südbayerns 1, p. 51.
suevicus Parn. *Pag.* Entom. Ztschr. 22 (1908), p. 186.

suffusa Parn. *Hoffm. & Kl.* Mitt. Nat. Ver. Steierm. 50, p. 198.
suffusa Parn. simo *Vrty.* Rhopal. Palaearct., p. 77. *
sulphureus Parn. *Antr.* Butterfl. India, p. 38. *
superans Pap. *Draes.* Iris 37 (1923), p. 58.
symmelanus Pap. *Lamb.* Rev. Mens. Namur 1913, p. 125.
symphorus Parn. *Fruhst.* Entom. Ztschr. 24 (1910), p. 155.
sympleta Parn. ap. *Bryk* Arch. Naturg. 80 A. 8, p. 151.
sympleta Parn. *Bryk* Berl. Entom. Ztschr. 58, p. 204.
syra Parn. *Vrty.* Rhopal. Palaearct., p. 321, *
syriaca Pap. *Vrty.* Rhopal. Palaearct., p. 13. *
sztrecsnoensis Parn. *Pax* Ztschr. Wiss. Ins.-Biol. 11, p. 53.

taeniata Parn. mn. *Hirschke* 20. Jahresb. Wien. Ent. Ver. (1909), p. 20. *
taeniata Parn. ap. *Osth.* Schmett. Südbayerns 1, p. 50.
taeniata Parn. mn. *Stich.* Berl. Ent. Ztschr. 59, p. 39. *
tagalangi Parn. *O. B.-H.* Hor. Macrolep. 1, p. 23. *
takamukana Luehd. *Mats.* Thous. Ins. 1, Add. 3, p. 722.
taliensis Pap. *O. B.-H.* Horae Macrolep. 1, p. 2.
tancrei Parn. *Aust.* Entom. Ztschr. 24 (1910), p. 55.
tanerei Parn. *Deck.* Bull. Soc. Ent. Fr. 1909, p. 108.
tarbagataica Parn *Vrty.* Rhopal. Palaearct., p. 305. *
tartarus Parn. *Aust.* le Naturaliste 17, p. 39.
taygetana Th. *Rosen* Seitz Macrolep. Suppl. I, p. 19.
temora Parn. *Fruhst.* Societ. Entom. 37 (1922), p. 18.
tenebrosus Parn. *Fruhst.* Entom. Anzeig. 1, p. 44.
tenuicincta Parn. *Vrty.* Rhopal. Palaearct. p. 311. *
tenuimarginata Pap. *Stätt.* Entom. Anzeig. 4, p. 134.
tergestus Parn. *Fruhst.* Entom. Ztschr. 24 (1911) p. 155.
teruejana Parn. *Kard.* Entom. Mitteil. 17, p. 268. *
tessinorum Parn. *Fruhst.* Entom. Rundsch, 38, p. 14.
tetrachroma Parn. *Std.* Neue Beitr. Ins.-Kunde 2, p. 88.
tetradynamos Parn. *Std.* Int. Ent. Ztschr. 18 (1924), p. 9.
thaleia Parn. *Fruhst.* Arch. Naturg. 82 A. 2, p. 27.
thebaida Parn. *Fruhst.* Societ. Entom. 37 (1922), p. 31.
theiodes Parn. *Bryk* Entom. Mitteil. 3, p. 80. *
theiodes Parn. ap. *Shaw.* Verh. Zool.-Bot. Ges. Wien 62, p. 114.
thermophila Parn. *Fruhst.* Entom. Anzeig. 3, p. 56.
thermophila Parn. *Fruhst.* Entom. Anzeig. 3, p. 59.
thesto Th. *Fruhst.* Entom. Ztschr. 22 (1908), p. 16.
thiemo Parn. *Fruhst.* Entom. Ztschr. 23 (1909), p. 151.
thracica Dor. *Bur.* Arbeit. Bulg. Ak. Wiss. 12, p. 53.
thunbergi Pap. *Sieb.* Hist. Nat. Jap. (1824), Lep., p. 16.
thusnelda Th. *Schultz* Ent. Ztschr. 22 (1908), p. 79.
timur Pap. *Ney* Entom. Ztschr. 24 (1911), p. 252.
tirabzonus Parn. *Shelj.* Ztschr. Oesterr. Ent. Ver. 9, p. 68.
tisiphone Parn. *Std.* Neue Beitr. Ins.-Kunde 2, p. 86.
titan Parn. *Fruhst.* Iris 16 (1904), p. 308.
tkatshukovi Th. *Shelj.* Iris 41 (1927), p. 202.
tobae Luehd. *Mats.* Thous. Ins. 1 Add. 3, p. 724.
tonalensis Parn. *Bryk* Entom. Tidskr. 42, p. 117. *
totireducta Parn. nom. *O. B.-H.* Hor. Macrolep. 1, p. 17.
trachomophthalmos Parn. *Std.* Neue Beitr. Ins.-Kunde 2, p. 85.
transbaikalensis Parn. *Vrty.* Rhopal. Palaearct., p. XX.
transiens Parn. orl. *Aust.* Palaearct. Parnass., p. 81. *
transsylvanicus Parn. *Schweitz.* Entom. Ztschr. 25 (1912), p. 57.
triangulum-nigrum Parn. *Std.* Deutsche Ent. Ztschr. 1924, p. 15.
tridentina Parn. *Dann.* Entom. Ztschr. 39 (1925), p. 19.
tridua Parn. *Std.* Deutsche Ent. Ztschr. 1924, p. 14.
trimacula Parn. ap. *Schaw.* Verh. Zool.-Bot. Ges. Wien 63, p. 143.
tripicta Parn. ap. *Kamm.* Ztschr. Oesterr. Ent. Ver. 2, p. 19.
tripicta Parn. nom. *O. B.-H.* Hor. Macrolep. 1, p. 17.
tripicta Parn. *O. B.-H.* Iris 29 (1915), p. 183.
tripicta Parn. *Ros.* Mitt. Münch. Ent. Ges. II, p. 85.
tripicta Parn. *Shelj.* Mitt. Münch. Ent. Ges. 18, p. 7.
tripunctata Pap. *Schultz* Societ. Entom. 26 (1911), p. 34.
tripunctata Th. *Zel.* Ztschr. Oesterr. Ent. Ver. 1 (1916), p. 20.
tripupillata Parn. nom. *O. B.-H.* Hor. Macrolep. 1, p. 17.
tripupillata Parn. ap. *Std.* Neue Beitr. Ins.-Kunde 2, p. 88.
tristis Pap. *Lamb.* Rev. Mens. Namur 1906, p. 47.
tristis Pap. *Stätt.* Entom. Anzeig. 4, p. 134.
triumphator Parn. *Fruhst.* Entom. Anzeig. 1, p. 54. *
trosti Parn. *Hoffm.* Int. Ent. Ztschr. 5 (1911), p. 227.
tschiliensis Parn. *O. B.-H.* Hor. Macrolep. 1, p. 15. *
tsingtana Parn. *A. B.-H.* Iris 24 (1910), p. 28.
tsinlingshani Pap. *Ros.* Seitz, Macrolep. Suppl. I, p. 7.
tubulus Parn. *Fruhst.* Entom. Ztschr. 22 (1908), p. 12.
turatii Parn. ap. *Fagn.* Mitt. Bad. Ent. Verg. 1 (1923), p. 11.
turatii Parn. *Fruhst.* Int. Ent. Ztschr. 11 (1908), p. 17.
turatii Parn. *Rothsch.* Novit. Zoolog. 25, p. 237.
turatii Parn. *Std.* Societ. Entom. 36 (1921), p. 11.
turatinus Parn. *Fruhst.* Entom. Anzeig. 1, p. 41. *
tutanus Pap. *Fent.* Proc. Zool. Soc. Lond. 1881, p. 855.
typica Parn. stubb. *Bryk* Int. Ent. Ztschr. 8 (1914), p. 12. *

ugrjumovi Parn. *Bryk* Berlin, Entom. Ztschr. 58, p 201. *
ugrofennica Parn. *Bryk* Societ. Entom. 27 (1912), p. 24.
ulrichi Parn. *Vorbr.* Schmett. Schweiz 2, p. 607.
ultrabella Parn. *Fruhst.* Societ. Entom. 37 (1922), p. 31.
umbratilis Parn. *Fruhst.* Int. Ent. Ztschr. 2 (1908), p. 17.
undulosus Pap. *Oberth.* Ét. Lép. Comp. 5, p. 68. *
unica Parn. *Avin.* Hor. Soc. Ent. Ross. 39, p. 747.
uniformis Parn. ap. *Std.* Societ. Entom. 36 (1921), p. 10.
unimaculata Pap. *Warn.* Iris 38 (1924), p. 149.
unimaculata Parn. ap. *Bryk.* Arch. Naturg. 87 A. 10, p. 233.
unimaculata Th. pol. *Zel.* Ztschr. Oesterr. Ent. Ver. 1 (1917), p. 20.
unipunctata Pap. *Guss.* Glasnik 29, p. 211.
unipupillata Parn. *Rbl.* Ann. Wien. Hofmus. 33, p. 72.
uralka Parn. *Bryk* Entom. Tidskr. 42, p. 115. *
ussuriensis Pap. *Shelj.* Rev. Russe Ent. 9, p. 363.
usticensis Pap. *Rocci* Atti Soc. Ligust. 30, p. 13. *
usurpator Parn. *Bryk* Entom. Ztschr. 36 (1923), 56.

valderiensis Parn. *Trti. & Vrty.* Bull. Soc. Ent. Ital. 42, p. 185
valesiaca Pap. *Vrty.* Rhopal. Palaearct., p. 291. *
valesiacus Parn. *Fruhst.* Societ. Entom. 21 (1906), p. 139.
valesiacus Parn. *Pag.* Jahrb. Nassau. Ver. Naturk. 62, p. 150.
vaporosus Parn. *Avin.* Hor. Soc. Ent. Ross. 40. p. 16. *
variabilis Parn. *Trti.* Natural. Sicil. Nr. 7 (1909), p. 14. *
velata Parn. *Bell.* Deutsch. Ent. Ztschr. 1922, p. 235.
venaissimus Parn. *Fruhst.* Entom. Anzeig. 1, p. 114.
venetianus Parn. *Pag.* Jahrb. Nass. Ver. Naturk. 64, p. 295.
venetus Parn. *Wgn.* Int. Ent. Ztschr. 4, p. 208. *
ventidius Parn. *Fruhst.* Societ. Entom. 36 (1921), p. 13.
venustus Parn. *Bell.* Deutsch. Entom. Ztschr. 1923, p. 290.
veris Pap. *Shelj.* Iris 27 (1913), p. 13.
verityi Pap. *Fruhst.* Entom. Ztschr. 21, p. 301.
verityi Parn. *Bryk* Arch. Naturg. 80 A. 8, p. 151.
vernetianus Parn. *Fruhst.* Int. Ent. Ztschr. 11 (1908), p. 17.
vernetensis Parn. *Rothsch.* Novit. Zoolog. 25, p. 223.
verus Parn. Avin. *Oberth.* Ét. Lép. Comp. 17, p. 82.
victorialis Parn. *Fruhst.* Entom. Anzeig. 1, p. 29.
virginea Parn. *Aust.* Entom. Ztschr. 24 (1910), p. 85.
viridicans Parn. *Fruhst.* Seitz, Macrolep. 9, p. 111. *
vistulicus Parn. *Rbl.* Horae Macrolep. I, p. 13. *
vitrina Th. *Rothsch.* Novit. Zoolog. 25, p. 73.
vittata Parn. *Vrty.* Rhopal. Palaearct. p. 107. *
voigti Parn. *O. B.-H.* Hor. Macrolep. I, p. 38. *

wagneri Parn. *Bryk* Societ. Entom. 40 (1925), p. 30.
walteri Parn. *Bryk* Societ. Entom. 29 (1914), p. 77. *
wenzeli Parn. *Bryk* Entom. Tidskr. 42, p. 117.
wenzelius Parn. *Fruhst.* Entom. Rundsch. 39, p. 5.
whitei Parn. *Bingh.* Faun. Brit. Ind. Rhop. 2, p. 125. *
wiskotti Parn. *Oberth.* Ét. d'Ent. 14, p. 16. *
workmani Parn. *Avin.* Trans. Ent. Soc. Lond. 1915, p. 357. *

xanthe Th. *Schultz* Entom. Ztschr. 21 (1908), p. 267.
xanthophthalma Pap. *Std.* Mitt. Münch. Ent. Ges. 12, p. 17.
xanthosoma Pap. *Trti.* Atti Soc. Ital. 63, p. 27. *
xanthostieta Parn. *Std.* Deutsche Entom. Ztschr. 1924, p. 16.
xenia Th. *Schultz* Entom. Ztschr. 21 (1908), p. 267.
xerophila Parn. *Fruhst.* Entom. Anzeig. 3, p. 58.
xuthina Pap. *Fruhst.* Entom. Ztschr. 22 (1908), p. 47.

yazawae Luehd. *Mats.* Thous. Ins. 1 Add. 3, p. 723.
yessoensis Luehd. *Rothsch.* Novit. Zoolog. 25, p. 64.
yglanus Parn. *Fruhst.* Entom. Anzeig. 1, p. 88.
yunnana Pap. *Oberth.* Bull. Soc. Ent. Fr. 1907, p. 137.

zanelaeides Pap. *Vrty.* Rhopal. Palaearct. p. 291.
zarathustrae Parn. *Bryk* Societ. Entom. 28 (1914), p. 29.
zetaalbum Parn. *Bryk* Arch. Naturg. 87 A. 10, p. 236.
zogilaica Parn. *Tytl.* Journ. Bomb. Nat. Hist. Soc. 31, p. 251. *

2. Family: **Pieridae**, Whites.

The increase in denominations since writing the chapter in Vol. 1 (in September 1907) relates far less to describing newly discovered forms than to giving names to aberrations which formerly were not noticed or which their discoverers did not deem worthy of a name. Opinions are divergent in regard to the necessity or value of such names, but consistently with the purposes of this work we are registering them in the following chapter more as a reference than as erities. The large proportion of characteristics of ascertained generations or localities and the giving of names thereto is only of sense when specimens can be denominated even without the particulars of the locality and the date. If it is absolutely impossible to decide the name of a perfect specimen unless one has the place of origin and date of capture then a scientific name is scarcely justified. One could proceed especially critically in the Pierids which are mostly one coloured white or yellow: nevertheless only very few forms have been dealt with summarily whilst with names that could have been omitted generally one characteristic at least is given and we leave it to our readers to form their own judgment in regard to the value of such diagnoses. When the names have been rejected it would be best to refer to the index and register of the original descriptions. (Seitz.)

1. Genus: **Aporia** *Hbn.*, *Black-veined Whites.*

A. crataegi *L.* (Vol. 1, Plate 17 a). The ab. **infraochreata** *Vrty.* from Tuscany has the underside of the wings ochre-yellow. — ab. **koyi** *Rbl.* from Hungary is a ♀ with hindwings coloured smoky-black, forewings slightly paler in the disc. — ab. **atricolor** *O. B.-H.* (7 a) has uniformly deep black wings on the upper and undersides as shown by a ♂ from Kultshuk on the Lake of Baikal. — *pseudohippia Vrty.* is a transition to *hippia*, the veins of the underside of the hindwings are margined in precisely the same way as in *hippia*. — ab. **homogryphus** *Bryk* has the so-called false vein without black dusting. — subsp. **basanius** *Fruhst.* from the alpine lakes, on the southern slopes of the Simplon, and the neighbourhood of Rome is of pure white upperside, also without black sealings on the distal areas of the wings. The ♀ without any hyaline median patch in the forewings. — Very similar to it if not completely synonymous is *meridionalis Vrty.* from central Italy: the ♂♂ are without the dark triangular marginal spots of more northern specimens and the ♀♀ never have a grey clouding of the discal cell. — **augustior** *Graves* from Transjordania is a smaller white form with fewer black sealings on the upperside, the underside without a yellowish tinge, dull, white with heavily black edged veins. — **minor** *Vrty.* (*Oberth.* i. l.) is a dwarf form from the high Pyrenees. — subsp. **mauretanica** described by Oberthür from Algeria is a very large form, the ♂ glossy white with very fine vein formation, the small grey spots at the border of the wings being generally absent. The underside of the hindwings lightly dusted with grey. The ♀ is yellowish. — subsp. **sibirica** *Vrty.* from Tomsk has the general appearance of typical scandinavian specimens with pronounced triangular marginal spots which are inclined to form a band. The chief difference lies on the undersides where the veins are darkly edged, the hindwings powdered with black scales, fainter than in *atomosa*, which it also exceeds considerably in size. The ♀♀ are similar to the ♂♂, white on the upperside. — **meinhardi** *Krul.* another ♀ form of this race has very transparent ochre-coloured wings and at the base of the hindwings on the underside a saffron yellow costal mark. — *sajana Vrty.* is scarcely distinguishable from *sibirica*, the ♀♀ are very transparent with a rather more brownish than ochre-yellow tone. — subsp. **ussurica** *Kardakoff* is considerably larger than *sajana Vrty.*, the wings being more elongated. The ♂♂ are white with dark veins, the ♀♀ with light veins and transparent forewings, the hindwings have black veins and outer margin faintly dusted with white. Undersides scarcely perceptibly dusted with black. Sutshan, Sidemi, Narva, Barabash. — ab. **sordida** *Kardakoff* rarely occurs in this race. The discoidal area is darkly sealed and the veins also internervally, and the underside of the hindwings is adumbrated with the exception of the inner margin. Narva. Meinhard proposes for all these east siberian, mongolian and central asiatic forms the common name of subsp. **asiatica.** The ♂♂ are said to be pale milky white, the ♀♀ with almost transparent wings, yellowish-brown,

crataegi. *infraochreata.* *koyi.* *atricolor.* *homogryphus.* *basanius.* *augustior.* *minor.* *mauretanica.* *sibirica.* *meinhardi.* *ussurica.* *sordida.* *asiatica.*

sheljuzhkoi. especially in the proximal area of the hindwings. The ab. **sheljuzhkoi** *Bryk & Meinh.* from Askhabad related
shugnana. to subsp. *pellucida Röb.* is without all dark scales at the ends of the cells of the hindwings. — subsp. **shugnana** *Shelj.* from the province of Shugnan in Pamir has the forewings uniformly densely scaled, underside of the hindwings of the ♀ yellowish, sparsely powdered with black, in the ♂ twice as heavily as in the ♀. — subsp.
naryna. **naryna** *Shelj.* is smaller than typical specimens. The underside is heavily dusted with black, more heavily than
atomosa. in **atomosa** *Vrty.* from Ta-tsien-lu and Ni-tu: this is a smaller race with wider wing contour of which the underside is heavily scaled with black: it approaches somewhat to *augusta Trti.* — *colona Krul.* is only a transition
centralasiae. to *atomosa.* — From the Borochoro region and the Thian-Shan Verity names the race of **centralasiae**: the upperside is similar to *augusta Trti.* (Vol. 1, Plate 19 a), the underside of all wings shows the veins more or
sachalinensis. less widely margined with black. — subsp. **sachalinensis** *Mats.* (7 c) differs according to the description from *adherbal* by a smaller size, no brownishness of the margin of both wings. On the underside the dark scaling is absent except along the veins. It comes from Sachalin. Our illustration of a specimen from Sachalin shows, however, (coll. Seitz, Fritz Scriba leg.) a specially heavy dark scaling: at the extremities of the veins on the upperside the dark grey triangles are so large that they touch one another at the margin and exceed those of the middle european specimens in size. — Probably the largest of all the *crataegi* races flies in Japan: it is
adherbal. **adherbal** *Fruhst.* of Yesso and north Japan which is larger than all the north european and siberian forms. The distal area of the wings is as in *augusta Trti.*, otherwise it is quite similar to *centralasiae Vrty.* – Still larger is
niphonica. **niphonica** *Vrty.* of which the underside shows less black dusting than *atomosa.* The description of *karajevi Krul.* has not been supplied to me. — A number of more or less abnormal vein formations have been described of *crataegi* analogous to those of the Parnassius Genus, it would have been better if they had been omitted. Enderlein already named in 1909 the ab. *karschi* for a one-sided displacement of the first mediana in the forewings. Bryk denominates the following aberrations: ab. *enderleini* a form in which the radialis bifurcates with the first median nervure 4 + 5; in ab. *szulinszkyi* the second median nervure bifurcates: ab. *grotei* has rudiments of veins at the bend of the disc; ab. *bigae* shows two fine lines in the disc on the underside, in ab. *hoefnagcli* No. 2 originates from No. 1 axillary, in ab. *schawerdai* the 2 + 3 radialis is not free of the anterior end of the cell but interlaces with the bifurcated 4, 5. radialis + 1. mediana from the corner of the cell; ab. *binervula Derenne* has the 5th nervure of the hindwings divided into two branches close to the margin of the wings. — *Futuronerva absurda Bryk* is nothing more than a pathological form of *crataegi* of unknown origin and Bryk's conclusions as unnecessary as the name.

hippia. **A. hippia** *Brem.* (Vol. 1, Plate 17 b). The subsp. **occidentalis** *O. B.-H.* from Borochojewa, Malchan
occidentalis. mountains and southwest Transbaikal has a more greenish colouration on the upperside than *hippia* from the Amur region, the underside of the hindwings is not so intensively coloured as in the name type form. — Bryk describes an aberration of the veins *banghaasi* in which the plethoneura mediana interlaces with the last radius of the hindwings. No description has been given of *japonica Mats.*

potanini. **A. potanini** *Alph.* (= alpherakyi *Vrty.* sec. *Shelj.*) (Vol. 1, Plate 17 c) subsp. **infernalis** *O. B.-H.* (7 a)
infernalis. from Tsing-lin-shan mountains, east Kansu, Hweisi, has all wings on the upper and undersides powdered with black, the veins widely margined with black, between the ribs there are black spots which in the ♂♂ (or in all ?)
intercostata. are confluent. — The subsp. **intercostata** *O. B.-H.* from Kansu north China has similar markings on the upperside to *crataegi*, the ribs however are more widely dusted with black, the light yellow basal spot of the underside of the hindwings reflects through. The underside white or coloured yellowish, the median nervules of the hindwing stand out distinctly being dusted with black from the margin to shortly before the cell.

bieti. **A. bieti** *Oberth.* (Vol. 1, Plate 17 c). — ab. **oberthüri** *Vrty.* ♀ with transparent wings, veins with indistinct
oberthüri. brownish outlines which diffuse into the ground colour of the upperside. — **magna** *Draeseke* a large form of pure
magna. white· Ta-tsien-lu and Wasseku. — ab. **stötzneri** *Dracs.* belongs to *martineti Oberth.*, it is somewhat smaller
stötzneri. than the normal ♂♂ with sooty adumbration of the margin of the forewings and very wide black dusting of the subcostal and upper radial veins. Sumpanting, Szechuan.

davidis. **A. davidis** *Oberth.* (Vol. 1, Plate 17 d). — ab. **nigricans** *Vrty.* is a strongly melanic variety. — **thibetana**
nigricans. *Vrty.* is a very small race from Amdo and Szechuan, which is characterised by its paler colour of the upperside
thibetana. and brighter yellow of the underside. — **diluta** *Vrty.* has all black markings very reduced, especially in the ♀♀:
diluta. Tai-pai-chan, Tsing-lin mountains.

2. Genus: **Metaporia** *Btlr.*

procris. **M. procris** *Leech* (Vol. 1, Plate 17 e). — **flavescens** *Vrty.* from Ta-tsien-lu has a nice sulphur-yellow
flavescens. ground colour of the upperside and the underside of the hindwings with bright yellow like *lhamo* (Vol.1, Plate 17c).
sinensis. — subsp. **sinensis** *O. B.-H.* shows the black markings of the upperside fainter than in the name type form. The underside of the hindwings is white to greenish-white, only the basal spot is faintly coloured yellowish. Hsining,
draesekei. Nan-shan mountains, Tatung, Kansu. — subsp. **draesekei** *O. B.-H.* is smaller and of darker colouration. The

submarginal spots of the forewings generally merge, on the hindwings they are faintly indicated. The underside of the hindwings and the apex of the forewings are buttercup yellow. In the ♂♂ the ground colour of the wings is pure white, in the ♀♀ yellowish white. Thibet.

M. joubini *Oberth.* (7 a). The markings are similarly placed to *oberthüri Leech* (Vol 1, Plate 18 c) and *hastata Oberth.*, it is one of the largest Whites. Ground colour of the upperside is white with a faint tinge of greenish-yellow. In the distal part of the disc there is a dark brownish mark in the shape of a horse-shoe, suffused inwards, all the veins of the forewings and hindwings are edged with brownish having spoon-handle shape. The costal nervure is dusted with bluish-grey towards the base, with brownish at the distal end as also is the inner margin. Between veins 1 and 2 of the forewings there is a brownish black streak. The underside of the forewings is greenish-white, the apex from the disc yellowish, veins 1—4 are widely edged with brownish. At the end of the disc and in the yellow apex there is a large dark brown spot deeply incurved inwards. Hindwings pale yellow with orange coloured basal spot, all veins more or less edged brownish. Tseku in Szechuan. *joubini.*

M. leucodice *Ev.* (Vol. 1, Plate 19 a). ab. **nigroinspersa** *Vrty.* is a very adumbrated form from Mount Hissar. The black marginal markings on the upperside of the forewings fill out the entire apical area, the underside is richly powdered with black. — In Semirjetschensk in north Turkestan a large very pale race **morosevitshae** *Shelj* occurs. in which the black markings have almost disappeared, excepting a black surround of the disc in the forewings and some small spots towards the margin. *leucodice. nigroinspersa. morosevitshae.*

M. largeteaui *Oberth.* (Vol. 1, Plate 18 b). Verity denominates the pale ♂♂ of this common butterfly in which the oblique dusky traverse band has disappeared **evittata** and ♀♀ which are darkly adumbrated brownish and which have on the surface of the wings only a row of more or less large light spots **brunnea.** *largeteaui. evittata. brunnea.*

M. genestieri *Oberth.* (Vol. 9, p. 139, Plate 57 a). Head, antennae, thorax and legs are black, sides of abdomen grey-white. The ground colour of the wings is white with a faint greenish tinge on the upper and undersides. At the base on the underside of the hindwings there is a large yellow or orange-yellow spot. The veins are edged with black-brown which frequently so expands that a wide marginal band is created, this expansion occurs chiefly in the ♀ and shows then a pale half transparent brown. On the underside the marking of the veins is narrower and does not extend towards the base. Lu-tse-kiang, Szechuan. *genestieri.*

M. delavayi *Oberth.* (Vol. 1, Plate 18 a). According to Verity a very small dwarf race occurs constantly at Ta-tsien-lu (Szechuan). It has a wing expanse of scarcely 60 mm = **nana** *Vrty.* *delavayi. nana.*

M. acraea *Oberth.* (Vol. 1, Plate 18 d). Draeseke describes a form of the ♂ from Wasseku in Szechuan as **funkei,** the black markings are so strongly reduced that even the dark disco-cellular spot of the forewings is absent and only a wide dark brown band remains at the margin. *acraea. funkei.*

M. larraldei *Oberth.* (Vol. 1, p. 43, Plate 18 d and Vol. 9, p. 139). In Tseku and probably in all localities the pretty ab. **albivena** *Oberth.* occurs among the name type form. The black markings are more extensive on the upper and undersides than in typical specimens and from this dark ground the white scaled veins contrast sharply. *larraldei. albivena.*

M. monbeighi *Oberth.* (7 a). Oberthür has received from Siao-Ouisi near Ta-tsien-lu only ♂♂: these are very similar to *melania Oberth.* (Vol. 1, p. 43), but the wings are more rounded and the margin of the hindwings has elongated square white spots. The species occurs in paler and darker forms, viz: in regard to the expansion of the white markings. Perhaps it is the ♂ of *melania Oberth.* *monbeighi.*

M. goutelli *Oberth.* (Vol. 1, p. 43, Plate 18 e). The form **melanochroa** *Vrty.* varies from the name type form by the very extensive expansion of the black markings to the submarginal band and the copious distribution of black scales. In the Tsing-ling mountains a very pale race occurs **tsinglingica** *Vrty.*, in which all black markings have disappeared except for traces at the outer edge of the disc and a very faint indication of a submarginal band. *goutelli. melanochroa. tsinglingica.*

6. Genus: **Pieris** *Schrk., Cabbage Whites.*

P. brassicae *L.* (Vol. 1, p. 44). Among the newly described conditional forms are those with reduced markings: ab. **colluriensis** *Gelin* (= fischeri *John*), is smaller than the name type form, the black streak is absent on the inner margin of the forewings as well as black spot on the hindwings. — ♀ ab. **reducta** *Fritsch.* has only the upper subapical spot on the forewings, the lower one is extinct, similar to *nigronotata Jach.* — **glaseri** *Müller* has the streak on the inner margin absent. — When black markings are increased: ab. **posteromaculata** *Vrty.* (= nigropunctata *de Hennin*) a black mark occurs in the disc of the hindwings and another between vein 3. radialis and 1. median nervure. — The ♀ ab. **maria** *Mellaerts* has the spots of the forewings conjoined by a blackish streak. **fasciata** *Kief.* (= alligata *Cabeau*) has spots similarly united and besides a connecting streak to the inner marginal spot of the forewings and the forewings are pure white, the hindwings with a yellowish tinge. — ab. **biligata** *Cab.* has the upper spot of the forewings joined with the apical mark by a stroke, the *brassicae. colluriensis. reducta. glaseri. posteromaculata. maria. fasciata. biligata.*

lower spot remains isolated. — *elongata Gelin* is a deformity with very elongated wings, the right one wavy.
vasquezi. — Colour variations are as follows: — ab. **vasquezi** *Oberth.* from Castilia has yellowish-white upperside and pronounced yellow costa, the apical marking suffused blackish. On the undersides of the forewings there
cyniphia. is a bright yellow streak on the costa. — Turati describes a form **cyniphia** from Cyrenaica which is similar to *lepidii Röb.* (Vol. 1, p. 45), all the black markings are reduced especially the streak on the inner margin of the forewings. Base of the wings and costa are dusted greyish, not black. The varieties described from the same locality ab. *vernalis Trti.* and the summer form *sublutea Trti.* show such slight variations that they are scarcely worthy of denomination, and the same applies to *italorum Std.* from Aspromonte which is said to be a transition between *chariclea*, *catoleuca* and *lutea Röb.* Stauder describes still a ♀ ab. *pseudocatoleuca*
flava. from the coastlands. — **flava** *Krul.* is a counterpart to *lutea Röb.* The upperside of the wings is a delicate
posticeoch-reata. yellow as in *podalirius.* — ab. **posticeochreata** *Vrty.* from England has a pale ochre-yellow upperside of the
henriettae. hindwings. — ab. **henriettae** *Pionneau* shows grey-white dusted apical marks, not black. — ab. **rammei** *Knop*
rammei. has 4 yellow-brown stripes each 1 mm wide and 10 mm long in the black apical mark. — **venata** *Vrty.* from
venata. Morocco has in the ♂ the veins of the underside and in the ♀ on the upper and undersides coloured grey-
cypria. violet. — **cypria** is a dwarf race from Cyprus named by Verity, which is otherwise identical in all particulars
azorensis. with *catoleuca* from Syria. — Rebel introduced subsp. **azorensis** exclusively from the Azores which otherwise appears identical with the *chariclea* race. — In place of *obscurata Oberth.* (Vol. 1, p. 45) we should substitute
nigrescens. **nigrescens** *Newm.* — According to Verity a 3rd generation occurs in Tuscany for which he has created a further name in *f. tertia.*

canidia. **P. canidia** *Sparrm.* (Vol. 1, p. 45, Plate 20 b). Heyne considers that specimens with pale faintly
aestiva. extended markings are a 2nd generation and he separates same as **aestiva.** Precise observations in regard to this are urgently desirable. — A beautiful ♂ aberration from the slopes of the northern Alai is described by
marginalis. Avinoff as **marginalis.** The upperside is pure white with a traverse outer marginal band tapering off from the forewings to the hindwings and from which the white fringes brightly contrast. The underside of the hindwings is very pale yellow without intermingled black scales. The spots up to the margin are enormously distended.
mars. — Probably the largest and most beautiful of all *canidia* forms is subsp. **mars** *O. B.-H.* (7 a), the markings are similar to those of ♀ *deota Nic.* (Vol. 1, Plate 20 a) only the apical spot is smaller. Kanso, Lio-Jang, Tsing-
minima. ling mountains. — Verity has given the name of **minima** to a small race from Thibet which does not exceed *palaearctica* in size and has very pale reduced markings and the hindwings copiously powdered with grey on the underside.

krueperi. **P. krueperi** *Stgr.* (Vol. 1, Plate 20 b). A race occurs in Syria which analogously to other species occurring there is remarkable by its smallness and reduced markings, the underside shows a beautiful lively yellow,
syra. **syra** *Vrty.*

rapae. **P. rapae** *L.* (Vol. 1, p. 46). Varieties with increased markings are newly described as follows: ab. **divisa**
divisa. *Gélin* has the 2nd spot of the forewings subdivided in two. — ab. **conjugata** *Vrty.* (= posteropunctata *Stach.*)
conjugata. has the 2 spots of the forewings united by a more or less heavy line, this form is very frequent in Asia. — Very
hallena. similar is ab. **hallena** *Bandermann* in which besides the conjunction of the 2 spots there is a further black streak
trimaculata. uniting same with the apical marking, the upperside of all wings is strongly yellowish. — ab. **trimaculata** *Vrty.*
praeterita. has a further 3rd spot in the forewings, all 3 being confluent and forming a band. — ♂ ab. **praeterita** *Krul.*
unimaculata. (= bimaculata *Vrty.*) has 2 black spots in the forewings as in the ♀. — ab. **unimaculata** *Dziurcz.* has only one
subpunctata. spot on the forewings. — ab. **subpunctata** *Kuhlmann* has a black spot under the disc of the hindwings. — ♀ ab.
hyperpunctata. **hyperpunctata** *Scheffner* has the upperside of the wings coloured creamy yellow, the angles of all wings blackish, a black streak from the lower spot of the forewings to the margin. — **nigropunctata** *Lamb.* has a small but
nigropunctata. distinct spot between 3. radialis and 1. median of the hindwings. — ab. **binigrata** *Der.* has 2 further black spots
binigrata. on the hindwings, one below the costal spot, the other between the first costal and 3rd median nervure. —
rossioides. **rossioides** *Std.* has a black spot in the disc otherwise very similar to *messanensis Z.* (Vol. 1, p. 46) from Aspromonte.
canidiaeformis. — **canidiaeformis** *Drenowski* from the Ryla mountains has reduced markings similar to *canidia-palaearctica*
vestalis. *Stgr.* — Denominations of colour variations have been given as follows: **vestalis** *Std.* a spring form from the
brunneoflavida. Mediterranean, the upper and undersides of the wings pure white. — ab. **brunneo-flavida** *Std.* is light brownish on the upper and undersides as well as the whole body and the feelers. — ab. **zelleri** *Std.* the summer form from
zelleri. Aspromonte has an extension of the black markings of the upperside, the hindwings yellowish underneath without black dusting. — *alba Seebold* from Spain is quite similar to *leucotera Stef.* — *flavicans* ♀ *Krul.* is identical with *flavescens Röb.* — *minima Vrty.* is a dwarf form from Florence and *mairlotti Lamb.* similarly
minor. from Belgium which are synonymous to **minor** *Costa.* — Verity proposes to give names for the various generations of which *aestiva nom. nov.* pro *metra Steph.* is decidedly to be rejected. The 2nd generation from June to July he names *secunda*, that of August *tertia* and if one does not like this name he gives *phaiosoma* to select from! This is said to be a transition to *leucosoma Schaw.*, very small without black at the base of the wings, all markings greyish and reduced. The 4th and 5th (?) generations are called *ultima Rocci.* In the 2nd
triangulata. and 3rd generations we find ab. **triangulata** *Vrty.* which has the apical mark in the form of an equillateral

triangle. — A hybrid between *rapae* and *manni* according to Verity is ab. **mannides.** — The following new races have been established: in the summer in Algeria and Morocco **mauritanica** *Vrty.*, the ♂ is pure white on the upperside with very small, pale grey apical mark, otherwise without black markings, on the underside without black dusting, in the ♀ with very faint dusting and the upperside with reduced black markings. — subsp. **atomaria** *Fruhst.* is of considerable size with striking black dusting of the base of the wings, especially the forewings in both generations, Dalmatia. — The spring generation of *lecucosoma Schaw.* (7 b) from Asia Minor is separated as **vaga** *Fruhst.*, it differs by reduced black markings, the absence of the apical mark, and reminds one of *leucotera Stef.* (Vol. 1, p. 46), the contour of the wings of the ♀ however is narrower. — subsp. **transcaucasica** *Std.* from the mountains around Jelisavetpol has very large ♂♂ with extensive heavy markings, the apical mark is brownish owing to scattered lighter scales, the underside of the hindwings pale straw yellow. The ♀ is coloured faintly yellowish with still larger, light brown, apical marks and with a base reminding one strongly of *atomaria*. The underside is a remarkable pale yellowish white. — **pulverea** *Vrty.* from Yarkand is very small with reduced markings, the underside unusually densely scaled with brown. — subsp. **iranica** *le Cerf* has the base of all wings on the upperside densely powdered with black and the apex as well as the discal spot especially large and dark. In the hindwings the apical mark varies considerably in size, sometimes being absent. On the underside the base of the forewings is bright yellow dusted with grey, the apex yellowish leather coloured, the hindwings with a yellow streak in the disc. Persia. — The summer form of *debilis Alph.* from Pamir is separated by Stauder as **accrescens** on account of an alledged increased adumbration of the markings. — subsp. **eumorpha** *Fruhst.* from Thianshan is very large, broad and deep black. The ♀ with very large black median spot of the forewings and costal mark of the hindwings. Underside of the forewings with pale greenish tinge at the base. Hindwings of darker straw yellow than in european forms. — In the spring in Japan subsp. **yokohamae** *Vrty.* occurs which is distinguishable by its size. The underside of the hindwings is quite pale yellow and densely powdered with black, with wide pale stripes extending from the base to the outer margin. — The summer form **niphonica** *Vrty.* differs by an equilateral triangular mark formed at the apex. — Fruhstorfer describes from Oshima the subsp. **lysicles** which is said to be larger than all the other japanese races. It has more extensive black markings on almost completely bluish-grey scaled forewings. The underside of the hindwings is darker than *niphonica*. — subsp. **micipsa** *Fruhst.* from Kiushiu has a light grey apical spot in contrast to *yokohamae* and *niphonica*, further the underside of the hindwings is densely scaled and dark yellow. with interspersed minute black spotty marks, as if strewn with sand. — ab. **albiventris** *Nakahara* from Tokio belongs to subsp. *crucivora Bsd.*: it is of the same size as *crucivora* but it differs through the black apical mark of the upperside, which is one third larger and in the shape of an equilateral triangle. The underside of the hindwings shows no black dusting, the abdomen is quite white as *leucosoma Schaw.*

mannides. *mauritanica.* *atomaria.* *vaga.* *transcaucasica.* *pulverea.* *iranica.* *accrescens.* *eumorpha.* *yokohamae.* *niphonica.* *lysicles.* *micipsa.* *albiventris.*

P. manni *Mayer* (Vol. 1, p. 47). **quercii** *Rost. & Zap.* from the neighbourhood of Rome is a variety of *rossii Stef.* (Vol. 1, plate 20 d): it is small with more elongated wing contour, finely powdered with black and with 4 small black round spots and greenish underside. — **emicana** *Vrty.* from Elba is similar but with an unusually large costal spot in the hindwings. — The form **perfecta** *Std.* from Aspromonte has discal spots like *deota*-♀ in the illustration in Volume 1 (Vol. 1, plate 20 a). — In ab. **semipicta** *Std.* the middle spot and apical mark are absent, analogous to *rapae-leucotera*. — In ab. **confluens** *Vrty.* the spots on the underside of the forewings merge; Pyrenees. — ab. **alpherakyi** *Jachontoff* from the region of the Springs in the Caucasus has yellowish ground colour, otherwise being similar to the type form. — Dwarf forms have been named: *minima Vrty.*, *perkeo Std.* from middle Dalmatia and the somewhat larger *neglecta Std.* from Bozen. — Verity proposes to name the second generation *secundogenita* and the fourth *septembrina*, the author's description is scarcely precise. Verity names the *manni* flying in the Valley of Aosta and the Maritime Alps as **alpigena**, the underside is bright yellow and the apical spot is elongated quadrilateral ending in a pointed streak along the outer margin. — Fruhstorfer has described the spring form from Dalmatia, Bosnia and Istria as subsp. *asta*, however, it seems to be nothing more than *rossii Stef.* which is the form describedas *farpa Fruhst.* from the Sabine Mountains and the Pyrenees. — **creta** *Vrty.* from Florence and Elba is distinguishable by unusual size like *daplidice-expansa*. — f. *montana* and *pyrenaica Trti.* are nomina nuda.

manni. *quercii.* *emicana.* *perfecta.* *semipicta.* *confluens.* *alpherakyi.* *alpigena.* *creta.*

P. ergane *Hbn.* (Vol. 1, plate 20 d). Turati differentiates three generations which, however, are not clearly definable; the spring generation *stefanellii Vrty.* in April/May, *ergane-ergane Hbn.* in June, *rostagnoi Vrty.* in July/August: *rostagnoi* is a group name for the forms *longomaculata*, *magnimaculata* and *semimaculata Rostagno*, which however is to be rejected in the same way as *italica Trti.*, a name which was established for the italian forms of the spring generation. — In ab. **evanescens** *Vrty.* of the gen. vern. all the black markings are reduced to almost absent and at the best indicated by black-grey; in ab. **immaculata** *Vrty.* the apical mark is totally absent. Turati describes from Greece a ♀ with sulphur yellow wings: **anictera.** — Similar to this is ab. **niediecki**-♀ *Strand* from the Taurus, a fairly large form which is heavily scaled with yellow on the upperside with heavy more extended black marking: from the same district we have the small ab. **detersa** *Vrty.* (7 b), it is almost without markings, at the best with traces of grey in the apex, otherwise white coloured. — ab. *lunata Vrty.* is nothing else than *semimaculata Rost.*

ergane. *evanescens.* *immaculata.* *anictera.* *niediecki.* *detersa.*

P. melete *Mén.* (Vol. 1, plate 21 b). ab. **vivida** *Vrty.* belongs to subsp. *erutae Pouj.*, it is a ♀ from Kiukiang with beautiful orange colour on the underside. — f. **transiens** *Vrty.* comes from Amur and the Isle of Askold.

melete. *vivida.* *transiens.*

In regard to colouration and disposition of markings it resembles more to the summer form of *melete* than to the spring form. All black markings are reduced, the size is smaller. — According to Verity a very small form occurs in Korea which otherwise is quite similar to the specimens flying in Japan: **minor** *Vrty.* — subsp. **juba** *Fruhst.* has the upperside pure white, the discoidal cell scarcely perceptibly dusted with grey. The underside resembles *montana Vrty.* (Vol. 9, p. 140) flying in Sikkim: Isle of Tsushima. — subsp. **massiva** *Fruhst.* is a very large form from Hondo. The ♂ with grey diffuse apical mark and indistinct subapical marks, in the ♀ the base and cell of the forewings are dusted with red-brown as in *alpestris Vrty.* Hindwings with unusually distended vein covering in the distal part. — **pseudonapi** *Vrty.* (7 b) from the Isle of Yesso is probably the smallest of all japanese races. The ♂ is well characterised by the total absence of the discoidal spot. — **alpestris** *Vrty.* from Ta-tsien-lu (Szechuan) is a large form from the high mountains with richer marking, especially the ♀♀ being very darkly dusted with reddish-brown sheen.

minor. *juba.* *massiva.* *pseudonapi.* *alpestris.*

P. napi *L.* (Vol. 1, p. 48, plate 21 b). In no other *Pieris* species has there been such an orgy of denominations as in *napi*. If one were to remove the locality and date of capture from the pin even the author would sometimes be unable to uphold a definition. On the basis of examinations of alledged "Linné types" in London Verity has given new denominations which should be rejected as being irrelevant. He comes to the conclusion that the first generation of *napi* flying in mid-Europe is not Linné's *napi*. He wishes to see this name reserved for the first generation of South Sweden and he names our mid-european race *septentrionalis*, the first generation flying around Florence which is said to vary most from the south swedish *napi*, he calls *vulgaris*. Also the summer form *napaeae Esp.* is to be renamed (there is some justification for this) and the name in question is **subnapaeae** *Vrty.* *). Varieties with increased markings are: ♂-ab. **bimaculata** *Schima* of the second generation with 2 black spots in the disc as in the ♀: this form was described a few years later when occurring in the first generation as **bipunctata** *Osth.* — **aversomaculata** *Stach* is a ♀ with 3 spots on the underside of the forewings and ♀-ab. **posteromaculata** *Rev.* (= posteromaculata *Stach*) has a black spot in the disc of the hindwings. — ♀-ab. **confluens** *Schima* has the median spots confluent. — ab. **semifasciata** *Cabeau* has both median spots similarly merged so that a dumb-bell shaped band is formed. A similar variation occurs in ab. **continua** *Bryk*: the apical mark is in this case joined with the median spots and forms a continuous submarginal band. In the hindwings there is also a dark spot between the 3rd median and 1st cubitus. — Reduced markings are shown by ♂-ab. **wolenskyi** *Berger*. The hindwings have the black spot at the costa indicated only by a few separate dark scales: the extremities of the veins have blackish spots becoming paler and smaller towards the anal region. — In ab. **biroi** *Dioszeghi* the apical mark is absent. — ♂-ab. **fountainei** *Vrty.* of the first generation has the veins of the underside not greenish and sharply outlined but indicated only by distributed scales

napi. *subnapaeae.* *bimaculata.* *bipunctata.* *aversomaculata.* *posteromaculata* *confluens.* *semifasciata.* *continua.* *wolenskyi.* *biroi.* *fountainei.*

forming dense grey triangles at the margin. Cattaro. — Colour variations are: ab. **flava** *Kane* (= flavometa *Schima*) of the first generation has a yellowish upperside: in the austrian Alps. A similar colouration in the second generation from Mödling near Vienna with a brighter yellow and with an increase and considerable extension of the black markings is called **flavescens** *Wagner.* — ♀-ab. **meta** *Wgn.* nec *Röb.* of the summer form has a white ground colour, the upperside *intermedia* like and the underside marked like *napaeae*. Kautz gives as nom. nov. **röberi** for *meta Röb.* — ♀-ab. **gorniki** *Kautz* of the first generation is similar to *meta* with pale grey dusted base of the forewings and the veins faintly outlined with grey. Forewings and hindwings with pale grey marginal bands in which narrow white streaks contrast prettily in the internerval spaces. — To the first generation also belongs ♀-ab. **subtalba** *Schima*. On the underside the apex of the forewings and the hindwings is not yellow but milky or chalky white. — ♀-ab. **lutescens** *Schima* is characterised by its ochre or saffron yellow ground colour, the arrangement of markings is similar to *radiata Röb.*: Mödling near Vienna. — ab. **hibernica** *Schmidt* are ♂♂ and ♀♀ from Ireland with yellow colour and ab. **schmidti** *Schmidt* is a hybrid between *hibernica* ♂ × *napi* ♀: the ground colour is yellow-grey to yellow-brown. — ab. **fumigata** *Gillmer* (= *nigrans Vrty.*) from Silesia are very melanic specimens. All the wings are uniformly dark smoky-grey on the upper and undersides so that the markings of both as well as the veins on the underside are scarcely perceptible. — ♂-ab. **basinigra** *Harwood* of the first generation shows a specially pronounced dusting of the base of the forewings. — In Illyria we find ♀-ab. **thusnelda** *Std.*, a pale form without discal spot on the underside. The upperside has all black markings reduced, even sometimes being almost quite absent, it is an analogous form to *rapae impunctata Cock.* — Still more extreme is ♂-ab. **innocens** *Std.* of the first generation from the Laudach Lake near Gmunden. This is quite uniformly white without any trace of black. — ♀-ab. **grisea** *Sibille* flying in June has the base of the forewings, costa and apex, and all veins of the upperside dusted with grey. — ab. **elongata** *Der.* with elongated extended wings appears to be a pathological form. Dwarf forms are ♂-ab. *nanella Strand*, *napella Lamb.* and *minor Crombrugghe.* — Subspecies or races newly described: var. **arctica** *Vrty.* (= arctica *Sheldon*) from arctic Europe is clearly separable from the race flying in the high alps of Europe in spite of many resemblances. It belongs to the *radiata* type with widely black surrounded veins, especially on the

flava. *flavescens.* *meta.* *röberi.* *gorniki.* *subtalba.* *lutescens.* *hibernica.* *schmidti.* *fumigata.* *basinigra.* *thusnelda.* *innocens.* *grisea.* *elongata.* *arctica.*

*) Whoever would like to inform himself of Verity's views will find everything recorded in "Entomologists Record and Journal of Variation", vol. 34, No. 7 and 8, 1922 and in the "Journal of the Linnean Society" vol. 32, London 1913. Verity certainly errs in the creation of his many races as he does not seem to be certain himself in regard to the scientific description of a "race". It is to be hoped that no one will consider himself a "specialist" and proceed to work up *napi* "scientifically" similarly to the way of *Parnassius Apollo L.*

hindwings and is subject to considerable variability. The ♀ form with lively yellow colouration going over into orange has been named **vivida** by Verity. — In July and August in Central Sweden a second generation, **linnaei** *Vrty.*, flies of which the ♂♂ are distinguishable by larger apical marks, and on the underside the stripes are grey-green being clearer and darker than in the first generation. — Mid-Europe, South-England and North France is the locality of *septrionalis Vrty.*, our *napi L.* of the first generation. Verity describes of these **apicenudata** ♂ from England in which the apical mark is dissolved in a row of triangular spots of lead-grey colour at the extremities of the veins, in the ♀♀ these are often also absent. — From Ireland and Scotland a race is described as **britannica** *Vrty.* which is remarkable by its smallness and the corresponding intensity of the black markings, whilst the veins are edged with light grey. — To the *intermedia* group belongs a ♀ **carnea** *Vrty.* from the Hebrides. The base of the forewings and the disc to the apex are covered with flesh coloured scales which are lightly covered by grey. Verity has still named **praenapaeae** from North France and South England which is a first generation of *subnapaeae*. According to his very indistinct description there are no differences that can be clearly stated. — subsp. **vulgaris** *Vrty.* is a *napi* of the first generation of the race flying around Florence. It is larger with more lively colouring and marking than specimens from Mid-Europe. The forms of the ♀ with pale ochre yellow colouration on the underside have been named **ochreata** *Vrty.* — A small dwarf-like race from Sierra Nevada with the appearance of the florentine *vulgaris* of the first generation is called **microvulgaris** *Vrty.* — In the high Pyrenees there are ♂♂ of var. **henrici** *Oberth.*: the apex of the underside of the forewings is dark yellow-grey, all the veins of the hindwings are widely surrounded with grey-green which merges together at the base of the wings. — subsp. **adalwinda** *Fruhst.* from Fiume is very close to *bryoniae*, particularly the f. *obsoleta Röb.* It is charcaterised by more whitish ground colour and by many darker brown spots in the distal area of the forewings. — subsp. **leovigilda** *Fruhst.* is still larger than *meridionalis Rühl-Heyne*, with very extended black discal spot and extensive black markings of the ♀♀ which are nearly always conjoined with the apical marks by wide black streaks. The underside in the ♂ pale yellowish-green, in the ♀ uniform pale yellow to ochre yellow. Savoy. — *micromeridionalis Vrty.* are specimens of the summer generation and according to the description a small intermediary form which is found everywhere in middle Italy and does not deserve a name, just as little as does the third generation *stauderi Vrty.*, which only trivially differs from the second. — Rostagno describes from the surroundings of Rome a third generation **barraudi** which is as large as the summer generation with reduced black markings and more grey, the apical marks with white lines. All the wings on the upper and undersides powdered with black. — **umoris** *Vrty.* comes from the damp regions of the coast of Tuscany round Forte dei Marme. The markings, which are otherwise black, are more dark grey, especially in the basal area. All the veins are darkly scaled, almost streak-like in the ♀. The underside is whitish or pale yellow with sharply outlined dark scaled veins. — Of ab. *tarda Vrty.* and *tenuemaculata Vrty.* of the third generation from Florence, the first is almost identical in appearance with the spring generation, the other has reduced apical marks. — f. **pseudocanidia** *Std.* belongs here, it is from the calabrian Alps. The black markings of the forewings resemble in size those of *melete*, the hindwings those of *canidia*. — From Aspromonte we have f. *rapaeula Std.* reminding one of *rapae* and ♀ f. *regressiva Std.* which is probably identical with *radiata Röb.* — ♀-ab. **patunae** *Std.* has sulphur yellow ground colour and increased heavy black marking. In the hindwings a small *posteromaculata* spot, underside of the base of the forewings and the disc white, apex beautiful sulphur yellow, hindwings uniform canary yellow; belonging to *meridionalis* from the Mediterranean. — ab. **marginestixis** *Dann.* flies amongst the light summer ♀♀ of *napaeae* and *meridionalis*. The veins of the hindwings are without dusting, but there is a row of striking, streak-like points on the extremities of the veins. Roman Campagna and Cibin mountains. — subsp. **maura** *Vrty.* from Algeria is characterised by the underside of the hindwings. These are white with faint greenish tinge, without any admixture of yellow, the veins with narrow pale grey margins. — The second generation differs by the stronger, heavier marking of the spots and was separated by Holl as **blidana.** — subsp. **atlantica** *Rothsch.* from northwest Africa has white ground colour on the upperside, the veins dusted with black or with grey. The black median spot is much larger than in typical *napi*. On the underside there is scarcely a trace of green. — subsp. **segonsaci** *le Cerf* is similar to *subtalba Schima* but with black markings: two subapical spots between veins 5 and 7 in the forewings and a diffuse angulated spot between veins 3 and 4 on the underside of the hindwings. Apex of forewings yellow or ochre. Morocco. — f. **deflava** *le Cerf* differs only in that the underside is neither yellowish nor ochre colour. — subsp. **atlantis** *Oberth.* from the Moroccan Atlas has the upperside of the wings whitish with quite faint yellowish tone. In the ♂ the apical spot is dissolved, being faintly developed and grey: median spot small and grey. The markings of the ♀ are also reduced and greyish. Underside of the forewings with small pale yellow apex and 4 small black spots: the hindwings pale yellow with veins faintly dusted with grey. — **pseudorapae** *Vrty.* (7 b) from Syria is strikingly like *rapae leucotera Schaw.* Upperside white with diffuse delicate grey apical mark. The whole underside of the hindwings powdered with grey scales, the veins appearing less prominently. — The ab. **minima** *Vrty.* is a dwarf form from Beirut. — ♂-ab. **suffusa** *Vrty.* from the Transcaucasus has very wide diffuse streaks along the veins on the underside of the hindwings, otherwise like *pseudorapae*. — **caucasica** *Vrty.* is a summer form. The ♂ is remarkable by the extensive deep black markings, the ♀ reminds one of the spring form of *intermedia Krul.* all the veins being embedded widely in diffuse brownish black. — **persis** *Vrty.* is the summer generation from Persia of *pseudorapae Vrty.* from Syria and almost identical. — A dark race from

virida. *linnaei.* *apicenudata.* *britannica.* *carnea.* *praenapaeae.* *vulgaris.* *ochreata.* *microvulgaris.* *henrici.* *adalwinda.* *leovigilda.* *barraudi.* *umoris.* *pseudocanidia.* *patunae.* *marginestixis.* *maura.* *blidana.* *atlantica.* *segonsaci.* *deflava.* *atlantis.* *pseudorapae.* *minima.* *suffusa.* *caucasica.* *persis.*

banghaasi. Thianshan has been named by Sheljuzhko **banghaasi.** The ground colour is white with pale yellowish surround and brown-black dusting of the forewings, almost like *bryoniae*, but the white ground colour stands out brightly. The underside of the hindwings is greenish yellow with especially heavily scaled grey veins. The ♀♀ *vitimensis.* sometimes without spots in the forewings and the underside often pale grey without black scales. — **vitimensis** *Vrty.* is a race from Vitim in Transbaikalia and resembles *pseudomelete* from the Ussuri district, but the *pseudomelete.* forewings also have black powdering between the veins. — **pseudomelete** *Vrty.* from the Ussuri district as far as Japan has the upperside whitish, all veins uniformly surrounded with black-brown and on the underside the surround is wider and more diffuse than in *melete orientis Oberth.* The summer form has been called by *aestiva.* Verity f. **aestiva,** it differs from the spring form only through the 2nd discoidal spot which is clearly marked *nesis.* on the underside. Yesso (Japan). — subsp. **nesis** *Fruhst.* is considerably larger than *pseudomelete Vrty.* The apex of the forewings is more widely marked with black, the underside of both sexes on the hindwings is pale *saghalensis.* ochre yellow with wide black-grey marks along the veins. In the Hokkaido. — subsp. **saghalensis** *Nakahara* from Sachalin is very close to the previous but it is smaller and with less striking apical mark, which is dissolved and consists of a few black scales. The disc on the underside shows no trace of black scales and the second and third veins are not half so widely surrounded as in *nesis.* The stripes of the hindmargin of the disc are *regressa.* considerably narrower. — **regressa** *Krul.* is a nom. nov. for *intermedia Krul.* — The circle of forms around *bryona-* *bryoniae* is very large. The second generation is called **bryonapaeae** *Vrty.* It shows very wide margination of *pacae.* the veins which often form a dark field towards the outer margin and also on the hindwings they extend to *metabryo-* a blackly scaled marginal field. — Verity named the third generation **metabryoniae,** it is very similar to ab. *niae.* *meta Wagner.* — **verbani** *Vrty.* from Monte Mottarone above the Lago Maggiore probably belongs to the second *verbani.* generation. The ♂♂ are similar to small *napaeae* with dark grey markings, the ♀♀ are apparently a transition *flavosatura.* to *leovigilda Fruhst.* — The race **flavosatura** *Vrty.* flies around upper Tux. The ♀♀ are small with bright yellow on the upper and undersides. The stripes along the veins are a rich chestnut brown and wider than in *interjecta* *flavointer-* and *radiata Röb.* The stripes of the veins are dark and heavy on the underside. — **flavointerjecta** is an inter- *jecta.* mediate form between *flavosatura* and *interjecta* from the South Tyrol. — **emibryoniae** *Vrty.* has the basal part *emibryo-* of the wings without stripes along the veins as in *bryoniae*, but in the outer area of the wings there are clear *niae.* cut triangular marks between the veins with the points inwards. This is a summer form from warm and moist *violascens.* localities. — ab. **violascens** *Bubacek* are freshly emerged *bryoniae*-♀♀ which, as is well known, nearly always show a beautiful bluish sheen which soon dissipates when the specimens take to the wing or when they are *bryoniella.* placed in collections. — **bryoniella** *Vrty.* from Clavières is smaller than *bryoniae*, with more sharply pronounced stripes along the veins, stretching from the outer margin inwards on the forewings and hindwings. The discal *bryonides.* spot is generally heavy. — **bryonides** *Vrty.* (= neobryoniae *Shelj.*) flies as a third generation in the Maritime Alps. It is distinguished by its enormous size, ♂ 40—55 mm, ♀ 40—48 mm, and the considerable variability *narina.* in colour and marking. Specimens occur with the appearance of *napaeae*, *meta* and *flavescens.* — **narina** *Vrty.* is a very small race from Naryn in Turkestan: the ♂ has the apex greyer than *bryoniae.* On the underside black-green stripes run along the veins to the margin. On the upperside the ♀ is much darker than *bryoniae,* *euorientis.* but with paler stripes along the veins. The underside is similar to that of the ♂. — **euorientis** *Vrty.* from Sajan, South Siberia. Upperside white, apical mark dissolved in small scale marks and extremities of veins to the *frigida.* second nervure of the forewings with small blackish triangular spots. — subsp. **frigida** *Scudd.* (7 b) occurs in *pseudobry-* the circumpolar region. The ♂ illustrated is from Norway and the ♀ which belongs to the forma **pseudobryoniae** *oniae.* *Vrty.* (7 b) is from the Finnish March. Typical ♀♀ have the stripes along the veins less diffuse and more sharply outlined.

7. Genus: **Leucochloë** *Röb.*

daplidice. **L. daplidice** *L.* (Vol. 1, plate 21 f). A very melanic form is **rondoui** *Vrty.* (7 d) from Hungary. The *rondoui.* discoidal spot of the forewings is diffuse black-brown and conjoined with the apical mark. The underside of *flavopicta.* the hindwings is green with faint traces of white spots. — ♀-ab. **flavopicta** *Vrty.* from the coast of Tuscany has hindwings with pale yellowish green undersides, the otherwise black markings of the forewings are grey. *eluta.* — ♂-ab. *sulphurea Oberth.* and ♀-ab. *flavescens Oberth.* are synonymous with *flava Oberth.* — ♀-ab. **eluta** *Vrty.* *minor.* from Elba has the large black discoidal spots reduced to the size of a small black dot. — **minor** *Ksienschopolski* *minuscula.* is a dwarf form from Volhynia: still smaller is **minuscula** *Vrty.* from Sarepta. — Frequently in South Russia *ochrea.* the ♀♀ of the second generation **ochrea** *Vrty.* fly which have an ochre yellow to yellow-brown colour, especially *expansa.* in the costal half of the forewings and the marginal edge of the hindwings. — **expansa** *Vrty.* also belongs to *ampla.* *bellidice O.* from Tuscany, expanse very large, 43—45 mm, and **ampla** *Vrty.* from San Martino (Sicily) is still larger and of particularly brilliant colouration. Verity's contention that both forms are races can *nitida.* scarcely be upheld. — In the sterile region of Spain and over North Africa to Asia Minor we find **nitida** *Vrty.* This is a form of small dimensions, with wide wings and very convex outer margin. The black markings are *anastomo-* deeper and more sharply outlined. — ♂-ab. **anastomosia** *Strd.* is a transition to *raphani Esp.* The white sub- *sia.* marginal spot merges with the ground colour of the wings. Eregli (Asia Minor). — A number of names have *zapelloni.* been coined for the third generation in accordance with its occurrence: **zapelloni** *Rostagno* from the surroundings

of Rome is smaller than the second generation. The black marks of the upperside are less intensive, the hindwings powdered with yellow. — *subalbidice Vrty.* from Tuscany can scarcely be differentiated from *albidice.* — **jachontovi** *Krul.* is the autumn form from Eastern Russia and Central Asia. It comes between *daplidice* and *bellidice* from those regions: it is somewhat smaller, the green of the underside is more pronounced and covered with black scales, the white spots are smaller. — Verity has proposed *zellerica* as *nom. nov.* instead of *messanensis Z.* for the first generation from Sicily. This new denomination is superfluous, it is without reason. — Fruhstorfer describes from Palestine subsp. **laenas.** It is larger than *bellidice O.* from Smyrna and Beirut and than *persica Bien.*, although otherwise it closely resembles same owing to the striking pale underside which shows considerable yellow admixture. — subsp. **orientalis** *Kardakoff* from the South Ussuri territory belonging to the summer generation contains much larger insects than the european. The marking of the underside of the hindwings is impure yellowish green, uniform without shading. — subsp. **nubicola** *Fruhst.* is very small similar to *persica Bien.* but without yellowish tinge on the upperside: the greenish spots on the underside of the hindwings are much paler than in *moorei Röb.* From Kashgar in Turkestan. — **amphimara** *Fruhst.* is an unusually large race flying in Szechuan. The upperside of the hindwings is similar to *moorei Röb.* but with scarcely a shade of black. — subsp. **avidia** *Fruhst.* shows prominent black markings on the upperside which reflect through more distinctly on the hindwings than in other races. The underside is pale. Tsingtau.

jachontovi. *laenas.* *orientalis.* *nubicola.* *amphimara.* *avidia.*

8. Genus: **Belenois** *Hbn. (Anaphaeis Hbn.)*

B. mesentina *Cr.* (Vol. 1, plate 21 d, e). **lordaca** *Wkr.* is the dry season form of India with pale yellow underside (compare Vol. 9, p. 137). These as well as the 4 following forms are all described by Gauckler from Jerusalem. — var. **taprobana** *Mr.* has a wide black margin on the upperside of all wings and is coloured orange-yellow on the underside. — var. **aurigena** *Btlr.* a rainy season form is dark yellow to orange-yellow on the underside of the hindwings. — ♀-ab. **iris** *Gauckler* is reddish white in the cell areas on the underside of the hindwings with a mother-of-pearl-like iridescence. — ab. **sulphurea** *Gauckler* shows a greenish sulphur yellow on the upperside of all wings with wide black margins. Underside of all wings ochre yellow and similarly wide margined with black. — var. ♀ **turanica** *Shelj.* has white upperside with considerably narrower, darker margins than syrian specimens. There are white spots on veins 6 and 7. Undersides faintly yellowish-white with reduced black markings and ribs less strongly dusted with black.

mesentina. *lordaca.* *taprobana.* *aurigena.* *iris.* *sulphurea.* *turanica.*

9. Genus: **Synchloë** *Hbn.*

S. callidice *Esp.* (Vol. 1, plate 21 e). ab. ♂ **mezgeri** *le Charles* has strongly reduced apical marks which are greyish, only the discoidal spot is a distinct black. On the underside all the black markings with the exception of the discoidal spot are pale on yellowish-green ground. Riffelalp in Valais. — ♂-ab. **atrovirens** *Roth.* from the Grisons is an adumbrated form. The costa is widely dusted with black, also the veins 4 to 8 cuneiformly at the extremities. Submarginal spots form large blackish spots extending to the closing nervure of the disc. Veins of hindwings more heavily dusted with black. In cell 1 c there is a black streak extending to the outer margin. Underside still more dusky, almost uniformly grey-black. — ab. **rondoui** *Vrty.* (7 d). A splendid melanic pair from the Engadin. The underside of the hindwings is more or less completely black and the hindwings are a uniform nice green with scarcely perceptible streaks internervally. — ♂-ab. **magnomaculata** *Vrty.* belongs to *kalora Mr.*, it has an enormously enlarged discoidal spot in the forewings reminding one thereby of *daplidice.* Hunza, Hindukush. — **hinducucica** *Vrty.* is a form flying in Beik in Hindukush, it resembles *kalora Mr.* on the underside, but the green is paler, whilst the upperside is striking through its pure white and the intensity of the black markings as well as the blue-grey scaling at the base of the wings. — A form flies in Amdo which has quite the appearance of an extreme *orientalis* but which differs through its larger size and the purer white: **amdensis** *Vrty.*

callidice. *mezgeri.* *atrovirens.* *rondoui.* *magnomaculata.* *hinducucica.* *amdensis.*

S. dubernardi *Oberth.* (Vol. 1, plate 17 f). ♂-ab. **parva** *Vrty.* is a small form in which together with a reduction in size there is also a decrease of the black markings. — In ab. **punctata** *Vrty.* well developed dark spots decorate the wing internervally before the margin. — **rothschildi** *Vrty.* (7 c) flies in the Tsingling Mountains, it has a neater more elongated wing contour with considerably increased and enlarged dark markings which, especially in the ♀ make a dusky impression through a dispersion of black scales.

dubernardi. *parva.* *punctata.* *rothschildi.*

S. chumbiensis *Nic.* (Vol. 1, plate 20 e). The form flying in Gyantse in Thibet creates a paler race. The ground colour on the underside of the wings is pale straw colour. The veins are narrowly surrounded with light grey in some specimens having a lilac hue. The orange coloured spot at the base of the wings is scarcely perceptible. Both sexes have almost the same marking: this is subsp. **gyantsensis** *Vrty.*

chumbiensis. *gyantsensis.*

11. Genus: **Euchloë** *Hbn.*

chloridice. alpina. **E. chloridice** *Hbn.* (Vol. 1, plate 20 f). A small race **alpina** *Vrty.* flies in the heights of Ladak. It has reduced markings and pale olive coloured underside which is richly powdered with black. The renaming proposed by Verity of *albidice Stgr.* to *flavopicta* is unnecessary.

belemia. röberi. **E. belemia** *Esp.* (Vol. 1, plate 22 a). The spring form of *distincta Röb.* from Guelt-es-Stel in South Algeria is separated by Rothschild as f. vern. **röberi** ab. It is smaller with less extensive bands on the underside of the hindwings. — subsp. **hesperidum** *Rothsch.* from the Canary Islands has deep orange coloured costa and the apex of the forewings is extensively coloured yellow on the underside. — f. *intermedia Oberth.* from Spain, Portugal and Algeria is a *nomen nudum.*

hesperidum. falloui lucida. **E. falloui** *Allard* (Vol. 1, p. 52). f. **lucida** *Shelj.* from Biskra is a ♂ with pale underside and with yellowish-green bands. Presumably it belongs to a second generation. — A spring generation flying in Algeria is called **obsolescens** *Rothsch.* and varies from the summer form only by its more clearly separated green bands.

obsolescens. belia. decolorata praecox. **E. belia** *Cr.* (Vol. 1, p. 52). To the first generation belong: ab. **decolorata** *Cathérine*, it has all black markings bleached to a delicate grey. On the underside the apical spot of the forewings is yellowish, the hindwings are pale olive green, scarcely powdered with black. — **praecox** *Costantini* from Emilia in Italy is a small form with more sharply angulated wing contour and increased black markings. Bands incline to be formed on the underside of the hindwings. — ab. **philippsi** *Rudolph* from Dalmatia has the apical mark of the forewings extending down to the discoidal cell. This is powdered with black towards the base just as the middle cell of the hindwings. — The following varieties of *ausonia Hbn.* have still been described: ♂-ab. **sulphurea** *Vrty.* with pale sulphur yellow colouration of the surface of the wings. — ♂-ab. **albescens** *Vrty.* has the black apical mark of the forewings almost extinct and only perceptible by quite faint indistinct grey-brown shadows. — ♂-ab. **pulverulenta** *Vrty.* is yellowish olive green on the underside of the hindwings with small conjoined white spots on the outer margin and very many small distributed white spots on the surface of the wings. — ab. **deleta** *Vrty.* is a ♂ and shows no green on the underside, only the veins are surrounded with yellow-green. All these forms emanate from the Basses-Alpes. — Under subsp. *simplonia Frr.* are ranged: ab. **aurantiaca** *Vrty.* with yellowish ochre coloured upperside and **oberthuri** *Vrty.* from Gèdre in the high Pyrenees. The latter is larger than *simplonia* and the discoidal spot of the ♂ is more prominent. On the underside the markings are strongly reduced, in the ♀ a bright green tone is introduced such as never occurs in specimens from the alps. ♀♀ with very diffuse and more grey-black markings are called **grisescens** *Vrty.* — A beautiful strongly melanic aberration of the ♀ is **rondoui** *Oberth.* from the high Pyrenees in which all the wings on the upperside and the hindwings on the underside are completely covered with black. — **flavidior** *Wheeler* occurs in the Rhone Valley, it has paler yellow veins on the underside which is yellow-green and the upperside of all wings is shaded yellowish. — Similar is **ticina** *Vorbr.*: the underside of the hindwings has pronouncedly yellow veins, the white spots are reduced and the dark dusting more heavy. On the upperside the discoidal spot of the forewings is small and not conjoined with the costa. — A small race of *simplonia* flies in the Alai which reminds one strongly of *pulverata Christ.* on the underside of the hindwings: **alaica** *Vrty.* — **emiorientalis** *Vrty.* from Altai is a transition form between *simplonia* and *orientalis.* — Stauder has described a number of minute variations of *romana Calb.* from the Aspromonte region. Although these are scarcely deserving of a denomination they are mentioned here. ab. *alboapicata* with grey-white apex, *brunneoapicata* with brown apex of the forewings. — *centripeta* with punctiform median spot of the forewings widely separated from the costa and in **immaculata** it is entirely absent. — **caudatula** from Sorrent is said to have slight indications of tails to the hindwings. — ♂-ab. **damoneides** *Std.* has the otherwise white spots on the underside of the hindwings filled with yellow. — **graeca** *Vrty.* is a rather small form flying in Greece. It differs only by the distribution of brown scales in the green of the underside of the hindwings. — A counterpart is a very large form which only differs on this account being up to 42 mm wing expanse: **maxima** *Vrty.* It flies in Crimea and also in parts of Greece. — **romanoides** *Vrty.* from Tuscany is also of considerable size. The black markings are profusely interspersed with white scales and thereby appear to be grey. The discoidal spot is frequently curve-shaped like an S. The underside of the hindwings is so richly interspersed with yellow scales that the green is almost completely suppressed. — Verity has separated the form flying in the north of Italy, the south of France and the Iberian Peninsular as **occidentalis.** It is questionable whether this form is identical with *crameri Btlr.* (= esperi *Kirby*). The shape of the forewings is narrower and more sharply pointed. The outer margin runs almost straightly. The black markings of the ♀♀ are especially wide and heavy. To this race belongs **quadra** *Vrty.* with almost square median spot: — **triangula** *Vrty.* from Syria is somewhat smaller and the median spot has almost the shape of an equilateral triangle. — Rocci has described 2 forms from the neighbourhood of Genoa as *genuensis* and *maritima* which are nothing else than *occidentalis.* — A separate race flies in Grenada, **rothschildi** *Vrty.* The black markings of the upperside are grey with a slight indication of yellow. The underside of the hindwings is olive green turning to yellowish towards the margin of the wings. — Rothschild separates *belia* flying in the high mountains of Central Algeria according to the period in which it flies as *gen. vern. butleri* (= paravicini *Stauder*) and *gen. aest. turatii.* Both scarcely differ from one another. — Turati mentions as **libyca** the spring generation of *belia* from Cyrenaica. It comes between *triangula Vrty.* from Syria and *aegyptiaca Vrty.* from

alaica. emiorientalis. immaculata. caudatula. damoneides. graeca. maxima. romanoides. occidentalis. quadra. triangula. rothschildi. libyca.

Egypt. The median spot and apical mark in the forewings are black-grey. On the underside of the forewings the apex is somewhat paler olive green than the rather dark olive green and white spotted hindwings. — The second generation which flies from the end of March to April is called **syrtica** *Trti.* It is characterised by the fainter markings of all wings. — **aegyptiaca** *Vrty.* is a small race from the Nile with pronounced yellow-green underside of the hindwings, which are inclined to form yellow-green traverse bands. — The race **melisande** *Fruhst.* (7 d) flies in April in Palestine. It differs owing to the underside being more richly marked with yellow, the trellis of the wings is more open with much more white than in *taurica Röb.* — **persica** *Vrty.* (7 c) shows a very similar underside. The upperside has a small but sharply outlined apical mark whilst the median spot on the other hand appears reduced. — In place of *uralensis Bartel* the older name **volgensis** *Krul.* should be placed: synonymous hereto is *pfaffi Trautmann* described in 1927. — **transiens** *Vrty.* from the Alai is a transition to *pulverata Christ.* The veins on the underside are partly yellow. — subsp. **naina** *Kosch.* from the Lake of Bubaj in the Sajan Mountains is remarkable by the sexual dimorphism similar to *bryoniae* in *napi.* The ♂ shows the narrow falcate median spot of the forewings confluent with the densely black dusted costa and the base of the wings is densely powdered with black. On the underside the apex of the forewings is a greenish yellow, the hindwings greenish grey-yellow with white spots. The ♀ shows on the upperside of all wings a fawn coloured yellow with such dense black dusting that only in the middle of the inner margin of the forewings a pure fawn coloured yellow patch remains. On the underside only the hindwings are pale yellow. A melanic ♀ of this race is described by O. Bang-Haas as **koschantschikoffi**: it is an analogous aberration to *rondoui Vrty.* (7 d).

syrtica. *aegyptiaca.* *melisande.* *persica.* *volgensis.* *transiens.* *naina.* *koschantschikoffi.*

E. tagis *Hbn.* (Vol. 1, plate 22 d). — **gallica** *Oberth.* is described as *bellezina Bsd.* The underside of the wings is more yellow than *tagis.* — subsp. **granadensis** *Rbb.* (= alhambra *Stgr. Rbb.*, alhambrae *Oberth.*, granatae *Vrty.*) is a considerably larger race than the race from the coastal regions. Its occurrence is limited to the mountains of Ronda and Grenada. — **lusitanica** *Oberth.* flies in Portugal, it corresponds with the description and illustration of Duponchels. — Oberthür describes a race from Algeria as **algerica** which has less sharply elongated wings. The underside of the hindwings is olive green with pure white spots. — Turati gives the name **praecox** to the first generation of *insularis Stgr.*: it is smaller and has narrower wings. The second generation is to be called *sardoa Oberth.* The decisive differentiations as compared with *insularis* are so trivial and unimportant that particulars of the date of flight should be enquired into in order to form a certain judgment on the question of the generation. A very doubtful form is also **aestivalis** *Vrty.* which Verity ascribes also to *insularis.* When Verity established this form he only had old specimens of Guenées at his disposal: it is true that afterwards he received specimens caught in June which appeared to confirm his deduction. — *castellana Vrty.* from Aranjuez is nothing else than *bellezina Bsd.*

tagis. *gallica.* *granadensis.* *lusitanica.* *algerica.* *praecox.* *aestivalis.*

E. pyrothoë *Ev.* (Vol. 1, p. 53). ab. **flavidovirescens** *Oberth.* (= alpherakyi *Avin.*) from Ferghana, has the apical mark a lemon yellow with an indication of greenish. — ab. **spinacea** *Alph.* has the inner area of the hindwings a rich green (spinach green) with very few white spots.

pyrothoë. *flavidovirescens.* *spinacea.*

12. Genus: **Anthocharis** *Bsd.*

A. charlonia *Donz.* (Vol. 1, p. 53). The difference between the generations of *charlonia* is very trivial and scarcely justifies special denominations. For instance the f. vern. *levaillanti Lucas* is scarcely to be differentiated from the summer form and also f. *vernalis Vrty.* shows scarcely any special differences from *subsp. transcaspica.* — The autumn form *atlantica Stauder* is a dwarf form from El-Kantara in Algeria. The base of the wings on the upperside is dusted with black and the ground colour somewhat deeper yellow. — ab. **interrogans** *Stauder* from South Algeria is a ♂ in which the spot in the forewings is shaped like an inverted question mark with the dot on the costa.

charlonia. *interrogans.*

A. lucilla *Btlr.* (7 e: Vol. 1, p. 53). A smaller form with narrower more elongated wing contour and with more profuse grey dusting of the underside is called **lucillides** *Vrty.* from Campbellpore, perhaps this is a spring form. We illustrate the species here which was not done in Volume 1.

lucilla. *lucillides.*

A. bieti *Oberth.* (Vol. 1, p. 54). A race called **detersa** *Vrty.* from Amdo in which the grey apical spot is missing or where it is reduced to small pale grey shadows.

bieti. *detersa.*

A. cardamines *L.* (Vol. 1, p. 54). Aberrations of colouring and marking have been named in great number. — ab. **progressa** *Sovinsky* from Irkutsk is a small ♂ in which the white of the forewings has a golden yellow colour, which extends right to the base of the wings. The black dot is absent or very small. — ab. **saxonia** *F. Hering* (= flavosignata *Closs*, tuleola *Stephan*) has a yellow coat to the white of the forewings. — **flavescens** *Oberth.* from the Maritime Alps has the same colouration, but it is paler and not so intensive. The costa of the forewings is black and the apex dusted with grey. The underside of the forewings is yellow with a specially brightly coloured apex. — *citronea Wheeler* which occurs frequently in Switzerland is identical with *alberti Hoffm.* (Vol. 1, p. 54). — In **flavidovirescens** *Oberth.* from East Prussia the otherwise red mark of the forewings is a lemon yellow with greenish hue. — **sassafrana** *Oberth.* has the mark a pale saffron yellow and in **salmonea** *Oberth.* it is a nice salmon colour. — Specimens from Valdieri in the Maritime Alps which have a

cardamines. *progressa.* *saxonia.* *flavescens.* *flavidovirescens.* *sassafrana.* *salmonea.*

montivaga. black band separating the red mark of the forewings from the white area of the wings are **montivaga** *Trti. & Vrty.* This is a variety and not a local race as the authors presume. — ab. **marginata** *Greer* has a 3 mm wide outer marginal band in the forewings and the orange spot is profusely intermixed with black scales. — **striata** *Pionneau* shows 3 black and very distinct stripes in the red mark: a counterpart hereto is **reducta** *Masowicz* in which white stripes intersperse the red mark. — **sulfureovenata** *Rayn.* is a further very pretty aberration. The closing nervure of the discoidal cell and the 4 upper nervules radiating to the border of the wings are scaled and margined with a beautiful sulphur yellow. — In ab. **detersa** *Vrty.* the red highly coloured mark is quite absent. — **flavoradiata** *Stephan* has the veins dusted with yellow on the upperside of the hindwings. — in ab. **antiquincunx** *Bryk* the black discoidal spot is elongated up to the costa. — In **divisa** *Shelj.* the black median spot is divided into 2 small dots. — In **parvipuncta** *Trti.* the median spot has the shape of a small fine comma. — **sibirica** *Haashus* is very similar to *sajana Bang-Haas*, in the ♂ the black median spot is missing. — **costaenigrata** *Closs* (= shepdaeli *Cabeau*) has the costa of the forewings heavily dusted with black to well over the middle. — In **caulotosticta** *Wms.* (= umbratilis *Stephan*) a black line extends from the disc along the costa towards the base of the wings. — — In the ♀ the following newly described varieties occur: **perflavida** *Stauder* has the upperside of the wings covered with a beautiful yellow and also the grey apical mark is intermixed with yellow. — **ochrata** *Greer* varies in the same direction, all the wings are coloured a dark ochre yellow. — The back of the forewings is irregularly spotted with orange-red in **commaculata** *Vrty.* — In **provosti** *Lamb.* the margin of the forewings is orange-yellow, the black apical mark is surrounded with light dots. There are yellow stripes in the disc of the forewings, whilst that of the hindwings is quite orange yellow so that the markings of the underside do not reflect through. Belgium. — f. **andromorpha** *Vrty.* is a ♀ from the collection of Bang-Haas from Petersdorf in Austria, which shows the orange-yellow mark of the ♂. — **subtusflavovenata** *Reuss.* shows yellow dusted veins on the underside of the hindwings. — **nigrocellularis** *Oberth.* has the black discoidal spot of the forewings elongated and enlarged towards the apex both on the upper and undersides. — In **discocellularis** *Strd.* there is a small black spot in the median cell on the upper and undersides of the hindwings and in the second area there is a small black angular mark opening outwards. — **marginemaculata** *Stephan* are ♀♀ with especially heavily developed marginal spots on the hindwings. — The form described as "subsp." by Matsumura from a single ♀ can in the best case only be deemed a variety. — ab. ♀ **isshikii** *Mats.* from the province of Shinan in Japan has a round discoidal spot and white spots in the apical mark. The hindwings are more heavily dusted with black at the base. The underside of the hindwings is a dark green with about 23 white spots which however do not form a white band. — In ab. **kobayashii** *Mats.* from North Sachalin the discoidal spot of the forewings is divided looking like a semicolon. The black apical mark has 2 yellow spots in cells 8 and 9. The underside shows profuse admixture of yellow scales. — Verity denominated as a new race **britannica** flying in England. It shows the orange-red spot less well developed, especially towards the inner margin, on the other hand the black median spot is larger and deeper black. — A transition to the oriental races appears to be formed by **meridionalis** *Vrty.* The underside of the hindwings has a brighter green but this is more suppressed than in specimens from more northern regions and is faintly powdered with black. — To this race belongs the f. **hybridophana** *Stauder.* The underside is said to resemble a *belia simplonia romanoides*, especially in the distribution of the white spots. The shade of the yellow-green corresponds exactly to that of *romanoides*. Stauder believes this is a hybrid between *romana Calb.* × *cardamines L.* — A very large race flies in Greece, the ♂ often with the veins a pretty yellow as in *thibetana Oberth.*, the ♀ often quite yellow instead of white: **graeca** *Vrty.* — Verity described *turritiferens* from Sicily which cannot be differentiated from *turritis O.* — The ♂♂ of the form **taipaichana** *Vrty.* flying in the Tsingling Mountains is well characterised by the paler and more reduced red mark. The underside is almost without green, almost sooty brown with impure yellow veins. The orange mark is elongated towards the base. — subsp. **septentrionalis** *Wnukowsky* from Jakutsk is smaller than european specimens. The red mark of the ♂ is considerably enlarged. The underside of the hindwings shows a deeper grey-green colour so that the white spots appear to be widely distributed. — For reasons of nomenclature we mention here that *crocea Röber* is synonymous with *lutea Gillmer* and *minor Cock* should take the place of *hesperides Newnh. Extensa Röb.* is identical with *bambusarum Oberth.*

marginata. *striata.* *reducta.* *sulfureovenata.* *detersa.* *flavoradiata.* *antiquincunx.* *divisa.* *parvipuncta.* *sibirica.* *costaenigrata.* *caulotosticta.* *perflavida.* *ochrata.* *commaculata.* *provosti.* *andromorpha.* *subtusflavovenata.* *nigrocellularis.* *discocellularis.* *marginemaculata.* *isshikii.* *kobayashii.* *britannica.* *meridionalis.* *hybridophana.* *graeca.* *taipaichana* *septentrionalis.*

A. gruneri *H.-Schäff.* (Vol. 1, p. 54). The following forms are added to subsp. *armeniaca Christ.*: ab. **decolor** *Shelj.* from Pontus a very small albinotic ♂ in which all the black markings are bleached to white-grey and the otherwise green marks on the underside of the hindwings are an impure yellow-green. — **tkatshukovi** *Shelj.* from the eastern Euphrates is a ♂ with wider more rounded forewings in which the orange coloured and green areas are paler and appear to be reduced. The white spots on the margin of the wings are quite absent. — The subsp. **macedonica** *Buresch* described from northern Macedonia should be added to *armeniaca*. The red apical mark is yellow outlined with black inwards. The ♀ has an especially well developed discoidal spot.

gruneri. *decolor.* *tkatshukovi.* *macedonica.*

A. damone *Bsd.* (Vol. 1, p. 54). A ♀ variety from Greece is described by Sheljuzhko as **flavoapicata.** The veins of the forewings are scaled with yellow, the light spots on the margin of the wings are intensive ochre yellow. On the underside the apex and base of the forewings are a deeper yellow. — A small race, **syra** *Vrty.*, flies in Syria, it is distinguishable by the absence of the black streak which otherwise separates the yellow area

damone. *flavoapicata.* *syra.*

of the wing from the red mark. The ♀ shows a smaller and fainter apical mark. In both sexes the markings of the underside of the hindwings are reduced. — The f. **privimacula** *Std.* from Syria belongs to this race, it differs by the absence of the medianspot on the upper and undersides of the forewings. *privimacula.*

A. eupheno *L.* (Vol. 1, plate 22 h). The ♀ ab. **nigritior** *Std.* shows the yellow-red apical spot of the forewings more heavily dusted with black. — ab. **gynomorphica** *Vrty.* is a ♂ from Algeria which has exactly the appearance of a ♀ *androgyne Leech.* *eupheno. nigritior. gynomorphica.*

A. euphenoides *Stgr.* (Vol. 1, plate 22 h). The following varieties have been newly denominated: ♂ ab. **hyalina** *Oberth.* has the whole apex filled by a large round hyaline macula narrowly surrounded with reddish in place of the red apical mark. — ♂ ab. **lasthenoides** *Oberth.* is an albino form in which all colours are very pale and the black dividing streak of the forewings is absent. — A strongly adumbrated ♂, **obscurata** *Oberth.* has the highly coloured apical spot inclined to brownish being separated posteriorly by a particularly broad streak. — In **vernetensis** *Oberth.* (7 d) this streak is missing. — The ♂ ab. **quadripunctata** *Oberth.* has a black spot in the disc of the underside of the hindwings and vermillion red spots in the margin of the wings. — **andalusica** *Rbb.* are ♀♀ in which the red colour of the apex is very pale and reduced, in some specimens in fact it is practically extinct so that the apex of the wings is quite grey. — **impunctata**-♀ *Rbb.* from Andalusia has no black mark in the disc of the forewings. — ♀ ab. **limbata** *Blach.* from Esterel has the hindwings narrowly margined with orange-red (sometimes dentate) from vein 2 to 6. — **minima** *Pionn.* from Digne is a dwarf form with expanse only 28—29 mm. The very large race **alpium** *Vrty.* flies on the highest alps in the Susa Valley around Oulx. The black streak on the forewings separating the red spot towards the inner area is less sharply outlined and not so deep black. The silver white spots are absent on the underside of the hindwings. *euphenoides. hyalina. lasthenoides. obscurata. vernetensis. quadripunctata. andalusica. impunctata. limbata. minima. alpium.*

13. Genus: **Midea** *H.-Schäff.*

M. scolymus *Btlr.* (Vol. 1, plate 23 a). ♀ ab. **umbratilis** *Shelj.* from Kiushiu and Hondo has a more or less wide grey stripe in the middle cell of the forewings from the base to the median spot. — subsp. **mandschurica** (*O. Bang-Haas i. l.*) is a small race from Harbin in Manchuria. The markings on the upper and undersides in both sexes are paler and slightly reduced. The dark apical marks of the ♂ are grey with a few distributed yellow scales, the red spots are paler. The median spot of the ♂ and ♀ is elongated quadrangular, brownish-black. The green on the underside has a more yellow tone. — In Ogaki in Hondo a hermaphrodite was caught, the right side being ♂, left ♀. *scolymus. umbratilis. mandschurica.*

14. Genus: **Zegris** *Rmb.*

Z. eupheme *Esp.* (Vol. 1, plate 23 a). ♀ ab. **modesta** *Alph.* from Taganrog has the base of the wings, the costa and the apical band of the forewings more heavily scaled with grey, also the base of the hindwings. The underside of the forewings as well as the hindwings is a brighter yellow-green. — In ab. **ochracea** *Alph.* the apical mark of the forewings in both sexes is ochre yellow. — ♀ ab. **luctifica** *Vrty.* (= ab. morena *Rbb.*) belongs to subsp. *meridionalis Led.* It is from Rivas in Spain and has a quite black apex without any trace of red colouration. — **erothoë** *Ev.* is a peculiar, quite distinct race, the chief difference of which is in the underside of the hindwings. Here the marking is very coarse and more olive green on a white ground. On the underside of the forewings the apex has a V-shaped gold-yellow angular mark outlined blue-grey anteriorly and posteriorly. — subsp. **dyala** *Peile* from Persia differs from *menestho Mén.* by the absence of the yellow scales in the ground colour of the hindwings and from *tschudica H.-Schäff.* by an increase in the white as compared with the green. — subsp. **tigris** *Riley* from Tigris in Mesopotamia is very close to *tschudica H.-Schäff.*, it differs however by the constant uniform yellow colour of the apex of the underside of the forewings. — subsp. **sulphurea** *O. B.-H.* (7 d, as *sulphurica*) from Kuldsha (in the district Ili) resembles russian specimens in the placing of the marks, but the upperside varies by its brighter lemon-yellow colouration. *eupheme. modesta. ochracea. luctifica. erothoë. dyala. tigris. sulphurea.*

Z. fausti *Christ.* (Vol. 1, plate 23 b). A ♀ in the collection of Oberthür from Krasnokowsk shows the small red spots of normal specimens coloured white: ab. **decolorata** *Vrty.* *fausti. decolorata.*

15. Genus: **Teracolus** *Swns.*

T. fausta *Ol.* (Vol. 1, plate 23 c). In Syria we find a very pale form of whitish-yellow with tinge of delicate rose colouration ab. **louisa** *Neuburger.* — O. Bang-Haas has denominated the summer generation flying around Bushire in the Persian Gulf as f. **beckeri.** It is considerably smaller than the spring form, paler and with increased yellow marks. *fausta. louisa. beckeri.*

daira. *nouna.* **T. daira** *Klug*, subsp. *nouna Luc.* (Vol. 1, p. 57). Lucas' types of **nouna** were caught in July-August and therefore belong to the summer generation. In his original description Lucas mentions "two black spots" which may be isolated or united and which lie in the red mark of the forewings. This summer form should be called *nouna nouna Luc.* and is synonymous with Oberthür's later description of the summer form as *aestivalis.* *biskrensis.* The spring form should be denominated as Blachiers **biskrensis** (= auresiaca *Std.*). It is larger than the summer form and darker and brighter in colour and marking. The black apical marginal mark is not interrupted on the outer border. The underside of the forewings is pure white as is the upperside, at the apex there is a yellow-red streak. The ♀ has considerably more black dusting at the base of the wings than the ♂. Stauder named a 3rd generation *pyroleuca* which is scarcely to be differentiated from the summer form, the same applies to *flavideapicata.* *evagorides Std.* which flies at the same time. — The f. **flavideapicata** *Std.* of the 3rd generation has a pale yellow apex on the upperside instead of the fiery colour, somewhat in the colouration of *Midea scolymus Btlr.* (Vol. 1, *biformata.* 23 a). — The autumn generation is called **biformata** *Std.* It has a heavy dusting of the base of the wings and in other respects is close to extreme specimens of the spring generation. Stauder has described a number of *turatii.* varieties said to be found in the Atlas and around El-Kantara: ab. **turatii** *Std.*, an extremely melanic form from the rainy period in the palaearctic region, it has a posterior black band in the apical spot. — When this form has black spots at the extremities of the veins on the underside of the hindwings it is called **turatii-punctatissima** *turatii-punctatissima.* *Std.*, this can occur separately or in other forms and then is denominated accordingly. ab. **costaenigrata** *Std.* of the 1st generation has black scales on the costal margin on the upperside of the forewings from the base to *costaenigrata.* the apex: ♀ ab. **flavescens** and ♀ ab. **regrediens** *Std.* both have a yellowish tone to the white of the upperside: *flavescens.* ab. **interposita** *Std.* is between *biskrensis* and *pyroleuca.* ♂ ab. **meierei** *Std.* has no black marking on the upperside. *regrediens.* — ab. **subpunctata** *Std.* are ♂♂ with a small spot like that of the ♀♀ on the forewings of the 1st generation: ab *interposita.* **feminilis** *Std.* is a ♂ with similar marking and colouration of the upperside to that of the ♀: **puerilis** *Std.* is a *meierei.* ♀ with black marking of the forewings reminding one of that of the ♂: **panandrophila** *Std.* is a specimen with *subpunctata.* the ♀ abdomen and ♂ colour and marking of the wings.

feminilis.

puerilis.

panandrophila.

16. Genus: **Ixias** *Hbn.*

pyrene. **I. pyrene** *L.* (Vol. 1, p. 58, plate 23 g). A ♂ form with a pale upperside flies in Japan, **pallida** *Nire.*

pallida.

17. Genus: **Gonepteryx** *Leach.*

aspasia. **G. aspasia** *Mén.* (Vol. 1, p. 60, plate 24 b). — subsp. **zaneka** *Mr.* (Vol. 9, plate 73 a) from Chitral to *zaneka.* Kumaon at an altitude of 1800—3000 m is remarkable by the very enlarged and prominent dentation of the hindwings. — The ab. *zanekoides Nic.* belongs to this race and emanates from upper Burma outside the palae-*major.* arctic region. — subsp. **major** *Vrty.* from Szechuan is clearly characterised by its enormous size, it has very large heavily developed discoidal spots and the extremities of the veins are clearly marked and strikingly *niphonica.* spotted with red. — **niphonica** *Vrty.* comes from Japan from Fujiyama, it has bright yellow-orange coloured forewings whilst the hindwings are a duller yellow.

rhamni. **G. rhamni** *L.* (Vol. 1, p. 60). **erubescens** *du Bois-Reymond* is a variety from east Prussia. The ♂♂ have *erubescens.* forewings of a richer yellow, the ♀♀ are white with a tinge of reddish. On the underside they show a remarkable *rubescens.* yellow-red colouration. — The ab. **rubescens** *Gillmer* with reddish shaded forewings is probably identical with *rosea.* *progressa Geest* (progressiva Vol. 1, p. 60). — **rosea** *Linstow* also has forewings shaded with rose colour, except for a narrow border at the outer margin, but the median area of the hindwings is similarly coloured, whilst the *decora.* margins are widely yellow. — **decora** *Oberth.* with red marks on all wings is a transition to same. — **variegata** *variegata.* *Lamb.* is irregularly spotted with red on all wings. — **nigriapicata** *Reuss* has the apical part of the wings widely *nigriapicata.* edged with black, the type is badly developed. — ab. **hoefnageli** *Bryk* has 7 dark spots lying internervally on *hoefnageli.* the underside of the hindwings. — Derenne names **rhamnoides** a dwarf form of only a third of the normal *rhamnoides.* size. — **britannica** *Oberth.* is a ♀ with almost ♂ wing colouration: synonymous herewith is *inversa Hannemann.* *britannica.* — A counterpart is a ♂ with ♀ colouration of all wings from the neighbourhood of Berlin called **pallida** *Hanne-*
pallida. *mann.* — Verity considers **transiens** as the type of his italian race of *rhamni* flying around Florence in upper *transiens.* Italy. It is larger and brighter in colouration than the specimens flying in more northerly regions, but it is connected with same by transition forms and not sharply to be differentiated. Verity names a 2nd generation *secunda* and a 3rd *tertia*, names which appear by no means justified. — Also minute differences in the tone of colour (it remains to be seen whether these are not due to the length of life of the insect) are called *albescens.* *gilgitica.* *ochracea* and *viridescens.* — Tytler describes subsp. **gilgitica** from northern Kashmir from Gilgit, Astor and Chilas. The ♂ resembles *nepalensis Dbl.*, the ♀ differs thereby that the costa of the forewings is distinctly coloured ochre-yellow distally, also the apex. The same colour is shown in the basal area and the outer margin *chitralensis.* of the hindwings to the 4th vein. — In **chitralensis** *Mr.* (Vol. 9, p. 161) from Chitral the ♂ has the base of all wings a beautiful chrome-yellow tone, this colour gradually goes over into the lighter sulphur-yellow of the

surface of the wings. The ♀ shows yellowish colouration. — **chinensis** *Vrty.* from Szechuan and from the more distant surroundings of Ta-tsien-lu is also related to *nepalensis Dbl.* The ♂ is a beautiful sulphur yellow, the ♀ more whitish with greenish tinge. The 4 median spots are particularly large and very striking by their bright orange-red, chiefly in the hindwings. — **maxima** *Btlr.* from Japan is only characterised by its remarkable size. *chinensis. maxima.*

G. cleopatra *L.* (Vol. 1, p. 61). A ♀ form **citrina** *Shelj.* frequently flies in Greece, the hindwings are uniform lemon-yellow (quite similar to that of the ♂), the forewings are a similar shade but somewhat paler in the basal half. — Verity deems it necessary to separate the *cleopatra* flying around Florence as a „race" *europaeus.* He bases himself on an examination of a ♂ in the Linné collection in London which he considers the type. This cannot be upheld and it has been repeatedly pointed out from competent sources that Verity's attempts at nomenclature are only creating confusion through his constant new naming and renaming. A 2nd generation *secunda Vrty.* and a 3rd *tertia Vrty.* are also said to occur around Florence, but this again requires confirmation. — *caerulescens* and *vivida Vrty.* are denominations of minute colour variations which are not worthy of special names. — ab. **ochreata** *Vrty.* has all wings coloured ochre. — The dalmatian race of *cleopatra* has a peculiar wing contour. The apex of the forewings is more falcate, the outer margin of all wings towards the posterior angle is very convex. The margin of the hindwings is nevertheless entire, with scarcely any perceptible dentations. The ♀♀ have no trace of a greenish tinge on the upperside, they are almost white with a slight indication of delicate yellow. The underside is greenish or yellowish chrome colour: **dalmatica** *Vrty.* A very small race **insularis** *Vrty.* without any other characteristics, flies in Crete. — **balearica** *Bubaček* somewhat larger from Majorca (in the Balearic Islands). The underside of the wings of the ♂ is almost uniform yellowish-green, in the disc of the forewings somewhat deeper yellowish almost bright yellow. *cleopatra. citrina. ochreata. dalmatica. insularis. balearica.*

G. amintha *Blch.* (Vol. 1, p. 61). Verity describes the ♀ ab. **mascula** from Mupin (Szechuan) which is almost as yellow in colour as the ♂ with only a pale greenish tone. *amintha. mascula.*

18. Genus: **Colias** *F.*

C. palaeno *L.* (Vol. 1, plate 25 a). The specimens from mid and southern Sweden vary from typical *palaeno* through the undersides which are uniform greyish without any greenish tinge. Bryk separated this race as **synonyma.** — The ab. **nordströmi** of this race has a considerably enlarged silver spot surrounded by black and elongated to a point towards the margin of the wings. — **octava** *Bryk* shows a double silver spot on the underside. — ab. **sitowskii** *Biez.* shows all bands of all wings very wide and in the forewings cuneiform extending half way towards the inner margin. — **parva** *Huene* from Estland is a dwarf form. — The following varieties are ranged to *europome Esp.*: **atavista** *Stephan* with strikingly pale yellow ground colour, reminding one thereby of a typical *palaeno.* — ab. **schröderi** *Hommel* has lost all the rosy red marks. — ♀ specimens with the middle spot of the forewings with a pupil are called **pupillata** *Piesczek.* — **binotata** *Cabeau* has an additional spot above the discoidal spot on the hindwings both on the upper and undersides. — *bimaculata Schroeder* is a similar aberration to *octava Bryk* in the name type form. — The following new varieties of *europomene O.* have been described. **obliterata** *Vrty.* from Switzerland shows a pale grey, faint marginal band on the forewings, whilst the undersides have retained normal colouration. — **illgneriana** *Verbr.* are ♀♀ with delicate lemon-yellow colouration: they form in this way a transition to *illgneri Rühl.* — When characteristics of both these aberrations occur in one specimen it is ♀ ab. **illgneri-reducta** *Schröder.* — **flavoradiata** *Wheeler* has yellow veins running in a striking way through the reduced marginal bands of the forewings. — ♂ ab. **flavoinspersa** *Heinrich* from Switzerland shows densely yellow scaled bands over the whole width. — Verity names **jurassica** a race of *europomene* flying in the Jura of which the ♂♂ have a particularly deep black marginal band without the slightest trace of any yellow scales. On the forewings the marginal band extends along the inner margin towards the base ending in a fine point. — **arctica** *Vrty.* from the province Jakutsk in north Siberia is smaller than *orientalis Stgr.* In the ♂♂ the marginal band is deep black and less ex-curved inwardly, in the ♀ on the other hand it is paler almost grey-black. The underside of the ♂ is a nice green, the ♀ is powdered brownish. The silver middle spot is very large. — ♀ ab. **avinoffi** *Vrty.* from Finland has a yellow ground colour to the upperside of the wings. — *sachalinensis Mats.* is practically identical with *aias Fruhst*, only the marginal band is wider. This and the other mentioned characteristics are not valid and by no means justify the creation of a subspecies. *palaeno. synonyma. nordströmi. octava. sitowskii. parva. atavista. schröderi. pupillata. binotata. obliterata. illgneriana. illgneri-reducta. flavoradiata. flavoinspersa. jurassica. arctica. avinoffi.*

C. werdandi *Zett.* (Vol. 1, plate 25 b, c). ab. **octava** *Bryk* has a double silver spot on the underside of the hindwings. — **phicomonides** *Vrty.* from Quickjock in polar Norway is a beautiful form. The ♂ is a bright green, the ♀ is white. The collar is a beautiful rose colour. — f. **zemblica** *Vrty.* from Novaja-Semlja has according to a single known specimen in the British Museum a very large discoidal spot, whilst otherwise the general colouration is extremely pale. The underside is very similar to *sulitelma-boothi H.-Schäff.* and it is questionable whether it is not identical with the latter species. The specimen in question is not well developed. *werdandi. octava. phicomonides. zemblica.*

cocandica. **C. cocandica** *Ersch.* (Vol. 1, plate 25 d). To this very variable species a correspondingly large number *aurantiaco-maculata.* of new denominations has been given. O. Bang-Haas gives the name **aurantiacomaculata** to specimens with the middle spot of hindwings dusted ochre yellow. — *viridis.* **viridis** *O. B.-H.* are ♂♂ of nice light green colour, closest *griseoviridis.* to *cocandica typica.* — **griseoviridis** is a ♂ aberration in which the ground colour is more grey green: ♂ ab. *brunneoviridis.* **brunneoviridis** *O. B.-H.* is when at the same time there is a brown colouration. — ab. *tatarica.* **tatarica** *O. B.-H.* represents ♂♂ and ♀♀ of dull deep green colour with darker markings. — Verity describes the form *nastoides.* **nastoides** from the western Transalai. The wings are somewhat less elongated than in typical specimens. The disc of the forewings is light yellowish green, the spots in the submarginal band are very large. The brown marginal spots are absent *immaculata.* on the underside. — In ab. **immaculata** *Schaw.* the light spots are absent from the marginal band of forewings. *melanina.* — **melanina** *nom. nov.* (= melanitica *O. B.-H.* nec *Verity*) are very dark, almost black on the forewings only *minor.* on the margin of the wings a few marginal spots are faintly perceptible. — **minor** *O. B.-H.* are dwarf forms. — *circumiens.* **circumiens** *O. B.-H.* has the black median spot of the forewings formed like a circle without a middle spot. — *impunctata.* In **impunctata** *O. B.-H.* (= immaculata *Schaw.*) there is no spot at all. — If the spot radiates distally, the form *radiata.* is called **radiata** *O. B.-H.* — Stauder names **pupillata** specimens from Hindukush with a pale centre to the *pupillata. integra.* median spot. — **integra** *Vrty.* described from Hindukush is a transition to *hybrida Gr.-Grsh.* — Verity also *hinducucica.* describes a smaller form from Hindukush, which he considers a separate race, **hinducucica.** The black markings in both sexes are more distended and especially the disc shows an increase in the black dusting. All markings *melanitica.* of the underside are heavier and more sharply outlined. — Verity adds his f. **melanitica** to *mongolica Alph.* *thrasibulus.* It is a very dark ♂ with very diffuse marginal bands, which extend over the whole disc. — **thrasibulus** *Fruhst.* is a new name for *elwesi Roeb.* The forewings of the ♂ are pale green, those of the ♀ white, not lemon yellow. *fulgida.* — The ♂ ab. **fulgida** *Vrty.* from Ladak belongs to this race and has the upperside of all wings coloured a fine *richthofeni.* ochre yellow. — A separate subspecies occurs in the Richthofen mountains — **richthofeni** *O. B.-H.* (7 e). The ♂♂ have pale green ground colour with a tinge of yellow, the ♀♀ are snow white. The base of the hindwings is very dark, almost black with the exception of the median spot, which is joined to the base by a light streak and which contrasts distinctly from the light marginal band. The underside of the forewings is white, green at the apex: the hindwings are uniformly green, the inner area of the wing, dark green with the white middle *sungpani.* spot. — In subsp. **sungpani** *O. B.-H.* from Sungpan (= Sumpanting) in Thibet the paleness of the forewings does not reach the same degree as in *richthofeni.* It is more inclined to be greenish grey and there are longish green streaks internervally in the black marginal band. The hindwings show deep black with the exception of the sharply outlined pale middle area and the submarginal spots which contract to points, pointing inwards. The markings of the ♀ resemble those of the ♂ but the ground colour is white with a faint bluish sheen. — *tibetana.* **tibetana** *Ril.* comes from the Mount Everest region of Nyenyam. The ♂♂ resemble large *cocandica* ♀♀, but the *irma.* white middle spot of the hindwings is broader. — Evans describes the new race **irma** of considerable size, also from Thibet from the Lutsang-po. Wing expanse 54 mm. It is difficult to decide from the illustration whether *pugo.* this is a form of *cocandica* as the author considers likely. — On the other hand **pugo** *Evans* which flies between Gyantse and Bhutan also in Thibet, cannot be deemed a separate species, but should without a doubt be included in the group of *cocandica* types. The ♂♂ are pale yellowish white, the ♀♀ white with black dusted veins. The costa of the forewings is red, the fringes white. *pugo* is the palest of all known *cocandica* forms: closest to it in this respect is *thrasibulus Fruhst.*

melinos. **C. melinos** *Eversm.* For reasons of priority Boebers' older name **tyche** should be set in place of *melinos.* *tyche.* It consists of a few well distinguished local races. *montana.* **montana** *Vrty.* flies in the Altai at an altitude of 2000 m. It shows a decided alpine character being of small size, the black markings being larger, more extensive and *magna.* darker in colour. The underside shows considerable green dusting. — **magna** *Ruehl* from Baikal is the antithesis *deckerti.* thereto in regard to size and only separable from normal specimens thereby. — **deckerti** *Vrty.* (7 e) is a larger race from the Apfel Mountains. It has a wide rose coloured collar. The colour of the ♂♂ is bright yellow green, of the ♀♀ white. The black markings are extended and heavy in both sexes. The ♂ resembles normal ♀♀ remarkably in the disposition of the markings. The ♀ has the apex and marginal band of the forewings very widely deep black and the marginal band continues over to the hindwings being interrupted by white triangular marks as far as the median nervure. Base of the wings is heavily powdered with black, on the hindwings also the proximal wing area right to the margin. On the undersides the ♂ is bright canary yellow, the ♀ ochre *viridis.* yellow. — **viridis** (*O. B.-H. i. l.*) (7 e). A new form from Hsining in the Nanchan Mountains, flying at an altitude of over 2000 m and belonging to the small alpine forms of this species. In the disposition of the markings it resembles *deckerti Vrty.*, but the ground colour is a light canary green. Base of hindwings is heavily powdered with black. The wide black marginal band is divided lengthwise by a wide, light canary green band, so that posteriorly there is only a narrow, black, dentate band left and in the outer margin a few lunules. A large elongated square black mark extends from the disc towards the apex. The silvery spot of the undersides reflects through yellowish on top. The underside of forewings is pale yellowish green with a yellow apex, of the hindwings impure greyish yellow with lighter, wide outer and inner margins. The race from Amur

chryseis *Vrty.* has reduced black markings and shows a distinct yellow as ground colour in both sexes. This colour is also predominant on the undersides but it is a brighter shade. *chryseis.*

C. phicomone *Esp.* (Vol. 1, plate 25 e). This species occurs in a variety of shades which have now all received nominations. — ab. **torneoensis** *Sheldon* from Lapland shows a uniformly distributed pale yellow on the fore and hindwings similar to the marginal spots of typical specimens. — ab. **flavida** *Osthelder* (= flava *Osth.*) are ♀♀ with pronounced yellow ground colour. — **saturata** *Aust.* from the Grisons has all wings deep sulphur yellow with dark dusting all over the wings, especially the hindwings, only the marginal band remaining light. Other markings are heavy. — Slightly less heavily marked than *saturata* is ab. **theia** *Schaw.* The ground colour is deep greyish yellow. — **melinoides** *Vrty.* from the Albula is similar to *tyche.* — ab. **fleischmanni** *Std.* is a fine aberration. The whole upperside is a beautiful uniform red and also the underside of the forewings shows the same shade of colour, which tones off into ochre yellow on the hindwings. — **obscura** *Ronnicke* resembles *elegans Schawerda* but without the pale marginal band of the forewings, only two small spots being perceptible at the apex: possibly it is identical with *geesti Neubrg.* — The ♂♂ from the high Pyrenees are disposed towards melanic aberrations, **oberthueri** *Vrty.* (7 f). Instead of being yellow the ground colour of all wings shows a more greenish yellow colouration, which is so thickly powdered with black that specimens occur which are almost black green. The markings are more or less sharply outlined. — ♂ ab. **phaedra** *Schaw.* is the counterpart of *geesti Neubrg.* It is coloured quite pale, light yellowish green and has besides a heavy black margin on both wings only rudiments of an inner black outline of a marginal band, which has turned to wide pale yellowish green like the ground colour. The nervules are free of black dusting. — **pallida** *Hoffm.* is also a very pale form. The marginal and submarginal bands of the forewings are only indicated by faint grey dusting, whilst on the hindwings the submarginal is quite absent, the middle spot being obscured by black grey dusting. — ab. **gynomorpha** *Vrty.* (= albidior *Ronnicke*, pallida *Sheldon*) are ♂♂ with female colouration and markings i. e. grey on white ground. — ab. **privata** *Ronnicke* are ♂♂ of normal colouring but without a trace of grey dusting in the disc of the forewings. — Culot names **blachieri** of which a ♂ was caught above St. Moritz with the markings of a *palaeno* ♂ on the upper and undersides which shows the normal colouring of *phicomone* and which was designated to this species, as *palaeno* is said not to occur in that locality. — In ab. **derosea** *Wagner* all the rose coloured markings and colourations of the upper and undersides are absent. The ground colour of all wings is canary green on the upper sides and on the underside the apex shows a greenish shade. — ♂ ab. **passa** *Vrty.* has very reduced markings. The black pigments are replaced by pale brown. — ab. **hyalides** *Vrty.* is a ♀ with very reduced marginal band of the forewings and the hindwings are uniformly white, similar to many ♀♀ of *hyale.* — ab. **distincta** *Ronnicke* has specially strikingly developed markings. The marginal and submarginal bands of the forewings are grey black, the submarginal band of the hindwings is boldly developed and the inner area of the wings is heavily dusted. — ab. **fasciata** *Ronnicke* are ♂♂ in which the pale margin of the forewings is not interrupted by the veins, so that a perfect traverse band extends from apex to the inner margin. — **connexa** *Sheldon* is similarly marked and coloured but the pale margin is traversed by black nervules. — **impunctata** *Vrty.* are very pale specimens in which the black discoidal spot of the forewings is missing. — **castaneapunctata** *Sheldon* has a chestnut brown discoidal spot on the underside of the hindwings which is without a white centre. — **flavopunctata** *Sheldon* are ♀♀ with orange coloured uppersides of the hindwings with pale sulphur coloured discoidal spot. — ab. **pupillata** *Rehf.* (= pupillata *Ronnicke*, unimaculata *Vorbr.*, unimaculata *Pionn.*). The median spot of the hindwings consists only of a fairly large pupil, which is more or less well developed also on the underside. — In the district of Dachstein **periphaes** *Fruhst.* (7 f) occurs as a race with yellow undersides to the wings instead of green. — The race described by Verity as *pulverulenta* from Oulx (Susa valley) is probably identical with *periphaes.* It is large with heavy markings on the upperside. The undersides are also yellow in both sexes and practically without black powdering. — **alpiumnitida** *Vrty.* from the maritime alps is smaller than *pulverulenta* with paler, more yellowish underside. The ♀♀ are of normal colouration. It can scarcely be maintained as a race. — *phicomone.* *torneoensis.* *flavida.* *saturata.* *thcia.* *melinoides.* *fleischmanni.* *obscura.* *oberthueri.* *phaedra.* *pallida.* *gynomorpha.* *privata.* *blachieri.* *derosea.* *connexa.* *impunctata.* *castaneapunctata* *flavopunctata.* *pupillata.* *periphaes.* *alpiumnitida.*

C. montium *Oberth.* (Vol. 1, plate 25 f). Evans describes a ♀ as **longto** from the thibetan frontier towards Bhutan: it has a yellowish white ground colour, somewhat paler than the name type but with heavier black dusting, reminding one thereby somewhat of *cocandica.* *montium.* *longto.*

C. alpherakyi *Stgr.* (Vol. 1, plate 25 e, f). The variability of this species seems to be small. — The ab. **leucophryna** *Alph.* from Sarafshan are ♀♀ with yellow upperside of all wings and with reduced markings. — *teucophryversa Vrty.* from the western Pamir are normal white ♀♀ and by no means a separate race. — **chitralensis** *Vrty.* flies in the high Mountains of Chitral at an altitude of 3600 m. The ♀♀ look extremely similar to those of *roshana Gr.-Grsh.* (Vol. 1, p. 64). The wing contour is more elongated and the black markings are more intensive and extended. The underside is green with a bluish tone, densely and coarsely darkly scaled. *alpherakyi.* *teucophryna.* *chitralensis.*

C. sifanica *Gr.-Grsh.* (Vol. 1, plate 25 f). In the collection of O. Bang-Haas from the Richthofen Mountains at an altitude of 2500 m there are ♂♂ specimens **herculeana** (*O. B.-H. i. l.*) (7 f) which are remarkable by their unusual size as compared with normal specimens. The upper side of the forewings is yellowish white, that of the hindwings more yellowish green. The black markings are heavier and deeper black than in typical *sifanica.* *herculeana.*

specimens: all veins, especially those of the hindwings are scaled and surrounded by black. Base of wings heavily powdered with black. Underside of hindwings looks dark yellow green owing to the heavy black scaling. Broad yellow scaled streaks appear internervally in the wide and pale margin of the wings.

nebulosa. nivcata. **C. nebulosa** *Oberth.* (Vol. 1, plate 25 f). Verity describes a form **niveata** from the Kuku-Nor district. These are very white ♀♀ which seem to form a transition to *sifanica*, especially the forewings are very similar to this species. Based on ample material O. Bang-Haas declares that this form constitutes a subspecies.

christophi. novosiltzovi. bang-haasi. **C. christophi** *Gr.-Grsh.* (Vol. 1, plate 25 g) ab. **novosiltzovi** *Avin.* (= simplicissima *Avin.*) is a ♀ from Ferghana in which the reddish streak on the forewings is entirely absent. — A further variety of the ♂ is **bang-haasi** *form. nov.* from the collection of O. Bang-Haas. The hindwings are richly scaled with brown. A wide streak extends from the base over the disc to nearly the edge of the wings which is somewhat paler than the brown of the forewings.

ladakensis. flava. **C. ladakensis** *Fldr.* (Vol. 1, p. 65) (7 f). **flava** *Rit.* emanates from Laptel, Kumaon and Thibet: they are ♂♂ with yellow uppersides and the forewings have a yellow disc on the underside.

hyale. vernalis. supervacanea. sieversoides. albescens. fulvocoma. viridis. ochrocretacea. melanina. **C. hyale** *L.* (Vol. 1, plate 25 g). Verity names the spring generation **vernalis**, they are smaller on the average and generally paler in colour, being not so richly coloured as the summer form. — The third generation is called **supervacanea** *Krul.*: it is mostly paler than the name type and has a wider black margin: the forewings show heavy black dusting on the upperside. The underside is greenish. It was observed in the provinces of Wiatka and Kasan. — Varieties of the ♂ are: **sieversoides** *Vrty.* almost unicoloured, canary yellow. Only a small inner band is weakly developed at the apex, the median spot is heavy and deep black (whether = *apicata Tutt*?). — **albescens** *Metschl.* are very pale ♂♂, the ground colour of which scarcely differentiates from that of the ♀♀. — **fulvocoma** *Krul.* are ♂♂ from Wiatka with pale golden yellow uppersides. — ab. **viridis** *Mellaerts* have the ground colour of all wings greenish instead of yellow. — **ochrocretacea** *Fritsch* have chalky ochre coloured ground colour with dull black apical mark. — **melanina**-♂ *Vrty.* (= melaina *Mueck*) are very adumbrated and of dusky appearance. The marginal band is very wide and clearly outlined without any pale spots and stretches to the inner margin. The discoidal spot of the hindwings is quite black, all the veins are scaled with black. — *gartneri Skala* originally described as a form of *myrmidone* is synonymous with *atava Reutti.* —

flavoapicalis. canarina. argentea. pseudohelice. argyphea. rufa. mellaertsi. minor. pygmaea. gloriciana. elongata. bipupillata. flavoradiata. galvagni. brevis. brabantica. striata. flavofasciata. flavofasciata-crassipunctata. immaculata. omnimarginata. opposita. demarginata. myrmhyale. uber. ♀ aberrations are: **flavoapicalis** *Metschl* with apex heavily dusted with yellow. — ab. **canarina** *Std.* is an extreme *inversa* form with buttercup yellow ground colour. — **argentea** *Fritsch* is pale silvery white on the forewings, hindwings similarly coloured but with grey dusting. The base of the wings lustrous greyish blue. Underside of the wings similarly coloured with a bold streak from the base to the median spot. — **pseudohelice** *Metschl* is a ♀ of yellowish white ground colour, the hindwings covered with greyish black except for the anal fold. In appearance it reminds one of *edusa helice.* — ab. **argyphea** *Lowe* has the underside of the hindwings completely grey white, also the apex of the forewings instead of dark yellow. — **rufa** *Vrty.* shows the underside of all wings with reddish tinge. — **mellaertsi** *Lamb.* are specimens smaller than normal, of a nice lemon yellow ground colour, both on upper and undersides and the hindwings on the upperside have an orange red spot. — ab. **minor** *Vorbr.* and **pygmaea** *Lamb.* is a dwarf form not larger than a *Lycaena.* In ab. **gloriciana** *Fritsch* the black median spot of the forewings is enormously large extending in cuneiform shape towards the apex of the wings: the orange spot of the hindwings is also abnormally enlarged. — **elongata** *Vorbr.* has an enlarged median spot of the forewings and besides it is conical anteriorly and posteriorly. — **bipupillata** *Cab.* has the spots of the hindwings double. — **flavoradiata** *Osth.* shows the black margin of the forewings completely traversed by the yellow scaled veins. — In **galvagni** *Std.* a brown spot occurs through the mixing of yellow scales with the black in the apex, but without creating sharply outlined yellow spots. — In ab. **brevis** *Crombrugghe* the black marginal band of the forewings ceases already at the first branch of the media. — ♀ ab. **brabantica** *Stdr.* has a wide yellowish-white band in the black band of the forewings, which is interrupted shortly below the costa. — In **striata**-♂ *Zusanek* the yellow submarginal spots of the forewings are so increased in size from the apex to the middle of the wings that thereby the black of the submarginal band is almost completely extinguished and the veins of the forewings are dusted with black proximally. — In **flavofasciata** *Lamb.* the yellow submarginal spots merge forming a continuous band in the black marginal band of the wings from the costa to the inner margin. — In **flavofasciata-crassipunctata** *le Charles* the yellow band continues over into the hindwings and the discoidal spot of the forewings is excessively enlarged. — ab. **immaculata** *Der.* (= inornatura *Der.*) differs from *obsoleta Tutt* (Vol. 1, p. 65) in that all the dark markings have disappeared. — **omnimarginata** *Hafn.* (= schönfeldi *Metzn.*) shows unusually wide marginal bands on the upperside of the hindwings. — ab. **opposita** *Zusanek* has on the underside of the forewings a row of soft brown spots on the extremities of the veins. — In **demarginata** *Nitzsche* all the antemarginal spots on the underside of the hindwings are absent. — hybr. **myrmhyale** *Meeke* is said to be a hybrid between *hyale* × *myrmidone.* — The following local races and varieties have still to be mentioned: **uber** *Vrty.* a very large form of 45 mm expanse, from the maritime alps: it is very pale with wide black bands reminding thereby of *alta Stgr.* (Vol. 1, pl. 26 a). For the very fine and large summer generation

of southern Europe Verity chooses as typical representative the *hyale* flying in Tuscany and names it **calida.** — Further large brightly coloured ♂♂ and for a great part also similarly coloured ♀♀ are shown by the race **australis** *Vrty.* from Andalusia. The black markings are often reduced. — Krulikowski assembles the races of southern Russia and middle Asia under subsp. *meridionalis*. The name has no justification as no single one of these races is recognisably described. — subsp. **afghana** *O. B.-H.* from the Pagman mountains are small and dainty butterflies of deep yellow colour which approach in other respects closely to *sareptensis Stgr.* (Vol. 1, pl. 25 g). — ♂-ab. **eratoides** *Strd.* from Naryn in Turkestan remind one on the upperside of *erate* and on the underside of *hyale*. — subsp. **glicia** *Fruhst.* (Vol. 9, plate 72 f) flies in Kashmir. It is striking by the conjoined relatively large, yellow subapical spots of the forewings and in its general appearance reminds one of *sareptensis Stgr.* from south Russia. — subsp. **palidis** *Fruhst.* from the Vilui district of east Siberia has ♂♂ with cream coloured upperside and ♀♀ with pale yellowish-white, which are relatively very small. The outer margin of all wings inclines to a light grey colouration and the discal spot of the hindwings is also pale. The black markings of the underside are meagre. — subsp. **naukratis** *Fruhst.* from Siberia approaches *alta Stgr.* (Vol. 1, plate 26 a). It has a delicate yellow ground colour and is in regard to size midway between the middle european and japanese ♂♂. — **irkutskana** *Std.* are ♂♂ with an expanse of only 28—30 mm, they are of pale yellowish green colouration similar to *heliceides*. The apical mark of the forewings is uniformly coloured grey and much reduced in size, the discal spot is very small. The hindwings are without a black margin on the upperside and the median spot is absent. A dark cuneiform mark stretches from the base to the outer margin. — **altaica** *Vrty.* is also remarkable by its small size and less rounded wing contour. The outer margin of the forewings is almost straight and the apex is very acute. The ♂ is a bright yellow colour, the ♀ white with scarcely a tinge of yellowish. — The race **cachgarica** *Vrty.* from Kashgar also belongs to the races of small size, it has shorter and wider wings. The ♂♂ have a bright yellow colouration and large but rather diffuse markings. — **amdensis** *Vrty.* from Amdo is larger than the previous race and forms a transition to *poliographus Motsch.* — Here we may mention a small ♂ of scarcely half the size of the asiatic specimens from Ichang, China, **nana** *Vrty.* — In the east of China *poliographus Motsch.* flies in a smaller form which Verity has separated as **chinensis.** — **immanis** *Vrty.* emanates from Siao-ln and Omei-shan in west China, it is a very large form of *poliographus*. The wing expanse on an average is 60 mm. The ♀ has the same colouring as the yellow ♂. Both sexes are yellow on the underside without black powdering. — **pyxagathus** *Fruhst.* (Vol. 9, p. 164) from the high mountains of western China is also a giant form of bright lemon-yellow colour. — Varieties of *poliographus Motsch.* are as follows: ♀-ab. **leucoides** *Strd.* of pale whitish-yellow ground colour on the upperside and similarly on the underside except for the dark apex. — f. **murina** *Fruhst.* from Nagasaki has a mouse-grey apical mark instead of black. — **napata** *Fruhst.* from the northern-most part of Japan has very fine, almost punctiform, yellow subapical spots on the forewings. Its size is small in comparison to the other large japanese forms of *hyale*. We still have to mention **croceocoma** *Krul.* (*nom. nov.* for *chrysocoma Gr.-Grsh.*, Vol. 1, p. 65).

calida. australis. afghana. eratoides. glicia. palidis. naukratis. irkutskana. altaica. cachgarica. amdensis. nana. chinensis. immanis. pyxagathus. leucoides. murina. napata. croceocoma.

C. erate *Esp.* (Vol. 1, plate 26 b). Varieties which occur more or less frequently in all localities where this species is found are: ab. **conjuncta** *Vrty.*, where the discoidal spot is joined with the margin of the wings by a black streak. — ab. **diffusa** *Vrty.* shows the submarginal band extinct except for a few traces in the apex of the forewings being displaced by reddish-yellow scales, especially in the forewings. — White ♀♀ from south Russia in which the white ground colour of the forewings is faintly interspersed with orange-red scales and the spots of the hindwings are coloured orange, are called **chrysopallida** *Vrty.* They are fairly heavily powdered with black at the base of the wings. — **androconiata** *Jach.* has a „mealy spot" like *edusoides Krul.* (= helichta *Alph.*) at the base of the hindwings. It flies in the deserts of south-east Russia, in the Caucasus as far as Central Asia. — ab. **benesignata** *Shelj.* (*nom. nov.* for *edusoides Vrty.* nec *Krul*) are ♂♂ which differ from *edusa* by the sulphur-yellow ground colour of the wings and sometimes by the absence of the scent scales. They are very striking. South Russia. — ♂♂ which appear similar to *chrysotheme*. especially through the diffuse orange coloured shade of the upperside of the wings are called **chrysothemoides** *Vrty.* — A mixture of *chrysodona* and *hyaleoides* from Syrdarja is called **chrysohyaleoides** *Vrty.* — The largest known form of *erate* comes from Aksu in Turkestan, it is a giant race which Verity has named **gigantea.** — ♂♂ belonging to a 2nd and 3rd generation have been named by Avinoff **maculigena** when the yellow spots in the black submarginal band are quite pale. They occur everywhere but especially frequently in the Himalayas.

erate. conjuncta. diffusa. chrysopallida. androconiata. benesignata. chrysothemoides. chrysohyaleoides. gigantea. maculigena.

C. erschoffi *Alph.* (Vol. 1, plate 26 c). ♀♀ which have a beautiful orange-red colouration of all the wings are called by Verity **aurantiaca.** — If the ground colour is changed to lemon-yellow and the disc is coloured reddish-golden, then they are named **aurantiacoflava** *Vrty.* The hindwings are of the same colour but liberally interspersed with greenish scales stretching from the base to the margin of the wings. — ♂ ab. **pseudohyale** *Vrty.* gives one the impression of being a *hyale* sort through the yellow colour of the wings.

erschoffi. aurantiaca. aurantiacoflava. pseudohyale.

C. nina *Fawc.* It must remain a matter for later research to decide whether a separation of *nina* and *berylla Fawc.* (Vol. 1, plate 26 c) is justified. Riley described a new subsp. **hingstoni** from Thibet on the boundary of the palaearctic region. This is a form that lies between *nina* and *ladakensis*. The markings of the wings are the same as those of *nina*. only yellow submarginal spots of all wings are somewhat smaller in

nina. hingstoni.

size. The ground colour of all wings reminds one of *ladakensis*. The inner part of the disc has the same orange-red shade as the cell spots in *nina-nina*. The underside is of grey-green, not bright green, colouring as in *nina*, and the internerval yellow marginal spots therefore stand out more distinctly and remind one more of *ladakensis* (7 f).

staudingeri. **C. staudingeri** *Alph.* (Vol. 1, plate 26 d). A variable species of which we have to expect still many new
kuekenthalia. denominations when more ample material is available. — f. **kuekenthalia** *Strd.* from Thian-Shan has the upperside of all wings a fiery orange. The apex of the forewings is sulphur yellow with dark dusting, the costa sulphur yellow, the posterior part of the outer margin dull black with scattered yellow scales, the macula considerably reduced. The outer margin of the hindwings sulphur yellow, the bands which otherwise are black are dull black and dentate. — A very melanic form from the collection of Püngeler now in the Berlin Museum
melanitica. was brought from Naryn in Turkestan: **melanitica** *form. nov.* It shows the upperside of all wings uniformly adumbrated brownish-black and the whole surface irregularly spattered with red-golden scales. The yellow submarginal spots on the forewings are scarcely perceptibly indicated, on the hindwings even these indistinct traces are absent, but on the other hand the inner margin shows a few scattered golden-yellow scales. The underside is olive-green, the disc of the forewings with a slight golden-red dusting. The hindwings powdered yellowish. All fringes are rosy red, the spots on the hindwings red with silvery white centres. — The following
verityi. varieties occur in subsp. *pamira*: ♂-f. **verityi** *Avin.* has the ground colour of the wings a warm yellow instead
emivittata. of green and all the orange-red: from Transalai. — In **emivittata** ♂ *Vrty.* from Aksu the black marginal band is very narrow and on the inner margin shows internervally pale lemon-yellow spots which extend along the
flavotimbata. yellow scaled veins as faint yellow streaks towards the base. — A beautiful ♂ from the same locality is **flavotimbata** *Vrty.* which is striking by its considerably brighter colours. The ground colour is a bright orange-yellow and the marginal band is wide, pale lemon-yellow with sharp triangular grey spots on the extremities of the veins, which are united at the apex dentate posteriorly. — Verity named a race from the Alexander
alexandrina. mountains **alexandrina** which is very close to *pamira*. The ♂♂ are distinguished by a sharply outlined very dark submarginal band. All the veins are finely surrounded with black. On the underside there is a row of very distinct black antemarginal spots. The wing contour is wider than in *pamira*, and this is the only distinctive difference in the ♀♀.

eogene. **C. eogene** *Fldr.* (Vol. 1, plate 26 d). A variety of clay coloured yellow ground colour instead of purple-
languidus. red is **languidus** *O. B.-H.* — A separate race occurs around Aksu in Turkestan: **aphrodite** *Vrty.* The pro-thorax
aphrodite. is a beautiful rose coloured red. The ♂ is a bright orange-red on the upperside of wings and ochre-yellow on the underside. The antemarginal spots are more distinct than in *arida Alph.* and the ♀ has the underside a
flava. nice ochre-yellow. As varieties of this race we have ♀-ab. **flava** *Vrty.* with yellow ground colour of all wings:
aurantiacoalba. whilst ♀-ab. **aurantiacoalba** *Vrty.* (7 g) has a definite white ground colour to all wings and the antemarginal spots are similarly coloured. The disc of the forewings and the base of the hindwings show a diffuse pale orange.
aurantiacoflava. — **aurantiacoflava** *Vrty.* is distinguished by the bright yellow ground colour and similarly coloured marginal
viridis. spots, and besides has a few orange-red streaks in the disc of both wings. — **viridis** *Vrty.* is placed with subsp. *arida Alph.*, a counterpart to *cana Gr.-Grsh.* The whole upperside of the wings is almost green-black. The forewings are somewhat paler by a few oblique greenish-yellow longitudinal stripes in the disc and through similarly coloured spots in the marginal bands of both wings. The underside shows considerably paler colouration than the upperside. The disc of the forewings is partly white, the hindwings orange-yellow with pale
eogenei. yellow marginal spots. Thibet. — A smaller form of *arida* occurs around Aksu in Turkestan: **eogenei** *Vrty.* The underside of the ♂ is bright yellow in which a little ochre seems to be mixed and powdered over liberally with green scales. The ♀ is orange-red with a slight sheen. The black markings are very enlarged and almost
alba. cover the whole surface of the hindwings. — ♀-ab. **alba** *Vrty.* from Kashmir belongs to *stoliczkana* and has the whole upperside white with ample dark markings. — Of *elissa Gr.-Grsh.* some aberrations have also been named.
brunneoviridis. In ab. **brunneoviridis** *Vrty.* green replaces the otherwise orange ground colour and is thickly covered with brown scales. The butterflies have thereby a dull diffuse appearance which is slightly brighter through the whitish-
subrubicunda. yellow discoidal spot. The underside is heavily powdered with greenish-brown scales. — ab. **subrubicunda** *Gr.-Grsh.* is a transition between *elissa* and *arida*. — ab. **flavescens** *Rühl.* is a rare form, rather more yellowish
flavescens. than bright orange-red, but by no means identical with *elissa Gr.-Grsh.* — A new race **francesca** *Watkins* occurs
francesca. at Skoro-la in North Kashmir. The ♀♀ are of very variable colouration from whitish to deep orange-red. The spot markings of the submarginal band are almost extinct. The hindwings occur almost completely black in some specimens with the exception of the middle spot and the fringes. The ♂♂ are less variable they show
oshanini. varying stages only in the intensity of the red colouring of the ground colour. — ab. **oshanini** *Avin.* from Transalai has the orange coloured scales replaced by green, somewhat of the colour of *cocandica*. The discoidal spot of
leechi. the hindwings is yellow-green. — **leechi** *Gr.-Grsh.* emanates from the Sasser Pass in Ladak and is therefore palaearctic. It differs from *arida* by its smaller expanse and narrower wing contour. According to O. Bang-Haas *arida* has pointed and not rounded wings.

thisoa. **C. thisoa** *Mén.* (Vol. 1, plate 26 e). The very large ♀♀ flying in the neighbourhood of Issyk-Kul have wide bands of the deepest black without any traces of submarginal spots. Also on the green underside the spots

have disappeared: **immaculata** *Vrty.* — **denticulata** *Vrty.* always has dentate, deep black marginal bands and all the other markings both of ♂ and ♀ are large and striking: from Korla and Ararat. — Verity received specimens of the race **urumtsiensis** from Urumtsi in the Thian-Shan. They are larger than normal with brighter colours and heavier markings. The ♀♀ have the discoidal spot united with the submarginal band by a particularly heavy black streak. *immaculata. denticulata. urumtsiensis.*

C. viluiensis *Mén.* (Vol. 1, plate 26 f). A variety of this rare species **sulphureaflava** *Shelj.* comes from the Dzhugdzhuz Mountains. The upperside is sulphur yellow with greenish subapical marks. The underside of the forewings yellowish green and inner margin white. — ab. **alba** *Vrty.* is an albino ♀. The orange coloured areas of normal specimens are white with a tinge of bluish green. The marginal bands show brownish black colouration with sparse and small white spots. On the other hand specimens have also been found with these spots so enlarged that they form an almost continuous pale band. Base and inner area of wings is grey dusted with greenish white scales. The median spot of the hindwings is white. *viluiensis. sulphureaflava. alba.*

C. tunkuna *Aust.* from Tunkun in the Sajan district resembles *viluiensis* more closely than *hyperborea* and can certainly be taken to be a subspecies of one of these species. The forewings of the ♂ are sulphur yellow and show a very wide, black marginal band which is fairly straight on the inner side. On the costa of the hindwings there is a longish "mealy spot" tinged with reddish. The marginal band is wide and has a large, clearly outlined dentation jutting out in the middle into the area of the wing. The general impression is a dusky one through the dark dusting and especially through a streak that extends from the base to the lower outer marginal angle. The underside shows no especially characteristic differences from *viluiensis*. *tunkuna.*

C. lada *Gr.-Grsh.* (7 g) (Vol. 1, p. 67). Only one variety has become known as **oreas** *Gr.-Grsh.* This is a white form of the ♀ with faint orange tinge. *lada. oreas.*

C. hyperborea *Gr.-Grsh.* (7 g) (Vol. 1, p. 67). Verity describes a form as **viluiensoides** from the Province of Jakutsk, which is very close to *viluiensis*, so that one feels almost inclined to doubt whether same should be ascribed to *hyperborea*. *hyperborea. viluiensoides.*

C. sulitelma *Auriv.* (Vol. 1, plate 26 f). A number of varieties of this species that occurs in profusion in many of its localities has been denominated. Most of these variations are of such immaterial nature that they scarcely justify nomination. ♀ ab. **citrina** *Stgr.* has the upperside of the wings a nice lemon yellow and looks very like *ladakensis* (7 f). Probably identical with it is *joera Rosa*, which has a canary yellow upperside. — Specimens that have the base of the forewings particularly darkly adumbrated are called **obscura** *Sheld.* — ab. **holmbomi** *O. B.-H.* are ♂♂ of pale green colour; only the median spot of the upperside of the hindwings is coloured orange and the fringes are a bright rose. The undersides resemble normal specimens, except for the inner area of the forewings, which is also green instead of orange. Lule (Lappish March). — **rosea** *Sheld.* are ♂♂ characterised by a rosy hue on the uppersides of all wings. — ♂-ab. **suppressa** *Sheld.* have black marginal bands without traverse white veins. — Sheldon names **nigropunctata** ♀♀ specimens which have no orange centre in the discoidal black spot of the forewings and **distincta** *Sheld.* ♀♀ which have the yellow submarginal spots particularly large and clearly outlined. — **ochreasuffusa** *Sheld.* are specimens with the lower four submarginal spots of the hindwings merged in the ochre coloured ground colour so that they are indistinct. *sulitelma. citrina. obscura. holmbomi. rosea. suppressa. nigropunctata. distincta. ochreasuffusa.*

C. chrysotheme *Esp.* (Vol. 1, plate 26 f). The 1st generation is smaller with less lively colours on the upperside. On the underside the green colouring is more intensive and extensive: Skala has named it **minor.** — Verity's proposal to call the summer generation *aestiva* is unnecessary, as *chrysotheme Esp.* is sufficiently warranted. — The quite white form of the ♀ is called **alba** *Vrty.* (= alba *Bayer*, alba *Bienert. nom. nud.*). — ♀-ab. **standfussi** *Gr.-Grsh.* has a reddish hue to the wings, the disc of the forewings is orange, the base of the wings dusted with greyish and the antemarginal spots white. The hindwings are grey with faint reddish tinge, base and inner margin light sea-green, outer margin greenish yellow. The underside shows a reddish white colour. — *flavescens Vrty.* is synonymous with *hurleyi Aign.*: *malmyzhensis Krul.* is the same as *schugorovi Krul.* — **albicans** *Skala* are ♂♂ with yellow ground colour with an inclination to green, somewhat as in *rhamni*-♀. They show little dark powdering and have a dull orange spot in the middle of the hindwings. This seems to be a partially albinotic form. — ab. **praeclara** *Sterzl.* shows a uniform deep orange colouration on all wings. — **striata** *Pieszczek* inclines to adumbration in both sexes: black streaks extend into the area of the wings from the marginal band. — In ♀ ab. **obscura** *Skala* the dark marginal band on the forewings extends and inclines to suppress the yellow antemarginal spots: however on the hindwings the pale marginal and antemarginal spots stand out more boldly. — **hecloides** *Vrty.* is a form of the ♂ in which the inner edge of the marginal band appears diffuse in an apparent endeavour to form numerous yellow spots, such as is frequently the case in *hecla*. — In ♀-ab. **flavoradiata** *Pieszczek* the marginal band is strikingly traversed by yellow veins. — Around Poltava in S. Russia a form of the ♀ flies that is like *schugorovi Krul.*, but which is lighter and paler orange. The forewings have cuneiform lower yellow antemarginal spots with the points outwards. The spots of the hindwings are pale yellow in **acuminata** *Vrty.* — In ab. **lutea** *Skala* the yellow submarginal spots are increased *chrysotheme. minor. alba. standfussi. albicans. praeclara. striata. obscura. hecloides. flavoradiata. acuminata. lutea.*

in size and the dark markings are correspondingly suppressed: in the hindwings they often disappear completely. — Specimens with a pupilled discoidal spot of the forewings are **pupillata** *Pieszczek*. — ab. **pallida** *Skala* is where the middle spot of the forewings is absent. — In **demarginata** *Pieszczek* the red brown spots on the underside of the wings are missing. — Stichel describes subsp. **caspicus** from Resht on the north coast of Persia. The ground colour of all the wings is a bright sulphur yellow, sometimes with an inclination towards reddish orange starting from the base and dissolving into the yellow of the wing colour. — Verity was misled by a false label when he established the race of *graeca*. It was a specimen of a ♂ from Iowa in N. America, presumably *eurytheme Bsd.* the ♀ belonging thereto originated from a locality in S. Europe without further details.

pupillata. *pallida.* *demarginata.* *caspicus.*

C. fieldi *Mén.* (Vol. 1, plate 26 g). Verity received specimens from central China and Thibet on which he based his race of **chinensis.** This is larger than the type form — 48 to 60 mm expanse. The discoidal spot of the hindwings is remarkably enlargened and the colouration of the ♂♂ is much brighter. The ♀♀ show a wider black marginal band with very small yellow antemarginal spots.

fieldi. *chinensis.*

C. croceus *Fourcr.* (Vol. 1, plate 26 g). Verity has named the spring generation occurring in the palaearctic regions as *vernalis* and characterises it as being smaller, paler and often with narrower marginal band which is traversed by yellow veins. These are the same characteristics with which Failla described his **minor.** This name must be retained for the spring form and synonymous with it are *mediterranea Std.* and *tergestina Std.*, whilst ♀-ab. **ridicula** *Alph.* has the same pale colour as *helice* and is only half its size and may therefore be separated. A ♀ of the spring form from South France which Verity illustrated (on plate 46, Fig. 35 Rhop. Pal.) but did not honour with a separate name, has been christened **hyerensis** by Strand. It is of brilliant orange colour with more extensive pale markings. — ab. **lacrimans** *Std.* is a *minor* form with very lustrous median spot of the hindwings, on the underside it is extended lacriform and glistens like mother-of-pearl. — Dwarf forms with normal markings bear the name of *minor Vrty.* — In Liguria more rarely a 3rd generation occurs from the end of October to November, which is exceptional, it is similar to the spring generation and has been named **autumnalis** *Rocci.* In freshly emerged specimens one often observes a bluish or violet lustre which disappears more or less rapidly. It has given an opportunity to name such specimens. The oldest name is **purpurascens** *Cock.* (= iridescens *Costantini*, micans *Fritsch*, micans *Konas*, rutilans *Manon*). — ab. **flammea** *Kitt* has brighter, more fiery orange ground colour of the forewings. — **crassesignata** *Kitt* also has lively orange coloured forewings. The marginal band is especially deep black with lively contrasting light spots. The median spot of the forewings is large and striking on account of its contrasting bright colouration. — ab. **helena** *H.-Schaeff.* is a ♂ with deep orange yellow ground colour and very narrow black margin. The apex of the forewings

croceus. *minor.* *ridicula.* *hycrensis.* *lacrimans.* *autumnalis.* *purpurascens.* *flammea.* *crassesignata.* *helena.*

is traversed by yellow veins. — ab. **flavida** *Ksienschopolski* has flame coloured ground colour of the wings. — ♀-ab. **suffusa** *Tutt* has the base of the wings very diffusedly dusted with orange coloured ground colour. — **melanitica** *Vrty.* is a dusky melanic aberration. The black marking covers nearly the whole forewing, only the disc and the region of the inner margin still retain the orange yellow colour. — **aegra** *Vrty.* has the underside of the forewings adumbrated with smoky grey and spotted. — ab. **dawsoni** *Krueger* has three deep black fan-shaped streaks on the forewings which stretch from the base almost to the discoidal nervure of the middle cell, being sharply separated from one another and rounded off at the end. — In ab. **nigrofasciata** *Vrty.* (= nigrofasciata *Maurer*, nigrofasciata *Manon*) a wide black stripe stretches from the median spot of the forewings to the marginal band. — **cremonae** *Vrty.* forms a transition to the paler colour varieties, the ground colour is yellow, somewhat like *palaeno-europomene*, but with a slightly greenish tinge, especially on the hindwings. — ab. **schirberi** *Oberth.* is an albinotic ♀ of golden yellow ground colour. The otherwise black marginal band is silvery grey with delicate yellow spots. The discoidal spot of the forewings is striking. The underside is not so pale, but still it is very pale yellow with an inclination to green. — ♂-ab. **cinerascens** *Rowland-Brown* also inclines to albinism. The black markings are bleached to a delicate grey. — ab. **passa** *Vrty.* has a very pale ground colour and the marginal band pale reddish brown. — ab. **albissima** *Ragusa* is a quite pale yellow white ♀ with a white, not orange coloured median spot on the hindwings; it might be identical with *helicina*. Manon named pale lemon yellow specimens as *pallida* and these can scarcely be differentiated from the former variety. The same applies to ab. *subpallida Manon* (= oberthueri *Pionn.*, henriettae *Pionn.*). All these denominations merely refer to colour shades, which can scarcely be differentiated in descriptions and they show most clearly to what this mania for denominations leads. We have mentioned these forms solely for reasons of completeness and trust they may be taken as a warning example of how denominating should n o t be done. — The ab. **adoratrix** *Std.* with wide black marginal band having no spots on the forewings belongs to *helice* with which in other respects it tallies. — **nigra** *Aigner* appears like *adoratrix*, but it has adumbrated hindwings. — **pallida** *Tutt* is an extreme white form without trace of yellow or cream with a slight bluish, but not greenish tone. — ♂-ab. **chrysothememformis** *Vrty.* of the 1st generation looks like *chrysotheme Esp.* but with a bunch of androconia. — ♂-ab.

flavida. *suffusa.* *melanitica.* *aegra.* *dawsoni.* *nigrofasciata.* *cremonae.* *schirberi.* *cinerascens.* *passa.* *albissima.* *adoratrix.* *nigra.* *pallida.* *chrysothememformis.*

helicoides *Sagarra* has the appearance of a small *helice*-♀. — According to Verity a separate race of *croceus* is said to occur in the desert stretches in Algeria, it is very small and very pale, **deserticola**, and the ♂♂ are almost completely yellow. This is not a fact however: *deserticola* occurs in other hot and dry localities of Algeria and other similar districts of the Mediterranean among *croceus*, so that in the best case, this can only be a variety. — ab. **pupillata** *Rev.* has an orange yellow pupil to the median spot of the forewings on the upper and undersides, being distincter on the upperside. — A similar variation from the type is shown by **xanthostigma** *Std.* where the median spot has a white centre. — **circumiens** *Vrty.* has a small ring spot in place of the median spot. — Variations of the median spot of the hindwing are: **niediecki** *Strd.* (= unimaculata *Kitt*, unimaculata *Pionneau*) with only one spot: the small upper one being extinct. — ab. **bimaculata** *Vrty.* has a double median spot. — ab. **deannulata** *Rocci* has the small silvery spot absent, which otherwise is present over the median spot on the underside of the hindwings. — ab. **somnambula** *Bryk* has a pale, whitish median spot. This aberration is more frequent in *helice* than in *croceus*. — ab. **geisleri** *Bryk* has an exaggeratedly large median spot of the hindwing on the underside shaped like an "8" and the surrounds of same are extended towards the margin like tear-drops. — ♀-ab. **seriata** *Rocci* has distinct small rusty red spots on the underside of the hindwing, also in the second generation. The first and third generations always have these spots and this is again one of the denominations of this author which can be criticised. — **decurtata** *Kitt* has peculiarly narrow and shortened marginal band on all wings. — ab. **retracta** has an elongated black marginal band of the forewings which extends towards the base to over the middle of the inner margin, whilst in normal specimens it ends in a short hook at the inner margin. — In ♀-ab. **saturatior** *Kitt* the spots of the marginal band show the same colour as the ground colour of the wings. — ab. **megei** *Oberth.* has the marginal spots a light canary yellow, whilst the ground colour of the wings is bright orange. — **fulvosignata** *Rocci* has the same ground colour of the wings but yellow brown marginal spots. — In ab. **brunnea** *Tutt* the wings are deep orange and the band is brown instead of black. — The ab. *subobsoleta Rocci* is exactly the same as typical *croceus* from mid-Europe. — **myrmidonides** *Std.* are ♀♀ with well developed and increased marginal spots in the wide black marginal band of all wings. In the margin of the forewings there are 8 fine spots as in typical *myrmidone*, which are lighter in colour than the other yellow of the wing surface. *semidivisa Rocci* is identical with this form. In ♀-ab. **divisa** *Vrty.* the marginal band is quite separated. The marginal spots form a single continuous wide light band, which occurs more or less at the expense of the black marginal band. — For *poveli Aign.* one must substitute the older name **pseudomas** *Cock.* This aberration originally observed in ♀ forms, whilst now Kitt has observed ♂♂ which vary precisely in the same way, that is to say they have a pure black marginal band without any trace of yellow spots and he names them *enervata*. The name should be rejected. — **obsoleta** *Tutt* only differs from *pseudomas Cock.* by the hindwings which are not adumbrated. — ab. **nigrifasciata** *Manon.* has very reduced marginal spots especially on the hindwings, where they are almost extinct and scarcely perceptible. — ♀-ab. **semiobsoleta** *Rocci* has no light spots in the marginal band of the hindwings: ♂-ab. **atrifasciata** *Rocci* has in contrast to *faillae Stef.* no yellow veins. All these denominations are only given for the purposes of completeness and for the same reason we mention still *radiata Manon*, a ♂ of *helice* with the same radiating markings as *striata Geest.* — ab. **punctifera** *Braun* is a ♀ also belonging to *helice* has three black dots in front of the submarginal band of the hindwings.

heticoides. *deserticola.* *pupillata.* *xanthostigma.* *circumiens.* *niediecki.* *bimaculata.* *deannulata.* *somnambula.* *geisleri.* *seriata.* *decurtata.* *retracta.* *saturatior.* *megei.* *fulvosignata.* *brunnea.* *myrmidonides.* *divisa.* *pseudomas.* *obsoleta.* *nigrifasciata.* *semiobsoleta.* *atrifasciata.* *punctifera.*

C. myrmidone *Esp.* (Vol. 1, plate 27 a). The spring form which is distinctly smaller than the summer form is called **verna** *Vrty.* — Only a few subspecies of *myrmidone* have been named, but there are innumerable denominations for shade and marking aberrations, in regard to the justification of same it is best not to lose many words. — ab. **edusoides** *Skala* (= pallida *Zelezny*) are ♂♂ of the colour of typical *croceus* ♂♂. — **edusaeformis** *Klem.* are similarly coloured ♂♂ but with yellow scaled veins in the black marginal band, which is also specially dentate inwards on the hindwings. — **amicans** *Pieszczek* are specimens without iridescence and with orange ground colouration in both sexes, having apex and marginal band broader and blacker. The ♀ has 5 to 8 yellow submarginal spots. — In ab. **rubroflammea** *Zelezny* both sexes have the upper sides of all wings a uniform orange red ground colour. — **antihygiaea** *Meyer* are large ♀♀ with uppersides coloured a uniform fiery orange red without any black mark at the base of the wings, such as is the rule in normal specimens. The black marginal band of the forewings is reduced and changed to brown. The yellow spots in the apex are scarcely perceptible, the lower ones have disappeared. In the hindwings the marginal band is still more compressed by the fiery red ground colour and it is indentated there where otherwise the pale yellow spots are situated. The median spot has almost merged with the ground colour and is only faintly perceptible. — **lutea** *Zelezny* is a ♀ with pale orange yellow upper side. The yellow spots are enlarged in the forewings and in the hindwings they are so well developed and increased that only a few black streaks are left of the marginal band at the border. — **mediocarnea** *Metschl.* are specimens, where towards the black marginal band there is a flesh coloured patch in the disc of the forewings. — In ab. **bahri** *Skala* both sexes show a bright lemon yellow on the upperside of the wings, without other variation from normal types. — ♂-ab. **schwabi** *Pieszczek* is a larger, pronounced mountain form. Its ground colour is lemon yellow, similar to the yellow of typical *palaeno* ♂♂ but with a slightly reddish hue. On the underside the median spot is divided, the lower part having a white pupil. The black marginal band is narrower, sharply denate inwards in the hindwings and with a

myrmidone. *verna.* *edusoides.* *edusaeformis.* *amicans.* *rubroflammea.* *antihygiaea.* *lutea.* *mediocarnea.* *bahri.* *schwabi.*

narrow palish band before the border. The hindwings are greenish yellow underneath with pale marginal spots; the middle lunule double with a yellow green surround encircled by brownand with a mother-of-pearl
inspersa. centre. — ♂-ab. **inspersa** *Metschl* has orange coloured blotches on the yellow areas of the upperside of all wings. — ab. *aegra Vrty.* has the outer half of the wings on the underside bestrewn with black scales.
bicolor. Apparently this is a pathological form. — ♀-ab. **bicolor** *Metschl* has the upperside of the forewings lemon yellow and as if dusted with grey chalk and with a reddish hue towards the disc, whilst with a more palish yellow tinge towards the inner margin. The marginal area with large yellowish white marginal spots. Underside also lemon yellow with somewhat reddish orange in the disc and all as if covered with chalk. The upperside of the hindwings is somewhat darker yellow than the forewings. The spots are chalky rose. The yellow marginal spots form a continuous band, which only leaves a narrow black border. Base of wings dusted with grey. Underside of hindwings lemon yellow with glossy white spot doubly surrounded with
pieszczeki. rusty brown. — ♀-ab. **pieszczeki** *Predota* belongs to the 2nd generation. The ground colour is canary green
aurantiaca. with small marginal spots in the very wide dark marginal band, with very broad apex. — ab. **aurantiaca** *Pieszczek* is remarkably similar to *helma Geest* (Vol. 1, p. 69) only somewhat paler, chiefly the marginal spots of all wings. The ground colour is yellow. The two streaks between veins 2 and 4 are orange colour,
ilsae. whilst in *helma* they are ochre. — ♀-ab. **ilsae** *Schaw.* is like *helma Geest*, but the numerous yellow submarginal spots form a band-like row and the black dusting of the base as well as the whole surface of the hindwings is more heavy. — According to the particulars of the author *agnes Pieszczek* is identical with *helma*
intermedia. *Geest.* — The following are new additions to the *alba*-forms: ♀-ab. **intermedia** *Maurer* is of similar appearance
catlos. to *alba Stgr.*, but of very delicate pale yellow ground colour. — ab. **callos** *Maurer* also similar to *alba Stgr.* pale yellow but with striking reddish yellow discal area and with a wider marginal band. The double pupilled middle spot of the hindwings contrasts very strongly with the dull upperside by its fiery colour and through
pallescens. being double the size of normal specimens. — **pallescens** *Fritsch* are very pale specimens without any admixture of red with pale yellowish white or yellowish green spots in the black margin. — ab. *discolor Fritsch* (= eosina *Fritsch*) are specimens of whitish, sulphur yellow colour. — *rubroisabellina Fritsch* are ♂♂ of dull reddish white
rudolfi. appearance, otherwise as *alba.* — **rudolfi** *Ronnicke* is an *alba* form of yellowish ground colour with very adumbrated upperside of the forewings so that only a square patch of the middle area to the inner margin is still pale yellowish. Hindwings also are dusted dark grey and the large, yellow triangular marginal spots are
griseomargi- conjoined together forming a band. — ♂-ab. **griseomarginata** *Berger* has quite an albinotic appearance. All
nata. the wings are pale orange yellow and the marginal band is silver grey; the discoidal spot of the forewings is
striata. similarly coloured. The underside is almost without markings and rather more greenish. — **striata** *Pieszczek* show the first inclinations to adumbration in both sexes. Black rays extend from the outer margin towards
caliginosa. the centre of the wings. — ♂-ab. **caliginosa** *Klos* has the upperside of the wings completely covered with black powder, the disc has a black brown appearance and the marginal band is only indistinctly visible. The under-
nigrovenata. side of the wings shows normal colouration. — ab. **nigrovenata** *Maurer* has the upperside almost brown yellow and dusted with black. The wing nervures are thickly scaled with black and surrounded with black shading, so that a streak-like pattern is created. The orange red middle spot of the underside is surrounded with black.
orcus. — ab. **orcus** *Ronnicke* is very similar to *inumbrata Schulz*, but it is pale yellow instead of orange colour and with
nigerrima. a completely darkened costa. — **nigerrima** *Pieszczek* is not quite so dark as *orcus*, it is of the 2nd generation.
pupittota. It has retained a few punctiform yellow dots in the marginal band. — ab. **pupillata** *Pieszczek* has the black
impunctata. median spot of the forewings on the upper side with a white centre. — ♂-ab. **impunctata** *Vrty.* has the spot
hartmanni. reduced to a small dot, whilst on the underside a small ring is shown. — In ♀-ab. **hartmanni** *Joukl* (= depunctata
pallidema- *Nitzsche*) the median spot is quite absent or orange red. — In **pallidemaculata** *Metschl.* the median spot of the
culata. hindwings is pale. — ♀-ab. **rima** *Metschl.* is the name given to specimens that have reduced or narrower spots.
rima. — Pieszczek names specimens **unipuncta,** where the hindwings in both sexes have a simple orange red spot
unipuncta. and when the spot is quite absent they are named **pallida** *Pieszczek.* — In the form **chrysothemides** *Vrty.* the
patlida. marginal band is interrupted by yellow edged veins. — ab. **permaculata** *Pieszczek* is a ♀ of pure orange colour
chrysothe- with the yellow marginal spots on the upper side of both wings conjoined, forming a band upon which the
mides. black veins which traverse it, stand out prominently. — ab. **demarginata** *Pieszczek* are specimens with red orange
permacu- colour without marginal spots on the underside of the fore and hindwings. — ab. **obscura** *Skala* is a large ♀
lata. with well developed black marginal band, which has suppressed the yellow marginal spots on the forewings.
demargi- Also the hindwings show a bold black double margin. — ab. **angustimarginata** *Metschl.* has the marginal band
nata. of the forewings redueed to 2 mm breadth, on the hindwings it is still narrower being 1—1½ mm wide. — Similarly
obscura. **pseudomaureri** *Metschl.* but besides there are a few pale spots in the apex, of which the lower one is relatively
angustimar- large, merging with the ground colour. — subsp. *balcanica Rbl.* thanks its description and denomination to
ginata. Schawerda in his zeal for observation. All the forms of this race have been named by Schawerda, where
pseudomau- it is not mentioned to the contrary and they nearly all originate from Vucijabara in Herzegovina. ♂♂ with
reri. a bluish hue are called **micans. nicholli** is a ♀ of yellow ground colour with a red disc in the forewings and a
micans. deep red spot on the hindwings. The red on the forewings extends from the base like a flame, as in *erschoffi*
nicholli. *tancrei*: *nicholli* corresponds to *semialba* of the *alba* group of types. The underside is yellow green with reddish
anna. yellow base of the forewings. ab. **anna** is a ♀ of lemon yellow colour, **theia** a sulphur yellow ♂ of the same
theia.

shade as *hyale*: *caltha* are buttercup yellow ♂♂ and deep buttercup yellow ♀♀. **leucochorion** are red ♀♀, which have one or two white spots in the middle spot of the hindwings. **rosea** are ♂♂ with rose red uppersides and a silvery blue hue to the wings. — Light greenish ♀♀ are called **chloris**: ivory yellow ♀♀ are **daphnis**: **isabellina** are ♀♀ which are bay coloured. The creamy yellow covers the whole surface of the wings and forms a good contrast to the quite pale and greenish yellow spots of the marginal band of the forewings and to the border of the hindwings. The middle spot of the hindwings is also bay coloured. In the forewings there is a tinge of rose in the ground colour. — **vucijabara** is a quite extreme *rebeli* form, quite pale with yellowish white median spot of the hindwings and similar fringes and antennae. **aphrodyte** is a white ♀ with reddish tone on all 4 wings. **semialba** *Wagner* is a white ♀ with orange coloured streak on the hindwings. — **nigrocuneata** incline to adumbration, they are red and white ♀♀ with intensive black markings. The inner margin of the marginal band has black cuneiform marks extending to the median spot of the forewings. **scotina** are ♀♀ with particularly dark hindwings. — **nigrovittata** *Rbl.* is a ♀-form with elongated wing contour and of normal orange colouration. A black streak stretches from the base of the forewings over the black median spot to the marginal border, which is without yellow spots. — Variations of the markings are: — ♂-ab. **immaculata** without any black spots, only the close of the discoidal cell is rather more black than the other veins. — **magnomaculata** has very large black spots at the close of the discoidal cell on the forewings in both sexes. — **stefania** are red ♀♀. Orange red and bright yellow are predominant on the forewings. The black marginal band is also unusually brightly decorated with light marginal spots. Hindwings almost without black and the margin is almost completely filled with the large light yellow spots. — **pseudobalcanica** *Klos* and **pseudorebeli** *Klos* are specimens which are identically similar to *balcanica* and *rebeli* but which are not caught in the same locality. — To subsp. *ermak Gr.-Grsh.* belong: ♀-ab. **irinae** *Krul.* with pale ochre yellow wings and ♀-ab. **sophiae** *Krul.* with white ground colour to all wings. — The form **stellata** *Krul.* has the middle spot of the hindwings with rose centre on the upperside. — Dwarf forms are: **myrmidonides** *Ksienschopolski* and **nana** *Mayer*. The latter of only 38 mm expanse, very pale colouring and narrow marginal band. — Socalled gynandrous forms occur frequently in which are mixed the colours and markings of both sexes.

leucochorion. *rosca.* *chloris.* *daphnis.* *isabellina.* *cucijabara.* *aphrodyte.* *semialba.* *nigrocuneata.* *scotina.* *nigrovittata.* *immaculata.* *magnomaculata.* *stefania.* *pseudobalcanica.* *pseudorebeli.* *irinae.* *sophiae.* *stellata.* *myrmidonides.* *nana.*

C. aurora *Esp.* (Vol. 1, plate 27 b). ab. **lambda** *Kard.* from the neighbourhood of Tjutiché Bay, South Ussuri is of paler ground colouration than the name type form. The discoidal spot of the forewings has the shape of a capital L. — ♀-ab. **crocopepla** *Warnecke* has forewings of uniform orange yellow up to the black marginal band, the colour is brightest in the centre. Also the middle area of the hindwings shows the same colour quite extensively: Amur. — ♀-ab. **theia** *Warnecke* also from the Amur is iridescent deep orange uniformly up to the marginal band. Submarginal spots on both wings deep yellow almost ochre colour. — ab. **philippsi** *Niepelt* is a ♂ from Mandchuria, which has the upperside of the forewings a dull brickred, hindwings lilacgrey with a prominent bloodred middle spot and similar marginal lunules before the black margin. — **obsura** *Moltrecht* is a very dusky ♀ from the Zudzuche river with heavy black scaling of the hindwings and the base of the forewings, which appear quite dark. The black outer margin is somewhat expanded posteriorly. — Stauder describes 3 new varieties without giving particulars of origin: ♀-ab. **ochreopicta** *Std.* of dull ochre ground colour. Base of forewings and the whole hindwings adumbrated on the upperside, as in *chloë*: ab. **stenotaenia** is a ♂ with very narrow marginal bands, especially on the hindwings where only a thick black line is left and ♀-form **pupillata** *Std.* with pupilled discoidal spot on the upperside: a faint indication of this sometimes occurs in the ♂♂. — Varieties similar to *chloë* from the Amur territory but with a slight tinge of ochreyellow in the disc of the forewings of greater or lesser extension are called **rhododactyla** *Warnecke*. — **obscurissima** *Vrty.* is also a *chloë* form, smaller than normal specimens but with enlarged black markings. In appearance it resembles certain specimens of *diva Gr.-Grsh.* (Vol. 1, plate 27 b) Altai. — **alpina** *Vrty.* is a separate race from Ongodai in the Altai Mountains from an altitude of 900—1500 m. It is smaller than the name type form and the ground colour is a brighter orange. Discoidal spot of forewings is larger and marginal bands less sharply outlined. Underside of hindwing is powdered with green scales. — subsp. **vespera** *O. B.-H.* comes between *aurora* and *diva*. It is from the mountains near Lanchow in Kansu. Colouration as in *diva*, a darkly dusted red orange. The ♀ is interesting: its ground colour is pale green, only the middle of the forewings there is an admixture of orange. Marginal spots are greenish: base and marginal band widely black. Hindwings black with wide green marginal spots and with orange coloured double middle spot.

aurora. *lambda.* *croeopepla.* *theia.* *philippsi.* *obsura.* *ochreopicta.* *stenotaenia.* *pupillata.* *rhododactyta.* *obscurissima.* *alpina.* *vespera.*

C. diva *Gr.-Grsh.* (Vol. 1, plate 27 b). The decision whether *diva* is only a subspecies of *aurora* and should be linked to that species must be left in abeyance until the genital parts have been examined which has not yet been done. It seems to take the place of *aurora* in N. W. China. The ♂♂ are rarer than the ♀♀ being small and brick-red. The variability of the ♀♀ is very great and can scarcely be surpassed. Verity establishes the following colour variations, which however by no means exhaust possibilities: ♀ **alba** *Vrty.* with pure white ground colour: ♀ **aurantiaca** *Vrty.* with golden yellow colour, ♀ **flava** *Vrty.* bright yellow: ♀ **rubra** with red ground colour. ♀ **viridis** *Vrty.* with greenish yellow uppersides and ♀ **nigra** *Vrty.* in which the whole upperside of the wings is uniform grey black, only a few light streaks occuring in the disc of the forewing and the marginal spots are bright yellow.

diva. *alba.* *aurantiaca.* *flava.* *rubra.* *viridis.* *nigra.*

aurorina. **C. aurorina** *H.-Schaeff.* (Vol. 1, plate 27 b, c). The ♀ occurs chiefly in 2 shades of colour, the one a *alba.* pale form **alba** *Ruehl* with white ground colour, the other a darker form with orange ground colour **aurantiaca** *aurantiaca.* *Ruehl.* — Verity describes from Greece the ♀-ab. **griseoviridis** as belonging to *heldreichi Stgr.* The ground *griseoviridis.* colour on the uppersides is pale yellow with a green tinge, but owing to a strong admixture of black scales an alternate duskier and lighter colouration is created. The discoidal spot of the hindwings is very bright on *pulchrior.* the upperside being a nice orange and contrasting vividly from the dusky ground colour. — **pulchrior** *Vrty.* from Syria is a variety to *libanotica Led.*, it is a large form with extremely bright and pure orange colour: the *effusa.* black markings are considerably reduced. A counterpart hereto is **effusa** *Vrty.* which has the upperside heavily powdered with dark scales. The yellow veins run through the marginal bands and they extend very considerably *hybrida.* on the hindwings. — The form **hybrida** *Vrty.* from Persia belongs here, which according to the author is a cross between *sagartia Led.* × *aurorina.* This can scarcely be the case and also Verity seems to be in doubt about it. He names the same *hybrida*, which he illustrated on plate 45, fig. 26 on page XXXIX of his Rhop. Pal. as *sagartioides* although he did not give a description: therefore this is again a case, where one can choose which name one prefers! The ♂ is a nice grey green, the ♀ quite resembles *sagartia* in its pale orange ground *leucothea.* colouration with the row of indistinct marginal spots on the underside. — ♀-ab. **leucothea** *Rbl.* is a form of *taurica Rbl.* The pale marginal spots of the upperside of the hindwings are very large and confluent. It differs chiefly through the wider wing shape, the larger marginal spots and the absence of dark shading along *neuschildi.* the veins of the forewings. From Alman-Dagh. — **neuschildi** *Roeb.* is a ♀ from the Caucasus with pale sulphur yellow ground colour, which is a shade darker than in the mid-european *hyale.* The base of both wings is much more darkly shaded than in the white ♀♀, so that the orange coloured middle spot of the hindwings appears *deserticola.* especially striking. — **deserticola** *Vrty.* is a very small ♀ variety from Armenia, being of scarcely 50 mm expanse. The upperside is bright yellow with irregular orange markings in the disc of the forewings especially along the course of the veins. The underside is completely covered with beautiful ochre yellow scales.

chlorocoma. **C. chlorocoma** *Christ.* (Vol. 1, plate 27 c) **sulphurea** *Miller* is a variety of the ♀: the upperside is sulphur *sulphurea.* yellow and the underside also but with an admixture of grey green scales.

sagartia. **C. sagartia** *Led.* (Vol. 1, plate 27 d). ♀♀ with a pale greenish tinge are called **flava** *Vrty.*
flava.

wiskotti. **C. wiskotti** *Stgr.* (Vol. 1, plate 27 d). ab. **palaenoides** *Vrty.* are ♂♂ which have the same shade as normal *palaenoides.* *palaeno* and also remind one of this species by the straight border to the marginal band. In place of ab. *alexandra* *rueckbeili.* *Roeb.* (Vol. 1, p. 70) nec *Edwards* and for reasons of priority the name **rueckbeili** *O. B.-H.* should be used.

aquilo. **C. aquilo** *Aust.* was described from a specimen from America — *Colias lesbia Fldr.* — according to the researches of O. Bang-Haas. The error occurred apparently by a confusion of locality labels: the specimens sent to Austaut by Max Bartel simultaneously, originated from northernmost Lapland.

20. Genus: **Leptidia** *Billb.*, Wood Whites.

sinapis. **L. sinapis** *L.* (Vol. 1, plate 27 f). Stauder gives the name **patunae** to a ♀ variety of the spring generation *patunae.* of *lathyri Hbn.* The ♀♀ quite resemble those of *duponcheli Stgr.* and only differ by having the middle streaks *arduenna.* on the underside of the hindwings two or three times as long. Gorizia, Trieste. — ab. **arduenna** *Crombrugghe* from Belgium closely resembles *amurensis Mén.* differing by the better development of the subapical mark on the underside of the forewings. — In *sinapis* Verity through his interesting researches has created innumerable new names for minute individual variations, which he has quite unjustifiably called "races". His deductions are often so lacking in precision and so little convincing, that one can only very rarely agree with him. *pseudoduponcheli.* Forms of the spring generation are: ♂ ab. **pseudoduponcheli** *Vrty.* with the marking and colour of certain specimens of *duponcheli* from the east Pyrenees. ab. **melanoinspersa** *Vrty.* is a ♂ from Turkestan with very *melanoinspersa.* large and black apical mark which extends as far as the inner margin by an appression of black scales. The *transiens.* underside is powdered all over with black. **transiens** *Vrty.* flies in England and resembles *bivittata Vrty.* but it has the two stripes on the underside broader and more diffuse, not clearly outlined. — Verity received specimens from Austria which did not have quite such elongated and pointed wing contour as *croatica* and which he denominates as a separate race *acuta.* The characteristics given would not even justify calling it a variety let *nigrescens.* alone a race. ab. **nigrescens** *Vrty.* occurs at the estuary of the Arno and is said to form a race of its own. The black dusting at the base of the wings on the upper and undersides and the apical mark are so black as no *bivittata.* other form known to Verity, also the disc and the areas beyond share in the black dusting. **bivittata** *Vrty.* belongs to the 2nd generation. Typical specimens come from Mount Conca but it is said to occur at many spots in Italy (England ?). It is also not a race (subspecies) but only a frequently occurring variety. It is characterised by grey dusting at the base of the wings and the apex of the forewings. The underside has two narrow sharply outlined grey transverse streaks, which are clearly separated. — Verity presumes there are several

generations of *diniensis Bsd.* of which he names the 1st **cana.** It is distinguishable by a greyer colour of the black marks. — To the 2nd generation belong the varieties *grandis Vrty.* from Pian di Mugnone, Florence and *magna Vrty.* from Valdieri in the Maritime Alps. They are said to be larger than *diniensis* and differ only by their size. A name would seem superfluous. — **obscurata** *Vrty.* from the Isle of Elba, also of the 2nd generation differs by its greater adumbration: two-thirds of the wing surface are dusted with grey towards the base and the whole appearance is duskier than in specimens of the 1st generation. — **monovittata** *Vrty.* from the coast of Tuscany has a light band on the underside traversing the disc of the hindwings. — Stauder observed on Mount Faito and S. Angelo (Sorrent) a partly still larger race than *major Grd.*, which he named **stabiarum.** It flies at an altitude of 700 to 1400 m. The apical mark is round and greyish, black in the middle and double as big as in the name type form. Costa and base of wings dusted with black. The ♀ has in place of the apical mark only the relative veins powdered with black. — Stauder names as individual variations still ♂-ab. **apicedivisa.** The apical mark is divided by white veins in such a way that two separate spots are created and ab. **brunneomaculata**, ♂♂ with clearly pale brown apical mark. — ab. **simbruina** *Dannehl* flies in the South Carpathians, Mount Sibillini and Campagna. It closely resembles *stabiarum*, is fairly large and a rich white. The ♂♂ with sharply outlined round apical mark, the ♀♀ with fainter grey. Underside of the hindwings pale yellow. — In Corsica a small race still occurs with yellow toned wings on the upperside of both sexes: **corsica** *Vrty.* In the spring generation the underside also shows a brownish powdering without any admixture of green. — ab. **andromorphica** *Vrty.* are ♀♀ of the summer generation from Corsica with the apical mark of the ♂♂ although certainly somewhat smaller. — A separate race **deserticola** *Vrty.* also flies around Beirut in Syria. It is only very small and daintily built with narrow wings. The ♂ has a very reduced, diffuse grey apical mark, which does not touch the margin of the wings and lies isolated like an island. *syriaca Culot* is identical with it. — ab. **pseudodiniensis** *Pfeiffer* are richly white ♂♂ from the inner Anatolian chalk mountains with the apical mark powdered over with white and with two striking deep black oblique bars and with a rectangular shape inwards. The underside is yellow green, forewings with reduced sharply outlined apical mark. In the ♀ the underside is also green and in the apex of the upperside of the forewings only a few grey longitudinal streaks along the veins indicate the apical mark. — ab. **lathyrides** *Vrty.* is a spring form from Amur and Transbaikalia. It is only small and the underside reminds one of *vibilia Jans.* by its yellowish tone and the brownish markings. — **majorides** *Vrty.* flies in S. Russia, being midway between *sinapis* and *major Grd.*, specimens being all of goodly size, extensively and diffusedly marked on the underside. Apical mark is grey as in *diniensis*. — Dwarf forms are **minor** *Blachier* (= minor *Ksienschopolski*, minor *Derenne*). — In a lengthy, very interesting treatise Lorcovic claims the right of a species for *major Grund* as a summer form and *croatica Grd.* as the relative spring form. However his deductions are by no means convincing, all the more as he must admit that there is no difference in regard to the genital organs as compared with *sinapis.*

cana. *obscurata.* *monovittata.* *stabiarum.* *apicedivisa.* *brunneomaculata.* *simbruina.* *corsica.* *andromorphica.* *deserticola.* *pseudodiniensis.* *lathyrides.* *majorides.* *minor.*

L. amurensis *Mén.* (Vol. 1, plate 27 g). The newly established forms of Verity require further justification before acceptance, as the differences appear very trivial and unimportant. The 1st generation of *morsei Fent.* has been named **morseides** *Vrty.* the only difference being its smaller size. — **vibilioides** *Vrty.* is also a spring form, the specimens having a more elongated and pointed wing contour than *morseides*. From the Amur. — **emisinapis** *Vrty.* from Irkutsk is also similar to *morseides* and reminds one slightly of *sinapis.* — A separate race flies in Japan, **japonica** *Vrty.* It is considerably larger in size and has more elongated wings. The apical mark is also striking by its more considerable size and deeper black. — The species described as a separate species **inornata** from Hokkaido in Japan is to be deemed a subspecies to *amurensis*. The wings are somewhat wider than in the name type form and show a rounded apex. The apical mark is absent from the upperside of the forewings. The underside is silvery white and only powdered with black along the costa at the base of the wings.

amurensis. *morseides.* *vibilioides.* *emisinapis.* *japonica.* *inornata.*

L. duponcheli *Stgr.* (Vol. 1, plate 27 g). The older name **aestivalis** *Bellier* should take the place of *aestiva Stgr.* — Verity mentions a new race from Syria ab. **xanthochroa** for the spring generation. The upperside of the wings is a beautiful yellowish green. The underside of the hindwings in both sexes is a nice yellow.

duponcheli. *aestivalis.* *xanthochroa.*

L. gigantea *Leech* (Vol. 1, plate 27 g). O. Bang-Haas describes a new subspecies from Kansu in the Tsinling Mountains: **tsinlingi.** It is easily recognisable by its black isolated apical mark. The black marginal band of the underside of the hindwings reflects through distinctly on the upperside.

gigantea. *tsinlingi.*

Addendum.

C. ladakensis *Fldr.* The new subsp. **seitzi** of this insect flies in West Tibet, Chumurti, Shilong Pass at an altitude of 4800 m, which is characterised by its smaller shape and the reduction of all dark markings. The ♀♀ especially show the marginal and submarginal bands pale black interspersed with many yellow scales. The black can quite disappear on the hindwings. The ground colour is not so bright as in the name type form. — **flava** *Ril.* must be mentioned here as an aberration.

ladakensis. *seitzi.* *flava.*

Alphabetical List

of the Palaearctic Pieridae with reference to the original descriptions in supplement Vol. 1.

* signifies that the form is also figured in the place quoted.

circumiens Col. *Vrty.* Rhopal. Palaearct., p. 358.
citrina Col. *Stgr.* Cat. Lep. Pal. III. (1901), p. 18.
citrina Gon. *Shelj.* Mitt. Münch. Ent. Ges. 15, p. 100.
chinensis Col. *Vrly.* Rhopal. Palaearct., p. 266. *
chinensis Gon. *Vrty.* Rhopal. Palaearct., p. 284. *
chitralensis Col. *Vrly.* Rhopal. Palaearct., p. 349. *
chitralensis Gon. *Mr.* Lepid. Indic. 7, p. 27.
chloris Col. *Schaw.* Verh. Zool.-Bot. Ges. Wien 56, p. 219.
chryseis Col. *Vrly.* Rhopal. Palaearct., p. 354. *
chrysohyaleoides Col. *Vrly.* Rhopal. Palaearct., p. 219. *
chrysopallida Col. *Vrly.* Rhopal. Palaearct., p. 221. *
chrysothemeformis Col. *Vrly.* Entomol. Rec. 31, p. 87.
chrysothemides Col. *Vrly.* Rhopal. Palaearct., p. 358. *
chrysothemoides Col. *Vrty.* Rhopal. Palaearct., p. 219. *
colluriensis Pi. *Gél.* Bull. Soc. Ent. Fr. 1914, p. 187. *
colona Ap. *Krul.* Rev. Russ. Entom. 9, p. 293.
communaeulata Anth. *Vrly.* Rhopal. Palaearct., p. 191. *
confluens Pi. *Shima* Verh. Zool.-Bot. Ges. Wien 1910, p. 287.
confluens Pi. (canidia) *Vrly.* Rhopal. Palaearct., p. 336. *
confluens Pi. *Vrty.* (canidia) Rhopal. Palaearct., p. 339 (nota).
conjugata Pi. *Vrly.* Rhopal. Palaearct., p. 335. *
conjuncta Col. *Vrty.* Rhopal. Palaearct., p. 219.
connexa Col. *Sheld.* Entomologist 45, p. 27.
continua Pi. *Bryk* Entomol. Tidskr. 44, p. 107. *
corsica Lept. *Vrty.* Rhopal. Palaearct., p. 343.
costaenigrata Anth. *Closs*, Int. Ent. Ztschr. 15, p. 83.
costaenigrata Terac. *Std.* Iris 35, p. 42.
crassesignata Col. *Kitt*, Ztschr. Oesterr. Ent. Ver. 9, p. 16.
cremonae Col. *Vrty.* Rhopal. Palaearct., p. 358.
creta Pi. *Vrty.* Entom. Rec. 31, p. 88.
croceocoma Col. *Krul.* Rev. Russ. Ent. 1907, p. 29.
croceopepla Col. *Warn.* Societ. Entomol. 27, p. 68.
cyniphia Pi. *Trli.* Atti Soc. Nat. Ital. 63, p. 27. *
cypria Pi. *Vrly.* Oberth. Ét. Lép. Comp. 3, p. 132.

dalmatica Gon. *Vrly.* Rhopal. Palaearct., p. 286. *
damoneides Euchl. *Std.* Mitt. Münch. Ent. Ges. 12, p. 24.
daphnis Col. *Schaw.* Verh. Zool.-Bot. Ges. Wien 62, p. 144.
dawsoni Col. *Krüg.* Societ. Entom. 24. p. 50.
deannulata Col. *Rocei.* Atti Soc. Lig. 30, Nr. 4.
deckerti Col. *Vrly.* Rhopal. Palaearct., p. 336. *
decolorata Euchl. *Cathér.* Ét. Lép. Comp. 17, p. 49. *
decolorata Zeg. *Vrty.* Rhopal. Palaearct., p. 170. *
decora Gon. *Oberth.* Ét. Lép. Comp. 3, p. 177.
decurtata Col. *Kitt*, Ztschr. Oesterr. Ent. Ver. 9, p. 16.
deflava Pi. *le Cerf* Bull. Soc. Ent. Fr. 1923, p. 197.
delecta Euchl. *Vrty.* Rhopal. Palaearct., p. 179. *
demarginata Col. *Piesz.* (chrysotheme) Ztschr. Oesterr. Ent. Ver. 2. p. 71.
demarginata Col. *Piesz.* (myrmidone) Ztschr. Oesterr. Ent. Ver. 2, p. 71.
denticulata Col. *Vrly.* Rhopal. Palaearct., p. 252. *
derosea Col. *Wgn.* Ztschr. Oesterr. Ent. Ver. 11, p. 25.
desertieola Col. *Vrly.* (aurorina) Rhopal. Palaearct., p. 258.
desertieola Col. *Vrty.* Rhopal. Palaearct., p. 268.
desertieola Lept. *Vrly.* Rhopal. Palaearct., p. 202.
detersa Anth. *Vrty.* Rhopal. Palaearct., p. 188. *
detersa Pi. *Vrty.* Rhopal. Palaearct., p. 153. *
diffusa Col. *Vrty.* Rhopal. Palaearct., p. 219. *
diluta Ap. *Vrly.* Rhopal. Palaearct., p. 329. *
discocellularis Anth. *Strd.* Int. Ent. Ztschr. Guben 1914, p. 323. *
distincta Col. *Ronn.* Ent. Ztschr. Frankf. 34, p. 71.
distincta Col. *Sheld.* Entomologist 45, p. 340. *
divisa Anth. *Shelj.* Mitt. Münch. Ent. Ges. 15, p. 97.
divisa Col. *Vrty.* (croceus) Rhopal. Palaearct., p. 274.
divisa Pi. *Gél.* Mém. Soc. deux. Sèvres 1912, (Separ.) p. 24.
draesekei Metap. *Bang-H.* Horae Macrolep. I, p. 108.
dyala Zeg. *Peile* Entomolog. 54, p. 151.

ednaeaeformis Col. *Klem.* Spraw. Nic. Kom. Fiz. gogr. nej 45, p. 50.
edusoides Col. *Skala* Int. Ent. Ztschr. Gub. 6, p. 16.
elongata Col. *Vorbr.* Mitt. Schweiz. Ent. Ges. 12, p. 434.
elongata Pi. *Der.* Rev. Mens. Namur 1924, p. 55.
elongata Pi. *Gél.* Bull. Soc. Ent. Fr. 1914, p. 186. *
eluta Leuc. *Vrly.* Rhopal. Palaearct., p. 327. *
emiana Pi. *Vrly.* Boll. Soc. Ent. Ital. 48, p. 181.
emiorientalis Euchl. *Vrly.* Rhopal. Palaearct., p. 338. *
emisinapis Lept. *Vrly.* Rhopal. Palaearct., p. 345. *
emivittata Col. *Vrty.* Rhopal. Palaearct., p. 241. *
emybryoniae Pi. *Vrty.* Entomol. Rec. 1922, p. 128.
enderleini Ap. *Bryk* Entom. Ztschr. 1921, p. 53.
eogenei Col. *Vrty.* Rhopal. Palaearct., p. 248. *
eratoides Col. *Strd.* Societ. Entom. 33, p. 27.
erothoe Zeg. *Ev.* Nouv. Mém. Mosc. 2, p. 357. *
erubescens Gon. *du B.-R.* Ztschr. Wiss. Ins.-Biol. 15, p. 190.
eumorpha Pi. *Fruhst.* Soc. Entom. 26, p. 24.
euorientis Pi. *Vrty.* Rhopal. Palaearct., p. 147. *
evanescens Pi. *Vrly.* Rhopal. Palaearct., p. 153. *
evittata Metap. *Vrly.* Rhopal. Palaearct., p. 124. *
expansa Leuc. *Vrly.* Entomol. Rec. 1919, p. 87.

fasciata Col. *Ronn.* Ent. Ztschr. Frankf. 34, p. 71.
fasciata Pi. *Kief.* Ztschr. Oesterr. Ent. Ver. 3 (1918), p. 122.
feminilis Terac. *Str.* Entomol. Anzeig. 3, p. 3.
flammea Col. *Kitt*, Ztschr. Oesterr. Ent. Ver. 9, p. 18.
flava Col. *Ril.* Ent. Month. Mag. (3) 62, p. 277.
flava Col. *Vrty.* (eogene) Rhopal. Palaearct., p. 249.
flava Col. *Vrty.* (sagartia). Rhopal. Palaearct., p. 256 (Pl. 38).
flava Pi. *Kane* Entomolog. 26 (1893), p. 119. *
flava Pi. *Krul.* Rev. Russ. Ent. 2, p. 221.
flavescens Ap. *Vrty.* Rhopal. Palaearct., p. 127. *
flavescens Anth. *Oberth.* Ét. Lép. Comp. 17, p. 56. *
flavescens Col. *Rühl* (eogene). Pal. Groß-Schmett. 1, p. 161.
flavescens Pi. *Wgn.* Verh. Zool.-Bot. Ges. Wien 1903, p. 174. *
flavescens Terac. *Sld.* Ztschr. Wiss. Ins.-Biol. 9, p. 232.
flavicans Pi. *Krul.* Faun. Flor. Ross. Imp. (Zool.) 5, p. 56.
flavida Col. *Ksiensch.* Werke Erf. Wolhyn. 8. p. 28.
flavida Col. *Oslh.* Mitt. Münch. Ent. Ges. 4, p. 28.
flavideapicata Terac. *Sld.* Mitt. Münch. Ent. Ges. 12, p. 3. *
flavidior Euchl. *Wheel.* Butterfl. Switz., p. 63.
flavidovirescens Anth. *Oberth.* Ét. Lép. Comp. 3, p. 140.
flavidoviridescens Euchl. *Oberth.* Ét. Lép. Comp. 3, p. 140.
flavoapicalis Col. *Mztschl* Mitt. Münch. Ent. Ges. 12, p. 7.
flavoapicata Anth. *Shelj.* Mitt. Münch. Ent. Ges. 15, p. 99.
flavofasciata Col. *Lamb.* Cat. Lép. Belg. (1907), p. 409.
flavofasciata-erassipunctata Col. *le Charles* Bull. Soc. Ent. Fr. 1927, p. 138. *
flavoinspersa Col. *Heinr.* Deutsch. Ent. Ztschr. 1917, p. 334.
flavointerjecta Pi. *Vrty.* Entomol. Rec. 1926, p. 172.
flavolimbata Col. *Vrty.* Rhopal. Palaearct., p. 241. *
flavopicta Leuc. *Vrly.* Rhopal. Palaearct., p. 132.
flavopunctata Col. *Sheld.* Entomologist 45, p. 27.
flavoradiata Anth. *Stephan* Entomol. Rundsch. 34, p. 12.
flavoradiata Col. *Osth.* Schmett. Süd-Bayern 1, p. 68.
flavoradiata Col. *Piesz.* (chrysotheme) Ztschr. Oesterr. Ent. Ver. 2, p. 71.
flavoradiata Col. *Wheel.* Butt. Switz., p. 68.
flavosatura Pi. *Vrly.* Entomol. Rec. 1926, p. 172.
fleischmanni Col. *Str.* Int. Ent. Ztschr. Gub. 18, p. 37.
fountainei Pi. *Vrty.* Rhopal. Palaearct., p. 331. *
francesca Col. *Walk.* Entomologist 60, p. 151.
frigida Pi. *Seudd.* Proc. Bost. Nat. Hist. Soc. 8, p. 161.
fulgida Col. *Vrty.* Rhopal. Palaearct., p. 354. *
fulvocoma Col. *Krul.* Rev. Russ. Ent. 7, p. 29.
fulvosignata Col. *Rocei.* Atti Soc. Lig. 30, Nr. 4.
fumigata Pi. *Gillm.* Ent. Ztschr. Guben 1905, p. 157.
funkei Metap. *Draes.* Iris 38 (1924), p. 4.

gallica Euchl. *Oberlh.* Ét. Lép. Comp. 3, p. 145.
galvagni Col. *Sld.* Ztschr. Wiss. Ins.-Biol. 16, p. 220.
geisleri Col. *Bryk* Entom. Tidskr. 44, p. 109.
gigantea Col. *Vrty.* Rhopal. Palaearct., p. 347. *
gilgitica Gon. *Tytl.* Journ. Bomb. Hist. Nat. Soc. 31, p. 252.
glaseri Pi. *Müll.* Int. Ent. Ztschr. Guben 18, p. 276.
glicia Col. *Fruhst.* Seitz Macrolep. 9, p. 164.
glorieiona Col. *Fritsch* Entom. Rundsch. 35, p. 6.
gorniki Pi. *Kautz* Verh. Zool.-Bot. Ges. Wien 1927, p. 50.
graeca Anth. *Vrty.* Rhopal. Palaearct., p. 341.
graeca Euchl. *Vrly.* Rhopal. Palaearct., p. 175. *
granadensis Euchl. *Rbb.* Fric. 23 (1910) Beih. p. 120
grisea Pi. *Sib.* Lambillionea 1927, p. 74.
griseomarginata Col. *Berger* Jahrb. Wien. Ent. Ver. 21, p. 77.
griseoviridis Col. *O. B.-H.* Iris 29, p. 99.
griseoviridis Col. *Vrly.* (aurorina) Rhopal. Palaearct., p. 260. *
griseseens Euchl. *Vrly.* Rhopal. Palaearct., p. 179.
grotei Ap. *Bryk* Entom. Ztschr. 1926, p. 59.
gyantsensis Synchl. *Vrty.* Rhopal. Palaearct., p. 329. *
gynomorpha Col. *Vrly.* Rhopal. Palaearct., p. 353. *
gynomorphica Anth. *Vrly.* Rhopal. Palaearct., p. 342. *

hallena Pi. *Band.* Int. Ent. Ztschr. Guben 18, p. 178.
hartmanni Col. *Joukl.* Prag. Cas. Cesk. Spol. Ent. 4, p. 77.
heeloides Col. *Vrly.* Rhopal. Palaearct., p. 358.
helena Col. *H.-Schäff.* Syst. Schmett. Eur. 6, p. 170.
helicoides Col. *Sag.* Trabaj. Mus. Barcelona 11 (1) p. 10. *
henriei Pi. *Oberlh.* Ét. Lép. Comp. (1913), pl. 189. *

henriettae Pi. *Pionn.* Miscell. Entomol. 27 (1924), p. 57.
herculeana Col. *Bott.*, Seitz, Macrolep. Suppl. I, p. 109.
hespericum Euchl. *Rothsch.* Novit. Zoolog. 20, p. 111.
hibernica Pi. *Schmidt* Ent. Ztschr. 27, p. 134.
hinducncica Col. *Vrty.* Rhopal. Palaearct., p. 353. *
hinducncica Synchl. *Vrty.* Rhopal. Palaearct., p. 326. *
hingstoni Col. *Rit.* Trans. Ent. Soc. Lond. 1923, p. 480.
hoefnageli Ap. *Bryk* Ent. Ztschr. Frankf. 1921, p. 59.
hoefnageli Gon. *Bryk* Entom. Tidskr. 43, p. 173. *
holmboni Col. *O. B.-H.* Iris 29, p. 194. *
homogryphus Ap. *Bryk* Ent. Ztschr. Frankf. 1921, p. 63.
hyalides Col. *Vrty.* Rhopal. Palaearct., p. 353. *
hyalina Anth. *Oberth.* Ét. Lép. Comp. 17, p. 55. *
hybrida Col. *Vrty.* Rhopal. Palaearct., p. 259. *
hybridophana Anth. *Std.* Mitt. Münch. Ent. Ges. 12, p. 24.
hyerensis Col. *Strd.* Societ. Entomol. 33, p. 27.
hyperpunctata Pi. *Scheffn.* Societ. Entomol. 40, p. 39.

illgneriana Col. *Vorbr.* Butterfl. Switz. 1, p. 28.
illgneri-reducta Col. *Schroed* Mitt. Bad. Ent. Ver. 1, p. 13.
ilsae Col. *Sehaw.* Ztschr. Oesterr. Ent. Ver. 2, p. 76.
immaculata Col. *Der.* Rev. Mens. Namur 25, p. 92.
immaculata Col. *Schaw.* Verh. Zool.-Bot. Ges. Wien 67, p. 139.
immaculata Col. *Sehaw.* Verh. Zool.-Bot. Ges. Wien 71, p. 148.
immaculata Col. *Vrty.* Rhopal. Palaearct., p. 252. *
immaculata Euchl. *Std.* Mitt. Münch. Ent. Ges. 12, p. 24.
immaculata Pi. *Vrty.* Rhopal. Palaearct., p. 153. *
immanis Col. *Vrty.* Rhopal. Palaearct., p. 349. *
impunctata Anth. *Rbb.* Iris 23, p. 123.
impunctata Col. *O. B.-H.* Iris 29, p. 99.
impunctata Col. *Vrty.* Rhopal. Palaearct., p. 230. *
impunctata Col. *Vrty.* Rhopal. Palaearct., p. 264. *
infernalis Ap. *O. B.-H.* Hor. Macrolep. 1, p. 107.
infraochreata Ap. *Vrty.* Entomol. Rec. 1915, p. 88.
innocens Pi. *Std.* Mitt. Münch. Ent. Ges. 12, p. 22.
inornata Lept. *Nakah.* Canad. Entomol. 52, p. 137.
inspersa Col. *Metsehl*, Mitt. Münch. Ent. Ges. 12, p. 11.
insularis Gon. *Vrty.* Rhopal. Palaearct., p. 286.
integra Col. *Vrty.* Rhopal. Palaearct., p. 353. *
intercostata Ap. *O. B.-H.* Hor. Macrolep. 1, p. 39. *
intermedia Col. *Maurer* Verh. Zool.-Bot. Ges. Wien 1905, p. 148.
interposita Terac. *Std.* Mitt. Münch. Ent. Ges. 12, p. 24.
interrogans Anth. *Std.* Iris 29, p. 27.
iranica Pi. *le Cerf* Ann. Hist. Nat. Paris 2, p. 25.
irinae Col. Krul. Rev. Russ. Ent. 9, p. 110.
iris Bel. *Gklr.* Societ. Entomol. 27, p. 76.
irkutskana Col. *Std.* Mitt. Münch. Ent. Ges. 14, p. 62.
irma Col. *Evans* Journ. Bomb. Nat. Hist. Soc. 29, p. 972.
isabellina Col. *Schaw.* Verh. Zool.-Bot. Ges. Wien 71, p. 149.
isshikii Anth. *Mats.* Journ. Coll. Agr. Ak. Hokk. 15, p. 3. *
italorum Pi. *Str.* Iris 35 (1926), p. 26.

jachontovi Leuc. Krul. Societ. Entomol. 23, p. 3.
japonica Lept. *Vrty.* Rhopal. Palaearct., p. 345. *
jonbini Metap. *Oberth.* Et. Lép. comp. 7, fig. 1825.
juba Pi. *Fruhst.* Seitz Macrolep. 9, p. 140.
jurassica Col. *Vrty.* Rhopal. Palaearct., p. 216.

karajevi Ap. *Krut.* Trav. Mus. Zool. Ac. Ukr. 1926 (1), p. 66.
karschi Ap. *Endert.* Zoolog. Jahrb. Abt. Syst. 1902, Heft 4.
kobayashii Anth. *Mats.* Journ. Coll. Agr. Ak. Hokk. 15, p. 3. *
kosehantschikoffi Euchl. *O. B.-H.* Hor. Macrolep. 1, p. 40. *
koyi Ap. *Rbt.* Verh. Zool.-Bot. Ges. Wien 1905, p. 273.
kuckenthalia Col. *Strd.* Lepid. Niepelt. 1, p. 45. *

lacrimans Col. *Std.* Societ. Entomol. 40, p. 6.
laenas Leuc. *Fruhst.* Entomol. Ztschr. 1908, p. 51.
lambda Col. *Kard.* Ent. Mitt. Dahlem 17, p. 268. *
languidus Col. *O. B.-H.* Hor. Macrolep. 1, p. 42. *
lasthenoides Anth. *Oberth.* Ét. Lép. Comp. 17, p. 54. *
lathyrides Lept. *Vrty.* Rhopal. Palaearct., p. 345. *
leechi Col. *Gr.-Grsh.* Hor. Ent. Ross. 27, p. 382.
leovigilda Pi. *Fruhst.* Int. Ent. Ztschr. Guben 1909, p. 88.
leucochorion Col. *Schaw.* Verh. Zool.-Bot. Ges. Wien 71, p. 150
leucoides Col. *Strd.* Societ. Entom. 33, p. 26.
leucophryna Col. *Atph.* Hor. Ent. Ross. 27, p. 381.
leucothea Col. *Rbt.* Sitz-Ber. Ak. Wiss. Wien 126, p. 251.
levaillanti Anth. *Luc.* Bull. Soc. Ent. Fr. 1847, p. 50. *
libyca Euchl. *Trti.* Bull. Soc. Ent. Fr. 1917, p. 161. *
limbata Anth. *Btach.* Bull. Soc. Lép. Genève 3, p. 81. *
linnaei Pi. *Vrty.* Entomol. Rec. 34, p. 134.
longto Col. *Evans* Journ. Bomb. Nat. Hist. Soc. 29, p. 973.
lordaca Bel. *Wkr.* Entomologist 5, p. 48.
louisa Terac. *Neub.* Societ. Entomol. 21, p. 164.
lucida Euchl. *Shetj.* Iris 27, p. 167. *
lucillides Anth. *Vrty.* Rhopal. Palaearct., p. 341. *
luctifica Zeg. *Vrty.* Rhopal. Palaearct., p. 167. *
lusitanica Euchl. *Oberth.* Ét. Lép. Comp. 3, p. 145.
lutea Col. *Skala* Entom. Ztschr. 1908, p. 344.
lutea Col. *Zel.* Entomol. Rundsch. 32, p. 59.
lutescens Pi. *Shima* Verh. Zool.-Bot. Ges. Wien 1910, p. 275.
lysicles Pi. *Fruhst.* Int. Ent. Ztschr. Guben 3, p. 88.

macedonica Anth. *Bureseh* Mitt. Bulgar. Ent. Ges. 2, p. 63.
maculigena Col. *Avin.* Hor. Ent. Ross. 39, p. 231.
magna Ap. *Draes.* Iris 38 (1924), p. 2.
magna Col. *Rühl* Palaearct. Macrolep. 1, p. 153.
magnomaculata Col. *Sehaw.* Verh. Zool. Bot. Ges. Wien 56, p. 219.
magnomaculata Synchl. *Vrty.* Rhopal. Palaearct., p. 326. *
mairlottii Pi. *Lamb.* Rev. Mens. Namur 1903, p. 2. *
major Gon. *Vrty.* Rhopal. Palaearct., p. 280. *
majorides Lept. *Vrty.* Rhopal. Palaearct., p. 344. *
mandschurica Boll. *Seitz* Macrolep. Suppl. 1, p. 105.
mannides Pi. *Vrty.* Rhopal. Palaearct., p. XXIX, note 1.
marginalis Pi. *Avin.* Hor. Ent. Ross. 39, p. 246. *
marginata Anth. *Greer* Entomol. Rec. 1920, p. 154.
marginemaculata Anth. *Stephan* Iris 37, p. 29.
marginestixis Pi. *Dann.* Mitt. Münch. Ent. Ges. 1927, p. 1.
maria Pi. *Mell.* Lambillionea 1926, p. 84.
mars Pi. *O. B.-H.* Hor. Macrol Lepid. 1, p. 40. *
mascula Gon. *Vrty.* Rhopal. Palaearct., p. 285. *
massiva Pi. *Fruhst.* Seitz Macrolep. 9, p. 140.
maura Pi. *Vrty.* Rhopal. Palaearct., p. 332 *
mauretanica Ap. *Oberth.* Ét. Lép. Comp. 3, p. 120.
mauritanica Pi. *Vrty.* Rhopal. Palaearct., p. 155. *
maxima Euchl. *Vrty.* Rhopal. Palaearct., p. 337. *
maxima Gon. *Bttr.* Ann. Mag. Nat. Hist. (5) 15, p. 407.
mediocarnea Col. *Metscht*, Mitt. Münch. Ent. Ges. 12, p. 11.
megei Col. *Oberth.*
meieri Terac. *Std.* Entomol. Anzeig. 3, p. 3.
meinhardi Ap. *Krut.* Rev. Entom. Russ. 8, p. 270.
melanina Col. *Bott.* Seitz Macrolep. Suppl. 1, p. 108.
melanina Col. *Vrty.* Rhopal. Palaearct., p. 223.
melanitica Col. *Bott.* Seitz Macrolep. Suppl. 1, p. 112.
melanitica Col. *Vrty.* Rhopal. Palaearct., p. 270. *
melanitica Col. *Vrty.* Rhopal. Palaearct., p. 354. *
melanochroa Metap. *Vrty.* Rhopal. Palaearct., p. 126.
melanoinspersa Lept. *Vrty.* Rhopal. Palaearct., p. 344.
melinoides Col. *Vrty.* Entomol. Rec. 38, p. 171.
melisande Euchl. *Fruhst.* Entom. Ztschr. Frankf. 22, p. 51.
mellaertsi Col. *Lamb.* Rev. Mens. Namur 1913, p. 126.
meridionalis Anth. *Vrty.* Rhopal. Palaearct., p. 190. *
meridionalis Ap. *Vrty.* Rhopal. Palaearct., p. 324. *
metabryoniae Pi. *Vrty.* Entomol. Rec. 1926, p. 173.
metzgeri Synchl. *te Charles* Bull. Soc. Ent. Fr. 1927, p. 138. *
micans Col. *Schaw.* Verh. Zool.-Bot. Ges. Wien 71, p. 148.
micipsa Pi. *Fruhst.* Int. Ent. Ztschr. Guben 3, p. 88.
microvulgaris Pi. *Vrty.* Bull. Soc. Ent. Fr. 1927, p. 173.
minima Anth. *Pionn.* Échange 43, p. 11.
minima Pi. *Vrty.* (canidia) Rhopal. Palaearct., p. 161. *
minima Pi. *Vrty.* (manni) Rhopal. Palaearct., p. 154 (nota).
minima Pi. *Vrty.* (napi) Rhopal. Palaearct., p. 154. *
minor Anth. *Cock.* Entomologist 22, p. 176.
minor Ap. *Vrty.* Rhopal. Palaearct., p. 119. *
minor Col. *O. B.-H.* (cocandica) Iris 29, p. 99.
minor Col. *Faitta* (croceus) Natural. Sicil. 7, p. 25.
minor Col. *Skala* (chrysotheme) Int. Ent. Ztschr. 1, p. 344.
minor Col. *Vorbr.* Butterfl. Switz. 1, p. 30.
minor Lept. Blach. Bull. Lép. Soc. Genève 1, p. 4. *
minor Leuc. *Ksienseh.* Ges. Erforch. Wolhyn. 1911 (8) Sep. p. 25.
minor Pi. *Crombr.* (napi) Ann. Soc. Ent. Belg. 46, p. 20.
minor Pi. *Costa* Faun. Regn. Nap. (Lepidopt.)
minor Pi. *Ksienseh.* Ges. Erf. Wolhyn. 1911, p. 22 (Separ.).
minuscula Leuc. *Vrty.* Rhopal. Palaearct., p. 327. *
modesta Zeg. *Atph.* Hor. Soc. Ent. Ross. 38, p. 563.
monbeigei Metap. *Oberth.* Ét. Lép. Comp. 14 , fig. 3908—3909
monovittata Lept. Vrty. Entomol. Rec. 36, p. 111.
montana Col. *Vrty.* Rhopal. Palaearct., p. 354. *
montivaga Anth. *Trti & Vrty.* Bull. Soc. Ent. Ital. 43, p. 232.
morosevitshae Metap. *Shetj.* Rev. Russ. Ent. 7, p. 233.
morseides Lept. *Vrty.* Rhopal. Palaearct., p. 345. *
murina Col. *Fruhst.* Seitz Macrolep. 9, p. 164.
myrmhyale Col. *Meeke* Int. Ent. Ztschr. Guben 1826, p. 173.

myrmidonides Col. *Ksienseh.* Werk. Ges. Erf. Wolhyn. 8, p. 30.
myrmidonides Col. *Std.* Ztschr. Wiss. Ins. Biol. 12, p. 59. *

naina Euchl. *Koseh.* Jahrb. Martjan. Min. 1923, 1 (1), p. 3.
nana Col. *Mayer* Entom. Ztschr. Frankf. 25, p. 51.
nana Col. *Vrty.* Rhopal. Palaearct., p. 348. *
nana Metap. *Vrty.* Rhopal. Palaearct., pl. 38. *
nanella Pi. *Strd.* Arch. Naturg. 85 (1919) A. 4, p. 14.
napata Col. *Fruhst.* Seitz Macrolep. 9, p. 164.
napella Pi. *Lamb.* Rev. Mens. Namur 1910, p. 47.
narina Pi. *Vrty.* Rhopal. Palaearct., p. 145. *
naryna Ap. *Shelj.* Rev. Russ. Ent. 9, p. 384.
nastoides Col. *Vrty.* Rhopal. Palaearct., p. 354. *
naukratis Col. *Fruhst.* Seitz Macrolep. 9, p. 165.
neglecta Pi. *Std.* Mitt. Münch. Ent. Ges. 72, p. 22.
nesis Pi. *Fruhst.* Int. Ent. Ztschr. Guben 1909, p. 88.
neuschildi Col. *Röb.* Entomol. Rundsch. 31, p. 41.
nicholli Col. *Schaw.* Verh. Zool.-Bot. Ges. Wien 57, p. 219.
niediecki Col. *Strd.* Int. Ent. Ztschr. Guben 3, p. 78.
nigerrima Col. *Piesz.* Verh. Zool.-Bot. Ges. Wien 1905, p. 420.
nigra Col. *Aign.* Ann. Mus. Nat. Hung. 4, p. 488. *1906*.
nigrescens Lept. *Vrty.* Entom. Rec. 31, p. 87.
nigrescens Pi. *Newm.*, Entomologist 22, p. 55.
nigriapicata Gon. *Reuss* Entomologist 43, p. 209.
nigricans Ap. *Vrty.* Rhopal. Palaearct., p. 137. *
nigrifasciata Col. *Manon* Soc. Linn. Bord. 75, p. 11.
nigritior Anth. *Std.* Ztschr. wiss. Ins.-Biol. 10, p. 34. *
nigrocellularis Anth. *Oberth.* Ét. Lép. Comp. 3, p. 141.
nigrocuncata Col. *Schaw.* Verh. Zool.-Bot. Ges. Wien 71, p. 149.
nigrofasciata Col. *Vrty.* Rhopal. Palaearct., p. 269. *
nigroinspersa Metap. *Vrty.* Rhopal. Palaearct., p. 326. *
nigropunctata Col. *Shetd.* Entomolgist 45, p. 340.
nigropunctata Pi. *Lamb.* Rev. Mens. Namur (1906). p. 42.
nigrovenata Col. *Maurer* Ztschr. Oesterr. Ent. Ver. 2, p. 75.
nigrovittata Col. *Rbt.* Verh. Zool.-Bot. Ges. Wien 71 (p. 31).
niphonica Ap. *Vrty.* Rhopal. Palaearct., p. 325. *
niphonica Gon. *Vrty.* Rhopal. Palaearct., p. 281. *
niphonica Pi. *Vrty.* Rhopal. Palaearct. p. 155. *
nitida Leuc. *Vrty.* Rhopal. Palaearct., p. 132.
nivcata Col. *Vrty.* Rhopal. Palaearct., p. 228. *
nordströmi Col. *Bryk* Entomol. Tidskr. 44, p. 108.
novosiltzovi Col. *Avin.* Hor. Ent. Ross. 39, p. 248. *
nubicola Leuc. *Fruhst.* Entomol. Ztschr. 1908, p. 50.

oberthüri Ap. *Vrty.* Rhopal. Palaearct., p. 121. *
oberthüri Col. *Vrty.* Rhopal. Palaearct., p. 231. *
oberthüri Euchl. *Vrty.* Rhopal. Palaearct., p. 179. *
obliterata Col. *Vrty.* Rhopal. Palaearct., p. 346. *
obscura Col. *Mottr.* (aurora) Entom. Ztschr. Frankf. 22, p. 185.
obscura Col. *Ronn.* Ent. Ztschr. Frankf. 34, p. 71.
obscura Col. *Sheld.* Entomologist 45, p. 340. *
obscura Col. *Skala* (chrysotheme) Entom. Ztschr. Stuttg. 1908, p. 344.
obscura Col. *Skala* (myrmidone) Verh. Ver. Brünn 50, p. 63.
obscurata Anth. *Oberth.* Ét. Lép. Comp. 17, p. 55. *
obscurata Lept. *Vrty.* Bull. Soc. Ent. Ital. 48, p. 182.
obscurissima Col. *Vrty.* Rhopal. Palaearct., p. 357. *
obsoleseens Euchl. *Rothsch.* Novit. Zoolog. 20, p. 112.
obsoleta Cat. *Tutt.* British Lepidopt., p. 253.
occidentalis Ap. *O. B.-H.* Hor. Macrolep. 1, p. 107.
occidentalis Euchl. *Vrty.* Rhopal. Palaearct., p. 175. *
ochracea Zeg. *Atph. Oberth.* Ét. Lép. Comp. 7, p. 228.
ochrata Anth. *Greer* Entomol. Rec. 36, p. 31.
ochrea Leuc. *Vrty.* Rhopal. Palaearct., p. 327.
ochreata Gon. *Vrty.* Entomol. Rec. 31, p. 87.
ochreata Pi. *Vrty.* Entomol. Rec. 1919, p. 87.
ochreasuffusa Col. *Shetd.* Entomologist 45, p. 340. *
ochreopicta Cal. *Std.* Mitt. Münch. Ent. Ges. 14, p. 63.
ochrocretacea Col. *Fritseh* Entom. Rundsch. 35, p. 6.
octava Col. *Bryk* Entomol. Tidskr. 44, p. 108.
offusa Col. *Vrty.* Rhopal. Palaearct., p. 259. *
omnimarginata Col. *Hafn.* Carniola 1912, p. 221.
opposita Col. *Zusan*, Ztschr. Oesterr. Ent. Ver. 3, p. 36.
oreus Col. *Ronn.* Ztschr. Oesterr. Ent. Ver. 2, p. 76.
orcas Col. *Gr.-Grsh.* Hor. Ent. Ross. 27, p. 383.
oshanini Col. *Avin.* Hor. Ent. Ross. 39, p. 248.

palaenoides Col. *Vrty.* Rhopal. Palaearct., p. 260. *
palidis Col. *Fruhst.* Seitz Macrolep. 9, p. 164.
pallescens Col. *Fritseh*, Entomol. Rundsch. 29, p. 143.
pallida Col. *Hoffm.* Mitt. Nat. Ver. Steiermark 50, p. 209.
pallida Col. *Piesz.* (myrmidone) Jahrb. Wien. Ent. Ver. 22, p. 223.
pallida Col. *Skala* (chrysotheme) Entom. Ztschr. Stuttg. 1908, p. 344.
pallida Col. *Tutt.* British Lepidopt. p. 259.
pallida Gon. *Hannem.* Int. Ent. Ztschr. Guben 9, p. 113.
pallida Ix. *Nice* Dobuts. Z. Tokyo 29, p. 145.
pallidemaculata Col. *Metschl.* Mitt. Münch. Ent. Ges. 12, p. 8.
panandrophila Terac. *Str.* Ztschr. Wiss. Ins.-Biol. 17, p. 107.
parva Col. *Huene* Sitz.-Ber. Nat. Ges. Dorpat 12, p. 460.
parva Synchl. *Vrty.* Rhopal. Palaearct. 1908, p. 136.
parvipuncta Anth. *Trti.* Natural. Sicil. 1919, p. 16.
passa Col. *Vrty.* (eroceus) Rhopal. Palaearct. 269. *
passa Col. *Vrty.* (phicomone) Rhopal. Palaearct., p. 353. *
patunae Lept. *Std.* Mitt. Münch. Ent. Ges. 12, p. 35.
patunae Pi. *Std.* Iris 28. p. 13.
perfecta Pi. *Std.* Iris 35, p. 27.
perflavida Anth. *Str.* Deutsch. Ent. Ztschr. 1924, p. 27.
periphaes Col. *Fruhst.* Entom. Ztschr. Stuttg. 22, p. 51.
perkeo Pi. *Std.* Boll. Soc. Adr. Sci. Nat. 25, p. 99.
permaculata Col. *Piesz.* Ztschr. Oesterr. Ent. Ver. 2, p. 76.
persica Euchl. *Vrty.* Rhopal. Palaearct., p. 177. *
persis Pi. *Vrty.* Entom. Rec. 1922, p. 140.
phaedra Col. *Schaw.* Mitt. Münch. Ent. Ges. 14, p. 79.
phaiosoma Pi. *Vrty.* Entom. Rec. 37, Sppl. 46.
phicomonides Col. *Vrty.* Rhopal. Palaearct., p. 355. *
philippsi Col. *Niep.* Lepid. Niepeltiana 2, Nachtr., p. 1. *
philippsi Euchl. *Rud.*
pieszczeki Col. *Predota* Jahrb. Wien. Ent. Ver. 20, p. 141. *
posteromaculata Pi. *Rev.* Bull. Soc. Lép. Genève 2, p. 46. *
posteromaculata Pi. *Vrty.* Rhopal. Palaearct., p. 337.
posticcochreata Pi. *Vrty.* Entomol. Rec. 31, p. 88.
praeclara Col. *Sterzt* Jahrb. Wien. Ent. Ver. 2, p. 1917.
praecox Euchl. *Costant.* Atti Soc. Modena (5) 3, p. 14.
praenapaeae Pi. *Vrty.* Entomol. Rec. 1922, p. 137.
praeterita Pi. *Krul.* Societ. Entomol. 23, p. 3.
privata Col. *Ronn.* Ent. Ztschr. Frankf. 34, p. 71.
privimacula Anth. *Std.* Mitt. Münch. Ent. Ges. 12, p. 24.
progressa Anth. *Sov.* Rev. Russe Entom. 5, p. 103.
provosti Anth. *Lambille.* Revue Mens. Namur 1919, p. 50.
pseudobalcanica Col. *Klos.* Ztschr. Oesterr. Ent. Ver. 2, p. 77.
pseudobryonia Pi. *Vrty.* Rhopal. Palaearct., p. 146.
pseudocanidia Pi. *Std.* Mitt. Münch. Ent. Ges. 12, p. 22.
pseudocatoleuca Pi. *Std.* Ztschr. wiss. Ins.-Biol. 16, p. 151. *
pseudodiniensis Lept. *Pfeiff.* Mitt. Münch. Ent. Ges. 17, p. 36.
pseudoduponcheli Lept. *Vrty.* Rhopal. Palaearct., p. 203. *
pseudohelice Col. *Metsehl*, Mitt. Münch. Ent. Ges. 12, p. 6.
pseudohippia Ap. *Vrty.* Rhopal. Palaearct., p. 325. *
pseudohyalea Col. *Vrty.* Rhopal. Palaearct., p. 253. *
pseudomas Col. *Coek.* Entomologist 32, p. 26.
pseudomaureri Col. *Metschl*, Int. Ent. Ztschr. Guben 19, p. 26.
pseudomelete Pi. *Vrty.* Rhopal. Palaearct., p. 167. *
pseudonapi Pi. *Vrty.* Rhopal. Palaearct., p. 330. *
pseudorapae Pi. *Vrty.* Rhopal. Palaearct., p. 144. *
pseudorebeli Col. *Ktos* Ztschr. Oesterr. Ent. Ver. 2, p. 77.
pucrilis Terac. *Std.* Entomol. Anzeig. 3, p. 3.
pugo Col. *Evans* Journ. Bomb. Nat. Hist. Soc. 29, p. 973.
pulchrior Col. *Vrty.* Rhopal. Palaearct., p. 259. *
pulverea Pi. *Vrty.* Rhopal. Palaearct., p. 335. *
pulverulenta Col. *Vrty.* Entomol. Rec. 38, p. 170.
pulverulenta Euchl. *Vrty.* Rhopal. Palaearct., p. 178. *
punctata Synchl. *Vrty.* Rhopal. Palaearct. 1908, p. 136.
punctifera Col. *Braun.* l'Amateur 1 (1923), p. 176. *
pupillata Col. *Piesc.* Ztschr. Oesterr. Ent. Ver. 2, p. 71.
pupillata Col. *Piesz.* Ztschr. Oesterr. Ent. Ver. 2, p. 76.
pupillata Col. *Rehl.* Bull. Soc. Lép. Genève I, p. 261. *
pupillata Col. *Rev.* Bull. Soc. Lép. Genève I, p. 170. *
pupillata Col. *Std.* (aurora) Mitt. Münch. Ent. Ges. 14, p. 63.
pupillata Col. *Std.* Mitt. Münch. Entom. Ges. 14, p. 64.
purpurescens Col. *Coek.* Entomologist 22, p. 3.
pygmaea Col. *Lamb.* Rev. Mens. Namur 1906, p. 22.
pyroleuca Terac. *Std.* Ztschr. Wiss. Ins.-Biol. 9, p. 290. *
pyxagathus Col. *Fruhst.* Seitz Macrolep. 9, p. 164.

quadra Euchl. *Vrty.* Rhopal. Palaearct., p. 175. *
quadripunctata Anth. *Oberth.* Ét. Lép. Comp. 17, p. 55.
quercii Pi. *Rost.* & *Zap.* Boll. Soc. Zool. Ital. (2) 12, p. 2.

radiata Col. *Aign.* Ann. Mus. Nat. Hung. 1906.
radiata Col. *O. B.-H.* Iris 29, p. 99.
radiata Col. *Manon* Bull. Soc. Linn. Bord. 75 (1925), p. 11.
rammei Pi. *Knop.* Ent. Ztschr. Frankf. 36, p. 68.
rapaeula Pi. *Std.* Mitt. Münch. Ent. Ges. 12, p. 22.

reducta Anth. *Masow.* Polsk. Pism. Ent. 2, p. 124. *
reducta Pi. *Fritsch* Entom. Rundsch. 30, p. 47.
regrediens Terac. *Std.* Entomol. Anzeig. 3, p. 3.
regressa Pi. *Krut.* Iris 21, p. 209.
regressiva Pi. *Std.* Mitt. Münch. Ent. Ges. 12, p. 22.
retracta Col. *Kitt*, Ztschr. Oesterr. Ent. Ver. 9, p. 17.
rhamnoides Gon. *Dcr.* Rev. Mens. Namur 1919, p. 51.
rhododactyla Col. *Warn.* Societ. Entomol. 27, p. 68.
riehthofeni Col. *O. B.-H.* Hor. Macrolep. 1, p. 44.
ridicula Col. *Atph.* Hor. Ent. Ross. 38, p. 571.
rima Col. *Metscht*, Mitt. Münch. Ent. Ges. 12, p. 11.
röberi Euchl. *Rothsch.* Novit. Zoolog. 21, p. 300.
röberi Pi. *Kautz* Verh. Zool.-Bot. Ges. Wien 1927, p. 53.
romanoides Euchl. *Vrty.* Rhopal. Palaearct., p. 177. *
rondoni Euchl. *Oberth.* Ét. Lép. Comp. 3, p. 149.
rondoni Leuc. *Vrty.* Rhopal. Palaearct., p. 132. *
rondoni Synchl. *Oberth.* Ét. Lép. Comp. 3, p. 121.
rosea Col. *Schaw.* (myrmidone) Ztschr. Oesterr. Ent. Ver. 4, p. 67.
rosea Col. *Shetd.* Entomologist 45, p. 359.
rossioides Pi. *Std.* Iris 35, p. 27.
rostagni Pi. *Trti.* Natural. Sicil. 20, 1. *
rostagnoi Pi. *Vrty.* Rhopal. Palaearct., p. 153. *
rothschildi Euchl. *Vrty.* Entomol. Rec. 35 (1923), p. 171.
rothschildi Synchl. *Vrty.* Rhopal. Palacarct., p. 329. *
rubescens Gon. *Gittm.* Int. Ent. Ztschr. Gub. 1, p. 66.
rubroflammea Col. *Zet.* Ztschr. Oesterr. Ent. Ver. 1, p. 20.
rückbeili Col. *O. B.-H.* Hor. Macrolep., p. 113.
rudolfi Col. *Ronn.* Ztschr. Oesterr. Ent. Ver. 12, p. 76.
rufa Col. *Vrty.* Rhopal. Palaearct., p. 222. *

sachalinensis Ap. *Mats.* Journ. Agric. Hokk. Univ. 15 (3), p. 90.*
sachalinensis Col. *Mats.* Thousand Ins. Addit. 3, p. 725.
saghalensis Pi. *Nakah.* Ins. Ins. Menstr. 14, p. 47.
sajana Ap. *Vrty.* Rhopal. Palaearct., p. 324. *
salmonea Anth. *Oberth.* Ét. Lép. Comp. 3, p. 140.
sardoa Euchl. *Oberth.* Ét. Lép. Comp. 3, p. 145.
sassafrana Anth. *Oberth.* Ét. Lép. Comp. 3, p. 140.
saturata Col. *Aust.* Entom. Ztschr. Guben 18 (1903), p. 143.
saturatior Col. *Kitt.* Ztschr. Oesterr. Ent. Ver. 9, p. 16.
saxonia Anth. *Hcr.* Ztschr. Wiss. Ins.-Biol. 1912, p. 234.
schawerdae Ap. *Bryk* Entom. Ztschr. Frankf. 1921, p. 71.
schirberi Col. *Oberth.* Ét. Lép. Comp. 26, (2), p. 171. *
schmidti Pi. *Schmidt* Entomol. Ztschr. 27, p. 134.
schröderi Col. *Hommel* Mitt. Bad. Ent. Ver. 1, p. 13.
schwabi Col. *Piesz.* Jahrb. Wien. Ent. Ver. 22, p. 222.
seotina Col. *Schaw.* Verh. Zool.-Bot. Ges. Wien 71, p. 150.
secunda Pi. *Vrty.* Bull. Soc. Ital. 48, p. 180.
secundogenita Pi. *Std.* Entom. Rec. Sppl. p. 19.
segonsaci Pi. *te Cerf* Bull. Soc. Ent. Fr. 1923, p. 197.
semialba Col. *Wgn.*
semifasciata Pi. *Cab.* Revue Mens. Namur 1924, p. 17.
semipicta Pi. *Std.* Boll. Soc. Adr. Sci. Nat. 27, p. 130. *
septembrina Pi. *Std.* Entom. Rec. Sppl., p. 19.
septentrionalis Anth. *Wnnk.* Mitt. Münch. Ent. Ges. 17, p. 69.
seriata Col. *Rocci.*, Atti Soc. Lig. 30, Nr. 4.
shcljuzhkoi Ap. *Bryk & Meinh.* Societ. Entom. 27, p. 82. *
shuguana Ap. *Shclj.* Mitt. Münch. Ent. Ges. 1925, p. 96.
sibirica Anth. *Haash.* Norsk. Ent. Tidskr. 1, p. 11.
sibirica Ap. *Vrty.* Rhopal. Palaearct., p. 324. *
sieversoides Col. *Vrty.* Rhopal. Palaearct., p. 221. *
simbruina Lept. *Dann.* Mitt. Münch. Ent. Ges. 17, p. 1.
sinensis Metap. *O. B.-H.* Hor. Macrolep. 1, p. 107.
sitowskii Col. *Bicz.*, Arch. Naturg. 90, A. 5, p. 23.
somnambula Col. *Bryk* Entom. Tidskr. 44, p. 109.
sophiae Col. *Krut.* Rev. Russ. Ent. 9, p. 110.
stabiarum Lept. *Std.* Ztschr. Wiss. Ins.-Biol. 10, p. 321. *
standfussi Col. *Gr.-Grsh.* Hor. Ent. Ross. 27, p. 380.
stefania Col. *Schaw.* Jahrb. Wien. Ent. Ver. 19, p. 89.
stellata Col. *Krut.* Societ. Entomol. 23, p. 3.
stenotaenia Col. *Std.* Mitt. Münch. Ent. Ges. 14, p. 63.
stötzneri Ap. *Dracs.* Iris 38 (1924), p. 3.
striata Col. *Piesz.* (myrmidone) Ztschr. Oesterr. Ent. Ver. 2, p. 71.
striata Col. *Zusan.* Ztschr. Oesterr. Ent. Ver. 3, p. 36.
subalbidice Leuc. *Vrty.* Entomol. Rec. 1923, Sppl. p. 17.
sublutea Pi. *Trti.* Boll. Mus. Zool. Torino 39, p. 1.
subnapaeae Pi. *Vrty.* Entomol. Rec. 1922, p. 137.
subpunctata Pi. *Kuhtm.* Int. Ent. Ztschr. Guben 9, p. 113.
subpunctata Terac. *Std.* Entomol. Anzeig. 3, p. 3.
subtalba Pi. *Shima* Verh. Zool.-Bot. Ges. Wien 1910, p. 289.
subtusflavovenata Anth. *Reuss*, Int. Ent. Ztschr. Guben 9, p. 54.
suffusa Col. *Tutt*, British Lepidopt., p. 259.
suffusa Pi. *Vrty.* Rhopal. Palaearct., p. 143. *
sulfurea Bel. *Gklr.* Societ. Entomol. 27, p. 76. *
sulfureovenata Anth. *Rayn.* Entom. Rec. 22, p. 239.
sulphurea Col. *Milter* Iris 26, p. 223.
sulphurea Euchl. *Vrty.* Rhopal. Palaearct., p. 178. *
sulphurea Zeg. *O. B.-H.* Hor. Macrolep. 1, p. 40. *
sulphureoflava Col. *Shelj.* Ann. Soc. Ent. Fr. 91, p. 281.
sungpani Col. *O. B.-H.* Hor. Macrolep. 1, p. 109.
supervacanea Col. *Krut*, Societ. Entom. 23, p. 3.
suppressa Col. *Shetd.* Entomologist 45, p. 339.
synonyma Col. *Bryk* Entomol. Tidskr. 44, p. 108.
syra Anth. *Vrty.* Rhopal. Palaearct., p. 342. *
syra Pi. *Vrty.* Rhopal. Palaearct., p. 336. *
syrtica Euchl. *Trti.* Atti Soc. Nat. Hist. Ital. 1924, p. 31.
szulinszkyi Ap. *Bryk* Entom. Ztschr. Frankf. 1921, p. 66. *

taipaichana Anth. *Vrty.* Rhopal. Palaearct., p. 341. *
taprobana Bel. *Mr.* Proc. Zool. Soc. Lond. 1872, p. 565.
tatarica Col. *O. B.-H.* Iris 29, p. 98.
tarda Pi. *Vrty.* Entom. Rec. 1922, p. 139.
tennemaculata Pi. *Vrty.* Entom. Rec. 1922, p. 139.
tertia Pi. *Vrty.* (brassicae) Entomol. Rec. 31, p. 88.
tertia Pi. *Vrty.* (rapae) Boll. Soc. Ital. 48, p. 180.
theia Col. *Schaw.* Ztschr. Oesterr. Ent. Ver. 4, p. 67.
theia Col. *Warn.* (aurora) Societ. Entom. 27, p. 68.
thibetana Ap. *Vrty.* Rhopal. Palaearct., p. 137. *
thrasibulus Col. *Fruhst.* Seitz Macrolep. 9, p. 165. *
thusnelda Pi. *Std.* Boll. Soc. Adr. Sci. Nat. 25, p. 139. *
tibetana Col. *Rit.* Trans. Ent. Soc. Lond. 1922, p. 465. *
ticina Euchl. *Vorbr.* Rhopal. Palaearct., p. 180. *
tkatshukovi Anth. *Shetj.* Mitt. Münch. Ent. Ges. 15, p. 97.
torneoensis Col. *Shetd.* Entomologist 45, p. 27.
transcaucasica Pi. *Std.* Entomol. Anzeig. 1925, p. 4.
transiens Euchl. *Vrty.* Rhopal. Palaearct., p. 180. *
transiens Gon. *Vrty.* Entomol. Rec. 31, p. 48.
transiens Lept. *Vrty.* Entomol. Rec. 28, p. 98.
transiens Pi. *Vrty.* Rhopal. Palaearct., p. 138. *
triangula Euchl. *Vrty.* Rhopal. Palaearct., p. 176. *
trimaculata Pi. *Vrty.* Rhopal. Palaearct., p. 155. *
tsinglingi Lept. *O. B.-H.* Hor. Macrolep. 1, p. 45. *
tsinglingica Metap. *Vrty.* Rhopal. Palaearct., p. 326. *
tuncuna Col. *Aust.* Int. Ent. Ztschr. Guben 6, p. 88. *
turanica Bel. *Shetj.* Rev. Russ. Entom. 1907, p. 233.
turatii Euchl. *Rothsch.* Novit. Zoolog. 21, p. 303.
turatii Terac. *Std.* Ztschr. Wiss. Ins.-Biol. 9, p. 290. *
turatii-punctatissima Terac. *Str.* Entomol. Anz. 3, p. 3.
tyche Col. *Boeb.* Mém. Soc. Imp. Mosc. 3 (1812).

uber Col. *Vrty.* Entomol. Rec. 38, p. 171.
ultima Pi. *Rocci.*, Atti Soc. Lig. 30, Nr. 4.
umbratilis Mid. *Shetj.* Mitt. Münch. Ent. Ges. 15, p. 99.
umoris Pi. *Vrty.* Entomol. Rec. 1921, p. 210.
unimaculata Pi. *Dziur.* Ztschr. Oesterr. Ent. Ver. 1918, p. 20.
unipuncta Col. *Piesz.* Ztschr. Oesterr. Ent. Ver. 2, p. 71.
urumtsiensis Col. *Vrty.* Rhopal. Palaearct., p. 252. *

vaga Pi. *Fruhst.* Entomol. Ztschr. 23, p. 42.
variegata Gon. *Lamb.* Rev. Mens. Namur 1919, p. 50.
vasquezi Pi. *Oberth.* Ét. Lép. Comp. 9 (2) 1914. *
venata Pi. *Vrty.* Rhopal. Palaearct., p. 164. *
verbani Pi. *Vrty.* Entomol. Rec. 1926, p. 173.
verityi Col. *Avin.* Hor. Ent. Ross. 39, p. 248.
verna Col. *Vrty.* Rhopal. Palacarct., p. 358.
vernalis Anth. *Vrty.* Rhopal. Palaearct., p. 340.
vernalis Col. *Vrty.* Rhopal. Palaearct., p. 222. *
vernalis Pi. *Trti.* Boll. Mus. Zool. Torino 39, p. 1.
vernetensis Anth. *Oberth.* Ét. Lép. Comp. 3, p. 137. *
versa Col. *Vrty.* Rhopal. Palaearct., p. 349.
vespera Col. *O. B.-H.* Hor. Macrolep. 1, p. 44. *
vestalis Pi. *Std.* Boll. Soc. Adv. Sci. Nat. 25, p. 98.
vibilioides Lept. *Vrty.* Rhopal. Palacarct., p. 345. *
viluiensoides Col. *Vrty.* Rhopal. Palacarct., p. 259.
violascens Pi. *Bub.* Verh. Zool.-Bot. Ges. Wien 1921, p. 71.
viridis Col. *O. B.-H.* Iris 29, p. 99.
viridis Col. *Mett.* Lambillionea 1826, p. 84.
viridis Col. *Vrty.* (eogene) Rhopal. Palaearct., p. 246. *
vitimensis Pi. *Vrty.* Rhopal. Palaearct., p. 332.
vivida Pi. *Vrty.* Rhopal. Palaearct., p. 331. *
vivida Pi. *Vrty.* (rapae) Rhopal. Palacarct., p. 334.
volgensis Euchl. *Krul.* Trav. Soc. Nat. Saratow 1901, p. 36.
vueijabara Col. *Schaw.* Verh. Zool.-Bot. Ges. Wien 71, p. 149.
vulgaris Pi. *Vrty.* Journ. Linn. Soc. Lond. (Zool.) 1913, p. 177.

wolenskyi Pi. *Brgr.* Ztschr. Oesterr. Ent. Ver. 1925, p. 35.

xanthochroa Lept. *Vrty.* Rhopal. Palaearct., p. 343.
xanthostigma Col. *Std.* Societ. Entomol. 40, p. 6.

yokohamae Pi. *Vrty.* Rhopal. Palaearct., p. 157. *

zaneka Gon. *Mr.* Proc. Zool. Soc. Lond. 1865, p. 493. *
zapelloni Leuc. *Rost.* Boll. Soc. Zool. Ital. (2) 12, p. 5.
zelleri Pi. *Std.* Iris 35, p. 26.
zemblica Col. *Vrty.* Rhopal. Palaearct., p. 355. *

3. Family: Danaidae.

This family only occurs in the palaearctic circle in the extreme South and South East, so that there is scarcely anything to be added to the remarks in Vol. 1 (p. 75—78).

1. Genus: **Danais** *Latr. (Danaida, Danaus).*

D. chrysippus *L.* (Vol. 1, plate 28 a). An accidental discolouration has been newly described according to a ♂ specimen from Assouan in Egypt, that is still within the palaearctic region and which was bred from the larva: *ab.* **candidata** *Hayward.* Ground colour of wings on upper and undersides pale whitish buff, costa and basal area of forewings grey. — *ab.* **axantha** *Hayw.* similarly from Assouan has uppersides of wings uniform dark brown, the black and white apex as in *chrysippus*, underside of forewings dark brown, yellow ground colour only appearing distinct in apical area. — The form described in Vol. 1 as *klugii* and illustrated there (plate 28 b) with base adumbrated on upperside of wing is named by Aurivillius **infumata,** he classifies same as an aberration of *dorippus.* He treats *dorippus* as a separate species, although same has been frequently taken at Aden in copula with typical *chrysippus.* — A form **kanariensis** *Fruhst.* is described from the Canary Islands, that is similar as a matter of fact to the north african form, but which is said to constantly have an abdomen enlarged on top. *chrysippus.* *candidata.* *axantha.* *infumata.* *kanariensis.*

D. melaneus *Cr.* The chinese summer form of this species may be deemed typical. The somewhat smaller spring form is separated as **szetchuanus** *Fruhst.* (Vol. 9, p. 210). — *melaneus.* *szetchuanus.*

D. tytia *Gray.* This species has been sub-divided into a number of local forms, of which the oldest is *sita Koll*, from the western and *tytia* from the eastern Himalayas. These indian forms have a red abdomen, whilst the form **niphonica** *Mr.* illustrated from Japan has a grey abdomen on top. *tytia.* *niphonica.*

2. Genus: **Euploea** *F.*

The name **mulciber** *Cr.* is now used for the *Euploea* mentioned in Vol. 1 (p. 78) and illustrated (plate 28 e), seeing that in accordance with general opinion today the large species classified as *midamus* represents what was formerly described as *superba Hbst.* from China and which was dealt with in Vol. 9, p. 250. *muleiber.*

E. mariesis *Mr.* mentioned from Kiukiang in central China, is the second species of this Genus to reach palaearctic territory. Compare Vol. 9, p. 254. *mariesis.*

Alphabetical List

Index and Reference of original description of palaearctic Danaidae mentioned in Supplementary Volume 1.

* signifies that the form is also illustrated at the place quoted.

axantha Dan. *Hayw.* Entomolog. 55, p. 178. *
candidata Dan. *Hayw.* Entomolog. 55, p. 179.
infumata Dan. *Auriv.* Rhopal. Aethiop., p. 33.
kanariensis Dan. *Fruhst.* Stett. Ent. Ztg. 1898, p. 412.
mariesis Eupl. *Mr.* Proc. Zool. Soc. Lond. 1883, p. 293.
niphonica Dan. *Mr.* Porc. Zool. Soc. Lond. 1883, p. 249.
mulciber Eupl. *Cr.* Papil. Exot. 2, Tab. 127. *
szetschuanus Eupl. *Fruhst.* Berlin. Ent. Ztschr. 1899. p. 65.

---

4. Family: Satyridae.

1. Genus: **Mandarinia** *Leech.*

M. regalis *Leech.* This species which was only known as occurring outside the palaearctic region when *regalis.*
Vol. 1 was published, has subsequently been discovered in Kwangtung in an indo-australian form (*dilatior Mell*).

2. Genus: **Mycalesis** *Hbn.*

M. perdiccas *Hew.* According to Fruhstorfer typical *perdiccas*, which must be considered the *perdiccas.*
geographical representative of the south chinese *francisca Cr.* (which however is no longer palaearctic) have larger eye-spots in the anal region of the forewings and larger ocelli in the antemarginal row on the underside than is represented by the illustration in Vol. 1 plate 29 b: the specimen illustrated is said to have smaller eye-spots than usual and Fruhstorfer introduces the name *vercella* for such specimens. The name seems superfluous because the size of the eye-spots varies in most *Mycalesis* just as much as for instance in the european *Sat. dryas* of which in many localities (for instance at Atzwang in the South Tyrol) one observes normal specimens, but similarly also others with considerably enlarged eye-spots (*drymeia Fruhst.*) in one and the same district.

M. gotama *Mr.* Still further varieties of this variable species have been described of which a palaearctic *golama.*
locality has been named for 2 of them. — **fulginia** *Fruhst.* with more distinct apical ocellus in the forewings, a *fulginia.*
wider yellow ringlet round the anal eye and a wider violet middle band of the underside. This is from Nagasaki where, however, also quite typical specimens occur; and **seriphus** *Fruhst.* from the main island of Japan, Hondo; *seriphus.*
for description see Vol. 9, p. 348. — **madjicosa** *Btlr.*, a dusky race with smaller ocelli which is described from *madjicosa.*
islands in the indo-australian territory, but which is also mentioned from the palaearctic island of Oshima (North Japan).

3. Genus: **Lethe** *Hbn.*

L. margaritae *Elw.*, the largest known species of this Genus, which is excellently illustrated in Vol. 9, *margaritae.*
plate 97 b, was formerly only known from Bhutan. Now it has also been found at the upper Brahmaputra which is nearer to the palaearctic boundary. I do not consider it probable that it passes this boundary.

L. callipteris *Btlr.* The form that is spread over the whole of Japan also occurs on Sachalin. Specimens *callipteris.*
from there (caught in July) show the discal spots of the forewings less sharply outlined, suffused with grey, filling out almost the whole cell up to the dark postmedian band: the light subapical spots of the forewings are only displaced about 1 mm towards the apex. The form is said to be smaller, which, however, is not always the case. This form is **minima** *Esaki and Nakahara* (= karafutonis *Matsumura*). (8 a.) — Further 2 forms have *minima.*
been named from Sapporo (in Hokkaido); **suffusa** *Es. & Nak.*, in which the yellow marking on the upperside *suffusa.*
of the wings is heavily suffused with black, and — **diluta** *Es. & Nak.* in which the yellow spots are clearer and *dilula.*
distincter and the dark dusting considerably reduced. The postdiscal yellow spots are also enlarged: the hindwings are more distinctly scalloped.

L. sicelis *Hew.* Fruhstorfer proposes to limit this name to specimens from the main japanese island *sicelis.*
(Hondo); **vanelia** *Fruhst.* are specimens from the southern island (Kiushiu), in which the ocelli on the underside *vanelia.*
of the hindwings do not show the violet-blue ring which is clearly shown in our illustration (Vol. 1, plate 31 b).

L. dyrta *Fldr.* is the very widely distributed form, which occurs as *yoga* as far south as Ceylon, as *anunda* *dyrta.*
Fruhst. as far as Sumatra and as *sambaluna Fruhst.* (Vol. 9, plate 79 b) as far as Lombok.

monitifera. **L. monilifera** *Oberth.* (8 b). The appearance of this species, which is most closely connected to *sicelis* (Vol. 1, plate 31 b) is sufficiently clearly shown by our illustration. It occurs at Siao-lu, not far from Mupin, close to the boundary of Thibet and Szechuan.

verma. **L. verma** *Koll.* Fruhstorfer limits this name to specimens which do not have so wide a white oblique band as the specimen illustrated in Vol. 1, plate 30 e, which belongs to the wet season, whilst *verma typica* from precisely the same locality is said to occur during the dry season. The wet season form is denominated by *laticincta.* Fruhstorfer as **laticincta.** — **satarnus** *Fruhst.* is described in Vol. 9, p. 324 as a mountain form from West *satarnus.* China which penetrates into the palaearctic region at Omei-shan, in these specimens the white oblique band is particularly narrow inversely towards the anal region.

diana. **L. diana** *Btlr.* This species was described from the Hokkaido where the specimens are said to be somewhat *celeja.* daintier and smaller than on the main island. Fruhstorfer proposes therefore to give the name **celeja** for the latter which is illustrated in Vol. 1, plate 31 a. — *diana* is not universally distributed and larger or smaller specimens can occur separately locally or also intermingled. The 2 specimens illustrated in Vol. 1 were caught *sachalinen-* not far from Hiogo (at the Mino Waterfalls). — **sachalinensis** *Mats.* (8 a) comes from the South of Sachalin *sis.* where the species is much more frequent, more than on the southern islands. The ground colour is said to be of darker tone and then again the eye in the anal angle of the hindwings on the underside is smaller and the violet eyespot rings are not so distinct.

syrcis. **L. syrcis** *Hew.* Of this species which is illustrated in Vol. 1, plate 31 b, but erroneously denominated *confluens.* with "*gemina*" Oberthür describes a form from Ta-tsien-lu, which he names **confluens** (8 b): it differs through a few very immaterial characteristics which can be seen from our illustration.

4. Genus: **Zophoëssa** *Dbl.*

This Genus which has been fully dealt with in Vol. 1 and of which I mentioned there (p. 86) that it could scarcely be differentiated from *Lethe* has since (Vol. 9, p. 314) only been retained as a group of species. Nevertheless the species mentioned here are usually recognisable by their wing contour. Furthermore, the middle cell of the forewings is narrower than in *Lethe* of the typical group and the hindwings are clearly tailed, this is less so in the typical *Zophoëssa* than in the group *Magula* newly established by Fruhstorfer Vol. 9, p. 313.

jalaurida. **Z. jalaurida** *Nic.* (Vol. 1, p. 87) penetrates into the palaearctic region in 2 directions from the Himalayas where it occurs widely distributed. In the western region (Kashmir) it is somewhat more duskily coloured than the east himalayan form which was illustrated in Vol. 1, plate 32 c as *jalaurida* from the southern *elwesi.* boundary of Thibet, this latter form has been separated by Fruhstorfer as **elwesi** *Mr.*, it has more sharply *gelduba.* outlined silvery bands on the underside. — The west chinese form **gelduba** *Fruhst.* is again to be separated from this, but it is exceedingly rare in the palaearctic region, which it scarcely ever reaches. On the upperside it has a darker olive tone; there is no silvery line on the median as in *elwesi* and the single stripe behind the cell is double in *gelduba.*

5. Genus: **Melanitis** *F.*

Since the publication of Vol. 1 Fruhstorfer declares that the chinese *M. aswa Leech* is a *phedima* *muskata.* form and that this again should be separated in various forms. **muskata** *Fruhst.*, which he sometimes writes in this way and sometimes as *mukata* is said to be based on a larger ♀ of the rainy season: it varies from the indian *aswa Mr.* (= tristis *Fldr.*) through its larger size, paler underside and more yellowish apex on the upper- *patra.* side of the hindwings. — **patra** *Fruhst.* is a smaller mountain form of this: it is also a rainy season form without the yellow apex in the ♀ and with better developed row of eye-spots on the underside of the hindwings. The form illustrated in Vol. 1, plate 32 e as *ismene* Fruhstorfer considers to be the dry season form of this species *autumnalis.* and names it **autumnalis** separating it from the form from China denominated by Leech as *leda.* — The typical *ismene* therefore would not occur in the palaearctic region, whilst *autumnalis* is not rare on the Omei-shan and it is the commonest butterfly in the south of China (Kwangtung) in the late autumn. — The specimens of this *ottensis.* species denominated by Matsumura as **ottensis** would also have to be added to the genus of *Melanitis.* They occur at Kiushiu the southern island of Japan proper.

6. Genus: **Neope** *Btlr.*

goschkevit- **M. goschkevitchii** *Mén.* This species is found in Sachalin and the form found there has been separated *chii.* as **solowiyofkae** *Mats.* (8 a). The underside, which varies considerably also in specimens from Hondo, appears to *solowiyof-* be less characteristic: on the upperside one is struck by the increase in the size of the black spots occurring *kae.* throughout the yellow outer band, which are frequently cubiform. Whilst *goschkevitchii* flies in Tokio in May and then again in autumn, the *solowiyofkae* illustrated here were caught in June and July; it might therefore

be that the species flying in Sachalin has only one generation. — **niphonica** *Btlr.* (= japonica *Fruhst.* in Vol. 9, p. 324) is a somewhat smaller form from Hokkaido. — ab. **dealbata** *Std.* is a name for specimens in which the white appressions on the underside of the hindwings are "replaced by the yellowish white ground colour". The species occurs unusually far northwards and even occurs on the Kurilean Islands: the form occurring there has been denominated by Matsumura as **kurilensis.** *niphonica. dealbata. kurilensis.*

7. Genus: **Ypthima** *Hbn.*

Y. hübneri *Ky.* is a doubtful species as mentioned by Fruhstorfer in Vol. 9, p. 287, as *hübneri Kirby* is not identical with *philomela* as Kirby himself indicates, but denotes the form from the eastern Himalayas which can scarcely penetrate into the palaearctic region. *hübneri.*

Y. philomela *Joh.* (= tabella *Marsh.*, baldus *Elw.* nec *F.*, hübneri *Snell.* nec *Ky.*) (Vol. 9, plate 99 c) on the other hand occurs frequently in Kashmir, but it seems to be limited to the hot indo-australian part and does not occur in the more temperate heights. The same applies to the form *indecora Mr.* (Vol. 9, p. 287) of *philomela* which is larger and which has a larger apical eye-spot in the forewings. *philomela.*

Y. argus *Btlr.* Of the Ussuri form **hampeia** *Fruhst.* (Vol. 9, plate 99 e) which differs from the japanese *argus* by the underside which is more black than whitish-grey, and which is recognisable by the darker and lighter patches especially on the hindwings, a corresponding form has now been found in the Hokkaido which differs in a similar way from the typical *argus* from Hondo with its light grey underside: this is **jezoensis** *Mats.* *argus. hampeia. jezoensis.*

Y. motschulskyi *Mén.* In contrast to the korean form *amphithea Mén.* (Vol. 1, p. 92) which Fruhstorfer erroneously describes as "*amphitea*" in Vol. 9 p. 291, which has reversional eye-spots, there is a form with especially well developed eye-spots on the underside which has been named as **ganus** *Fruhst.* *motschulskyi. ganus.*

Y. elwesi *Leech.* (10 b). This name refers to a specimen of this Genus which undoubtedly is very close to *praenubila* (Vol. 1, plate 34 c) which differs, however, by its dark earthy-brown tone of the underside. The hindwings show on the upperside only one small ocellus in the anal region, underside only 2, whilst the 3rd uppermost has disappeared. Striation of the underside and the shape and position of the eye-spots is as in *praenubila*, only on the upperside of the forewings the apical eye is totally absent: from Omei-shan in West China. *elwesi.*

Y. methorina *Oberth.* Oberthür describes a further form from West China and neighbouring Thibet **completa** (8 b) in addition to the form illustrated in Vol. 1, plate 34 e. In this form the eye-spots of the underside of the hindwings are more numerous and contiguous. *methorina. completa.*

8. Genus: **Callerebia** *Btlr.*

C. annada *Mr.* This species is described by Moore from 3 specimens and the description and illustration refer to a form with 2 blind anal eyes on underside of hindwings. However, in the British Museum there is only 1 ♂ type which has white pupilled eyes. This has a more reddish ground colour on underside, forewings and the hindwings are more heavily sprinkled with white. Our illustration in Vol. 1, plate 35 a, shows much more reddish brown forewing than Moore's illustration (Lep. Ceyl. 2, plate 115, Fig. 3): its hindwings are heavily sprinkled with white, our illustration shows same almost as unicoloured dark as the forewings. According to this the specimen figured on plate 35 a might be another species. For the old *annada* Watkins proposes to give the name *caeca* on account of the blind eye, whilst it should be more readily presumed that Moore had erroneously used a wrong type label and that the form with the pupilled eyes should be newly denominated. *annada.*

C. hybrida *Btlr.* is specifically different from *annada* as the ♂ has no scent scales and the hindwings have a wavy outer band and white eyespots in areas 4—6. *hybrida.*

C. polyphemus. Oberthür has described and illustrated the species *polyphemus* according to Watkins, whilst Leech has illustrated a different form under the same name. Unfortunately this was selected for the reproduction in Vol. 1, plate 34 f. It should have been named **perocellata.** From Szechuan: the real *polyphemus Oberth.* (= suroia *Tytl.*), which we are illustrating on plate 10 a is described from Mupin and also from Kansu, Szechuan and West Yünnan. Later on Watkins considered *suroia* a separate species. *polyphemus. perocellata.*

C. confusa *Watk.* This is very similar to *orixa Mr.* and *ophtalmica Stgr.* It is without eye-spots on the hindwings, but the apicalring on the forewings is a deeper rusty-red and less diffuse. The chocolate colour ground colour and the indistinct bands remind one of *oberthüri* as they do not contrast so strongly with the ground. It is presumed that *orixa*-♀, Vol. 1, plate 34 f belongs to this species. Changyang, North-west Fukien. The specimens from the latter locality are larger and darker both on the upper and undersides: **ricketti** *Watk.* *confusa. ricketti.*

C. sylvicola *Oberth.* (Vol. 1, p. 94). f. **stoetzneriana** *Draes.* (10 a). The scent spot of the ♂ is as in the type form. On the upperside not varying in the ♂, but the apical eye is smaller in the ♀. On the hindwings the eyespots are only indicated by white dots, only between ribs 5 and 6 (M 1 and M 2) there is an eyespot *sylvicola. stoetzneriana*

bocki. in the ♀ which is smaller than is illustrated in the main type. Ta-tsien-lu. — **bocki** *Oberth.* (Vol. 1, p. 94). This is possibly a separate species owing to the somewhat differently formed scent spot of the ♂ and the rather more pronouncedly scalloped hindwings of both sexes.

nirmala. materta. **C. nirmala** *Mr.* (Vol. 1, p. 94). f. **materta** *Fruhst.* is unicoloured on the underside. It differs from the f. *intermedia Mr.* (Vol. 1, plate 35 b) which has 2—3 eyes on the hindwings, owing to the presence of only 1 eye over which rarely a further dot occurs. Chitral. **cashapa** *Mr.* (Vol. 9, p. 300) from Kashmir has 4 hindwing-ocelli developed on the underside.

cashapa.

martyr. **C. martyr** *Watk.* sp. n. ♂ of *sylvicola Oberth.* differs as follows: ground colour of the forewings paler, the black spot of the apical-eye is almost round, the black androconia spot is narrower and intersected by the ribs. Hindwings with large eyespots in areas 2 and 3. The undersides of the forewings are more brown, on the hindwings there are also eyespots in areas 1—6, the 2 on the upperside are larger. Ta-tsien-lu.

hyagriva. Note: **hyagriva** *Mr.* mentioned as an *erebia* in Vol. 1, p. 110 has been dealt with as a *Callerebia* by Fruhstorfer in Vol. 9, p. 300. As a matter of fact they form a link between the 2 families which are united together by close transitions. We are giving the illustration on Plate 8 f. Moore places *hyagriva* in a Genus: *Dallacha.*

9. Genus: **Argestina** *Ril.*

Referring to our note regarding *Callerebia* (*Erebia*) *hyagriva* we have to interpose a Genus here which links *Callerebia* and *Erebia*. It differs from *Erebia* by the sharply bent middle discocellular, which is straight in *Erebia*: from *Callerebia* it differs by the club shape of the antennae which in *Argestina* is broad and spatulate on a slender shaft, whilst in *Callerebia* it is long and narrow and gradually thickened on the shaft. Besides the 2 indian forms (*waltoni Elw.*) of which the one is a type for the Genus, there are 2 palaearctic species.

karta. **A. karta** *Ril.* (8 f, g) has in colouration and marking in the ♂ sex a superficial similarity with an *Epineph. jurtina*-♂ (Vol. 1, plate 47 b), only the apical eye is not ringed with yellow, but on the other hand has a distinct white pupil. Wing contour and scent organs are of course entirely different. On the underside the forewings are purplish-brown with large simple apical eyes heavily surrounded with yellow. The underside of the hindwings is grey and brown mottled and reminds one of *Erebia pronoë* (Vol. 1, plate 37 c). The species is named according to its locality, Kharta, which is 20 English miles from Mount Everest and which has vegetation chiefly of a thibetan nature.

nitida. **A. nitida** *Ril.* is very similar to the previous species, but somewhat smaller (19—20 mm). On the underside of the forewings in the disc instead of the nice purple-brown it has a dull copper colour and the grey mottle effect, which in *karta* is only developed in the apex, is extended along the costa towards the inner margin. ♀ like the ♂ only slightly larger and with a larger apical eye: from Gyangtse in the Everest region.

10. Genus: **Erebia** *Dalm.*

The following amplifications to the excellent, though not quite complete observations of Eiffinger regarding the genus *Erebia* in the 1st Volume of Palaearctica must be expressly deemed as such. They are based on Eiffinger's work and they can only be fruitfully considered in conjunction with same. The object of this recapitulation was primarily so to make known in text and illustration all forms of *Erebia* newly described since the publication of the above mentioned Volume of Palaearctica, that their classification should be possible without difficulty. They are very numerous and spread about in the literature of so many languages that inspite of the praiseworthy "Novitates" of O. Bang-Haas it will scarcely prove possible to complete the work without any exceptions whatever. For, even when it has been ascertained where the original description was given, in a number of cases and inspite of the greatest endeavour it has been impossible to obtain same. Quite apart from giving full particulars of new forms it is deemed essential to give a word or two of criticism or an explanation in regard to the relationship of one form to another. As this supplementation of Seitz cannot possibly be a monograph of *Erebia* such remarks are perforce limited to narrow bounds. The author is responsible for the nomination of a form and the preciseness of its description, and not the editor. In some cases it has not been possible for me to ascertain exactly which form an author has actually intended with his denomination. This applies particularly to the diagnoses of Fruhstorfer, which are often genially exact, but often are based on insufficient material and so imperfectly described that they drive a conscientious recorder to desperation. — A further duty I felt was necessary to some extent in an amplification of Eiffinger's treatise. Not that it seemed essential to rectify any immaterial faults or errors. But in such cases where our knowledge has been considerably increased, where new views in regard to certain questions (for instance in regard to the right of *E. lefebvrei Dup.* to be called a species) have become common property, this has to be expressed. In some interesting species (for instance *epiphron*, *stygne*, *manto*, *ligea*) an endeavour has been made to bring the various forms into line as being local races spread over wide areas.

I eonsider it incorrect that many authors attaeh so mueh importance to the colour, be it brown or yellow, of the marginal bands of *Erebia*. With few exceptions the ground eolour is more readily describable as red and as a rule rust-red, sometimes fulvous or fuseous, oeeasionally grey-red.

Nothing has been altered in Eiffinger's system. It has only to be mentioned that of the species, say from *edda* to *nero*, a few would be more correctly grouped with the *Callerebia* instead of the *Erebia* and Eiffinger himself already indieated this. For this reason species of *Callerebia* newly found in Thibet and West China are not ineluded.

One blemish in the subsequent partieulars is the absenee of details of the early stages. The necessary knowledge is lacking. It must however be remarked that the contention that the larvae, especially of many Alpine *Erebia* require 2 years to mature is proved to be a legend. Vorbrodt has aseertained that all Swiss *Erebia* only hibernate onee and as a matter of fact in the larval state with the exception of the high mountain forms of *euryale* and *ligea* of which the former hibernate twice, firstly in the ova and secondly as larvae and the latter once or twice as larvae.

For illustrative purposes we have seleeted primarily newly discovered species or speeies not yet figured in our work, seeondly especially remarkable new forms of speeies that had already been illustrated and here and there a former illustration is amplified by a more characteristie reproduction. It is much to be deplored that inspite of every endeavour it has not been possible to obtain specimens of all species that have so far not been illustrated.

The *Erebia* are a primeval Genus, originally without exception mountain insects of very wide distribution. They must have already existed when bridges of land conneeted the now separated Continents of the World. This is the only way by whieh we can explain the fact that for instance *Erebia tyndarus* oeeurs with remarkably slight variations on the Central asiatic mountain chains, in the Caucasus, in the Balkans, thoughout the Alps, in the Abruzzi Mountains, on the Spanish mountains as well as in the mountain ranges of North America. The catastrophes of the early ages of this world and espeeially the ice periods have presumably driven the *Erebia* from the mountains to the flat land. But only very few have beeome really aeelimatized there (*medusa* and perhaps *aethiops*), a few more (*ligea*, *stygne*, *epiphron*) have settled in middle altitudes, *epiphron* however always selecting the highest parts. These species without any exeeption oeeur simultaneously still in the higher alpine regions in more or less sharply defined alpine forms (according to Vorbrodt *medusa* oecurs in the alps at an altitude of 2200 m, *aethiops* even to 2400 m). The *Erebia* belong altogether to the butterflies mounting to the highest altitudes in the mountains. In Central Asia they are found on heights of 4—5000 m and in the Zermatt district of the Swiss Alps four out of 18 kinds occurring there, exist at altitudes exceeding 3000 m.

In toto there are at present some 99 *Erebia* speeies including the species of *Callerebia* mentioned under *Erebia* in Vol. 1 and 9. The Swiss Alps are the home of not less than 23 species out of the 41 european species. The Spanish Mountains come next with 18—19 kinds, the Southern Alps only have 3, the Western Alps 2 kinds whieh are endemic to them, the polar region 7 species. According to latest research a number of species hitherto eonsidered purely of asiatic origin (*fasciata Btlr.*, *discoidalis Ky.*, *dabanensis Ersch.*, *edda Mén.*, *rossii Curt.*) also oeeur in the extreme North East of Europe. The Caueasus are poor in *Erebia*, whilst the Central Asiatie high Mountain Ranges, especially the Altai and Thianshan are very prolific. In all there are 54 speeies in Asia, of which 5 belong to the Indo-Australian territory, 14 species being in common with Europe. Besides there are 2 speeies in New Zealand *), about a dozen in the high mountains of the U.S.A. in North Ameriea (Colorado and Alaska) **), which are very elosely similar to most European and Asiatic sorts. In Patagonia in South America one genuine species of *Erebia* has its habitat and in Bolivia there are 2 *Manerebia* that are related to the *Erebia*.

Er. epiphron *Knoch.* In *epiphron* as in a few other *Erebia* species the main differences as to the character- *epiphron.*
istics of the various local races consist in the greater or lesser development of the deeorative marks (bands, oeelli and pupils). The form most richly deeorated is the name-form from the Harz Mountains (= **hercyniae** *hercyniae.*
Petry), very elose to it is **sudetica** *Petry* from the silesian mountains, whieh differs by the slightly lesser *sudetica.*
development of the red surrounded oeelli on the underside of the hindwings and the less distinct outline of the bands on the upperside posteriorly and the absenee of the white eentres in the eyes of the upperside in the ♀. The next richly deeorated group is formed by **vogesiaca** *Goltz* (= maekeri *Fuchs*) from the Vosges *vogesiaca.*
Mountains and **pyrenaica** *H.-Schäff.* from the East Pyrenees. Both these still have a distinct rust-red band over *pyrenaica.*
all wings which inelines to dissolve into separate spots. A few ♀♀ are seareely differentiable from the name form espeeially when they exeeptionally also show white pupils in the oeelli, the ocelli are as a rule distinet and numerous, being somewhat larger in the forms from the East Pyrenees (which besides have more pointed

*) see Vol. 9. p. 1110.

**) see Vol. 5. p. 237.

wings) than in those from the Vosges. The latter incline more to variations along the lines of *cassiope*. They fly on the peaks of the Vosges only at an altitude of 1000 m and more, as also does the name-form and *sudetica* does not fly at a very considerably lower altitude. This is a clear indication that *epiphron* was originally a pure high mountain insect. Somewhat poorer in regard to the development of the bands and the eyespots are forms from the Central Pyrenees in the west and from the Carpathians, the transylvanian Alps and the Karawankan Mountains in the east. The spanish form is not yet denominated. It is very variable, especially richly decorated specimens correspond with the illustration of *pyrenaica* of the East Pyrenees, Vol. 1, plate 36 a, as a rule the band is less well developed, the eyespots less numerous and considerably smaller, occasionally one finds in fact the completely black ab. *nelamus Bsd.* Much the same applies to the forms from the more eastern mountains, which show all transitions from *nelamus* to specimens with wider, rust-red bands. The latter which fly preferably in the transylvanian Alps have been named by Rebel **transsylvanica.** — In strong contrast to the latter we have the peculiar form from the bulgarian Balkans, which Elwes found at Kloster Rilo at an altitude of 21—2500 m and has named **orientalis** (9 a). As the illustration shows it has sharply pointed forewings, the marginal band dissolved into spots and generally only 2 red-ringed apical eyespots on the forewings. It belongs already to the group of less decorated forms of the Alps and Apennines. — Besides *cassiope F.* (Vol. 1, plate 36 a) the following have been named from the Alps *amisus Fruhst.*, *cydamus Fruhst.* and *privata Trti.*, and from the Apennines *effusa Trti.* and *amplevittata Vrty.* Fruhstorfer denominates as *amisus* a race found in the bavarian Algau "with narrower, more pointed forewings, considerably reduced redbrown area on the forewings and with indistinct black spots". The specimens from Algau, however, do not differ in any way from typical *cassiope* from other parts of the Alps. — **cydamus** *Fruhst.* from the Maritime Alps has in the ♂ a relatively narrow band constricted in the middle on the underside of the forewings and distinct black eyespots on the underside of the hindwings and the name is justifiable. — **privata** *Trti. & Vrty.* is an allied variety with small ocelli on the forewings and uniform black brown hindwings. — **amplevittata** *Vrty.* from the Apennines of Tuscany, in contrast to the unnamed dark form from Monti Sibillini, is distinguished by its wide, conjoined, sharply outlined rust-red band in which are placed small but distinct ocelli; it connects up therefore with the richly banded northern and western forms previously mentioned. — **effusa** *Trti.* from the Lake of Salarno has a wide band diffusing into the discoidal cell of the forewings on the upperside, the underside of the forewings is suffused over its whole surface with rust-red. — Specimens from Tyrol (Oetztal and the Ortler district) belong to the forms that have no bands, but only fuscous spots, which are often almost extinct, sometimes being merely indicated by a red sheen round the more and more reduced ocelli. This sheen can sometimes even be entirely absent. In specimens from Carinthia the two apical eyes of the forewings are large and well defined, whilst the other eyespots of the fore and hindwings are mostly quite absent. Here the manufacturers of names still have a rich field for their activities. It remains to be stated that the quite black *nelamus* occurs both as a local race (for instance in the Rofan Mountains in the Tyrol) as well as an aberration among other specimens. — On the other hand it seems to me that *valesina* is not a local race from the Valais, but a form of *cassiope* which occurs in single specimens almost everywhere. The following aberrations have still been described **exannulata** *Osth.* a ♀ from Bavaria in which there are no black rings around the white pupils, which in itself is already a rare form of *cassiope*. — ab. **intermedia** *Schwing.* from the Engadin is a specimen which has a clear band on the underside of the hindwings similar to *flavofasciata*, which however is not yellow but reddish and studded with small black dots (hybrid ?). — Ab. **caeca** *Vorbr.* is an aberration from Switzerland without eyespots in the bands either on the upper or underside. — **albinescens** *Oberth.* from the Pyrenees are specimens with very pale, sometimes whitish colouration of the bands.

transsylvanica. *orientalis.* *cydamus.* *privata.* *amplevittata.* *effusa.* *exannulata.* *intermedia.* *caeca.* *albinescens.*

E. melampus *Fuessl.* Besides flying in the habitats indicated by Eiffinger, is found in the Swiss Jura, but not as erroneously presumed in the Vosges. The following new forms have been established: — by Fruhstorfer from the Mont Blanc region **tigranes** ("striking wide fuscous transverse bands intersected by very prominent black veins"), **augurinus** from the Simplon and Champéry ("larger, very bright, considerably enlarged fuscous bands traversed by fine black veins"), **momos** from the South Tyrol ("small, ground colour inclining to mouse grey, bands reduced, ocelli reduced to extinction"), transitions to the latter form are found flying concurrently with the name-form also elsewhere, for instance in the Albula Pass. A counterpart thereto is the strikingly large **radnaënsis** *Rbl.* (9), which is as large as *pharte* and is found in the Radna Mountains in Transylvania. It is similar to *sudetica Stgr.* in colouration, extension of the bands and ocelli, but the wing contour is more extended. — Single specimen aberrations have been named: **randae** *Vorbr.* (♂ with 4 white spots on the forewings) from Randa in the Valais; **impunctata** *Oberthuer* (= caesa *Gramann*) (bands on upper and undersides without eyespots) **reducta** *Gram.* (bands considerably reduced on forewings and hindwings, "the whole inner area of the forewings bright fuscous" on the underside), **ziegleri** *Gram.* ("the red brown colour on the upper and undersides of all wings reduced to small, mostly quite circular spots rarely having black centres"). The latter 3 forms come from the Aversser Valley in the Grisons, but may also be found elsewhere, which can also be said of **kodermanni** *Kloss & Hoffm.* from Styria which has no black ocelli in the bands of the forewings.

melampus. *tigranes.* *augurinus.* *momos.* *radnaënsis.* *randae.* *impunctata.* *reducta.* *ziegleri.* *kodermanni.*

E. kefersteini *Elw.* is described in the original description and as shown by the illustrations that accompanied same, as being very variable both in regard to the extensiveness of the fuscous and to the number

kefersteini.

and size of the ocelli. As a matter of fact the difference is indeed great between specimens with the middle area fuscous almost to the base and with 5 eyespots on the forewings and 4 on the hindwings and such with black brown being only fuscous in the middle area of the underside and without any eyespots. These however are not local races, but different varieties intermingling at one and the same locality. Nevertheless the form that shows fuscous over the forewings up to the area of the base may be denominated **effusa** *ab. nov.* — *effusa.*

E. flavofasciata *Huene* has recently been found on the Alpe Veglia in Val-Verzasca and on the St. Bernard Pass. As Eiffinger pointed out there is not always a clearly definable difference between the forms of the Tessin and the Engadin (*thiemei Bartel*). — **extrema** *Schwing.* (uniform black without markings on the upperside), **pauperrima** *Vorbr.* ("spots and ocelli of all wings strongly reduced"), **mirabilis** *Bergmann* (♀ with fuscous spots in the disc of forewings), **caeca** *Krueger* (Bands weakly present on all wings but without ocelli) are names for aberrations from the Tessin. — **warreni** *Vrty.* is a form found in the Rosegg Valley (Grisons) with reduced and "interspersed" band on the underside of the hindwings. — *flavofasciata.* *extrema.* *pauperrima.* *mirabilis.* *caeca.* *warreni.*

E. eriphyle *Frr.* Two forms are distinguishable, one from the austrian Alps (Carinthia, Styria) being the local race in the east and one from the bavarian and swiss alps, also occurring in Piedmont in the west. The former is of darker black brown ground colour, the bands particularly on the hindwings are better developed and bright fuscous, both ocelli of forewings distinct, the middle area of the underside of forewings heavily suffused with rust-red towards the inner margin. It bears the misleading name of **tristis** *H.-Schäff.* The name form from Bavaria and Switzerland has in contrast to it a more modest garb both in colour and marking. Frey separates — with scarcely sufficient reason — a form with paler and relatively well developed bands from Davos (Switzerland) as *intermedia.* Vorbrodt has given the name **reducta** to a smaller more dusky coloured form from the Gemmi and the Loetschtal, which has small fuscous spots, which may be quite absent on the hindwings, forming a dissolved band. In all races the ocelli may be absent in the band (ab. **impunctata** *Hoefn.*) specimens also occur over the whole territory with uniform black hindwings (ab. **obscura** *Hoffm.*). Styrian specimens with 3 instead of 2 eyespots in the band of the forewings Hoffmann denominates as ab. **tripuncta** (= luxurians *Osth.*). Sometimes specimens occur with 4 eyespots and also with eyespots in the bands of the hindwings. Very rarely one finds specimens analogous to *epiphron nelamus* which are quite black: **nigra** *Osth.* — *eriphyle.* *tristis.* *reducta.* *impunctata.* *obscura.* *tripuncta.* *nigra.*

E. christi *Raetzer* flies not only in the Laquin Valley over a stretch of several kilometers, but also elsewhere in the Simplon territory (Zwischberg Valley, Alp Alpien, above Simpeln) in altitudes up to 2000 m. It is actually larger than *cassiope*, but not a third larger as indicated by Eiffinger, being only as large as a medium large *pharte* or *mnestra*. Not only in the ♀♀, but also in the ♂♂ we find the eyespots here and there elongated lengthwise forming streaks. They can also be quite absent on the upper and undersides of the hindwings (= **depuncta** *Weber*). — *christi.* *depuncta.*

E. mnestra *Hbn.* Huebner's original illustration shows a ♂ with 2 black eyespots without pupils, a ♀ with one white pupilled and one blind ocellus. Vorbrodt is therefore justified in allotting the name **impunctata** *) to the much more common form without ocelli and pupils. Further as I have done one can, name the ♀ with ocelli and without pupils as ab. **ocellata** and the rare ♂ with pupils as ab. **pupillata.** I must admit however that there is no urgent need for such denominations. *mnestra* has a limited distribution, occurring in Switzerland, Bavaria and the North Tyrol at and altitude of 1400 to 3000 m. It is represented in the french Maritime Alps by **gorgophone** *Bell.* (9 a), which according to Turati and Verity is a true species. Being of the same size as *mnestra* it has especially prominent scent scale spots on the upperside of the forewings in the ♂ and a distinct grey dusted marginal band on the underside of the much more elongated hindwing. Both ocelli in the apex of the forewings are scarcely ever absent. If they are both exceptionally absent and the band of the hindwing on the upperside is slightly extended towards the middle of the wings, we have aberration **caeca** *Trti. & Vrty.* — *mnestra.* *impunctata.* *ocellata.* *pupillata.* *gorgophone.* *caeca.*

E. arete *F.* This very local species has also not escaped having a shower of names bestowed upon it for its regularly occurring varieties. From the name form with its well developed fuscous forewing band, which rarely has ocelli and the band of separated spots decorated with white pupils on the hindwing, we separate first ab. **reducta** *Hoffm.* with narrower band on the forewings and reduced band on hindwings, ab. **flavescens** *Hoffm.* with pale ochreous bands, ab. **marginata** *Thurner* with distinct "white-grey dusted band" on the underside of hindwings in the ♂ and "paler area before the *arete* row of spots" in the ♀. The further aberrations which have been denominated only occur in the ♀, ab. **preisseckeri** *Hoffm.* with blind ocelli of the forewings and partially blind on hindwings, ab. **tripunctata** *Hoffm.* with 3 "eyedots" on the underside of the forewings, ab. **ocellata** *Thurner* with 5 white pupilled ocelli on the upperside of forewings. — *arete.* *reducta.* *flavescens.* *marginata.* *preisseckeri.* *tripunctata.* *ocellata.*

*) Vol. 1, plate 36 c last illustration.

pharte. **E. pharte** *Hbn.* belongs to the species that get smaller and bear less decorative marking and bands at the highest localities (up to 2500 m). In high alpine ♂♂ all marks can quite disappear or be reduced to sparse rust-red dots; a trace of band-like spots is always left on the forewings. This is the form *phartina Stgr.*, which here and there occurs as a local race and then again a single specimen is found flying among typical specimens.

thynias. pellene. Fruhstorfer gives the name **thynias** to a high mountain form from the Dauphiné which varies slightly from the former being only slightly smaller and the name **pellene** to a transition form between *phartina* and the name-form from Tauern, the Swiss and Savoy Alps, as is illustrated in Vol. 1, plate 36 d (Fig. 7 and 8). He

flacilla. denominates as **flacilla** a "luxuriant variety" from the southern Swiss Alps which has richly developed bands. *fasciata Spul.* which occurs not only in Carinthia, but also in Styria shows the greatest development of the

eupompa. spots which merge forming a genuine band. **eupompa** *Fruhst.* (9 a) from Upper Bavaria resembles it closely in regard to the development of the bands, but it distinguishes itself from all other races chiefly by its size and the yellow-red colouration of the bands. The rare form from the heights of the Vosges does not differ from the name-form. It flies also in the Carpathians. — Aberrative specimens with 2—4 dots in the band of the

punctata. forewings are called **punctata** *Hoefn.*, those with pale colouration of the bands **pallida** *Osth.*, when the band suffuses

pallida. effusa. dilucescens. towards the base of the forewings **effusa** *Osth.*, when the forewings are suffused with red to the base **dilucescens** *Osth.* — **extrema** *Schwing.* is a specimen from the Glockner territory without any marking and unicolourous

extrema. brown-black.

pawlowskyi. **E. pawlowskyi** *Mén.* Whilst Eiffinger's description is fairly accurate it should be amplified by stating that the "diffuse yellow streak" occurring here and there on the underside of the hindwings, which is clearest in the disc and stretches diffusing towards the base, can sometimes be not only clear and sharply outlined, but can be accompanied by a second and even a third spot, so that a sort of a band is created. In one specimen there are even a few further yellow streaks between these discal and marginal spots. In *sajana* specimens that I have examined, this streak is only faintly indicated, otherwise the form *sajana Stgr.* which flies in the Sajan Mountains is scarcely differentiable from the name form.

haberhaueri. **E. haberhaueri** *Stgr.* Staudinger's type from Tarbagatai is a specimen in which the fuscous marking of the upperside of the ♂ is limited to a spot in the median cell, a small streak on the costa of the forewings and 2 small dots on the inner margin, otherwise it is plain grey-brown. The somewhat darker underside shows distincter remnants of bands: there are 4 small rust-red spots on the forewings and 6 yellow-red dots on the hindwings. The middle area of the forewings is a lighter rust-red. The insect is clearly very variable. Eiffinger's description corresponds exactly with another specimen submitted to me which also originates from Tarbagatai (Saisan) which possibly deserves a separate name. The forms from Tarbagatai and Altai (*elwesi Stgr.*) are considerably surpassed in the development of the bands, the fuscous middle area of the forewings which extends to the inner margin, in liveliness of colouration and clarity of the markings by the forms from

hilaris. tunkuna. the Sajan Mountains, **hilaris** *form. nov.* (*Stdgr. i. l.*) and **tunkuna** *form. nov.* (*O. B.-H. i. l.*) of which the latter differs from the former by richer and more sharply outlined markings of the underside.

maurisius. **E. maurisius** *Esp.* is much more variable than one would imagine from Eiffinger's description. The streaks of rust-red from the middle area to the marginal band are often absent, the spots of the hindwings are rarely round, mostly elongated streak-like. The spots on the underside of the hindwings of which there are 7—8 in the ♂, are of very varying size and shape being only exceptionally punctiform, in the ♀ there are sometimes several yellow-white streaks in the middle cell. The very sharp dark line separating the fringes from the wings, is striking. Also *theano Tausch.* differs considerably. The band-like spots could be more correctly described as yellow r e d. On the other hand the bright ochreous and beautifully developed bands of the form

lederi. **lederi** *form. nov.* (*O. B.-H. i. l.*) (10 a) from the Central Altai make it one of the finest *Erebia*. The middle cell of the forewings and also of the hindwings is so strongly suffused with ochreous yellow towards the base, that a basal band is almost created. The fringes are more distinctly checked brown and grey-white than in other forms. The underside is more richly and distinctly marked and is even brighter. In some cases the spots at the base of the hindwings are whitish-yellow, which colour also occurs in a striation of the ochre-yellow marginal

sajana. band. — The form from the West Sajan (near Minussinsk) which is called **sajana** *form. nov.* appears insignificant in comparison. It is the smallest of the *maurisius* forms with relatively poorly developed bands and spots on the upper and undersides. A ♀ shows certainly heavy rust-red basal spots. Otherwise the race closely resembles the name-form.

turanica. **E. turanica** *Ersch.* is one of the most variable *Erebia* that is known. It varies in size from 1.8 mm wing length (*reducta*) to 2.6 mm (*jucunda*). The bands of the upperside are reduced sometimes to 3 pinhead sized rust-red dots on the forewings and 5 still smaller dots on the hindwings and then again in other specimens the bands form a very wide yellow-red continuous band stretching almost from the outer margin to the inner margin tapering off only slightly towards same on the forewings, whilst on the hindwings there are 6 separated but considerably enlarged roundish spots. Also the colouration of the bands varies from dull rust-red (mostly in forms with poorly developed bands) to yellow-red. Between these extremes there is every kind of gradation. The same applies to the development of the white bands on the underside of the hindwings. These can be

quite absent (= **tristis** *Gr.-Grsh.*) (9 a), or else only faintly indicated forming a continuous row of white spots and finally developing to a continuous band from inner margin almost to anal angle, in which the size of the marginal spots does not by any means run parallel with the expansion of the band. Here also there are all kinds of variations and transitions from one and the same locality. I should therefore like to subscribe to the opinion which Eiffinger shares with Alpheraky and Wagner that the name-form and *laeta* are not different local races, but are aberrative forms from the same localities. Same may be presumed to apply to *tristis Gr.-Grsh.* Also specimens with a few small dull red, almost equally large spots on uppersides of fore and hindwings, but with distinct or at all events indicated white band on underside of hindwings, and which may be named **reducta** (*ab. nov.*) (9 a) are only aberrations. It is certainly however not impossible that some of the forms mentioned occur so predominantly at certain localities that one can speak of a local race. Whether *jucunda Püng.* is a local race or an aberration I should not like to decide. In any case there are all sorts of transitions between same and the name-form in regard both to size and development of the bands. *Turanica* flies already at an altitude of 6—700 m. *tristis.* *reducta.*

E. manto *Esp.* (9 a) is of particular interest because it provides a pronounced alpine form (= pyrrhula *Frey*) and then again because it forms real and distinctly separable local races. The illustration in Vol. 1, plate 36 h, recognisably figures *pyrrhula*, the small narrow winged form from the summit of the Albula Pass (2300 m) with few rust-red spots on hindwings, sometimes absent, forming a limited band and as a rule without any ocelli. Very closely similar are the forms from other high altitudes of the Swiss Alps where according to Vorbrodt *manto* occurs up to heights of 2500 m. They are however somewhat larger and wider winged. Fruhstorfer considers this form should be *mantoides Esp.*, under which name he would like to include the other Swiss forms which are not particularly named. He may be right. Scarcely any *Erebia* varies so much in regard to size, development of bands on upper and undersides in the ♂ and ♀ and the ocelli of forewings and hindwings at one and the same locality as does *manto*. Fruhstorfer separates from this form illustrated in Vol. 1, pl. 36 g, from the Swiss Alps for which the name of **mantoides** *Esp.* has been decided upon, a form with "wide, dark fulvous bands on upperside" and "exceedingly prominent black spots in bands of all wings": it comes from the Valais and has been named **saphrana** ab. without sufficient justification. Further Fruhstorfer proposes a special name for the race from the Laquin Valley for which also there seems little reason. Also the temptation to give special names to high altitude forms which do not entirely correspond with *pyrrhula* should be withstood because these are all transitions to specimens from lower altitudes. On the other hand the name **caecilia** *Hbn.* is justified, it is a form in which the bands on fore and hindwings have entirely disappeared in typical specimens. It flies as a local race in various spots in Switzerland and on the Stilfser Joch, but it occurs probably everywhere as an aberration. — From these forms flying chiefly in Switzerland we have to separate those from the bavarian and austrian alps. These are much more richly decorated than the former. Already in the races from Bavaria and Tyrol, which Fruhstorfer has named **erina** *Fabricius*, the bands on both wings are more pronounced, the rust-red is brighter, ocelli more numerous and distinct. Variability here is also very great. Fruhstorfer is justified in pointing out that the band can almost entirely disappear (ab. **nigra** *Osth.*), on the other hand already in western Bavaria some specimens are found with such wide continuous and brightly coloured bands on upperside that Osthelder gives them the names **fasciata, latefasciata,** and when bands are increased in size and diffuse inwardly **effusa.** Sometimes also the ocelli are increased in number and size. A form from the austrian Oetscher region with 7—9 ocelli on fore and hindwings which occurs also as an aberration at other localities has been called by Wagner **ocellata.** These specimens are a transition to the name-form first described from Styria as *manto Esp.* (9 a, 10 a) which also flies in all the austrian alps up to the neighbourhood of Vienna. It exceeds all other races in the development of the bands of upper and undersides, which show a greater contrast through the rust-red colouration of same from the deep black-brown ground colour and as a rule also in regard to the distinctly outstanding ocelli. Especially characteristic is the marking of the bands on underside of hindwings both in ♂ and ♀. In the ♂ it consists of 5—7 sharply outlined orange-yellow spots which here and there are actually eyespots, in contrast to which the few rusty-red basal spots appear insignificant. In the ♀ the bands and basal spots are sulphur-yellow in contrast to the yellow-red bands on underside of forewings. In most typical specimens they are confluent to a wide band, **ligata** *ab. nob.* (9 c). — Also the Carpathians and Balkans are the homes of special *manto*. A form from the Carpathians with obsolete basal spots of underside of hindwings of ♂ and ♀ has been named by v. Hormuzaki **trajanus** and a form from Bosnia that approaches to *pyrrhula* with less sharply outlined, dusky red-brown band, diffusing from margin towards base of forewings has been named **osmanica** by Schawerda. — In the West of Europe in the Pyrences a race flies allied to *caecilia* which Eiffinger has described as *constans Elwes* (Vol. 1, pl. 36 g). Warren considers this a genuine species and names it **gavarniensis.** His reasons are not convincing. The form should, however, be called **constans** *Eiffinger* as the latter and not *Elwes* was the original author. Fruhstorfer names the smaller form from the southern french mountains, which he alleges "differs considerably from the races of the Pyrenees" as **gnathene**. — Apart from **bubastis** *Meissn.* (9 b) and the above mentioned *ligata* which is a counterpart *manto.* *mantoides.* *saphrana.* *erina.* *nigra.* *fasciata.* *latefasciata.* *effusa.* *ocellata.* *ligata.* *trajanus.* *osmanica.* *gavarniensis.* *constans.* *gnathene.* *bubastis.*

of same from the swiss and bavarian Alps we have to mention aberrations which frequently occur in ♀♀, in which the otherwise yellow spots of band of hindwings on underside are coloured dull rust-red and poorly developed, and in fact sometimes quite absent. They have been named **maccabaeus** *Herbst.* India (!) has been mentioned as the home. It seems therefore only right to cancel this name and substitute it by **rubroligata** *ab. nov.* (9 a) *). Turati has denominated a ♀ from Aosta as **farinata**, it looks as if it had been covered with white flour and the ocelli are missing in bands of all wings. — **impunctata** according to Hoffmann from Styria are without ocelli in bands. They also occur elsewhere. — We are illustrating an interesting *vogesiaca Christ* (10 a).

maccabaeus. rubroligata. farinata. impunctata.

E. ceto *Hbn.* Fruhstorfer has taken occasion to subdivide this species into a series of local races. He calls the form from the Maritime Alps **cetra**, which in the development of its elliptical spots as well as "in its whole appearance reaches the maximum of development". **frenus** is the high altitude form from Dauphiné, very small "with dusky and reduced spotting", very similar to *caradjae Cafl.* **tyrsus** is the form from South-East Switzerland, "the spots on upperside are almost double as wide" as specimens from Valais. **crobyle** is again similar to *caradjae*, small, with reduced but complete red-brown spots, with ocelli and pupils. It flies in North Tyrol and Bavaria, **rhodocleia** on the other hand in South Tyrol. The latter is said to be larger than the name-form from Switzerland, but does not achieve the same perfection in development of the rows of spots. All these forms with exception of *frenus* scarcely justify names. *Ceto* varies locally within certain limits and it would not be difficult to find specimens in one and the same locality which correspond with the name-form, with *obscura Rätzer*, with *cetra*, *tyrsus*, *crobyle* and *rhodocleia*. — The race from the Apennines has been named by Verity **abetonica.** It is of medium size, has perfect but small and dusky spots. — ab. **leto** *Schltz.* is an aberration without ocelli in the row of spots, **albomacula** *Rbl.* is a specimen "with whitish-brown spots on underside of hindwings" from the West Alps (= *phorcus Frr*?). A remarkable ♀ from the Simplon in the Senckenberg Museum has only 2 small rust-red, black ocellated spots on upperside of forewings 3 minute red dots on the still more minute ocelli on hindwings. I name it **extincta** (*ab. nov.*).

ceto. cetra. frenus. tyrsus. crobyle. rhodocleia. abetonica. leto. albomaculata. extincta.

E. medusa *F.* is the only *Erebia* which in the great migration of the Erebias from the mountains to the warmer plains at the beginning of the ice period has made its home there so that after the end of the period it still continues to exist as plentifully in the flat land as in the mountains. It is true that the new form of the plains has become so little acclimatised that it varies extraordinarily in these localities and the establishment of special denominations for local races is therefore questionable. Nevertheless this has been done on a wide scale, especially on the part of Fruhstorfer. Starting by claiming that the name-form is the type from Vienna he names the medium sized form flying throughout Germany and especially up the Valley of the Rhine **brigobanna**, its band is dissolved into isolated spots, the ♀♀ however "all have a widening of the fulvous bands" similar to the colouration of *psodea*. Fruhstorfer names the Jura and Black Forest race **meisneri**, it is said to be smaller and duskier than *brigobanna*. According to Fruhstorfer Switzerland is the home, apart from the high alpine *hippomedusa*, of **charila** flying from Bâle to Geneva which "shows gradations of all the characteristics of *brigobanna*", has the spot marking wider and more fiery, ocelli and pupils "more prominent", then we have **generosa** from Monte Generoso and from the Valais, larger than *charila*, spots less developed, "preapical ocelli always separate, very large and with darker red periphery". Fruhstorfer names the form from the Tessin, from Bernardino and the South Tyrol **cercida**, characterises it however only by saying "it varies most from *charila*". The bulgarian race has been named **euphrasia**, it is said to stand in regard to development of ocelli and iris between the Vienna name-form and the richly marked hungarian *psodea*, not having "beautiful fulvous yellow" as latter but darker red-brown. *euphrasia* is said to occur also in Istria and the Caucasus. The "diminutive" form from Bosnia is named **narona** "duller and with wider suffused yellow-brown spots on both wings", underside of ♀♀ is "much paler grey than *hippomedusa*". Vorbrodt names specimens from Mte. Generoso and from the Tessin (Fusio) **ticina**, they are said to be smaller than more northerly specimens, but brighter and livelier in colour. Also a belgian form has been given a special name by Lambillion **florinensis.** It is small, ground colour darker than the name-form, band wider and paler. — Of the italian forms Count Turati has described the race of the high Apennines from Modena as **hyperappennina.** It differentiates chiefly by its deep black ground colour, rust-red band both in ♂ and ♀ consists of small spots in which there are distinct white pupilled ocelli. — It is indeed difficult to find one's way through this confusion of races, especially if one tries to do so from descriptions. It would be easy and in fact there would be an equal right to multiply these denominations by a dozen. Correspondingly to the above mentioned insufficiently specific definitions, aberrative specimens are naturally very numerous. They have given rise to a whole series of denominations. A ♂ from Moravia with ochreous instead of black-brown ground colour Zelesny names **satoryi**, an albinotic specimen from Bavaria with almost white marginal areas Osthelder names **albinotica**, a specimen with almost pure white bands **albofasciata. effusa** *Osth.* are bavarian specimens which also occur elsewhere in which on the forewings 3 spots of the band are elongated proximally cuneiform, in **difflua** *Black.* (= dilucescens *Gramann*) from Switzerland the band of forewings both distally and proximally diffuses into the middle cell and extends to the inner margin without a distinct outline. **astigmatica** *Schtz.* from Silesia is quite without ocelli on upperside, the band of forewings is reduced to

brigobanna. meisneri. charila. generosa. cercida. euphrasia. narona. ticina. florinensis. hyperappennina. satoryi. albinotica. albofasciata. effusa. difflua. astigmatica.

*) On the plate the name *maccabaeus* has erroneously been left.

2 rust-red spots. Hindwings are unicoloured black; **pherusa** *Schtz.* from the same district has only two red encircled ocelli in place of the band on forewings and one red encircled dot on hindwings. In the swiss **postnigra** *Vorbr.* hindwings are without ocelli on both sides, in **depupillata** *Osth.* from Bavaria ocelli are reduced to spots without pupils. **mantoides** *Gram.* is said to be similar to *manto pyrrhula*, having bright ground colour with only one minute dot in place of the ocelli on fore and hindwings, band on hindwings dissolved into 3 spots. — **pseudomedusa** *Strd.* is an aberration of *polaris* from Norway, which Strand considers is a genuine species. In it the band on upperside of forewings is dissolved into ringlets round eyespots, ocelli being limited to 2 on forewings and to a dot on hindwings, the pupil is often absent in latter and is indistinct on forewings. The same applies to the paler band on underside. Of belgian specimens 5 have been given specific names. **virago** *Cab.* is a ♀ with yellowish-white band on forewings, dark yellow-red on hindwings, of the 5 small ocelli of forewings the 3rd consists of a black blind spot. — **amazon** *Cab.* is a ♀ with ground colouration and bands of the ♂, **infulata** *Cab.* is a ♀ with grey-brown ground colour and pale very wide bands on forewings. — In **mairloti** *Cab.*, also a ♀, this band is 4 mm wide and not intersected. — **semigrisea** *Cab.* is a ♂ with greyish forewings but normal colouring of hindwings.

pherusa. *postnigra.* *depupillata.* *mantoides.* *pseudomedusa* *virago.* *amazon.* *infulata.* *mairloti.* *semigrisea.*

E. oeme *Hbn.* has been separated by Fruhstorfer into no less than 11 races. He ascertains 2 races already in Savoy: **tanita** from the Grande Chartreuse, unusually small, "hindwings with minute ocelli scarcely perceptibly surrounded with red-brown" and **lugina** from Savoy also small, but eyespots of upperside "extensively encircled with red", underside of forewings of ♀ bright fuscous, whilst in *tanita* the fuscous hue is absent. Geographically connecting with these: **pacula** from the swiss and french Jura "generally the finest *oeme* of Switzerland" with "luxuriant" red spots on upper and underside, being close to *spodia Stgr.* — **nilas** from the Dent du Midi in Canton Waadt is in contrast thereto smaller with almost extinct ocelli and reduced red-brown surrounds to same, approaching to *lugens Stgr.* — **seliza** from the Bernadiner Pass is actually smaller than *pacula* but "more richly ornamented with red on upperside and the black white-pupilled eyespots generally smaller". — **philiata** is a race flying in Canton Uri named by Fruhstorfer which approaches *lugens Stgr.* and which is said to be not only an aberration, but a local race occurring in a number of Swiss Valleys, forming a transition to the race of *mythia* from Algau and "as a rule is finer" than these, but not up to the name-form from the Tyrol. — **mythia** from Algau has "apical ocelli of forewings as a rule with a more extensive proximal red patch" than the name-form, on the other hand hindwings have smaller or no ocelli on upper and undersides. — **clisura** from the Alps around the Tegernsee and Reichenhall have in the ♂ very large ocelli on upperside of both wings with "brighter and more extensive red-brown periphery". Also the ♀ has increased red-yellow of the periphery of ocelli, underside is brighter. The race forms a transition to *spodia Stgr.* — **noctua** from the Tyrol is a mountain form that approaches *lugens*, it is small as same with small ocelli, but in the ♀ "the delicate greenish or greyish yellow hue of underside of hindwings is absent, as also is the yellowish patch in front of apical ocelli of forewings and also the fuscous tinge at base". Whilst Fruhstorfer leaves the *oeme* form from the Carpathians undenominated, he christens the form from Bosnia and Montenegro **vetulonia**; it resembles *spodia* closely, but has not got its "luxuriant ocelli-formation", whilst the periphery of the ocelli is sometimes equal. On the other hand the bulgarian **zagora** forms "a decidedly poorer form than *spodia* both in general appearance and colouration". It is also smaller. Quite apart from the fact that the description of these 11 races here and there leaves much to be desired in point of clarity, this extreme division of *oeme* forms seems doubtful. — The form of *oeme* from the Pyrenees is rich in ocelli and the ♀♀ are distinguishable by bright white pupils in eyespots. Oberthür names them **pyrenaea;** — **caeca** *Osth.* are aberrative specimens from Algau in which the ocelli are absent from band of forewings. *Oeme* flies in Bavaria at an altitude of 600 m, but in Switzerland only commencing at 1200 m and reaching heights of over 2300 m.

oeme. *tanita.* *lugina.* *pacula.* *nilas.* *seliza.* *philiata.* *mythia.* *clisura.* *noctua.* *vetulonia.* *zagora.* *pyrenaea.* *caeca.*

E. stygne *O.* This name must be upheld, as the attempt of Fruhstorfer to prove that the correct name should be *pyrene (pirene) Hbn.* can be deemed to have failed. Two groups of forms can again be differentiated: one with richer bands of spots and distincter ocelli and pupils chiefly in the male sex in the West of the region of distribution (Spain, France, Italy, South-West Switzerland, Vosges and Black Forest) and one with less striking appearance in the east (central and east Alps, Carpathians). Fruhstorfer, Chapman and Oberthür have divided the spanish *Erebia* into no fewer than 7 races. — **almada** is a name given by Fruhstorfer to relatively small forms with wide bands from the Cantabrian Mountains of N.W. Spain; as a special characteristic the great extension of the fuscous area on underside of forewings is mentioned: **hispanica** *Chap.* is one of the largest forms (expanse on an average over 49 mm) which Fruhstorfer unnecessarily re-christens *algernon*, it has somewhat narrower bands and smaller ocelli. From Sierra de la Demanda (Canales). — **bejarensis** *Chap.* (9 b, c) *) is still larger (♂ almost 50, ♀ 52 mm on an average). It is from Sierra de Bejar and Sierra de Gredos and distinguished by an extension of bands, ocelli and white pupils; underside of hindwings of ♀ is decorated by a distinct white outline to marginal band towards middle area. — **pyrenaica** *Ruehl* re-christened by Fruhstorfer as *rühli* is the very common form in its localities in the

stygne. *almada.* *hispanica.* *bejarensis.* *pyrenaica.*

*) The illustration is unfortunately a faillure especially in the colouration.

french West and High Pyrenees with shortened band of forewings and reduced ocelli and pupils. The white band on underside of hindwings of ♀♀ is sometimes distinctly present, sometimes indicated and sometimes quite absent. The fine form from the East Pyrenees is named by Fruhstorfer *zagazia*. Oberthür justifiably considers same identical with *bejarensis*. I also cannot discover any differences between my specimens from
gavarnica. the High Pyrenees and Chapman's illustrations of *bejarensis*. — **gavarnica** *Oberth.* from the Central Pyrenees
penalarae. is a form with a narrower band which is strikingly close to margin. **penalarae** *Chap.* (which Fruhstorfer has renamed *castiliana*) flies in mid Spain (Sierra de Guardarrama) and is a form of medium size and development of bands and ocelli, the ♀ without the white edge to the former on hindwings. To what extent all these spanish races can claim justification of denomination can only be decided on the basis of plentiful material with definitely certain locality labels. — On the italian peninsular 3 forms are found in the Apennines, of which one occurring in the Abruzzi Mountains at 16—1800 m altitude is said to be identical with *pyrenaica Rühl.* The form flying as low as 900 m in Tuscany and the Apuan Apennines has been named simultaneously
costantinii. by Turati as **costantinii** and by Verity *etruriae*. It is smaller than spanish specimens, the rust-red band is dark in colouration and of moderate development, on the other hand ocelli and particularly on hindwings
tetrica. are large and with prominent white pupils. — **tetrica** *Vrty.* from Monti Sibillini is small with narrow wings,
cubei. dark ground colour, few and small ocelli and reduced bands, being poorly marked on underside. **cubei** *Fruhst.* is similar to *costantinii* and comes from the italian and french Maritime Alps; ocelli of hindwings are not so strik-
calaritas. ing. In the ♀♀ there is a distinct, almost pure white middle band on underside. **calaritas** from Auvergne and the Basses Alps near Digne named by Fruhstorfer shows less decoration in regard to bands and ocelli on upperside. In the ♀♀ the white band already mentioned is absent. It is a transition to forms established
charea. by Fruhstorfer for the Savoy and Geneva Alps and the neighbouring Southern Jura, namely **charea** and
praerutilia. **praerutilia.** The former is smaller with developed bands, ocelli in both sexes are large and distinctly pupilled with white. The latter is still finer ("the fuscous bands and white pupilled ocelli reach the maximum highest development in the territory of the West Alps"). The underside of hindwings of ♀♀ has however no white band, but in both forms it is sometimes "white suffused". In them we find occasionally a ray-like extension
posidonia. of the bands of forewings towards base. — Close to *praerutilia* come the races from the Black Forest (**posi-**
guttata. **donia** *Fruhst.*) and the Vosges (**guttata** *Goltz = eximia Fuchs*). They are almost as fine as the spanish forms in regard to the beautiful bands and size of ocelli, especially in the ♀♀; on an average they are somewhat smaller and the pupils not so brilliantly white. *Guttata* (9 b) only differs from *posidonia* in that the bands whilst being contiguous show the individual spots formed like tears and pointing inwards. At the same time there are certainly specimens found in the Vosges which cannot be distinguished from *posidonia*. *Stygne* flies in the North Vosges as low as 200 m, in the Black Forest from 400 m upwards. — The transition to the less well developed races of the Central and East Alps is formed by a race flying in a few localities in the woods of Thüringia at 8—900 m. It is smaller and less richly decorated in bands and ocelli than *posidonia* and *guttata* the fuscous bands however are better developed than the average of alpine specimens, the white pupilled
thuringiaca. eyes whilst being small are distinct and numerous. This strikingly isolated form has been named **thuringiaca** *form. nov.* — The eastern race which occurs in the Alps of the Bernese Oberland and the Valais down to Lower Austria, Styria and Hungary, is characterised by varying size which is nevertheless smaller in comparison to the west race, further by the band which is mostly dissolved into separate spots and practically never contiguous and which sometimes disappears, being reduced to quite minute traces, especially on the hindwings of the ♂ (*valesiaca Elw.*). This latter dark form is found in a few localities, for instance Canton Glarus, as a local race but generally as an aberration intermingling with specimens with better developed bands. The name *valesiaca* is misleading as this form is by no means confined to the Valais. — Fruhstorfer names all
freyeri. specimens from Algau, Vorarlberg and Ortler territory as **freyeri**, they are similar to *valesiaca* but somewhat larger, the fuscous considerably reduced but not quite absent. I am unable to find any decisive differences between specimens from Central Switzerland and those from Algau and Vorarlberg, with the exception of the form justifiably mentioned by Osthelder which often has strongly elliptical shape to the large white pupils
styriaca. giving the ♀♀ a particularly fine appearance. — **styriaca** *Hirschke* from Styria is in so far similar to *guttata Goltz* from the Vosges that the spots are also tear shaped, however they do not form a band but are isolated and much smaller. It is a fairly large form. The unnamed race from the South Carpathians is said to be quite similar. According to illustrations it cannot be distinguished from many swiss specimens. — Vorbrodt has recently
bodenmanni. named a form from the Säntis territory **bodenmanni**: "deep black-brown on both sides, except for exceedingly small brown patches, on all wings 5 black ocelli with white pupils, being quite exceptionally large in the ♀". — *stygne* flies at an altitude of 200 m (Vosges) to 2400 m (Switzerland) from the end of May to the middle of August. — The following single aberrative specimens have been named: a ♀ from the Mont Blanc
abocula. territory with unspotted forewings and 2 eyespots without pupils on hindwings as **abocula** *Favre.* — **semi-**
semicaeca. **caeca** *Bubacek* from the Pyrenees has small eyespots in bands of forewings and such minute black spots on hindwings that they are only visible with a magnifying glass. — The note in Romanow's Butterfly Book, which has also been transposed into Staudinger's Catalogue, that *stygne* flies in Armenia, cannot be vouched for and just as improbable are the particulars which are given with ? by Fruhstorfer in regard to its occurrence in the Caucasus.

E. palarica *Chapm.* (9 b) *) was found in 1902 by Mrs. Nicholl on the Picos de Europa, in 1904 it was established as a genuine species of Dr. Chapman, it is very close to *stygne O.*, largest of all *Erebia* (average expanse 59 cm), larger than *parmenio*. "Colour and marking like *stygne*, excepting the proximal outline of the red spots of bands on upperside which are constricted and appear inset and not rounded or projecting, whilst on underside of the ♂ they are often more distinctly defined, extending on forewing of ♀ to costa and appearing as a whitish or greyish shade". The formation of spots is clearest between veins 3 and 4. The general appearance of the band reminds one of that of *aethiops*. Expanse 53—64 mm. The genitals also show variations. The eggs of *palarica* and *stygne* differ from one another. The species so far has been ascertained on the Picos de Europa and in the Cantabrian Mountains in N.W. Spain at an altitude of 12—1800 m. The chief flying period is middle of July. *palarica.*

E. evias *Godt.* is less variable than for instance *medusa* and *stygne*, and also less than *ceto*. Nevertheless Fruhstorfer has separated 4 races from the name-form of the Basses Alps. He names **venaissina** a larger form from Mont Ventoux which arises like an island from the plains. It has large ocelli and more extensive surrounds to ocelli, which "especially in the ♀ are ivory colour instead of fuscous". **eurykleia** *Fruhst.* (9 c) is the race from the Valais flying there from 500—2400 m, slightly smaller than the name-form with "a much narrower red-brown submarginal band especially on forewings". The high mountain form **letincia** *Fruhst.* from the Engadin is ¼ smaller with more extended ocelli on forewings standing isolated and indistinct, and narrower bands on hindwings. Fruhstorfer designates the race from the South Tyrol as a "grandiose race" naming it **victorialis** (9 c). It habitually beats even *eurykleia* and is characterised by a much wider red-brown band of forewings which "is decorated by considerably finer black ocelli with large white pupils". The underside is more decidedly grey mottled. If one agrees that there is any justification in these detailed separations it is only right to remark that there are no essential differences in the size of the name-form, *eurykleia*, and *victorialis*, further the development of ocelli and pupils seems to be identical in the name-form and *victorialis*, whilst that of *eurykleia* is not quite so extensive in the ♀♀ and in the ♂♂ certain specimens are almost identical. It is also not a fact that the underside of *victorialis* is more greyly mottled than in *eurykleia*. — In regard to the difficult spanish forms it is to be mentioned that the small *hispanica Zap.* flies on the Sierras of Arragonia, whilst *pyrenaica Stgr.* which Fruhstorfer renamed *ottonis*, is a high mountain form from the Central Pyrenees. The larger and more richly decorated castilian forms **penalarae** *Poulton* and **granjana** *Obth.* seem to be identical and do not approach the name-form, the latter form is said to have a particularly dark underside. — The albanian-montenegrian form of the East has been named *evias.* *venaissina.* *eurykleia.* *letincia.* *victorialis.* *penalarae.* *granjana.*

orientalis by Rebel. It is smaller than the name-form, the wing contour is narrower, ocelli are also smaller disappearing entirely sometimes on underside, white pupils are extinct. In the ♀ the band is also reduced. The underside is brighter than in alpine specimens. — **depupillata** *Schtz.* are aberrative specimens without white pupils in ocelli; ab. **caeca** *Oberth.* is an aberrative specimen from the Valais without any ocelli. *orientalis.* *depupillata.* *caeca.*

E. hewitsoni *Led.* Fruhstorfer separates as **sideris** the race from Armenia and North Persia from the name-form from the Caucasus illustrated on plate 37 a. It is smaller and paler in its general colouration, bands are of lesser extension, ocelli more pronounced. *hewitsoni.* *sideris.*

E. alecto *Hbn.* (= nerine *Frr.*). Count Turati has proved that the named used hitherto *nerine Frr.* should be corrected to *alecto Hbn.* He adds to the name-form of Eiffinger the following races *reichlini H.-Schäff.* (which he names *styx Frr.*), *stelviana Curo, italica Frey* and *morula Spr.* (9 c) cancelling *italica* and adding *orobica* and *hercegovinensis* and he perceives in *nerine Frr.* a separate local race from the name-form *alecto*. Fruhstorfer creates on the one hand a new race *gyrtone*, on the other hand he takes pleasure in renaming the name-form *alecto* in *triglites, hercegovinensis* in *turatii, italica* in *tryphaena* and *stelviana* in *vorbrodti*. Dannehl increases the confusion still further by giving the name *mendolensis* to *orobica*. The **orobica** which is found on the Mendel pass in the Adamello Group and in the Venetian Alps is in spite of the most careful description of the author very difficult to distinguish from *stelviana*: both forms are simply "subject to the greatest variability". Turati gives as the chief characteristic differences: in the ♂: somewhat larger, ground colour darker, margin of forewing band slightly incurved, ocelli a little rounder, veins a little distincter on underside, middle line on hindwings somewhat more visible, seldom outlined with white. More apparent are the differences on underside of ♀. Here in *stelviana* yellow or white-yellow is predominant, whilst in *orobica* it is a pale grey. — Much more easily recognisable is **hercegovinensis** *Trti.* (9 d) flying in Istria in the neighbouring Carniola (Nanos) and not in Herzegovina (!). It is smaller with wider brighter bands, especially on hindwings, large bright ocelli with white pupils which also stand out strikingly on underside. The underside of ♀ is whitish-grey. The new name-form *alecto* Turati ascribes to localities in S.W. Switzerland and Northern Italy as far as Trent, whilst **nerine** *Frr.* flies in Carinthia and around Gorizia. In the latter, spots of band are inclined to be elongated towards base, especially in the ♀ which has a silvery white, violet toned underside to hindwings. — **gyrtone** *Fruhst.* from the neighbourhood of Innsbruck on the Grossglockner and other North Tyrol localities flying perhaps as far as Karawankia and Carpathian Mountains represents a "dusky mountain form" with reduced rust coloured spots. *alecto.* *orobica.* *hercegovinensis.* *nerine.* *gyrtone.*

*) The illustration in Vol. 1, plate 37 a shows an abnormally large specimen.

Whether *alecto* occurs in Spain is not yet definitely ascertained according to Sagarra. Staudinger has already drawn attention to the great variability of *alecto* at one and the same habitat and lately Dannehl has again pointed this out. The latter lays stress on the fact and certainly rightly so, that the butterfly shows varying characteristics in various years. It is often impossible to allot specimens without locality label to any particular race with certainty. If one has larger series from the same locality the first impression is of its great variability. — Aberrative specimens: **olivaceofasciata** *Osth.*, a ♀ with olive-brownish bands, **depupillata** *Osth.* a ♀ without pupils in ocelli, **exannulata** *Osth.* a ♂ with pupils immediately in fuscous band. All 3 from Bavaria.

olivaceofasciata. *depupillata.* *exannulata.*

E. lefebvrei *Dup.* is according to careful researches by Chapmann a genuine species, according to examination of the genitals more closely related to *alecto* than to *melas*. In regard to the latter, besides the distinguishing characteristics mentioned by Eiffinger (of which the smallness or absence of ocelli is not always valid) there are still to be mentioned: the line formed by ocelli of forewings, their striking approximation to outer margin of all wings and in the ♀ the relatively straight outline of hindwing band which approximates deeply towards the middle area.

lefebvrei.

E. melas *Hbst.* (9 d) has recently been honoured by the attention of students. Fruhstorfer denominates as the name-form the hungarian race (= **hungarica** *Oberth.*) which is relatively large, rich in ocelli and of which the ♀♀ show extensive rust-red spot-marking on the upperside. The ♂♂ of the race from Velebit which Fruhstorfer names **leonhardi** resemble the name-form, but the ♀♀ have practically no rust-red spots on upperside. The race named **nanos** *Fruhst.* from Carniola and Istria is said to have especially large ocelli and a brownish coloured underside, the ♀♀ sometimes are with, sometimes without rust-red spots with large ocelli on forewings, whilst these are absent on hindwings. — **aconis** *Fruhst.* from Bulgaria only differs from the following form in that the ♂ has a "grey-brown suffusion of scales" in some specimens, whilst the ♀ is smaller and poorer in eyespots lying in "indistinct red-brown patches". On underside the "submarginal zone" is narrower and more sharply outlined and the median band of hindwings is fainter. — **hercegovinensis** *Schaw.* (= schawerdae *Fruhst.*) from Bosnia and Herzegowina has ♀♀ with upperside of "dull brown-black" ground colouration. The greek **sigeion** *Fruhst.* is somewhat larger than *hercegovinensis*, ocelli are less prominently pupilled with white. The ♀ has no fuscous spots on upperside, hindwings are generally — on underside always — without eyespots. According to the material at my disposal I must partially doubt not only the necessity but the correctitude of these race divisions. I must leave the disputing to the authors as I am undecided whether the spanish *astur. Obth.*, *pyrenaea Obth.* (= myrialda *Fruhst.*) and *intermedia Obth.* belong to *melas Hbst.* or *lefebvrei Dub.* The former seems to me at least the more probable in spite of Sagarra. — Aberrative specimens: **latefasciata** *Steiner* are ♀♀ with very wide bands on forewings, **obsoleta** *Steiner* is a ♀ altogether without bands, **velebitaca** *Steiner* a ♂ with distinctly developed fuscous band of forewings. All 3 from Croatia.

metas. *hungarica.* *leonhardi.* *nanos.* *aconis.* *hercegovinensis.* *sigeion.* *latefasciata.* *obsoleta.* *velebitaca.*

E. glacialis *Esp.* Seeing that, as mentioned above the name *alecto Hbn.* is to take the place of *nerine Frr.* it is only right that the name **persephone** *Esp.* (9 d) *) should replace the *glacialis* form hitherto called *alecto*. It comes from the North Tyrol and bavarian Alps and has well developed ocelli on upperside and almost always also on underside. It also frequently has small ocelli on hindwings and on underside the remains of a rust-red band on forewings. Schawerda gives this race the name **teriola.** He separates from it the form **kaseria** from the Wilder Kaiser. It has still smaller ocelli which are without pupils in the ♂ and which are situate in striking longitudinal streaks of fuscous in the ♂ and fulvous in the ♀; the hindwings of the latter are grey-brown on underside. Fruhstorfer gives the name **turbo** to the closely allied race from the Oetz and Pitz Valleys. Here the ocelli are as a rule larger and more numerous, the remnants of a band on upperside are at the best only present in the ♀. Nevertheless both *persephone* as well as *turbo* vary within certain limits. This is not the case with the form **nicholli** *Calberla* (nec *Oberthür*) from the Brenta group. It always has numerous eyespots on upper and undersides (on the forewing in the ♂ 2—4, in the ♀ 3—4, on hindwings in both sexes 3 ocelli). These have "mighty white pupils", otherwise the ♂♂ are quite black on upper and underside, the ♀♀ sometimes with a trace of brown at eyespots. Schawerda names the race from the Ortler **stelviana.** It is the largest of the austrian *glacialis* forms, the ground colour is paler, bands wide and bright fuscous, forewings always with 2 ocelli with white pupils, the hindwings often also with eyespots. Fruhstorfer replaces the name *stelviana* by *velocissima*. — Much smaller is **dolomitana** *Schaw.* from the Dolomites with faint ocelli with white pupils, hindwings almost always without eyespots, ♂ black on upper and undersides. Just as small is **cariola** *Schaw.* from the Dachstein territory "remarkable by its pale ♀♀ with almost grey sheen in the outer area". **triglavensis** *Schaw.* from Triglav is even smaller still, on underside of the ♂ remnants of a redbrown band are present. **anthracites** *Fruhst.* from the Schnalser Valley is quite without eyespots, it belongs to the large races, rarely having traces of a rust-red band on upperside, sometimes however remnants of same on underside or with rust-red tinge towards base, which in the ♀ develops into a rust-red basal area. — The name-form *glacialis Esp.* emanates from the Mont Blanc region but is also found in Switzerland; Fruhstorfer separates from it **plutonides** from Dauphiné in which the ♂ is quite black on upper and undersides, whilst the ♀ "is suffused on upperside with faint traces of a reddish hue and on

glacialis. *persephone.* *teriola.* *kaseria.* *turbo.* *nicholli.* *stelviana.* *dolomitana.* *cariola.* *triglavensis.* *anthracites.* *plutonides.*

*) The illustration of *alecto* in Vol. 1, plate 37 b represents a rare exception in which the ocelli are absent on underside.

underside throughout reddish". He names the form from the Swiss Alps **anteborus.** It is without ocelli but always has traces of a rust-red apical spot or band. This is sometimes clearly developed (compare Vol. 1, pl. 37 b) especially in the ♀ on fore and hindwings. Fruhstorfer would like to group the latter forms with rich bands together under the name **entaenia** and name those with faintly developed bands only on the forewings **aeolia.** In Switzerland *glacialis* flies in its various forms from 1600—3200 m and occasionally up to 3600 m. — The name **beelzebub** *Costa* has been given to the form from Abruzzi where it flies at 1600 to 2200 m. It is essentially identical with *pluto Esp.*, the ♀♀ have a diffuse red-brown band on the wings but underside of forewings is black. Aberrative forms have been named: as **caeca** *Schaw.* specimens of *nicholli Calb.* without white pupils in ocelli, as **aretoides** *Hirschke* from the Ortler region specimens without ocelli but with each 2 large white pupils on forewings and hindwings in the band which is only indicated by a red hue. *anteborus. entaenia. aeolia. beelzebub. caeca. aretoides.*

Of **E. erinna** *Stgr.* which was not illustrated in Vol. 1 we show a figure here of the underside (9 c). *erinna.*

E. fasciata *Btlr.* Grum-Grshimailo has separated the east Siberian specimens as **semo** from the north American name-form. The description corresponds so exactly with the illustration on Plate 8 f of an american specimen that I cannot find any difference. It appears that Gr.-Grsh. assumes that the american butterflies are unicoloured black-brown without band. This, however, is only exceptionally the case. *fasciata. semo.*

E. pronoë *Esp.* belongs to the species that are interesting because the most richly decorated races fly in the north of the territory over which it is distributed. The southern races from the Pyrenees to the Caucasus are all more or less dingy. Owing to its wide distribution innumerable races have been established and denominations given to a great number of aberrations. As name-form we take the austrian form especially that from the Styrian Alps, which Fruhstorfer describes as the "most luxuriant race". The form from the lower heights of the north Tyrol and south Bavaria which Fruhstorfer wrongly denominates with the name of *alamangoviae* (meanwhile refuted again by Staudinger) is almost fully its equal in the development of the fuscous bands, size of ocelli and pupils and overall size. These well-marked races represent at the same time the lowland forms of *pronoë* occurring at an altitude of 800—1300 m. The high mountain forms to which belongs also the form from Bavaria and north Tyrol all show reduced or extinct bands often with ocelli and pupils of small size and they are smaller insects. The form from the Central Pyrenees "with very faint bands in which there are 3 rarely 2 ocelli on forewings" has been named **glottis** by Fruhstorfer. He wrongly ascribes a form from Savoy with increased "dusky red-brown area on forewings" to Esper's *persephone* which represents a *glacialis*. He and Vorbrodt agree that the *pronoë* forms of the Swiss Alps belong to *pitho Hübn.* Fruhstorfer separates a form flying on the Lago Maggiore as **psathura**, it has "narrower but exceedingly sharply outlined intensively red-brown submarginal band" on upperside and "bright fuscous but contracted submarginal area on underside of forewings" and larger pupils. The form from the South Tyrol **tarcenta** *Fruhst.* is somewhat smaller than the name-form. "The red-brown area of forewings is brighter, narrower and much more sharply outlined", but often it is dusky, hindwings have 2—5 little red "blotches" which may be either with eyespots or blind. The ♀ is characterised "by the indistinct rust coloured area of forewings" which is always absent on hindwings. Fruhstorfer establishes a 2nd race for the South Tyrol flying as a matter of fact in the Groedner Valley and the Ortler, which is said also to fly in Carinthia. He names this **pithonides** *Schtz.* It is said to be the smallest *pronoë* form, the ♀ has smaller apical ocelli of forewings and very dusky bands of underside. The diagnosis of Schultz does not quite agree with this, according to it the ocelli are not smaller but only without pupils and further it is pointed out that the rust-red band is perfect as in the name-form. It only flies in Carinthia. In any case a completely distinct race of these *pithonides* flies in the Groedner Valley to which Schawerda has given the name **gardeina.** On an average it measures only 35 mm (the name-form 40), it is always "completely dark", bands are only rarely retained in sparse remnants, ocelli on forewings very small, rarely with pupils, absent on hindwings. As a rule the underside of forewings is dusky brown, on hindwings "equally dusky". It flies from 1200 to over 2000 m. — Of the eastern races Fruhstorfer names those from Bulgaria and Jugo-Slavia as **zyxuta.** It is extraordinarily variable, occasionally approaching *pitho* then "moderately red-brown and fulvous", but always very dusky as compared with the name-form. Besides *pithonides* Fruhstorfer establishes a 2nd "smallest" *pronoë* race in **zulines** from Asia Minor which has "diffuse red-brown bands which are relatively wide and sharply outlined". The underside is still more dusky than *zyxuta*. A necessity for such an exacting splitting up of the *pronoë* forms cannot be recognised. Such local races could very easily be considerably increased. — In regard to aberrative specimens Schawerda has mentioned from his *gardeina* race: **depuncta** "with remnants of brown bands without eyespots", **leukophtalma** "dark black with a trace of red-brown around 2 bluish-white (not black) circumscribed eyespot pupils", **nocturna** having no trace of red-brown and no eyespots on upper and undersides. — **depuncta** *Schultz* is an aberration of *pithonides* without eyespots **subalpina** *Gumppenberg* is a parallel aberration of the name-form to *leukophtalma* (ocelli absent, white pupils immediately in the band) Schawerda names a specimen from the Kaiser Mountains with wide bands in which there are 2 minute ocelli without pupils as ab. **koliskoi** and a specimen with a similar band with 2 white pupils without black circumscription ab. **ederi.** Osthelder gives the following names to specimens from Bavaria, with very enlarged bands *psathura. tarcenta. pithonides. gardeina. zyxuta. zulines. depuncta. leukophtalma. nocturna. depuncta. subalpina. koliskoi. ederi.*

latefasciata. **latefasciata**, with closed band of the hindwings **fasciata** and with very dusky underside and almost unicoloured black
fasciata. hindwings without a grey-blue band **obscura**. — **pallida** *Osth.* are specimens with pale-grey lighter ground colour. —
obscura. *pallida.* **irisescens** *Goltz* have in consequence of defects in scaling transparent iridescent ground colour. Of the *pitho*
irisescens. specimens flying in the Albula Pass Tutt has especially named ♀♀ specimens with yellow ground colour on
ochracea. underside of hindwings as **ochracea**, with very dark brown middle band of hindwings as **virgata**, with white-
virgata. *pallescens.* grey-violet underside and brownish middle band as **pallescens.**

epistygne. **E. epistygne** *Hbn.* Fruhstorfer names the castilian form **andera**, it is larger, cell of forewing more
andera. extended, bands darker yellow, hindwings more intensive red-brown, ocelli of upperside strongly reduced,
viriathus. underside of hindwings darker without white striation of veins. — **viriathus** *Sheld.* (10 a) from the Sierra de Albarracin in mid Spain is in contrast hereto considerably smaller than the name-form, the dark edge between the row of spots and margin is much narrower, ocelli on all wings are clearly distinct, colouration of underside more grey than brown.

goante. **E. goante** *Esp.* flies also in Spain (Catalonia), which Fruhstorfer incorrectly disputes. It varies very
homole. little. — **homole** a name given by Fruhstorfer to a melanic form with narrower band and reduced white
valderiensis. pupils is found in the Basses Alpes. — **valderiensis** *Vrty.* is a form from the Maritime Alps with deep black ground colour, deep red but reduced bands and small ocelli which are often absent on forewings, underside
apenninigera. is richly contrasting in markings. **apenninigera** *Vrty.* from the Ligurian Apennines is not marked in this way on the underside, in the ♂ it is very dark, in the ♀ very white; bands are paler and yellower than in the
nana. name-form. Vorbrodt names a very small local race from the Furka Pass as var. **nana.** ab. **jolanthe** *Schtz.*
jolanthe. *heinrichi.* has the ocelli of the hindwings without pupils, ab. **heinrichi** *Zobel* is a *homole* specimen with almost completely disappeared rust-red marginal band.

rhodopensis. **E. rhodopensis** *Stgr.* is now everywhere recognised as a genuine species.

gorge. **E. gorge** *Esp.* of which we are giving an improved illustration of the form *erinnys*, Plate 9 d, is the liveliest, swiftest flying of all *Erebia*. I found a ♂ at the summit of the Furka Pass already at 7 a. m. quaffing at a frozen puddle. It is interesting to record that the fine *triopes Spr.* occurs as a pronounced local race in the South-West Tyrol (Ortler region), whilst it occurs as a common aberration in the Engadin, but a very rare one on the Albula Pass (is this a race of the future?). The following new races have been named: by
ramondi. Oberthür a rather small race from the Central Pyrenees as **ramondi** with sharply pointed forewings, distinct angle in the middle of the margin of hindwings, rich development of ocelli, darker colouration of underside.

carboncina. Verity names a form in the Apennines **carboncina,** it is small without eyespots or only with traces of such, with clearly outlined band and unicoloured black underside of hindwings. Zusanek names the race from the
karwendeli. Tyrolian Karwendel Mountains as **karwendeli.** It is broad of wing and large, bands distinct sharply outlined proximally, apical eyes mostly well developed, underside dusky almost without eyespots. This last character-
hercegovinensis. istic is also found in **hercegovinensis** *Rbl.* from Herzegowina and Carnolia, it is somewhat more narrow in the wing, eyespots smaller often only punctiform or even absent, the apical tip of the hindwings is remarkably sharp, the band inclines to form radiating marks extending into the middle area. This eonsiderable extension
albanica. of the bands like rays especially in the ♂ is the chief characteristic of **albanica** *Rbl.* from North Albania, it otherwise closely resembles *hercegovinensis.* The form from the macedonian mountains (Pirin) Buresch
pirinica. names **pirinica.** In contrast to the preceding 2 races it is rich in eyespots with distinct white pupils, whilst it shares with them the unicoloured underside. In regard to aberrative specimens we must mention first a ♀ flying in the habitat of *triopes* with its many eyespots; it has eyespots totally absent on forewings whilst
semicaeca. on hindwings they are normal or almost normally developed. I name this **semicaeca** (*ab. nov.*). — **monot-**
monotonia. **onia** *Kammel* is a ♂ whieh has a highly grey-brown ground colour, the fuscous band on all wings is absent and only remains as a bright reddish-grey colouration on the edges of wings. Ocelli are present and have
impunctata. white pupils. The insect is found on the road over the Stilfserjoch. A counter part to *semicaeca* is ab. **impunctata** *Hoffm.* from the Tyrolian Tännen Mountains. Both upper and underside of hindwings are without
herzi. eyespots whilst they are retained on forewings. — **herzi** *Zusanek* is an aberration of *karwendeli* which other-
effusa. wise is the same as *impunctata*. The name should be withdrawn. — **effusa** *Osth.* from Bavaria are specimens with bands suffusing inwards.

neoridas. **E. neoridas** *Bsd.* The name-form is french flying in the Dauphiné, the Basses Alps and the southern
nicochares. french central mountains. Fruhsforfer separates from it **nicochares** from the Maritime Alps which is larger, mostly darker and has ocelli almost double as large, submarginal area of hindwings is extended proximally. The diagnosis does not quite tally with my specimens from the Maritime Alps. — 3 forms have been named
epineoridas. from Italy: nearest to the name-form is **epineoridas** *Trti.* from Piedmont; in size and ground colour it corresponds to *nicochares*, bands are wide, their colouration in the ♂ lively fuscous, in the ♀ going over into yellowish, on underside of hindwings the middle band is less distinct. The 2 other races are distinguished
sibyllina. by their smallness, dusky colouration and reduction in bands of all wings. This applies especially to **sibyllina** *Vrty.* from the Monti Sibillini. Here the band on hindwings is contracted to small spots, in the ♀♀ on the
etrusca. forewings it resembles strikingly the form of *zapateri*. — **etrusca** *Vrty.* (9 d) from the Apuan Alps and Abruzzi

mountains has wider and more rounded wings, a narrow band ending in a point, less numerous ocelli and as a special characteristic a pale band on the underside of hindwings. — Strangely enough the spanish forms have not yet found a denominator. The fine race from the east Pyrenees corresponds approximately with Fruhstorfer's description of *nicochares*, whilst specimens from Catalonia closely resemble the french name-form, only they are smaller and have curiously truncate wings. — **albovittata** *Vrty.* is an aberration of *sybillina* with a silvery white band on the underside of the hindwings, **magnocellata** *Trti. & Vrty.* from the Maritime Alps is a variety of the name-form with especially large ocelli (= nicochares *Fruhst.* ?). — **venturiensis** *Chobaut* from S. France is the name given to specimens, in which the ocelli are quite absent on the upper and undersides or are reduced to a small black dot in the anal angle of the hindwing. *albovittata. magnocellata. venturiensis.*

E. zapateri *Oberth.* Romei points out that in castilian specimens the ocelli on the upperside of forewings are always considerably smaller to complete extinction in comparison with the name-form from Aragonia. He names the form **castiliana.** Pether names specimens **excessa** that have 3 instead of 2 ocelli on the forewings, **lutescens** that have pale reddish-yellow band colouration, **argenteopunctata** that have "iridescent silvery" surround of the "slightly black coloured and white-pupilled" ocelli. — **caeca** *Pionneau* from Aragon correspond to the extreme blind form of *castiliana*. *zapateri. castiliana. excessa. lutescens. argenteopunctata. caeca.*

E. sedakovii *Ev.* also flies on the Kurilian Islands and Sachalin. The race from east Mandchuria has recently been named **alcmenides** *Shelj.* It is larger, the bands on the forewings somewhat wider and brighter fulvous. Also the fuscous band of the hindwing upperside is materially distincter. The ocelli are more pronounced, more often with white pupils. Also on the underside the white pupils that are often circumscribed with black stand out more clearly. More or less in contrast hereto we have the race from the Kurilian Islands, that Nakahara has named — **doii.** It is just as large as *alcmenides*, but is closely similar to the name-form in the weaker development of the bands and ocelli of forewings, the bands are distinctly constricted in "abt the 4th interstice", the fuscous band on the upperside of hindwings is totally or almost totally absent. The black ocelli and white pupils on the hindwings are also either extinct or only present in mild development. *doii* differs from *scoparia* in that "the grey-brown postdiscal belt on the underside of hindwings is regular in its width, but is much wider", so that the white pupils are situate in this belt and not on its margin. Generally speaking the same description applies to specimens from Sachalin. *sedakovii. alcmenides. doii.*

E. alcmene *Gr.-Grsh.* (9 d) I consider this a genuine species. As evidence for this there is not only the different formation of the band on the upperside both of the fore and hindwings, which shows a sharp angulation in the middle, but above all the completely different marking of the underside of the hindwings, which does not in the least resemble the *aethiops*, *melancholica* or *sedakovii* groups. It has on the other hand a dark middle band sharply angulated and standing out from a pale dusted basal area and a similarly outlined and dusted marginal band, which is bordered white proximally. The dull yellow colouration of the band mentioned by Eiffinger and the lesser distinctness of the pupils in comparison to *sedakovii* is not always present. I have before me specimens labelled Kuku-Noor as locality, to which also the Jakar (= Dshachar) Mountains can be reckoned. *alcmene.*

E. aethiops *Esp.* is one of the most widely distributed *Erebia*, that occurs over the whole of Europe (also in Spain according to Sagarra) excepting Scandinavia and in Asia from Armenia to eastern Siberia. It belongs to the old established forms that preferably occurs in the plains and hilly districts, which however according to Vorbrodt has migrated again up to altitudes of 2400 m. Its variability accordingly is kept to certain bounds, but is nevertheless considerable within same, so that in this common insect we have a plenitude of new denominations. Firstly be it remarked that Staudinger & Fruhstorfer are right, when they designate *leucotaenia Stgr.* (9 d) as a "var. and ab." The form with heavy white dusted band on the underside of hindwings does not only occur here and there in single specimens from the mostly widely separated localities, but also belongs to the characteristics of local races (for instance in Herzogowina and Thuringia). The smaller form with reduced band especially on hindwings and "washed out" underside from the higher Swiss Alps has been named **altivaga** by Fruhstorfer *). Nevertheless the name-form also occurs simultaneously. The "brightest coloured" of all *aethiops* races from the Jura Mountains around Geneva Fruhstorfer has named **sapaudia.** It has especially extensive and highly brightly coloured bands and at the same time brighter underside. — **rubria** *Fruhst.* (10 a) from the Tessin has much less well developed bands of "fully fuscous" colouration with distinct white pupils in the ocelli. It is large. — **derufata** *Fruhst.* from the South Tyrol (Val di Canali) has in place of bands only loosely connected rust-red spots. — **parvisi** *Vrty.* from Venice is similar to *derufata* only somewhat larger. — **salaria** *Fruhst.* is a small form from the Eisack Valley in south Tyrol with medium development of the sharply defined bands. The following have been named from Italy besides *paroisi*: **taurinorum** *Vrty.* from the neighbourhood of Turin: it is said to be the most beautiful and largest (42—50 mm expanse) of all *aethiops* forms with very wide and very rounded wings, large ocelli and band disappearing on the hindwings. The marking on the underside is not very distinct. — **apuana** *Vrty.* from the Apuan Apennines is distinguishable by its strongly reduced bands in which are situate very small ocelli with weak white pupils. The **crattiae** *Vrty* from the Kottic Alps is smaller than *taurinorum* with large and numerous ocelli and very distinct white pupils. — Verity has created the race of **caledonia** for Scot- *aethiops. altivaga. sapaudia. rubria. derufata. parvisi. salaria. taurinorum. apuana. crattiae. caledonia.*

*) The second illustration of *aethiops* in Vol. 1, plate 37 e approximately represents it.

land. It is small with narrow, acute angled forewings, with reduced band with 3 ocelli on upperside and also the hindwing band on underside is little prominent. — The russian and asiatic races have apparently not been sufficiently classified, otherwise they would scarcely have escaped denomination. The form from the Urals, of which I have a large number before me, is of good size, the sharply outlined bands are narrow, mostly constricted in the middle of forewings, dusky fuscous, ocelli with white pupils, the band and basal spot on the underside of hindwings are distinct, faintly white-grey in the ♂, more heavily ochreous in the ♀. I name it **uralensis** (*form. nov.*). The form from the Altai (**altaica** *form. nov.* [*Stgr. i. l.*]) is considerably smaller, about as large as *caledonia*, the bands not sharply outlined and not constricted in the middle, duller in colour, the dusting of the band on underside of hindwing of the ♀ much more yellow-white. — In regard to the numerous new descriptions of aberrative specimens, be it said first, that ♀♀ with yellowish colouration of the underside of the hindwings (= **ochracea** *Tutt.*) are not rare in almost all races, in fact in some they are the rule, much more rarely when with violet tone (= **violacea** *Wheeler*). Other colour anomalies are named: **huebneri** *Oberth.* a specimen from Switzerland with buff ground colour and red-yellow bands, in **pallida** *Mousley* the ground colour is grey-brown, in **emialbina** *Vrty.* from Germany the bands are paler, the forewings have a narrow white costal margin, the margin of all wings is white, in **albofasciata** *Osth.* from Bavaria the bands are whitish, in **flavescens** *Tutt* from England the ♀ has pale yellow bands. Variations of the shape of the band are shown by **abbreviata** *Hirschke* from Salzburg where the band of the forewing is limited to the circumscription of the apical eye and a continuation to cell 2, the hindwings in the ♂ are unicolorous black-brown, in the ♀ the band is dissolved into blind red spots, **reducta** *Hartig* from the South Tyrol is without the extension to cell 2 and also the ocelli of the forewings are without pupils, **obsoleta** *Tutt* from England, which can occur elsewhere has all bands considerably reduced, **dehermanni** *Deherm.* from the french Jura has narrow and extinct bands and besides no ocelli on the upper or underside of forewings, those on hindwings numbering 3 are very small, *royi Clém* from the same locality is probably synonymous hereto. **caeca** *Rbl.* is quite without ocelli on all wings on both sides, **fritschi** *Oberthuer* from Besancon has undersides quite without eyespots, whilst on the upperside of the forewings there are 2 and on the hindwings 3 quite tiny ocelli, **biocellata** *Hartig* has blind eyespots with deep black ground colour, of which the underside on the forewings only bears 2, **depupillata** *Osth.* are specimens without white pupils, **purpurea** *Sib.* from Belgium has no ocelli in the fuscous spots of the hindwings. An increased number of ocelli are shown by **freyeri** *Oberth.* from Thuringia with dissolved band, but 5 large ocelli with heavy white pupils on the forewings and 4 similar ones on the hindwings. — **croesus** *Schaw.* from Lower Austria has even 7 and on the hindwings 4 ocelli, the bands are wide and fulvous.

uralensis. *altaica.* *ochracea.* *violacea.* *huebneri.* *pallida.* *emialbina.* *albofasciata.* *flavescens.* *abbreviata.* *reducta.* *obsoleta.* *dehermanni.* *caeca.* *fritschi.* *biocellata.* *depupillata.* *purpurea.* *freyeri.* *croesus.*

melancholica. **E. melancholica** *H.-Schaeff.* (9 e) I doubt the justification of a species. The characteristic distinctions from *aethiops* stated by Eiffinger in regard to the gradual transition of the band of the forewings into the ground colour does not apply to all specimens and the band is not always considerably wider than in *aethiops*. The absence of eyespots and pupils on the underside of the hindwings occurs not too rarely in *aethiops*. I consider *melancholica* to be only a local race of *aethiops*.

dabanensis. *fletcheri* **E. dabanensis** *Ersch.* In amplification of the illustration of the underside in Vol. 1, plate 37 f. we now add a figure of the upperside (9 e) and also one of **fletcheri** *Elw.* (9 e) upperside ♂ and ♀. I consider this a genuine species.

kozhantshikovi. **E. kozhantshikovi** *Shelj.* was illustrated by Elwes as being either a form of *dabanensis* or a separate species. Sheljuzhko raises it to the rank of the latter with some reservation. It has a wing length of 21 to 22 mm and these are wider and more truncate than in *dabanensis* (9 e and Vol. 1, plate 37 f), the ocelli are large, numerous, the upper ones often elliptical, the circumscription yellowish, sharply outlined from the ground. Above the topmost ocellus there is often still a yellowish streak. The underside is unicolorous black-brown, ocelli correspond with those of the upperside, however are not situate in a wide fuscous band on the forewing, but on the black-brown ground, and only in a few single specimens a red-yellow lightish patch is shown round the upper ocelli. On hindwings the grey dusted band is as a rule more faintly developed than in *dabanensis* (9 e). From the Altai and the east Siberian Dzhugdzhur Mountains.

meta. **E. meta** *Stgr.* is, as Eiffinger already remarked, a very variable species. It needs further research to ascertain whether there are not two separable species on the one hand *meta Stgr.*, *mopsos Stgr.*, *gertha Stgr.* and *alexandra Stgr.* with smaller size, fulvous bands, distinct marginal band and distinct ocelli on the upperside in common and on the other hand *melanops Christ.*, which is decidedly larger with black-brown ground colour with bands and ocelli on the upperside very reduced, even quite extinct. It is true that *issyka Stgr.* stands between as a link having the marking and colouration of *alexandra* whilst the size more nearly approaches *melanops*.

euryale. **E. euryale** *Esp.* an interesting species on account of its relationship to *ligea*, that has given cause for many new denominations. The name-form described by Eiffinger in Vol. 1, p. 107 is exclusively found on the silesian-bohemian frontier mountains. Beginning in the west of Europe new races have been described from the Pyrenees *cantabricola Vrty.* and *antvorta* (not *antevortes*) *Fruhst.* **cantabricola** is small with striking

cantabricola.

wide fuscous bands, the pupils are always absent from the ocelli, underside of the ♀ is pale and yellowish, it occurs in Asturia. **antevorta** from the Central Pyrenees is similar to *ocellaris Stgr.*, ground colour and bands are dusky, the latter clearly outlined on the underside of the forewings and not lighter than on the upperside. In the ♀ the underside of the hindwings is dark chestnut brown, bands and basal dusting silvery white. In the East Pyrenees (Vernet les Bains) however still a third race occurs, which I name **pyraenaeicola** (*nov. form.*) (9 e). It differs above all from the name-form by a first inclination of the heavy rust-red band to dissolve into separate spots. Where in single specimens it still coheres, it is intersected by the sharply prominent black veins. Otherwise it resembles *isarica Ruehl* (9 e), it has similarly a checked margin, also in the ♀ generally eyespots without pupils, no fuscous band on underside of hindwings, but in the ♂ only a surround to the sparse and faint ocelli. In the ♀ there is a distinct white grey or yellowish band present on the underside of hindwings, in which the ocelli are sometimes quite absent, sometimes however being smaller than in the ♂. Altogether the ocelli are smaller on the average than in *isarica* (9 e), the wings more elongated, colouration of the bands heavier, marking of the underside of the hindwings feebler. — **phoreta** *Fruhst.* from Auvergne in S. France is similar to it, only the rust-red of the bands is duller, the ocelli even smaller still having minute white pupils. The ♀♀ have "no band of spots on the forewings, with only 3 elliptical cuneiform spots and a round eyespot". — The two italian races of which **brutiorum** *Trti.* occurs on the Gran-Sasso in Abruzzi, **apenninicola** *Vrty.* on the Apennines of Tuscany at an altitude of 13—1800 m are closely related. Both are very small, with very reduced band on upperside, which is scarcely indicated at all on the underside of hindwings. In *brutiorum* these are unicolourous fulvous and not fuscous and the band on the upperside is continuous and not dissolved into spots as in *apenninicola*. In the former that white and brown checking of the margin is always indicated, whilst in the latter it is absent. — The forms from the Alps and the Jura have been liberally supplied with names. To those mentioned by Eiffinger *isarica Ruehl* and *ocellaris Stgr.* have been added *etobyma Fruhst.*, *helvetica Vorbr.* (9 e), *rusca Fruhst.*, *philomela Esp.*, *segregata Rev.*, *tramelana Rev.*, *clanis Fruhst.* Taking these forms as a whole, one can without difficulty discern a northern and southern strain. To the former belong *isarica* (9 e), *tramelana*, *clanis* and possibly also *segregata* (= philomela), whilst *helvetica* (9 e), *etobyma* and *rusca* are ascribable to the latter. From both *ocellaris* as a race from the South Tyrol and Carinthia is sharply distinguished, it has not yet been submitted to me from Styria and North Tyrol but it probably occurs there as a variety, as also in Switzerland. The northern strain is larger, has dark ground and band colouration, large eyespots generally without pupils on the upperside and — which is especially characteristic — always on the underside of the hindwings, also in the ♂, a distinct fuscous surround to the eyes, which here and there, as in the name-form, merge into a loose band of spots. The southern strain is smaller, brighter, the eyespots on upperside are smaller, often with white pupils also in the ♂, underside of the hindwings generally unicoloured black-brown, the band rarely indicated in white-grey and situate in it generally small black ocelli which are rarely surrounded with rust-red but nearly always having white pupils. Ruehl first described the northern strain clearly and named it *isarica* (9 e), it is true he incomprehensibly designated the colour of the bands as "fulvous" and this has induced Fruhstorfer to name the bavarian race **clanis**. Reverdin has described the race from the Swiss Jura as **tramelana**. It cannot be differentiated from the bavarian *isarica* which also occurs on the entire northern slopes of the Swiss and austrian Alps. Reverdin has also denominated as **segregata** the race from Gurnigel and Moléson (Bernese Alps), although they had already been named **philomela** *Esp.* (among others by Vorbrodt). However he may be right, as the latter name may not clearly indicate which form was intended. *segregata* is distinguishable by the dissolution of the rust-red band on both wings into unconnected spots. The type of the above-described southern strain is **helvetica** *Vorbr.* (9 e) formerly often erroneously named *adyte Hb.* It occurs not only in Switzerland, but also in the neighbouring french and italian Alps including the Ortler region. **etobyma** *Fruhst.* from the Maritime Alps is said to have larger and distincter white pupils in the eyespots. This is not always the case. Just as little am I satisfied with **rusca** *Fruhst.*, the race from the Tessin. It is said to be darker and smaller than *helvetica* from Valais. This is not a fact in larger series. Dannehl separates further from the southern strain **mendolana** from the Mendel region. It has wide wings, ground colour deep black-brown, bands bright brown-red, eyespots very large with white pupils, underside generally very dusky, extraordinarily variable. **tatrica** *Strd.* from the heights of Tatra agrees so exactly with the form of *euryale* (= *isarica*) from the north Alps that this name can be deemed superfluous. On the other hand the name of **syrmia** *Fruhst.* for the *euryale* form from Bosnia deserves recognition. Its characteristics are "punctiform spots in place of the eyespotlike subapical spot markings on all wings" and the "rectangular and regular submarginal spots" on the upperside. The "bright rust-red eyespots" on the underside of hindwings are black without white pupils. Very similar to it is the race from the Rhodope Mountains in Bulgaria. — Considerable difficulties are encountered in the *euryale* forms of northern Europe and North Asia. I can no longer maintain my standpoint that no genuine *euryale* occur there. It is true that *kamensis Krul.* certainly belongs to *ligea*, whilst *euryaloides Tengst.* (9 f), *arctica Poppius*, *altaica* and *jenisseiensis Tryb.* (9 g) probably also do and they are therefore dealt with there. But Elwes lays particular stress on the fact that 2 *Erebia* occur in the Altai flying together at the same locality and which belong to *ligea* or *euryale*. I myself have 2 different races from these mountains of which one (*altaica O. Bang-Haas i. l.*) inclines more to *ligea* and the other (*minima*

antevorta. *pyraenaeicola.* *phoreta.* *brutiorum.* *apenninicola.* *clanis.* *tramelana.* *segregata.* *philomela.* *helvetica.* *etobyma.* *rusca.* *mendolana.* *tatrica.* *syrmia.*

O. Bang-Haas i. l.) more to *euryale*, finally there is a specimen in the Senckenberg Museum in Frankfurt a. M. with a label of the South Urals, that is undoubtedly an *euryale* (small narrow bands without any ocelli, underside almost like *helvetica*, but the hindwings with minute red dots). Therefore I must admit that *minima.* *euryale* also flies in the far north and **minima** *var. nov.* (9 e) is to be added from the Central Altai. It is the smallest of all *euryale* races (♂ 18, ♀ 19 mm wing length) with a fairly wide band that is conjoined on forewings, but dissolved into spots on hindwings, in which medium large ocelli without pupils are placed. It is dull yellow-red. Underside in the ♂ with distinct yellow red band which on the hindwings consists of a row of round spots merged together. On the forewing there are 4 striking large ocelli in it and on the hindwing 3 smaller ones. In the ♀ the white-grey dusted band is clearly marked on the hindwings and in it there are a few black ocelli surrounded with yellow-red. — Besides the aberrative specimens mentioned by Eiffinger, *extrema Schaw.* and *euryaloides Tengstr.* a further 22 have been newly named. They can only be dealt with briefly here. *pleniocellata.* Firstly there is the form from Bolzano named by Count Hartig **pleniocellata**, an aberration that is identical with the race *isarica-clanis*. Aberrations in regard to the formation of the band and the ocelli of the upper- *extremioides.* side have been named: **extremioides** *Nitzsche* with uniform black-brown hindwing from Austria, **defessa** *Hartig* *defessa.* without ocelli and narrow band of dissolved spots, **latifasciata** *Hartig* with very wide, bright-red bands and *latifasciata.* small ocelli, in the ♀ the band on underside of hindwings is lined with white towards the inner margin, *bipunctata.* **bipunctata** *Hartig* with only 2 ocelli in the narrow band of the forewings, hindwings without eyespots, underside of hindwings heavily dusted with white; all the last 3 from the neighbourhood of Bolzano. Strand names *disjuncta.* from the heights around Tatra an aberration with reduced band on the forewings and ocelli **disjuncta**. In *intermedia.* **intermedia** *Schaw.* from the Dolomites only the band is aberrative, it being a transition form between *ocellaris Stgr.* and *extrema Schaw.* The band consists only of red ringlets around the black ocelli. The following new *caeca.* denominations refer to the latter alone: **caeca** *Trti.* is the form that occurs everywhere without any ocelli on the upperside and generally also on the underside, which has erroneously as a rule been designated as *euryaloides Tengst.*; *inocellata Goltz* is a subsequent name for the same aberration and therefore to be cancelled. *depunctata.* **depunctata** *Strd.* (Heights around Tatra) has no ocelli on the upperside of the hindwings, **heyni** *Strd.* has *heyni.* 4 instead of the usual 3 ocelli in the band of the forewings (Heights of Tatra), a corresponding form from *addenda.* the Swiss Jura is **addenda** *Rev.* with 4—5 ocelli in the band of forewings, **tetarstigma** *Strd.* from the heights *tetarstigma.* of Tatra has 4 ocelli in band of hindwings, **apicalis** *Rev.* from the Jura has a further small ocelli in the band *apicatis.* of forewings just above the usual two, **excedentia** *Vorbr.* also has one more in the apex but beyond the *excedentia.* forewing band (Tessin). **simplex** *Strd.* is an aberration without band on underside of hindwings, **basalis** *Strd.* *simplex.* has a pale basal spot on underside of hindwings, both the last forms from the heights of Tatra, **ochracea** *basalis.* *Wheeler* the common form with yellowish instead of grey-white dusting on underside of hindwings. These *ochracea.* denominations could easily be considerably increased if one chose to name every aberration from the series of any larger collection. — Albinotic specimens with pale yellow or grey-yellow ground colour from the Basses *huebneri.* Alpes are named by Oberthür **huebneri.** Specimens from the Albula with alternate dark fuscous and pale fulvous *virgata.* banding on the underside are named **virgata** by *Tutt.*

tigea. **E. ligea** *L.* (9 f). As Verity has proved, the name-form was described by Linné from a scandinavian specimen. It differs from the widely distributed south German-alpine form, hitherto considered the name-form, (compare fig. 9 f and Vol. 1, plate 37 g) by its smaller size, somewhat narrower and more yellowish bands with smaller ocelli, that are often without pupils in the ♂. On the underside of hindwings the pure white hook which outlines the marginal band proximally is as a rule less well developed. Close to it is the form of the north German and N.W. German mountains (Taunus, Eifel, Hunsrueck) and the race from the *monticola.* higher Swiss Alps (up to 2100 m) which Vorbrodt names **monticola** scarcely differs from it. The form from the southern french Alps along the entire lower reaches of the mountain chains to the Balkans and Caucasus, *meridionalis.* as well as from the south German and silesian central mountains, is separable from it as **meridionalis** *Goltz* (9 f), one of the most beautiful *Erebia*, of black velvety brown colouration, wide fuscous band toning into yellow-red in the ♀, ocelli almost always with clear white pupils, considerable expanse (♀ up to 28 mm length of wings) and with finely marked underside. A specially large form from the Maritime Alps with very wide *permagna.* submarginal band, but small and sparse ocelli on upper and undersides Fruhstorfer names **permagna**, a similar form with well developed rust-red bands also in the ♀, large white-pupilled ocelli, well developed rich *carthusianorum.* "median band" on underside of hindwings is named **carthusianorum.** A medium large mountain form flying *atticola.* in the Dolomites with considerably reduced, dusky coloured bands and often without pupils in the ♂ is called *nikostrate.* **alticola** *Goltz* (9 f.). **nikostrate** *Fruhst.* from the Ampezzo Valley is small, crossband narrow, dark, ocelli small in the ♂ usually without pupil, underside of ♀ less widely white banded than *meridionalis*. With the exception of size it closely resembles *alticola*. — *ligea* is absent in Spain. — From the Apennines have been *siskia.* named: **siskia** *Fruhst.*, occurring at altitudes of 800—1300 m, medium size, distinguished by "pale rust-yellow crossbands on all wings and the very striking black eyespots of forewings, median band of underside of hindwings very clear, submarginal band on underside of forewings sharply outlined. — Considerable interest is aroused by the northern forms from Lapland, Finland and Livonia that occur right through north Russia *dovrensis.* and Siberia to Japan and Sachalin. — **dovrensis** *Strd.* (9 g) often wrongly designated *adyte Hbn.* *) looks at

*) The name *adyte Hbn.* should be ignored as it cannot be ascertained which species or race it represents.

first glance much more similar to *euryale* but according to breeding experiments of Selzer and an examination of the genitals and androconia it is undoubtedly a *ligea*. It is small (forewing length in ♂ 20,5 mm, ♀ often less) bands are narrow dull rust-red, ocelli vary in size and number, are however generally small, pupils often absent or insignificant. The rust-red spots on underside of hindwing and the rich border to the marginal band vary considerably in development. Until the contrary is proved and in accordance with the author I consider **euryaloides** *Tengstr.* (9 f) *) occurring in Carelia (which is often mistaken for the *curyale* form of *caeca Trti*) as a *ligea* form. It is medium-sized, ocelli quite absent, the sharply contrasting band of spots on upperside of forewings stands out generally clearly from ground colour, less well developed on hindwings, on underside of forewings the band suffuses widely inwards, on hindwings the white-grey dusted band is more or less pronounced, also base can be dusted with white-grey. — **arctica** *Poppius* is a dwarf form of *euryaloides* from farthest north Russia. — **bryki** *Strd.* is a finnish form, close to the scandinavian name-form, but narrower band on forewings sometimes dissolved into spots and with always clearly developed ocelli on hindwings. — It is questionable whether the forms from the Baltic Provinces are all covered by *livonica Teich.* — According to the researches by Jachontov **kamensis** *Krul.* belongs to *ligea* and not to *euryale*, it differs from the name-form only on underside of hindwings, which are almost or quite free of bands and only show the usual ocelli. It flies in the delta of the Kama. — **uralensis** *Shelj.* from the Urals has a very reduced dusky band on upperside with sparse and small ocelli without pupils. **jenisseiensis** *Trybom.* (9 g) may belong to *ligea* or *euryale*. The author places it with *ligea*, inspite of opposite views I should like to agree with him. *jenisseiensis* is not larger than a normal *euryale* and has similarly ocelli without pupils, the band which is dissolved surrounds same in rust-red rings, but it is of dark velvety ground colour with distinctly checked margin, clearly marked underside of hindwings with distinct white outline to the inner side of band. I should like to also place **altaica** *form. nov.* (*O. Bang-Haas i. l.*) from the Altai to *ligea*. It is scarcely larger than *jenisseiensis* and in place of the ringlets round the ocelli, it has a wide obtuse rust-red band on both wings with large somewhat elliptical eyes without pupils. Markings on underside of hindwings clear, the white edge to the band is distinct, even if not so pronounced as in *ajanensis Mén.* — Matsumura has established 2 new races for the far East: **takanonis** from Japan and **sachalinensis** from the Isle of Sachalin. The former in point of size comes between *altaica* and *ajanensis*, distinguishes itself from all *ligea* races by its brilliant yellow-red bands on upper and undersides, ocelli are large with faint white pupils, underside very distinctly marked. *sachalinensis* is still larger, but the bands are dull fuscous, ocelli on hindwings smaller, marking of underside less distinct. — Single aberrative specimens have been named: with varying ground colour: **reisseri** *Schaw.* from upper Austria with very dark ground colour and pale ochreous, greyish colouration of bands on upperside, whilst on underside the band is "almost whitish". — **huebneri** *Oberth.* also from Austria is remarkable by its ochreous ground colour with orange bands. — **subeuryale** *Strd.* from the heights of Tatra is a form corresponding with *euryale* in size, but with typical *ligea* markings on underside of hindwings. — **basalis** *Strd.* from the same mountains is larger and has very bright and wide bands. — **helvetica** *Strd.* is a single specimen from west Switzerland with striking dark red-brown narrow band dissolved into spots, **livida** *Oberth.* from the Tyrol has also narrow but pale flesh coloured bands, in **latefasciata** *Osth.* from Bavaria the bands are very wide. — **brevifasciata** *Cab.* has a shorter band to forewings, in **hermenti** *Der.* the band on fore and hindwings suffuses inwards ray-like. Both from Belgium. — **subocellaris** *Krul.* is a form of russian *kamensis* with band dissolved into spots, **subeuryaloides** *Krul.* is a form of the same race without red spots on underside of hindwings. Variations of the normal placing of the ocelli: **inocellata** *Goltz* (= caeca *Osth.*) has no ocelli on all wings, **biocellatoides** *Hartig* (= reducta *Osth.*) from the South Tyrol has 2 ocelli on forewings and none on hindwings, in **subcaeca** *Schtz.* hindwings are without eyespots, forewings normal. — **triocellata** *Strd.* from the Harz Mountains has no indication of an ocellus in the 3rd space. — In **caeca** *Kolisko* from Carinthia the ocelli are without pupils, in **nigropunctata** *Hartig* from the South Tyrol the same is the case, of the 4 ocelli of forewing, 3 are elliptically elongated, the red and white markings of the underside are reduced, **quadripunctata** *Hoffm.* from Styria has 4 large eyespots with white pupils on upperside of forewing. — **ocellata** *Strd.* from Norway has 4 equally large, unusually well developed ocelli on forewing and they are also large and clearly developed on hindwing.

curyatoides. *arctica.* *bryki.* *kamensis.* *uralensis.* *jenisseiensis.* *altaica.* *takanonis.* *sachalinensis.* *reisseri.* *huebneri.* *subeuryale.* *basalis.* *helvetica.* *livida.* *latefasciata.* *brevifasciata.* *hermenti.* *subocellaris.* *subeuryaloides.* *inocellata.* *biocellatoides.* *subcaeca.* *triocellata.* *caeca.* *nigropunctata.* *quadripunctata.* *ocellata.*

E. disa (9 g) is a species widely distributed in the far North (Europe, Asia, America [known there as *mancinus Dbl. & Hew.*]) which however apparently is not inclined to form local races, but on the other hand seems to be individually very variable in colouration of bands, development and number of ocelli, distinctness of markings of underside. Stichel names the form **restricta** with only 2 instead of the usual 4 ocelli on forewings, Sheldon the form **addenda** with 5 ocelli and **obscura** with small and dusky ocelli. — **fuchsi** *Strd.* is an aberration with ocelli on hindwings, **schultzi** *Strd.* with white pupils in ocelli of forewings.

disa. *restricta.* *addenda.* *obscura.* *fuchsi.* *schultzi.*

*) The illustration taken from a print of a water colour painting is not quite satisfactory. The illustration in Vol. 1, plate 37 g is better.

embla. **E. embla** *Thunb.* (9 f, 10 a). Bryk has denominated the following aberrative forms from Sweden:
pseudodisa. **pseudodisa** eyespots so increased and enlarged that a fine band is formed as in *disa*, **quadrannulifer** with 4 eye-
quadrannulifer. spots on forewings, **hellgreni** also with 4 eyespots and a 5th minute one above the top eyespots "in a small
hellgreni. loop pushed out towards the apex", **albocentrata** with white pupils in all ocelli on underside of forewings. —
albocentrata. **ethus** *F.* with only one bi-pupillated ocellus on forewings and 3 small ocelli on hindwings, in **bipupillata** *Strd.*
ethus. the latter are absent, in **etheides** *Strd.* the white pupils are missing in the 1st eyespot of forewings. The
bipupillata. last 3 forms occur in Norway.
etheides.

rossii. **E. rossii** *Curt.* The last word has not yet been said in the question of the right to be a species of *rossii* (9 g), *ero Brem.* (9 h) and *erda Shelj.* If one has only single specimens before one, one does not doubt that there are 2 or 3 genuine species. But in larger series there are all sorts of gradations of one form to another, so that doubts as to the rights of species arise. These doubts have been reflected in the opinions of Elwes and Sheljushko in regard to *rossii* and its forms. The latter has written expressly to say that he does not consider it certain that his *erda* has a rightful claim to be a species. The position in regard to the arctic american *rossii* forms is not quite clear. Under *rossii* (9 g) one can understand the relatively small specimens with sparse scaling, fairly wide wings, moderately developed ocelli, faint checking of margin, and underside
ero. of hindwings with indistinct and dusted undersides. — **ero** *Brem.* (9 h) is larger, forewings more acute, scaling denser, the grey-brown-black checking of margin more distinct, ocelli often more numerous, underside of
erda. hindwings sharply marked and more heavily dusted. — **erda** *Shelj.* is a better developed *ero* from the Sajan mountains in point of size, pointedness of wings and development of ocelli. These are with red-yellow surrounds and not red-brown. Underside of forewings more unicoloured, hindwings paler, dusted with grey and
polyopis. less distinctly marked. The utmost development of ocelli is shown by **polyopis** *Shelj.* (9 h). It has 4—5 on
dzhelindae. forewings, 3 on hindwings. Also **dzhelindae** *Shelj.* from East Siberia (Dzhugdzhurg mountains) is according to written reports of Sheljushko no genuine species, but only a local race of *ero-erda*, distinguishable by much darker ground colour of upper and undersides and constant rich development of ocelli with red-brown surrounds. We still have to mention a ♂ from the Sajan mountains that is unicoloured black-brown on upperside without spots or ocelli. Also underside is more unicoloured, the rust-red of forewings much reduced,
nigra. band and pupils indifferently developed on hindwings. I name it **nigra** (*ab. nov.*). — Further a ♀ of the form
pallida. *polyopis* also from the Sajan mountains with grey instead of black-brown ground colour (**pallida** *ab. nov.*). It seems to me probable that *ero*, *erda* and *polyopis* are only recurring forms of a species to which *dzhelindae* belongs as a local race. Whether *rossii* can be established as a separate species I must leave undecided. It flies as a matter of fact also on the european side of the north Urals.

cyclopius. **E. cyclopius** *Ev.* (8 g). A specimen has been named by Schawerda **aporia** on which the yellow sur-
aporia. round of the apical eye is missing and that therefore resembles *tristis* on the upperside.

mani. **E. mani** *Nic.* is a species widely distributed over Asia and that inclines to form local races in its various localities. Eiffinger already recorded 5 forms (*fasciata Stdgr.*, *jordana Stdgr.*, *icelos Gr.-Grsh.*, *ida Gr.-Grsh.*, ab. *suboculata Stgr.*). Further 10 have been added, of which 6 occur in the indo-malayan territory
kusnezovi. and consequently will not be dealt with here. In the palaearctic region we have: **kusnezovi** *Avin.* from the northern Ferghana with extreme development of chestnut-brown colouration, that in the ♀ covers almost the entire upper surface of the forewings, so that the bright colour of the outermargin is only retained just around
summa. the apical eyespot, hindwings completely dark, **summa** *Avin.* from the lower reaches of the Ala-Tau with quite narrow, closely outlined pale band, extending to the hindwings and being almost without reddish dusting,
styx. **styx** *O. Bang.-Haas* (9 h) from the S.W. Tian-Shan with dark red-brown band on forewing, only the sur-
helios. round of the apical eye yellowish, hindwings black, **helios**, *O. Bang-Haas* (8 . .) from mid and S.E. Tian-Shan and from Aksu "differs from *jordana* by an extension of and uniform yellow colouration of band of forewings" and the generally smaller size of the apical eye, which is often without white pupil.

discoidalis. **E. discoidalis** *Krb.* (Vol. 1, plate 37 h). Eiffinger clearly appears to have had before him a north
lena. American specimen for description and illustration. Those from Asia (= **lena** *Christ.*) (9 h) are much larger, the ground colour black-brown, the red-brown colour of disc of forewing more extensive, wing contour much more truncate, striation particularly on underside more distinct.

atramentaria. **E. atramentaria** *O. B.-Haas* (9 g). A curious genuine species from an altitude of 3500 m on the Nan-shan mountains in W. China. Wings on upper and undersides uniform black with scarcely any marking or eyespots. The upperside has a faint red-brownish silky sheen. Body, legs, palpi, antennae are quite black on upper and undersides. Forewing is truncate at apex, anal angle of hindwings slightly prolonged as in *ocnus Ev.* Length of wings 22 mm. Flight in July.

sibo. **E. sibo** *Alph.* We are giving the illustration of the upperside (10 a) omitted from Vol. 1.

E. ocnus *Ev.* We are illustrating the upperside (10 a) and underside (9 g) in order to definitely distinguish this from the former species. *ocnus.*

E. lappona *Esp.* (9 g) probably belongs to the primeval forms of *Erebia*. Only in this way is it to be explained that the forms from the central Alps, the scandinavian mountains (= mantoides *Btlr.*), from the mountain chains of Central Asia — there also *lappona* flies for instance on the Sajan Mountains — all show very slight differences of no consequence. I therefore omit here giving a special name to the asiatic specimens so kindly sent me by Mr. Otto Bang-Haas, although in the ♀ the plain, unclouded marking effect of the hindwings' underside is striking. Fruhstorfer has named **ingana** specimens from the Aosta valley, which are also said to occur in the south Tyrol in Davos and on the Simplon. They are distinguishable by "an unusually wide striking fire-red transcellular and submarginal area" with "4 remarkably large black spots, that are minutely small on the underside". Also the "bright grey underside is traversed by 2 crossbands sometimes up to 1 mm wide and very undulated". Such specimens however are surely to be found also in other localities than the 4 named. — **marmolata** *Dannehl* from the South Tyrol is small, very dark, bands reduced and dusky, ocelli minute, underside sooty grey-brown. The form **robertsi** *Peschke* from the heights of Tatra has 5—6 dark marginal lunules of conical shape on the silvery grey underside that has wide dentate striations. In the ♀ the space between the dentate lines is filled with dark chestnut brown on the underside of hindwings. The form **cibiniaca** *Dannehl* from the South Carpathians seems to be identical with it and the same applies to the as yet unnamed form from the Rhodope mountains. As a matter of fact marginal lunules are also indicated on specimens from other localities. — **caeca** *Strd.* (= caeca *Oberth.*) are aberrative specimens without eyespots on either side of wings, **semicaeca** *Hoffm.* without eyespots on either side of hindwings. — **clossi** *Heinrich* is an aberrative ♀ from the Albula without fuscous bands or eyespots on upper and underside of forewings, with a curious formation of the bands on underside of hindwing: "middle band and margin pale, basal area and area between outer middle band and marginal line adumbrated black-brown." Also the forewings show an indistinct band-like shading. — **albina** *Oberth.* from the Tyrol is an aberration with silvery grey upper and undersides and pale orange-red bands. — We give an illustration of the upperside of *sthennyo* (9 g) a form from the Pyrenees. *lappona.* *ingana.* *marmolata.* *robertsi.* *cibiniaca.* *caeca.* *semicaeca.* *clossi.* *albina.*

E. tyndarus *Esp.* (8 f) the most widely distributed of all *Erebia*. It occurs with small variations in Europe from the southern spanish mountains to the bulgarian Balkans (it is absent in the North), in Asia from Armenia to East Siberia, in America in the high mountains of the North West. Eiffinger already pointed out with justice that the name *tyndarus* possibly includes several genuine species. This applies in the first place to *ottomana H.-Schaeff.* (Vol. 1, plate 37 i) and *balcanica Rbl.*, in which not only the general appearance points this way, but their localities are closely neighbouring those of *cassioides* (8 f) and its closely allied *macedonia Bur.*, without there being transition forms. I also consider it very likely — although Verity claims to have found in this instance transition forms — that the southern form with its sharply pointed wings with many eyespots, to which after careful research by Reverdin the name of *cassioides von Hohenwarth* has been given, is separable as a separate species from the wide-winged name-form from the Bernese Alps with its sparse eyespots. Both forms are said to occur on the Grossglockner without linking transition forms. — The spanish races command especial interest, 4 can be differentiated. In south Spain in the Sierra Nevada the largest form *hispania Butl.* (Vol. 1, p. 113, pl. 37 h) occurs with very wide wings, which is correctly classified by Eiffinger. Then we have throughout the chain of the Pyrenees a race that cannot be distinguished from *cassioides Hohenw.* The high Pyrenees are the home of **rondoui** *Oberth.* It is larger and differs from the other northern spanish races in the development of both subapical eyespots in forewings. Bands are more heavy than in *cassioides*, especially in ♀, where the yellow-red colour generally also spreads to the disc of forewing. Underside is silvery grey, generally less clearly marked. *rondoui* is fairly close to *hispania*. The 4th spanish race from the East Pyrenees is correctly described by Oberthür as "the prettiest and richest coloured" and he names it **pyrenaea** *Ruehl* *) (9 h). It is smaller than *rondoui* but with much richer development of the brilliant yellow-red bands which in the ♂ extend streak-like into the disc. Ocelli are large not rarely increased by 2 on forewing and 3 on hindwing over normal number. Also underside is as a rule characteristic: on the forewings the yellow-red marginal band contrasts sharply from the red-brown centre area of wing, in which correspondingly on upperside there is a red-yellow streak, on hindwings 3 brown dentate lines distinctly separate the paler basal and marginal bands from the dark middle band. Fruhstorfer unnecessarily renames this race *goya*. The name *dromus H.-Schaeff.* that Eiffinger gave it, must be withdrawn in accordance with Reverdin's researches. — The race from the neighbouring southern french mountains (Auvergne) is named by Oberthür **avernensis**. It resembles the spanish *pyrenaea* in regard to number and beauty of the black ocelli with white pupils on all wings, but does not approach same in regard to the development of the bands. — Fruhstorfer alleges in regard to his race **aquitania** from the Maritime Alps that it approaches the spanish "*dromus*" (= pyrenaea) in regard to size, development of bands and ocelli. — *tyndarus.* *rondoui.* *pyrenaea.* *avernensis.* *aquitania.*

*) In Vol. 1 p. 113 erroneously described as "*pyrenaica*" *Ruehl.*

subcassioides. **subcassioides** *Vrty.* occurs in the neighbouring Kottic Alps. I could not trace the original description. — *carmenta.* **carmenta** *Fruhst.* has its habitat in Piedmont, is however also found in Tessin, it comes between *aquitania* and *murina*, described below, with especially bright rust-red surrounds to the ocelli of forewings of which there are 4 in number in the ♀ with distinct white pupils. Underside of ♀ is still paler white-grey than *tusca.* *murina.* — In the Apennines of Tuscany at an altitude of 13—2000 m we find **tusca** *Vrty.* It has pronounced rust-red bands extending ray-like inwards, clear ocelli on all wings, underside of ♂ and ♀ indistinct *majellana.* and faintly marked, covered with black scales. — **majellana** *Fruhst.* from the Abruzzi mountains is the older name for *infraargentea Vrty.* It shares with *tusca* the ray-like extension of bands into the disc of forewing, but is larger according to the illustration, underside is however much paler with distinct silvery sheen, bands *murina.* are extinct. — **murina** *Rev.* from Moléson (West Switzerland) is fairly large with 2 bold ocelli on forewings and 3 on hindwings. The underside in ♂ is uniform silvery grey, in ♀ white-grey with 3 diffuse dentate lines. — According to Reverdin all spanish, south french and italian races and most forms from the southern slopes of the Swiss and Austrian Alps belong to the group of *cassioides Hohenw.* forms, whilst further north, but already in the Valais generally speaking the name-form occurs. According to Vorbrodt and Verity there are some exceptions to this rule. — Curiously enough all the other *tyndarus* forms from the Swiss *macedonia.* and Austrian Alps have been spared fresh denominations. — The discovery of the race **macedonia** by Buresch in parts of the macedonian Balkans is of interest. It belongs to the group of *cassioides* and flies in the immediate neighbourhood of *balcanica Reb.* How and to what extent it varies from other *cassioides* races is not clearly observable either from the description or illustration. The strongly marked "bright-coloured" underside of hindwings is peculiar to it. The only specimen available to me, shows the veins standing out very clearly on upperside and a strongly contrasting blackish marking of underside of hindwings. — *ottomana H.-Schaeff.* occurring only in Greece seems to be a separate race from the two Balkan races and is accordingly described by Eiffinger, only the forewings have not always more than the 2 apical eyespots, whilst *balcanica.* on the hindwings 2—3 eyespots are always present. — **balcanica** *Rbl.* from Bosnia, Herzegowina, Serbia and Bulgaria (perhaps also Carniola) is distinguishable from it by somewhat smaller size and the more heavily marked, darker underside of hindwings of ♂♂. A specimen in my possession from North Persia (Askh- *grancasica.* bad) is not distinguishable from *balcanica.* — **grancasica** *Jach.* from the Caucasus is close to *iranica Gr.-Grsh.* (Vol. 1, plate 37 i) but is larger, ocelli very distinct and numerous, underside of hindwings darker and more unicoloured. — I am not certain whether *sibirica Stgr.*, *altajana Stgr.* and *iranica Gr.-Grsh.* are genuine local *blanca.* races. — Ribbe has named 4 forms of *hispania Btlr.* as aberrations: **blanca** with bay coloured bands of upper- *tresojos.* side, **tresojos** with 3 instead of 2 white pupils in apical ocellus, **muchomancha** with a black dot, rarely with *muchomancha.* a white centre, above the eyespot named, **morena** with reduced band of forewings, which is quite absent on *morena.* hindwings. Oberthür gives the name **albana** to an aberration of the ♀ of *pyrenaea Ruehl.* Here bands are *albana.* white instead of rust-red, underside silvery grey with white band on forewing and white-grey on hindwing. *addenda.* Of *cassioides Hohw.* aberrative specimens have been named **addenda** *Tutt* from the Dauphiné with 4 eyespots *addenda-* on forewings, **addenda-apicalis** *Rev.* from Digne with a white centred little eyespot above both apical eye- *apicalis.* spots, **depupillata** *Rev.* from the Mont Blanc neighbourhood without white pupils in any of the eyespots, **caeca** *depupillata.* *Rev.* from the same region without eyespots on forewings, whilst they are retained on hindwings. — **paracleo** *caeca.* *Vrty.* is an aberration of *subcassioides* with darker uniform grey underside of hindwings with distinct silvery *paracleo.* sheen. An aberration of the ♀ from the Brenner territory is named **galvagnii** by Hellweger. It has reduced *galvagnii.* bands, but distinctly checked fringes, underside of lively colour "with whitish veins and a wider middle band less dentate towards margin".

afer. **E. afer** *Esp.* (Vol. 1, plate 37 h) Staudinger (*i. l.*) has named as **transcaspica** (*form. nov.*) a small *transcaspica.* form from Achal Tekke in Transcaspia with remarkable black ground colour, especially in the ♂ with large *fidena.* ocelli and pale red colouration of bands on underside. Whether **fidena** *Fruhst.* also from Transcaspia is identical with this it is difficult to decide in view of the obscure description. It is said to be "habitually" between *zyxuta.* the name-form and *dalmata* (Vol. 1, plate 37 h) the ♀♀ "poorer in colour", underside very pale. — **zyxuta** *Fruhst.* *) from the Caucasus has a "bright general colouration", underside extensively dusted "pale grey", *bardines.* a "transition" from the name-form to *hyrcana Stgr.* — **bardines** *Fruhst.* from the Altai is also small, the rust-red "patch before the ocelli on upperside of both wings diffuses almost entirely", "the apical area of forewing is grey", underside much paler than in *afer* from South Russia.

parmenio. **E. parmenio** *Boeb.* (Vol. 1, plate 35 d) O. Bang-Haas names a finely decorated race from north and *ornatus.* west China (Chingan and Richthofen Mountains) **ornatus** (9 h). It is rich in eyespots, the large ocelli of hindwings with white pupils stand in wide yellow-red surrounds forming a kind of a band, apex of forewing and costa are sometimes dusted over with yellow-grey dust into the middle area.

*) This denomination is characteristic of the manner of Fruhstorfer's work. He replaces names such as "*pyrenaica*", "*hercegovinensis*" by others, because various forms of *Erebia* should not have the same name, but he himself gives the curious name of *zyxuta* to a form both of *afer* and *pronoe*.

11. Genus: **Melanargia** *Meig.**)

M. galathea *L.* (Vol. 1, p. 114). Of this species not only an innumerable number of geographic races have been described, but an equally larger number of single specimens named, which vary in the shade of ground colour, number and form of the eyespots and which are not necessarily confined to one race, even if we only indicate the typical locality. — **nana** *Pionn.* is a dwarf form of normal *galathea*. *galathea.* *nana.*

a) Yellow Forms.

fulvata *Lowe* (= franzenaui *Aign.*) has all markings on upper and underside of ♂ and ♀ buff brown. Hungary. — **citrina** *Krul.* (= citrana *Lamb.*) Ground colour of both wings in the ♂ and ♀ on the upper and underside light lemon-yellow. Ukraine, Belgium. — **flavina** *nom. nov.* (= flava *Fritsch*). An otherwise normal *galathea* with pure yellow not whitish ground colour. Everywhere. — **flava** *Tutt* has only hindwings on underside a lively orange-yellow (not yellow!). — **ferruginea** *Fritsch* (= flava *Linst.*) has on underside of hindwings the middle and eyespot band rusty-brown, also costa of forewings both on upper and underside. Everywhere. — **flavescens** *Goetgeb.* forewing costa creamy yellow, underneath yellow at apex. Hindwings on underside with ochre-yellow marking on a cream-yellow ground without black marking. Belgium. — If eyespots also are absent on underside (*leucomelas Esp.*) and ochre-yellow marking is replaced by orange-yellow we have **lutetiana** *Oberth.* Paris. *fulvata.* *citrina.* *flavina.* *flava.* *ferruginea.* *flavescens.* *lutetiana.*

b) Whiter (paler) Forms.

zobeli *Heinr.* On hindwings in typical *galathea* the black marginal band is narrowest between the ribs 4 and 5. In this case it continues equally narrow up to costa. Eyespots of the underside thereby can be seen also on upperside. Berlin. — **mosleyi** *Oberth.* (= duponti *Rev.*) The dark middle band is almost completely absent on both wings. — **minor** *Pionneau* is identical only smaller. — **aperta** *Rbl.* (= atthis *Costa*) (8 c). An extreme *mosleyi*. On both wings only the area below the cell to the base from rib 2 is black. The same applies to forewing underneath. Eyespots are normal underneath, ground colour white. Berlin. — **fasciata** *Lamb.* A transition to *mosleyi*. The black cell spot on both wings is smaller, not conjoined with the marginal areas by the black ribs. Belgium. — **extrema** *Stauder* combines a small *galena* (Vol. 1, p. 115) and a transition to *aperta*. The apical eye is absent on underside of forewings. Austria. — **pura** *Niep.* More extensively white, the white spots penetrate through to the margin. Varies underneath from *galene* by complete absence of eyespots. Zermatt. — **laetepicta** *Stauder*. Hindwings still paler than in *cleanthe* (Vol. 1, plate 38 d), eyespots isolated similarly to *larissa-adriatica* (Vol. 1, plate 39 a). The black dome-like line of both wings is large. Middle area pale. Mecklenburg, Berlin, Austria. *zobeli.* *mosleyi.* *minor.* *aperta.* *fasciata.* *extrema.* *pura.* *laetepicta.*

c) Darker Forms.

nicoleti *Coul.* Without white marginal spots, middle band scarcely narrower white than normal. Geneva. — **disjuncta** *Guss.* At the costa of forewings the white spot of middle band is intersected by a black streak. Agram. — **malmediensis** *Mellaerts.* only differs from the races of *florentina Vrty.* and *calabra Vrty.* mentioned below when provided with a locality label (occurs in Belgium only as an aberration). — **nigra-malmediensis** *Mellaerts* is a still more dark race than these southern races and therefore possibly identical with **quasilugens** *Oberth.* Excessively black. The white streaks in both cells strongly stunted. The middle band of forewings shortened, narrow in hindwings. Digne. — A transition to this is **galaxaera** *Esp.* All pale spots in forewings very small and yellowish. Basal spots still smaller than in the form described as *turcica* in Vol. 1, plate 38 a. Carlstadt, Croatia. It is presumed that *melanotica Trti.* is identical with this *turcica*. Both from Carniola. — **nigricans** *Coul.* (8 c) also heavily adumbrated, but the pale patches not so yellowish. Probably *nigrata Schroeder* from Kaiserstuhl (Baden) is identical with this. — It is impossible to state whether *quasilugens* or one or the other very dusky forms is identical with *turcica Bsd.*, as its description is too meagre „fere tota nigra". *nicoleti.* *disjuncta.* *malmediensis.* *nigra-malmediensis.* *quasilugens.* *galaxaera.* *nigricans.*

d) Forms with fewer or more Eyespots on upper and undersides.

ocellata *Zus.* With 3 eyespots appearing through on the upperside of hindwings (probably those in anal angle). Only with weak eyespots underneath. Austria. — **epanopides** *Nitsche.* The apical eye on forewings is also visible on top (Vienna), in **punctellata** *Cab.* it is only present as a dot underneath (N. E. France), in **depuncta** *ocellata.* *epanopides.* *punctellata.* *depuncta.*

*) In regard to this and allied families we should like to lay stress on the urgent appeal of Aurivillius (Vol. 13, p. 226) and particularly warmly recommend same to our readers, especially those who desire to describe new forms. Aurivillius writes:

„It is a well known fact that the eyespots of Satyrides and other butterflies in which such spots occur are very variable. If one therefore wishes to establish and name aberrations according to the presence and relative developments of the eyespots in a species that normally has for instance 7 eyespots, then one can burden literature in every such species with hundreds of names. Whether science can benefit in this way is another question which can scarcely be answered in the affirmative and for the renown of lepidopterists it would be much better to seek to ascertain the limits and the causes of these aberrations".

decemocellata. *Stephan* it is entirely absent (Glatz). On the other hand **decemocellata** *Delahaye* has 3—4 eyespots on underside of forewings and 7—6 on hindwings. North France.

The following forms from Southern regions belong to the procida group.

leucomelas Esp. is synonymous with *ulbrichi Aign.* As both these are described from Hungary there are probably no differences. The underside can be white-yellow or even brownish. These forms have not yet been named. *galenides.* — **galenides** *Preiss.* (= deficiens *Stauder*) is a *galene* form of *procida*. Eyespots underneath are only dots. Carniola. *vidua.* — **vidua** *Stauder*. On underside of hindwings the 2 eyespots between ribs 2—4 are absent. Gorizia. *punctata.* — **punctata** *Grund*. On upperside of hindwings 3—4 blue-white spots, the pupils of eyespots from underside. Agram. *perlongata.* — **perlongata** *Stauder*. On underside of hindwings the 2 upper eyespots are elongated. Gorizia. *gemellata.* — In **gemellata** *Costa* the lower of the 2 eyespots is a double eyespot. Trieste. *epanops.* — **epanops** *Rbl.* corresponds with *galathea-epanopides*, from Montenegro. *goritiana.* — **goritiana** *Stauder*. The eyespots on underside of hindwings are deep black, large, with coarse white-blue spots in the ♂ and skyblue in the ♀. Generally a further eyespot above rib 7: the blue spots reflect through on upperside. Gorizia. If eyespots also have blue pupils on underside, as large as in *goritiana*, then we have *melanophthalma.* **melanophthalma** *Stauder*, which according to this, is scarcely differentiable from the Gorizia *procida* race. *addenda.* — **addenda** *Grund* (= completissima *Stauder*). On underside of hindwings in the otherwise open area there is a further eyespot, eventually also another one under the apical eye on forewings. Styria, Gorizia, Croatia, Corfu. *deubeli.* — **deubeli** *Silbernagel* (= duplex *Stauder*). On underside of forewings above ribs 2 and 4 in each case an eyespot with blue-white pupils. The white marginal triangles are large, hindwings as in *addenda*. On upperside the pale basal spot on forewings is round, on hindwings there are only 2 small white spots in the black margin. Gorizia, Kronstadt.

e) Geographic Forms.

The north german form is deemed the type for *galathea*, hitherto this has not been further separated up. In 1910 Fruhstorfer allotted *procida* to the type of the Gorizia race, in 1920 however to that from the Isle of Procida near Naples. It may be considered identical with *galinthias*. As the other races form all sorts of gradations it is scarcely possible to decide whether they belong to the *galathea* or *procida* groups. Paler forms than *galathea* occur in North France and England, darker forms than *procida* in South Italy and the Balkans.

1. *galathea* Races.

Whilst in North France pale specimens (*mosleyi Oberth.*) only occur and more or less commonly as aberrations, in England we find the constant form **serena** *Vrty.* *serena.* It is less heavily marked with black. On the upperside of forewings the white marginal spots are large, on hindwings the eyespots are also plainly indicated on upperside. This is the palest existing form. On the Lake of Geneva we find a small *galathea* race in which the white spots are strongly reduced. Also the white marginal spots on hindwings are smaller: **pygmaea** *Fruhst.* *pygmaea.* It is allied through the form of the Swiss Jura to the North German form. — A further small race slightly larger than *pygmaea* but rather darker occurs in Algau: **helalla** *Fruhst.* *helalla.* In spite of its northern habitat it is rather like *procida*. Specimens from moderate altitudes in upper and lower Austria are mentioned by Fruhstorfer here. Allied to *pygmaea* and occurring in the upper Rhone Valley near Martigny there is a resplendent white race with wide black margin. The white cell spot in the forewings generally circular, larger than in *procida*: **nereus** *Fruhst.* *nereus.* — In the South of the Simplon this is transient into **florina** *Fruhst.* *florina.* It is larger, the white bands of forewings wider, hindwings with wide black outer margins. Also specimens from the North Tessin (to Biasco) should be placed here. *arogna.* — Specimens from the South Tessin **arogna** *Fruhst.* are somewhat different. Smaller, the black spots more extensive, strongly reminding one of *procida*. They are typical from the Lake of Lugano. *sakaria.* — To the east of *florina* in the Plain of the South Tyrol we have **sakaria** *Fruhst.* of which the ♂ is as large as the ♀ found in Germany. Ground colour in the ♂ and ♀ yellowish. The pale median area of forewings and the middle band of hindwings wide. The pale marginal spots are larger than in *procida*. An extremely large ♀ has been named *gigantea Hart.* from Klobenstein (South Tyrol). — Not far away on the Mendel Pass a smaller mountain form **microsakaria** *Vrty.* occurs, it does not differ very much. *microsakaria.* — **sicula** *Std.* *sicula.* One of the smallest races which is only faintly marked with black particularly on underside, especially in the ♂, which is almost as pale on the upperside as the northern *serena*, the ♀ is marked somewhat darker but nevertheless still similar to *serena*. Actually this name is superfluous although it is interesting that so far in the south, where otherwise the large *procida* races occur, we find such a small pale „starvation form" of northern appearance. Sicily. *doris.* — On the west of *florina* we find **doris** *Fruhst.* from Digne. It is smaller and darker than the northern *serena*. The middle and subapical bands are yellowish, narrower than in *galathea*. On the underside there is dainty but sharply outlined black trellis marking. — In Castilia we find again a form similar to *nereus* with wide white middle and subapical bands: the black border of the middle cell on hindwings is considerably reduced: this is **gattinara** *Fruhst.* *gattinara.* — Between both we find in the Pyrenees a form similar to *pygmaea* on upperside, which is just as small. On the underside the black streaks are extremely dark, broad and clear. Eyespots large, the grey shading very pale: **pyrenaica** *Vrty.* *pyrenaica.* — Here we must add the specimens from Toulouse on which the discocellular rib is sharply white between ribs 4 and 7 in forewings. In the middle of costa of hindwings there is a large black spot to the middle of the wing, in it a fairly large white spot: **trimouleti** *Dubord.* *trimouleti.*

2. *procida Races.*

South of *sakaria* we find a raee that is small as *pygmaea* and darkly marked: **microprocida** *Vrty.* Typieal in Trentino. — East of *sakaria* in the Carinthian Alps to Trieste **elvira** *Fruhst.* occurs, which its author formerly eonsidered the type for the *procida* raee. "Lighter than *tenebrosa*" was the whole description. — **pedemontii** *Vrty.* from Turin, Valdieri has very differently sized ♂ and ♀, the latter very black at base of wings, marginal band however with large white spots, otherwise similar to *arogna*. The *procida* form from S. Franee figured in Vol. 1, plate 38 a is named **akis** *Fruhst.* — Many raees are named from the Italian peninsular, the northern are partly similar to *galathea*, the southern are quite dark *procida*- (*turcica*) forms. — **florentina** *Vrty.* is a eombination of *galathea* and *procida*. Outer margin widely blaek with small white patehes. The blaek spots at diseoeellular and base as reduced as in *pygmaea*. A similar mixture on the underside. Plains of Tuseany. — The eorresponding mountain form shows great variety in colour and the size varies markedly, ♂ 30—39 mm, ♀ 34—35 mm, the greater the altitude the more they become like *galathea*: **monticola** *Vrty.* — **apicalis** *Trti.* differs from *florentina* by its elongated white subapical spots, also occuring in the *leucomelas* form. The Apennines of Modena. — **sciritis** *Fruhst.* allies itself in spite of its southern habitat to *florina* and *sakaria* by the extended yellow-white areas on upperside. Also underside with less brown and black. Rome. — Then the adumbration proceeds further. — **galinthias** *Fruhst.* from Naples is close to *calabra* but smaller with much wider white spots and bands. In the forewings the eell is yellowish-white proximally. Differs from *sciritis* by its smallness and smaller yellow-white spots on upperside of both wings. Very similar to *gattinara* from Castile, but rather less white than same. To what extent *galinthias* differs from the typieal form from the near Island Proeida is not stated, probably extremely little. — **exteriusocellata** *Vrty.* is an occasional snb-form in which the eyespot rings almost toueh the outer margin of both wings. Caserta, Molise. — **illuminata** *Stauder.* A ♀ with extended white marking. On forewings the lower euneiform spot merges with the median spot. Hindwings more heavily white at base. Outer area with large white spots. Reminds one of *lucasi Rbr.* Aspromonte. — In Calabria there are 2 raees. In the mountains of Aspromonte (1200 m) the very dark **calabra** *Vrty.* reminding one of *turcica*, the ♀ of which measures up to 57 mm. The bright basal marks of both wings are often almost absent, the other light spots white, not yellow, as often in *procida* forms. — A single ♂ **bicuneata** *Vrty.* has the spots between veins 2—4 sharply elongated outwards. Remarkable to relate a form flies in the same loeality, but at lower levels (700 m) which must be ealled a pale *galathea* and whieh is not yet named. — Somewhat north of S. Fili (Cosenza) **calabra-procida** *Vrty.* occurs. The white spots are like *procida*, larger than in the previous form, base just as dark, submarginal spots smaller than in *procida*. — If we now turn to the eastern forms these eonnect up geographieally with *elvira*, but aeeording to the dark marking with *calabra*; **tenebrosa** *Fruhst.* shows the white spots very redueed and darkly suffused. Oeeasionally among it one finds very dusky speeimens which correspond with Boisduval's deseription of *turcica* "fere tota nigra". The illustration in Vol. 1, plate 38 a of *turcica* would better have been designated as *tenebrosa*. Carniola and Croatia. The forms from further East are not so dusky and eorrespond more to those of more temperate climes. — **syntelia** *Fruhst.* has a margin as widely blaek as *procida* but the white marking slightly extended. The paler underside reminds one somewhat of the south russian *symaithis*. Dalmatia, Bosnia. — **auricoma** *Fruhst.* (8 c) from Galicia has the trans-cellular and median spots of forewings larger than *symaithis*, the blaek margin of hindwings more exeurved and therefore narrower. — Speeimens from Hermannstadt and Kronstadt (Transylvania) have more extensive yellowish-white, especially the median band of hindwings, the dark margin of which is therefore narrower. Also on underside the white ground eolour is predominant. We find therefore again an approach to the paler *galathea*: **scolis** *Fruhst.* (8 e). — From Rumania no form has been named, it probably varies little from the previous, as **convena** *Fruhst.* from Kertsch (Crimea) is similar to it. Small, blaek areas on forewings redueed. Differs from *donsa* by larger yellowish marginal spots on hindwings. — The bulgarian form eorresponds to *scolis* from Transylvania, as *florina* to *nereus* (south and north of Simplon). ♂ with very small black outer margin on both wings. Hindwings especially in ♀ with wide yellow-white bands. Underside same as *procida*: **satnia** *Fruhst.* Type from Slivno. — **symaithis** *Fruhst.* has basal spot on forewings not round (as in *procida*) but elongated towards base. Light median band on both wings very wide. On underside the blaek median and submarginal band is less than in *procida*, only the small white subapical spots on forewings still remind one of same. Seeing its northern origin one cannot expect otherwise. Saratov (Volga). — **donsa** *Fruhst.* from Tiflis links it to *procida*. Differs from *symaithis* by the wide black margin on both wings and smaller yellow-white marginal spots on hindwing. Differs from *scolis* by lesser black surround behind the eell on hindwing. — We elose with the races that eonnect up with the north afriean *lucasi Rbr.* Already above under *galinthias* a transition form was mentioned as *illuminata*. — **eudaemonia** *Fruhst.* from Sieily without further details. A very large form. Compared with algerian specimens the white diseal area of both wings is more extensive and less intersected by black veins. On hindwings the anal area is less widely blaek. Underside more diffuse black. It is doubtful whether the form from Palermo: *panormitana Vrty.* differs from this. Outermargin widely blaek, therein small white spots as in *procida*. At diseo-cellular and base blaek patehes as redueed as in *lucasi*. — **magnifica** *Stauder* is a pale and large race that resembles *lachesis* in the median and marginal areas. It varies completely from

microprocida. *elvira.* *pedemontii.* *akis.* *florentina.* *monticola.* *apicalis.* *sciritis.* *galinthias.* *exteriusocellata.* *illuminata.* *calabra.* *bicuneata.* *calabraprocida.* *tenebrosa.* *syntelia.* *auricoma.* *scolis.* *convena.* *satnia.* *symaithis.* *donsa.* *eudaemonia.* *magnifica*

meade-waldoi. specimens from Batna and El Kantara. Constantine. — As a counterpart hereto we have **meade-waldoi** *Rothsch.* from West Morocco, a dark form corresponding to *procida.*

According to the views of Fruhstorfer and Stauder *lucasi* is a separate species from *galathea.* Neither author expresses an opinion in regard to the consequent necessity of a division of the sicilian-north-african races.

lachesis. nemausiaca. atta. **M. lachesis** *Hbn.* (Vol. 1, p. 115). According to Oberthür **nemausiaca** *Esp.* from South France is distinguishable in the ♂ by a darker, clearer marginal band on hindwings; it was dealt with in this way in Vol. 1. — Of the form *canigulensis Oberth.* (= *flava Rbb.*) from the Pyrenees, a small high altitude form **alta** *Oberth.* is also striking by its wide black markings. The spots and eyespots on hindwing underside are black not rust-brown. Sierra Alta. There is a *cataleuca* form of it without markings on the underside and which differs *flavescens.* on the upperside from the typical pale *cataleuca Stgr.* by its smallness and dark colour. — **flavescens** *Oberth.* represents a single ♂ of *canigulensis* with bold yellow ground colour. Vernet-les-Bains. In the same district specimens also occur correspondingly with *galathea-galene* in which the eyespots are absent on upper and *galenoides.* underside: **galenoides** *Oberth*: also with supernummerary eyespots: **novemocellata** *Oberth.* 2 eyespots on fore-*novemocellata.* wings, a further eye in the otherwise empty space above vein 4. — A further incomplete *galenoides* has been *monodi.* named **monodi** *Th.-Mieg*, in place of eyespots on underside they are merely indicated by black and yellow scales. On upperside the outer margin is scarcely black. With such transition forms one cannot always defi-*trimouleti.* nitely agree where they should be placed. — **trimouleti** *Pionneau* is the corresponding form in *canigulensis* that *galathea-trimouleti* is. Disco-cellular vein on forewing is white, 5 mm long, not only in proximal part *amarginata.* as commonly occurs. The black median spot on costa is large. Toulouse. — In **amarginata** *Oberth.* (8 c) the band of cone-like marks on margin is quite absent on underside. Vernet-les-bains. The following forms of *escorialensis.* *lachesis* (not *canigulensis*) are found in Spain. — **escorialensis** ♀ *Oberth.* from mid Spain approaches on underside *olaria.* to *cataleuca* ♀ *Stdgr.* Middleband and row of eyespots however still present though faint. — **olaria** *Rbb.* (= orlaria *Rbb.*, barcinonaria *Sag.*, procida *Melcon*) is somewhat dusky. The white marginal spots are smaller *prieta.* or quite absent. Catalonia, Andalusia. — In **prieta** *Rbb.* (8 c) the whole outer area is black. Andalusia. **super-***superocellata.* **ocellata** *Melcon* has an eyespot on the hindwings in the otherwise open space. Castile.

titea. inocellata. **M. titea** *Klug* (Vol. 1, p. 115). — **inocellata** *Wagner.* A form from Beirut without eyespots may be termed an extreme form of *titania Calb.* Below the race form.

japygia. **M. japygia** *Cyrillo.* Of the 3 main races we find the typical *japygia* in lower Italy. — In mid Italy *medioitatica.* **medioitalica** *Vrty* (8 d) a small form (48—50 mm) occurs. It has more extensive black markings, ground colour white, not yellowish. A dark band below at end of cell on the 2 lines. Also shaded around the eyespots. Monti Sibillini. — On the other hand in the Sabine mountains occasionally the ♂ with deep yellow tone. **flaves-***flaveseens. ochrea. ochreopicta.* **cens** *Dhl.*, the ♀ however not so. Underside of these sometimes brown-yellow: **ochrea** *Dhl.* corresponds to *galathea-fulvata.* — In the south french-spanish race *cleanthe Bsd.*, **ochreopicta** ♀ *Kitt* represents a normal *cleanthe* on upperside. Underside all lines are heavily black. On hindwings underneath base is dusted with grey, subsequent band and eyespot ochreous. Albarracin. — Of the usual forms with variations of eyespots *galeniformis.* are named: **galeniformis** ♀ *Oberth.* Very large, black markings meagre. On upperside without eyespots, under-neath only indications thereof on hindwings. Digne. Also mentioned by Oberthür as from Hungary, but there *novemocellata. punctellata. catalonica.* another name has been given to the race *suwarovius.* — The opposite: **novemocellata** *Oberth.* with super-nummerary eyes also occurs at Digne. — **punctellata** *Pionneau* has only a small black dot as an apical spot. Aragon. — Of the spanish races **catalonica** *Sag.* is more extensively black, the white marginal moonspots small, often absent. Clearly marked on underside. Catalonia, Aragon. — Among these occasionally **pseudo-***pseudolucasi. inglada.* **lucasi** *Weiss* occurs in Aragon. Darker at end of cell on forewings, darker on hindwings especially radially under the cell. — **inglada** *Fruhst.*, the form from Madrid is less black in apical area of forewings, on the other hand darker on inner margin. In the ♀ the black marking merges with the submarginal spot. On upper-side of hindwings eyespots larger, more heavily shaded with black, the white marginal spots almost twice as *arragonensis. peninsulae.* large as in the southern french *cleanthe.* Also in **arragonensis** *Sag.* the eyespots are clouded with a brown shade, so that possibly it is identical with the previous form. — **peninsulae** *Sag.* on the other hand has bold eyespots on a pale ground on hindwings, the white lunules large. Ground colour of forewings is pale, the black *centralis.* marking with sharp outline. Escorial. The same author names another race, **centralis** *Sag.*, can however not give exact particulars owing to insufficient material. Besides *adriana Sag.* and *pyrenaica Sag.* are mentioned in literature but no descriptions are to be found. — Also in the hungarian-russian race of *suwarovius Hbst.* *immaculata. bisoculata. completissima.* eyespot forms have been named. — **immaculata** *Aign.* is the *galene* form. Eyespots generally quite absent on hindwings, also often the apical eye on forewings. Budapest. — **bisoculata** *Stauder* has an additional eye-spot below on the forewing, **completissima** *Stauder* has besides a further one on hindwing. Ufa (Volga). — *jalemus.* After *transcaspica Stdgr.* (Vol. 1, p. 116) we place the alpine race **jalemus** *Fruhst.* It is darker. The sub-apical area of forewing and anal ocelli of hindwing daintier than in *trancaspica.* Cell especially of ♀ blacken-ed. Inner margin of forewing and middle area of hindwing form together a black area brightened only by

the white cellspot on hindwing. Underside like *suwarovius*. Kashgar. — **obscurior** *Wnuk.* from east Siberia can scarcely differ much; *minor Wnuk.* for a dwarf form from the Tschany lake is a superfluous name. *flava Sok.* is probably certainly synonymous with *flavescens Shug.* The descriptions being in inaccessible russian journals are valueless for this reason. It seems to be a somewhat more yellow form from the south Urals and north Caucasus. *obscurior.*

M. larissa *Hbn.* (Vol. 1, p. 116). A few varieties are described of the race *herta Hbn.* from the Balkans. In **typhla** *Schaw.* the eyespots on upperside of hindwings (not also on underside) have disappeared in the black marginal band. Croatia. — **schawerdae** *Neust.* quite without eyespots on upper and undersides is typical. Gravosa. — **delimbata** *Neust.* corresponds to *galathea-amarginata*. Somewhat paler than *herta*. Shaded patches on hindwings, in which eyespots are situate, are faint, in this respect similar to *adriatica Seitz*, but the eyespots are large, sharply outlined. Gravosa. A race **lydias** *Fruhst.* from Croatia is mentioned by the author in describing **freyeri** *Fruhst.* The latter differs by smaller white apical spots and narrower black middle band on forewings. On hindwings the outermargin is as in *herta*, the white middle area is halfway between *lydias* and *herta*. Corfu. *larissa. typhla. schawerdae. delimbata. lydias. freyeri.*

M. halimede *Mén.* In this and the following species the position of the markings varies somewhat from the other *Melanargia* species, so that Houlbert created the Genus *Epimede* (for *halimede* and *mandjuriana*), *Halimede* (for *jalongensis*) and *Ledargia* (for *leda*). It is possible that larvae and pupae also show differences, but so far nothing is known about this, so that it is advisable not to use this division, as if a practice were to be made of this the number of Genera would be enormously increased without any special benefit. — Now we return to *halimede*, Houlbert has ascertained that in the original description and illustration 2 species were mixed and names the ♂ **menetriesi** *Houlb.* In Vol. 1, plate 39 b the ♂ illustrated is *halimede* respectively *menetriesi*, the ♀ *halimede* is **mandjuriana** *Houlb.* (8 d) and he considers this a separate species. It occurs in Askold, Corea, Mandchuria, North China, whilst *menetriesi* only occurs in the Amur region (Askold). In *menetriesi* the inner side of the spot at the discocellular of forewing anteriorly proceeds more or less vertically to costa. The white spot in anal angle is almost semicircular. The black inner edge thereof has a small projecting tongue under rib 2 inwards. In *mandjuriana* (plate 8 d) the spot at discocellular of forewing gradually bends towards the base. The white anal spot is smaller. The black edge of rib 2 bends inwards similarly without a projecting tongue. On hindwings the white marginal spots are somewhat larger than in *menetriesi*. The ♀ of *menetriesi* is somewhat more heavily black on upperside, the underside slightly yellowish. Eyespots on hindwings appear generally to be more diffuse in *menetriesi* than in *mandjuriana*. — **anophthalma** *Draes.* is a yellowish form of *menetriesi*, on underside the eyespots are practically obsolete. Szechuan. — Houlbert considers **ganymedes** *Ruehl-Heyne* to be specimens with paler hindwings, but with gradually incurved spot at discocellular of forewing. According to this the illustration in Vol. 1, plate 39 d (from the collection of Püngeler?) cannot be right. — As the illustration of **meridionalis** *Fldr.*, Vol. 1, plate 39 c can scarcely be correct, we are giving here a better illustration. — **pasiteles** *Fruhst.* described in Vol. 9, p. 310 is a transition between *halimede* and *lugens Honr.* As extensively dark as the former but ground colour, as far as same is present, white, not yellowish. Shantung. — (8 b) shows the ♂; the ♀ has smaller spots and is heavily covered with brown. It is presumably right to consider this a species by itself. North and central China. — In South China the ♂ becomes quite brown: **fuscissima** *Houlb.* *halimede. menetriesi. mandjuriana. anophthalma. ganymedes. meridionalis. pasiteles. fuscissima.*

M. yalongensis *Houlb.* (= asiatica *Oberth.*) is similar to *menetriesi*. The discal spot of forewings proceeds in its anterior part vertically to costa, posteriorly it forms a small arc. On hindwings it is characteristic that the edge of the cell is only faintly developed at its anterior edge, at veins 5—7. The ♀ is often somewhat larger, hindwings somewhat yellowish, the disco-cellular somewhat darkly shaded. Szechuan and West Thibet. Small specimens occur at Ta-tsien-lu and Kuku-nor. These are distinguishable from *leda Leech* (= yunnana *Oberth.* only by the fainter dark edge to the cell on the underside of hindwing. *yalongensis.*

M. syllius *Hbst.* (Vol. 1, p. 117). A transition to **ixora** *Bsd.*, in which the 3 lower eyespots on upperside of hindwing are still present though small and without dark surrounds, is called **semi-ixora** *Houlb.* On underside the veins are narrowly brown and also the upper 2 eyespots are present but all small. S. France. — **semi-plesaura** *Houlb.* scarcely differs from the original illustration of *plesaura Bell.* — Besides these pale forms also extreme dark specimens occur: **limbata** *Neust.* Forewings dusted somewhat with black. Hindwings with 5 mm wide black margin, eyspots and the white marginal triangles disappeared. Underneath eyespots large and distinct. **hübneri** *Oberth.* from S. France which we illustrate probably corresponds with this. — Among *pherusa Bsd.* specimens occur having the apex of forewings darkened: **apicinigra** *Std.* or the black discal ring can be filled with black, quite a regular occurrence and figured by Houlbert in Lep. Comp. 21′ p. 44: **discinigra** *Std.* — **completissima** *Std.* has an eyespot in the otherwise empty space above vein 3 on hindwing. *semiplesaura Std.* = *semiplesaura Houlb.* All these forms from Sicily. — A race is described from Catalonia that reminds one of *japygia*. Darker than typical *syllius* but differentiable from *japygia-catalonica* by its paler inner margin: **pseudojapygia** *Sag.* (8 d). — The algerian form **pelagia** *Oberth.* is on the other hand similar to *ines* on the upperside of hindwings, to *pherusa* on underside. Small, ground colour white. Markings on *syllius. ixora. semi-ixora. semi-plesaura. limbata. hübneri. apicinigra. discinigra. completissima. pseudojapygia pelagia.*

upperside finely black, below finely brown. A specimen is illustrated with a supernummerary eyespot: *pelagia-novemocellata Oberth.* The inclination to be aberrative in this way also occurs in *syllius* from the Maritime Alps, where it has been named *decemocellata Oberth.* when with 1 more eyespot on forewing than is normal.

reducta. — Specimens of *pherusa* still more faintly marked than *plesaura* have been classified as **reducta** *Meier-R.*

ines. reducta. **M. ines** (Vol. 1, p. 117) *Hoffgg.* Of the new forms **reducta** *Oberth.* (8 c) is most faintly marked corresponding to *syllius-ixora.* Without eyespots on upper or underside of hindwings only the cone-shaped line present. Andalusia. Transitions occur in North Africa, eventually to be denominated *semi-reducta Houlb.* —

paquita. fathme. In **paquita** *Bsd.* eyespots somewhat better developed. — **fathme** *Wagner* corresponds to *reducta* in regard to the fine marking of forewing. Eyespots on hindwings normally large, the dark radial shading on innermargin of

hannibal. forewing and under cell of hindwing considerably reduced. Tunis. — **hannibal** *Stdr.* (= completa *Oberth.*). In the space on underside of hindwing a further eyespot, anal eye mostly bipupillated, also 2 eyespots on fore-

jahandiezi. wings. Eyespots more iridescent. Algiers. The following forms are darker than type. — **jahandiezi** *Oberth.* (8 d) ground colour white or pale yellowish. The blue centre dot of eyespots especially striking on upper-

grazianii. side. Atlas. — In **grazianii** *Romei* the largest eyespots occur. Differs from preceding by somewhat larger white marginal lunules and narrower black edge below the cell of hindwing. Tripoli. — Two small dark forms resem-

minima. sublutescens. bling each other closely though widely separated geographically: **minima** *Houlb.* ♀ 38 mm in Spain and **sublutescens** *Turati* from Cyrenaica. This corresponds in size and marking with *minima* on upperside, not *grazianii.* White marginal spots on upperside of hindwing small. Underside wings are creamy yellow. On forewings the antemarginal spots over the whole wing and the cone-shaped line are all cinnamon brown like the eyespot ringlets. On hindwings with the exception of eyespot surrounds and the marginal line the whole marking cinnamon brown. Reminds one thereby of *syllius.* — On the other hand in West Morocco we find in the

colossea. locality of *jahandiezi* a very pale and large form: **colossea** *Rothsch.* ♂ 65 mm, ♀ 71 mm. — From Spain have been

sulfurea. named: **sulfurea** *Rbb.* corresponding to *lachesis-canigulensis* but the ground colour is brownish not yellow. Underneath a typical *ines.* Andalusia. — If the white marginal spots are not developed, similar to *lachesis-*

margena. hübneri. *olaria* the form is named **margena** *Rbb.* Heavier adumbration like *prieta* is called **hübneri** *Oberth.*, *nigerrima Rbb.* "shows the white ground colour only shining through in patches". From this scant description it is impossible to recognise whether it differs from *hübneri.* Andalusia.

arge. semicaeca. **M. arge** *Sulz.* (Vol. 1, p. 117). The typical *arge* flies near Rome and Castellamare. — **semicaeca** *Houlb.* (8 d) is the palest of the new forms. On forewing only upper apical eyespot, on hindwing 1—2 eyespots on top, 2—3 below and on upperside all only punctiform. Disco-cellular with a black ringlet on forewing. Cone-

turatii. shaped line faint on both wings fading away at anal angle. South Italy. — **turatii** *Rost.* Somewhat more heavily marked. Disco-cellular on forewing with black spot but no white centre, subapical band just indicated.

cocuzzana. Only one eyespot on forewing, eyespots on hindwings somewhat larger. Rome. — **cocuzzana** *Stauder* is similar to *syllius.* Freshly emerged ♂ and ♀ brilliant ivory white (an impurer white is typical) on upper and underside, worn specimens yellowish. At the disco-cellular of forewings a black ringlet, ribs black as in *syllius.* Eyespots and cone-shaped line heavy on upper and undersides. Monte Martellino. — A number of single specimens have been named according to the number of eyespots. *cyclops Stauder* only 1 instead of 2 eyespots on forewing, *semicaeca Stauder* besides above only the upper ones as spots on hindwings. On the other hand *pluriocellata* with 2 additional eyespots between veins 2—4, which are also faintly indicated on underside.

melanotica. — **melanotica** *Trti.* (8 d) is an abnormally dark specimen from Castellamare, corresponding to *ines-hübneri.* The apical area of forewing and outer margin of hindwing on upperside very dark. Underneath the whole outer half of hindwings adumbrated.

12. Genus: **Oeneis** *Hbn.*

jutta. gigantea. **O. jutta** *Hbn.* (Vol. 1, p. 118). — **gigantea** *Aust.* Just as big as *magna Graes.* but the ♂ with scent stripes below the cell. Eyespots on forewings as small as in *magna* ♂, larger in ♀ than in ♂. On hindwings yellow margination not bandlike with 1—2 black eyespots. (According to specimens in the Puengeler Collect-

sachalinensis. ion) Sojmonowsk, Urals. — **sachalinensis** *Mats.* Very closely resembling preceding with similar scent stripe. 3 eyespots on forewing in narrow yellow band. On underside the dark middle band more heavily outlined with black, its inner edge not acutely angled at the middle of cell. 58—66 mm. — Eyespot varieties have been named: 2 further small eyespots above the normal 3—4 in forewing: *sexpunctata Bryk*: *quadrimaculata Bryk*, the second eye from the top which otherwise is very small or even absent is here pronounced; *rudolphii Bryk* the second eyespot on forewing only as a yellow streak, hindwings without eyespots and with faint yellow streaks. All from Sweden.

mulla. tannuola. **O. mulla** *Stgr.* (Vol. 1, p. 118). — **tannuola** *Bang.-H.* (10 c). Smaller than *elwesi* and more sparsely scaled. Ground colour of ♂ ash-grey, bands white, in ♀ ground colour darker, bands yellowish-white. Tannuola mountains.

aello. **O. aello** *Hbn.* (Vol. 1, p. 119). A few eyespot variations have been named. *cruciata Oberth.* (8 e) an additional small eyespot both above and below the normal eyespot above rib 2 of forewing. The main eyespot with white pupil. Apical eyespot with only one secondary eyespot. Valais. — *luxuriosa Schaw.* ♀ with

4 large eyespots on forewing, somewhat elongated and one secondary eyespot. Hindwing with 4 eyespots with white pupils. Tyrol. — On the other hand *unicolor Rbl.* with faint yellow band and one diffuse eyespot on both wings. — *exannulata Osth.* named but not described, presumably an extreme form of the former. Vereinsalm, Bavaria.

O. norna *Thunb.* (Vol. 1, p. 119). — **saga** *Bang-H.* (10 e). Similar to *fulla Ev.* Ground colour deep black- grey. On underside of hindwing the middle band with bold white edge. Saisan. — **tundra** *Bang.-H.* (10 e). Bright ochreous on upperside. On underside the dark brown middle band of hindwings stands out faintly, it has white edges. Sajan Mountains. — **pallida** *Sheld.* Ground colour of ♂ pale brown. Marginal band pale reddish-brown with normal eyespots. In the ♀ the marginal band diffuses inwards. Lapland. — Such pale specimens also occur under *hilda Quens.* (*hilda-pallida Sheld.*). Typical *norna* are classified according to the number of eyespots as *uni-*, *bi-* and *tripupillata Sheld.*, specimens with an exeess of eyespots *excessa Shld.* — *vanda Aust.* is possibly the same as *norna.* *norna.* *saga.* *tundra.* *pallida.*

O. chione *Aust.* Similar to *norna.* Ground colour pale grey-yellow. Costa of forewings paler, marginal line grey-brown. A small brown eyespot above rib 5. Hindwings with dark marginal line and wider dark middle band which is sharply dentate distally. The eyespot below on forewing with white pupil, apex whitish. Hindwings paler. Inner edge of middle band uniformly arcuate without the angles of *norna.* There is though a speeimen of *norna* in the eollection of Puengeler in which they are absent. Oehotsk. *chione.*

O. dubia *Elw.* (Vol. 1, p. 119). — **staudingeri** *Aust.* a paler form, more diffuse on upper and undersides from Ongudai. *dubia.* *staudingeri.*

O. germana *Aust.* Very similar to *hora Gr.-Grsh.* Forewings of the same ground eolour, with 2 blind eyespots, hindwings with only one eyespot over vein 2. On the forewing the dark middle band projects little or mueh less into the outer yellow band at vein 4. Towards the inner margin the border between the two very diffuse. The outer edge of the middle band on hindwings shows sharper dentations at veins 4 and above 5, as also its inner margin in the eell, where it runs almost parallel to the lower border of same. Juldus. — A dark somewhat red-brown form is named **tristis** *Bang.-H.* (8 e). I do not consider it identical with *dubia* or *norna.* Both can have fewer or no eyespots. For this then are the denominations *germana-depuncta Aust.* and *tristis-immaculata Aust.* All these from the region of Juldus. *germana.* *tristis.*

O. daisetsuzana *Mats.* Similar to *asama Mats.* (see note at end) ♂ without androeonia. Costa of forewing without blaek striations. No eyespots. Both wings with faint ochreous band. ♀ with dark spots on forewings above veins 2, 3 and 5. Underside of hindwings with middle band like specimens of *pansa Chr.* from the Püngeler Collection (paler than in Vol. 1, plate 40 f) but narrower. *daisetsuzana.*

O. arasaguna *Aust.* Similar in size to *ammon-pansa.* Grey reddish brown. Forewing of ♂ with distinct androconia spot similar to *norna.* A fine blaek spot with white pupil above vein 5. A quite diffuse narrow band before margin. Hindwings with narrow black margin and in front a yellow band with 4 moderately distinct yellow white spots. The dark middle band bordered as in *ammon* Vol. 1, plate 40 f. Underside of the whole forewing fairly unicolourous yellow, whitish at apex. Underside of hindwings like *ammon*, the light inner band wider, in the outer band 4 white dots more plainly visible. The ♀ very different, darker with dark marginal bands also on forewings. The yellow band in front distinet and with 3 black spots above veins 2, 3 and 5. On hindwings a black dot above and below vein 2. Arasagungol. *arasaguna.*

O. mongolica *Oberth.* (Vol. 1, p. 120). — **tsingtaua** *Aust.* (10 e) reminds one of *urda* and *tarpeja* in the brightness of its colouration. Both wings narrowly blaek at margin, somewhat wider at apex of forewing. An eyespot generally with white pupil above veins 2 and 5. On hindwings 3 blind eyespots. The brown line around the disco-eellular much less pronounced than in *urda.* Underside as *mongolica* (plate 40 g). On hindwings the middle dividing line plain, otherwise everything diffuse. Tsingtao. *mongolica.* *tsingtaua.*

O. urda *Ev.* (Vol. 1, p. 120). Whilst *umbra Stgr.* is darker than normal, oehreous specimens also occur: **laeta** *Aust.* (8 e) Ussuri. — **albidior** *Bang-H.* Ground colour of ♀ whitish on upper and underside, margins only grey-brown. — **bang-haasi** *Aust.* ♀ has similar pale ground eolour, but the outermargin is almost darker than in typical *urda.* On forewings 2 eyespots, on hindwings 5 similar to *nanna*, large black with white pupils. Hindwings underneath well marked, middle band almost blaek somewhat rounded off distally. All forms from Sajan Mountains. *urda.* *laeta.* *albidior.* *bang-haasi.*

O. brunhilda *Bang-H.* (10 e). Lighter than *nanna* and uniformly coloured. Shape and number of eyespots varying as in *nanna* rarely with white pupils. The dark band on hindwings diffuse, veins rarely white. Sajan. *brunhilda.*

O. nanna *Mén.* (Vol. 1. p. 120). — **anna** *Aust.* A transition between *nanna* and f. *coriacea Seitz.* Forewings truncate, pale, only the eell brown exccpt at extremity. Between veins 2—5 four eyespots, those above 3 and 5 being smaller. Hindwings also faintly yellow. Of the middle band only the outer marginal edge recognisable. The eyespots represented by 5 small blaek dots with pale yellow surrounds. Forewing underside *nanna.* *anna.*

unicoloured grey-brown, only eyespots with yellow surrounds. Hindwings dusky grey, markings diffuse. Ara-
shonis. sagun-gol. — **shonis** *Mats.* (10 f) sub-form to *walkyria Fixs.* Upperside similar to same. The single eyespot on forewings still larger. Eyespots of hindwing elongated inwards. Underside more inclined to resemble *tarpeja* as the outer edge middle band of hindwing runs straight from vein 4 to innermargin and not undulating as in
coreana. *nanna.* Also the small eyespot over vein 2 is more similar to that of *tarpeja.* — **coreana** *Mats.* is still more similar to *tarpeja-lederi Alph.* On forewings 2 small eyespots over veins 2 and 5, on hindwings 4 eyespots
okamotonis. with white pupils. — **okamotonis** *Mats.* (10 f). More heavily marked than *coreana.* Upperside closely resembles the only *tarpeja* ♂ at my disposal. The dark shadow at disco-cellular and vein 4 is still more heavy than in same. Eyespots as in *coreana.* Underside also similar to *tarpeja.* All 3 from Corea. If this is not a separate species it seems to me it would be better classified under *tarpeja* and not under *nanna.*

velteda. **O. velleda** *Aust.* (10 e). Similar to *sculda Ev.* Ground colour ochreous. Disco-cellular of forewing and margin of both wings dark brown. An eyespot over vein 5 on forewing and underneath it a black dot. On hindwing black eyespots above veins 2—5. Middle band reflects through from underneath. Same is distinct on underside, behind the cell it overlaps the anal angle and is incurved towards the costa, 4 eyespots heavily marked. Siberia without further details.

The descriptions of *jutta-asama* and *yazawae* Matsumura, Thousand Insects, Addition 3 were not procurable.

13. Genus: **Satyrus** *Latr.*

pumilus. **Sat. pumilus** *Fldr.* In Vol. 1, p. 122 the forms *sikkimensis Stgr.* and *iole Leech* have been classified as *palaearcticus Stgr.*, which is considered to be a separate species. Bang-Haas, who certainly disposes of sufficient material, considers them forms of *pumilus*, which unfortunately is a rare form that was first described
nanshanica. and is a sub-form to *palaearcticus* which is commoner but which was described later. — **nanshanica** *Gr.-Grsh.*
illustris. Ground colour buffbrown. Margin blackish otherwise like *palaearcticus.* Nanshan. — **illustris** *Bang.-H.* (10 f). Ground colour similar, somewhat paler in the ♀. Band yellowish (♂) or white (♀) dissolved into spots on
unicolor. forewing. Margin heavily black in the ♂. Specimens with very obsolete band are **unicolor** *Bang-H.* Both from
grandis. the Richthofen Mountains. — **grandis** *Riley.* Close to *bicolor Seitz* but with more extensive bright red-yellow on upperside and margin blacker. On underside of hindwings the bright middle band is narrow. ♂ 50 mm.
divnogorski. Mount Everest. — **divnogorski** *Bang-H.* Ground colour reddish-brown. Eyespot on forewings better developed.
buddha. Bands a little wider than in *sikkimensis Stgr.* (Vol. 1, p. 122). — **buddha** *Bang-H.* Dark brown as *iole Leech.* Spots very small, white not yellowish. Kuku-nor.

swaha. **S. swaha** *Koll.* (Vol. 1, p. 122). In the form **gilgitica** *Tytl.* the band on forewing is white on upper
gilgitica. and underside. Underside of both wings very pale grey. Gilgit. — **kurrama** *Evans* from Chitral is a transition
kurrama. between *swaha* and *gilgitica.* — **tellula** *Fruhst.* from Mardam in Chitral has a straw-yellow band uniformly on
tellula. both wings. — **garuna** *Fruhst.* from Simla really belongs to Indian regions, it has wider bands, which are
garuna. always yellow especially on underside.

padma. **S. padma** *Koll.* (Vol. 1, p. 122). The west chinese form is separated as **verres** *Fruhst.* It is larger than
verres. the normal form from Kashmir. Underside of both wings paler, heavily sprinkled with white. — **grandis**
grandis. *Tytl.* has bands on hindwings angulated not straight. The band is white on underside of both wings, the ground colour is greyer. The white spots on the forewing in areas 3 and 4 merge. 82—98 mm. West Gilgit. In east Gilgit the band on hindwings is straight.

circe. **S. circe** *F.* (Vol. 1, p. 123). As in most of the Satyrides specimens also occur here with supernummer-
punctata. ary eyespots above vein 3 on forewings: **punctata** *Aign.* In the following forms this name is not repeated
maga. in each instance. — **maga** *Fruhst.* has wide pale bands finely divided up distally, sharply separated from deep black ground. On underside the white middle band of hindwing is edged with yellow distally, contract-
venefica. ing towards the anal angle. Vendée. — **venefica** *Fruhst.* is a large race from South France. Wings similar to *asiatica Seitz* (Vol. 1, plate 41 e). Band of hindwings often edged with reddish distally, very narrow on under-
teleuda. side. Var, South of France. — **teleuda** *Fruhst.* Similar to a small *venefica*, but the white band on both wings reddish outwardly. On underside not so fine as the Castilian form, but the yellowish-white band on hind-
hispanica. wings more extended, covered with brown-grey in the ♀. Corsica, Sardinia. — **hispanica** *Spul.* (= paralcuca *Fruhst.*). Bands of forewings dissolved into spots as in *asiatica.* On hindwings band somewhat wider, less pointed at end. Chiclana, Albarracin, Barcelona. No special name has been given to forms from the North
itala. and South slopes of the Alps. — **itala** *Vrty.* Almost as large as the hungarian race, but band narrower and
asperomontana. never reddish as in the southern french race. 58—70 mm. Tuscany. — Far in the south we have **asperomontana** *Stauder.* Similar to *asiatica*, but bands are whiter, those of hindwings wider. Underside dark and well mottl-
defecta. ed. — **defecta** *Stauder* is a specimen of this race on which the last small white spot on the inner margin of forewings is quite absent. Aspromonte, Calabria. — On the other hand the apical eyespot of forewings can
bertrami. be much enlarged so that the 3 white spots near by almost disappear: **bertrami** *Zobr.* from Aspromonte and
illecebra. Sicily. — From the east of the territory over which it is distributed: **illecebra** *Fruhst.* The largest race

about ⅓rd larger than specimens from south Germany. ♀ with very wide white bands, especially on underside of hindwing, heavily white at base. Hungary. — **pannonia** *Fruhst.* is as large as the italian and south french specimens. White spots in apical eye particularly small, otherwise scarcely distinguishable from the following. Croatia. — **venusta** *Fruhst.* A transition to *asiatica*. White spots on forewings less separated than in latter, the band on hindwings to the anal angle is not so narrow. Therefore according to the description scarcely distinguishable from *hispanica*. Caucasus. *pannonia.* *venusta.*

S. hermione *L.* (Vol. 1, p. 123). We are treating this and *alcyone W. V.* preliminarily still as separate species as was done in Vol. 1 although it is doubtful whether they are so. For even such careful observers as Püngeler and Fruhstorfer are not always clear regarding the differences. New forms have only been named from the South with only one exception. — **albifera** *Fruhst.* ♂ and ♀ with a considerable amount of white on hindwings on upper and undersides. Clausen, Bolzano, Lugano. — **aturia** *Fruhst.* is similar but the band is never such a pure white, ♀ with still wider yellow stripe than in *orphnia* from Italy. On underside without the sharp white markings as *albifera*. Maritime Alps. — **selene** *Fourcr.* Fruhstorfer mentions as being described from Paris, occurring also in the swiss-french frontier territory. From Florence, Italy, have been described: **orphnia** *Fruhst.* Forewings with intensive yellow band and the hindwings of ♀ with yellow striations. Florence. — At higher altitudes from the same district **alcyoneformis** *Vrty.* (10 f) with narrower white band, more diffuse and dentate than *alcyone*, but just as small as in same. From the Apennines of Tuscany over 1000 m. — **flavata** *Rost.* Smaller. Bands glossy yellowish-white. Eyespots on upper and undersides of all wings. From the surroundings of Rome. — On the other side of the Adriatic **australis** *Rbl.* with narrow pale bands. On underside of hindwing in ♀ covered all over with dark mottling. Dalmatia. — **japudium** *Stauder* is a sub-form hereto. The dark ground colour on both wings on upper and underside penetrates in serrations into the pale band. Istria. — **serrula** *Fruhst.* The band is only serrated on hindwings similar to *syriaca* (Vol. 1, plate 42 a), which Fruhstorfer considers a separate species. The yellow streak under the ocelli is not absent as in *attikanaFruhst.* Otherwise similar to same, larger, bands white and wider. Ragusa. — **meshetica** *Jach.* from the North Caucasus is similar to *alcyone* according to the genitals. Other differences are not mentioned. *hermione.* *albifera.* *aturia.* *selene.* *orphnia.* *alcyoneformis.* *flavata.* *australis.* *japudium.* *serrula.* *meshetica.*

S. alcyone *Schiff.* (Vol. 1, p. 123). Only certainly to be differentiated from the previous species by means of the genitals, the other differences are often too uncertain. Single specimens have been named: **infumata** *Nitsche* from Vienna (which Fruhstorfer considers the typical locality of the species) uniformly smoky brown especially on hindwings. — **heuseri** *Ebert*, small, pale grey-brown, otherwise normal. Kaiserslautern. — **nemorivaga** *Schtz.* Both normal eyespots on forewing of the ♀ very large, besides a further small one between them only on upperside. Band of forewings yellowish, paler towards costa: pure white on hindwings. Berlin, Harz Mountains. — ♂ with numerous white spotted eyespots on the upper and underside is **multiocellata** *Vorbr.* Pfynwald (Switzerland). — Among the races is **norwegica** *Strd.*, naturally smaller than the mid-european specimens. The band on both wings narrower on upper and underside. On upperside of hindwing eyespot always absent. Underside darker especially on hindwing. The lower eyespot on forewing almost always present but small, on the other hand sometimes between them a further eyespot: *triocellata Strd.* — The most widely distributed form in Germany is **sigurdrifa** *Fruhst.* ♂ with extensive and pale yellow bands in typical specimens from Bohemia, Vienna, Hungary. From the Palatinate, Magdeburg, Berlin and Silesia. — In **odilo** *Fruhst.* from the Lüneburg Plain the white area of both wings is much more sharply pronounced and paler. — The race **vivilo** *Fruhst.* from the Swiss Jura is quite similar. ♂ and ♀ with very pale almost white band on forewing. Hindwing of ♀ mostly with pure white band, only the edge of band somewhat yellowish. — The opposite of this is **genava** *Fruhst.* with pale submarginal zone dark yellow in ♂ and ♀. In the ♀ band on hindwings is only narrowly white. Martigny, Visp Valley. — **sogdiana** *Fruhst.* from Digne and Marseilles is a transition to the spanish forms. Similar to *pyrenea Oberth.* (Vol. 1, p. 123). Band on hindwings of the ♀ purer white and narrower. Specimens of *vandalusica Oberth.* in which the eyespot of the forewings above vein 2 is absent on upper and underside are named **noojos** *Rbb.* — **vipsania** *Fruhst.* Smaller than *vandalusica*. Bands also narrow and in the ♀ dark yellow especially on hindwing. Dark on underside especially on hindwing. Cuenca, Albarracin. — Also **murciana** *Rbb.* is similar to *vandalusica*. Larger, the pale bands narrower, appearing thereby darker. On underside basal area of both wings very dark and thereby reminding of typical *alcyone*. — *murciana* is probably only a transition to *vipsania* which does not vary very much from the typical *alcyone*. — Of these dark forms **maroccana** *Oberth.* (10 g) from the central Atlas does not vary much: ♂ is darker than other races especially at apex of forewings. ♀ on underside densely marbled with black. ♂ less densely. — *ellena Oberth.* (Vol. 1, plate 42 a) Fruhstorfer considers a separate species and according to the illustration in Vol. 1, plate 42 a this seems justified. — **latevittata** *Vrty.* (10 g). Similar to *hermione* with long white bands (according to the name this should probably read "wide" bands). Tuscany. The description of this and several other forms named at the same time is somewhat obscure. *infumata.* *heuseri.* *nemorivaga.* *multiocellata.* *norwegica.* *sigurdrifa.* *odilo.* *vivilo.* *genava.* *sogdiana.* *nocjos.* *vipsania.* *murciana.* *maroccana.* *latevittata.*

S. briseis *L.* (Vol. 1, p. 124). The following aberrative specimens have been named: *triocellata Vorbr.* has above vein 4 on the forewings a further black eyespot which is with white pupil in the ♀. In *siedlecki Prüff.* (*punctata Aign.*) there is a further supernumerary eyespot above vein 3 on forewings. Warsaw. On the other hand sometimes in the race *fergana Stgr.* the eyespot is absent above vein 2: *uniocellata Strd.* — Specimens caught around Regensburg and the Valley of the Danube are to be considered typical of this race. The small race from the Harz Mountains and Bohemia varies by the absence of the pale bands on the forewings, sometimes *briseis.*

also absent on hindwing, more rarely in ♀. The latter varies from austrian specimens by uniform grey-black
bataia. colouration with indistinct submarginal band on underside: **bataia** *Fruhst.* — **interjecta** *Vrty.* forms a transition
interjecta. between northern and southern races by the wide band-like spots of upperside. From N. W. France; it is identical with specimens from the Abruzzi Mountains at higher altitudes (1200 m). — In the Maritime Alps a somewhat larger race occurs, darker than *major Oberth.* from Algiers. In the ♂ the whitish crossband is dusted
maritima. with brown and in the ♀ fairly widely: **maritima** *Oberth.* The form from Digne comes between the latter and
saga. *interjecta.* — South of the Alps in the Karst region we find **saga** *Fruhst.* with very wide band especially in the ♀. On the underside hindwings predominantly white-grey. It is different from the southern french form by this
saga-violacea. light underside. In **saga-violacea** *Std.* hindwing is suffused with violet. In *meridionalis* and *major* underside of hindwings shows distinct outline of outer band, but not in *saga*. Between the southern forms *maritima* and
deminuta. *saga* there is a small (northern) race **deminuta** *Fruhst.* flying on the Malser Heath (and around Florence). Underside white-yellow. Spots of hindwings small, sharply outlined, black. — Among specimens from the Lake of Geneva which correspond fairly with the illustration Vol. 1, plate 42 b for *meridionalis*, there are occasionally some with grey-yellow spots in middle cell of forewing similar to *prieuri* (plate 42 d) but the spot is closer
prieurioides. to the base: **prieurioides** *Blach.* — In Italy besides the above mentioned *deminuta* from Florence there is still
turatii. to be mentioned the large **turatii** *Fruhst.* from Sicily. ♂ iridescent violet on upperside like *saga*, but in *turatii* the bands are narrower and also violet. On hindwing of ♀ a longish, regular, wide band. Paler on underside than other european races. Forewings almost white, yellowish near margin similar to *major*. — I have not been able to find the description of an italian race *emilianus Fruhst.* mentioned by Stauder. — From Spain we have
pyrenaeorum. firstly the melanic mountain form **pyrenaeorum** *Vrty.* The white patches still more reduced than in *bataia*, but the pale band of the ♂ has a very oblique position which is characteristic of the spanish-african race. In the ♀ the eyespots are large. Underside of ♂ and ♀ very dark by dark striations. Very variable in regard to size. — In Albarracin a small race (41—52 mm) occurs with wide bands on upperside, hindwings underneath heavily
caiaca. dusted with white: **caiaca** (*Fruhst. i. l.*) Zerny. Probably the same form, as also described from Albarracin, Verity describes as: similar to *major* on upperside, partly similar to *pyrenaeorum*, partly to *major* on underside,
celtibera. pale, the 2 spots on hindwings small, grey. He calls it **celtibera** *Vrty.* Both names were given in 1927. Verity thinks he should alter the name *major* into *cretus Vrty.* because of *briseis-janthe-major Esp.* — In Andalusia
suberetus. *briseis* becomes more african in size and markings, but nevertheless keeps different: **subcretus** *Vrty.*, Sierra
lyrnessus. Nevada 1200 m. — Of the eastern forms **lyrnessus** *Fruhst.* from S. Russia resembles *maritima*. Bands are broader, yellowish-white. On underside the grey middle spot of hindwings is long and narrow, discal area grey, sub-
armena. marginal band black-grey not yellowish, therefore similar to *fergana*. — **armena** *Jach.* resembles *maracandica*
aurata. *Stgr.* but it is larger. In the ♀ the bands are somewhat yellowish like *aurata*. Araxes Valley. — These **aurata** *Oberth.* are a sub-form of *major Oberth.* from the collection of Boisduval in which all the otherwise white patches are coloured almost like in *analoga Alph.*, Vol. 1, plate 42 e. In Tiflis and Elisabethpol *magna Ruehl* occurs, it is not ochreous on underside and more clearly marked. According to Jachontow one should write: *magna Ruehl*, as *magna Stgr.* is an i. l. name (missing in literature reference in Vol. 1). The description is correct: similar to *meridionalis*. The wide white band of spots has a tinge of greenish yellow. Underside pale, clearly marked in ♂, less clearly in ♀. Armenia, Caucasus, Kuldja. The correct *magna Ruehl* is illustrated according to Jachontow as *fergana* in Vol. 1, plate 42 c. — *fergana Stgr.* is said to be like *meridionalis* on upperside, more
larnacana. heavily brown on underside of hindwing and at apex of forewing. — The finest form is **larnacana** *Oberth.* (10 e) from Cyprus with characteristic underside. Markings of hindwings clear. Spot in middle of costa not reaching to the cell. It forms an arc and unites with the lower one. The white patches on hindwing with a tinge of orange-brown.

heydenreichi. hegesander. **S. heydenreichi** *Led.* (Vol. 1, p. 124). Here we have to incorporate the form **hegesander** *Fruhst.* from Thianshan as palaearctic, which is described in Vol: 9 (Indo-Australica) p. 308. The white middle bands are double as wide as in the type. Underside yellow mottled.

prieuri. iberica. fumosa. **S. prieuri** *Pier.* (Vol. 1, p. 125). — **iberica** *Oberth.* from Albarracin is certainly different by its somewhat paler underside from the illustration Vol. 1, plate 42 d, e. — **fumosa** *Schaw.* Upper and underside much darker smoke-brown than *uhagonis Oberth.* Albarracin. The race from Tangiers is larger and not yet denominated.

semele. tristis. **S. semele** *L.* (Vol. 1, p. 125). According to Fruhstorfer the typical race is the german, according to Verity the swedish. The latter also bears the name **tristis** *Wahlgr.* as it varies from the original description. It is small. The yellow patches very pale, straw yellow in the ♀. Ground colour of ♂ suffused with grey, eyespots without pupils. The lower eyespot on forewing and the one on hindwing either small or missing. Underneath the forewings are paler, hindwings less sprinkled with white. 40—44 mm. Oeland, Gothland. Similar to it is
aelloides. **aelloides** *Nordstr. and Bryk* (10 c). On hindwings the upper eyespot is absent, underside striated overall, without
scota. pale band. A few specimens (♀) near Stockholm. — Also the scottish **scota** *Vrty.* is as small. Upperside also pale, pale colouration extensive. Underside of hindwings very dark and almost without white crossband.
angliae. Nothing is said regarding the eyespots. N. Scotland. — 3 races are mentioned from England: **angliae** *Vrty*: in
anglorum. size and markings between *scota* and the east prussian *jubaris*; and **anglorum** *Vrty.* smaller than *semele*, under-
bipicta. side generally darker. — **bipicta** *Vrty.* is also small. On hindwing the band-like spots are intersected longitud-

inally by narrow brown streaks. The inner half of the band is pale, often almost whitish, the outer half reddish-brown, sometimes the band is intersected by the veins. — **jubaris** *Frühst.* has pale ochre-yellow bands on both wings. Underside of hindwings very pale with faint network of dark lines. Typical of East Prussia. — **pellucida** *Std.* Similar to (not yet named) S. E. Russian specimens. Ground colour paler brown. Bands still paler than in *jubaris*. On the relatively light hindwing the distinct white middle band of the underside reflects through. Underside paler, outer area of forewing much paler than basal area. Hindwings with fairly equally wide white middle band, similar to forms from the Tyrol. Transcaucasia. Specimens from the Püngeler Collection from Lydia and Askabad are best placed here. — **cadmus** *Frühst.* The form from Southern Switzerland and the South Tyrol is large and dark. The light spots on hindwings fairly narrow and red-brown. Underside considerably darker and more unicoloured than german specimens. — The north tyrolian form **polydorus** *Std.* is darker, almost unicoloured brown-black, a little ochre-brown being left on forewings between eyespots. The pale patches on hindwing short and wide, sharply edged with black proximally. Also the ♀ is darker than *cadmus* ♀. Underside of hindwings is deep black-brown, the pale middle band heavily intermixed with brown-yellow. Innsbruck. — **tenebrosa** *Std.* is a *cadmus* form with somewhat darkly dusted pale band. Istria. — **teres** *Frühst.* from Digne has all spots on upperside pale ochreous. On underside of hindwings the white band is wide as in specimens from Sicily and Algiers. — Both spanish races vary little from *semele*. In **subcinericea** *Rbb.* the upperside of both wings is darker. The pale bands appear only as patches near the eyespots or quite absent. Particularly the upperwings iridescent grey silvery. In the ♂ androconia spot prominent. Underside very brightly coloured, similar to the german *semele*. Andalusia. — **hibera** *Vrty.* forms a transition between the french *semele* and *mersina Stdgr.* from Asia Minor according to Zerny very similar to former. S. Spain. — Some italian races are very dark on upperside, faintly marked. — **peninsulitaliae** *Vrty.* The red-yellow spots on forewing almost absent, faint on hindwing of ♂, wide clear marks in ♀. Hindwings varying from those of *cadmus* by more meagre dark network, ground colour lighter, tinged with pale grey. Pale specimens approach *teres*. Florence, 600 m. **blachieroides** *Std.* is a dark dusky mountain race. Aspromonte. — **rautheri** *Krausse* is possibly not different from *peninsulitaliae*. On upperside unicoloured dark only slightly lighter between the eyespots, the lower one of which is very small. Therefore very different from *aristaeus*. Gennargentu, Sardinia. — To the 2nd group belong: **apenninigena** *Vrty.* Very small, ground colour and band similar to typical *semele*, also in width, eyespots large. Underside: hindwings pale similar to *teres*. Monti Sibillini in higher altitudes. — **neapolitana** *Std.* Transition to *aristaeus* with paler ochre-brown bands. Naples. — From Sicily only 2 races are described which vary slightly from *algirica Oberth.*: — **siciliana** *Oberth.* (10 c) ♂ very variable, some specimens similar to *aristaeus* from Corsica, ♀ larger and finer than *algirica*, in it however the light patches in the shade of *aristaeus* ♂ are much more extensive. — **blachieri** *Frühst.* ♀ darker than *algirica* on upperside. Underside of hindwings dark brown instead of pale grey. The latter characteristic is only partly correct according to the collection of Püngeler. Sicily. — **cretica** *Rbl.* somewhat larger than the similar *blachieri*. Spots reddish-yellow, clearly outlined not merged as in *aristaeus*. Underside of hindwings of the ♂ dark brown with sharp white middle band, paler in the ♀. Forewings less bright than in *blachieri*. Crete. — **pallidalgerica** *Vrty.* This Lambese form is quite different from the neighbouring *algirica* from Sebdou and Géryville. The red-yellow colour is so dusky and little extensive that many a ♀ scarcely looks different than *jubaris* from Germany. — **senthes** *Frühst.* is large but poorer in marking. In the ♀ the band of both wings pale ochreous, narrow on hindwing. Underside of hindwing somewhat darker than in *teres* from S. France, middle band equally wide. Not very pronounced according to the single specimen in Püngeler's Collection. From Greece. — *symmetrica Erf.* is an aberration of the veins. Besides there is a form named *praeustralis Vrty.* of which I have not been able to find the description. — **fulvina** *Cab.* has a large yellow-red spot in the inner area of the forewing. — **mellaertsi** *Derenne* has the hindwings so heavily marked with black, that the mottled effect has quite disappeared. Bryk states that the fertile ♀ has a sphragis.

jubaris. *pellucida.* *cadmus.* *polydorus.* *tenebrosa.* *teres.* *subcinericea.* *hibera.* *peninsulitaliae.* *blachieroides.* *rautheri.* *apenninigena.* *neapolitana.* *siciliana.* *blachieri.* *cretica.* *pallidalgerica.* *senthes.* *fulvina.* *mellaertsi.*

S. autonoë *Esp.* (Vol. 1, p. 126). The form **ochromenus** *Frühst.* in Vol. 9 belongs here. Larger. Wings paler as in *alcyone*, yellowish round the eyespots also in the ♂. Underside diffuse pale grey. ♀ very large with pale yellow band before the margin on both wings. Thianshan.

autonoë. *ochromenus.*

S. euxina *Kusn.* (10 e). Similar to *hippolyte Esp.* (Vol. 1, p. 126). The ground colour of upperside a richer brown: band orange yellow contrasting sharply, more straightly edged. The band on underside of hindwings deeper black. Crimea.

euxina.

S. arethusa *Esp.* (Vol. 1, p. 126). The occurrence of this species in Germany is limited to the south-western regions and no form has been named from there. In Lower Austria a ♂ is occasionally found in which the pale marginal border is almost wider than in the ♀ belonging thereto: **latefasciata** *Zus.* — On the other hand a ♂ has been described from Hungary in which on the upperside the red yellow band of spots is quite absent, only the black apical eyespot is present without a surround: **unicolor** *Rbl.* — Still poorer in marking is **albina** *Oberth.*, a grey-white bleached sick looking specimen from Evreux. — The newly described french forms all have a paler band. In **variegata** *Vrty.* it is yellow and wider. On the underside of the hindwings paler with less compact dark mottling. The white band in the middle is wide and a further faint one nearer the base. Paris. — **ganda** *Frühst.* similar to the south french *dentata Stdgr.* ♂ with wide pale yellow band on both wings,

arethusa. *latefasciata.* *unicolor.* *albina.* *variegata.* *ganda.*

on the underside the white middle band is somewhat adumbrated. In the ♀ the extension is particularly noticeable on the forewings. On underside the middle band is more adumbrated than in the ♂. Vendée. In the Gironde an increase in the number of eyespots on the hindwings can also occur in *dentata*, this is then *dentata-ganda.* **dentata-ganda** *Pion.* On the other hand although more rarely the hindwings can be quite without eyespots or *dentata-obsoleta.* bands: **dentata-obsoleta** *Pion.* — *segusiana.* **segusiana** *Fruhst.* from Piedmont is also similar to *dentata.* Band on upperside pale yellow to whitish proximally. On underside the middle band similar to *ganda*, but sharply outlined outwards. *boabdil.* Mottling effect heavy. Piedmont. — **boabdil** *Rbr.* from Spain has in the rare typical form wide brownish bands, *mediofasciata.* the more common form with narrower bands is **mediofasciata** *Rbb.* (= *veleta Fruhst.*) — *claramaritima.* **claramaritima** *Vrty.* Found in warm dry localities. Underside similar to *boabdil Rbr.*, pale light grey, the striation extended, the white patches larger. The red-yellow patches on the upperside often considerably reduced, such specimens *pulchravariegata.* being similar to *boabdil.* Riviera. — **pulchravariegata** *Vrty.* North of *claramaritima.* It is more yellowish and less red-yellow on the underside of forewings, hindwings are more grey-white, striation still fainter. On upperside a brighter and broader red-yellow. Apical eye often very large. Transitions to *ganda Fruhst.* frequently occur *galatia.* under this form. Auvergne (Nimes). — **galatia** *Fruhst.* The ♂ smaller than *boabdil.* On upperside of hindwings with wide red-brown band. On underside forewings darker, also hindwings at base and submarginal area. *peszerensis.* Madrid. — The Balkan races with the exception of one vary very little from the french. — **peszerensis** *Aign.* ♀ is a pale form with wide yellow bands, eyespots faintly developed. Underside of hindwings pale. Hungary. *strumata.* — **strumata** *Buresch.* (10 c) has in the ♂ the pale band on the upperside still wider than in type. On underside hindwings have a pale wide middle band similar to *erythia Hbn.* ♀ on upperside with pale wide bands, wider than in *peszerensis*, therein bold eyespots. On forewings generally a supernumerary 3rd eye. Specimens with *ocellata.* still more eyespots are called **ocellata** *Buresch.* Bulgaria. — *alphea.* **alphea** *Warn.* Forewings as *strumata*, in hindwings the band more red-yellow. On underside paler than type. Hindwings with middle band sprinkled with grey, *carsicus.* nervules faintly white. Parnassus. — **carsicus** *Stdr.* (10 d) from Gorizia and Dalmatia varies considerably from these forms. It is still darker than *obscura Rbb.* from Spain. On underside hindwings uniformly dark whilst in *obscura* it is pale with white nervules. Under this form there are found in Istria single ♂♂ with scarcely any *daemon.* spot marking on upperside: **daemon** *Std.* and on the other hand ♀ with 2—4 supernumerary eyespots: **addenda** *addenda.* *Std.* Still further in the east **alpheios** *Fruhst.* ♂ with only a few faint ochreous spots on forewings. Hindwings *alpheios.* without band. Underside similar to *dentata Stdgr.*, but hindwings darker at base, the white middle band very *pontica.* pronounced. Uralsk. — **pontica** *Rühl-Heyne* is small, very pale on upper and undersides. Hindwings on under- *novopunctata.* side with white middle band sharply outlined proximally with dark brown. Armenia. — **novopunctata** *Le Charles* is a sub-form hereto. Besides the usual anal eye there are a few further eyespots present on hindwings.

heptapotamica. Pontus. — **heptapotamica** *Std.* is typical on upperside. On underside hindwings are with brighter mottling. The pale middle band wide and sharp similar to *boabdil.* Semirjetschensk. The description of *anopenopterus Lamb.* was not available for me.

neomiris. **S. neomiris** *God.* (Vol. 1, p. 126). Occasionally only the apical eyespot is retained in forewing, the 2nd *postcaeca.* one being absent: **postcaeca** *Schaw.* If it is without white pupil and if the eyespot on hindwing is absent it is: *caeca.* **caeca** *Schaw.* Corsica. In normal specimens hindwing band is yellow proximally, reddish-yellow distally, this *bipicta.* has been named for the sake of completeness **bipicta** *Vrty.* Exceptionally it is quite red-yellow: **totefulvovittata** *totefulvovittata.* *Vrty.* or quite yellow **toteflavovittata** *Vrty.* (= pallida *Bub.*) — **saengeri** *Krausse* has almost completely black *toteflavovittata.* forewing on upperside and only few spots instead of bands. A transition hereto is **nigerrima** *Vrty.*, in which *saengeri.* the red-yellow band is narrower on top and underneath the white middle band is almost absent. All these *nigerrima.* forms can of course occur anywhere among this species.

geyeri. **S. geyeri** *H.-Schäff.* (Vol. 1, p. 127). — **aristonicus** *Fruhst.* is much smaller than the anatolian or *aristonicus.* armenian specimens. Pale grey on upperside, marked more indistinctly on underside of hindwings. Amasia.

regeli. **S. regeli** *Alph.* (Vol. 1, p. 127). A large sub-form to *regeli-boloricus* is called **chitralica** *Tytl.* 42—49 mm. *chitralica.* — **moorei** *Evans* is a new name for *hübneri-leechi* (Vol. 1, p. 127) and is classified by the author to *regeli*, not *moorei.* *hübneri* (*huebneri* is incorrect). — *gilgitica.* **gilgitica** *Tytl.* has yellow marking on both wings on upperside and underneath is fairly diffuse and paler. 52—56 mm. Gilgit.

alpherakii. **S. alpherakii** *Avin.* Similar to *korlana* but the light bands narrower. The upper eyespot of forewings is larger. Hindwings on underside like pale *geyeri* ♂. East Pamir.

püngeleri. **S. püngeleri** *Bang-H.* Similar to a pale *korlana.* In the ♂ an anal eyespot is also indicated on hindwing and the inner edge of the light band rather less dentate there. Underside of hindwing with area in front of and *erschovi.* behind the outer dentate line of the same pale colouration. Juldus. — **erschovi** *Avin.* Colour about as *hippolyte* *minutianus.* (Vol. 1, plate 43 b). East Pamir. — **minutianus** *Fruhst.* The inner edge of the light band is broadly dark. The anal eyespot on hindwing is large. Alai. This form seems to belong here, not to *regeli* as indicated by the author.

hübneri. **S. hübneri** *Gr.-Grsh.* (Vol. 1, p. 127). — **fumigatus** *Avin* relates to specimens with brownish hue. East *fumigatus.* Pamir. — **dublitzkyi** *Bang-H.* Smaller than *cadesia Moore.* Both wings dark at the base, eyespots smaller. *dublitzkyi.* Thianshan. A form similar to *cadesia Moore* (= *josephi Stgr.*) from the Curram Valley (Kashmir) is named *safeda.* **safeda** *Tytl.* No more precise description is available, it is only remarked that it is more similar to *josephi* than

hübneri. — **pupillata** *Tytl.* is similar to it but the inner white spot in the proximal eyespot is less well developed and the ochreous band of hindwing is without white spots proximally. On underside of ♂ the cell is not marked with white. 45—48 mm. Chitral. — The form **astoria** *Tytl.* of the *hübneri* group is very close to *cadesia Moore* but in the ♂ the orange band penetrates further into the basal area and in the ♀ the base is also orange as in *cadesia* ♀ (= modesta *Moore*) only not quite so heavily. Chitral. — **balti** *Tytl.* is a 2nd new name for *leechi Moore*, as a *leechi Gr.-Grsh.* not mentioned in Vol. 1 had already previously been described (in the russian language). — **pallida** *Tytl.* is close to the typical *hübneri* from Lahoul. It is very pale on both wings right into the basal area both in ♂ and ♀. 41—42 mm. Chongking Valley. — **talastauana** *Bang-H.* Similar to *dissoluta Stgr.* but the band on forewings contrasts strongly from dark base. Underside of hindwings bright, markings dentate similar to *intermedia Gr.-Grsh.* Thianshan. — In **voigti** *Bang-H.* the form of the outer band is like *geyeri* ♀ according to illustration in Vol. 1, plate 43 c, otherwise in colour and marking also similar to *hübneri*. Afghanistan.

pupillata. *astoria.* *balti.* *pallida.* *talastauana.* *voigti.*

S. mniszechii *H.-Schäff.* (Vol. 1, p. 128). **esquilinus** *Fruhst.* is placed here. It is very small. The ochreous band especially in the ♀ is always more intersected, more sharply outlined than typical. Underside dark brown without white markings. Alai. This form is often erroneously classified as *lehana Moore* in collections. The typical *lehana* emanates from Ladak. — The form from Chitral **droshica** *Tytl.* varies by the darker band on both wings and the brown basal area is also darker. Hindwings have a wider yellow band in both sexes, it extends to the anal angle. South and N. E. Chitral. — In **gilgitica** *Tytl.* the yellow bands are narrower than in *droshica*, therefore shaped similarly to typical *lehana*, but nevertheless darker than in *droshica* on the hindwings. Gilgit, N. E. Chitral. — In Vol. 1 West China was given as locality for *clarissima Seitz*. As quite identical specimens have been found at Upshi (Kashmir) this is perhaps erroneous.

mniszechii. *esquilinus.* *droshica.* *gilgitica*

S. anthelea *Hbn.* (Vol. 1, p. 128). 2 variations of the european form *amalthea Friv.* have been named. — **neustetteri** *Schaw.* ♀ with yellow instead of normal white bands. Gravosa. — **schawerdae** *Fruhst.* ♂ has the white band on the forewings wider towards the costa. Also on hindwings the white colour is predominant in the band, only distally it is somewhat tinged with yellow. In the ♀ the band is wider and paler. Herzegowina. According to specimens in the Püngeler Collection only the ♀ varies (possibly accidentally) from normal greek specimens by a wide pale band. — **acamanthis** *Rbl.* In the ♀ the ochre yellow outer band corresponds to *anthelea*. In the ♂ it is narrow as in *amalthea*. The 2 eyespots on the forewing are smaller than in *amalthea* but larger than in *anthelea*, the interval between them is black-brown. In the ♀ the marginal band is sharply edged as in *amalthea*, only a small ochre yellow eyespot on hindwing. The outer band on underside of forewing is not sharply outlined proximally. In the uniformly mottled hindwing a white outer marginal band is only indicated. Cyprus.

anthelea. *neustetteri.* *schawerdae.* *acamanthis.*

S. statilinus *Hufn.* (Vol. 1, p. 129, plate 44 b). Occasionally the eyespot marking in the ♂ can be absent on the upperside of both wings: **caeca** *Hannemann*, or in the ♀ can be as faint as in a normal ♂: **virilis** *Hann.* Both described from Berlin. — **perineti** *Oberth.* is an albinotic specimen from the Valais. — **anapus** *Fruhst.* is as small as typical *statilinus* from Berlin and Silesia but the underside is more richly spotted with white. Hindwing with heavier black middle band and traces of a basal band. N. France. — **burdigalae** *Vrty.* This corresponds to the northern races on account of its smallness and the faintly scalloped wings. But the deep black markings of the underside indicate a transition to the southern (*allionia*) races. Bordeaux. According to Verity the habitat of the typical *allionia* is Portugal, whilst Fruhstorfer indicates that "*allionia*" represents the larger form from Digne, smaller and darker ones from Dep. Var. Nevertheless, however, he describes the form from Digne and Grenoble as **euryanax** *Fruhst.*: a transition from *anapus* to the larger form from the Dep. Var. (probably he means larger than *anapus*.) The ♀ is more highly coloured on upperside. On underside the white subapical band on forewings is narrower, the outer margin more reddish. Base of hindwings is darker. — Similarly from S. E. France we have **fidiaeformis** *Vrty.* It varies considerably by the unusually wide white band on the underside of both wings, which are more heavily scaled with white so that the dark marking loses intensity and extensiveness and a resemblance is created to *fidia*. These specimens occur on the coast together with **marmorea** *Vrty.*, in which the white and black markings are both distinct. The striation on the underside of hindwings is delicate, the white band wide. Spezia. Further south on the coast of Tuscany the white colour is replaced by grey and reduced: **micromaritima** *Vrty.* Also found on the Elba. — 2 forms have been simultaneously named from the Apennines: **intermedia** *Vrty.* is similar in size to *allionia* and in the absence of the white spots on the upperside of hindwings in ♂, underside of hindwings is more or less uniform chestnut-brown. These spots are generally present in the ♂ in the smaller **apennina** *Z.* Verity supposes that this small form is the genuine *apennina*, but this is not easily provable. — Similar to the latter is **microsandrus** *Vrty.* in which in the ♂ the upperside of hindwings is often suffused with grey. The large eyespots and the underside remind one of the larger *onosandrus Fruhst.* — **padi** *Vrty.* is larger than *onosandrus*, underside with less white. It is said to be a transition to *intermedia*. Lombardy. — *intermedia* also occurs on the Elba, the ♂ is sometimes as poor in marking on the underside as *sylvicola Aust.*; such specimens are named **totebrunnea** *Vrty.* A 2nd form of *intermedia* from the Elba reminds one of *fatua* by the dense dark striation on the underside of hindwings: **crassemaculosa** *Vrty.* also occurring at Spezia together with *marmorea Vrty.* Even a 3rd form with sub-forms occurs on the small Isle of

statilinus. *caeca.* *virilis.* *perineti.* *anapus.* *burdigalae.* *euryanax.* *fidiaeformis.* *marmorea.* *micromaritima.* *intermedia.* *apennina.* *microsandrus.* *padi.* *totebrunnea.* *crassemaculosa.*

Elba; namely the form described from Sicily as *martiani H.-Schäff.* (Vol. 1, p. 165) which has occasionally a
triocellata. 3rd slightly smaller eyespot on the forewing: **triocellata** ♀ *Vrty.* In the ♂ there may be 0—3 white dots on the forewing, these are then *tri-*, *bi-*, *mono-antepupillata* and *apupillata*. On the underside of hindwing one or both
mono- of the dark middle lines can be absent: **mono-** and **astriata** *Vrty.* Oh lucky Elba! From Latium and Sicily we
astriata. have only the one race *australis Z.*, which also has been named *rostagnoi* and *maritima Rost.* — On the
pseudo- Aspromonte naturally also a race occurs **pseudosichaea** *Std.* Larger than *fatua-sichaea* and closely resembling
sichaea. same especially on the underside. Upper and underside practically without brown, all of deep black colour. —
musaius. **musaius** *Fruhst.* from Andalusia is smaller than french specimens. The ♀ is paler on upperside. On underside all eyespots also paler yellow and more widely surrounded. Middle band of forewings yellow-grey instead of white. Hindwings uniformly grey and similar to typical *statilinus*. — If we turn towards the east after having
onosandrus. discussed the forms from France, Italy and Spain, we find in the Valais and South Tyrol **onosandrus** *Fruhst.* With large white dots in the eyespots on upperside. Richly mottled on underside and forewings similarly to
pisistratus. *pisistratus Fruhst.*, hindwings with pale grey middle band, submarginal region wide and very dark. — **pisistratus** *Fruhst.* is very large in size. Underside of forewings with wide white middle band, hindwings paler grey. ♀ on upperside with large black eyespots. Istria and Serbia. According to Stauder specimens from Istria are so
norica. variable that no distinct race can be described. In lower Austria we have **norica** *Vrty.* similar to *burdigalae* on upperside, on underside the 2 middle lines and the dark shadow around the eyespot are not black but dark
vettius. brown. Upperside pale brown, the ♀ still paler. — **vettius** *Fruhst.* from Greece has underside of forewings very dark. Middle band on underside of hindwings wide, white-grey, sharply outlined distally. Submarginal zone
fatuaeformis. widely dark. — **fatuaeformis** *Vrty.* from Phanaraki in Asia Minor is small. ♂ very dark on upperside, apical eyespot small, with distinct yellow ringlets on underside. The white band on underside of forewings wide, narrower on hindwings and somewhat grey. The lines as in *norica*, striation as in *crassimaculosa*. ♀ with indication of grey middle band on upperside. The 2 eyespots on forewing large and distinctly bordered with
anaxarchus. yellow. — **anaxarchus** *Fruhst.* from Morocco is larger than *musaius*. Upper and underside darker grey. Hindwings without black basal band, otherwise similar to *allionia* from the Dep. Var. Underside poorer in marking than *onosandrus*.

hansii. **S. hansii** *Aust.* (Vol. 1, p. 129, plate 44 b). This is presumably a separate species to *statilinus*. — **montana**
montana. *Aust.* is similar to *hansii* on upperside. Underside of hindwings uniform brown, the dark middle line scarcely distinguishable, a white band absent. Morocco.

sylvicola. **S. sylvicola** *Aust.* (Vol. 1, p. 130, plate 44 c). According to Rothschild (Nov. Zool. 24) a separate
cinerea. species. Here are ascribed the *statilinus-alliona* forms: — **cinerea** *Oberth.* Large. Upperside relatively lighter than *allionia*. The white dots distinct in eyespots of hindwing. Underside pale, diffuse. ♀ larger. The disc
holli. of the forewings not so pale as in the ♂. The white submarginal spots on hindwings iridescent lilac. — **holli**
lambessana. *Oberth.* (10 d) is a small *cinerea* race. — **lambessana** *Oberth.* (= oberthüri *Rothsch.*) is a transition between *sylvicola* and *cinerea*. All forms from Algeria.

powelli. **S. powelli** *Oberth.* Forewings of ♂ fairly acute. Eyespots with yellow ringlets mostly fairly large, but varying considerably. White dots between them. Underside of hindwings have light veins, otherwise similar to *autonoë* (Vol. 1, plate 43 b) but with bright colours. ♂ 46—59 mm. ♀ 49—61 mm. South Oran.

colombati. **S. colombati** *Oberth.* The disposition of the markings is similar to *statilinus* (Vol. 1, plate 44 b). In the ♂ the black androconia spot often with considerable yellow surround. The yellow band on forewing in the ♂ interseeted, in the ♀ continuous. Hindwings in the ♂ with or without anal spot, dark. In the ♀ with narrow pale yellow marginal band, besides the anal spot also often a row of white dots. Hindwings on underside pale brown, somewhat darkly dusted. Behind the undulating middle line diffusedly white. Mid Atlas.

belouini. **S. belouini** *Oberth.* Very similar. In the ♂ and ♀ the pale yellow patches are more concentrated around the eyespots, they do not form bands. Mid Atlas.

fidia. **S. fidia** *L.* (Vol. 1, p. 130, pl. 44 d). The form **albovenosa** *Aust.* already mentioned in Vol. 1 has a ♂
albovenosa. with 4 normally large eyespots (instead of 2) all with somewhat yellow surrounds. Algiers. — From Spain 3
vetteia. new races are described: — **velleia** *Fruhst.* ♂ different from french specimens by somewhat larger white spots on forewings. Outer margin of hindwings wider whitish. Underside with little black, especially near margin.
palcia. Castile. — **paleia** *Fruhst.* Similar to *monticola Th.-Mieg.* Larger, paler underside sprinkled with uniform grey.
minor. Sierra de Alfacar. — A small form from Albarracin is separated as **minor** *Oberth.* — The two races from Algiers
hebitis. are also smaller than the type: — **hebitis** *Rothsch.* Similar to *albovenosa Aust.* (Vol. 1, plate 44 d); ♂ on upperside paler, browner, the bluish sheen is absent, the 2 white dots between the eyespots are small or absent. Underside more diffuse, ♀ brownish grey, eyespots with large yellow ringlets. Underside of entire forewings suffused
intermedia. yellow, hindwings much browner, veins thickly margined with white. South Atlas. — **intermedia** *Rothsch.* ♂ darker than *fidia*, otherwise as *hebitis*. ♀ also darker, yellow eyespot ringlets very large on underside. Sebdou, Algiers.

parisatis. **S. parisatis** *Koll.* (Vol. 1, p. 130, plate 44 d). Here we have to add that the form *malatinus Rühl-Heine*
stultina. is synonymous with *macrophthalma Ev.* — A form is introduced as **stultina** *Le Cerf* (10 c), that is on upperside similar to *stulta Stgr.* (Vol. 1, plate 44 d), with the pale margin on hindwings however still narrower. On under-

side it is similar to the typical *parisatis*, that has more preeise white bands than is shown on the illustration Vol. 1, plate 44 e. — **paupera** *Le Cerf* is a form that corresponds to the underside of *parisatis* that is illustrated. *paupera.* — **parsis** *Lc Cerf* upperside is about the same as *laeta Chr.*, on underside the white band is heavy on both wings, *parsis.* striation fainter sometimes absent. These 3 forms from Persia. — *shiva Lc Ccrf* is similar on upper and underside to a large *macrophthalma*. On underside striation denser and darker, bands very pale. Simla, India.

S. abdelkader *Pier.* (Vol. 1, p. 130). **nelvai** *Seitz* (10 e) is the raee from the Aurés mountains and that *abdelkader. nelvai.* is easily recognisable by the strikingly wide yellow white margins on forewings.

S. actaea *Esp.* (Vol. 1, p. 131). Following the sequence in Vol. 1 we deal first with the sub-forms *actaea.* of *cordula F.* — **macrophthalma** *Hafner* the description of which is not available to me, has probably in eontrast *macrophthalma.* to the following a large eyespot. Carinthia. An aberrative ♂ without white pupils in eyespots is named **caeca** *caeca.* *Schaw.* Herzegowina. Besides this the raee flying there and in Dalmatia is separated from *cordula* as **serva** *Fruhst.* *serva.* Underside of ♂ forewings pale grey to middle. ♀ darker than *cordula*, on upperside uniform black-grey, eyespots without yellow surround. Underside of forewings less reddish, hindwings greyer. — On the southern slopes of the Alps and further in the South Tyrol we find **orientalpium** *Vrty.* — Then follows in the Monte Rosa region *orientalpium.* a large, bright coloured raee with large eyespots, **conspicua** *Vrty.*, the ♀ pale ochre-yellow only around the *conspicua.* eyespots, on underside of hindwings the white patches alternating in depth. — In Oulx (Turin) we find **mariformis** *mariformis* *Vrty.* which are similar to *peas Hbn.* ♀ with wide oehre-yellow band and sometimes without this band and with small eyespots. — **orsiera** *Prunn.* from Piedmont can scarcely be differentiated from *mariformis.* The deseription *orsiera.* (of 1798) is not available. — A large number of aberrative forms has been named from South Italy: **ornata** *ornata.* *Schultz* with 4 eyespots on forewings is almost the normal type in Aspromonte. — In **pentastigma** *Std.* these *pentastigma.* eyespots have pupils and also the eyespot of hindwing. — **excedens** *Std.* ♀ has 5—6 black eyespots on forewing, *excedens.* generally with white pupils. — Further variations of the ♀ form: **subtusviolacea** *Std.* Underside of hindwings *subtusviolacea.* mottled, pale violet similar to *Epin. megera-lyssa.* — **subtusvariegata** *Std.* Underside of hindwings pale, darkly *subtusvariegata.* mottled with brown spots. Elsewhere these brown spots are referred to as *subtusviolacea*, so that one of these two names is superfluous. — **megalomma** *Std.* has eyespots almost as large as *okumi Fruhst.* (Vol. 1, plate 44 f). *megalomma.* All these forms from Aspromonte. — **carsicola** *Std.* Connecting with *peas Hbn.*, with uniform ehalky grey *carsicola.* underside. — We now turn to a few asiatic forms: **altaica** *Gr.-Grsh.* ♂ small, paler on underside, apex of fore- *altaica.* wings whitish, veins of hindwings grey. ♀ brownish on underside of forewings, costa paler. Hindwings diffused whitish at anal angle and outer margin, veins white, densely and darkly striated. Altai. — **rickmersi** *v. Ros.* ♂ *rickmersi.* on upperside similar to *cordula.* Underside paler, the white dots on forewing elongated. On both wings a grey marginal band edged with dark, that is distineter on hindwings. The ♀ either like *actaea*, that is to say slightly paler on upperside or with pale ground colour and wide pale band in whieh are situate 2 large white eyespots and 2 dots. Underside of hindwing almost unieoloured grey-brown. Shakli-su valley. — All new *actaca* races with only one exeeption emanate from Spain. — **espunae** *Rbb.* (= espunaensis *Korb.*). As large as *cordula.* *espunae.* The two blue-white spots stand out more clearly on underside. Hindwings on underside with sharply dentate middle line and wide white edge and besides a white submarginal band. South Spain. — **podarcina** *Fruhst.* is *podarcina.* really similar to a small *espunac.* ♂ smaller than *actaca.* Underside with distinct white submarginal band. ♀ often with wide pale band on upperside, sharply edged similar to *cordula.* On underside of hindwings in ♂ and ♀ the white middle band is wide. Sierra de Alfacar. — **castiliana** *Fruhst.* The ♀ has smaller black eyespots. *castiliana.* *nevadensis Rbb.* is not much different. — **bellorum** *Vrty.* comes between the latter and typical *actaea* from the *bellorum.* South of France. The arcuate middle band of underside of hindwings is similar to *actaca.* In *nevadensis* and the subsequent *maroccana* the hindwing is shortened at the anal angle and the band is compressed almost to a right angle in the middle of the wing. But the ground colour is more uniform, as the striation is finer and less dense, the white patehes can be quite absent. The ♀ is almost as dark as the ♂ on underside. Cuenca 1200 m. — **monteiroi** *Mendes* has underside of hindwings more heavily mottled with white and black, more extensively *monteiroi.* with black than brown. Marginal band similarly coloured and just as wide as middle band, not narrower. ♂ very glossy violet on upperside, ♀ less pale than *actaea* ♀. Sub-forms to this are 1) *podarce O.* ♂ without violet sheen, the black-brown ground colour paler. ♀ on upperside with only 1 eyespot on forewing upperside and 2 further white dots. 2) **matozzi**-♀ *Mendes.* On underside of hindwings the middle band is almost obsolete, *matozzi.* forewings upperside as *podarce.* 3) **herminia**-♀ *Mendes.* On upper and undersides no pale submarginal bands, *herminia.* only eyespots with yellow ringlets. Sierra de Estrella. — **maroccana** *Luc.* (= atlantea *Vrty.*). Both wings *maroccana.* darker on underside. Forewing eyespot with fine yellow surround, apex not white-grey. Middle and marginal lines on hindwing less dentate, without white edge distally. ♀ on upperside of hindwing with wide yellow marginal band. Aeeording to Oberthür the raee is very variable. The ♂ often has a few further white dots on underside below the apical eyespot. Some ♀♀ are uniformly golden brown on underside, others have 2 white bands on hindwings. "The" spanish form (meanwhile there have been 4!) according to Oberthür does not differ from *atlantca-maroccana.* The extremely old deseription of *calabra Costa* was not available to me. — Now follow a few races that form a transition between *actaea* and *cordula*: — **biocellata** *Pionn.* On forewing *biocellata.* on upper and underside 2 eyespots clearly visible similar to *virbius H.-Schäff.* The latter is smaller and the ♂ more unieolourous on underside. Belgium. — **actaeina** *Oberth.* very elose to *cordula*, but not so small as *actaea.* *aelaeina.* From Brianeon and the Monte Majella. — **ferulaeformis** *Vrty.* has on upper and underside of forewings 2 *ferulaeformis.* eyespots with white pupils and between them 2 white dots as *cordula* (= *ferula F.*). On underside of hindwings

however only 2 blind eyespots. Marseilles. In the Cevennes the white marking is absent on underside. In its place there are dense dark striations as in *cordula-orientalpium*: **aigoualensis** *Foulq.* It would probably be correct to speak of a small *orientalpium* form and not of an *actaea* race. — **monoculus** *Fruhst.* is closely similar to *parthica Led.* ♀ forewings iridescent red-brown, the single apical eyespot with wide yellow surround. Hindwings unicolourous black-brown. Underside of both wings with heavy submarginal band. Hindwings with faint white middle band. According to Vol. 9, p. 307 this form is identical with *pimpla Fld.* Kashmir.

aigoualensis. *monoculus.*

S. dryas *Scop.* (Vol. 1, p. 132, pl. 44 f). Numerous specimens with variations of eyespots have been named. — **totacaeca** *nom. nov.* (= caeca *Osth.*). Forewings on upper and underside without eyespots: **brunnickii** *Schille* upperside without eyespots, underside one eyespot: **exoculata** *Std.* upperside without eyespots: **caeca** *Schaw.* with black eyespots without blue centre: **hamadryas** *Dhl.* Eyespots with pale brown iris, also occurring in the race *drymeia Fruhst.*: **tripunctata** *Neubg.* (= ocellata *Aign.*) on upperside above the second eyespot a further smaller supernumerary eyespot: in **contrarius** *Neubg.* the additional eyespot is under the normal eyespot, which also occurs in the *okumi* race. — The race **armilla** *Fruhst.* is distinguishable by the large size of the blue eyespots, resembling therein *tassilo Fruhst.* and *drymeia Fruhst.* On underside of forewings the yellow ringlets round the eyespots are very large and touch one another. Stubai Valley. — **julianus** *Std.* is very dark and as large as *okumi Fruhst.*, also the eyespots are very large and the middle band of hindwings is pale on underside, the undulating outermargin of forewings is a further variation. Gorizia. — **aurata** *Oberth.* is also similar to *okumi*: on upperside all 3 eyespots have yellow surrounds, the ♀ are paler. Underside of forewings golden brown, hindwings pale brown. The latter with 3 normal undulating lines and small black striations. Pale whitish behind the middle line. Szechuan. — **kurilensis** *Mats.* Similar to *bipunctatus Motsch.* Varies through smaller ocelli on forewings, besides which the dark submarginal band is absent. On underside forewing only varies by absence of this band. Hindwings with wide dark middle band, which is edged with diffuse white distally, especially on costa and inner margin. Submarginal band indistinct towards anal angle, the white border is absent. Kurilia.

dryas. *totacaeca.* *brunnickii.* *exoculata.* *caeca.* *hamadryas.* *tripunctata.* *contrarius.* *armilla.* *julianus.* *aurata.* *kurilensis.*

14. Genus: **Pararge** *Hbn.*

P. aegeria *L.* (Vol. 1, p. 133). The following names have been given to albinotic specimens of the form *egerides Stgr.* (= polonica *Prüff.*): **megei** *Oberth.*, **albescens** *Oberth.* and **kerteszi** *Dzid.* — **schmidti** *Dzid.* (= marginata *Guss.*, eutaeniata *Debauche*) has the yellow spots merging, so that ground colour is repressed. — **saturatior** *Crombr.* is darker, as the yellow spots above the anal angle are absent on forewings. The light band on hindwings is quite extinct. — **punctata** *Guss.* has a further 4th eyespot dot on upperside at top of hindwing. Specimens with a further eyespot in the anal angle have not yet been named. — **diluta** *Bub.* is a variety of *aegeria L.*, that corresponds to *schmidti.* — **fortunata** *Fruhst.* from the Canary Isles is almost certainly = *xiphioides Stgr.* — A pale specimen of *xiphia F.* is named **dilutior** *Schultz.* — Typical *egerides Stgr.*, that according to Verity should be named **vulgaris** *Z.* occur in Germany. Not only have they yellow spots against the red-yellow of *aegeria*, but the wings are also less scalloped, the brown ground colour is more extensive, especially on the forewing between the eyespot and outermargin. The first generation is deemed to be typical. — **aestivalis** *Fruhst.* (= helena *Hann.*) is the summer form, the light patches are reduced, the whole wing suffused with black. — In **pallida** *Vrty.* the light patches are yellowish white, often somewhat greenish. England; in Ireland they can be almost white. The mountain forms differ little from the German form: **egestas** *Fruhst.* from Dalmatia is small, dark and poorer in pale yellow patches, **camoena** *Fruhst.* from the South Tyrol is a transition to these german specimens. — **elegantia** *Fruhst.* from the Lake of Geneva differs from *camoena* by more elongated spots in the ♀. — **italica** *Vrty.* approaches *aegeria* in regard to colouration by its more reddish spots, which are also larger in the ♀. The underside is more glossy having more green and red-violet intermixed. Occurs throughout North Italy and is typical around Florence. Among these are specimens which exactly represent Fruhstorfer's 3 forms but which have been named *elegantiae-*, *camoenae-*, *egestasiformis Vrty.* Somewhat more purposeful may be the designation of the *italica* specimens with extensive yellow-red markings, which is said to indicate similarity to *megera* ♀: **atavica** *Vrty.*, and specimens with dusky grey on both sides are named **infranigrans** *Vrty.* — The name *intermedia Weism.* (Vol. 1, plate 45 a) is unnecessarily altered by Verity into *intermedia Rühl.* — *sardoa Vrty.* the author himself describes as only a slight variation from *aegeria.* The 3 generations of this species in Italy have not yet been separately named.

aegeria. *megei.* *albescens.* *kerteszi.* *schmidti.* *saturatior.* *punctata.* *diluta.* *fortunata.* *dilutior.* *vulgaris.* *aestivalis.* *pallida.* *egestas.* *camoena.* *elegantia.* *italica.* *atavica.* *infranigrans.*

P. climene *Esp.* (Vol. 1, p. 134, pl. 45 c). **valentinae** *Miller* comes in point of adumbration between *climene* and *roxandra H.-Schäff.* Sometimes with pale patches on hindwing upperside. Underside of hindwings paler yellowish than *climene* and much paler than *roxandra* without white middle spot. South Transcaucasia. — **tkatshukovi** *Shelj.* Smaller than *valentina.* Middle area brighter red-yellow, reduced towards the apex, but ground colour somewhat darker. Hindwings generally unicolourous black-brown with 2—3 black dots. Underside of hindwings still paler than *valentinae*, somewhat yellow-grey, eyespots small. Turkish Armenia. — **alticola** *Le Cerf* has the pale median area of forewings redueed, but it is paler. Hindwings unicolourous. No eyespots on underside on either wings. North Persia. 1400 m.

climene. *valentinae.* *tkatshukovi.* *alticola.*

P. eversmanni *Ev.* (Vol. 1, p. 134, pl. 45 c). **lugens** *Niep.* is a ♂ with very wide black margin on both wings so that apical eyespot of forewings disappears. White marking on underside of hindwings absent. Naryn. *eversmanni. lugens.*

P. megera *L.* (Vol. 1, p. 134, pl. 45 d). A single specimen is named: **tranfuscata** *Cab.* Both middle bands on upperside of forewings very dark forming a single wide band. — A pale specimen was first named **albescens** *Crombr., pallescens Oberth.* and *bradanfeldi Blackie* are probably identical. — **dentata** *Crombr.* The reddish middle area on upperside of forewings dentate outwardly, hindwings slightly darker. — **eutaeniata** *Debauche.* The pale yellow submarginal band on upperside of forewings not interrupted. Anal angle of hindwings paler grey-white. — **alberti** *Oberth.* has 2 large and 2 small eyespots on forewings, *triocellata Sälzl* is about the same. — **furialis** *Schultz* has apical eyespot of forewings reduced to half, on hindwings only 2 black dots instead of eyespots. — **melania** *Oberth.* (= lugens *Oberth.*, reducta *Hofer*) belongs to the group of *mediolugens Fuchs.* being diffuse specimens. — **minor** *Guss.* belongs to *lyssa Bsd.*, a dwarf form with dark hindwings. — **pallida** *Guss.* has a reddish-white pale ground colour. *hermini Hirschke* has only one extra eyespot on forewings, **croesus** *Std.* has 4—6. — The only variation of *tigelius Bon.* is **triopes** *Mussch.* corresponding to *megera-alberti.* — Verity claims that *megera* varies little but establishes 6 geographical groups and besides, names the separate generations. 1.) *megera L.* from North and Central Europe. The 2nd generation **filipluma** *Ball* has more pointed androconia, the large red-brown mark and the apical eyespot are not intersected by the ribs. Described from Belgium. The sub-race **caledonia** *Vrty.* is the same as *mediolugens Fuchs* on upperside; on underside of forewings the dark lines are black, hindwings are very dark grey instead of brown. It occurs in temperate moist climates, North Scotland. The name *scota Vrty.* appears to be superfluous. The sub-race **alticola** *Vrty.* has very reduced dark markings. The red-yellow ground is much paler, eyespots somewhat smaller. In warm dry climates, Maritime Alps. 2.) **vividior** *Vrty.* From North Italy, South France, Spain in the 2nd and 3rd generations. "Related to *filipluma*". Very large specimens of these from the South Tyrol are denominated as **grandescens** *Vrty.* Specimens from Lectoure, South France having inclination to increase the number of eyespots are called **ocellatior** *Vrty.* 3.) **vividissima** *Vrty.* From South Spain and North Africa in the 2nd and 3rd generations. The largest of all races, uppersides most beautifully marked, especially the ♀♀. The dark marking is finer than in *vividior*; the black is often admixed with nut-brown: **castaneopicta** *Vrty.*, which also occurs in the race *paeninsulitalica.* Here also the 1st generation is identical with *megera.* Single specimens have a more reddish tone to hindwings, the dark marking is paler, the eyespots small: **infrapallens** *Vrty.* — **depulverata** *Fruhst.* represents the summer form from Algeria. Ground colour somewhat paler on upperside than in specimens from Spain. The black band on underside of forewings is narrower. Underside of hindwings yellowish without grey dusting. — **pseudoadrasta** *Std.* from South Algiers differs from *depulverata* by the grey underside of hindwings. 4.) **praeaustralis** *Vrty.* occurs throughout the italian peninsular. The underside of hindwings of these in the 1st generation corresponds precisely with that of the 2nd generation in North Europe, but the ground colour is more silver white instead of yellow. The upperside has a warmer tone of red-yellow, the black marking is reduced, base of wings with brighter and more red-yellow. Typical of Florence. The 2nd and 3rd generations are smaller: **paeninsulitalica** *Vrty.* A sub-form **tigeliiformis** *Vrty.* is similar to *tigelius Bon.* owing to the absence of the dark stripe on upperside of hindwing between the cell and eyespots. No particulars are given of differences between these. In hot localities in Tuscany the forewings are somewhat more pointed: **porrecta** *Vrty.* 5.) *lyssa Hbn.* from the Balkans and Asia Minor. Fortunately the generations have not yet been denominated. The only sub-form **emilyssa** *Vrty.* is a typical *megera* on upperside, but like *lyssa* on underside. Asia Minor. 6.) **australis** *Z.* from Sicily and perhaps also from Asia Minor. This is the 1st generation, the other 2 are named **tigelyssa** *Vrty.* therefore forming an intermediary form. Here we have the sub-race *tigelius Bon.* The 1st generation of it **tigellina** *Vrty.* shows less reduced dark markings on upperside. *australis* named by Verity can scarcely be different from *tigelius* (Vol. 1, plate 45 d). — **festai** *Trti.* is larger than *tigelius*, the same as *megera* on upperside. Margin of both wings more widely brown, without pale dividing line therein and somewhat wider at inner angle of forewings. The base of hindwings with less yellow and therefore darker. Underside of hindwings orange-yellow, dusted with ash-grey at base, similarly middle band and antemarginal zone. Eyespots small. Cyrenaica. — **intermedia** *Musch.* is similar to *megera* and *tigelius* and therefore not much different from *festai.* Balearic Islands. — **iranica** *Riley* stands isolated, it is similar to a small *transcaspica* with dark underside. Persia. — **transcaspica** *Stgr.* has reduced red-yellow marking as compared with *megera*, dark ground colour paler, more extensive especially on hindwings. Hindwings paler yellowish on underside. Thian-Shan. Besides we have the following superfluous names of Verity: *infracanens, infratersa, luteafilipluma, luteavividior, luteavividissima, pallidepulverata, tigeliclara*; these are mostly for north african forms. As the names indicate these are only intermediate forms.

megera. tranfuscata. albescens. dentata. eutaeniata. alberti. furialis. melania. minor. pallida. croesus. triopes. filipluma. caledonia. alticola. vividior. grandescens. ocellatior. vividissima. castaneopicta. infrapallens. depulverata. pseudoadrasta. praeaustralis. paeninsulitalica. tigeliiformis. porrecta. emilyssa. australis. tigelyssa. tigellina. festai. intermedia. iranica. transcaspica.

P. hiera *F.* (Vol. 1, p. 135). Verity has ascertained that *hiera* actually should be called *ominata Krul.* (= finmarchica *Neub.*, Vol. 1, p. 135, huenei *Hirschke*) (11 g). This view is not likely to find universal recognition. Through this, a name would be free for the alpine race which is named *parvalpestris Vrty.* — In **pseudomaera** *Zus.* the dark line posterior to the middle, is absent on the upperside of hindwings. *pallescens Oberth.* denominates an albinotic specimen. **hieroides** *Schultz* has the apical eyespot of forewings reduced by half. **schultzi** *Schmidt* (= alberti *Oberth.*, trinoculata *Wheel.*) has an additional eyespot on forewings. Forms with still more eyespots have not yet been denominated. — **calidia** *Fruhst.* from Salève near Geneva is similar to *ominata*, larger than specimens from Tyrol and the Valais. The ocelli have striking bright ochre-yellow rings on very dark grey

hiera. pseudomaera. hieroides. schultzi. calidia.

pannonia. underground. Underside darker blue-grey than usual. — **pannonia** *Vrty.* from Hungary still larger than *calidia.* Red-yellow spots of forewings more reddish. It reminds one of *maera* by contour of wings and pale grey underside.
praegrandis. — **praegrandis** *Fruhst.* differs from *pannonia* only by dark smoke-brown underside. Saratov. — **falcidia** *Fruhst.*
falcidia. more pointed forewings than *ominata* and androeonia spot wider. Underside of forewings paler being more strongly marked with yellow and grey. Hindwings with wide pale violet-grey marginal area, sharply outlined.
sestia. Kentei. — **sestia** *Fruhst.* smaller oeelli than *falcidia.* Here ochre-yellow rings are darker and narrower. Red spots on underside of forewing more distinet. Hindwings paler grey, blaek middle band heavy. Altai.

maera. **P. maera** *L.* (Vol. 1, p. 135). **tetrops** *Rbl.* has besides the white bipupilled apieal eyespots on forewings
tetrops. a further eyespot each in eells 6 and 3 and on hindwings a large eyespot eaeh in eells 2 and 3. **operta** *Schtz.*
operta. has a blind apieal eyespot on forewings and further the 2 middle eyespots of hindwings also blind. **occaecata**
occaecata. *Schtz.* is without eyespots on hindwings; **extincta** *Schtz.* is without eyespots also on forewings. In **triops** *Fuchs*
extincta. (= bioeellata *Krodel*) the apieal eyespot is double and beneath it a further eyespot. In the upper Inn Valley
triops. one fairly frequently finds specimens in whieh the apieal eyespot is margined proximally first black, then pale
mezzaluna. erescent shaped: **mezzaluna** *Std.* — **transfucata** *Cab.* is probably brownish on underside. — Typical *maera* are
transfucata. described from Sweden. **borealis** *Fuchs* from Norway will be similar. Forewings in ♂ and ♀ have a red-yellow
borealis. marginal band similar to *adrasta*, but posteriorly to the base as dark as *maera*, underside of both wings blaekish not brownish. North and east german specimens are not separately denominated. Fruhstorfer denominates
ordona. the bavarian race illustrated in Vol. 1, plate 45 d, as **ordona**, it is said to be identieal with that from the warmer Eisaek Valley in the South Tyrol. Typieal *adrasta Rbn.* are limited, aceording to Verity, to the southern regions of France. Similar forms are divided into 3 groups. 1.) More or less typieal: *maja Fuchs*, as 2nd generation
nevadensis. on the Rhine. — **nevadensis** *Oberth.* from Spain and Morocco is a small *adrasta* form. — **meade-waldoi**-♀ *Rothsch.*,
meade-waldoi. also from Moroceo is a high altitude form, only the band is deep red-brown being paler at the apieal eyespot. The eyespots of hindwings have a large white pupil with a narrow blaek ringlet and narrow red-brown surround.
alluaudi. A 3rd form from Moroeeo **alluaudi** *Oberth.* is large. It is darker than *sicula Stgr.* on upperside and as dark brown as *monotonia Schilde* from Esthland on underside. Similar specimens are found in the Maritime Alps. — 2.) The
herdonia. group of alpine raees forming a transition to *maera.* — **herdonia** *Fruhst.* is a paler transition to *adrasta.* Savoy,
postherdonia. Piedmont. The 2nd generation is differentiated by the name **postherdonia** *Vrty.* and through its more pointed androeonia. In Zermatt we find among these also ♀♀ with chestnut-brown suffusion on the forewings:
leucocinia. **leucocinia** *Fruhst.* (= postleueoeinia *Vrty.*). The form from Tessin **superlata** *Vrty.* is brightly coloured both
superlata. on upper and undersides. Hindwings with wider bands than *herdonia* on underside. — **orientalpina** *Vrty.* from
orientalpina. the South Tyrol, from the Mendel and the Cadore Valley form a gradation between the North and South races, on the upperside they are more similar to *ordona Fruhst.*, on the underside to *herdonia.* — Verity denominates the 2nd generation in many races with the prefix "*post*"-, it is unneeessary to mention them here, for instance
sylimbria. *postorientalpina* is still named; the differenees in all cases are immaterial. — **sylimbria** *Fruhst.* forms a transition to *montana Horm.* and differing from *adrasta* by the darker ♂ and ♀, with smaller eyespots on underside of hindwings. Dalmatia. — 3.) The group of races from the Italian Peninsular, similar to the former, but smaller. *vulgaris Vrty.* (= anteapennina *Vrty.*) and *apennina Vrty.* Small, with wing expanse 38—40 mm. Hindwings often suffused with red-brown on underside. Apennines. These 3 names for a small *leucocinia* might be deemed superfluous. A few ♂♂ are found in Tuseany identical with genuine *adrasta* in the bright colour. More rarely
adrastaeformis. in the ♀ and this raee has been named **adrastaeformis** *Vrty.* More frequently found in South Italy f. i. in Province
extralunata. Caserta, forming a transition to *sicula Stgr.*: **extralunata** *Vrty. polsensis Std.* differs little. ♂ larger and therefore also with larger eyespots. On hindwings on upperside 4 eyespots all with white pupils, ground colour on upperside a rieh dark brown, like *adrastoides Bien.* from Persia. Hindwings of ♂ rusty brownish on underside with 2 dark brown dentate bands close to base. ♀ also mueh darker than *sicula.* Aspromonte. — The eastern raees joining
atabyris. up with *orientalis Stgr.* are: **atabyris** *Fruhst.* darker than *orientalis* especially on forewings. Eyespots on hind-
crimaea. wings have heavy white pupils, with wide red-brown surrounds. Rhodes Island. — **crimaea** *O. B.-H.* As dark as *hiera* on upperside, brown outer marginal spots of both wings faintly developed. Paler than *hiera* on underside and darker than *orientalis. Krim. praegrandis Fruhst.* from South Russia probably identical.

minuscula. **P. minuscula** *Oberth.* (10 d) ♂♀ upperside like *deidamia Ev.*, but double apieal eyespot on forewings like the largest *maera.* Underside of forewings not reddish, but as grey-brown as *maera* on hindwings. Ta-tsien-lu.

achine. **P. achine** (Vol. 1, p. 136). **kurilensis** *Mats.* Eyespot in area 2 of forewings is mueh smaller than that in
kurilensis. area 3, it is quite absent on the hindwings whilst in **karafutonis** *Mats.* it oeeurs but is small and nevertheless
karafutonis. distinct. On underside all eyespots are large exeept the one in area 2 of forewings whilst in *karafutonis* it is larger than that in area 3. On hindwings the inner white margination of eyespots is wide anteriorly but narrow
chosensis. in the posterior 4 eyespots, the traverse rib is broadly white. Kurile Islands. — **chosensis** *Mats.* differs from *achinoides Btlr.* by the very faint white outer band on forewings. The yellow ringlets round the eyespots are very narrow; also the white band on underside is narrow. Ground colour is darker on upper and undersides;
mendolensis. Korea. — **mendolensis** *Dhl.* The yellow surround of the large eyespots is reduced. On underside the band within the eyespots is very wide. Mendel (S. Tyrol). It is said to differ from the *mendelensis Lowe* dealt with in Vol. 1,
minuta. but this seems improbable. — **minuta** *Schultz.* has small oeelli which entirely disappear in the extreme *anophthalma*
althaea. *Oberth.* — In **althaea** *Rbl.* they are absent on forewings and underside of hindwings margin more widely white

and eyespots therein small. — **vindobonensis** *Kammel* has only 3 ocelli owing to confluence of spots on forewings. *vindobonensis.*

P. deidamia *Ev.* (Vol. 1, p. 136). **sachalinensis** *Mats.* has larger eyespots on both wings. The oblique streaks on forewings are always yellow instead of white. (According to the Püngeler Collection they are already somewhat yellowish in Shantung.) Body and wings dark. In ♀ apical eyespot has a wide yellow ring, in ♂ eyespots on hindwings similarly. — **interrupta** *Fruhst.* from Japan differs on underside from typical Amur specimens. Light band of forewings interrupted before the eyespots, being almost entirely absent on hindwings. (According to the Püngeler Collection it is only interrupted there.) — *insularum Scriba* also from Japan is probably the same. — **thyria** *Fruhst.* has somewhat rounded forewings with larger apical eyespot. Tsingtao. *deidamia. sachalinensis. interrupta. thyria.*

P. schrenkii *Mén.* (in Vol. 1 under *Lethe*). Typical from Amur. — **menalcas** *Fruhst.* has a straight grey black submarginal band on underside of forewings. On underside of hindwings the eyespots have paler surrounds. North Japan. — **damontas** *Fruhst.* is darker on upperside. The eyespots on underside of hindwings are situate in a monotonous grey ground colour. A grey-violet band in front of the margin. Szechuan. *schrenckii. menalcas. damontas.*

15. Genus: **Aphantopus** *Wallgr.*

A. hyperantus *L.* (Vol. 1, p. 137, plate 66 a). In **pallens** *Schtz.* the ground colour is paler brown-yellow. *semialbescens Tutt* no doubt applies to the same variation. — **arcuata** *Zus.* has a dark undulate line behind the middle on underside of both wings and besides a triple dark marginal line on hindwings. *lanceolata Shipp* with elongated eyespots has been named again as *elongata Mussch.* An investigation of the fauna from Marburg a. L. has brought about the following names: *hyperantoides Strd., hyperantella Strd., hyperantana Strd., hyperantoidana Strd., pseudohyperantus Strd., marpurgensis Strd.*, all with reduced number of eyespots on one or both wings on upper or undersides. Richly marked specimens have fallen a victim to Stauder: *hyperophthalma Std.* has 3 eyespots with white pupils on upperside, *supernumeraria Std.* has a 4th eyespot on underside of hindwings (but normal specimens have even 5!). No description was available of *languescens Cab.* — To the inversely more poorly marked forms belongs *obsoleta Tutt*; it is an extreme *caeca Fuchs*, without a trace of eyespots. — Typical *hyperantus* are from Finland. Identical with these are specimens from Koenigsberg, Bavaria and North Hungary according to Fruhstorfer. Only further south we find variations. — **rufilius** *Fruhst.* is larger, reddish on underside instead of grey-brown. South Tyrol. — **maxima** *Vrty.* will probably not be much different. As large as *ocellatus Btler.* from East Asia with smaller eyespots, lighter than northern specimens. Turin. — **luti** *Evans* shows more variation. It is similar to *ocellatus* but paler on underside, especially on hindwings, where the veins are white and the number of eyespots is increased. Thibet. *hyperantus. pallens. arcuata. rufilius. maxima. luti.*

A. sajanus *O. B.-H.* Eyespots with wider black and yellow than in *hyperantus* with fine white pupils. On the forewings the two lower of the 3 eyespots are merged. The middle eyespot on hindwings is the largest. On underside the eyespots are situate in a wide yellow band, which is only occasionally indicated on hindwings of *hyperantus*. On costa of hindwings a further large and small eyespot on underside. ♀ 38 mm. Sajan. *sajanus.*

16. Genus: **Epinephele** *Hbn.*

E. pasiphaë *Esp.* (Vol. 1, p. 138, plate 46 b, c). Specimens with a supernumerary eyespot on forewing have been named **dosmanchas** *Rbb.*, in **morena** *Rbb.* the white pupil is absent from the apical eyespot. — **amyclas** *Fruhst.* has smaller eyespots on upperside of hindwings, on underside of hindwings the middle band is narrower and darker. A dry season form from Castile. — **pardilloi** *Sag.* has a wider brown band on the upperside in the ♂ than in typical specimens from South France. The ♀ has narrower wings. Barcelona. — **taurina** *Oberth.* (11 e) is similar on upperside to *philippina Aust.*, from Morocco. On underside however the light band of the hindwings is wider, instead of being narrow and dark. Algeria. A ♀ of this with further 2 small eyespots below the apical eyespot is called *multiocellata Oberth.* *pasiphaë. dosmanchas. morena. amyclas. pardilloi. taurina.*

E. ida *Esp.* (Vol. 1, p. 138, plate 46 c). **albuferensis** *Kheil* denominates a spanish ♀ with white ground colour. In **dosojos** *Rbb.* there is, generally only on underside, a further punctiform eyespot besides the white bipupilled eyespot on forewings. — **marcia** *Fruhst.* occurs at the same time as *tithonus*. Hindwings are much lighter grey underneath with many white and a few brown scales, differing from specimens from Castile. Andalusia. — **neapolitana** *Oberth.* (= arminii *Std.*) (11 e) is large, hindwings less scalloped, dark marginal band narrow. The apical eyespot of forewing has not a double white pupil. In the ♀ the marginal band is still narrower, the apical eyespot small, otherwise normal. Underside of hindwing of ♂ darker. Specimens from Algiers are similar. Naples. — **trinacriae** *Std.* Underside of hindwings is more densely suffused with white than in *neapolitana*. The middle light traverse band is widely white, the otherwise brownish base is white-grey. Also forewings light on underside. Apical eyespot with white-yellow surround, before which there is a light traverse band, outer margin mouse-grey. Sicily. — In **cyrenaica** *Rothsch.* the androconia mark is reduced to narrow striations. Hindwings are dark brown on underside and not grey, the white middle band is as wide as in *pasiphaë*. Cyrenaica. — **subalbida** *Vrty.* has a yellow-white ground colour. *ida. albuferensis. dosojos. marcia. neapolitana. trinacriae. cyrenaica. subalbida.*

E. tithonus *L.* (Vol. 1, p. 138, plate 46 d). **semiobscura** *Hosp.* has quite normal forewings on upperside, hindwings quite adumbrated. Anal eyespot only retained as a white dot. — In **obscurior** *Schtz.* the forewings are dark from the base to the androconia stripe, the light band on hindwings is narrow. Inversely in *tithonus. semiobscura. obscurior.*

lugens. **lugens** *Oberth.* marginal band of forewings wide, stretching beyond apical eyespot, in hindwings only the *caeca.* middle is faintly lighter. — **caeca** *Tutt* has eyespots without pupils. — **bimaculata** *Guss.* has two white spots on *bimaculata.* upperside of hindwings. — **pallidemarginata** *Oberth.* has a pale yellow margin to all wings. — **virginalis** *Oberth.* *pallidemarginata.* has white ground colour. *pallescens Cock.* is similar. Specimens with supernumerary eyespots are called *virginalis.* *excessa Tutt, multiocellata Oberth., quadripunctata Vorbr., tithonellus Strd.*, the latter with reddish ground colour. *britanniae.* — The typical race of *tithonus* is the german one; **britanniae** *Vrty.* has ♂ and ♀ in deep red-brown ground colour, the dark marginal band wider, especially on hindwings; in the ♂ the androconia band is wider. Up to 5 eyespots on forewings and 3 on hindwings. Eyespots also in *fulgens Trti.* from Sicily are the same; on underside they are quite the reverse, *britanniae* is light nutbrown to the base of hindwings, with darker marginal band. Eyespots with sharply outlined yellow ringlets. England. — Whilst the form from the coast of Tuscany resembles the mid-european form, we find in the dry cooller mountain regions a yellowish form, often very pale in the ♀ with almost *etrusca.* grey marginal band: **etrusca** *Vrty.* In the ♂ the base of forewings is not adumbrated, the androconia spot is smaller, grey or yellowish-red, the marginal band narrow, apical eyespot small. On underside the apex of forewing and hindwing brilliant yellow. Monte Conca, Florence. Transitions to the form from the sea board have again been *fulgens.* separated as *transiens Vrty.* — **fulgens** *Trti.* from Sardinia and Sicily is similar on underside, whilst on upperside *decolorata.* the black is extensive. — Of the spanish races **decolorata** *Fruhst.* is probably similar to *etrusca.* The underside of *cid.* hindwings is pale yellow admixed with grey. A dry season form from Andalusia. — On the other hand **cid** *Sag.* is small, the black marginal band is narrower. The underside of hindwings more unicolorous dark whilst it is a nice yellow in *etrusca Vrty.*, with which it is similar on upperside. Barcelona.

pulchella. **E. pulchella** *Fldr.* (Vol. 1, p. 140, plate 48 a). *Pulchra Fldr.* is separated into 3 forms. — **chitralica** *Tytl.* *chitralica.* size between *neoza* and *pulchra* from Gilgit. ♀ rather more brightly coloured than *neoza.* Chitral, below 9000′. *baroghila.* — **baroghila** *Tytl.* smallest of all races and inclined to be paler. On underside of hindwings small pale yellow *asloriea.* spots in cell and outwardly on the dark discal band. N.E. Chitral, over 9000′, Afghanistan. — **astorica** *Tytl.* is as large as typical *pulchra Fldr.* from Lahoul, smaller than *neoza.* ♀ yellow in disc on upperside of forewings as *pulchella Fldr.* with pale yellow ring round black apical eyespot which is absent in *pulchella.* Ladak.

cheena. **E. cheena** *Mr.* Besides the form from Kashmir, **chitralica** *Tytl.* is still separated. It is a small form, *chitraliea.* only as large as *kaschmirica Mr.* According to the description this is the only difference. Chitral.

jurtina. **E. jurtina** *L.* (Vol. 1, p. 140). Dwarf forms are **nana** *Steph.* and **parvula** (of *hispulla*) *Std.* Specimens *nana.* that are more or less albinotic are **semialba** *Bruand*, **griseo-argentacea** *Oberth.* and **grisea-aurea** *Oberth.* being *parvula.* grey-white or grey-yellow. — **grisea** *Tutt* has a pale grey band on the underside of hindwings. — **illustris** ♀ *semialba.* *Jach.* is pale brownish-grey, hindwings with a light spot similar to *hispulla.* — **marmorea** *Lamb.* has both wings *griseo-argentacea.* marbled on upperside with grey-blue, underside normal. — **testacea** *Schille.* Forewings chocolate brown, *grisea-aurea.* yellowish-white towards apex. The dark androconia spot is very striking. Hindwings somewhat paler with *grisea.* darker margin and ribs. — **wautieri** *Lamb.* A white patch around the apical eyespot running parallel inwards *illustris.* to the costa on forewing. A kind of pale outer band on hindwing, it does not extend as far as the costa and *marmorea.* inner margin. — **dextro-albescens** *Tutt* which is pale on one side has also been named. — **fracta** *Zweig.* Pale *testacea.* outer band behind the cell on hindwings is interrupted by a dark mark. — **nigrorubra**-♂ *Lamb.* is dark on *wautieri.* upperside like an *Erebia*, the apical eyespot has a red surround. The underside of forewings is vermilion, *dextro-albescens.* hindwings unicoloured reddish-brown. — In regard to the variations of eyespots, *oblitescens*-♀ *Schtz.* (not *fracta.* *obliterans*) has the apical eyespot as small as otherwise in the ♂; in *caeca Rbl.* it is without pupils. *caeca Ksien.* *nigrorubra.* (= caecoides *Strd.*) is probably the same. In *inocellata Kiss* apical eyespot of forewings is absent, *anommata* (*anomala*) *Vrty.* is the same. *bioculata Rbl.* has apical eyespot of forewings bipupilled white, in *erymanthoides Strd.* besides an eyespot in area 2. — *hispulla-pauper Vrty.* corresponds to *jurtina-oblitescens.* — In Brittany the colour of surround of apical eyespot varies from normal reddish-brown via creamy-yellow to white, for which 4 names: *intermedia*, *semialba*, *tincta*, *alba Blackie.* — A specimen with an incurved costa to the forewings has been called *costa-cava Cab.*, but the main point, the nervure formation, is not described. — According to Verity the type of *jurtina L.* is later on named *fortunata Alph.* (from N. Africa and Canary Islands) the north european race should be called *janira L.*; *hispulla Hbn.*, typical from Portugal and Sardinia is smaller but otherwise like *fortunata.* According to this all recently described races, except those of *telmessia*, form transitions from *janira* to *hispulla.* *phormia* The northernmost is **phormia** *Fruhst.* from S. Tyrol. Yellow-red middle band on upperside of hindwings absent *nuragiformis.* in ♀. In comparison to mid italian specimens it varies by its smallness and more acute apex. — **nuragiformis**-♀ *Vrty.* Forewings with more extensive red-yellow, brown only at costa and inner margin. Hindwings similar *subhispulla.* to *hispulla*, among *janira* from the Lago Maggiore. — **subhispulla** *Strd.* described from Holland according to *praehispulla.* Verity also occurring in N.W. Italy, is a transition to *hispulla* by more extensive reddishness. — **praehispulla** *Vrty.*, the race from Florence has a rounder apex to forewings, the outer margin somewhat curved, very variable. *emihispulla.* Between *phormia* and *hispulla.* — **emihispulla** *Vrty.*, the race from Elba, comes between these two; further *tithoniformis.* differences are not indicated. — **tithoniformis**-♀ *Vrty.* from Corsica and Sardinia is extensively red-yellow on both wings, apical eyespot very large, underside like *hispulla.* Also on upperside differences from same are not *huenei.* very distinct. — Among the eastern forms we have in the North **huenei**-♀ *Krul.* The ochre-yellow marginal *illuminata.* band is very adumbrated similar to *maera-monotonia.* Wiatka. — **illuminata**-♀ *Krul.* has a pale band indicated *telmessiaeformis.* on hindwings thereby resembling *hispulla.* South Russia, Asia Minor. — **telmessiaeformis** *Vrty.* are specimens *persiea.* of *jurtina* that look like *telmessia* but differ in the genitals. In the "East". — **persica**-♂ *le-Cerf.* Similar to

hispulla, but the ground colour is less bright. The fur-like hair scales of forewings are denser, the apical eyespot small, androconia as in *hispulla*. The forewings on underside uni-coloured dull yellow, outer margin wide, apical eyespot normal. Hindwings brown-grey with indistinct band. ♀ similar to *jurtina* but larger. N. Persia. — **ghilanica** *le-Cerf* differs from *persica* only in the genitals. N. Persia. — Graves recently described 3 further races: **splendida** (*Buch.-White*) *Graves* (11 g) from N.W. Scotland, a large pale race, the apical eyespot often bipupilled. The ♂ strongly iridescent on upperside. In the ♀ the yellow-red band on forewings is wide and extends almost to the base, on hindwings it is only weakly developed. On underside in the ♂ the band on forewings is approximately the same reddish-yellow to the middle of the wings, the hindwings are uniform dark smoky-brown almost without band. In the ♀ the band on forewings seems to contrast as more yellowish from the more reddish middle of the wings. On hindwings the band is bluish-brown, proximally more or less ochre-brown and sharply outlined. Similar specimens are said to occur in Capri. — In **iernes** *Graves* (11 g) the ♂ approaches the normal ♀ through the distinct band on forewings, on hindwings it has a long faint band, moderately lighter than the dark ground. In the ♀ the reddish-yellow band only extends indistinctly to the middle of the wings and this extension is always separated from the band by some of the darker ground colour. On underside the ♂ has similarity with the typical ♀. The ♀ has a fairly sharply outlined band on the underside of forewings, approximately in the colour of the upperside, the band on hindwings is more brownish, similarly sharply outlined. From Kerry and Sligo in Ireland. — As in the other races specimens occur here that belong to *grisea Tutt* (see above) or to *erymanthea Hbn.* (in Vol. 1 erroneously given as *exymanthea*). A ♂ with pronounced band on upperside of hindwings has been named *feminea Graves*. — English specimens (♂) rarely approach *iernes*, when they show more yellowish-red colouration on upperside, this occurs as a patch around the eyespot and not as a band: **ierniformis** *Graves*. According to the author such specimens occur almost everywhere. — **cassiteridum** *Graves* (11 g) the race from the Scilly Islands is similar to *iernes* on upperside. In the ♂ the bands on underside of both wings are wide, moderately sharply outlined, on hindwings there are 2—4 eyespot dots therein. In ♀ band on underside of both wings narrower in the distal half, eyespot dots present on hindwings. Both sexes somewhat paler than other races, but less pale than swedish race, which the author considers is typical and with more sharply outlined bands than in Sweden, more bestrewn with black scales especially in ♀.

ghilanica. *splendida.* *iernes.* *ierniformis.* *cassiteridum.*

E. telmessia *Z.* is now considered a separate species from *jurtina*. — **oreas** *le-Cerf.* (11 g). The light band of forewings does not penetrate so far proximally to the disco-cellular as is typical, but it seems to be equally wide throughout. The apical eyespot inclines to the formation of satellites. The band in the ♀ is similar, the discal area is not pale. N. Persia. — **maniolides** *le Cerf.* The apical eyespot is double as large, with distinct yellow surround, whilst the band is so faint that it almost disappears. N. Persia. Also *kurdistana Rühl* belongs here and not to *jurtina*. According to Riley *oreas* is identical with *pallescens Btlr.*, which was not mentioned in Vol. 1. It is described in the Catalogue of Satyridae, British Museum, p. 65 (1868).

telmessia. *oreas.* *maniolides.*

E. cypricola *Graves*. These specimens from Cyprus depicted in Vol. 1, pl. 47 b as *telmessia* differ by genitals from *telmessia* from Syria and Asia Minor. In ♂ *cypricola* androconia spot is long and pointed at upper end extending almost to eyespot, in *telmessia* it reaches only to rib No. 3 being shorter and wider. Light outer band in *telmessia* extends further inwards between ribs 3 and 4. In ♀ of *cypricola* pale marginal band contrasts more strongly from disc on underside of forewings, and outer margin of outer band on hindwings is more distinct than in *telmessia*.

cypricola.

E. nurag *Ghil.* (Vol. 1, p. 141, pl. 47 c). In this species dark specimens occur reminding of *jurtina*-♂ and *fortunata*-♀: **jurtinoides** *Trti.* Pale specimens with a more or less red-yellow ground colour and dark margin, like *tithonus* and *ida*, also occur: **tithonioides** *Trti.* Both from Sardinia.

nurag. *jurtinoides.* *tithonioides.*

E. lycaon *Rott.* (Vol. 1, p. 141, plate 47 d). Still further names have been added to the many names already existing. — **permagnocellata** *Trti. & Vrty.* have very large eyespots on forewings; **boopsis**-♀ *Sheld.* has a very large lower eyespot on forewings; **gynoides**-♂ *Mussch.* has a 2nd female eyespot on forewings; **wheeleri** *Mussch.* has 3 eyespots on forewings in the ♂ and ♀; **excedens** *Std.* has supernumerary eyespots on underside of hindwings; **pavonia** *Voelsch.* is a form with numerous eyespots. — In **schlosseri**-♀ *Voelsch.* the lower eyespot on forewings is absent, in **demaculata**-♀ *Schtz.* (*lusca*-♀ *Schtz.*) the apical eyespot is missing. — Pale specimens are: **albida** *Skala*, ground colour yellow-brown; **augusta** *Sterzl*, ground colour ochre-yellow; **subalbida** *Schtz.* has white spots on the forewings. — The distribution of the newly described races is not always definitely certain as lately *rhamnusia-lupinus* is separated as a species by itself and this division has not been taken into consideration in the descriptions. — **nyctimos** *Dhl.* is a dark race with small eyespots in a bright pale brown band. On underside unicoloured bright grey-brown. Similarly *analampra* which however has wider wings. Vintschgau. — Switzerland has given us more names: **ephisius** *Fruhst.* Frequently on upperside pale as german specimens in the middle area of the forewings, especially in the ♀, underside of hindwings greyer; scarcely different from *lycaon*. Valais. — **okeanina** *Fruhst.* is similar, ⅓rd larger, the forewings appear paler, the eyespots on underside larger. Geneva. — The author himself describes the following as mere sub-forms: **fluminius** *Fruhst.* ♂ smaller, in the ♂ and ♀ the pale areas are duller (Valais) and **lycosura** *Fruhst.*, a large *fluminius*, with larger black eyespots; from the Maritime Alps. — **gaillardi** *Vrty.* differing from the neighbouring races *lycosura Fruhst.*, *ephisius Fruhst.* and *okeanina Fruhst.* and reminding one of *analampra Trti.* from dry warm climates, to which this form represents a transition. Dep. Var. — **quercii** *Vrty.* differing strongly through the underside from *macrophthalama Fruhst.* Both central stripes and the submarginal lunules narrowly surrounded with black

lycaon. *permagnocellata.* *boopsis.* *gynoides.* *wheeleri.* *excedens.* *pavonia.* *schlosseri.* *demaculata.* *albida.* *augusta.* *subalbida.* *nyctimos.* *ephisius.* *okeanina.* *fluminius.* *lycosura.* *gaillardi.* *quercii.*

on bright grey ground, bestrewn with white scales, more glossy than in all other races. ♂ on upperside corresponds *magnobscura.* with *pavonia Voelsch.*, in ♀ ocelli generally less large. Serra de Estrella, Portugal. — **magnobscura** *Vrty.* Similar *degener.* to the moravian race. Colours darker than in typical form from Berlin and Halle, underneath black lines wider *analampra.* on both wings. Bormio. — **degener** *Vrty.* from Zermatt is said to be entirely different from *ephisius*, small, faintly scaled, lighter on upper and undersides. — **analampra** *Trti.* (11 e) often has only the apical eyespot on forewings, *anacausta.* whilst *catalampra Stgr.* always has 2. Underside brightly and distinctly marked. Majella. — **anacausta** *Trti.* very *megalophthalma.* diffuse on upper and undersides, pale patches ochre-yellow and not reddish-yellow. Sicily and Algiers at considerable altitudes (1200 m). — **megalophthalma** *Std.* from Trieste similar to *anacausta* but with large eyespots on forewings. *macrophthalma.* A race also occurs in Castile and Andalusia with large eyespots: **macrophthalma** *Fruhst.* Underside of hindwings like *lupinus* on account of the pale middle band. Among all forms there are specimens that can be denominated as *biocellata Rag.* or *triocellata Trti.* — We turn now to the group or species *rhamnusia*. It is only represented in Spain *najera.* by **najera** *Fruhst.* (= celtibera *Sag.*). Larger than *lupinus*, also the black eyespots larger, forewings almost without *nikokles.* pale area (similar to *mauritanica Oberth.*). Andalusia and Castile. — **nikokles** *Fruhst.* Larger than *lycaon* from *salona.* the northern slopes of the Alps, wings dark on upper and undersides. Southern slopes of Simplon. — **salona** *Fruhst.*, closely resembling *intermedia*, darker and smaller than the south russian *lycaon*, larger than the *centralis.* hungarian. Bosnia. — Very many new races are described from the Orient: **centralis** *Riley* is a small *intermedia Stgr.* but more grey, especially the upperside of ♀ very dark with little orange. Underside of hindwings more unicolourous, the band generally absent. Mesopotamia and W. Persia. Specimens from Asia Minor range between *captus.* *intermedia* and *centralis*. They are larger than the latter, hindwings dark on underside; **captus** *Riley*, from *catictera.* Amasia, Brussa. — **catictera** *Trti.* (11 e) is generally similar to *intermedia* but the underside of forewings much paler yellow, apex and the entire hindwing yellow-grey, not greenish-brown. It is only browner at the *cypriaca.* margin and before the middle line. Zeitun. — **cypriaca** *Riley* very dark on upper and undersides. Wherever the ♀ still retains yellow patches they are very dark, only *mauritanica Oberth.* is still darker on upperside. — *unipuncta-* Cyprus. Of the neighbouring *libanotica Stgr.* one aberration, **unipunctata** *Culot* has been named. — **transcaucasica** *ta.* *Jach.* differs from *lanata Alph.* by deeper red-yellow on underside of forewings. They are not dark brown. Hind- *transcau-* wings grey, dusted with brown-black on underside with indistinct white band. — **margelanica** *Trti.* like *lupinus*; *casica.* *margelani-* larger, apex of forewings less acute, more angular at inner angle, hindwings distinctly scalloped. In ♂ androconia *ca.* spot very large. ♂ and ♀ more yellowish in disc. In ♀ yellow band indicated on upperside of hindwing. Turkestan.

niveltei. **E. nivellei** *Oberth.* (= maroccana *Blach.*). (11 e). Described as a *lycaon* form. The ♂ similar to *dysdora Led.* on forewing, but no pale patch within the marginal band. Indistinctly paler behind the cell on hindwings. Androconia weakly developed. Similar to the italian *lycaon* on underside. Apical eyespot can be double. In the paler ♀ the outer band is wider than is normal in *lycaon*, distally it is not compressed in the middle. Morocco.

wagneri. **E. wagneri** *H.-Schäff.* (Vol. 1, p. 142, plate 47 f). **schmidti** *O. B.-H.* is similar to *mandane Koll.* on *schmidti.* upperside. The 3 large scallops still more pronounced. Underside marked with more white. A wide white *davendra.* marginal band on hindwings. Bushir. — **E. davendra** *Moore* (Vol. 1, p. 142, plate 47 g). — **chitralica** *Ev.* has a *chitralica.* narrow and short androconia spot, uniting up therefore *brevistigma Mr.* and *tenuistigma Mr.* The ocelli on underside of hindwings are variable, there is often a supernumerary eyespot above rib 6. Chitral.

17. Genus: **Coenonympha** *Hbn.*

oedippus. **C. oedippus** *F.* (Vol. 1, p. 143, plate 48 a). **albina** *Oberth.* is bleached a pale grey-yellow on upper and *albina.* undersides; **leucotaenia**-♀ *Hirschke* has a whitish ochre-yellow border only on underside of both wings before the *leucotaenia.* *deplumbea.* metallic line; in **deplumbea**-♀ *Hirschke* the metallic line is absent on underside of both wings and the silvery *gelini.* pupil of the eyespots; **gelini** *Oberth.* (11 f) has eyespots without the light centre; **ocellata** *Hirschke* (= lucasi *Gel.*) *ocellata.* has up to 4 distinct eyespots with silver white pupils on upperside of hindwings; **ocellaris** *Gel.* has also 4 eyespots *ocellaris.* *monticola.* on upper and underside of forewings. — The following races are named: **monticola** *Kol.*, small, upperside brown- *ornatissima.* black, underside dark rusty brown, eyespots with faint yellow surrounds. South Tyrol. — **ornatissima** *Std.* is similar to *miris Rühl.* On underside of forewings 4—6 eyespots, on hindwings 6 eyespots, mostly with white *mariae.* pupils and as large as in *annulifer Btlr.* from Japan (Vol. 1, plate 48 a). Gorizia. — **mariae** *Rocci* is the largest european race. It is as dark as *monticola* on upperside. There are 2—4 eyespots on underside of forewings and 6—7 on hindwings. The latter large with heavy black surrounds touching one another, those on forewings small with distinct yellow surrounds and without white pupils. White band on hindwings heavily developed on under- *pedemon-* side of ♀, 34—44 mm. Central Lombardy. — **pedemontana** *Rocci* from Vienna has colouration of typical specimens *tana.* on upperside, on underside rather paler. Eyespots almost always absent on underside of forewings, on hindwings 5—6 large eyespots. Somewhat smaller than *mariae*, 32—38 mm. Turin. — **hungarica** *Aign.* no eyespots also *hungarica.* on underside of forewings, on hindwings uppermost eyespot small. Hungary. — **magna** *Rühl* is an *annulifer* with *magna.* a paler upperside, eyespots reflect through on upperside from underside. Mongolia.

hero. **C. hero** *L.* (Vol. 1, p. 143, plate 48 b). Only a few aberrative specimens of this species have been named: *herota.* **herota** *Strd.* has upperside of forewings more greyish, 4 diffuse eyespots on hindwings, also underside somewhat *heromorpha.* paler, **heromorpha** *Strd.* has an eyespot on upper and underside each in areas 2 and 5 of forewing, **coreana** *Mats.* *coreana.* is a *perseis* or *neoperseis*-♂ with only 3 eyespots on hindwings instead of 4 (but actually on underside there are up to 7 eyespots, on the other hand however in specimens from Amur generally only 3 on upperside), *marmorata*

Osth. is not described, *euryleuca Schaw.* is as dark on upperside as the europcan *hero* and in *amurensis Rühl.*, white band on underside is wide. Even if the latter is not mentioned in *amurensis*, nevertheless *euryleuca* is probably identical. In **pilwonis** *Mats.*, a much smaller subspecies from N. Sachalin (whilst in the south of this island typical *perseis* still occur), there is never an ocellus in the 5th space in ♂ and hindwing ocelli are considerably smaller than in *perseis*. — **latifasciata** *Mats.* has a wide pale band on underside of both wings; Sachalin. *pilwonis.* *latifasciata.*

C. myops *Stgr.* (Vol. 1, p. 143). **macmahoni** *Swh.* has the apical eyespot as large as *tekkensis Stgr.* (Vol. 1, plate 48 b) but it is still darker than typical *myops*. The species does not fit in very well with the Genus *Coenonympha* on account of its appearance, but it does not fit in either with *Erebia* as the genitals vary and therefore the name of *Lyela Swh.* has been established for it. *myops.* *macmahoni.*

C. leander *Esp.* (Vol. 1, p. 143, pl. 48 c). *iphioides Stgr.* typical in Castile, the race **pearsoni** *Rom.* from Aragon always smaller, densely dusted with brown on underside, the yellow ringlet round eyespots narrower, metallic line generally absent on hindwings. Position of eyespots closer to *iphis*. In specimens from Catalonia metallic line also absent. Ground scarcely adumbrated. In Bulgaria eyespots of upperside of ♂ rarely, of ♀ generally narrowly surrounded with red-yellow inwardly on upperside, outwardly this surround reaches to double dark marginal line being only interrupted by the ribs. Appears not yet to have been named. *leander.* *pearsoni.*

C. iphis *Schiff.* (Vol. 1, p. 144, plate 48 c). **albomarginata** *Tutt* has a whitish marginal band on underside of forewings, whilst on the other hand apical eyespot and metallic line are absent; in **cohaerens** *Skala* both white spots on hindwings are larger and conjoined on underside; **ocellata** *Heinr.* represents those frequent specimens in which the eyespots of hindwings on underside reflect through on upperside; **theodora**-♀ *Zus.* has 4 black eyespots on underside of forewings with glossy white pupils. — **hertae** *Std.* is similar to *hero* and var. *exommatica*. It is the darkest race. In the ♂ the red marginal line is absent. It differs on underside from *exommatica* by the large sharply outlined white spots. The eyespots are large but almost without yellow surrounds. Salzkammergut. — **exommatica** *Rbl.* The ♂ is deep brown on upperside. The eyespots on underside of hindwings are large, the pale patch behind the cell often only cuneiform. Carniola. — **iphicleoides** *Schaw.* has on underside of hindwings 6 somewhat larger eyespots than *iphis*, with light yellow surrounds, the white spots are smaller than in *iphis*. Bosnia. — **oikeia** *Dhl.* is also a large race in which the white spots on underside of hindwings are joined together forming a band. (In normal large specimens from Kuku-Nor this is also the case.) Simbruin Mountains, Italy. — **anaxarete** *Fruhst.* is a large *carpathica Horm.* race entirely without or almost without eyespots. Maritime Alps. — The description of *effeminata Mast.* was not available to me, presumably it refers to a ♂ with pale female forewings. *iphis.* *albomarginata.* *cohaerens.* *ocellata.* *theodora.* *herlae.* *exommatica.* *iphicleoides.* *oikeia.* *anaxarete.*

C. arcania *L.* (Vol. 1, p. 144, plate 48 d). A great number of individual variations of this species have been described, all of which can recur in the main forms *insubrica*, *satyrion* and *darwiniana*. — **dupuyi** *Oberth.* is an albinotic *arcania*, ground colour yellowish-white, *decolorata Galv.* is ochre-yellow without black or olive-brown colouration, in **schimae** *Rbl.* the white band on underside of hindwings is adumbrated, **virtuensis** *Lamb.* is as dark as *satyrion* on upperside, but the white band on underside of hindwings is as in *arcania*; **rufa**-♀ *Gauckler* has bright yellow-red forewings on upperside, the red-grey margin contrasts only slightly, hindwings grey-red somewhat darker at margin. The apical eyespot of forewings is margined proximally with yellow-white on underside, only the 2 middle eyes are distinct on hindwings; if the same are also distinct on upperside it is named **ocellaris** *Trti. & Vrty.* — **elliptica** *Rev.* has somewhat elongated eyespots on underside of hindwings, especially the apical eyespot is more considerably extended. — **leandroides** *Kheil* is the same as *arcania* on upperside, very similar to *leander* on underside, unicoloured ochre-yellow, orange-reddish at margin, eyespots as in *arcania*. — **brayi** *Lamb.* has a grey-white apical spot on underside of forewings, the white band on hindwings is wide, eyespots small. — **apicalis** *Trti. & Vrty.* is the form with an apical eyespot on upperside, specimens in which same is absent have not even been named by Verity; if it is also absent on underside then we have **obsoleta** *Tutt* (= hoefneri *Skala*). — **caecaëlla** *Strd.* (= caeca *Oberth.*, exocellata *Cab.*) has no eyespots on underside of hindwings, *caeca Strd.* will be similar. — **multiocellaris**-♀ *Zus.* has 5 black eyespots with ochre-yellow surrounds on upperside of hindwings. — **bipupillata** *Cab.* has a double apical eyespot on underside. — **minora** *Pion.* is a dwarf form. Only **suprophthalmica** *Schaw* is to be enumerated under *insubrica*. It has a large apical eyespot on forewings, 2—3 eyespots on upperside of hindwings, *punctata Hoffm.* is practically the same, the apical eyespot is with or without a white pupil. The form **wagneri**-♂ *Schaw.* of *satyrion* has a faintly reddish disc and dark margin to forewings, hindwings unicoloured black, only reddish-brown at anal angle. Underside of forewings is heavily reddish, margin of hindwings vermilion. — **impunctata** *Oberth.* is a counterpart to *melania Oberth.* Forewings without apical eyespot, hindwings with no eyespots but with pale underside. — **addenda** *Rev.* has 3—4 additional smaller eyespots below the apical eyespot on underside of forewings. In **defasciata** *Uffeln* the pale band is absent on underside of hindwings. — **caeca** *Oberth.* has no eyespots on underside. It differs from *a.-caecaëlla* by the narrower pale band. — We now turn to the races. According to Verity the type of **arcania** *L.* emanates from Sweden and has a very wide dark outer margin. This is not considered in the descriptions of the other races so that *insubrica Frey* only differs by its size, *macromma Trti. & Vrty.* only by the larger eyespots. Further *satyrion O.* does not need to be called *philea Hbn.*, as *gardetta Prunn.* is still older and *epiphilea Rbl.* is therefore also superfluous. In order to achieve uniformity with Vol. 1 we still make use here of the name *satyrion*. According to Schawerda however *satyrion O.* and *epiphilea Rbl.* are different. *arcania.* *dupuyi.* *schimae.* *virtuensis.* *rufa.* *ocellaris.* *elliptica.* *leandroides.* *brayi.* *apicalis.* *obsoleta.* *caecaëlla.* *multiocellaris.* *bipupillata.* *minora.* *suprophthalmica.* *wagneri.* *impunctata.* *addenda.* *defasciata.* *caeca.* *arcania.*

satyrion occurs at higher altitudes and is smaller. On upperside the brown is generally covered by grey hairs.
epiphylea. The apex and outer margin on underside of forewings is grey, base of hindwings green-grey. **epiphylea** *Rbl.*, the sub-form to same, flies at lower altitudes and is larger. The forewings are more brown, rarely uniform black-brown on upperside, eyespots on underside are larger. The ♀ is pale brown with dark margins on forewings and sometimes the eyespots reflect through from underneath. As neither Verity nor Fruhstorfer can make a distinction between *arcania* and *satyrion*, which are now considered separate species, it cannot be determined which of the *arcania* races mentioned here are actually *satyrion*. According to Verity *arcania L.* and *amyntas Scop.* based on the race from Carniola and *cephalus Fourc.* from Paris, are synonymous; this opinion, which may
saleviana. quite likely be correct, does not fit in well with the favourite pastime of separating races. Also **saleviana** *Fruhst.* is considered by him to be synonymous although it has a narrow black margin on forewings. ♂ similar to *orientalis Rbl.* on upperside, ♀ similar to *balestrei Fruhst.*, but not such a pale yellow-brown. Geneva.

There are 2 *arcania* races described from the Maritime Alps. Both are large and have wide white bands
balestrei. macromma. triumphans. tenuelimbo. on underside of hindwings. In **balestrei** *Fruhst.* the eyespots are small, in **macromma** *Trti. & Vrty.* they are large. A further race with large eyespots is **triumphans** *Fruhst.* from Berchtesgaden in which the apical eyespot of forewings is often double. — **tenuelimbo** *Vrty.* from the Italian Peninsular, South France and Catalonia embraces *balestrei* and *macromma*, it is large with wide white bands on underside, upperside as light as *balestrei*.
huebneri. **huebneri**-♀ *Oberth.* specimens are found intermingled with these, having a red-yellow patch in the middle on
gracilis. the upperside of hindwings. The 2nd generation of this has been named **gracilis** *Vrty.* — **opposita** *Vrty.* is also
opposita. a large race, the dark margin on upperside is narrow in the ♂ and ♀, both sexes show a warm dark rust-brown colouration. A light band stretches from apical eyespot almost to the inner margin on underside of forewings, the white band of hindwings is wide. Aspromonte. In the description of this race it is stated: *tenuelimbo* is somewhat smaller than *opposita*, the ♂ often somewhat darker on upperside of forewing. Previously it had been
euthymia. said "large, pale like *balestrei*"! — **euthymia** *Dhl.* differs from *tenuelimbo* chiefly owing to the band of the hind-
tyrrhena. wings reflecting through on upperside and through the generally absent apical eyespot there. — **tyrrhena** *Std.* also from Aspromonte is compared by the author with *macromma*. The dark margin on the upperside however
clorinda. is wide whilst in Verity's race it is narrow. — **clorinda** *Sag.* attaches itself to *huebneri*, it differs through the
parvinsubrica. extensive yellow towards the anal angle of hindwing. — To the *insubrica* group belong **parvinsubrica** *Vrty.*, chiefly separated owing to its smallness. Typical from the Alps of Carinthia and also from Oulx (N.W. Italy). —
tergestina. **tergestina** *Vrty.* has in contrast to it a yellow-red basal half of the forewing on underside instead of grey with bluish sheen and the band of hindwings is yellow instead of white. Trieste. — To be classified here also is
maesta. **maesta** *Vrty.* Upperside a warm nut-brown instead of yellow-red, underside very dark. Gèdre. — Besides this
caucasica. **caucasica** *Jach.* It is large, black margin on upperside of forewings narrow, white band on underside of hindwings
bavarica. narrow, eyespots large. N. Caucasus. — To the *satyrion* group is classified: **bavarica** *Osth.* Upperside dark similar to *obscura Rühl*, hindwings grey-green on underside, eyespots very small, consequently the pale marginal
obscura. band appears to be wide. Berchtesgaden. — **obscura** *Rühl* (= unicolor *Wheel.*) is brown-black or grey-black on upperside, whilst *bavarica* is only dark brown. Among both races specimens are found without eyespots:
caeca. **caeca** *Wheel.* — **macrophthalma** *Galv.* is similar to a large *satyrion* on upperside, the white band on underside
macrophthalma. of hindwings is strongly undulate with very large eyespots. Karawanken. — **orientalis** *Rbl.* ♂ ochre-brown on
orientalis. upperside of forewings, with double apical eyespot on underside. Bosnia. (Specimens in the Püngeler Collection however are just as dark on the upperside as *satyrion*, underside with normal eyespots.) In ♀ forewing with yellow-red on upperside, the narrow dark margin with a red-brown separating line on both wings. In hindwings both in ♂ and ♀ eyespots strongly reflected through on upperside. On underside of ♀ the metallic line heavy on
carnica. both wings, eyespots large. — **carnica** *Nitsche* from the Julian and Carinthian Alps resembles *arcania* on upperside,
chrysoaspida. on underside size of eyespots lies between *epiphilea Rbl.* and *macrophthalmica Galv.* — **chrysoaspida** *Fruhst.* differs from *orientalis* by narrow dark margin on upperside, pale band on underside of hindwings narrow, somewhat yellowish, undulating inwards. Serbia, S. Russia. The names *philedarwiniana Vrty.* and *insubridarwiniana Vrty.* indicate that the author considered these to be transition races without distinct characteristics.

C. arcanioides *Pier.* (Vol. 1, p. 144, plate 48 e). **holli** *Oberth.* (11 f) represents the 2nd generation, smaller,
arcanioides. holli. biocellata. darker. The dark margin of forewings is wider, underside also is darker. Among the ♂ and ♀ are specimens having a supernumerary small eyespot on underside of forewings above the inner margin: **biocellata** *Oberth.* On the other hand the name *major Seitz* (for the 1st generation) is to be withdrawn.

C. vaucheri *Blach.* (Vol. 1, p. 145, plate 48 e). **mediocellis** *Le Cerf.* Eyespots of forewings are small,
vaucheri. mediocellis. oval, separate or only faintly conjoined, forming a band on underside. Atlas.

C. corinna *Hbn.* (Vol. 1, p. 145, plate 48 f). A journey to Corsica has produced the following names for
corinna. aberrations: **anophthalmica** *Bub.* Forewings without eyespots on upperside, black margin narrow; **caeca** *Bub.*
anophthalmica. caeca. macrophthalmica. saturata. nigricans. energica. gynandra. lefebvrei. altera. Hindwings without eyespots; **macrophthalmica** *Bub.* has larger eyespots on underside of hindwings; **saturata** *Bub.* Ground colour on upperside a rich red-brown; in **nigricans**-♂ *Bub.* the black margin penetrates almost to the middle of the wings, the rest of both wings is darker. **energica**-♂ *Bub.* only the margin of both wings is broader and deeper black so that the eyespot of forewing is embedded therein, **gynandra**-♂ *Bub.* with narrow dark margin otherwise as in the ♀. — **lefebvrei** *Rag.* (11 f) has relatively large eyespots on underside of both wings. Sicily. — **altera** *Vrty.* is the 2nd generation of *elbana Stdgr.* Smaller, paler on both sides, eyespots small.

C. dorus *Esp.* (Vol. 1, p. 145). According to Verity *fonti Sag.* from Albarracin does not vary sufficiently from specimens from Provence. According to Chapman *mathewi Tutt* is identical with *bieli Stgr.* — **andalusica** *Rbb.* has darker forewings in the ♂, darker costa and outer margin in the ♀, only costa on hindwings, which in *dorus* is almost always as light as the ground colour. Sometimes the race is very similar to *fettigii Oberth.* on underside, but both are easily differentiated by upperside. Specimens with a double apical eyespot on upper and underside are named **biojos** *Rbb.*, in **exoculata** *Rbb.* eyespots are absent on underside of hindwings. The form is not identical with *dorus-caeca Oberth.* Among *dorus* one finds **triocellata** *Oberth.* having 3 further small eyespots besides the apical eyespot on underside of forewings, **microphthalma** *Oberth.* is paler, eyespots smaller on both wings. Aveyron. — **semibieli** *Vrty.* from the Serra de Estrella (Portugal) is almost as variable as *mathewi Tutt.* As the name already indicates, it will not be much different from *bieli Stgr.*

dorus. *andalusica.* *biojos.* *exoculata.* *triocellata.* *microphthalma.* *semibieli.*

C. fettigii *Oberth.* (Vol. 1, p. 145, pl. 48 f). **holli** *Oberth.* (11 f) from Blidah is smaller than the typical form from Sebdou, yellow-red less bright but slightly more extensive. Less grey on underside of hindwings, eyespots somewhat larger. This name has been altered since into *nicholasi Rothsch.* In **inframaculata** *Oberth.* the light spot on underside of hindwings stretches from costa to the marginal line. Morocco. In the ♂ specimen of *fettigii* from Algiers used for illustration, almost the entire hindwing is unicolorous as pale yellow as this spot. Püngeler, to whom it belonged, fortunately did not name it.

fettigii. *holli.* *inframaculata.*

C. pamphilus *L.* (Vol. 1, p. 146, pl. 48 g). The following aberrations have been named: **lineigera** *Strd.* a traverse line on underside of forewings from costa to vein 2, which otherwise is quite faint; in **nolckeniana** *Strd.* the pale band on underside of hindwings stretches to the outer margin; **amaryllides** *Strd.* with dark marginal band on upperside, underside reminds one of *amaryllis Cr. albida Strd.* is identical with *pallida Tutt*, also *alba Prüff.*, *eburnea Hab.*, all names for pale yellow specimens; *havelaarii Lamb.* is the name given to a slightly less pale specimen. *biocellata Strd.* is only a transition to *bipupillata Cosm.*, *balearica Mussch.* with double apical eyespot on upper and undersides belongs here. *neca Strd.* has a further small eyespot in cellule 2 on underside of forewings, **ocellata** *Tutt* (= addenda *Rev.*) has still 3—4 small eyespots on underside of forewings, **multipunctata** *Schultz* (= bipunctata *Guss.*) has 2 eyespots on upperside of hindwings, sometimes with white pupils, in *obsoleta Tutt* (= caeca *Strd.*) the apical eyespot is missing on upperside of forewings; **caeca** *Oberth.* (= caecaëlla *Strd.*) has no eyespots on underside, a light spot behind the cell on forewings, the usual 2 spots on hindwings. — Now to the races. According to Verity a "northern" race is typical, which one is not mentioned, for, a great number of races are established for the north and in the South an almost innumerable number. First we will mention the main groups. These are a) *pamphilus* group of North and Central Europe, b) *marginata* group of Italy to Asia minor, c) *lyllus* group from southern-most Italy, N. Africa, Central Asia, d) *thyrsis* group from Crete. The last named was treated in Vol. 1, p. 145 as a separate species and one can recognise that it does not fit in well in above scheme. — a) *pamphilus* group. Verity does not indicate where the typical race occurs, nor what it looks like and Linné's description does not enter into the modern fine distinctions. The northernmost race is **scota** *Vrty.* with wide white band on underside of hindwings behind the very dark base, indications of a light band also on underside of forewing. Scotland. — **londinii** *Vrty.*, the form from S. England differs regularly from above by a dark middle line generally present on underside of forewings stretching from costa to the middle. The 2nd generation of this and many other forms differs from the 1st only by the prefix *post*, thus in this instance *postlondinii Vrty.* In N. Germany and N. France we find **centralis** *Vrty.* (= postcentralis *Vrty.*), on upperside like *emiaustralis* (compare below), underside like *scota.* In southern Central Europe, from the Pyrenees to Vienna and at higher altitudes in mid-Italy, the 1st generation is called **emiaustralis** *Vrty.* It is like the south european *australis Vrty.* but without the dark margin of the *marginata* group. The first and last emergences of the year often belong to **murina** *Vrty.*, having the dark, almost blackish underside, with slight suffusion of blue. The 2nd generation is called **semilyllus** *Krul.* Larger, paler than typical *pamphilus* on upper and undersides. Underside of hindwings with small white eyespot dots. Described from Wiatka, N. E. Russia, the predominant form in the hot Karst region. It is scarcely believable that these two territories really have identical races. — **thanatos** *Std.* from the Bernese Jura and N. Tyrol is dusky ochre-brown on upperside with dark margin, also darker on underside, hindwings sometimes cherry-red, perhaps like *murina Vrty.* Single specimens of *semilyllus Vrty.* have a wide margin on upperside, but not so dark as *marginata Rühl* (*marginata Stgr.* in Vol. 1, was an error), but lighter grey: **latecana** *Vrty.*, typical of the Maritime Alps. If the 2nd generation does not differ from the 1st *emiaustralis*, it is called *postemiaustralis Vrty.*, typical of Dombresson, Jura. If the underside is like *aestivalis* (*marginata* group), it is called **infraaestivalis** *Vrty.*, typical from the mild Valais and S. France. For a single specimen from the Valais, in which the marginal band on upperside is separated, whilst the underside is like *lyllus* the name of **bipertita** *Vrty.* is created. The race from Catalonia is identical with *emiaustralis* on upperside in the 1st generation by its pale margin, but is darker grey on underside: **barcinonis** *Vrty.* The 2nd generation *postbarcinonsis Vrty.* is the same on upperside, on underside like *aestivalis* (*marginata* group), a dry season form of this is named *foeda Vrty.* In regard to which of the 3 names, *hispana Stdf.* may lay claim to senior rights of priority cannot be established. South of Aragon *lyllus* occurs.

pamphilus. *lineigera.* *nolckeniana.* *amaryllides.* *ocellata.* *multipunctata.* *caeca.* *scota.* *londinii.* *centralis.* *emiaustralis.* *murina.* *semilyllus.* *thanatos.* *latecana.* *infraaestivalis.* *bipertita.* *barcinonis.*

b) *marginata* group.

marginata Rühl (11 f) is the 2nd generation from the Balkans and Asia minor. The 1st generation there and throughout Italy is **australis** *Vrty.* Ground colour of upperside is bright yellow-red, darker than in Linné's

australis.

type, the black margin narrow and glossy, fringes not quite so light. The pale band on underside of forewings is absent or in the ♀ is only indicated at costa. Underside of hindwings uniformly pale grey with greenish or yellowish sheen, eyespots indistinct or absent, the pale band only narrowly present at costa, often yellowish.

emilyllus. Among these *murina Vrty.* (see above) also occur. The 2nd generation has many names: **emilyllus** *Vrty.* with

aestivalis. pale, reddish-brown underside with outstanding markings and large eyespots. Typical of Florence. — **aestivalis** *Rocci*, the pale summer form that occurs in North and Central Italy. Besides there is a *postaustralis Vrty.* in

latenigrata. N. W. Italy (Oulx). In damp climates along the coast the black band is broadly developed: **latenigrata** *Vrty.* The distribution of *australis* extends eastwards as far as the South Tyrol. Yet one finds in the region around Lago Maggiore a form that on the upperside reminds one of *latenigrata*, but is grey on the underside with a blue-green sheen at base, the white patches of hindwings extinct, also the eyespots, therefore somewhat like

ferrea. the dry season form from Sardinia, it is named **ferrea** *Vrty.* (*postferrea Vrty.*). Further eastwards we find

galvagnii. **galvagnii** *Std.* The 1st generation in colouration similar to *E. ida.* Apical eyespot often double, the wide dark margin of hindwings often jutting out along the veins. Underside of hindwings suffused with violet-brown, eyespot dots with silvery gloss. In the lagoons of Istria. Perhaps the same as *latenigrata Vrty.* A specimen

nigrita. with especially heavily blackened hindwings is named **nigrita** *Std.*

c) *lyllus* group.

The named *lyllus Esp.* is applied to the 2nd generation typical of Portugal, distributed over S. Spain, Algiers, Sardinia and Corsica. Despite this, Verity has named innumerable sub-races. The 1st generation in S. Spain has a paler thin antemarginal line, interrupted on hindwing. On underside it contains a few silvery

antelyllus. scales, hindwing is a rich brown-grey and not pale yellow: **antelyllus** *Vrty.* In N. Africa the 1st generation

arenosa. **arenosa** *Vrty.* is large, upperside pale ochre-yellow, underside reddish ochre, dusted with black. The 2nd

atlantea. generation has 3 names: 1) **atlantea** *Vrty.* is said to be the form illustrated as *thyrsides* in Vol. 1, pl. 48 g. It is darker on both sides than genuine *thyrsides Stgr.* from Syria, reminding one of *vaucheri* (*thyrsides* is a *lyllus* with

latevittata. sharply pronounced eyespots). 2) **latevittata** *Vrty.* with wide dark margin in front of the light antemarginal

gigas. line. diffuse inwards, eyespots therein bordered with the ground colour. 3) **gigas** *Vrty.* is a very large *lyllus* 26—35 mm wing expanse. This also occurs at Palermo. *sicula Z.* is said to be the 1st generation of this in Sicily,

lyllides. it is probably a gradation between *arenosa* and *antelyllus.* In Sardinia the 1st generation is named **lyllides** *Vrty.*, the narrow dark marginal band is still finely separated from the dark marginal line by a light line on both

detersa. wings. Sometimes this margin is more or less absent and also the apical eyespot: **detersa** *Vrty.* On the other hand most specimens have a further small eyespot above the inner margin on underside of forewing and 5—6 small eyespots on hindwing. On the hindwings the dark basal patch is sharply cut off, similar to *scota*, but without

torrida. the white middle band of same. The 2nd generation **torrida** *Vrty.* is completely pale ochre-yellow on underside, almost without markings, similar to the race from Algiers, but differing from same on upperside. It occurs at

nitidissima. very hot localities. — In Syria and Askabad the 1st generation **nitidissima** *Vrty.* is bright ochre-yellow on upperside, sometimes somewhat grey before the margin of hindwings, with 2—3 distinct little eyespots therein; generally the apical eyespot of forewings is missing. Underside of hindwings is grey with green sheen, the white patches vary. The 2nd generation is *thyrsides Stgr.* already mentioned above. Further east we find

orantia. **orantia** *Fruhst.* similar to *pavonina Alph.* (Vol. 1, p. 146), ground colour light yellow. Apical eyespot reflecting through. Apex of underside of forewings slightly grey. Outer half of hindwings suffused pale yellowish. Kashgar. As no author can understand the descriptions of another with accuracy, Verity only presumes that same may possibly be classified between *thyrsides* and *centralasiae* (see below).

d) *thyrsis* group.

This species or form is dealt with in Vol. 1, p. 145, pl. 48 e.

Here we must mention *cretica Stdf. sen.* which is synonymous.

e) asiatic *pamphilus* races.

fulvolactea. **fulvolactea** *Vrty.* Large. Upperside bright ochre-yellow, marginal band wide, milky grey. Underside

centralasiae. of hindwings pale yellow-red with diffuse white band, often without eyespots. Transcaspia. — **centralasiae** *Vrty.* (= postcentralasiae *Vrty.*). Smaller, paler. Transition to *emiaustralis* from Europe. Alai. Specimens with more sharply outlined apex and apical eyespot, marginal band still separated from outer margin by a grey line

juldusica. are met with in the 2nd generation: **juldusica** *Vrty.* Probably *eupompus Std.* from the Ili territory is identical

ferghana. with this and could then claim prior rights. — **ferghana** *Std.* has a double black marginal line on underside of forewings, its inner branch is regularly dentate on hindwings, eyespots are present on upper and undersides.

infrarasa. Ferghana. — **infrarasa** *Vrty.* also a 2nd generation, as large as *fulvolactea*, middle of hindwings is widely white on underside. Sarafshan. — Specimens, that resemble the typical Swedish butterflies, but emanate from central

asiaemontium. euxina. Altai are named **asiaemontium** *Vrty.* — **euxina** *Vrty.* (= posteuxina *Vrty.*) is a mountain form from Asia Minor. Small. Hindwings green-grey or yellow-grey on underside with a few white spots. At lower altitudes *marginata Rühl* flies in place of *euxina.*

mangeri. **C. mangeri** *O. Bang.-H.* (11 g) Upperside and also underside of forewings like *pamphilus-lyllus*. On underside of forewing an apical eyespot, on hindwings 5—6 small, sharply outlined black eyespots, all with light surrounds. The base that is often dark in *pamphilus* is here intersected in 3 parts by the yellow-white middle band which penetrates towards and to the base.

C. tiphon *Rott.* (Vol. 1, p. 146, pl. 48 h). Among *isis Thunb.* one sometimes finds specimens that are entirely without eyespots on upperside: **unicolor** *Hoffm.* — **italica** *Vrty.* is smaller than usual in *tiphon*. ♂ reminds one of *iphis*, being just as large and having a dark margin to forewings and light base to hindwings. ♀ similar to *pamphilus* in regard to ground colour. Great variability occurs in regard to the number of eyespots. Undersides of ♂ and ♀ also like *iphis* with little red-brown. In the ♂ the yellowish band is scarcely indicated on forewing, on underside of hindwing an impure white triangular spot near costa and rarely a small one near the inner margin as substitute for a band. In the ♀ the band is better developed on underside of both wings. Monti Sibillini. — **thimoites** *Fruhst.* is similar to the north german *philoxenus Esp.* but larger, the blackish margin double as wide, apical eyespot very large, with nice yellow ringlets. Hindwings generally with 2—4 very distinct eyespots with wide pale yellow ringlets. Valais. — **fermana** *Fruhst.* is like *satyrion Esp.* Upperside grey-brown, blue-grey at base and with fine yellowish antemarginal line. Underside like *sinica Alph.* from Thibet, uniformly dark grey. Hindwings dusted with greenish to the middle. The whitish sub-apical band on forewings shorter. Hindwings with 4 white eyespot dots, margin of both wings yellowish. Kashgar.

tiphon. *unicolor.* *italica.* *thimoites.* *fermana.*

C. decolorata *Wagn.* (11 g) ♂ larger and as pale as the ♀ of *semenovi Alph.*, upperside grey-brown. Specimens from Urumchi with somewhat darker marginal band on forewings. The yellow-white eyespots reflect through faintly on the upperside. A pale band is still indicated on underside of forewings in front of the eyespots. Hindwings on underside, especially in basal area, greenish brown, the 3 spots of the median band being larger than in *mahometana Alph.*, relatively almost as large as in *semenovi*. Ili territory. — All 3 species are close to *sunbecca Ev.*

decolorata.

15. Genus: **Triphysa** *Z.*

T. phryne *Pall.* (Vol. 1, p. 147, pl. 48 i) **tscherskii** *Gr.-Grsh.* Upper and undersides of wings dark, thereby similar to normal *phryne* with grey fringes, almost without white marginal line. No eyespots on underside of hindwings, veins of forewings with less white than in *nervosa Motsch.* N. E. Siberia. — **glacialis** *Bang-H.* Similar to *dohrni Z.*, in the ♂ the fringes (probably the marginal line is meant) not so pure white as in *dohrni*. In the ♀ the dark markings of underside strongly reflect through on upperside, also the white discoidal nervure on hindwing. Arasagun-gol. — **gartoki** *Bang-H.* also closely resembles *dohrni* by its wide light marginal line. All veins in the ♂ partly pale on upperside, especially the discoidal nervure of both wings. On underside of forewings eyespots are small, on hindwings they are minute. In the ♀ they are absent on hindwings, 2 eyespots are also distinctly visible on upperside of forewings, the other dark markings are not distinct. W. Thibet.

phryne. *tscherskii.* *glacialis.* *gartoki.*

Concluding Remarks.

In dealing with almost all forms either as species or subform I have kept almost entirely to the views expressed in Vol. 1, in order to facilitate the simultaneous use of Vol. 1 and Supplement Vol. 1, which is often necessary. If for instance in modern times and owing to the richer material available perhaps a different classification of the forms of the group *Satyrus geyeri-regeli-hübneri* might seem necessary, nevertheless as yet no examination of the genitals has taken place either to confirm or refute the various assertions. In the same way the sub-division of species such as *Ep. lycaon* into 3 species *lycaon*, *lupinus*, *rhamnusia* is not practicable for the present work, as there is no classification of the sub-races, so that same would have to be distributed haphazard over the various species. Similarly in *Coen. arcania* and *satyrion*, where the one author is in favour of a sub-division of the species, the other however has ascertained transition forms.

A further difference in dealing with the *Satyrides* (excepting the Genus *Erebia*), as compared with previous groups, lies in the impossibility of obtaining the numerous races as established, mostly by Fruhstorfer, Stauder and Verity. Occasionally the text has already remarked that these 3 main authors are by no means always of one mind in regard to the justification of the various races. In fact they often do not even mention the races of each other. Further it should be mentioned that the material of the Püngeler Collection (which certainly in its arrangement did not attach much value to "races") often does not agree with the descriptions. Such large series as would be essential for the justification of the establishment of a new race, are only available in these private collections that are not open to everyone. And inspection of type specimens is unsatisfactory, as with such rich material at one's disposal one can select almost at discretion without proving anything; a method frequently adopted by Verity.

Therefore criticism or selection had to be left alone and this supplement had to confine itself to a classification according to literature. Just according to the degree that each reader wishes to specialise, each must make use of the various names at his own discretion, excluding such that seem to him superfluous.

Addenda and Corrections

to the palaearctic Satyrides.

p. 131, line 24 from bottom: **C. annada.** According to information kindly supplied by Mr. WATKINS the latest and it is to be hoped final opinion in regard to *annada* is the following: The type occurs at Bhutan. Later MOORE no longer obtained these, but another western form, of which the gave a poor illustration in Lep. Ind. (not Lep. Ceyl.) pl. 115, f. 3. Our illustration in Vol. 1, pl. 35 a 3 is a slightly varying *hybrida* of the normal type pl. 35 a 2. EVANS holds the opinion that *annada* and *caeca* are 2 races of the same species. Against this however is to be said, that the most eastern *caeca* shows no approximation to *annada* and neither occurs at Sikkim. WATKINS and RILEY consider that *annada* is the western representative of the chinese *polyphemus* and *caeca* is a species of itself. A transition form halfway between *polyphemus* and *annada*, named *annadina Watkins* is described from the Salween river from indian territory.

p. 131 line 10 from bottom, alter plate reference: 10 b instead of 10 a.

p. 131 line 3 from bottom, cancel the plate reference.

p. 143 line 4 from top, alter in text and margin **eu**taenia instead of **en**taenia.

p. 144 line 10 from top, cancel the plate reference.

p. 145 line 9 from bottom, alter in text and margin parvisi instead of par**o**isi.

p. 147 line 2 from top, in text and margin **antevorta** instead of **antevortes.**

p. 148 line 26 from top, in text and margin **tetrastigma** instead of **tetarstigma.**

p. 150 line 1 from top, plate reference (10 a) refers to the form **succulenta** (Vol. 1, p. 108).

p. 151 line 15 from top, text and margin read **roberti** instead of **robertsi.**

p. 152 line 29 from top, in text and margin **graucasica** instead of **grancasica.**

p. 156 line 12 from bottom, in text and margin **aragonensis** instead of **arragonensis.**

p. 157 line 13 from top: **larissa.** Specimens from Inner Anatolia have yellowish ground colour, as also occur in other melanargia. An albinotic ♀ is paler on upperside. The black marginal line is absent on hindwing, underside milky white, almost without markings, somewhat approximating *galathea-leucomelas*. It is named: **lactea** *Wagner*.

p. 157 line 25 from bottom, add plate reference (8 b).

p. 157 line 8 from bottom, write **huebneri** instead of **hübneri.**

p. 158 line 25 from top, write **huebneri** instead of **hübneri.**

p. 158 line 8 from bottom, add plate reference to *rudolphii* (10 c).

p. 158 line 5 from bottom, alter plate reference for **tannuola** (11 d) instead of (10 e).

p. 159 line 5 from top, alter plate reference for **saga** (10 f) instead of (10 e).

p. 159 line 6 from top, alter plate reference for **tundra** (10 f) instead of (10 e).

p. 159 line 20 from top, add plate reference for **germana** (8 e).

p. 159 line 31 from top, add locality: Hokkaido, Japan.

p. 159 line 24 from bottom, add plate reference for **arasaguna** (8 e as "avasacina").

p. 159 line 16 from bottom, alter plate reference for **tsingtaua** (10 f) instead of (10 e).

p. 159 line 13 from bottom, add to plate reference 40 g: Vol. 1.

p. 159 line 6 from bottom, alter plate reference for **brunhilda** (11 b, c) instead of (10 e).

p. 159 line 4 from bottom, add before *nanna*: **O. dzhugdzhuri** *Shelj.* ♀ similar to *nanna Mén.* Upperside dull drab, lighter at margin between the veins. Basal half of hindwings darker, almost blackish brown. A small eyespot on forewings above vein 5, one on hindwings above vein 2. Fringes yellow brown. Underside of forewing pale brownish. Inner ⅔rds of hindwing dark brown, remainder yellow brown, the whole faintly marbled with white. The outlining line of the basal area proceeds about as illustrated for *mongolica* and *urda* in Vol. 1, pl. 40 g. ♀ 55 mm. Amur.

p. 160 line 2 from top, alter plate reference for **shonis** (11 b) instead of (10 f).

p. 160 line 7 from top, alter plate reference for **okamotonis** (11 b) instead of (10 f).

p. 160 line 23 from top, alter plate reference for **illustris** (10 e) instead of (10 f).

p. 160 line 26 from top, add plate reference for **grandis**: (8 e).

p. 160 line 27 from top, add plate reference for **divnogorski**: (10 e).

p. 160 line 7 from bottom, alter *itala* into *italica* also in margin.

p. 161 line 15 from top, alter plate reference for **alcyoneformis** (11 a) instead of (10 f).

p. 161 line 25 from top, add: **krymaea** *Shelj.* is medium size. Recognisable by the very wide pure white band on upper and undersides of hindwing; it is about as wide as in *briseis-major* in Vol. 1, pl. 42 c. — **ghigii** *Trti.* closely resembles *teres Fruhst.* from Saratov by the absence of the light band on upperside of both wings. However it differs on underside. On forewings the yellowish band is more heavily dusted with the grey-brown ground colour, so that the apical eyespot with its more pronounced border contrasts boldly. The inner margin of the band of the costa is narrowly white, somewhat dusted with grey-brown. On hindwings the white dusting extends far beyond the median band in a diffuse way to the outer margin, also basal area

somewhat whitish. Dodekanes. This form probably varies very little from *cypriaca Stgr.*

p. 161 line 10 from bottom, cancel plate reference for **maroccana.**

p. 161 line 7 from bottom, alter plate reference for **latevittata** (11 a) instead of (10 g).

p. 161 line 6 from bottom, add to *alcyone*: Among the single forms there is still to be mentioned: **thamyras** *Schultz*, specimens quite without eyespots and **subalbida** *Schultz* in which the light band on hindwing diffuses outwardly.

p. 162 line 20 from bottom, add to **aurata**: JACHONTOV's opinion is erroneous; *magna Stgr.* is described: Stett. Ent. Paper 47, p. 242 (1886) but was not mentioned in the STAUDINGER-REBEL Catalogue of 1901.

p. 162 line 20 from bottom, alter plate reference for **larnacana** (10 c) instead of (10 e).

p. 163 line 15 from bottom, add to *alcyone*: Besides *mellaertsi Der.* there are still the following varieties: **suffusa** *Tutt* very adumbrated, the light band almost extinct; in **pallida** *Tutt* the band is straw-yellow. — **caeca** *Tutt* (= thyone *Schultz*) has blind black eyespots and **addenda** *Tutt* has supernumerary eyespots. — **sardoa** *Splr.* is a sub-form to *aristaeus Bon.* in which the paler yellow-red patch extends somewhat further towards the base and a denomination is scarcely justified. Sardinia.

p. 163 line 11 from bottom, alter plate reference for **euxina** (10 d) instead of (10 e).

p. 164 line 17 from top, alter plate reference for **strumata** (10 d) instead of (10 c).

p. 164 line 26 from bottom, add to **arethusa**: **sultana** *Wagner* corresponds about to *dentata Stgr.* The yellow-brown spots on hindwings sometimes incline to be absent. On underside of hindwings the pale white patch almost entirely absent, whilst in contrast the discal area is enclosed by sharp black lines of which the innermost is otherwise generally absent. Inner Anatolia. — As a single form **exilis** *Schultz* is still to be mentioned. It is without apical eyespot on forewing.

p. 164 line 11 from bottom, add to **alpherakyi** (not *alpherakii*) the plate reference (11 c).

p. 164 line 9 from bottom, add plate reference for **püngeleri** (11 c).

p. 164 line 7 from bottom, add plate reference for **erschovi** (11 c).

p. 164 line 3 from bottom, add plate reference for **dublitzkyi** (11 b).

p. 165 line 6 from top, *leechi Gr.-Grsh.* is described in Mém. Rom. 9, p. 473. The illustration on plate 15 f. 3 a, b is erroneously denoted there as *hübneri.*

p. 165 line 7 from top, add to **balti**: — **leechi** *Grum.-Gr.* somewhat resembles *geyeri* (Vol. 1, pl. 43 c) if the original illustration is correct, only the colour of the light band on forewing is more like that of *pallida* on plate 43 b.

p. 165 line 9 from top, add plate reference for **talastauana** (11 b).

p. 165 line 20 from top: rather darker instead of darker.

p. 165 line 24 from top, add plate reference for **schawerdae** (10 b).

p. 165 line 6 from bottom, read: **micronosandrus** and add locality: Susa (Turin).

p. 166 line 21 from top, read *crassemaculosa* instead of *crassimaculosa.*

p. 166 line 27 from top, insert before *sylvicola*: **S. fatua** (Vol. 1, p. 129 at foot). — **insularis** *Trti.* differs from specimens from Greece by rather larger size. On underside of hindwings the brown dusting shown by Greek specimens is absent. Also *sichaea Led.* is similar. As the latter differs only very slightly from typical *fatua*, the name *insularis* for an intermediary form would appear superfluous. Dodekanes.

p. 166 line 26 from bottom, alter plate reference for **holli** (11 d) instead of (10 d).

p. 166 line 24 from bottom, add plate reference for **powelli** (11 d).

p. 166 line 21 from bottom, add plate reference for **colombati** (11 d).

p. 166 line 16 from bottom, add plate reference for **belouini** (11 a).

p. 167 line 6 from top, alter plate reference for **nelvai** (11 a) instead of (10 c).

p. 167 line 7 from top, read Aurès instead of Aurés.

p. 167 line 11 from top, insert after **caeca**: a transition form to *caeca Schaw.* is *merula Schultz* with small eyespots on forewings. — **ornata** *Schultz* has 4 white pupilled eyespots on forewings.

p. 167 line 14 from top, add description of *orientalpium Vrty.* which was omitted: forewings with pointed apex. Underside of ♂ with richer brown than in *mariformis*, often without white patches, at the best like narrow grey-white bands in the middle. In the ♀ the yellow-red colour on upperside is only retained as a narrow ringlet round the two eyespots. Markings of underside of hindwings diffuse.

p. 168 line 27 from bottom, add plate reference for **diluta** (11 g).

p. 168 line 2 from bottom, add plate reference for **alticola** (11 a).

p. 170 line 15 from top, add: **obscura** *Tutt* is also brownish on upperside, less yellow-red.

p. 171 line 24 from top, add: to be mentioned still among the aberrations: **octoculata** *Goeze* without eyespots on upperside, on underside 4 on each wing and **obsoleta** *Tutt*, which on the other hand has no markings on underside.

p. 171 line 8 from bottom, add: specimens of *neapolitana Oberth.* with 3 supernumerary eyespots on underside of hindwings are named **tripuncta** *Std.*

p. 172 line 30 from top, add: **uhryki** *Aign.* is also a pale form.

p. 172 line 31 from top, add: **fulvopicta** ♂ *Heinrich* denotes specimens with intensively pale yellow forewings.

p. 172 line 23 from bottom, add: in **suffusa** *Tutt* the yellow-red outer band is quite extinct.

p. 174 line 6 from top, add: **oronanna** *Dhl.* from southern Abruzzi is close to *analampra Trti.* A very small form. The ♂ darker than *analampra*, borderation of hindwing band well pronounced, the single eyespot small. Forewings on underside pure yellow, hindwings profusely sprinkled with grey-white. The disc on upperside is paler in ♀, but separated from the outer area by a light line. Outer area of hindwings yellowish white. Underside paler than *analampra.*

p. 174 line 15 from bottom, add: a further form with aberrative eyespots is **hungarica** *Aign.* Eyespots absent on underside of forewings, the most anterior one of hindwings only small.

p. 175 line 21 from top, add: **subalpina** *Reutti* differs from *anaxagoras Assm.*, mentioned already in Vol. 1, by the greenish grey underside of hindwings, only a white spot left in cell 4.

p. 177 line 16 from top, add: **infrasimplex** *Rothsch.* is the name given to a specimen with dark red-brown upperside. Underside of hindwings is uniform olive-grey, without markings other than the metallic line.

p. 178 line 5 from top: add: an aberrative specimen from the swampy regions of Tuscany is albinotic on upperside. On underside the band that is usually white, is yellow and distends outwards towards the outer margin. Hindwing is yellow-red and also not darkened at the base. Eyespots small and placed closer to margin: **corinnaeformis** *Vrty.*

p. 179 line 13 from top, add: **lanceolata** *Russ.* corresponds to *hyperantus-lanceolata* with radially elongated ocelli. — We are illustrating here (11 f) the beautiful form **occupata** *Rbl.* already mentioned in Vol. 1. — *caeca Stgr.* enumerated in Vol. 1 as a form of *tiphon* is perhaps a genuine species. To it belongs **subcaeca** *Rühl* having traces of small eyespots on underside. In southern Siberia. Perhaps identical with it, is **heptopotamica** *Shelj.* having the apical ocellus of forewing distinct on underside and pupilled with white. On hindwings now and again 1—2 small eyespots are developed. Semirjeshensk.

p. 179 line 18 from top, add: **C. symphita** *Led.* (Vol. 1, p. 146, pl. 48 g). In **karsiana** *Shelj.* the apical eyespot on underside of forewings is larger than typical, both the white pupil and the black surround being larger. A black apical mark is also present on upperside. On upperside of hindwings 2—3 distinct black eyespots occur, on underside there are 6—7 large eyespots. — In the main form these however can be quite absent on underside: **inocellata** *Shelj.*

Alphabetical List

reference to the original descriptions of the forms of palaearctic Satyrides enumerated in Supplement Vol. 1.

* indicates that the form is also illustrated in the place referred to.

A few missing references will be supplemented at the end of the volume.

abbreviata Er. aeth. *Hirschke* Jahresb. Wien. Ent. Ver. 21, p. 74.
abetonica Er. *Vrty.* Entomol. Record 31 (1919), p. 24.
aboeula Er. *Favre* Faune Vales. Suppl., p. 7.
aeamanthis Sat. *Rbl.* Jahresb. Wien. Ent. Ver. 26, p. 99.
aeornis Er. *Fruhst.* Arch. Naturg. 82 A. 7, p. 132. *
aetaeina Sat. *Oberth.* Ét. Lép. Comp. 3, p. 280.
addenda Coen. are. *Rev.* Bull. Soc. Lép. Genève 4, p. 39. *
addenda Coen. pamph. *Rev.* Bull. Soc. Lép. Genève 2, p. 49. *
addenda Er. *Rev.* Bull. Soc. Lép. Gen. 4, p. 34. *
addenda Er. disa *Sheld.* Entomologist 46, p. 13. *
addenda Mel. gal. *Grund* Soeiet. Entomol. 23, p. 82.
addenda-apicalis Er. *Rev.* Bull. Soc. Lép. Genève 1, p. 290.
adriana Mel. *Sag.* l'Échange 1926 N. 424, p. 7.
adrastaeformis Par. *Vrly.* Entom. Record 31, p. 127.
aestivalis Par. *Fruhst.* Ent. Ztschr. Stuttg. 22, p. 211.
aigoualensis Sat. *Foulq.* Cat. Lép. Fr. Amat. Pap., 36.
akis Mel. *Fruhst.* Entom. Ztschr. Frankf. 23, p. 240.
alba Coen. pamph. *Prüff.* Sprav. kom. fiziogr. 57, p. 72.
alba Ep. jurt. *Black.* Entomologist 53, p. 278.
albana Er. *Oberth.* Bull. Soc. Ent. Fr. 1911, p. 311.
albanica Er. *Rbl.* Jahresb. Wien. Ent. Ver. 21, p. 20.
albeseens Par. *Combr.* Rev. Mens. Namur 1911, p. 82.
albidior Oen. *O. B.-H.* Entom. Ztschr. 22 (1908), p. 43.
albifera Sat. *Fruhst.* Entom. Ztsehr. 24 (1910), p. 82.
albina Coen. oed. *Oberth.* Ét. Lép. Comp. 3, p. 397.
albina Er. lapp. *Oberth.* Ét. Lép. Comp. 3, p. 332.
albina Sat. areth. *Oberth.* Ét. Lép. Comp. 3, p. 262.
albineseens Er. *Oberth.* Ét. Lép. Comp. 3, p. 287.
albinotiea Er. *Osth.* Schmett. Südbayerns 1, p. 112.
alboeentrata Er. *Bryk* Entom. Tidskr. 44. p. 112.
albofaseiata Er. aeth. *Osth.* Schmett. Südbayerns, 1 p. 118.
albofasciata Er. med. *Osth.* Schmett. Südbayerns 1, p. 112.
albomaeula Er. *Rbl.* Berge's Butterfly Book (IX), p. 40.
albomarginata Coen. *Tutt* Entom. Record 21, p. 112.
albovittata Er. neor. *Vrty.* Entomologist 37, p. 55. *
albuferensis Er. *Kheil* Int. Ent. Ztschr. 10, p. 43.
alemenides Er. *Shelj.* Neue Beitr. Insk. 1 (1919), p. 126.
aleyoneformis Sat. *Vrty.* Bull. Soc. Ent. Fr. 1911, p. 312.
algernon Er. *Fruhst.* Iris 31 (1917), p. 108.
alluaudi Par. *Oberth.* Ét. Lép. Comp. 19, p. 81.
almada Er. *Fruhst.* Iris 31 (1917), p. 108.
alphea Sat. *Warn.* Int. Ent. Ztschr. 12, p. 182.
alpheios Sat. *Fruhst.* Entom. Wochenbl. 2 (1908), p. 95.
alpherakyi Sat. *Avin.* Hor. Soc. Ent. Ross. 39, p. 240. *
alta Mel. *Oberth.* Ét. Lép. Comp. 3, p. 354.
altaiea Er. aeth. *Gollz* Seitz Maerolep. Suppl. 1, p. 146.
altaiea Er, lig. *Gollz* Seitz Macrolep. Suppl. 1, p. 148.
altaiea Sat. act. *Gr.-Grsh.* Hor. Ent. Ross. 27, p. 384.
altera Coen. cor. *Vrty.* Bull. Soc. Ent. Ital. 48, p. 192.
altieola Er. *Goltz* Iris 40 (1925), p. 90.
altieola Par. *le Cerf* Ann. Hist. Nat. Paris Ent. 2, p. 41. *
altieola Par. meg. *Vrty.* Bull. Soe. Ent. Ital. 42, p. 269.
altivaga Er. *Fruhsl.* Iris 31 (1917), p. 53.
amarginata Mel. lach. *Oberth.* Ét. Lép. Comp. 3, p. 349.
amaryllides Coen. *Sld.* Entomol. Ztschr. 24 (1911), p. 239.
amazon Er. *Cab.* Rev. Mens. Namur 1910, p. 76.
amisus Er. *Fruhsl.* Ent. Ztsehr. Stuttg. 24 (1919), p. 38.
amyelas Ep. *Fruhst.* Ent. Ztsehr. Stuttg. 23, p. 218.
anaeausta Ep. *Trti.* Natural. Sicil. 21, p. 71.

analampra Ep. *Trti.* Natural. Sicil. 21, p. 70.
anapus Sat. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 21.
anaxarchus Sat. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 21.
anaxarete Coen. *Fruhst.* Entom. Ztschr. 24, p. 3.
andalusica Coen. *Rbb.* Iris 23 Beiheft, p. 173.
andera Er. *Fruhst.* Societ. Entom. 26 (1911), p. 24.
angliae Sat. *Vrty.* Entom. Record 36, p. 22.
anglorum Sat. *Vrty.* Entom. Record 36, p. 22.
anna Oen. *Aust.* Entom. Ztschr. Stuttg. 24 (1911), p. 243.
anophthalma Mel. *Draes.* Iris 39 (1925), p. 55.
anophthalmica Coen. cor. *Bub.* Verh. Zool. Bot. Ges. Wien 72, p. 30.
anteapennina Par. *Vrty.* Entom. Record 39, p. 156.
anteborus Er. *Fruhst.* Arch. Naturg. 82 A. 7, p. 157.
antelyllus Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 197.
antevortes Er. (*Fruhst. i. l.*) *Vrty.* Bull. Soc. Ent. Fr. 1927, p. 174.
anthracites Er. *Fruhst.* Arch. Naturg. 82 A. 7, p. 158.
antoninae Sat. *Krul.* Mater. k. poznan faun. flor. Ross. 5, p. 61. *
anunda Lethe *Fruhst.* Seitz Macrolep. 9, p. 317.
apennina Par. neaera *Vrty.* Bull. Soc. Ent. Ital. 42, p. 269.
apennina Sat. stat. *Vrty.* Bull. Soc. Ent. Ital. 42, p. 269.
apenninicola Er. *Vrty.* Bull. Soc. Ent. Fr. 1911, p. 312. *
apenninigena Er. *Vrty.* Entom. Record 31, p. 124.
apenninigena Sat. *Vrty.* Entom. Record 35, p. 156.
aperta Mel. gal. *Rbl.* Berge's Butterfly Book (IX), p. 37.
apicalis Coen. *Trti.* & *Vrty.* Bull. Soc. Ent. Ital. 42, p. 238.
apicalis Er. *Rev.* Bull. Soc. Lép. Gen. 4, p. 34. *
apicalis Mel. *Trti.* Atti Soc. Ital. 58, p. 148.
apicinigra Mel. *Std.* Lep. Rundschau Wien 2, p. 109.
aporia Er. *Sehaw.* Ztschr. Oesterr. Ent. Ver. 4, p. 67.
apuana Er. *Vrty.* Entom. Record 35, p. 135.
aquitania Er. *Fruhst.* Societ. Entom. 24 (1909), p. 125.
arasaguna Oen. *Aust.* Entom. Ztschr. 24, p. 243.
arctica Er. lig. *Popp.* Acta Fenn. 28 (1906), p. 5. *
arcuata Aphant. *Zus.* Ztschr. Oesterr. Ent. Ver. 10 (1925), p. 61.
arenosa Coen. *Vrty.* Ztschr. Wiss. Ins. Biol. 21, p. 198.
aretoides Er. *Hirsehke* Jahrb. Wien. Ent. Ver. 21 (1911), p. 93.
argenteopunctata Er. *Pether* Entom. Record 39, p. 138.
aristonicus Sat. *Fruhst.* Seitz Macrolep. 9, p. 308.
armena Sat. *Jach.* Rev. Russ. Ent. 11 (1911), p. 421.
armilla Sat. *Fruhst.* Societ. Entom. 23 (1908), p. 76.
arminii Ep. *Std.* Ztschr. Wiss. Ins.-Biol. 12, p. 63.
aragonensis Mel. *Sag.* Buttl. Catal. (2) 4, p. 198.
asperomontana Sat. *Std.* Iris 35 (1921), p. 28.
astigmatica Er. *Sehuttz* Entom. Ztschr. Stuttg. 22, p. 4.
astoria Sat. *Tytl.* Journ. Bomb. Nat. Hist. Soc. 31, p. 254.
astorica Ep. *Tytt.* Journ. Bomb. Nat. Hist. Soc. 31, p. 258. *
astriata Sat. *Vrty.* Bull. Soc. Ent. Ital. 48, p. 190.
atabyris Par. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 133.
atavica Par. *Vrty.* Entom. Record 31, p. 127.
atlantea Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 199.
atlantea Sat. *Vrty.* Bull. Soc. Ent. Fr. 1927, p. 174.
atramentaria Er. *O. B.-H.* Hor. Macrolepid. 1, p. 113.
atthis Mel. *Costa* Atti Soc. Nat. Modena (5) 3, p. 14.
aturia Sat. *Fruhst.* Entom. Ztschr. 24 (1910), p. 83.
augurinus Er. *Fruhst.* Ent. Ztschr. Stuttg. 24, p. 37.
augusta Ep. *Sterzt* Ztschr. Oesterr. Ent. Ver. 2, p. 27.
aurata Sat. *Oberth.* Ét. Lép. Comp. 5, p. 76. *
aurata Sat. dryas *Oberth.* Ét. Lép. Comp. 3, p. 282.
auricoma Mel. *Fruhst.* Societ. Ent. 31 (1916), p. 34.
australis Coen. pamph. *Vrty.* Bull. Soc. Ent. Ital. 45, p. 287. *
australis Sat. herm. *Rbl.* Berge's Butterfly Book (IX), p. 46.
autumnalis Mel. *Fruhst.* Entomol. Ztschr. 1908, p. 80.
avernensis Er. *Oberth.* Bull. Soc. Ent. Fr. 1908, p. 267.

balcanica Er. *Rbt.* Ann. Wien. Hofmus. 1903, p. 177.
balcarica Coen. *Museh.* Bull. Soc. Lép. Genève 1, p. 71.
balestrei Coen. *Fruhst.* Entom. Ztschr. 24 (1910), p. 3.
balti Sat. *Tytt.* Journ. Bomb. Nat. Hist. Soc. 31, p. 255.
banghaasi Oen. *Aust.* Entom. Ztschr. Stuttg. 22 (1908), p. 44.
barcinonaria Mel. *Sag.* Butlett. Catalan. (2) 4 (1924), p. 198.
barcinonis Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 203.
bardines Er. afer *Fruhst.* Entom. Ztschr. Frankf. 31, p. 82.
baroghila Ep. *Tytl.* Journ. Bomb. Nat. Hist. Soc. 31, p. 257.
basalis Er. *Strd.* Arch. Naturg. 81 A. 1, p. 95.
bataja Sat. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 130.
bavarica Coen. *Osth.* Schmett. Südbayerns 1, p. 131.
beelzebub Er. *Costa* Eserc. Acad., p. 27. *
bejarensis Er. *Chapm.* Trans. Ent. Soc. Lond. 1905, p. 34. *
bellorum Sat. act. *Vrty.* Bull. Soc. Ent. Fr. 1927, p. 174.
belouini Sat. *Oberth.* Ét. Lép. Comp. 18 (1), p. 56. *
bertrami Sat. *Zobr.* Int. Ent. Ztschr. 21 (1927), p. 107.
bicuncata Mel. *Vrty.* Bull. Soc. Ent. Ital. 45, p. 216.
bimaculata Ep. tith. *Guss.* Glasnik 29, p. 220.
biocellata Coen. arcanioides *Oberth.* Ét. Lép. Comp. 4, p. 21.
biocellata Coen. pamph. *Strd.* Nyt. Mag. Naturw. 42, p. 131.
biocellata Er. acth. *Hart.* Entomol. Rundsch. 41, p. 42.
biocellata Sat. act. *Pionn.* l'Échange 1927 Nr. 424, p. 7.
biocellatoides Er. *Hart.* Entom. Rundsch. 41, p. 42.
bioculata Ep. jurt. *Rbt.* Berge's Butterfly Book (IX), p. 52.
bioculata Mel. jap. *Std.* Mitt. Münch. Ges. 14, p. 64.
biojos Coen. dor. *Rbb.* Iris 23, Beiheft, p. 173.
bipertita Coen. *Vrty.* Entom. Record 31, p. 121.
bipicta Sat. *Vrty.* Entom. Record 28, p. 166.
bipicta Sat. neom. *Vrty.* Bull. Soc. Ent. Ital. 48, p. 188.
bipunctata Coen. pamph. *Guss.* Glasnik 29, p. 221.
bipunctata Er. cur. *Hart.* Entom. Rundsch. 41, p. 43.
bipupillata Coen. *Cab.* Rev. Mens. Namur 24, p. 50.
bipupillata Er. *Strd.* Nyt. Mag. Naturv. 40, p. 159.
bipupillata Oen. *Shetd.* Entomologist 45 (1912), p. 68.
blachieri Sat. *Fruhst.* Ent. Ztschr. Stuttg. 22 (1908), p. 93.
blachieroides Sat. *Std.* Iris 35 (1921), p. 29.
blanca Er. *Rbb.* Iris 23, Beih., p. 154.
bodenmanni Er. *Vorbr.* Mitt. Schweiz. Ent. Ges. 14 (1928), p. 41.
boopsis Ep. *Shetd.* Entomologist 47, p. 331. *
borealis Par. *Fuchs* Int. Ent. Ztschr. 3 (1909), p. 133.
borosana Er. eur. *Strd.* Arch. Naturg. 81 A. 1, p. 96.
bradanfeldi Par. *Blaeh.* Entomologist 53, p. 240.
brayi Coen. *Lamb.* Rev. Mens. Namur 1909, p. 10.
brevifasciata Er. lig. *Cab.* Lambillionea 26, p. 11.
brigobanna Er. *Fruhst.* Iris 31 (1917), p. 45.
britanniae Ep. *Vrty.* Bull. Soc. Ent. Ital. 45, p. 220. *
brunhilda Oen. *O. B.-H.* Iris 26 (1912), p. 105. *
brunnickii Sat. *Sehitte* Ztschr. Wiss. Ins.-Biol. 8, p. 28.
brutiorum Er. *Trti.* Annuar. Mus. Napoli (II) 3, 1916, p. 16.
bryki Er. *Strd.* Arch. Naturg. 81 A. 1, p. 97. *
bubastis Er. *Meissn.* N. Anzeig. Schw. 1818, p. 78.
buddha Sat. *O. B.-H.* Hor. Macrolepid. 1, p. 49. *
burdigalae Sat. *Vrty.* Entom. Record. 31, p. 128.

cadmus Sat. *Fruhst.* Int. Ent. Ztschr. 2 (1908), p. 9.
caeca Coen. cor. *Bub.* Verh. Zool. Bot. Ges. Wien 72, p. 30
caeca Coen. arcan. *Oberth.* Ét. Lép. Comp. 4, p. 30. *
caeca Coen. pamph. *Oberth.* Ét. Lép. Comp. 4, 48.
caeca Coen. pamph. *Strd.* Nyt. Mag. Naturv. 42, p. 131.
caeca Coen. arc. *Wheet.* Butterfl. Switzerl., p. 119.
caeca Ep. jurt. *Ksien.* Werk. Erf. Wolhyn. 8, p. 50. *
caeca Ep. jurt. *Rbl.* Berge's Butterfly Book, p. 52.
caeca Ep. tith. *Tutt* Brit. Butterfl., p. 407.
caeca Er. melanop. *Gram.* Int. Ent. Ztschr. 7, p. 163.
caeca Er. lig. *Kot.* Verh. Zool.-Bot. Ges. Wien 60, p. 7.
caeca Er. evias *Oberth.* Ét. Lép. Comp. 3, p. 308.
caeca Er. eur. *Osth.* Schmett. Südbayerns 1, p. 120.
caeca Er. ocme *Osth.* Schmett. Südbayerns 1, p. 113.
caeca Er. zapat. *Pionn.* L'Échange 1926 Nr. 424, p. 7.
caeca Er. aeth. *Rbt.* Berge's Butterfly Book (IX), p. 43.
caeca Er. tynd. *Rev.* Bull. Soc. Lép. Genève 1, p. 290. *
caeca Er. glac. *Sehaw.* Ztschr. Oesterr. Ent. Ver. 4 (1919), p. 31.
caeca Er. lapp. *Strd.* Nyt. Mag. Naturv. 39, p. 50.
caeca Er. cur. *Trti.* Natural. Sicil. 1919, p. 16. *
caeca Er. mne. *Trti.* & *Vrty.* Natural. Sicilian. 1919, p. 16. *
caeca Sat. statil. *Hann.* Int. Ent. Ztschr. 9 (1915), p. 113.
caeca Sat. dryas *Osth.* Schmett. Südbayerns 1, p. 124.
caeca Sat. act. *Schaw.* Verh. Zool.-Bot. Ges. Wien 64, p. 353.
caeca Sat. dryas *Sehaw.* Verh. Zool.-Bot. Ges. Wien 64, p. 353.
caeca Sat. neom. *Schaw.* Iris 41 (1927), p. 233.
caecaëlla Coen. pamph. *Strd.* Arch. Naturg. 91 A. 12, p. 281.
caecoides Ep. jurt. *Strd.* Arch. Naturg. 91 A. 12, p. 281.
caiaca Sat. *Zerny* Éos 3, p. 325.
calabra Mel. gal. *Vrty.* Bull. Soc. Ent. Ital. 45, p. 215.
calabra-procida Mel. *Vrty.* Entom. Record 33, p. 212.
calaritas Er. stygne *Fruhst.* Iris 31 (1919), p. 106.
caledonia Er. *Vrty.* Bull. Soc. Ent. Fr. 1911, p. 312. *
caledonia Par. *Vrty.* Bull. Soc. Ent. Fr. 1911, p. 314.
camoena Par. *Fruhst.* Int. Ent. Ztschr. 2 (1908), p. 9.
cantabricola Er. *Vrty.* Bull. Soc. Ent. Fr. 1927, p. 174.
carbonicina Er. *Vrty.* Bull. Soc. Ent. Ital. 47, p. 54.
cariola Er. *Schaw.* Verh. Zool.-Bot. Ges. Wien 73 (1924), p. 3.
carmenta Er. *Fruhst.* Societ. Entom. 24 (1909), p. 125.
carnica Coen. *Nitsehe* Verh. Zool.-Bot. Ges. Wien 78, p. 15.
carsicola Sat. *Std.* Iris 27 (1914), p. 15.
carsicus Sat. *Std.* Boll. Soc. Adriat. 27, p. 154. *

carthusianorum Er. *Fruhst.* Societ. Entom. 24 (1909), p. 125.
cashapa Caller. *Fruhst.* Proc. Zool. Soc. Lond. 1882, p. 236.
castaneopicta Par. meg. *Vrty.* Entom. Record 35, p. 25.
castiliana Er. stygne *Fruhst.* Societ. Entom. 24 (1909), p. 124.
castiliana Er. *Rom.* Entom. Record. 39, p. 137.
castiliana Sat. *Fruhst.* Int. Ent. Ztschr. 3, p. 88.
catalonica Mel. *Sag.* Butlett. Inst. Catalan. Hist. Nat. 1916, p. 1. *
catictera Ep. *Trti.* Natural. Sicil. 21, p. 69.
caucasica Coen. *Jach.* Rev. Russe Ent. 14, p. 298.
celeja Lethe *Fruhst.* Seitz Macrolep. 9, p. 322.
celtibera Ep. *Sag.* Butletti Catalan (2) 4, p. 198.
celtibera Sat. *Vrty.* Bull. Soc. Ent. Fr. 1927, p. 175.
centralasiae Coen. *Vrty.* Ztschr. Wiss. Ins. Biol. 21, p. 205.
centralis Coen. *Vrty.* Ztschr. Wiss. Ins.Biol. 21, p. 204.
centralis Ep. *Ritey* Ann. Mag. Nat. Hist. (9) 8, p. 593.
cercida Er. *Fruhst.* Iris 31 (1917), p. 50.
cetra Er. *Fruhst.* Societ. Entomol. 24, p. 125.
charea Er. *Fruhst.* Int. Ent. Ztschr. 7 (1913), p. 211.
charila Er. *Fruhst.* Iris 31 (1917), p. 48.
chione Oen. *Aust.* Entom. Ztschr. 24 (1911), p. 244.
chitralica Ep. cheena *Tytl.* Journ. Bomb. Nat. Hist. Soc. 31, p. 258.
chitralica Ep. pulch. *Tytt.* Journ. Bomb. Nat. Hist. Soc. 31, p. 257.
chitralica Sat. *Tytt.* Journ. Bomb. Nat. Hist. Soc. 31, p. 254.
chosensis Par. *Mats.*
chrysoaspida Coen. *Fruhst.* Entom. Ztschr. 24 (1910), p. 4.
cibiniaca Er. *Dann.* Mitt. Münch. Ent. Ges. 17, p. 4.
cid Ep. *Sag.* Butletti Catalan. (2) 4, p. 198.
cinerea Sat. sylvic. *Oberth.* Bull. Soc. Ent. Fr. 1907, p. 344.
citrana Mel. *Lamb.* Cat. Lép. Belg. (1903), p. 417.
citrina Mel. gal. *Krut.* Rev. Russ. Entom. 7, p. 29.
clanis Er. *Fruhst.* Int. Ent. Ztschr. 3 (1910), p. 212.
claramaritima Sat. *Vrty.*
clisura Er. *Fruhst.* Iris 31 (1917), p. 92.
clorinda Coen. *Sag.* Butlett. Catalan. (2) 4, p. 199.
clossi Er. *Heinr.* Int. Ent. Ztschr. 11, p. 80.
cocuzzana Mel. *Std.* Ztschr. Wiss. Ins.-Biol. 9, p. 375. *
cohaerens Coen. *Skala* Verh. Nat. Ver. Brünn 50, p. 63.
colombati Sat. *Oberth.* Ét. Lép. Comp. 18 (1), p. 54. *
colossea Mel. *Rothsch.* Novit. Zoolog. 24, p. 111.
completa Mel. *Oberth.* Ét. Lép. Comp. 10, p. 350. *
completa Ypth. *Oberth.* Ét. Lép. Comp. 5, T. 60. *
completissima Mel. *Std.* Boll. Soc. Adriat. 25, p. 93—120.
completissima Mel. *Std.* Lep. Rundschau Wien 2, p. 109.
completissima Mel. jap. *Std.* Mitt. Münch. Ent. Ges. 14, p. 64.
conflneus Lethe *Oberth.* Ét. Lép. Comp. 7, T. 186. *
confusa Caller. *Watk.* Ann. Mag. Nat. Hist. (9) 20, p. 101.
conspicua Sat. act. *Vrty.* Entom. Record 39, p. 173.
contrarius Sat. *Neubgr.* Societ. Entom. 21 (1906), p. 33.
coreana Coen. *Mats.* Ins. Matsum. 1, p. 164.
coreana Oen. *Mats.* Ins. Matsum. 1, p. 163. *
eostantinii Er. *Trti.* Atti Soc. Ital. 58, p. 148.
convena Mel. *Fruhst.* Arch. Naturg. 82 A. 2, p. 22.
crassemaculosa Sat. *Vrty.* Entom. Record 28, p. 189.
cretica Coen. *Stdfs.* Stett. Ent. Ztg. 16 (1855), p. 158.
cretica Sat. *Rbt.* Ann. Wien. Hofmus. 30, p. 106.
cretus Sat. *Vrty.* Boll. Soc. Ent. Ital. 44, p. 206.
crimaea Par. *O. B.-H.* Iris 20 (1907), p. 69.
crobyle Er. *Fruhst.* Arch. f. Naturg. 84. A. 7, p. 104.
croesus Er. *Schaw.* Ztschr. Oesterr. Ent. Ver. 6, p. 2.
croesus Par. meg. *Std.* Ztschr. Wiss. Ins.-Biol. 17, p. 173.
cruciata Oen. *Oberth.* Ét. Lép. Comp. 258, p. 75. *
cubei Er. *Fruhst.* Societ. Entomol. 24 (1909), p. 123.
cyclops Mel. *Std.* Ztschr. Wiss. Ins.-Biol. 9, p. 379.
cydamus Er. *Fruhst.* Ent. Ztschr. Stuttg. 24 (1910), p. 38.
cypriaca Ep. *Ritey.*
cypricola Ep. *Graves* Entomologist 61, p. 5. *
cyrenaica Ep. ida *Rothsch.* Ann. Mag. Nat. Hist. (9) 9, p. 668.

daemon Sat. *Std.* Boll. Soc. Adriat. 27, p. 155. *
daisetsuzana Oen. *Mats.* Ins. Mats. 2, p. 104. *
dealbata Neope *Std.* Mitt. Münch. Ent. Ges. 14, p. 64.
decolorata Coen. *Geelr.* Verh. Zool.-Bot. Ges. Wien 73, p. 155.
decolorata Coen. *Wgn.* Entomol. Mitt. 2, p. 189.
decolorata Ep. tith. *Fruhst.* Entom. Ztschr. Stuttg. 22, p. 211.
defasciata Coen. *Uffeln* Int. Ent. Ztschr. 20, p. 368.
defecta Sat. *Std.* Iris 35 (1921), p. 29.
defessa Er. eur. *Hart.* Entom. Rundsch. 41, p. 43.
degener Ep. *Vrty.* Entom. Record 39, p. 123.
delimbata Mel. *Neust.* Verh. Zool.-Bot. Ges. Wien 58, p. 264.
deminuta Sat. *Fruhst.* Int. Ent. Ztschr. 2 (1908), p. 195.
dentata Par. evers. Crombr. *Rev.* Mens. Namur 1911, p. 82.
dentata-ganda Sat. *Pionn.* Proc. Verb. Soc. Linn. Bord. 1923, p. 227.
deplumbea Coen. *Hirschke* Verh. Zool.-Bot. Ges. Wien, 67, p. 16.
depulverata Par. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 134.
depuncta Er. pronoë *Schaw.* Mitt. Münch. Ent. Ges. 14 (1924), p. 85.
depuncta Er. pithonides *Schultz* Entom. Ztschr. Stuttg. 22, p. 4.
depuncta Er. eur. *Strd.* Arch. Naturg. 81, A. 1, p. 95.
depuncta Er. christi *Web.* Schweiz. Ent. Anz. 1926, Nr. 1, p. 2.
depuncta Mel. gal. *Steph.* Iris 37 (1923), p. 30.
depupillata Er. *Osth.* Schmett. Südbayerns 1, p. 112.
depupillata Er. aeth. *Osth.* Schmett. Südbayerns 1, p. 119.
depupillata Er. alecto *Osth.* Schmett. Südbayerns 1, p. 115.
depupillata Er. tynd. *Rev.* Bull. Soc. Lép. Genève 1, p. 293. *
depupillata Er. evias *Schultz* Entom. Ztschr. 22 (1908), p. 4.
derufata Er. aeth. *Fruhst.* Societ. Entom. 24 (1909), p. 125.
dehermanni Er. *Deherm.* Naturaliste 32. p. 35.
detersa Coen. *Vrty.* Bull. Soc. Zool. Ital. 45, p. 226.
deubeli Mel. *Sitb.* Entom. Ztschr. Frankf. 23, p. 151.
dextroalbescens Ep. *Tutt* Entom. Record 20, p. 221.
difflua Er. *Blach.* Bull. Soc. Lép. Gen. 2, p. 53. *
dilatior Mand. *Melt.* Deutsch. Entom. Ztschr. 1923, p. 154.
dilucescens Er. *Gramm.* Int. Ent. Ztschr. 4, p. 88.
diluscens Er. *Osth.* Schmett. Südbayerns 1, p. 110. *
diluta Lethe *Es. & Mak.* Ins. Ins. Menstr. 12, p. 56.
dilnta Par. *Bub.* Verh. Zool.-Bot. Ges. Wien 72, p. 30.
dilutior Par. *Schuttz.* Ent. Ztschr. 21, p. 278.
discinigra Mel. *Std.* Lep. Rundschau Wien 2, p. 109.
disjuncta Er. eur. *Strd.* Arch. Naturg. 81 A. 1, p. 95.
disjunctus Mel. *Guss.* Glasnik 29, p. 218.
divnogorski Sat. *O. B.-H.* Hor. Macrolepid. 1, p. 49. *
doii Er. *Nakah.* Ins. Ins. Menstr. 14 (1926), p. 50.
dolomitana Er. *Schaw.* Verh. Zool.-Bot. Ges. Wien 61 (1911), p. 38.
donsa Mel. *Fruhst.* Arch. Naturg. 82 A. 2, p. 22.
doris Mel. *Fruhst.* Societ. Entom. 31 (1916), p. 33.
dosmanchas Ep. *Rbb.* Iris 23 Beiheft, p. 171.
dosojos Ep. *Rbb.* Iris 23, Beiheft, p. 170.
dovrensis Er. *Strd.* Nyt. Mag. Naturv. 40, p. 159.
droshica Sat. *Tytt.* Journ. Bomb. Nat. Hist. Soc. 31, p. 256.
dnblitzkyi Sat. *O. B.-H.* Hor. Macrolepid. 1, p. 79. *
duplex Mel. *Std.* Boll. Soc. Adriat. 25, p. 93—120.
duponti Mel. *Rev.* Bull. Soc. Lép. Genève 5, p. 174. *
dupuyi Coen. *Oberth.* Ét. Lép. Comp. 4, p. 26.
dzhelindae Er. *Shelj.* Entomol. Anzeig. 5, p. 1.

ederi Er. *Schaw.* Ztschr. Oesterr. Ent. Ver. 7 (1922), p. 19.
effeminata Coen. *Masl.* Polsk. Pism. Ent. 2, p. 131. *
effusa Er. *Gottz.* Seitz Macrolep. Suppl. 1, p. 135.
effusa Er. gorge *Osth.* Schmett. Südbayern 1, p. 118.
effusa Er. manto *Osth.* Schmett. Südbayern 1, p. 111.
effusa Er. med. *Osth.* Schmett. Südbayern 1, p. 112.
effusa Er. phar. *Osth.* Schmett. Südbayern 1, p. 110.
effusa Er. *Trti.* Atti Soc. Ital. 53, p. 483.
egestas Par. *Fruhst.* Int. Ent. Ztschr. 2 (1908), p. 9.
elegantia Par. *Fruhst.* Ent. Ztschr. Stuttg. 22, p. 211.
elliptica Coen. *Rev.* Bull. Soc. Lép. Genève 3, p. 128.
elongata Aphant. *Tutt* Entom. Record 22, p. 77.
elwesi Er. haberh. *Stgr.* Cat. Lep. Pal. 1901, p. 44.
elwesi Ypth. *Leech* Butt. China Jap. Cor., p. 645. *
elwesi Zoph. *Mr.* Lepid. Indica 1, p. 298. *
emialbina Er. aeth. *Vrty.* Bull. Soc. Ent. Ital. 45, p. 217.
emiaustralis Coen. *Vrty.* Entom. Record 31, p. 121.
emihispulla Ep. *Vrty.* Entom. Record 31, p. 123.
emilyssa Par. *Vrty.* Entom. Record 31, p. 126.
energica Coen. cor. *Bub.* Verh. Zool.-Bot. Ges. Wien 72, p. 30.
epanopides Mel. *Nitsch.* Verh. Zool.-Bot. Ges. Wien 69, p. 104.
epanops Mel. *Rbt.* Sitz.-Ber. Ak. Wiss. Wien A. 1, 126, p. 779.
ephisius Ep. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 121.
epineoridas Er. *Trti.* Boll. Soc. Ent. Ital. 55, p. 116.
erda Er. *Shetj.* Entom. Anzeig. 4, p. 165.
erina Er. F. *Mant.* In. 2, p. 41.
ersehovi Sat. *Avin.* Hor. Ent. Soc. Ross. 39, p. 250. *
erymanthoides Ep. *Strd.* Arch. Naturg. 85 A. 4, p. 16.
escorialensis Mel. *Oberth.* Ét. Lép. Comp. 3, p. 354.
espunae Sat. act. *Rbb.* Iris 23 Beiheft, p. 165.
espunaensis Sat. *Korb* Mitt. Münch. Ent. Ges. 7, p. 99.
esquilinus Sat. *Fruhst.* Seitz Macrolep. 9, p. 308.
etheides Er. *Strd.* Nyt. Mag. Naturv. 10, p. 159.

etlus Er. *F.* Entom. System. (3) 9, p. 217.
etobyma Er. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 134.
etruriae Er. *Vrty.* Entomol. Rec. 31, p. 124.
etrusea Er. neor. *Vrty.* Entomologist 37, p. 55. *
etrusea Ep. tith. *Vrty.* Entom. Record 31, p. 123.
eudaemonia Mel. *Fruhst.* Societ. Entom. 32 (1917), p. 13.
euphrasia Er. *Fruhst.* Iris 31 (1917), p. 44.
eupompa Er. *Fruhst.* Iris 31 (1917), p. 97.
euryanax Sat. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 21.
eurykleia Er. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 211.
eurylenca Coen. *Schaw.* Ztschr. Oesterr. Ent. Ver. 7, (1922), p. 10.
eutaeniata Par. *Deb.* Lambillionea 28, p. 58.
euthymia Coen. *Dann.* Mitt. Münch. Ent. Ges. 17, p. 4.
euxina Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 207.
euxina Sat. *Kusn.* Ann. Zool. Petersb. 14, p. 140. *
exannulata Er. *Osth.* Schmett. Südbayerns 1, p. 108.
exannulata Er. alecto *Osth.* Schmett. Südbayerns 1, p. 115.
exannulata Oen. *Osth.* Schmett. Südbayerns 1, p. 122.
excedens Ep. *Std.* Ztschr. Wiss. Ins.-Biol. 18, p. 13.
exeedens Sat. *Std.* Iris 35 (1921), p. 29.
exeedentia Er. *Vorbr.* Mitt. Schweiz. Ent. Ges. 12, p. 440.
exeessa Ep. *Trti.* Atti Soc. Ital. 51, p. 282.
exeessa Er. zapat. *Pether* Entom. Record 39, p. 137.
exeessa Oen. *Sheld.* Entomologist 46 (1913), p. 12.
eximia Er. stygne *Fuchs* Int. Ent. Ztschr. 8 (1914).
exocellata Coen. arc. *Cab.* Rev. Mens. Namur 1912, p. 22.
exoenlata Coen. *Rbb.* Iris 20, p. 244.
exoculata Sat. dryas *Std.* Ztschr. Wiss. Ins.-Biol. 17, p. 171.
exommatiea Coen. *Rbl.* Berge's Butterfly Book, p. 54.
exteriusoeellata Mel. *Vrty.* Boll. Lab. Portici 14, p. 56.
extineta Er. ceto *Goltz* Seitz Macrolep. Suppl. 1, p. 138.
extineta Par. neaera *Schuttz* Ent. Ztschr. Stuttg. 21, p. 278.
extralunata Par. *Vrty.* Boll. Lab. Portici 14, p. 57.
extrema Er. phar. *Schwing.* Verh. Zool.-Bot. Ges. Wien 62, p. 117.
extrema Mel. gal. *Std.* N. Beitr. Syst. Ins. 1, p. 148. *
extremioides Er. *Nitzsche* Verh. Zool.-Bot. Ges. Wien 68, p. 147.

farinata Er. *Trti.* Natural. Sicil. 1919, p. 17. *
fasciata Er. manto *Osth.* Schmett. Südbayerns 1, p. 111.
faseiata Er. pronoë *Osth.* Schmett. Südbayerns 1, p. 116.
faseiata Er. phar. *Spul.* Schmett. I. p. 35, 1908.
fathme Mel. *Wgn.* Int. Ent. Ztschr. 7 (1913), p. 111.
fatuaeformis Sat. *Vrty.* Entom. Record 31, p. 128.
ferghana Coen. *Std.* Int. Ent. Ztschr. 17 (1924), p. 152.
fermana Coen. *Fruhst.* Int. Ent. Ztschr. 2 (1908), p. 10.
ferrea Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 202.
ferruginea Mel. gal. *Fritsch* Int. Ent. Ztschr. 5 (1911), p. 220.
ferulaeformis Sat. *Vrty.* Entom. Record 39, p. 174.
festai Par. *Trti.* Boll. Mus. Zool. Torino 39, p. 3.
fidena Er. *Fruhst.* Entomol. Ztschr. Frankf. 31, p. 82.
fidiaeformis Sat. *Vrty.* Entom. Record 31, p. 128.
flaeeilla Er. *Fruhst.* Iris 31 (1917), p. 97.
flava Mel. *Fritsch* Int. Ent. Ztschr. 5 (1911), p. 220.
flava Mel. gal. *Linst.* Berl. Ent. Ztschr. 53, p. 233.
flava Mel. jap. *Sok.* Tagf. südwestl. Vorb. Ural (1906), p. 23.
flavata Sat. herm. *Rost.* Boll. Soc. Zool. Ital. (3) 1, p. 145.
flaveseens Er. arete *Hoffm.* Mitt. Ver. Steierm. 50, p. 256.
flavescens Er. aeth. *Tutt* Brit. Butterflies, p. 430.
flaveseens Mel. jap. *Dann.* Mitt. Münch. Ent. Ges. 17, p. 2.
flavescens Mel., lach. *Oberth.* Ét. Lép. Comp. 3, p. 354.
flaveseens Mel. *Shug.* Verh. Natf. Ges. Novoross. 29, p. 49.
flavina Mel. gal. *Gd.* Seitz Macrolep. Suppl. 1, p. 153.
fletseheri Er. *Étw.* Trans. Ent. Soc. Lond. 1899, p. 347. *
florentina *Mct. Vrty.* Entom. Record 31, p. 125.
florina Mel. *Fruhst.* Societ. Entom. 31 (1916), p. 33.
florinensis Er. *Lamb.* Rev. Mens. Namur 1903, p. 15.
fluminius Ep. *Fruhst.* Entom. Ztschr. 30, p. 99.
foeda Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 203.
fortunata Par. *Fruhst.* Int. Ent. Ztschr. 2 (1908), p. 9.
fracta Ep. *Zweig.* Ztschr. Oseterr. Ent. Ver. 3 (1918), p. 11. *
franeisea Myc. *Cr.* Papil. Exot. 4, pl. 326. *
franzenaui Mel. *Aign.* Ann. Mus. Nat. Hung. 4, p. 572.
frenus Er. *Fruhst.* Societ. Entomol. 26, p. 22.
freyeri Er. *Fruhst.* Iris 31 (1917), p. 101.
freyeri Er. *Oberth.* Ét. Lép. Comp. 3, p. 326.
freyeri Mel. *Fruhst.* Societ. Entom. 32 (1917), p. 33.
fritsehi Er. *Obcrth.* Ét. Lép. Comp. 3, p. 326.
fuehsi Er. *Strd.* Nyt. Mag. Naturv. 40, p. 158.
fulgens Ep. tith. *Trti.* Entom. Record 24, p. 304.
fulginia Myc. *Fruhst.* Seitz Macrolep. 9, p. 348.
fumigatus Sat. huebn. *Avin.* Hor. Ent. Soc. Ross. 39, p. 239. *
fumosa Sat. prieuri *Schaw.* Ztschr. Oesterr. Ent. Ver. 12, p. 35.
furialis Par. *Schuttz* Ent. Ztschr. Stuttg. 21, p. 278.
fuscissima Mel. *Houtb.* Ét. Lép. Comp. 19 (2), p. 152. *

galatia Sat. *Fruhst.* Ent. Ztschr. Stuttg. 22, p. 211.
galaxaera Mel. *Ésp.* Schmett. Abbild. Taf. 111. *
galenides Mel. *Prciss.* Verh. Zool.-Bot. Ges. Wien 60, p. 6.
galeniformis Mel. *Oberth.* Ét. Lép. Comp. 5, Taf. 59. *
galenoides Mel. *Oberth.* Ét. Lép. Comp. 3, p. 354.
galinthias Mel. *Fruhst.* Arch. Naturg. 82 A. 2, p. 21.
galvagnii Coen. pamph. *Std.* Ztschr. Wiss. Ins.-Biol. 18, p. 59. *
galvagnii Er. *Hcttw.* Jahresb. Gymnas. Brixen 39.
ganda Sat. *Fruhst.* Entom. Ztschr. Stuttg. 22, p. 210.
ganus Ypth. *Fruhst.* Seitz Macrolep. 9, p. 291.
gardeina Er. *Schaw.* Mitt. Münch. Ent. Ges. 14 (1924), p. 81.
gardetta Coen. *Prunn.* Entom. Record 39, p. 37.
gartoki Triph. *O. B.-H.* Horae Macrolepid. 1, p. 50. *
garuna Sat. *Fruhst.* Seitz Macrolep. 9, p. 309.
gattinara Mel. *Fruhst.* Entom. Ztschr. Frankf. 23 (1910), p. 240.
gavarniea Er. *Oberth.* Ét. Lép. Comp. 3, pl. 25. *
gavarniensis Er. *Warr.* Cat. Lép. France Amat. Pap., p. 22.
gelduba Zoph. *Fruhst.* Seitz Macrolep. 9, p. 314.
gelini Coen. *Oberth.* Ét. Lép. Comp. 3, p. 397. *
genava Sat. *Fruhst.* Entomolog. Wochenbl. 25, p. 81.
generosa Er. med. *Fruhst.* Iris 31 (1917), p. 49.
germana Oen. *Aust.* Entom. Ztschr. Stuttg. 22, p. 44.
ghilanica Ep. *te Cerf* Ann. Hist. Nat. Paris 2, p. 43. *
gigantea Oen. *Aust.* Entom. Ztschr. Stuttg. 24 (1911), p. 24.
gigas Coen. *Vrty.* Entom. Record 31, p. 121.
gilgitiea Sat. *Tytt.* Journ. Bomb. Nat. Hist. Soc. 31, p. 253.
gilgitica Sat. mnisz. *Tytt.* Journ. Bomb. Nat. Hist. Soc. 31, p. 256.
gilgitica Sat. reg. *Tytt.* Journ. Bomb. Nat. Hist. Soc. 31, p. 254.
glacialis Triph. *A. B.-H.* Iris 26 (1912), p. 105.
glottis Er. *Fruhst.* Arch. Naturg. 84 A. 7, p. 93.
gnathene Er. *Fruhst.* Arch. f. Naturg. 84 A. 7, p. 91.
goritiana Mel. *Std.* Boll. Soc. Adriat. 25, p. 93—120.
goya Er. *Fruhst.* Societ. Entom. 24 (1909), p. 123.
graeilis Coen. *Vrty.* Entom. Record 31, p. 123.
grandeseens Par. meg. *Vrty.* Entom. Record 35, p. 24.
grandis Sat. pum. *Ril.* Trans. Ent. Soc. Lond. 1922, p. 471 *
grandis Sat. *Tytl.* Journ. Bomb. Nat. Hist. Soc. 31, p. 253.
granteasiea Er. *Jach.* Rev. Russe Ent. 8, p. 289.
grazianii Mel. *Rom.* Boll. Lab. Portici 20, p. 274.
grisea Ep. *Rcv.* Mens. Namur 23, p. 24.
grisea Ep. *Tutt* Brit. Butterfl., p. 404.
griseoargentaeea Ep. *Obcrth.* Ét. Lép. Comp. 3, p. 385.
griseoaurea Ep. *Obcrth.* Ét. Lép. Comp. 3, p. 385.
guttata Er. stygne *Gottz* Iris 28 (1914), p. 107.
gynoides Ep. *Musch.* Entom. Record 17, p. 58.
gyrtone Er. *Fruhst.* Arch. Naturg. 82, A. 7, p. 141.

hamadryas Sat. *Dann.* Mitt. Münch. Ent. Ges. 17, p. 4.
hampeia Ypht. *Fruhst.* Seitz Macrolep. 9, p. 290.
hannibal Mel. *Std.* Ztschr. Wiss. Ins.-Biol. 9, p. 353.
havelaari Coen. *Lamb.* Rev. Mens. Namur (1902), p. 11.
hebitis Sat. *Rothsch.* Novit. Zoolog. 24, p. 106.
hegesander Sat. *Fruhst.* Seitz Macrolep. 9, p. 308.
heinriehi Er. *Zobel* Int. Ent. Ztschr. 16 (1923), p. 212.
helena Par. *Hann.* Int. Ent. Ztschr. 9, p. 113.
helios Er. *O. B.-H.* Hor. Macrolepid. 1, p. 46. *
hellala Mel. *Fruhst.* Societ. Entom. 31, p. 33.
helvetica Er. lig. *Strd.* Arch. Naturg. 81 A. 1, p. 97.
helvetica Er. eur. *Vorbr.* Butterflies of Switzerland 1, p. 82.
heptapotamiea Sat. *Std.* Mitt. Münch. Ent. Ges. 14, p. 65.
hercegovinensis Er. gorge *Rbt.* Berge's Butterfl. Book. (IX), p. 43.
hercegovinensis Er. *Schaw.* Verh. Zool.-Bot. Ges. Wien 62, p. 139.
hercegovinensis Er. *Trti.* Arch. Naturg. 82 A. 7, p. 137. *
hercyniae Er. *Petry* Iris 33 (1919), p. 130.
herdonia Par. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 133.
hermenti Er. *Der.* Rev. Mens. Namur 23, p. 57.
heromorpha Coen. *Strd.* Entom. Ztschr. 25, p. 257.
herota Coen. *Strd.* Entom. Ztschr. 25, p. 257.
hertae Coen. *Std.* Entomol. Anzeig. 2, p. 55.
herthe Ep. *Heinr.* Berl. Ent. Ztschr. 54, Sitz.-Ber., p. 3.
herzi Er. *Zus.* Ztschr. Oesterr. Ent. Ver. 10, p. 44.
heuseri Sat. *Ebert* Iris 40 (1926), p. 33.
heyni Er. *Strd.* Arch. Naturg. 81 A. 1, p. 95.
hibera Sat. *Vrty.* Entomol. Record 35, p. 156.
hieroides Par. *Schuttz* Ent. Ztschr. Stuttg. 21, p. 278.
hilaris Er. *Gottz* Seitz Macrolep. Suppl. 1, p. 136.
hispana Coen. *Stdfs.* Stett. Ent. Ztg. 16 (1855), p. 158.

hispaniea Er. stygne *Chapm.* Trans. Ent. Soc. Lond. 1905, p. 34. *
hispanica Sat. *Spul.* Macrolcp. Eur. 1, p. 41.
hoefneri Coen. *Skala* Int. Ent. Ztschr. 4, p. 292.
holli Coen. *Oberth.* Ét. Lép. Comp. 4, p. 20.
holli Coen. fettigii *Oberth.* Ét. Lép. Comp. 4, p. 42. *
holli Sat. *Oberth.* Ét. Lép. Comp. 3, p. 271. *
homole Er. *Fruhst.* Entom. Ztschr. 31, p. 81.
huebneri Coen. *Oberth.* Ét. Lép. Comp. 4, p. 25.
huebneri Er. aeth. *Oberth.* Ét. Lép. Comp. 6, Pl. 124. *
huebneri Er. eur. *Oberth.* Ét. Lép. Comp. 3, p. 328.
huebneri Er. lig. *Oberth.* Ét. Lép. Comp. 3, p. 331.
huebneri Mel. syllius *Oberth.* Ét. Lép. Comp. 3, p. 363.
huebneri Mel. ines *Oberth.* Ét. Lép. Comp. 3, p. 363.
hueuei Ep. *Krul.* Societ. Entom. 23 (1908), p. 3.
hungariea Er. melas *Oberth.* Ét. Ent. 8, p. 22.
hyperappennina Er. *Trti.* Atti Soc. Ital. 58 (1919), p. 165.
hyperantana Aphant. *Strd.* Arch. Naturg. 85 A. 4, p. 16.
hyperantella Aphant. *Strd.* Arch. Naturg. 85 A. 4, p. 15.
hyperantoidana Aphant. *Strd.* Arch. Naturg. 85 A. 4, p. 16.
hyperophthalma Aphant. *Std.* Entom. Anzeig. 2 (1922), p. 55.

iberiea Sat. prieuri *Oberth.* Ét. Lép. Comp. 3, p. 266.
illecebra Sat. *Fruhst.* Entom. Ztschr. Stuttg. 22 (1909), p. 211.
illuminata Ep. *Krul.* Societ. Entom. 23 (1908), p. 3.
illuminata Mel. gal. *Std.* Iris 35 (1921), p. 28.
illustris Ep. *Jaeh.* Societ. Entom. 10, p. 65.
illustris Sat. *O. B.-H.* Hor. Macrolepid. 1, p. 49. *
immaculata Mel. jap. *Aign.* Entom. Ztschr. 19, p. 208.
impunetata Coen. *Oberth.* Ét. d'Ent. 20. *
impunetata Er. gorge *Hoffm.* Entom. Ztschr. 27 (1913), p. 60.
impunetata Er. manto *Hoffm.* Mitt. Ver. Steierm. 50, p. 259.
impunetata Er. *Oberth.* Ét. Lép. Comp. 3, p. 288.
impunctata Er. mnes. *Vorbr.* Butterfl. of Switzerland 2, p. 612.
infraaestivalis Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 204.
infraeanens Par. *Vrty.* Entom. Record. 35, p. 28.
inframaenlata Coen. *Oberth.* Ét. Lép. Comp. 19, p. 87.
infranigrans Par. *Vrty.* Boll. Lab. Portici 14, p. 57.
infrapallens Par. meg. *Vrty.* Entom. Record 34, p. 211.
infrarasa Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 206.
infragentea Er. *Vrty.* Entom. Record 31, p. 125.
infratersa Par. *Vrty.* Entom. Record 34, p. 27.
infulata Er. *Cab.* Rev. Mens. Namur 1910, p. 7.
infumata Sat. alc. *Nitsche* Verh. Zool.-Bot. Ges. Wien, 64, p. 162.
ingana Er. *Fruhst.* Societ. Entom. 25 (1911), p. 95.
ingiada Mel. *Fruhst.* Entom. Ztschr. Frankf. 23, p. 239.
inocellata Er. lig. *Gottz* Iris 40, p. 95.
inoeellata Ep. jurt. *Kiss.* Rovart. Lapok 16, p. 153. *
inocellata Mel. tit. *Wgn.* Verh. Zool.-Bot. Ges. Wien 57, p. 95.
insubridarwiniana Coen. *Vrty.* Entom. Record 39, p. 70.
insularum Par. *Seriba* Entom. Rundsch. 36, p. 41.
interjecta Sat. *Vrty.* Entom. Record 31, p. 129.
intermedia Ep. jurt. *Btaek.* Entomologist 53, p. 278.
intermedia Er. eur. *Schaw.* Verh. Zool.-Bot. Ges. Wien 60, p. 220.
intermedia Er. *Schwing.* Verh. Zool.-Bot. Ges. Wien 64, p. 171.
intermedia Sat. fidia *Rothsch.* Novit. Zool. 24, p. 107.
intermedia Sat. stat. *Vrty.* Bull. Soc. Ent. Ital. 43, p. 270.
interrupta Par. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 134.
iphieleoides Coen. *Sehaw.* Verh. Zool.-Bot. Ges. Wien 62, p. 140.
iranica Par. *Ritey* Ann. Mag. Nat. Hist. (9) 8, p. 592.
irisescens Er. *Goltz* Seitz Macrolcp. Suppl. 1, p. 144.
italiea Sat. circe *Vrty.* Entomol. Record 31, p. 129.
italiea Par. *Vrty.* Entom. Record 28, p. 167.
italiea Coen. tiph. *Vrty.* Bull. Soc. Ent. Ital. 45, p. 222.

jalemus Mel. *Fruhst.* Entom. Ztschr. 23 (1910), p. 239.
japudium Sat. *Std.* Iris 27 (1913), p. 14.
jahandiezi Mel. *Oberth.* Ét. Lép. Comp. 19, p. 81.
jolanthe Er. *Schuttz* Entom. Ztschr. Stuttg. 22, p. 4.
jubaris Sat. *Fruhst.* Ent. Ztschr. 22 (1908), p. 25.
juldusica Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 206.
julianus Sat. *Std.* Boll. Soc. Adriat. 25 (1911), p. 93—120.
jurtinoides Ep. nur. *Trti.* Societ. Entom. 26, p. 67.

kamensis Er. *Krul.* Rev. Russe Ent. 9 (1909), p. 299.
karafutonis Par. *Mats.* Thous. Ins. Jap. Ad. 3, p. 28.
kharta Argest. *Ril.* Trans. Ent. Soc. Lond. 1922, p. 470. *
karwendeli Er. *Zus.* Ztschr. Oesterr. Ent. Ver. 10, p. 44.
kaseria Er. *Sehaw.* Verh. Zool. Bot. Ges. Wien 73 (1924), p. 2.
kerteszi Par. *Diosz.* Rovart. Lapok 19, p. 128.
kodermanni Er. *Kt.* & *Hoffm.* Schmett. Steierm. 1, p. 254.
koliskoi Er. *Schaw.* Ztschr. Oesterr. Ent. Ver. 7 (1922), p. 19.
kozhantshikovi Er. *Schelj.* Entomol. Anzeig. 5, p. 10.
kurilensis Par. *Mats* Ins. Mats. 2, p. 193.
kusnezovi Er. *Avin.* Hor. Entom. Ross. 39, p. 249. *

laeta Oen. urda *Aust.* Entom. Ztschr. Stuttg. 22 (1908), p. 44.
lambessana Sat. sylvic. *Oberth.* Ét. Lép. Comp. 10, p. 270.
languescens Aphant. *Cab.* Rev. Mens. Namur 23, p. 57.
larnaeana Sat. *Oberth.* Ét. Lép. Comp. 3, p. 265.
latecana Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 204.
latefasciata Er. lig. *Osth.* Schmett. Südbayerns 1, p. 121.
latefasciata Er. manto *Osth.* Schmett. Südbayern 1, p. 111.
latefasciata Er. pronoë *Osth.* Schmett. Südbayern 1, p. 116.
latefasciata Er. melas *Stein.* Entom. Jahrb. 27 (1918), p. 92,
latefasciata Sat. areth. *Zus.* Ztschr. Oesterr. Ent. Ver. 10. p. 61.
latenigrata Coen. *Vrty.* Entom. Record 28, p. 172.
latevittata Sat. alc. *Vrty.* Bull. Soc. Ent. Fr. 1911, p. 372.
laticincta Lethe *Fruhst.* Seitz Macrolep. 9, p. 324.
latifasciata Coen. hero *Mats.* Journ. Coll. Agr. Sapporo 15 (3), p. 95. *
latifasciata Er. eur. *Hart.* Entom. Rundsch. 41, p. 43.
leandroides Coen. *Kheil* Int. Ent. Ztschr. 12, p. 41.
lederi Er. *Goltz* Seitz Macrolep. Suppl. 1, p. 136. *
lefebvrei Coen. *Rag.* Natural. Sicil. 1908, p. 140.
lena Er. *Christ.* Hor. Macrolepid. 23, p. 299.
leonhardi Er. *Fruhst.* Arch. Naturg. 82 A. 7, p. 131.
letincia Er. *Fruhst.* Int. Ent. Ztschr. 3 (1909). p. 211.
leto Er. *Schuttz* Entom. Ztschr. Stuttg. 22, p. 4.
leucocinia Par. *Fruhst.* Ent. Ztschr. Stuttg. 22, p. 123. *
leucotaenia Coen. *Hirschke* Verh. Zool.-Bot. Ges. Wien 67, p. 16.
leucothoë Ep. *Cab.* Rev. Mens. Namur 23, p. 24.
leukophtalma Er. *Schaw.* Mitt. Münch. Ent. Ges. 14 (1924), p. 85.
ligata Er. *Gottz* Seitz Macrolcp. Suppl. 1, p. 137. *
limbata Mel. syll. *Neust.* Verh. Zool.-Bot. Ges. Wien 56, p. 381.
lincigera Coen. *Strd.* Entom. Ztschr. 25 (1912), p. 257.
livida Er. *Oberth.* Ét. Lép. Comp. 3, p. 331.
londinii Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 205.
lucasi Coen. *Get.* Mém. Soc. Deux Sèvr. 1912, p. 45.
lugens Ep. tith. *Oberth.* Ét. Lép. Comp. 3, p. 390.
lugens Par. evers. *Kep.* Int. Ent. Ztschr. 15, p. 93.
lugens Par. meg. *Oberth.* Ét. Lép. Comp. 3, p. 366.
lugina Er. *Fruhst.* Iris 31 (1917), p. 85.
luigionii Ep. *Rost.* Boll. Soc. Zool. Ital. (2) 1906, p. 7.
luteafilipluma Par. *Vrty.* Entom. Record 34, p. 28.
luteaviridior Par. *Vrty.* Entom. Record 34, p. 28.
luteavividisima Par. *Vrty.* Entom. Record. 35, p. 28.
luteseens Er. zap. *Pether* Entom. Record. 39, p. 138.
lutetiana Mel. *Oberth.* Ét. Lép. Comp. 3, p. 346.
luti Aphant. *Evans* Journ. Bomb. Nat. Hist. Soc. 23, p. 536. *
luxurians Er. eriph. *Osth.* Schmett. Südbayerns, 1, p. 109.
luxuriosa Oen. *Schaw.* Ztschr. Oesterr. Ent. Ver. 11 (1926), p. 86.
lycosura Ep. *Fruhst.* Entom. Ztschr. 30 (1917), p. 99.
lyllides Coen. *Vrty.* Bull. Soc. Zool. Ital. 45, p. 226. *
lyrnessus Sat. *Fruhst.* Societ. Entom. 23 (1908), p. 75.

maeedonia Er. *Bur.* Ztschr. Wiss. Ins.-Biol. 14, p. 226. *
mackeri Er. *Fuchs* Int. Ent. Ztschr. 8 (1914), p. 82.
macmahoni Coen. *Swh.* Ann. Mag. Nat. Hist. 1908, p. 60.
macromma Coen. *Trti.* & *Vrty.* Bull. Soc. Ent. Ital. 42, p. 237.
macrophthalma Ep. lyc. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 120.
macrophthalma Sat. act. *Hafn.* Carniola N. F. 3, p. 43—75.
macrophthalmiea Coen. cor. *Bub.* Verh. Zool. Bot. Ges. Wien 72, p. 30.
madjieosa Myc. *Bttr.* Catal. Satyrid. Br. Mus., p. 137. *
maesta Coen. *Vrty.* Entom. Record 39, p. 40.
maga Sat. *Fruhst.* Fntom. Ztschr. Stuttg. 22, p. 211.
magna Coen. oed. *Rüht* Pal. Macrolcp. 1, p. 608.
magna Sat. bris. *Rüht* Pal. Macrolep. p. 531, 1895.
magnifica Mel. *Std.* Ztschr. Wiss. Ins.-Biol. 9, p. 341. *
magnoeellata Er. *Trti.* & *Vrty.* Boll. Soc. Ent. Ital. 42, p. 227.
mairloti Er. *Cab.* Rev. Mens. Namur 25 (1925), p. 6.
malmediensis Mel. *Mett.* Lambill. 26 (1928), p. 2.
mandjuriana Mel. *Houlb.* Ét. Lép. Comp. 19 (2), p. 147. *
mangeri Coen. *O. B.-H.* Hor. Macrolepid. 1, p. 50. *
maniolides Ep. *te Cerf* Bull. Soc. Ent. Fr. 1912, p. 231.
mantoides Er. medusa *Gramm.* Int. Ent. Ztschr. 4 (1910), p. 87.
mareia Ep. *Fruhst.* Entom. Ztschr. Stuttg. 22, p. 211.
margena Mel. *Rbb.* Iris 23, Beih., p. 152.
margelaniea Ep. *Trti.* Natural. Sicil. 21, p. 65.

orantia Coen. *Fruhst.* Int. Ent. Ztschr. 2, p. 10.
orchomenus Sat. *Fruhst.* Seitz Macrolep. 9, p. 308.
ordona Par. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 133.
oreas Ep. *te Cerf* Bull. Soc. Ent. Fr. 1912, p. 230.
orientalis Coen. *Rbt.* Berge's Butterfly Book (IX), p. 54.
orientalis Er. evias *Rbt.* Sitz.-Ber. Ak. Wiss. Wien A. 1 (1914), p. 1117.
orientalpium Sat. *Vrty.* Entom. Record 39, p. 173.
orientalpina Par. maera *Vrty.* Entom. Record 39, p. 156.
ornatissima Coen. *Std.* Ztschr. Wiss. Ins.-Biol. 18, p. 14.
ornatus Er. parm. *O. B.-H.* Horae Macrolepid. 1, p. 47. *
orobica Er. *Trti.* Atti Soc. Ital. 53 (1914), p. 1.
orphnia Sat. *Fruhst.* Entomol. Wochenbl. 25, p. 81.
orsiera Sat. *Prun.* Lep. Pedemont., p. 73.
osmanica Er. *Sehaw.* Jahresber. Wien. Ent. Ver. 1919, p. 94.
ottonis Er. *Fruhst.* Soc. Entom. 24 (1909), p. 123.

paeula Er. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 211.
padi Sat. *Vrty.* Entom. Record 39, p. 175.
paeninsulitalica Par. *Vrty.* Entom. Record 35, p. 24.
palarica Er. *Chapm.* Trans. Ent. Soc. Lond. 1905, p. 9. *
paleia Sat. *Fruhst.* Ent. Ztschr. Stuttg. 22, p. 128.
pallens Aphant. *Schultz* Ent. Ztschr. Stuttg. 21, p. 267.
palleseens Ep. telm. *Bttr.* Cat. Satyr. Br. Mus. p. 65.
palleseens Ep. tith. *Cock.* Entomologist 19, p. 230.
palleseens Er. pronoë *Tutt* Entom. Record 20 (1908), p. 206.
palleseens Par. meg. *Oberth.* Ét. Lép. Comp. 6, Taf. 124. *
palleseens Par. *Oberth.* Ét. Lép. Comp. 6, Taf. 124. *
pallida Er. rossii *Gottz* Seitz Macrolep. Suppl. 1, p. 150.
pallida Er. phar. *Osth.* Schmett. Südbayerns 1, p. 110.
pallida Er. pronoë *Osth.* Schmett. Südbayerns 1, p. 116.
pallida Oen. *Shetd.* Entomologist 46 (1913), p. 12.
pallida Oen. norna *Sheld.* Entomologist 45, p. 68.
pallida Par. meg. *Guss.* Glasnik 29 (1917), p. 220.
pallida Sat. neom. *Bub.* Verh. Zool.-Bot. Ges. Wien 72, p. 30.
pallida Sat. huebneri *Tytt.* Journ. Berul. Nat. Hist. Soc., p. 255.
pallidaalgerica Sat. *Vrty.* Entom. Record 35, p. 155.
pallidemarginata Ep. *Oberth.* Ét. Lép. Comp. 3, p. 389.
pallidepulverata Par. *Vrty.* Entom. Record 35, p. 28.
pannonia Sat. *Fruhst.* Entom. Ztschr. 30, p. 99.
paraeleo Er. *Vrty.* Entom. Record 35, p. 124.
paradoxa Er. *Sehaw.* Verh. Zool.-Bot. Ges. Wien 78, p. 21.
paraleuca Sat. *Fruhst.* Societ. Entom. 23, p. 75.
pardilloi Ep. *Sag.* Butletti Catalan. (2) 4, p. 199.
parsis Sat. *te Cerf* Ann. Hist. Nat. Paris 2 (1913), p. 39. *
parvinsubrica Coen. *Vrty.* Ent. Rec. 39, p. 39.
parvisi Er. *Vrty.* Bull. Soc. Ent. Ital. 45, p. 217. *
parvula Ep. jurt. *Std.* Ztschr. Wiss. Ins.-Biol. 11, p. 1.
pasiteles Mel. *Fruhst.* Seitz Macrolep. 9, p. 310.
patra Mel. *Fruhst.* Entomol. Ztschr. Stuttg. 1908, p. 80.
pauper Ep. jurt. *Vrty.* Entom. Record 28, p. 169.
pauper Sat. paris. *te Cerf* Ann. Hist. Nat. Paris 2 (1913), p. 39. *
panperrima Er. *Vorbr.* Mitt. Schweiz. Ent. Ges. 1917, p. 438.
pavonia Ep. *Voelsch.* Societ. Entom. 15 (1900), p. 121.
pearsoni Coen. *Rom.* Entom. Record 39, p. 137.
pedemontana Coen. *Rocci.* Boll. Soc. Ent. Ital. 60, p. 53.
pedemontii Mel. *Vrty.* Entom. Record 39, p. 126.
pelagia Mel. *Oberth.* Ét. Lép. Comp. 3, p. 188.
pellene Er. *Fruhst.* Iris 31 (1917), p. 96.
pellueida Sat. *Std.* Mitt. Münch. Ent. Ges. 14, p. 64.
penalarae Er. *Chapm.* Trans. Ent. Soc. Lond. 1905, p. 34. *
peninsulae Mel. *Sag.* Butll. Catal. (2) 5, p. 45.
peninsulitaliae Sat. *Vrty.* Entom. Record 36, p. 24.
pentastigma Sat. *Strd.* Iris 35 (1921), p. 29.
perineti Sat. *Oberth.* Ét. Lép. Comp. 16, p. 380. *
perlongata Mel. *Std.* Boll. Soc. Adriat. 25, p. 93—120.
permagna Er. lig. *Fruhst.* Societ. Entom. 24 (1909), p. 125.
permagnocellata Ep. *Trti. & Vrty.* Bull. Soc. Ent. Ital. 42, p. 236.
persephone Er. *Esp.* Schmett. Abbild. 1 (2), Taf. 121. *
persica Ep. *te Cerf* Bull. Soc. Ent. Fr. 1912, p. 227.
peszerensis Sat. *Aign.* Illustr. Ztschr. Ent. 4, p. 41. *
pheeusa Er. *Schuttz* Entomol. Ztschr. Stuttg. 22, p. 4.
philedarwiniana Coen. *Vrty.* Entom. Record 39, p. 70.
philiata Er. *Fruhst.* Iris 31 (1917), p. 81.
philomela Er. *Esp.* Schmett. Abbild., Taf. 116. *
phoreta Er. *Fruhst.* Societ. Entom. 33 (1918), p. 42.
phormia Ep. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 121.
pilwonis Coen. *Mats.* Journ. Coll. Agr. Sapporo 15 (3), p. 95. *
pirinica Er. *Bur.* Ztschr. Wiss. Ins.-Biol. 14, p. 224. *
pisistratus Sat. *Fruhst.* Ent. Ztschr. Stuttg. 22, p. 128.
pithonides Er. *Schuttz* Entom. Ztschr. Stuttg. 22 (1908), p. 1.
pleniocellata Er. *Hart.* Entom. Rundschau 41, p. 43.
plurioeellata Mel. *Std.* Ztschr. Wiss. Ins.-Biol. 9, p. 379.
plutonides Er. *Fruhst.* Arch. Naturg. 82 A. 7, p. 148.
podareina Sat. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 88.
polsensis Par. *Std.* Ztschr. Wiss. Ins.-Biol. 12, p. 61.
polydorus Sat. *Std.* Beitr. syst. Ins.-Kd. 2, p. 94.
polyopsis Er. *Shelj.* Ann. Soc. Ent. Fr. 91, p. 284.
pontica Sat. *Rühl-Heyne* Rühl-Heyne Groß-Schmett. p. 821.
porrecta Par. *Vrty.* Entom. Record 31, p. 126.
posidonia Er. *Fruhst.* Soc. Entomol. 26 (1911), p. 24.
postbareinonis Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 203.
posteacea Sat. *Schaw.* Iris 41 (1927), p. 233.
posteentralis Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 204.
postemiaustralis Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 204
posteuxina Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 207.
postferrea Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 202.
postherdonia Par. *Vrty.* Entom. Record 39, p. 155.
postleucoeinia Par. *Vrty.* Entom. Record 39, p. 155.
postlondinii Coen. *Vrty.* Ztschr. Wiss. Ins.-Biol. 21, p. 205.
postnigra Er. med. *Vorbr.* Mitt. Schweiz. Ent. Ges. 13, p. 177.
praeaustralis Par. *Vrty.* Entom. Record 34, p. 214.
praegrandis Par. *Fruhst.* Int. Ent. Ztschr. 2 (1908), p. 9.
praehispulla Ep. *Vrty.* Entom. Record 33, p. 210.
praerustilia Er. *Fruhst.* Soc. Entomol. 24 (1909), p. 123.
preisseekeri Er. *Hoffm.* Mitt. Ver. Steierm. 50, p. 256.
prieta Mel. *Rbb* Iris 23, Beih., p. 151.
prieurioides Sat. *Btach.* Bull. Soc. Lép. Genève 1, p. 378. *
privata Er. *Trti. & Vrty.* Bull. Soc. Ent. Ital. 42, p. 214.
psathura Er. *Fruhst.* Arch. Naturg. 84 A. 7, p. 96.
pseudoadrasta Par. *Std.* Ztschr. Wiss. Ins.-Biol. 17, p. 173. *
pseudodisa Er. *Bryk* Entom. Tidskr. 44, p. 110.
pseudohyperantus Aphant. *Strd.* Arch. Naturg. 85 A. 4, p. 16.
pseudojapygia Mel. *Sag.* Butlett. Catalan. 1916, Maig., p. 2. *
pseudolueasi Mel. *Weiss* Junta Cienc. Nat. Barcel. 1920, p. 44.
pseudomaera Par. *Zus.* Ztschr. Oesterr. Ent. Ver. p. 61.
pseudomedusa Er. *Strd.* Ark. Naturv. Christiania 25, p. 3.
pseudosiehaca Sat. *Std.* Iris 35 (1921), p. 29.
punetata Coen. *Hoffm.* Mitt. Ver. Steierm. 50, p. 279.
punctata Er. phar. *Höfn.* Jahrb. Naturh. Mus. Kärnt. 27, p. 205.
punetata Mel. gal. *Grund* Societ. Entom. 23, p. 82.
punetata Par. *Guss.* Glasnik 29 (1917), p. 219.
punetata Sat. *Aign.* Ent. Ztschr. 20, (1906) p. 12.
punetata Sat. circe *Aign.* Entom. Ztschr. 20 (1906), p. 12.
punetellata Mel. *Cab.* Rev. Mens. Namur 25, p. 65.
punetifera Er. *Schaw.* Ztschr. Oesterr. Ent. Ver. 13 (1928), p. 102.
püngeleri Sat. *O. B.-H.* Iris 24 (1910), p. 29.
pupillata Er. mne. *Vorbr.* Mitt. Münch. Ent. Ges. 17, p. 2.
pupillata Sat. huebneri *Tytt.* Journ. Bomb. Nat. Hist. Soc. 31, p. 254.
pura Mel. *Niep.* Int. Ent. Ztschr. 8, p. 144.
purpurea Er. *Sib.* Lambillionea 27, p. 74.
pygmaea Mel. *Fruhst.* Societ. Entom. 31, p. 33.
pyrenaea Er. oeme *Oberth.* Ét. Lép. Comp. 3, p. 275.
pyrenaea Er. *Rüht* Rühl-Heyne pal. Groß-Schmett., p. 812.
pyrenaeicola Er. *Goltz* Seitz Macrolep. Suppl. 1, p. 147. *
pyrenaeorum Sat. *Vrty.* Bull. Soc. Ent. Fr. 1927, p. 175.
pyrenaica Mel. *Sag.* Bull. Inst. Catal. Hist. Nat. 16.

quadrannulifer Er. *Bryk* Entom. Tidskr. 44, p. 116.
quadrimaculata Oen. *Bryk* Entom. Tidskr. 44, p. 112.
quadripunetata Ep. tith. *Vorbr.* Mitt. Schweiz. Ent. Ges. 12, p. 442.
quadripunetata Er. *Hoffm.* Mitt. Ver. Steierm. 50, p. 267.
quasilugens Mel. *Oberth.* Ét. Lép. Comp. 3, p. 147.

radnaënsis Er. *Rbl.* Rovart. Lapok 22 (1915), p. 181.
ramondi Er. *Oberth.* Ét. Lèp. Comp. 3, p. 317.
randae Er. *Vorbr.* Butterflies of Switzerland 1, p. 72.
rantheri Sat. *Krausc* Arch. Naturg. 78 A. 9, p. 159.
reducta Er. turan *Gottz* Seitz Macrolep. Suppl. 1, p. 137. *
reducta Er. melanop. *Gram.* Int. Ent. Ztschr. 7, p. 163.
reducta Er. aeth. *Hart.* Entomol. Rundsch. 41, p. 42.
reducta Er. arete *Hoffm.* Mitt. Ver. Steierm. 50, p. 256.
reducta Er. lig. *Osth.* Schmett. Südbayerns 1, p. 120.
reducta Er. eriph. *Vorbr.* Butterflies of Switzerland 1, p. 71.
reducta Mel. ines *Oberth.* Ét. Lép. Comp. 10, p. 350. *
reducta Par. meg. *Hof.* Societ. Entom. 35 (1920), p. 45. *
reisseri Er. *Sehaw.* Mitt. Münch. Ent. Ges. 14, p. 25.
restricta Er. *Stieh.* Berlin. Ent. Ztschr. 53 (1908), p. 87.
rieketti Caller. *Watk.* Ann. Mag. Nat. Hist. (9) 20, p. 102.
riekmersi Sat. *Ros.* Mitt. Münch. Ent. Ges. 11, p. 95.
robertis Er. *Peschke* Int. Ent. Ztschr. 14, p. 118.

roudoui Er. *Oberth.* Bull. Soc. Ent. Fr. 1908, p. 268.
rubria Er. *Fruhst.* Societ. Entom. 24 (1909), p. 126.
rubroligata Er. *Goltz* Seitz Macrolep. Suppl. 1, p. 138.
rudolphii Oen. *Bryk* Entom. Tidskr. 44, p. 112. *
rufa Coen. *Gauckl.* Societ. Entom. 24 (1909), p. 114.
rufilius Aphant. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 121.
rühli Er. *Fruhst.* Societ. Entom. 24 (1909), p. 123.

sachalinensis Er. *Mats.*, p. 525. *
sachalinensis Lethe *Mats.* Journ. Coll. Agr. Sapporo 15, p. 93. *
sachalinensis Oen. *Mats.* Thous. Ins. Matsum. 1, p. 128.
sachalinensis Par. *Mats.* Journ. Coll. Agr. Sapporo 4, p. 45.
saengeri Sat. *Krausse* Arch. Naturg. 78 A. 9, p. 159.
saga Oen. *O. B.-H.* Iris 26 (1912), p. 104.
saga Sat. bris. *Fruhst.* Ent. Ztschr. Stuttg. 22, p. 211.
saga-violacea Sat. *Std.* Iris 28 (1914), p. 14.
sajana Er. maur. *Goltz* Seitz Macrolep. Suppl. 1, p. 136.
sajanus Aphant. *A. B.-H.* Iris 19 (1906), p. 128.
sakaria Mel. *Fruhst.* Entom. Ztschr. Frankf. 23, p. 240.
salaria Er. *Fruhst.* Iris 31 (1917), p. 55.
saleviana Coen. *Fruhst.* Entom. Ztschr. 24 (1910), p. 3.
salona Ep. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 120.
sambalma Lethe *Fruhst.* Seitz Macrolep. 9, p. 317. *
sapaudia Er. *Fruhst.* Iris 31 (1917), p. 54.
saphrana Er. *Fruhst.* Arch. f. Naturg. 84 A. 7, p. 90.
sardoa Par. *Vrty.* Boll. Soc. Ent. Ital. 40, p. 114.
satarnus Lethe *Fruhst.* Seitz Macrolep. 9, p. 324.
satnia Mel. *Fruhst.* Societ. Entom. 32, p. 5.
satoryi Er. *Zel.* Entomol. Rundsch. 32, p. 59.
saturata Coen. cor. *Bub.* Verh. Zool.-Bot. Ges. Wien 72, p. 30.
saturatior Par. *Crombr.* Rev. Mens. Namur 11 (1911), p. 45.
schawerdae Sat. *Fruhst.* Ent. Ztschr. Stuttg. 22, p. 121.
schawerdae Er. *Fruhst.* Arch. Naturg. 82 A. 7, p. 133. *
schawerdae Mel. Neust. Verh. Zool.-Bot. Ges. Wien 58, p. 264.
schlosseri Ep. *Voctsch.* Societ. Entom. 15 (1900), p. 121.
schimae Coen. *Rbl.* Berge's Butterfly Book, p. 54.
schmidti Ep. wagn. *O. B.-H.* Hor. Macrolepid. 1, p. 114.
schmidti Par. *Diosz.* Rovart. Lapok 19, p. 128.
schultzi Par. *Schmidt* Entom. Ztschr. 16 (1903), p. 89.
scirites Mel. *Fruhst.* Societ. Entom. 31, p. 33.
scolis Mel. *Fruhst.* Societ. Entom. 32, p. 5.
scota Coen. pamph. *Vrty.* Bull. Soc. Ent. Ital. 42, p. 271.
scota Sat. *Vrty.* Bull. Soc. Ent. Fr. 1911, p. 313. *
segregata Er. *Rev.* Bull. Soc. Lép. Gen. 4, p. 32. *
segusiana Sat. *Fruhst.* Int. Ent. Ztschr. 3, p. 21.
selene Sat. *Fourcr.* Entomol. Parisiens. 2.
seliza Er. *Fruhst.* Iris 31 (1917), p. 89.
semialba Ep. jurt. *Btack.* Entomologist 53, p. 278.
semicaeca Er. stygne *Bubac.* Verh. Zool.-Bot. Ges. Wien 74, p. 9.
semicaeca Er. gorge *Gottz* Seitz Macrolep. Suppl. 1, p. 144.
semicaeca Er. lapp. *Hoffm.* Ztschr. Oesterr. Ent. Ver. 4, p. 37.
semicaeca Mel. arge *Std.* Ztschr. Wiss. Ins.-Biol. 9, p. 379.
semigrisea Er. *Cab.* Lambillionea 27, p. 73.
semilyllus Coen. *Krut.* Societ. Entom. 23 (1908), p. 3.
semiobscura Ep. *Hosp.* Societ. Entom. 31 (1916), p. 54.
semiplesaura Mel. *Houtb.* Ét. Lép. Comp. 21 (1), p. 43. *
semo Er. *Gr.-Grsh.* Ann. Mus. Petersb. 4 (1899), p. 460.
senthes Sat. *Fruhst.* Int. Ent. Ztschr. 2 (1908), p. 10.
serena Mel. *Vrty.* Bull. Soc. Ent. Ital. 44, p. 205.
seriphus Myc. *Fruhst.* Seitz Macrolep. 9, p. 348.
serrula Sat. *Fruhst.* Entom. Ztschr. 22, p. 121.
servá Sat. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 88.
sexpunctata Oen. *Bryk* Entom. Tidskr. 44, p. 112. *
shiva Sat. *te Cerf* Ann. Hist. Nat. Paris 2 (1913), p. 39. *
shonis Oen. *Mats.* Ins. Matsum, p. 163. *
sibyllina Er. *Vrty.* Bull. Soc. Ent. Ital. 45, p. 236.
siciliana Sat. sem. *Oberth.* Ét. Lép. Comp. 10, p. 130.
sicula Coen. *Z.* Isis 1847, p. 146.
sideris Er. *Fruhst.* Arch. Naturg. 82 A. 7, p. 128.
siedleckii Sat. *Prüff.* Ann. Zool. Mus. Pol. 1, p. 137. *
sigeion Er. *Fruhst.* Arch. Naturg. 82 A. 7, p. 133.
sigurdrifa Sat. *Fruhst.* Entomol. Wochenbl. 25, p. 81.
silymbria Par. *Fruhst.* Int. Ent. Ztschr. 3, p. 134.
simplex Er. eur. *Strd.* Arch. Naturg. 81 A. 1, p. 95.
siskia Er. *Fruhst.* Societ. Entom. 24 (1909). p. 125.
sogdiana Sat. *Fruhst.* Entomol. Ztschr. Stuttg. 24, p. 87.
solowiyofkae Neope *Mats.* Journ. Coll. Agr. Sapporo 4, p 45
staudingeri Oen. *Aust.* Entom. Ztschr. 23, p. 25.
stelviana Er. glac. *Schaw.* Verh. Zool.-Bot. Ges. Wien 61 (1911), p. 38.
stoetzneriana Caller. *Draes.* Iris 39, p. 54.
strumata Sat. *Buresch* Ztschr. Wiss. Ins.-Biol. 14, p. 228. *
stultina Sat. *te Cerf* Ann. Hist. Nat. Paris 2 (1913), p. 37. *
styriaca Er. stygne *Hirschke* Jahrb. Wien Ent. Ver. 20 (1910), p. 140.
styx Er. *Frr.* N. Beitr. p. 121, 1831 *
styx Er. mani *O. B.-H.* Hor. Macrolepid. 1, p. 46. *
subalbida Ep. lyc. *Schultz* Entom. Ztschr. Stuttg. 21, p. 279.
subalpina Er. pronoë *Gumpp.* Stett. Ent. Ztg. (1888), p. 381.
subcaeca Er. lig. *Schultz* Ent. Ztschr. Stuttg. 22, p. 4.
subcassioides Er. *Vrty.* Entom. Record 35, p. 124.
subcinericca Sat. *Rbb.* Iris 23, Beiheft, p. 159.
subcretus Sat. *Vrty.* Bull. Soc. Ent. Fr. 1927, p. 175.
subcuryale Er. *Strd.* Arch. Naturg. 1 A. 1, p. 94.
subcuryaloides Er. lig. *Krul.* Rev. Russe Ent. 9 (1909), p. 299.
subhispulla Ep. *Strd.* Entom. Ztschr. Frankf. 25, p. 254.
sublutescens Mel. ines *Trti.* Atti. Soc. Ital. Sci. Nat. 60, p. 46.
subocellaris Er. lig. *Krut.* Rev. Russe Ent. 9 (1909), p. 299.
subtusvariegata Sat. act. *Std.* Societ. Entom. 39, p. 8.
subtusviolacea Sat. act. *Std.* Iris 35 (1921), p. 29.
sudetica Er. *Petry* Iris 33 (1919), p. 128.
suffusa Ep. *Tutt* Brit. Butterfl., p. 404.
suffusa Lethe *Es. & Nak.* Ins. Ins. Menstr. 12, p. 56.
sulfurea Mel. ines *Rbb.* Societ. Entom. 20, (1905) p. 138.
summa Er. *Avin.* Hor. Entom. Ross. 39, p. 236. *
superlata Par. *Vrty.* Entom. Record 39, p. 156.
supernumeraria Aphant. *Std.* Entom. Anzeig. 2 (1922), p. 55.
suprophtalmica Coen. *Schaw.* Verh. Zool.-Bot. Ges. Wien 62, p. 140.
symaithis Mel. *Fruhst.* Ent. Ztschr. Frankf. 23, p. 239.
syntelia Mel. *Fruhst.* Societ. Entom. 31, p. 34.
syrmia Er. *Fruhst.* Int. Ent. Ztschr. 3 (1910), p. 134.

takanonis Er. *Mats.* Ent. Ztschr. Stuttg. 23, p. 91.
talastanana Sat. *O. B.-H.* Hor. Macrolepid. 1, p. 49. *
tanita Er. *Fruhst.* Iris 31 (1917) 85.
tamnola Oen. *O. B.-H.* Horae Macrolepid. 1, p. 48. *
tarcenta Er. *Fruhst.* Arch. Naturg. 84 A. 7, p. 97.
tatrica Er. *Strd.* Arch. Naturg. 81 A. 1, p. 94. *
taurina Ep. *Oberth.* Et. Lép. Comp. 10, p. 359. *
taurinorum Er. *Vrty.* Bull. Soc. Ent. Fr. 1911, p. 312. *
telenda Sat. *Fruhst.* Entom. Ztschr. 30, p. 99.
tellula Sat. *Fruhst.* Seitz Macrolep. 9, p. 309.
telmessiaeformis Ep. *Vrty.* Entom. Record 31, p. 123.
tenebrosa Mel. *Fruhst.* Societ. Entom. 32 (1917), p. 6.
tenebrosa Sat. sem. *Std.* Ztschr. Wiss. Ins.-Biol. 17, p. 166. *
tenuelimbo Coen. *Vrty.* Bull. Soc. Ent. Fr. 45, p. 222.
teres Sat. *Fruhst.* Int. Ent. Ztschr. 2 (1908), p. 10.
tergestina Coen. *Vrty.* Ent. Record 39, p. 40.
teriola Er. *Schaw.* Verh. Zool.-Bot. Ges. Wien 73 (1924), p. 3.
testacea Ep. jurt. *Schilte* Polsk. Pism. Ent. 3 (1924), p. 17.
tetrastigma Er. *Strd.* Arch. Naturg. 81 A. 1, p. 95.
tetrica Er. stygne *Vrty.* Entomol. Rec. 35, p. 136.
tetrops Par. *Rbt.* Rovart. Lapok 22, p. 182.
thanatos Coen. *Std.* Int. Ent. Ztschr. 17 (1924), p. 152.
theodora Coen. *Zus.* Ztschr. Oesterr. Ent. Ver. 10, p. 61.
thimoites Coen. *Fruhst.* Societ. Entom. 25 (1910), p. 55.
thuringiaca Er. *Goltz* Seitz Macrolep. Suppl. 1, p. 140.
thymias Er. *Fruhst.* Societ. Entom. 26, p. 23.
thyria Par. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 134.
ticina Er. *Vorbr.* Mitt. Schweiz. Ent. Ges. 12, p. 439.
tigeliclara Par. *Vrty.* Entom. Record 35, p. 28.
tigeliiformis Par. *Vrty.* Bull. Soc. Ent. Ital. 42, p. 269.
tigelyssa Par. *Vrty.* Entom. Record 33, Suppl., p. 27.
tigranis Er. *Fruhst.* Ent. Ztschr. Stuttg. 24 (1910), p. 37.
tincta Ep. jurt. *Btack.* Entomologist 53, p. 278.
tithonellus Ep. *Strd.* Entom. Ztschr. 25 (1912), p. 254.
tithoniformis Ep. *Vrty.* Entom. Record 28, p. 169.
tithonioides Ep. *Trti.* Societ. Entom. 26 (1911), p. 67.
tkatshukovi Par. *Schelj.* Entomol. Anzeig. 5, p. 89.
torrida Coen. *Vrty.* Bull. Soc. Ent. Ital. 42, p. 271.
totacaeca Sat. dryas *Gd.* Seitz Macrolep. Suppl. 1, p. 168.
totebrunnea Sat. *Vrty.* Bull. Soc. Ent. Ital. 48, p. 189.
toteflavovittata Sat. *Vrty.* Bull. Soc. Ent. Ital. 48, p. 188.
tramelana Er. *Rev.* Bull. Soc. Lép. Gen. 4, p. 32.
transcaspica Er. afer *Goltz* Seitz Macrolep. Suppl. 1, p. 152.
transcaucasica Ep. *Jach.* Rev. Russe Ent. 9, p. 48.
transfuscata Par. *Cab.* Rev. Mens. Namur 1920, p. 9.
transsylvanica Er. *Rbt.* Verh. Zool.-Bot. Ges. Wien. 58, p 77.
tresojos Er. *Rbb.* Iris 23, Beih., p. 154 *.
triglavensis Er. glac. *Schaw.* Verh. Zool.-Bot. Ges. Wien 61 (1911), p. 38.
triglites Er. *Fruhst.* Arch. Naturg. 82 A. 7, p. 145. *
trimonleti Mel. *Dub.* l'Amat. Pap. 1, p. 260. *
trimouleti Mel. lach. *Pionn.* l'Échange 1926, Nr. 423, p. 3.
trinacria Ep. *Std.* Lep. Rundsch. 2, p. 109.
triocellata Coen. dor. *Oberth.* Ét. Lép. Comp. 4, p. 34. *

trioecellata Ep. lyc. *Trti.* Natural. Sicil. 21, p. 68.
trioecellata Er. lig. *Strd.* Arch. Naturg. 81 A. 1, p. 96.
trioecellata Par. meg. *Sätzl* Mitt. Münch. Ent. Ges. 14, p. 143.
trioecellata Sat. alc. *Strct.* Entom. Ztschr. 17 (1903), p. 6.
trioecellata Sat. stat. *Vrty.* Boll. Soc. Ent. Ital. 48, p. 190.
trioecellata Sat. *Vorbr.* Mitt. Schweiz. Ent. Ges. 12, p. 44.
triopes Par. meg. *Musch.* Ent. Record 22, p. 146.
triops Par. *Fuchs.* Jahrb. Nassau. Ver. Nat. 42, p. 195.
tripuncta Ep. ida *Std.*
tripuncta Er. eriph. *Hoffm.* Mitt. Ver. Steierm. 1914, p. 255.
tripunctata Er. arctc *Hoffm.* Mitt. Ver. Steierm. 50, p. 256.
tripunctata Sat. dryas Neubgr. Societ. Entom. 21 (1906), p. 33.
tripupillata Oen. *Shetd.* Entomologist 46 (1913), p. 12.
tristis Sat. semele *Wahtgr.* Entom. Tidskr. 34, p. 164.
triumphans Coen. *Fruhst.* Societ. Entom. 25 (1910), p. 55.
tscherskii Triph. *Gr.-Grsh.* Ann. Mus. Petersb. 4 (1899), p. 461.
tsingtana Ocn. *Aust.* Entom. Ztschr. Stuttg. 24 (1911), p. 244.
tullgreni Er. *Bryk* Entom. Tidskr. 44, p. 110. *
tundra Oen. *O. B.-H.* Iris 26 (1912), p. 104.
tunkana Er. *Gottz* Seitz Macrolep. Suppl. 1, p. 136.
turatii Er. alecto *Fruhst.* Arch. Naturg. 82 A. 7, p. 137. *
turatii Mel. *Rost.* Boll. Soc. Zool. Ital. 1909, p. 253.
turatii Sat. bris. *Fruhst.* Int. Ent. Ztschr. 3 (1909), p. 130.
turbo Er. *Fruhst.* Arch. Naturg. 82 A. 7, p. 158.
tusca Er. *Vrty.* Bull. Soc. Ent. Ital. 45, p. 148.
typhla Mel. *Schaw.* Iris 35 (1921), p. 115.
tyrsus Er. *Fruhst.* Societ. Entom. 26, p. 22.
tyrrhena Coen. *Std.* Ztschr. Wiss. Ins.-Biol. 11, p. 1. *

ulbrichi Mel. *Aign.* Ravart. Lapok. 14, p. 143.
unicolor Coen. tiph. *Hoffm.* Mitt. Ver. Steierm. 50, p. 281.
unicolor Coen. *Wheel.* Butterfl. Switzerl., p. 119.
unicolor Oen. *Rbt.* Bergc's Butterfly Book (IX), p. 45.
unicolor Sat. anth. *Rbt.* Rovart. Lapok. 21, p. 48.
unioecellata Sat. bris. *Strd.* Int. Ent. Ztschr. 3 (1909), p. 78.
unipunctata Ep. lyc. *Cut.* Bull. Soc. Lép. Genève 1, p. 265. *
unipupillata Ocn. *Shetd.* Entomologist 45 (1912), p. 68.
uralensis Er. acth. *Goltz* Seitz Macrolep. Suppl. 1, p. 146.

valesiaca Er. stygne *Etw.* Trans. Ent. Soc. Lond., p. 177.
vanelia Lethe *Fruhst.* Entomol. Ztschr. Frankf. 23, p. 118.
variegata Sat. *Vrty.* Bull. Soc. Ent. Fr. 1911, p. 313. *
velebitaea Er. melas *Stein.* Entom. Jahrb. 27 (1918), p. 92.
veleta Sat. *Fruhst.* Entom. Ztschr. Stuttg. 22, p. 93.
vellada Ocn. *Aust.* Int. Ent. Ztschr. 5, p. 360. *
velleia Sat. *Fruhst.* Ent. Ztschr. Stuttg. 22, p. 128.
velocissima Er. *Fruhst.* Arch. Naturg. 82 A. 7, p. 163.
valderiensis Er. *Vrty.* Entom. Record 31 (1919), p. 124.
venaissina Er. *Fruhst.* Entom. Ztschr. Frankf. 30 (1917), p. 100.
venefica Sat. *Fruhst.* Entom. Ztschr. 22, p. 211.
venturiensis Er. *Chob.* Feuille jeun. Natur. 43, p. 104.
venusta Sat. *Fruhst.* Entom. Ztschr. 22, p. 212.
verres Sat. *Fruhst.* Scitz Macrolep. 9, p. 309.
vettius Sat. *Fruhst.* Ent. Ztschr. Stuttg. 22, p. 128.
vetulonia Er. *Fruhst.* Iris 31 (1917), p. 93.
victorialis Er. *Fruhst.* Entomol. Rundsch. 38 (1921), p. 53.
vidua Mel. *Std.* Boll. Soc. Adriat. 25, p. 93—120.
violacea Ep. *Wheel.* Butterfl. Switzerl., p. 113.
violacea Er. aeth. *Wheel.* Butt. Switzerl., p. 137.
vipsania Sat. *Fruhst.* Entomol. Wochenbl. 25, p. 81.
virago Er. *Cab.* Rev. Mens. Namur 1910, p. 69.
virgata Er. *Tutt* Entom. Record 20 (1908), p. 206.
virginalis Ep. *Oberth.* Ét. Lép. Comp. 3, p. 289.
viriathus Er. *Shetd.* Entomologist. 47, p. 331. *
virilis Sat. *Hann.* Int. Ent. Ztschr. 9 (1915), p. 113.
vividior Par. meg. *Vrty.* Entomol. Record 35, p. 23.
vividissima Par. meg. *Vrty.* Entom. Record 35, p. 24.
vivilo Sat. *Fruhst.* Entomol. Wochenbl. 25, p. 82.
virtuensis Coen. *Lamb.* Rev. Mens. Namur 1909, p. 10.
vogesiaca Er. *Gottz* Iris 28 (1914), p. 107.
voigti Sat. *O. B.-H.* Hor. Macrolepid. 1, p. 49. *
vorbrodti Er. *Fruhst.* Arch. Naturg. 82 A. 7, p. 144.
vulgaris Par. (Z.) *Vrty.* Bull. Soc. Ent. Ital. 42, p. 262.

wagneri Coen. *Schaw.* Jahresb. Wien. Ent. Ver. 27, p. 38.
warreni Er. *Vrty.* Entom. Record 35 (1923), p. 136.
wautieri Ep. *Lamb.* Rev. Mens. Namur 1905, p. 19.
wheeleri Ep. *Musch.* Entom. Record 17, p. 59.

yalongensis Mel. *Houtb.* Ét. Lép. Comp. 19 (2), p. 155. *
yaga Lethe *Fruhst.* Seitz Macrolep. 9, p. 317. *

zagora Er. *Fruhst.* Iris 31 (1917), p. 94.
zhiharevi Sat. *Krul.* Trav. Mus. Zool. Ac. Ukraine 1, p 68.
ziegleri Er. *Gram.* Int. Ent. Ztschr. 7, p. 163.
zobeli Mel. *Heinr.* Deutsch. Ent. Ztschr. 1916, p. 505. *
zulines Er. *Fruhst.* Arch. Naturg. 84 A. 7, p. 99.
zyxuta Er. afer *Fruhst.* Entom Ztschr. Frankf. 31, p. 82.
zyxuta Er. *Fruhst.* Arch. Naturg. 84, A. 7, p. 98.

5. Family: **Nymphalidae.**

The *Nymphalidae* are about the most handsome and in part the commonest of all day butterflies in our latitude. With the exception of a few new discoveries in palaearctic Asia, there have been practically no additions of justified new denominations. However very numerous names have been applied in the last 2 decades to specimens bred under artifical conditions and to individual varieties. Even if a definite locality is stated, it has not its customary value, as the variation may be due to chance and there is nothing to prevent a recurrence of a similar aberration occasionally in an entirely different district.

A. Subfamily: **Nymphalinae.**

a. Group: **Apaturidi.**

1. Genus: **Apatura** *F.*

A. iris *L.* (Vol. 1, p. 161). Verity desires to introduce for Linné's old name of *iris* a new name **pseudoiris** *Vrty.* The reasons given are by no means satisfactory or convincing. Aberrations have been named in great number especially by Cabeau and as a matter of fact all his new forms have almost only been captured in Virton and the Forêt de Buré in Belgium. Only when other localities come into question are they mentioned, otherwise it is always one of the aforementioned. It is not difficult to form an opinion as to the value and purpose of these denominations. ♂ ab. **romaniszyni** *Schille* has all markings like the type but the sheen is a beautiful violet blue simultaneously all over the butterfly in all positions. The extension of the blue colouration also spreads on to the hindwings. The dull, black-brown ground colour is only then visible if one places the butterfly at a particularly oblique angle and even then the blue always predominates. — ♂ ab. **viridans** *Cabeau* has a very wide margin on upperside of wings, shining greenish. — The ♂ ab. **thaumantias** *Cab.* only differs from typical *iris* by the ground colour of the wings, this is shining yellow-orange-red marbled with brown. — Also ♂ **iriella** *Cab.* only differs therein, that it is about ⅓ rd smaller than normal and the white traverse band on hindwings is considerably reduced. — ♂ ab. **deschangei** *Cab.* has 9 more or less well marked white spots on forewings that are smaller than in typical specimens and not confluent. The white traverse bands of hindwings are complete, but straighter than in the type form. The very pale brown submarginal band usually shows no trace of grey internerval spots. Between the two bands of the hindwings a few faint yellowish scales are strewn in the 3 upper cellules. — ♂ ab. **stictica** *Cab.* differs from typical *iris* ♂♂ by paler black-brown ground colour to wings; the 8 to 9 white spots of forewings are only small and are isolated, as if thrown on. The white traverse band of hindwings is striking being intersected by the black veins and forming 5 spots. The markings of underside appear somewhat reduced. — ♂ ab. **bureana** *Cab.* has black-brown ground colour with only 5 or 6 very small whitish grey spots on forewings, of which those at margin of wings are somewhat larger and purer white. The hindwing band as in *stictica* but more reduced. — Smokey brown ground colour characterises ♂ ab. **tetrica** *Cab.* as well as the reduced number of small grey spots, of which 2 are in the apical and one in the costal areas of wing. The band of hindwings shows the uppermost spot almost merged in the ground colour, the next two lower ones are grey, whilst only the 3 lowest ones have remained white. Anal eyespot is well developed. Underside is paler than in name type; the light markings are more or less reduced. — ♂ ab. **vidua** *Cab.* shows a much darker, black-brown ground colour than previous aberration; the mainly greyish spots of forewings number 3 to 6. Only the 3 lowest spots of the white band of the hindwings are whitish and at the same time very reduced in size, the upper ones are merged in the ground colour. Anal eyespot is

iris. *pseudoiris.* *romaniszyni.* *viridans.* *thaumantias.* *irielta.* *deschangei.* *stictica.* *bureana.* *tetrica.* *vidua.*

fairly large with whitish or bluish pupil. Underside is paler than typical *iris*; light markings reduced, sub-
afflicta. marginal band black or nearly black, not brownish grey as usual. — ♂ ab. **afflicta** *Cab.* is black-brown and has 3 small white apical eyespots in triangle formation on forewings. Light marginal band of hindwings is extinct or scarcely indicated. Only 2 or 3 small grey or whitish spots are left of the white traverse band, the rest is almost merged with the ground colour. Anal eyespot is large with yellow surround, of the same colour as the 2 apical spots. The white traverse band of the underside of hindwings is adumbrated grey-white and more
diaphana. or less well developed. — ♂ ab. **diaphana** *Cab.* is marked like the former. The left hindwing has in place of the usual white band only 4 small grey-white spots, whilst on the right wing it is quite extinct, being represented only by a few bluish scales. Underside is paler than in name type. The right wing has the white band complete
dimeres. and nicely white, whilst the left has it brownish discoloured. — ♂ **dimeres** *Cab.* looks very like *afflicta* and varies only by having the upperside of the outer half of hindwing almost unicoloured brownish yellow. — ♂ ab.
junonia. **junonia** is of more or less black brown wing colouration and does not vary in the number or formation of the white spots from the name type form. The lower marginal spot is surrounded with tawny on upper and undersides. Hindwings have a normal white traverse band and a very enlarged anal eyespot with lively tawny surround, anal spots are similarly coloured and also enlarged. On forewings the costa is brilliant yellow-red to the 1st marginal spot and the same colour is also shown by half the submarginal band. Underside of all wings
lugenda. only varies by the paler and more brilliant yellow-red patches. — ♂ ab. **lugenda** resembles the former in regard to ground colour and similarly has only 3 small spots in triangle formation. Hindwings without white traverse band like *jole* and one can only perceive traces of bluish scales in its place; also the light antemarginal band is extinct. Anal eyespot large with yellow surround and blue-white pupil. Underside with lighter tawny than name type; on forewings there are 3 white spots on upperside. White traverse band missing on hindwings or
transtaeniata. scarcely indicated by rusty brown. — ♂ ab. **transtaeniata** *Cab.* shows the white spots of hindwings slightly smaller than in typical specimens. Middle band on upperside of hindwings white or whitish, very reduced and isolated. The very wide red-brown submarginal band is intersected in ray-like formation by the veins. —
monophana. ♂ ab. **monophana** *Cab.* looks just like the former but here the white band is reduced except for the lowest spot,
perumbrata. while the rest is tawny and merged with the ground colour. — ♂ ab. **perumbrata** *Cab.* has 3 or 4 whitish or grey spots on forewings, of which the 2 subapical ones are always present, whilst the submarginal vary, there being sometimes one, at others two. The white median band of hindwings is formed of the 5 lower spots, which, even if they are reduced or tinged with brownish, are distinctly visible, whilst the upper costal spot is
corax. almost extinct. — The ♂ ab. **corax** *Cab.*, ♂ ab. **cerberea** *Cab.* and ♂ ab. **iolata** *Cab.* differ so little, that a
cerberea. separate denomination is not justified and they would best be placed with *jole Schiff* (Vol. 1, p. 161). The same
iolata. applies to ab. **hindenburgi** *Mecke*, which is nothing else than *jole Schiff.* — ♂ ab. **obscura** *Sälzl.* is a form that
hindenburgi. is adumbrated on underside having all the cinnamon-brown patches of normal specimens quite dusky and
obscura. black-brown. The butterfly is consequently very striking. — **perlinaghia** *Turati* from San Ulrico in the Val
perlinaghia. Gardena is remarkable by its colossal size. It differs considerably from specimens from Mid-Germany by its intensive black-brown tone. It is even darker than typical *jole Schiff.*, but always still shows the white spots,
pallida-pupillata. that are extinct in the latter. — **pallida-pupillata** *Osthelder* from Herrsching in upper Bavaria is a ♀ variety with the eyespot on upperside of forewing standing out clearly in the shape of an unclear, black-brown spot with
chrysina. white pupil. — **chrysina** from Siao-lu and neighbourhood in Szechuan is a ♀ form denominated by Oberthür; it is very common in its locality and is characterised by a brilliant, golden yellow red traverse band in place of
xanthina. the usual white. — **xanthina** *Oberth.* is a similar ♀ form from Ta-tsien-lu and Siao-lu in Szechuan with a Nanking yellow band.

ilia. **A. ilia** *Schiff.* (Vol. 1, p. 161). Also in this species Cabeau has described more new forms from Virton
danae. and the Forêt de Buré than all other authors together; ab. **danae** *Cab.* shows whitish subapical and upper submarginal spot on upperside of forewings, the other 3 subcostal spots very small and greyish; all other spots suffused with brown and almost merged in the ground colour of forewings. The light submarginal spots on upperside of hindwings are extinct; the 3 upper spots of the middle band are small and whitish, the 3 lower ones
lambillioni. are only indicated by traces of a few grey scales. — In ab. **lambillioni** *Cab.* the forewings have a wide yellowish brown marginal band, which is almost formed into triangles by the intersecting veins. The macula extends from the inner angle to the middle of the inner margin and from there towards the apex to the outer margin. The black submarginal spot is extinct. Hindwings almost unicolorous black-brown on upperside and of the markings
melanthes. only the anal eyespot with its yellow surround is distinct. — ab. **melanthes** *Cab.* has the typical white subapical marks on upperside of forewing whilst the yellow brown marks are reduced and diffused; the black submarginal spot is extinct. Hindwings show unicolourous black-brown ground colour and anal ocellus with yellow surround.
geminifasciata. — ab. **geminifasciata** *Cab.* has an almost black-brown upperside to hindwings, it is traversed by 2 parallel bands, the 1st the median and the 2nd the postmedian. Three fairly uniformly wide bands are thus created,

with the anal ocellus in the postmedian band. The very wide submarginal band on upperside of forewings red-brown; black submarginal spot absent; indicated on underside by a whitish dot. — Oberthür describes from Montpellier in France ab. **laura** (12 e); unicoloured brownish red-yellow on upperside, basal area somewhat darker. On hindwings 3 small white spots in apex and 4 black dots in disc. Bands of hindwings indicated by small dark lunules. — ♂-ab. **lutissima** *Verity* occurs at Dusseldorf and closely resembles the ♀-ab. *laura Oberth.*, which Oberthür has illustrated. The whole upperside of wings is yellow-red and the black markings consist only of ocellus spot of forewings and a row of round spots on hindwings, as well as a very faint, scarcely perceptible indication of a submarginal band. The violet iridescence is very faint. — ♂-ab. **circumpunctata** *Cab.* has very brightly yellow-red, strongly iridescent upperside of wings with blue iridescence, more reddish than *clytie*. Marking of forewings normal; on the other hand hindwings show 5 large round black dots internervally between the 2 pale bands towards the margin. Anal eyespot with faint bluish pupil forming the last of the row of spots. — Of similar appearance is ab. **periommata** *Cab.*, but the large black antemarginal spots on upperside of hindwings have white pupils. — ♂-**irradiata** *Cab.* has the upperside of all wings reddish-yellow, darker than *circumpunctata*. Marking of forewings normal whilst on the other hand the wide brown bands of hindwings contain black spots in the form of radiations stretching into the yellow submarginal band, their ends being rounded off outwardly. Each black mark is decorated in the middle with a more or less pronounced round yellow spot. The sheen is bluish violet. Underside darker yellow-red than in the other forms. — ♂-ab. **trochoides** *Cab.* also has reddish-yellow wings, but this ground colour is often more or less bleached. The forewings show no variation from type, whilst on the other hand the wide brown band of hindwings shows radiating black markings. The radiations are sharply separated by yellow markings running along the veins. Underside of all wings is brown with olive-green tone and yellow spots. On the upperside the marking of hindwings resembles a wheel and the anal eyespot is placed in the last spoke. The sheen is blue, darker than in *clytie*. — Ground of wings is dark black-brown in the ♂-ab. **iolides** *Cab.* Forewings only show white apical spots. On hindwings the white middle band is quite absent both on upper and underside. It is a counterpart to ab. *jole* of *A. iris*. — ♂-ab. **obnubila** *Cab.* has only 7 upper dots on forewings, always very reduced. The 3 lower spots are absent or only perceptible by faint grey-brown traces. All wings paler on underside than in normal specimens, more reddish-yellow with less bluish admixture. — The ab. **hemisilvia** *Cab.* has the wings of the right side similar to typical *clytie*, those of the left however have the colour and markings of the following ab. *silvia Cab.* The specimen shows no signs of hermaphroditism. — ab. **silvia** *Cab.* is a *clytie* with reddish ground colour on upperside of wings and ab. **silviella** *Cab.* is a dwarf form of a paler *clytie*. — ab. **alceste** *Cab.* resembles *silvia Cab.*, but all bands and spots of wings with the exception of the apical, are ochre-yellow or yellowish-brown. — ab. **alcithoë** *Cab.* resembles *clytie*, but the middle area of all wings has bands and spots reddish-yellow on upperside. Submarginal band of forewings is brownish-red and very wide, and the small decorative submarginal spot is almost absent. On hindwings the small submarginal spots are isolated and almost submerged in the ground colour of wings. — ab. **transvelata** *Cab.* is marked exactly as *clytie*, but with pale yellow ground colour. On hindwings there is only a faint indication above the anal eyespot of the small reddish lunules between the pale bands. Underside is also marked pale yellow, like the upperside. — ab. **magadinensis** *Gram.* is smaller than *clytie*. The dark ground colour is so reduced that one can call it red-yellow. On the hindwings the ground colour is suppressed except for a row of round, black spots, from which sometimes dark, often faint rays stretch towards the base internervally. The margin consists of a wide red-brown band, free of other marks, similar to *V. antiopa L.* — A quite extreme pale form of *clytie*, which reminds one of *A. sobrina Stich.* (Vol. 1, p. 163), is ♀-ab. **blankensteini** *Niepelt* from Uskub in Serbia. The ground colour of upperside is bright ochre; the basal area of wings to the middle band shaded dull grey; the yellow middle band merges in the ground colour, submarginal band indicated grey on all wings as also the postmedian row of spots only indicated as a shadow stripe. Underside pale ochre-yellow with scarcely perceptible middle band and the other dark shadings. — ab. **padana** *Trti.* is the form of *clytie* from Lombardy. Its chief characteristic is that cubitalis 2 projects less strongly towards the margin of the wings so that they appear to be more rounded. The general appearance is that of a darker *clytie*, especially on the upperside. — In ab. **sheljuzhkoi** *Trti.* from Cogno yellow is the predominant colour on forewings and marginal band of hindwings shows dark spots. — ab. **clytiella** *Cab.* is a dwarf form with blackish ground colour of wings. — ab. **transtaeniata** *Cab.* resembles a *clytie* with blackish ground colour, otherwise however exactly similar to ab. *transvelata Cab.* — ab. **punctostipata** *Cab.* resembles ab. *circumpunctata Cab.*, but it has blackish ground colour on all wings. — ab. **radiolata** *Cab.* is an *irradiata Cab.* with blackish ground colour and ab. **rotellata** *Cab.* resembles *trochoides Cab.*, but also with blackish ground colour. — ab. **deficiens** *Cab.* is a melanotic aberration of *clytie*. On upperside of forewings there are white ante-apical marks, a whitish antemarginal spot and brownish costal spots, other spots are typical or absent or only faintly developed. — ♂-ab. **leucothea** is quite similar to *clytie*, but the bands and the spots of all wings are white as in *ilia* and not yellow brown. — The forms described as ♂-ab. *semialba Cab.* and *subalbata Cab.*

laura. *lutissima.* *circumpunctata.* *periommata.* *irradiata.* *trochoides.* *iolides.* *obnubila.* *hemisilvia.* *silvia.* *silviella.* *alceste.* *alcithoë.* *transvelata.* *magadinensis.* *blankensteini.* *padana.* *sheljuzhkoi.* *clytiella.* *transtaeniata.* *punctostipata.* *radiolata.* *rotellata.* *deficiens.* *leucothea.*

subiliades. are not separable from *leucothea Cab.* — ab. **subiliades** *Cab.* is unicoloured black on upperside and has white apical marks on forewings and a few small whitish spots. The submarginal spots on hindwings are white, as also is the indistinct middle band, which is generally only indicated by grey scales. The form is a transition *iliella.* to *iliades Mitis.* (Vol. 1, p. 162). — ab. **iliella** *Cab.* is a very small form, about $^2/_3$rds of the size of normal specimens, in general appearance it resembles ab. *bunea H.-Schäff.* (Vol. 1, p. 163), but the marginal spots of *theia.* wings are not red-yellow and the anal eyespot is well developed. — subsp. **theia** *Dannehl* from the Etsch Valley near Lana and Rovereto in S. Tyrol is smaller than *clytie* and *eos Rossi* (Vol. 1, p. 162); in appearance it approaches more the former, especially through the considerable violet sheen of the ♂. Apart from the smaller size the yellow and not reddish wing colour as well as the considerable iridescence separates it from *eos Rossi*; also the marking of the hindwings varies considerably and resembles *metis Frr.* (Vol. 1, p. 163) more closely. — *barcina.* From A. S. Antoni de Villamajor near Barcelona in Spain Verity describes the race **barcina.** It differs by its smallness and owing to the interstices of the upperside being white, whilst on the underside they are wide *praeclara.* and of warm brilliant yellow tone, as frequently occurs in the yellow forms of *clytie.* — **praeclara** *Moltrecht* occurring in the Ussuri region belongs to *magnifica Schultz* (Vol. 1, p. 162). It is a very large form reminding one of *A. bieti Oberth.* (Vol. 1, p. 161) by the colouring of the upperside; the underside is similar to typical *ilia*, but of red-brown instead of yellowish colouring and with a rich violet sheen in the submarginal area. The upperside of wings of ♀ is dark black-brown. Submarginal crescents of forewings are indistinct and diffuse yellow-brown, distinct on hindwings and wider than in *ilia.* The white middle band of both wings with yellowish scales, narrower than in *A. substituta* (Vol. 1, 50 a). The wing expanse in both sexes is larger than in *ilia.* — *heijona.* subsp. **heijona** *Mats.* from Corea differs as follows from *substituta Btlr.* In the ♂ the disc of forewings is yellow with very small spots; in the 5th space there is a small white spot. The yellow row of lunules in the submarginal is confluent and forms a wide band. The hindwings have a very wide, almost straight, yellow median band so that the outer dark brown band is very narrow, it contains a row of yellow spots. The yellow submarginal spots are larger and quadrangular. The underside varies little except for the almost straight pale middle band of hindwings. In the ♀ the yellow middle and submarginal bands are much wider. — Matsumura describes a *yanagawensis.* further subsp. **yanagawensis** from Yanagawa (Chikugo) and Kuishu (Japan) of which he only knows the ♀. This resembles *heijona Mats.* from Corea but differs through the narrower and paler middle bands on hindwings, so that the dark outer band appears wider and reminds one thereby of *substituta Btlr.*, in which however it is *nikuni.* still narrower. — ♂-ab. **nikuni** *Wileman* occurs at Nikuni in the Province of Bungo in Japan. The upperside closely resembles the ♂ of *iris*, but the general colouration is browner. The 3 white subcostal spots are larger and almost confluent. In the disc are 4 black spots of which the black cell-end spot is margined with yellow. The white middle band of hindwings is narrow and irregular. The black spot in the first median space is circumscribed with yellow. The interrupted submarginal band is yellow-brown. Underside of all wings leather colour, markings well pronounced. In the margin there is a double row of more or less confluent lilac coloured *doii.* lunules except at the apex of the forewings. — subsp. **doii** *Mats.* is described from Kunashiri in the Kurile Islands; it is close to *substituta Btlr.* but much smaller and has yellow-brown spots in the disc, also the small white spot in cell 5 of forewings is absent. The yellow middle band of hindwings much narrower, so that the outer yellow-brown band is wider; the yellow spots in cells 4 and 5 are absent. The underside is darker than in *substituta Btlr.*, the pale bluish submarginal lunules are almost straight and only intersected by the longitudinal veins.

fulva. **A. fulva** *Leech* (*Seitz* Vol. 1, 51 a). From Tseku, Siao-lu and Moupin in Szechuan Oberthür has obtained *dubernardi.* a new race which he describes as **dubernardi** (12 d, e). It is a more richly marked form and with darker ochre-yellow being shaded dark brown in the basal area of forewings. The tone of the colour is the same as that of the bands. Also the hindwings show the lower half completely dark brown. The submarginal band is considerably enlarged so that only a longish triangle of ochre-yellow is retained.

schrenkii. **A. schrenkii** *Mén.* (Vol. 1, 51 b). A very beautiful and more richly marked race than the type form *laeta.* is the ♂-var. **laeta** *Oberth.* from Tseku in Szechuan. The forewings show the white markings purer and enlarged. The wide ochre-yellow band stretches from the media to the hindmargin and is scalloped in a crescent form towards the margin. The hindwings are still more lively in marking. The white of the middle area has a faint yellowish-green tone and is outlined towards the margin with a wide bluish band which stretches from the costa to cubitalis 2, attached to this is a leather-brown band scalloped towards the base, which stretches to the costa. The wide deep black submarginal band has 3 whitish cuneiform spots in the cells between the costa and media 3. The marginal band is a very dark, fairly wide black line outlined by the ochre-yellow margin. The underside of forewings is more brilliantly marked than in *schrenckii.* The position of the markings corresponds with that of upperside, only in the disc and at the anal angle there are numerous lilac coloured spots and markings. — *media.* var. **media** *Oberth.* from Siao-lu in Szechuan is also extremely richly marked; all the white markings on the upperside of both wings are more lively. Both yellow spots of forewings are sharply falcate and bright ochre-yellow. The middle area of hindwings is faintly toned with greenish-white and bears towards the margin a

wide bluish-black surround scalloped inwards, whilst the other sides of the disc only are margined by a narrow similarly coloured band.

A. modesta *Oberth.* is a race flying in Tseku in Szechuan of *A. sordida Mre.* (*phaecia Hew.*) from the indian territory (Vol. 9, p. 699). It differentiates by the more sharply pronounced anal angle of hindwings and the absence of the subapical row of spots on the upper and undersides. Same is replaced by 4—5 small whitish dots which scarcely reflect through. *modesta*

2. Genus: **Sasakia** *Moore*

S. charonda *Hew.* (Vol. 1, 51 d). Matsumura described of this species a var. **sugitanii** in the Zoological Magazine, Tokio. As this description was only published in the japanese language it was impossible for me to get an exact description of the form. The same applies to several forms described by Matsumura in his "Thousand Insects" Additamenta III. The latter work is not obtainable in any library of the Continent or England. *charonda.* *sugitanii.*

3. Genus: **Eriboea** *Hbn.*

E. dolon *Westw.* (Vol. 1, 61 a). The subsp. **carolus** *Fruhst.* (= sinica *Oberth.*) is characterised by the much wider black margin of forewings and the submarginal of hindwings which is almost double the width of that of the indian races. The points of apex and tails are much shorter. The race approaches that of *grandis Rothsch.* (Vol. 9, p. 723) from the indian territory. The size varies, sometimes smaller, sometimes larger than type form. The ground colour is a brilliant lemon-yellow without greenish tone; the row of spots similarly. It occurs at Ta-tsien-lu in Szechuan, from whence also the variety of *carolus*, the ab. **niger** was described by Lathy. The latter is typified by blackish colouration at the base of both wings on upperside. *dolon.* *carolus.* *niger.*

E. narcaea *Hew.* (Vol. 1, 52 d). The ab. **aemiliani** *Fernandes* has pale grey ground colour like the typical form. The dark band resembles that of *mandarinus Fldr.* (Vol. 1, 52 d), only the outer margin is more concave than in any other known form of *narcaea*. The green marginal band of hindwings is not separated by a dark submarginal band. — The ab. **marginepunctata** *Lathy* from Kiang-Nan in China has 9 dots of pale greenish colour in the black marginal band on upperside of forewings. The upperside of hindwings has a row of black spots lying internervally in front of the outer margin. — A further variety from Tong-Men, Chang-Yang in China is ab. **intermedia** *Lathy* with upperside of forewings similar to that of *mandarinus Fldr.*, but hindwings not varying from the type form either in colouration or marking. — **richthofeni** *Fruhst.* is the ♂ of the wet season from Kiaochow and differs from *mandarinus Fldr.* from Shanghai by the larger blue-green marginal spots on upperside of both wings. In consequence the black inner band of hindwings is considerably reduced and appears to be more sharply outlined. Besides this there is an increase in the pale blue sheen on the tails and in the anal zone of hindwings. — The dry season form from Kiaochow is called **arna** *Fruhst.* and differs from *narcaeus* from Chekiang by the black submarginal band of forewings which is scarcely half as wide and by the very dainty terminal band of hindwings which is dissolved into 2 rows of black spots. — The ♀ of the wet season differs only in size from the ♂ of the dry season and the ♀ of the dry season form shows the typical reduction of the black submarginal band on both wings. There are no great differences on the underside. — Lathy describes subsp. **acuminata** from Pe-Yen-Tsing in Yunnan which is characterised by the sharply pointed apex of the forewings and the somewhat falcate outer margin. The marginal band resembles that of *meghaduta*, whilst the basal area of wings is similar to *narcaea*. On the hindwings the marginal and discal bands are almost straight. *narcaea.* *aemiliani.* *margine-punctata.* *intermedia.* *riehthofeni.* *arna.* *acuminata.*

4. Genus: **Charaxes** *O.*

C. jasius *B.* (Vol. 1, 52 b, c). From the delta of the Rhone near Cassis and Ciotat we have a dark form which Foulquier has named ab. **obsoleta.** The pale blue spots of hindwings are absent on upperside and the brown velvet-like sheen of the ground colour is not present. — Also ab. **spoliatus** *Stauder* from Zara in Dalmatia has reduced markings. The submarginal band of spots is absent on upperside of forewings, or it is reduced to a minimum. Sometimes the uppermost spot is faintly indicated in some specimens. — Ribbe found in Faro and Monchique in Spain a race that varies considerably from the type form, var. **faroensis** *Rbbe.* It is remarkable by much paler colouration of all markings including the ground colour of the wings. — Verity considers the type form to occur in N. Africa and would like to see *jasius* flying north of the Mediterranean separated from it because these are generally smaller and with paler colour. Also the tails are shorter and the blue spots *jasius.* *obsoleta.* *spoliatus.* *faroensis.*

of the hindwings larger and more pronounced, forming a continuous band. He considers *jasius* flying in Tuscany as typical representatives of this race which he denominates **septentrionalis.** The 1st generation of same is said to differ by shorter and thicker tails from the summer generation and is therefore named **brevicauda** *Vrty.*

septentrionalis. brevicauda.

B. Subfamily: Limenitini.

By M. Gaede.

1. Group: *Cyrestidi.*

1. Genus: **Cyrestis** *Bsd.*

thyodamas. kumamotensis. ishigakina.

C. thyodamas *Bsd.* (Vol. 1, p. 172, plate 61 c). **kumamotensis** *Mats.* 1 ♀ from Kiushiu has the yellow ground colour already mentioned in Vol. 1, the brown lines are all fine, the metallic line is absent on hindwings. — **ishigakina** *Mats.* described according to 1 ♂ from Okinawa. Ground colour white with a pale rose sheen. The metallic line wide stretching from rib 2 to the costa.

2. Genus: **Pseudergolis** *Fldr.*

wedah. chinensis.

P. wedah *Koll.* (Vol. 1, p. 173, plate 61 e). Fruhstorfer separates from this species, which occurs in India, **chinensis** from the Omei-shan. It is fully ⅓rd larger than the typical *wedah*, but nevertheless has narrower black traverse lines.

2. Group: *Limenitidi.*

1. Genus: **Doleschallia** *Fldr.*

bisaltide. iwasakii.

D. bisaltide *Cr.* (Vol. 9, p. 556). This species perhaps touches palaearctic territory on the mainland at Sikkim in the form *continentalis Fruhst.* Similarly perhaps also **iwasakii** *Mats.* from Riukiu can be deemed palaearctic. The ♀ is similar to *philippensis Fruhst.* (Vol. 9, plate 112 a), but the ground colour is darker brown and on the forewings the yellow spot in the middle of the costa is wider and not intersected by the veins. The yellow spot in cellule 4 is smaller, in cellule 5 it is absent. On underside of forewings the middle band is strongly undulated, diffuse beyond rib 5. On hindwings in cellules 2—5 there are blue spots surrounded by a large diffuse brown ring.

2. Genus: **Neptis** *F.*

coenobita. treitschkei. melanis.

N. coenobita *Stoll* (Vol. 1, p. 174, plate 53 a). (Better known under the name *lucilla F.*). Specimens in which the white band of spots on both wings is confluent on upper and undersides are named **treitschkei** *Hoffm. & Klos.* — **melanis** *Oberth.* can be deemed an extreme *ludmilla* ((Vol. 1, plate 53 a). On upperside however still fewer and smaller white spots. Underside rather lighter brown than typical. On hindwings the narrower whitish band lies further outwards. Ta-tsien-lu.

divisa.

N. divisa *Oberth.* (12 e). Similar to *coenobita-lucilla F.* or *Athyma perius* (Vol. 1, plate 59 a). The cell spot on the forewings is intersected 5 times. All spots are whiter. The submarginal row of spots on the hindwings is placed further outwards and quite faint. The ground colour of underside more reddish, markings as on upperside. 50 mm. Tseku, Yunnan.

genulfa.

N. genulfa *Oberth.* (12 c, e). The radial stripe is not separated in the cell, otherwise similar to a whitely marked *perius*, but the main band on the hindwings is narrower. Underside more grey-brown. 60 mm. Tseku.

pryeri. andetria. arboretorum.

N. pryeri *Btlr.* (Vol. 1, p. 175, plate 53 b). — **andetria** *Fruhst.* (Vol. 9, plate 126 c) is smaller than the typical form from Shanghai. Submarginal band of hindwings almost extinct. Amur. — **arboretorum** *Oberth.* according to Fruhstorfer is not the same as *pryeri* as the white marking on upperside is reduced, on the other hand on the underside the antemarginal area of both wings is more heavily dusted with white. Ningpo, Mupin.

hylas. fischeri. jessonensis.

N. hylas *L.* (= aceris *F.*, Vol. 1, p. 175, plate 53 e). — **fischeri** *Rbl.* Among normal *sappho Pall.* from Herculesbad there occur small specimens of the 1st generation, and large ones of the 2nd generation, with wider white marking on both wings, approximately on the upperside similar to the underside of *sappho* (Vol. 1, plate 53 e). — *minor Guss.* is the name of dwarf specimens of 30—35 mm wing expanse. — **jessonensis** *Fruhst.* differs from *intermedia Pryer* (Vol. 1, plate 53 d) by the more rounded wing contour and considerable extension of the white marking, especially the subapical and intramedian maculae being larger. Submarginal band of

hindwings more curved. On the underside a darker red-brown than *intermedia*. Sapporo. — **curvata** *Mats.* is also similar to *intermedia*. The conical spot on forewings is distinctly longer at the disco-cellular and bent downwards. A small white spot in the middle between it and the marginal row. The marginal row smaller on hindwings. Corea. — **pura** *Grünbg.* Marking white, the marginal dots of forewings almost extinct, discal spot narrower, hind marginal spots larger. The middle band of hindwings wider anteriorly, the outer row of spots indistinct. Described from Sumatra, also occurring in upper Burma and perhaps touching palaearctic territory. *curvata. pura.*

N. soma *Mr.* The species occurs in numerous forms in India and S. E. Asia. On palaearctic territory we only find **capnodes** *Fruhst.*, a wet season form. All white markings narrower, the forewings smoky-brown, hindwings diffuse yellowish. West China. According to Fruhstorfer this is the form that is illustrated in Vol. 1, plate 53 f as *susruta*, whilst the correct *susruta Leech* (Vol. 1, p. 177) is illustrated in Vol. 9, plate 126 f, g as *soma*. *soma. capnodes.*

N. yerburyi *Btlr.* (Vol. 1, p. 176, plate 53 e). — **omnicola** *Fruhst.* Larger than the typical race from Tenasserim. White markings considerably reduced, dusted faintly yellowish with a little grey. West China. Probably very similar to *tibetana Mr.* (Vol. 1, plate 54 a). *yerburyi. omnicola.*

N. sankara *Koll.* (Vol. 1, p. 177). — **ambina** *Fruhst.* Besides *antonia Oberth.* (Vol. 1, plate 54 a) and *sinica Mr.* (Vol. 9, plate 61 g) specimens also occur in West China which are similar to the typical *sankara* (this is the entire original description). There was no need to give them a name therefore. — **segesta** *Fruhst.* is an extreme form of *antonia* (Vol. 1, plate 54 a), the yellow bands are wider on upperside and the white bands wider on underside. Szechuan. *sankara. ambina. segesta.*

N. ananta *Mr.* (Vol. 1, p. 178, plate 54 b). — In **albicans** *Oberth.* the markings that are dark yellow in typical *ananta*, are yellowish-white. It differs on the underside of hindwings from *chinensis Leech* (Vol. 1, plate 54 b) by a wide bluish-white middle band, the succeeding narrow band is violet. Siao-lu. — *sitis Fruhst.* has the bands and spots on upperside bright ochre-yellow instead of dark. Dry season form from Bhutan; this is no longer palaearctic and therefore more explicitly dealt with in Vol. 9, p. 620. *ananta. albicans.*

N. armandia *Oberth.* (Vol. 1, p. 178, plate 54 d) (12 c). — **taphos** *Fruhst.* Larger than *mothone Fruhst.* (Vol. 1, p. 244), the bands darker ochreous. The yellow spots on underside more extensive than in *armandia* and *mothone*, also the violet zigzag band of hindwings is wider. Omei-shan. — **tristis** *Oberth.* (12 d). All the yellow markings are narrower, especially at the outer margin of both wings. On the other hand on underside the ground colour is brighter yellow. Tibet. — **laetifica** *Oberth.* has wider yellow bands than typical especially on hindwings. Underside as *tristis*. Ta-tsien-lu. *armandia. laphos. tristis. laetifica.*

N. themis *Leech* (Vol. 1, p. 179, plate 54 f). — **ilos** *Fruhst.* All the yellow markings are fainter than typical, especially in the cell and subapical area. On underside the basal area of forewings is white. Amur. *themis. ilos.*

N. imitans *Oberth.* (12 b). Similar to *Danais tytia Gray* (Vol. 1, plate 28 e). Bluish-white, veins widely black, white spots on margin. The margin of hindwings widely brown. Underside similarly. Tseku. *imitans.*

N. zaida *Dbl.* Of this indian species the race **bhutanica** *Tytl.* (12 c) penetrates as far as Sikkim and may therefore enter the palaearctic region. On underside similar to the illustration of *meloria Oberth.* (Vol. 1, plate 54 b), but the ground colour is pale brown, the bands white. Upperside may be described as similar to a *thestias Leech* (plate 54 b) with white bands. *zaida. bhutanica.*

3. Genus: **Limenitis** *F.*

L. camilla *L.* (= sibilla *L.*, Vol. 1, p. 181, plate 57 a, b). — **puellula** *Fruhst.* is small in comparison to north german specimens, the white bands and spots narrower, the red anal spots are absent on hindwings. Geneva. Varies only little from *angustefasciata* (Vol. 1, p. 181). — **glorifica** *Fruhst.* has especially on forewings the white bands double as wide as in *japonica Mén.* On underside subapical spots are large, smaller submarginal spots on hindwings. Japan. *camilla. puellula. glorifica.*

L. helmanni (Vol. 1, p. 181, plate 57 b). — **chosensis** *Mats.* is similar to *pryeri Mr.*, but the radial basal streak on the forewings is obliquely truncate at its apex. The outer row of spots only consists of 4 spots. Submarginal band of hindwings extinct, the white lunules of the middle band small. Corea. *helmanni. chosensis.*

L. doerriesi *Stgr.* (Vol. 1, p. 182, plate 57 b, 61 d). — In **schaljapini** *Kardak* (12 c) the white main band of both wings is about as wide as in *sibilla-japonica Mén.* The streak and spot in the cell of the forewings are heavy. Narva, Ussuri. *doerriesi. schaljapini.*

L. homeyeri *Tancré* (Vol. 1, p. 182, plate 57 c). — **nigerrima** *Oberth.* is a subform to *venata Leech* (Vol. 1, plate 57 c), almost entirely black on upperside, on underside the white middle band is absent on both wings, the marginal spots very faint. Ta-tsien-lu. *homeyeri. nigerrima.*

moltrechti. **L. moltrechti** *Kardak.* (12 c). Very similar to *amphyssa Mén.* (Vol. 1, p. 182). Only the white main spot in the cell on forewings, the smaller posterior spot is absent. The spots of the main band on both wings only half as long as in *amphyssa*. The pale submarginal line is distinctly luniform. The white spot on the forewings below the base of rib 2 is absent on underside. Amur, S. Ussuri territory.

rivularis. rufopunctata. tricolorata. completa. bifasciata. **L. rivularis** *Scop.* (= *L.* camilla *auct. cet.*). The following aberrations are named: **rufopunctata** *Lucas*, wings with red submarginal spots. — **tricolorata** *Grund* with brown-red markings, especially at apex of forewings, also a similar spot below the costa, more rarely the entire ends of the ribs spotted with red-brown on hindwings. Similar forms have been bred by exposure to cold. — **completa** *Der.* The brownish-white spot in the cell is absent on upperside of forewings. — **bifasciata** *Niep.* has the 3 apical spots on forewings conjoined to a wide band with the next marginal spot. On the hindwings the posterior ribs do not show expanding black in the bands. — The species has 3 generations in the South and this makes denominations inevitable. The 1st generation

primigenia. prodiga. is distinctly smaller and more daintily built, the white marking less pronounced; **primigenia** *Vrty.*, typical from Florence, the 2nd retains the name *rivularis*, the 3rd is **prodiga** *Fruhst.* It is as large as *herculeana Stich.* (Vol. 1, p. 183, plate 57 c), generally there is a white spot on the forewings behind the cell, in the cell a wide quadrangular white spot, the band on hindwings wide. Savoy. In the Mainardo Mountains especially large specimens of *herculeana* occur (2nd generation), the 1st and 3rd correspond with *primigenia* and *prodiga*. A small 3rd

pygmaeana. generation, ♂ 36, ♀ 40 mm on an average, is **pygmaeana** *Vrty.*, otherwise not different from *prodiga*. Leghorn (Italy).

trivena. gilgitica. hydaspes. **L. trivena** *Mr.* (Vol. 1, p. 183). The race *lepechini Ersch.* (Vol. 1, plate 57 d) occurs in 2 forms as far as Kashmir: **gilgitica** *Tytl.* has somewhat shorter white spots in the main band. The outer row of red-yellow marginal spots especially is fainter on both wings. The white cell spot of forewings is very wide. — **hydaspes** *Tytl.* has the main band and cell spot fairly normal. At the margin the inner row of spots is extinct, the outer narrowly retained.

pratti. coreana. eximia. **L. pratti** *Leech.* (Vol. 1, p. 183, plate 56 d). A more faintly marked race is named **coreana** *Mats.* The white spots on forewings are smaller, the middle band of hindwings narrower, the white and reddish submarginal spots on both wings fainter. Corea. — **eximia** *Moltr.* has a somewhat dentate margin on hindwings similar to *populi L.* Ground colour black-brown, the white-yellow bands narrow in the ♀, still narrower in the ♂, the reddish row of spots narrow, band-like. Vladivostock, Sutschan.

populi. mittisi. auronitens. ruberrima. bifulvata. **L. populi** *L.* (Vol. 1, p. 184, plate 56 d). — **mittisi** *Oberth.* is a specimen that is quite black on upperside, fairly normal on underside. The other aberrations show an increase of the yellow-red marking. — In **auronitens** *Cab.* the marginal lunules on upperside of hindwings are golden-yellow, not yellowish-red. — **ruberrima** *Schultz* (= antigone *Cab.* ♂). The yellow-red apical spots of forewings larger and double, the 5 marginal spots extending to the apex, the yellow-red antemarginal band of hindwings large, double. — **bifulvata** *Cab.* The ♂ has besides the normal yellow-red lunule on the disco-cellular of the forewings and behind the black spot beyond same in the

teriolensis. belgiensis. cell, a further large yellow-red spot instead of the whitish one. — **teriolensis** *Dhl.* is the normal race in the S. Tyrol, it is identical with *bucovinensis Horm.* dealt with in Volume 1, which Dannehl asserts to be an aberration, *goliath Fruhst.* denominates larger specimens of *teriolensis*. The name *teriolensis* therefore should be withdrawn in any case in favour of *goliath* or *bucovinensis*. — **belgiensis** *Cab.* The ground colour is purer black, the light marking purer white and more extensive than in typical german specimens. Belgium and N. France. —

fruhstorferi. **fruhstorferi** *Krul.* forms a transition to *ussuriensis Stgr.* (Vol. 1, plate 56 e). The white bands are wide, the rusty-yellow lunules small, often absent on forewings, marginal lunules distinctly white. On underside the inner margin of forewings blackish as far as the cell, hindwings bluish. E. Russia.

houlberti. **L. houlberti** *Oberth.* (12 b). Distinct by the vertical position of the wide brownish-white band extending over both wings. Underside almost the same as upperside. Tseku.

4. Genus: **Pantoporia** *Hbn.*

ningpoana. erebina. **P. ningpoana** *Leech* (Vol. 1, p. 187, plate 59 b); — The race **erebina** *Oberth.* is blackish on upperside except for a few white spots, on hindwings only faint traces of the typical 2 bands are discernible. Underside bright reddish-brown with more strongly pronounced grey marginal spots, 2 rows of dots on hindwings. Siao-lu.

punctata. alba. **P. punctata** *Leech* (Vol. 1, p. 188, plate 61 c ♀). The illustration fairly represents the form **alba** *Oberth.* from Ta-tsien-lu, but there should be a streak in the cell on the forewings similar to *sulpitia Cr.* and on the hindwings the 3rd band from the margin should be as bright as the last. The underside with the exception of the streak in the cell is identical with the original illustration of *alba*. We therefore illustrate now (12 d) *punctata Leech* according to Oberthür, in which the yellow bands are wider than the white bands of *alba*.

5. Genus: **Stibochiona** *Btlr.*

nicea. viridicans. **S. nicea** *Gray.* (Vol. 1, p. 188, plate 52 a). *nicea* is a wet season form. — **viridicans** *Fruhst.* is the smaller dry season form. Hindwings and submarginal field of forewings traversed by pale green bands. Kashmir to W. China.

C. Subfamily: *Euthaliinae.*

6. Genus: **Euthalia** *Hbn.*

E. omeia *Leech* (Vol. 1, p. 190, plate 58 c, d). — **alutoya** *Fruhst.* is a transition from *omeia* to *nara Mr.* (Vol. 9, plate 130 c). In the ♀ the oblique striation of the forewings is as in *omeia*-♀, the contour of wings as in *nara*. The white band consists of smaller and shorter spots. Underside more similar to *nara*. China. *omeia.* *alutoya.*

E. duda *Stgr.* (Vol. 1, p. 192). (12 a). — **sakota** *Fruhst.* is smaller than *duda*, ground colour brighter, uniform green, on underside without the blue patches. On upperside of forewings the white band consists of smaller spots whilst those on hindwings are more extensive. Tseku. *duda.* *sakota.*

Besides this we are illustrating (12 a, b) the species dealt with in Vol. 1, p. 192, *duda*, *alpherakyi*, *themistocles* and *aristides*, as the descriptions of these species that show such similarity are insufficient.

D. Subfamily: *Vanessinae.*

7. Genus: **Calinaga** *Mr.*

C. buddha *Mr.* The new subforms are classified after *davidis Oberth.* (Vol. 1, plate 59 c). — **nebulosa** *Oberth.* has smaller spots which are darkly suffused. Ta-tsien-lu. — **dubernardi** *Oberth.* (12 b) has the light spots fairly large; a yellow-red spot at the anal angle of the hindwings reminds one somewhat of *lhatso Oberth.* (Vol. 1, p. 194 erroneously mentioned as *lhasto*). Tseku. — **lactoris** *Fruhst.* is also similar to *davidis*. It has whitish oval antemarginal spots on forewings which sometimes merge with the next row forming sagittate marks. Apex of cell white, hairs of thorax yellow, cell in hindwings shorter. Chang-yang. — **fokienensis** *Fruhst.* is a very pale form, purer white than *lactoris*. N. W. Fukien. *buddha.* *nebulosa.* *dubernardi.* *lactoris.* *fokienensis.*

8. Genus: **Precis** *Hbn.*

In regard to this Genus compare Vol. 9, p. 517. It is approximately the same as *Junonia* (Vol. 1, p. 196).

Pr. orithya *L.* (Vol. 1, p. 197, plate 62 b). — **cheesmanni** *Riley*. The outer band on upperside of forewings is suffused with blue. Underside pale smoky-grey. Hufuf, Arabia. As it occurs in the same localities as *machaon* and *croceus-edusa* it is placed with the palaearctic fauna. *orithya.* *cheesmanni.*

Pr. lemonias *L.* with its dry season form of *aonis Cr.* already mentioned in Vol. 9, p. 520 and plate 117 b is known to occur in Assam and Sikkim. — **persicaria** *Fruhst.* from Kashmir is only a smaller palaearctic form of same. *lemonias.* *persicaria.*

9. Genus: **Pyrameis** *Hbn.*

P. atalanta *L.* (Vol. 1, p. 198, plate 62 c). The general interest in this beautiful species as well as in the following *Vanessa* species expresses itself by intensive breeding and denomination of all specimens that vary from the normal. — Starved forms have already been given the name of *nana Schultz*, but this is insufficient apparently, *atalantoides Lamb.* ("This wonderful aberration" is a dwarf form of 40 mm expanse!) and *minutior Vrty.* (dwarfs from impoverished arid zones) denominate them. The colour of the generally red oblique band of the forewing inclines to slight variations. Specimens with carmine-red band are **rubra** *Fritsch*; with orange-vermilion-red band **eos** *Fritsch*; with bright red, **rosea** *Pionn.*; with straw-yellow **flavescens** *Fritsch*; with yellow (this author denotes the normal band as being carmine-red) **flava** *Eitel*; with brownish-white **pallida** *Fritsch* and ochreous-brown band on grey-black ground colour **ochrobrunnea** *Fritsch*; **angustata** *Std.* has a narrower red band. — **sordida** *Fritsch* has grey-black ground colour especially on hindwings; a row of eyespots along the red marginal band (in it?) generally distinct as velvety black crescents. — **octocyanea** *Cab.* has 4 small blue dots on upperside of a normal hindwing and placed 1 mm anterior to the red marginal band, *cyanosticta Fritsch* is probably the same, although here the marginal band is named as being vermilion-red. — The following remind one somewhat of *merrifieldi Stdfs.*: **umbrosa.** *Fritsch.* The otherwise red band of forewings is narrower and dark sherry colour, ground colour deep black. The red band of hindwings as in *merrifieldi*, but narrower and not blackened. — **merrifieldoides** *Reuss* has blue centres to the black marginal spots on hindwings. — A small dot in the red band of the forewings has caused an inundation of names: **bialbata** *Cab.*, further *albimaculata Prüff.*, *bipunctata Guss.*, *martha Steph.*, *sexiespupillata Vrty.* If there is still a microscopical small dot below the red band then one has *septiespupillata Vrty.*, this is including the 5 subapical spots. These names are given to *atalanta.* *rubra.* *cos.* *rosca.* *flavescens.* *flava.* *pallida.* *ochro-brunnea.* *angustata.* *sordida.* *octocyanea.* *umbrosa.* *merrifiel-doides.* *bialbata.*

cabeauensis. forms with a white spot. — **cabeauensis** *Lamb.* has a yellowish spot and besides the submarginal band is more violet-grey instead of bluish, the 2 lower white subapical spots have blue surrounds, the black dots are *de walschei.* absent in the red marginal band of the hindwings. — **de walschei** *Derenne* has the subapical spots greenish dark *hyensis.* brown instead of white as usual. — In **hyensis** *Lamb.* the apex of the forewings and the middle costa of hindwings are yellowish on the underside.

cardui. **P. cardui** *L.* (Vol. 1, p. 199, plate 62 d). Dwarf forms that were already named *minor Cann.* in Vol. 1 have also been named *carduelina Alph.*, "smaller by half". According to the ground colour of the upperside *rosacea.* one can distinguish: **rosacea** *Reuss*, in which the otherwise yellow patches in the basal and middle areas are rosy-red. The margin of forewings narrowly orange-brown, that of hindwings wide and diffuse. *rosea Pionn.* *carnea.* will be practically the same. — **carnea** *Fritsch.* Ground colour not rust-brown or salmon-brown, but brownish- *flava.* flesh colour, also reddish-flesh colour on underside. — **flava** *Banderm.* will only be slightly paler. — **brunnea-** *brunnea-albomaculata.* **albomaculata** *Reuss*: ground colour brown, hindwings still darker. Behind the 1st and 2nd costal spots on fore- *melanosa.* wings there is a 3rd. On underside the patches usually rose coloured are yellowish. — **melanosa** *Lamb.* Much darker, the black spots on forewings larger, hindwings dusted with black. — Names have also been created for *infranigrans.* the colours of the underside. Normally they are grey-yellow to ochreous. Variations are named: **infranigrans,** *grisea.* **- grisea, - brunnea, - ochracea, - flava.** All named by Verity. — As in *atalanta* a supernumerary white spot can *brunnea.* occur in the median field in the brick-red ground colour: **sexiespupillata** *Vrty.* (= maria *Steph.*); **septiespupillata** *ochraeea.* *Vrty.* has a further spot in the space immediately below. The illustration of *japonica* (Vol. 1, plate 62 d) shows *flava.* something similar. — **schoenfellneri** *E. Hoffm.* has the 4 white apical spots practically normal. The 3 posterior *sexies-pupillala.* spots are increased and confluent forming a very large spot, the costa is narrowly white to the middle and the *septies-pupillala.* otherwise yellow-red spot is white. The 2 black spots immediately beneath are united forming a very large one. *schoen-fellneri.* Hindwings adumbrated to the outer band. — **subfracta** *Stach* has these 3 spots separated. — In **ocellata** *Rbl.* *subfraela.* the antemarginal black spots in the hindwings have blue centres. — In Italy and southwards as far as Biskra *ocellata.* one finds frequently specimens which resemble *elymi Bsd.*: **emielymi** *Vrty.* (13 b); nevertheless the few specimens *emielymi.* from Biskra in the Püngeler Collection are quite normal only dwarf-like. — In a species that is so migrative races naturally are not easily created, nevertheless a few have been established. In regard to *italica* dealt with in Vol. 1 Verity is of the opinion that it does not only occur in S. Italy but also much further northwards. — In northern Europe the black marking is much more extensive than otherwise so that the black apical spot and the posterior spot on the forewings are occasionally conjoined. On the hindwings the inner half is quite black,

conjuncla. eyespots very large, underside usually dark nut-brown; **conjuncta** *Vrty.* Schoyen is of a different opinion. He finds in the northern race *pallida Schoyer* a strikingly pale underside. Elsewhere in the world the black *universa.* marking on the underside is fainter than in *conjuncta*, the underside grey-yellow to ochreous: **universa** *Vrty.* typical of Florence. In the deserts of Sicily there is a starvation form of *italica* with somewhat more elongated *inops.* wings, pale ochreous, black markings reduced: **inops** *Vrty.* Sicily, Algeria. — The specimens mentioned above under *emielymi* from Biskra do not however belong to *inops* as they appear to be of wider wing formation.

10. Genus: **Vanessa** *F.*

io. **V. io** *L.* (Vol. 1, p. 201, pl. 62 d). A single race **caucasica** *Jach.* is to be mentioned. More diffuse on *caucasica.* upper and undersides, somewhat similar to *fischeri Stdfs.*, but larger. Caucasus. — All the rest are more or less *pallens.* frequent single forms. — **pallens** *Knoch.* All colours very pale. Ground colour bright red-brown, the spots pale yellow that are otherwise yellow, black is brown, eyespots violet instead of blue. Underside light red-brown. *mesoides.* — **mesoides** *Reuss* is similar. Ground colour lighter, fuscous. The violet scaling around forewing eyespot *teloides.* reduced, ocelli of hindwings dusky but underside not paler as in similar *fischeri.* — **teloides** *Reuss.* Ocellus of *teloides-splendens.* forewings band-like, unspotted, hindwing ocellus only once intersected by black. — In **teloides-splendens** *Reuss* *telo-mesoides.* the eyespot of hindwings is quite filled with pure blue. — In **telo-mesoides** *Reuss* the forewing corresponds with *meso-teloides.* the latter form, but hindwings approximate more to *mesoides*, **meso-teloides** *Reuss* is an inverse variation of *prochnovi.* this. — **prochnovi** *Pronin* is about like *belisaria* (Vol. 1, plate 62 e) on forewings but with normal hindwings, *violascens.* only the violet colouration of eyespot is more extensive with metallic sheen. — **violascens** *Rbl.* is a form due to *irene.* temperature. Ground colour glossy violet, thinly scaled. — Forms with supernumerary spots are: **irene** *Prüff.* An additional small black spot on forewings above middle of inner margin corresponding to the spot there in *astrida.* *urticae. hackrayi Cab.* is probably the same. — **astrida** *Derenne* has a light yellow patch 3 mm long, 2 mm high on dark red ground on upperside of forewings in the submedian fold.

urlicae. **V. urticae** *L.* (Vol. 1, p. 202, pl. 62 e). Dwarf forms have long since been named *urticoides F. d. Waldh.* and *pygmaea Heyne*, but nevertheless a new name *minor Derenne* has been added. — Variations in the apical *albapicata.* area and on costa produce the following forms: **albapicata** *Cab.* The white patch at apex of forewings is widely *cruenta.* diffuse ("a wonderful specimen") otherwise everything normal. — **cruenta** *Fritsch.* has the white spot very large, *fervida.* the light spots straw-yellow on the dark red forewings, base salmon-rose. — In **fervida** *Fritsch* in contrast all *pseudo-turcica.* these light spots are ochreous, ground colour fiery, deep fuscous and **pseudo-turcica** *Fritsch* has in the same

ground colour the black spots o costa smaller, dark outer margin narrower. — **erythrophaea** *Fritsch* (= extrema *Schönf.*) has absolutely no yellw spots on forewings, also the small spot near inner margin is absent as well as the one on costa of hindwing. The entire ground colour is scarlet-brown. — Greater variation is shown by **lucia** *Derenne*, where the costa of forwings is grey, not spotted yellow, the black twin-spots are absent, blue marginal lunules faint, hindwings morextensively black. — **alba** *Cosmovici* has spots of costa white instead of yellow, otherwise normal. — **victori** *Derenne* is similar on forewings to *ichnusoides Selys* (Vol. 1, pl. 62 e) but the white apical patch is missing. Hinvings normal except for the absent blue marginal lunules. — **elisa** *Steph.* has the outer yellow spot on forewirs conjoined with inner margin like a band, the black twin-spots are enclosed in same; also on hindwings thebeginnings of a yellow band are developed. — The following forms chiefly show variations of outer margin: **una** *Reuss.* The blue marginal lunules on hindwings below the angle, very large, the 2 following almost conuent. On the other hand the lunule below the angle on forewings is missing, as also those above same, excet for the one at anal angle. — **luteomarginata** *Lamb.* has a yellowish outer margin on forewings, blue margina spots are almost extinct, white apical patch very large. Ground colour very light on upper and undersides. Therefore practically a pale *cruenta*. — Variations of the twin-spots of forewings are: **leodiensis** *Cab.* differing fro *victori* by their absence. — **ichnusa-bimaculata** *Bub.* is an *ichnusa* with twin-spots, therefore scarcely differingfrom *turcica Stgr.* — A group by itself is formed by **pseudo-connexa** *Cab.* reminding one somewhat of *connexa Btlr.* (Vol. 1, pl. 62 f). The spot on costa and inner margin conjoined by black scales. — The following forms arecreated by variations in temperature: **ioformis** *Reuss.* Somewhat similar to *ichnusoides* (Vol. 1, pl. 62 e). Subapicl spots of forewings lighter, the altered outer patch on costa forming an eyespot like that of *io*. The two smal twin-spots are absent. Hindwings also similar to *ichnusoides* in colouration, but submarginal spots violet, he anterior 3, which form the *io* eyespot are larger; this is a form due to supernatural heat. — **ioprotoformis** *Fuss.* Also similar to *ichnusoides*, as far as the illustration allows one to perceive without a closer descripton. On forewings the black spot at middle of inner margin is also absent, whilst the outer margin is more wiely dark. The 3 light spots on hindwings are still larger. — **semi-ichnusoides** *Pronin.* An *ichnusoides* with bluemarginal spots. The basal area of forewings is extensively dark up to the twin-spots. A form due to excessiv heat. — **consentanea** *Jach.* A form corresponding to *polychloros-dixeyi Stdfs.* and *xanthomelas-grützneri Fsch.* Also due to heat. — The following names apply to forms with altered ground colour: **rosacea** *Closs.* ery light, with rose-red tone, among the 3rd generation. — **lucida** *Fritsch.* The straw-yellow colour more pronounced, the fuscous reduced. Also lighter on underside. — **sordida** *Fritsch.* Ground colour dull yellow-brown or salmon-brown, the straw-yellow patches incline to be extinct. — **velata** *Trti.* The ground colour dusky with black scales, especially in the outer half. — **guhni** *Tschau.* Ground colour brownish-violet, scaling sparser Bred from larvae that had suffered from mildewy smell. — **lydiae** *Dubl.* Still more darkly grey-black than *ichnusoides*. — Raynor has given a systematic denomination to every possible colour variation. He differentiates 1) according to the ground colour: (*discolor Hein*, ochreous), *salmonicolor* salmon-yellow, *alba* whitish, *brunneo-violacea* brown-violet, *clarirufa* brilliant red-brown, *fulva* fulvous, *ignea* fiery-red, *latericolor* brick-red, *utea* yellow-red, *rubrochrea* reddish-ochreous, *obscura* dull reddish, *polychloroides* coloured like *polychloros*, *testudinea* dark fiery. 2) According to the forewings: *flavotessellata* with pale yellow middle area from costa to inner margin, *infuscata* all black markings increased, *nubilata* clouded with black from middle spot of costa to that on inner margin, *radiata* with blackened veins, *strigata* with black horizontal streak between middle spot on costa and the upper twin-spot. 3) According to apical marking: *caerulapicata* the apical patch pale bluish-white. 4) According to the colour on costa or outer margin: *nigricostata* costa narrowly black, *fulvomarginata* outer margin with yellow-red edge, *griseo-marginata* the same with grey; *parvi-* and *magniguttata* the blue marginal lunules small and large, *cuneiguttata* the same triangular. 5) According to the maculae: a) variations oftwin-spots: *magni-* and *parvipuncta*, spots large and small, *punctijuncta* spots conjoined; instead of the normal 2 spots only 1 or 3: *uni-* and *tripuncta*. b) The spot on inner margin large or small: *magni-* or *parvinotata*, the spot conjoined with the anal angle by black; *nigridorsata*. 6) According to hindwing: *adumbrata* the red-yellow ground colour adumbrated at costa; the band narrow or wide: *angusti-* or *latialteata*, intersected by black ribs: *infradiscata*, with small or large blue marginal lunules: *parvi-* or *magnilunata*. So that the underside is remembered, it has been favoured with the names *subtus-lactea* and *subtusrufa*, which are creamy-yellow and reddish-brown. As the definition of the colours differs individually these names have only a very conditional value, even if they eventually may have a claim to priority. — A few races are mentioned: **kansuensis** *Kleinschm.* Lighter than *chinensis Leech* (Vol. 1, pl. 62 f). N. W. China. — **obtusa** *O. B.-H.* Apart from the size similar to *ladakensis Mr.* Wing contour very truncate being similar in this respect to *connexa Btlr.* from Japan. The deep black markings have suppressed the ground colour almost to the cell and marginal area. The blue marginal lunules are absent on forewings, they are large on hindwings. N. W. Kansu.

una. *luteo-marginata.* *leodiensis.* *ichnusa-bimaculata.* *pseudo-connexa.* *ioformis.* *ioprolo-formis.* *semi-ichnusoides.* *consentanea.* *rosacea.* *lucida.* *sordida.* *velata.* *guhni.* *lydiae.* *kansuensis.* *obtusa.*

V. caschmirensis *Koll.* (Vol. 1, p. 203, pl. 62 f). Fruhstorfer contends that our illustration is not typical but reproduces **aësis** *Fruhst.* with a predominantly yellowish submarginal zone. The whole upperside is often darkly dusted over. It seems to me impossible that the illustration more faithfully represents *aësis*.

caschmir-ensis. *aësis.*

V. polychloros *L.* (Vol. 1, p. 203, pl. 63 a). — **cassubiensis** *Heinr.* has a supernumerary black spot 7 mm long, 2 mm deep on the otherwise only faintly darkened inner margin of forewings. — **circumpunctata** *Cab.*

polychloros. *cassu-biensis.* *circum-punctata.*

has fine black spots with yellow surrounds before margin of hindwings. Thereare somewhat similar to *testudo*
nigroflava. (Vol. 1, pl. 63 b). — **nigroflava** *Biez.* with heavier black spots at margin on both wings. Inside of these on forewings a row of yellow spots. The yellow spots on costa larger than norma The black spot in middle of costa of hindwings with yellow edge outwardly. — Natural forms due to cold arethe following: *extrema Gönner.* A considerably blackened *testudo*, about in the same degree as the illustration of *album* in Vol. 1, pl. 63 e. —
extrema. In **extrema** *Gönner* the forewings are more heavily spotted with yellow than in the lustration of *testudo* (pl. 63 b).
okeni. On costa of hindwings a further large pale yellow spot in place of the black spot. — **okeni** *Fischer* has a ground colour between *io* and *antiopa.* The blue marginal spots are more striking. — Additions to the forms brought
dixeyi. about by artificial temperatures are: **dixeyi** *Stdfs.* Ground colour more yellowish, specially outwardly, margin
diffusa. of wings widely dark. Marginal lunules on hindwings large. A form produced by exposure to cold. — **diffusa** *Fritsch* is somewhat similar. At outer margin of forewings 3 blue spots are indicted, the black spot at base smaller, more diffuse than normal. The 2 spots on inner margin also diffuse, especially the outer one. Outer margin not wider, only diffuse. The brown ground colour lighter, straw-yellow, lack markings less distinct. A natural form. — According to Verity, Linné's type was a small pale form. The blue lunules on forewings almost washed out, only small lunules on hindwings. Outer half of underside light, whitish costa on forewings. Such specimens occur in Northern Europe and partly in England. Other english specimens belong to *pyromelas*
pulchrior. Frr. — In the South the species develops larger: **pulchrior** *Vrty.* typical from Florenc has bright reddish ground colour on upperside, underside dark. Among these one finds still typical *polychloos* (but no Northern-like
rubens. specimens — only Central European-like) and specimens that approach the following race. — **rubens** *Vrty.* Still larger than *pulchrior* ♂ with wing expanse up to 54 mm. Ground colour more red but not quite as in *erythromelas.* All yellow patches restricted except between the outer precostal spot and lunules. The latter remind one of *xanthomelas*, underside very dark. Sardinia.

xantho-
melas. **V. xanthomelas** *Esp.* (Vol. 1, p. 204, pl. 63 b). Only one new race in Europe: — **cibinensis** *Dhl.* Large.
cibinensis. Ground colour dark red, black markings more extensive, diffuse. Red band on hindwings also only narrow
sacha- otherwise black. Carpathians. — In Asia 3 races: **sachalinensis** *Mats.* All marking more extensive, white
linensis. subapical spot very striking, black submarginal band wider, marginal dentations longer, pale margin wider.
jezoensis. Blue spots on hindwings larger. Sachalin. — **jezoensis** *Mats.* similar to *japonica Stih.* Smaller. Margin of both wings with fewer blue scales. Black submarginal band narrower, blue spots smaller. Hokkaido. — *formosana Mats.* Similar to *jezoensis.* On forewings discoidal spots conjoined as in *schalinensis.* The white spots near the middle of cellule 4 indistinct, the dentation on vein 6 long. On hindwings the blue spots larger than in *sachalinensis*, smaller than in *japonica.* Outer margin with many blue scales. Formosa. The latter form is no longer palaearctic and is only mentioned here as being the only indian subspecies of this group.

antiopa. **V. antiopa** *L.* (Vol. 1, p. 205, pl. 63 b). Dwarf forms with rusty-yellow marginal band are named
emma. *pusilla Strd.*, with normal band *nana Steph.* — **emma** *Steph.* is normal except for a brown margin. — In the
ziegleri. following 2 forms the yellow margin is altered. — **ziegleri** *Gramann.* The yellow border is narrower. Between it and the wing colour a black area. The blue spots of forewings almost extinct, but counting from the apex of wing the 3rd and 4th spots are extended considerably ray-like inwards. The 2 light spots on costa conjoined.
escheri. On underside at margin increased blue markings. A form due to a faint narcosis. — **escheri** *Gramann.* Forewings also with black area which extends outwards along the ribs, so that the border consists of yellow blotches. Blue spots almost extinct. Yellow border of hindwings dusted with black, intersected by black veins. Underside
transiens. of forewings with increased blue. A form due to heavy narcosis. — **transiens** *Lütk.* is a faint transition to *hygiaea.* The 2 yellow spots on costa of forewings conjoined, the neighbouring blue spots margined with yellow inwards.
obscura. — In **obscura** *Gönner* the blue spots are more or less entirely absent. Ground colour of both wings sooty black. The otherwise yellow border area heavily dusted with black. Underside blacker, only 1 mm vide of white at
borealis. border. A form due to increased heat. — Also here 3 new races from Asia: **borealis** *Wnuk.* Somewhat smaller
asopos. than European specimens, otherwise without difference. Yakutsk. — **asopos** *Fruhst.* The blue submarginal
yedanula. spots longer and narrower, the yellow border darkly dusted. Japan. — **yedanula** *Fruhst.* Smaller than the Japanese. On underside the white border is narrower and more densely dusted with black. On upperside the border is darker yellow, subapical spot narrower. Szechuan. — The name *major Esp.* is altered to *creta Vrty.* and denominates specimens from Tuscany.

canace. **V. canace** *L.* (Vol. 1, p. 205, pl. 63 c). — **hiemalis** *Martin.* Among the autumn generation of *no-japonica*
hiemalis *Sieb.* (Vol. 1, pl. 63 c) there are small specimens with bluish instead of whitish traverse band at close of cell on forewings. On hindwings the blue band contains only very small black dots. Underside blackish, outer margin without pale brownish patches. Shikoku, Japan. — *siphnos Fruhst.* underside uniform grey-black, not red-brown at apex. Liu Kiu Archipeligo, therefore not actually palaearctic.

11. Genus: **Polygonia** *Hbn.*

l-album. **P. l-album** *Esp.* (Vol. 1, p. 206, pl. 63 d). — In **köntzeyi** *Diosz.* the white spots are smaller. Underside
köntzeyi. of both wings uniform greenish-yellow.

P. c-album *L.* (Vol. 1, p. 207, pl. 63 e). Among the light *hutchinsoni* race, the name allotted for less extreme specimens is **pallidior** *Tutt* and for those with more glossy and richly marked undersides is **variegata** *Tutt*. Among the hibernated generation are specimens with uniform glossy black undersides: **carbonaria** *Vrty*. — **imperfecta** *Blach*. In North Africa among the *hutchinsoni* there frequently occur specimens with imperfect "c", resembling an "i" or "l". — **cloqueti** *Clém*. Similar to *f-album* (Vol. 1, pl. 63 e). On forewings inner marginal spot as large as costal spot. Outer margin only narrowly dark. On hindwings outer margin even widely light, only intersected by dark veins. On underside forewings uniformly dark over ¾ of their length, hindwings similar to upperside. — **nigrolunaria** *Nitsche*. The yellow lunules of hindwings and occasionally of forewings are quite black. The 2 small basal spots are conjoined, otherwise ground colour paler. On underside of hindwings the "c" almost forms a ring; *pictior Vrty*. is almost the same. — **obscura** *Closs*. Upperside adumbrated. Marginal band of both wings widely dusky without yellow spots. Underside with very thin "c" marking. This "c" has naturally led to innumerable names. When it is quite closed the specimens are called: **o-album** *Newh*. — **delta-album** *Der*. are with more angular mark. *delta-album Joseph* is certainly wrongly named, as the delta is not completely closed. If it is changed to a streak with an adjoining dot, it is called *uncipuncta Joseph* or *j-album Spul*. Besides these we have *g-album Gillm*. Specimens with the "c" missing are called *c-extinctum Schultz* or *extincta Rbl*. There is no sense in these matters, in ascertaining rights of priority. — *elongana Cab*. is a cripple similar to *futuronerva*. The description of the veins is not given, therefore the name is valueless.

c-album. *pallidior.* *variegata.* *carbonaria.* *imperfecta.* *cloqueti.* *nigro-lunaria.* *obscura.* *o-album.* *delta-album.*

P. egea *Cr*. (Vol. 1, p. 208, pl. 64 c). Among the very light large specimens from Dalmatia with reduced black markings and light margin, a specimen is named with pale middle area of both wings: **albescens** *Std*.

egea. *albescens.*

12. Genus: **Araschnia** *Hbn.*

A. levana *L.* (Vol. 1, p. 202, pl. 64 d). — **vertunensis** *Cab*. Between *prorsa* and *porima*. Outer area of both wings like *porima* but middle bands white. Scarcely different from *intermedia* (Vol. 1, pl. 64 d). — **levana-melitoides** ♀ *Lamb*. Ground colour paler, more yellowish, apical mark on forewings yellowish, not white. Outer margin to anal angle on hindwings paler, without dark marking. — **borgesti** *Kardak* (13 b) is much larger than the european *prorsa*, the light marking pure white, red streaks on hindwing anterior to margin. — **wladimiri** *Kardak* (13 b). Slightly resembling the european *levana*. Larger, ground colour and marking lighter. In marginal area of forewings striking white patches. A variety with black markings much reduced is named **separata** *Kardak* (13 b). Vladivostock, Narva.

levana. *vertunensis.* *levana-melitoides.* *borgesti.* *wladimiri.* *separata.*

A. burejana *Brem*. (Vol. 1, p. 210, pl. 64 e). — **leechi** *Oberth*. (13 b) remotely resembles a large *levana* more faintly marked with black. Szechuan.

burejana. *leechi.*

A. chinensis *Oberth*. (13 c). Similar to *burejana*. Upperside of both wings has the black markings more intersected by fine pale striations. Underside without the wide middle band with many fine interwoven striations. Ta-tsien-lu.

chinensis.

13. Genus: **Melitaea** *F.*

The species of this Genus are so variable, that the denominations, which are mostly given to single specimens, can actually only refer to individual aberrations. There are so many variations of each race that the innumerable names can have very little value. Nevertheless they are completely enumerated and it is left to our readers to decide which he will make use of. Their value is all the more problematical as only in rare cases have the genitals been examined to ascertain the actual species to which a specimen belongs.

M. maturna *L.* (Vol. 1, p. 212, pl. 65 a). — **fulgida** *Schultz*. Beautifully cobalt-blue iridescent. — **kautzi** *Schaw*. Forewings with heavy white bands, the 4 spots near the costa prolonged ray-like inwards. In place of marginal lunules striking large white spots. Hindwings very adumbrated on upperside. — **diabolus** ♀ *Schaw*. The opposite. Very black, no white spots and no marginal row of spots. — There are 2 races: **idunides** *Fruhst*. The middle white band of both wings very prominent. ♂ and ♀ specimens differing from specimens from Vienna and from *urbani Hirschke* from Budapest by increased grey-white (not impure yellowish) middle spots of both wings. In the ♀ also hindwings have white spots on outer margin. Underside with white or whitish-yellow markings instead of sulphur-ochre-yellow. Differs from *uralensis Schaw*. by more extensive red-brown submarginal bands on both wings. Bosnia. — **konumensis** *Mats*. differs from typical specimens by larger yellow spots in marginal row on forewings, which in the ♀ are similar to those of the submarginal row. On hindwings the marginal row is pale yellow, very small. Cell spots of forewings larger. The outer yellow band at inner margin on underside of hindwings not intersected. Sachalin.

maturna. *fulgida.* *kautzi.* *diabolus.* *idunides.* *konumensis.*

M. leechi *Alph*. Wings broad. In the ♂ yellow-red with black-brown margin, in the ♀ black-brown, with yellow-red and white lattice. ♂ somewhat black only in the cell; a dark row of streaks arising from the margin dividing yellow-red spots. In the more brightly coloured ♀ the marginal spots are almost white. Underside of ♂ and ♀ are the same. Forewings yellow-red, rather paler in the cell with submarginal almost

leechi.

white, marginal lunules with fine black surrounds. Hindwings brick-red with black veins and yellow-white bands, of which the individual spots have fine black surrounds similar to *maturna*, but larger. The very arched middle band is not longitudinally interseeted by a black line. A small white isolated lunule before the margin below vein 2. Siao-lu.

iduna. **M. iduna** *Dalm.* (Vol. 1, p. 213, pl. 65 b). Specimens from Delbo, Helsingland closely resemble the race *sajana B.-H.*, *iduna* from Quickjock is much darker.

cynthia. **M. cynthia** *Hbn.* (Vol. 1, p. 213, pl. 65 b, e). — *impunctata.* **impunctata** *Hoffm.* has no black dots on upperside of hindwings in the fuscous band. — *reducta.* **reducta** *Vorbr.* The dark middle band of forewings faint or missing. — *leucophryne.* **leucophryne** *Schaw.* Prominent white marginal spots on both wings. — *tricolor.* **tricolor** ♀ *Schaw.* Further pale yellow markings besides the brown and black bands in middle and at outer margin. Ground colour greenish-yellow. — *aurinoides.* **aurinoides** ♀ *Kiefer.* The red-brown band of spots continuous on both wings. Base of hindwings heavily black. All otherwise white spots on forewings are pale ochre-yellow here, smaller; the red-brown spots normal, black margins. Yellow spots of hindwings still more reduced. Underside normal. A ♀ of same, that combines *pallida Spul.*, *impunctata Hoffm.* and *aurinoides* is named *privata.* **privata** *Std.* — *obscurior.* **obscurior** ♀ *Höfer* is a small dusky ♀ from low altitude (700 m). — New races are: *variegata.* **variegata** *Trti. & Vrty.* Brightly coloured specimens, as the name denotes. *mundata.* In some, one or more of the rows of spots in the diseal area are absent and these are called **mundata** *Trti. & Vrty.* Valdieri. — *brunneomarginata.* **brunneomarginata** *Kiefer.* Distinguished by extensive black marking and brown marginal spots on hindwings. Admont. — *drenowskii.* **drenowskii** *Röb.* The yellow submarginal band on upperside wider, the individual spots less sharply outlined. Base of both wings paler than in *cynthia* and *pallida Spul.* Underside halfway between these. Rhodope. — The same author alters the name *pallida Spul.* into *spuleri Röb.* — According to the Püngeler Collection *pallida* ♂ (which according to Röber also occurs in a local form in the Maritime Alps) has white marginal spots on both wings, also the next row is somewhat whitish. In one ♂ from the Rhodope Mountains both rows are yellowish-red on forewings and wider; marginal spots on hindwings white. *leonhardi.* — **leonhardi** *Fruhst.* (13 c) from the same locality and therefore probably identical, even though the description reads differently: In the ♂ all red-brown markings more extensive than in Swiss specimens. Also in the ♀ red-brown submarginal band double as wide as in specimens from the Engadin. On underside almost pure white instead of yellowish bands and spots.

aurinia. **M. aurinia** *Rott.* (Vol. 1, p. 213, pl. 65 c). The compilation in regard to this collective species can still be only provisional, as since the first Volume was published, the forms dealt with therein of *merope Prunn.* and *desfontainii Godt.* have been separated as independant species. This has not been taken into consideration in description of new races and aberrations. A definition "like *merope*" indicates little, as one cannot be certain that the authors in question are actually acquainted with *merope*; the opposite is the more probable. — The number of newly denominated aberrations is enormous: *nana Rehfous* is the inevitable dwarf form. — More or *leucophana.* less pale forms are: **leucophana** *Cab.* The black markings normal, but ground colour of forewings yellowish- *gracilens.* white, hindwings normal. — **gracilens** *Cab.* Both wings uniform yellow-red, the black lines more or less extinct. *deficiens.* — **deficiens** *Cab.* The outer black line on upperside of hindwings extinct; the form in which all the bands of *impunctata.* hindwings are extinct has not yet been named. — **impunctata** *Schultz.* The black central dots are absent in the *diluta.* fuscous marginal band on upper and underside of hindwings. — **diluta** *Heinr.* The black lines on forewing very *namur-* fine partly extinct (see *provincialis*). — **namurensis** *Lamb.* has a deeper yellow-red ground colour. Similar to *ensis.* *didyma*. Without the yellowish spots on both wings. Forewings and hindwings with wide black margins, *fulvacea.* inwardly somewhat undulate. — **fulvacea** *Cab.* is a somewhat paler *namurensis.* — **brunnea** *Tutt* has brownish *brunnea.* ground colour without yellow or red admixture, *ochrea Tutt* is similar; in **praeclara** *Kan.* the straw-yellow and *praeclara.* red spots contrast strongly from the black bands, which are narrow in diseal area. — The following forms are *virgata.* darker: **virgata** *Tutt* (= transversa *Cab.*) with wider black middle band on forewings. — **perianthes** *Cab.* has *perianthes.* white dots in the deep black marginal band of hindwings. — *nigrolim-* **nigrolimbata** *Schultz* has a wide black margin also *bata.* on forewings. — **atricolor** *Schultz.* Forewings black with red-brown spots before the outer margin. With rusty- *atricolor.* red spots with black centres on hindwings; *semifuscata Cab.* is probably the same. — In *epimol-* **epimolpadia** *Rev.* there *padia.* are a few red-yellow spots in the cell of both wings, otherwise like *atricolor.* — *catherinei.* **catherinei** *Le Charles* is an *epimolpadia* with wide yellowish-white submarginal band on forewings. — The following names for variations *sesostris.* of underside: **sesostris** *Schultz.* The yellow-white patches on hindwings are absent. — *sebaldus.* **sebaldus** *Schultz.* The outer orange-red band is diffuse or absent, also the black dots therein may be absent. On the other hand the *gemini-* base is often dark. — **geminifasciata** *Cab.* has a further yellow band next to the typical outer band on hindwings. *fasciata.* — *scotica.* **scotica** *B.-H.* (13 e). The northernmost race differs from *hibernica* on hindwings by small round, not luniform yellow submarginal spots, less pronounced on forewings. On underside of hindwings the lemon yellow margin *anglicana.* is wider. Scotland (Oban, Carlisle). — The south English race **anglicana** *Fruhst.* differs from *hibernica Birch* (Vol. 1, pl. 65 d) from Ireland by more diffuse black bands on forewings and smaller black spots between the veins on hindwings. Instead of yellow spots as in *hibernica* they are dusky ochreous. Nearest to it are many *acedia.* *bulgarica* and *balcanica*! — **acedia** *Fruhst.* ♂ with large regular submedian spots. In the ♀ the pale area on forewings is more extensive. The black and red-brown patches are missing, so that it resembles *davidi Oberth.*

from Mandchuria! Wales. — **volupis** *Frubst.* On upperside similar to *aurunca Trti.* and *sareptana Stgr.* (Vol. 1, pl. 65 d). Brightly marked. The lively light ochre-yellow bands and spots of the median area contrast with the red-brown submarginal band. Yellow marginal spots of hindwings are prominent. Underside similar to *merope-comacina Trti.* Tessin at an altitude of abt. 1000 m. From 1700 m altitude the upperside is less bright, underside less pale, therefore more similar to northern Swiss forms. — To the south we have: **aurunca** *Trti.* In size between *provincialis* and *alexandrina Stgr.* (Vol. 1, pl. 65 c). The same as latter in regard to marking and ground colour, only the bluish marginal lunules on hindwings correspond with those of *provincialis Bsd.* (Vol. 1, pl. 65 e). Caserta. According to Verity scarcely any difference from *provincialis*, but its complete isolation so far in the South is very remarkable. — In Spain we have a few new subforms to *iberica Oberth.* (pl. 65 d): **castillana** *Oberth.* A small race with less lively colour. Castile. — In Andalusia besides the typical *iberica* we find also **alfacaria** *Rbb.* in which the yellowish bands are missing, ground colour red-brown. On hindwings the yellow marginal spots, surrounded with black are less prominent. **morena** *Rbb.* denominates specimens like typical *iberica* but with blackened ground colour. — **maculata** *Bub.* also from Sierra Alfacar have the middle band of spots on hindwings reduced to dots. Basal spots are absent on underside of hindwings. — **bulgarica** *Frubst.* (13 d). Small, brightly coloured. In ♀ heavy black middle band on both wings. ♂ and ♀ generally with light ochre-yellow post-discal spots as in *balcanica Schaw.*, rarely with wide black margin to hindwings of ♂. Bulgaria (Rilo, Rhodope). — **balcanica** *Schaw.* (13 d) resembles *provincialis Bsd.* most, large strikingly light with large whitish marginal lunules. Herzegowina (Vucijabara). Specimens from Trebovitch are already darker and correspond more closely to the race from Carniola. — In regard to the asiatic races it must be mentioned first that according to Oberthür contrary to Vol. 1, p. 214, his *davidi* can claim priority over *mandschurica Stgr.* and *sibirica Stgr.* differs from both. A subform of the latter is **narina** *Oberth.* Smaller, the black markings darker, therefore more striking. — **dubia** *Krul.* is similar to *sareptana Stgr.* (Vol. 1, pl. 65 d) but paler and smaller with red ocelli with black centres, not with a yellow-red band. According to the illustration however more like a large *merope* (plate 65 c), in colouration of *iberica*. Kasan. — **obscurata** *Krul.* differs from same on forewings; its inner half is blackened, in outer half the light bands narrow. Kasan. — **apiciata** *Röb.* closely resembles *mandschurica Stgr.*, forewings pointed, black markings more extensive, yellow-brown bands narrower, especially on hindwings. Underside with more red-brown. Baikal. — **tenebricosa** *O. B.-H.* Similar to *hibernica Birch*. The otherwise light yellow patches of forewings are whitish, the yellow middle band of hindwings almost missing. Kansu.

volupis. *aurunca.* *castiltana.* *alfacaria.* *morena.* *maculata.* *bulgarica.* *balcanica.* *narina.* *dubia.* *obscurata.* *apiciala.* *tenebricosa.*

M. merope *Prunn.* (Vol. 1, p. 213, pl. 65 c). Already in Vol. 1 it was observed that *merope* differed from *aurinia* both in the larval state and the habits of the imago. According to Verity the name of *merope* has always been wrongly applied. The original description reads: "upperside of wings with dark ochre-brown bands. Hindwings with 5 black spots." Underside pale yellow with 5 black spots. Varaita Valley, south of Monte Viso. The dark marking is not much more dense than in typical *aurinia* with a regular latticework, but at base the black dusting is very dark and extended. Most striking however is the almost colourless pale ochre-yellow underside, markings of upperside reflecting through. In most specimens there are certainly still a few black streaks on hindwings and not only 5 black dots. — Consequently the forms from the Tyrol and Swiss High Alps should have a new name: **glaciegenita** *Vrty.* Typical of the Stilfser Joch. It is smaller than genuine *merope*, wings narrower, apex more pointed. A few specimens are strikingly sparsely scaled, especially ♀: **translucens** *Vrty.* The dark bands are wider so that the lighter ground colour is reduced to round patches. *glaciegenita* is whitish on underside, somewhat greenish-yellow, never ochre-yellow like *merope*. The red spots of upperside reflect through, they are absent in *merope*. — Verity is of the opinion that despite the variation in the larvae, *merope-glaciegenita* is not a separate species, because Wullschlegel has found an intermediary form **frigescens** *Vrty.* in the mountains above Martigny (Valais). On underside it is as colourless as *glaciegenita* without red scales, only red patches reflecting through, but with black fine striations as in *aurinia*. On upperside in regard to ground colour, black markings and wing contour half way between *aurinia* and *glaciegenita*. The main question whether the genitals are more like those of *merope* or *aurinia* Verity leaves unanswered. In the lower levels of the Susa Valley and near Turin *glaciegenita* becomes larger, scaling denser, colour fuller on upper and undersides, the black markings thinner. Nevertheless the colour both on upper and undersides remains much duller than in the similar *provincialis* On underside the black hair-like streaks of hindwings most distinct: **moritura** *Vrty.* A dwarf form of this is *minima Gian.* — Closely resembling same **comacina** *Trti.* (13 d) lighter than typical *aurinia*. The black lines all uniformly thin. Underside light buff. Ochre-yellow bands on hindwings almost missing, the black dots in the submarginal band without light surrounds. Como. According to Verity this race is very like the genuine *merope*. Also specimens from Larche in Oberthür's collection closely resemble *merope*. — Among *comacina* a few specimens are found without the black middle band on forewings and the anterior part of same on hindwings: **sterlineata** *Trti.* Quite extreme specimens are **denigrata** *Trti.*: upperside without dark markings, faint traces of markings reflecting through on top from underneath. — **valentini** *Nitsche* comes between *aurinia* and *merope* in regard to size and colouring. Plöckenpass. From this description one cannot discern whether it is *frigescens Vrty.* A few aberrations of *glaciegenita* are: *minor Vorbr.*, further **impunctata** *Vorbr.* The black dots are absent in the middle band of hindwings. — **bicolor** *Wehrli* is predominantly

merope. *glaciegenita.* *translucens.* *frigescens.* *moritura.* *comacina.* *sterlineata.* *denigrata.* *valentini.* *impunctata.* *bicolor.*

black, yellow markings reduced, the red spots and bands of hindwings quite or almost completely replaced by
pseudomerope. black At altitudes of 3000 m — **pseudomerope** *Vorbr.* Upperside very like *merope*, differing by the much more lively marking of underside of both wings. Club of antennae heavily red. Taken in the open, no doubt a form due to cold.

desfontainii. gibrati. **M. desfontainii** *Godt.* (Vol. 1, p. 214, pl. 65 e). — **gibrati** *Oberth.* (13 c) larger than specimens from Algeria. Light spots relatively larger, red colour more brick-red, black markings reduced. Underside of the whole surface
rotunda. suffused with red. Morocco. — **rotunda** *Röb.* is said to represent the frequent form illustrated in Vol. 1, plate 65, which was formerly designated as *provincialis*. Dalmatia, Herzegowina and Albula. Rather a curious collection
cothena. of localities! The genuine *provincialis* is said to only occur in S. France. — **cothena** *Röb.* Ground colour light,
emba. light yellow markings extended especially on forewings. Underside also light. Ussuri. — **emba** *Fruhst.* is still paler. Similarly *banghaasi Seitz* (Vol. 1, pl. 65 c) differs through an almost pure white, not yellowish, middle band on both wings. Marginal spots of hindwings grey-white. Uralsk.

cinxia. leucophana. impunctata. obsoleta. suffusa. pallida. intertigata. transversa. brenthis. ocelliformis. moczaryi. **M. cinxia** *L.* (Vol. 1, p. 215, pl. 65 e, f). Pale specimens are named: **leucophana** *Cab.* Forewings yellowish-white, hindwings somewhat more yellow, black markings normal. — **impunctata** *Osth.* has no dots in spots of marginal band on hindwings. — **obsoleta** *Tutt* refers to specimens with reduced black bands, **suffusa** *Tutt*, the reverse. **pallida** *Tutt* are pale ♀ with heavier black markings than *leucophana*. — Forms more or less adumbrated are: **interligata** *Cab.* The 2 black spots of forewings over the middle of inner margin are conjoined by a streak. — **transversa** *Reuss*: with increased black discal band on forewings. — **brenthis** *Reuss*. Forewings black except on costa and outer margin. Hindwings only black at base. — **ocelliformis** *Reuss*. Upperside adumbrated. Hindwings with more or less distinct ocelli formation in submarginal band. — **moczaryi** *Aign.* All markings of forewings diffuse, only a few brown patches in marginal area, otherwise black. On hindwings only a little brown left on mid costa, ocelli band narrow. Margin of both wings black. — Variations of underside also occur:
bifasciata. **bifasciata** *Hart.* On underside of hindwings the middle band consists of double spots. At border only a fine
expuncta. streaky row instead of wide dots. — **expuncta** *Cab.* The middle band of hindwings whitish without any black
subtusmarcata. interrupta. markings. Upperside paler, the outer black line extinct. *deficiens Cab.* is about the same. — **subtusmarcata** *Reuss* has on the other hand heavy black bands. — **interrupta** *Skala*. Basal band on hindwings dissolved into spots. — The typical *cinxia* originates according to Verity from Scandinavia. It is small, light red-yellow with fine black markings. Throughout France the species is only slightly larger. For this race eventually the
phaira. name of *pilosellae Rott*, typical of Paris, can be utilised. Belonging hereto as the 2nd generation **phaira** *Fruhst.* Ground colour pale, black markings especially on forewings fainter. Typical of Geneva, also in Valais and S.
arelatia. France. — A mountain form **arelatia** *Fruhst.* ♂ and ♀ very small. Ground colour buff. Underside more diffuse
pallidior. than Swiss specimens. Dauphiné. — **pallidior** *Oberth.* is pale red-yellow, with well developed black marking especially in the ♀. Both wings dusted with black. Also more black markings on underside than in *arelatia*. Maritime Alps. — In the Riviera and neighbouring Italy a larger race than the mid-european occurs. Richer
australis. red-yellow, the black markings almost extinct: **australis** *Vrty.*, typical from Florence. — **narbonnensis** ♀ *Fruhst.*
narbonnensis. (13 e) also from the Riviera is on the other hand described as buff, scant black markings in the post-discal area
gergovia. on upperside of both wings. — **gergovia** *Fruhst.* is a small sub-race in which the ♀ has a part of forewings and entire hindwings dusted with green. Auvergne. — As sub-races to *australis* belong: *sicula Rag.* of which no
castitiana. description was available and **castiliana** *Trti.* Ground colour in ♂ and ♀ more brilliant than in Central Italy and Sicily. Forewings more extended than in *sicula* and *australis*. ♂ with wider black bands than *sicula*, ♀ with less heavy black markings and almost without black marginal spots on hindwings. On underside similar to *sicula* by its whitish ground colour but the yellow submarginal band with orange-yellow spots without or almost without black central dots. Escorial. — According to Verity another extreme sub-form of *australis* is *heynei Rühl* (Vol. 1, pl. 65 f) from Asia Minor. — In England and in the damper regions of Central Europe
detia. the species is darker on account of darker ground colour and increased black markings. The Vienna race **delia** *Schiff* (= *cinxia major Esp.*) is characteristic of this. This is the form illustrated in Vol. 1, pl. 65 e, f (with ♀
terracina. *obscurior*). — In Carniola **terracina** *Fruhst.* (13 c) occurs. Large. ♂ with sparse black bands on upperside. The ♀ yellow-green; base of both wings darker than in specimens from Germany and Switzerland. On underside all white patches are pale yellow, also the middle row on hindwings, which otherwise in all other races remains silver-white. The red-brown middle band narrowly margined with black. Closely resembles *australis* in point of size and brilliant colour, but the black marking is heavier. The race in Bosnia is identical only smaller.
sacaria. Specimens from the Eisack Valley in S. Tyrol on the other hand are more similar to *australis*. — **sacaria** *Fruhst.* ♂ on upperside more finely marked with black than *terracina*, the ♀ generally very light. On underside the middle
atgirica. area chalky white outlined distinctly by black zigzag lines. Saratov. — There are still 2 african races: **algirica**
attantis. *Oberth.* Small, the black bands pronounced (Sebdou) and **atlantis** *Le Cerf.* Pale ochre-yellow. On underside of forewings costa pale red-yellow, apex and outer margin creamy-white. Hindwings creamy-white with pale red-yellow spots and black markings. Great Atlas. — According to Verity *tschujaca Seitz* from Altai and *arelatia Fruhst.* from the Dauphiné are identical. This opinion seems to be open to dispute.

arduinna. avinovi. **M. arduinna** *Esp.* (Vol. 1, p. 215, pl. 65 f). **avinovi** *Shelj.* is smaller. The black spots of the middle row of forewings generally larger, often conjoined. Base of hindwings less marked than in *arduinna* but more so than

in *evanescens Stgr.* (Vol. 1, pl. 65 f). Ground colour paler with yellowish-white spots, reminding one of *romanovi Gr.-Grsh.* (Vol. 1, pl. 66 g). S. W. Pamir.

M. phoebe *Knoch.* (Vol. 1, p. 216, pl. 65 g). The dwarf form is here named *parva Caradja*, a one-sided (!) albino *albina Vrty.* — **confusa** *Joan.* ground colour deeper red; black traverse lines diffuse, almost extinct behind the cell. Hindwings richer brown, only the red submarginal row of dots distinct. — **geyeri** *Aign.* On forewings the discal area and middle of the outer margin faintly marked with black. Hindwings heavily black, light patches only on margin. Also the following two are about the same. — **cinxioides** *Mussch.* hindwing so dark at the margin that it resembles *cinxia.* — **totila** *Std.* is like *melanina Bon.* Forewings with reddish-brown spots only left in marginal area. Hindwings as the previous forms. — Among the races, the german is deemed to be typical. In the North Alps it already inclines to vary slightly. — **minoa** *Fruhst.* is a dark form. The black trellis of both wings prominent. The yellow-brown patches of hindwing much reduced. Typical of the Engadin, but occurring elsewhere in N. Switzerland and in Algau. — In the neighbouring N. Tyrol the ground colour of the race **canellina** *Std.* is described as cinnamon brown. On underside of forewings it is actually paler than on upperside, but darker than typical *phoebe.* The darkest patch is at margin on upperside of hindwings anterior to the lunules, which latter are sometimes yellowish-white. The black marking is dainty. On underside deep black lines. Apex on forewings contrasting deep yellow. The brown series of dots on hindwings large and deep cinnamon brown. Innsbruck. — In S. Tyrol the care **koios** *Fruhst.* is strikingly large. Ground colour deep red-brown. Forewings with wide rather paler submarginal area; narrower black spots therein. Specimens from Courmajeur are similar. Later on Fruhstorfer covered a wider territory with this race and included specimens from Laibach, although they often have heavier black markings on upperside, so that they would appear to be closer related to *narenta Fruhst.* being almost double as large as the extreme small *phoebe* from Budapest. — **rovia** *Fruhst.* is similar to the preceding and neighbouring western race *sylleion Fruhst.* It differs from same by faint black marking of forewings. In the ♀ the median band is dissolved into single spots or extinct, also the submarginal band can be absent. It differs from *alternans Seitz* by the uniform yellow-red ground colour which is almost ochre-yellow in the ♀. Also underside with only faint black markings. Lake of Lugano. The autumn form to same: **autumnalis** *Fruhst.* is smaller. The black bands stand out from the rich red-brown ground, only the submarginal band is absent. On underside of hindwings the red-brown band more sharply outlined, yellow conical marginal marks narrower. — Verity describes the same race as follows: On the lake of Maggiore *rovia* occurs, smaller than *koios*, ♂ sometimes as small as *emipauper Vrty.* Forewings narrower, more pointed, uniform and very brilliant yellow-red, the black markings of both wings strongly reduced. Through the reduction in the black marking *rovia* approaches *tusca Vrty.* which occurs throughout Italy and varies little. This however did not hinder giving denominations. **tusca** *Vrty.* more brilliant, richer red-yellow than Mid European specimens. Black markings less extensive. Smaller than *aetherea Ev.* (Vol. 1, pl. 66 a) from S. Russia. A few specimens of the 1st generation are somewhat similar to same owing to their duller ground colour: **aetheraeformis** *Vrty.* The 2nd generation is smaller, wings more pointed, differing from the greek *ogygia Fruhst.* by their very pale ochre-yellow ground colour: **pauper** *Vrty.* Among these, there are specimens varying little from the 1st generation: **emipauper** *Vrty.* (= rostagnoi *Trti.*). — The description of **rostagnoi** *Trti.*, which Verity considers synonymous, reads as follows; ground colour yellow-red with scant black marking, which could in fact better be termed brown. Especially the submarginal band often interrupted or absent. On underside of hindwings more heavily dusted with black behind the yellow-red basal band. Sometimes forewings only still marked with black near base and the lines at costa on hindwings very faint: **sterlineata** *Trti.* from Rome. Elsewhere it is stated: *pauper* is the smallest form, *emipauper* occurs at less arid localities. The *cinxioides* marking (see above) occurs fairly frequently in this form. Typical of Florence, also from Rome and Caserta. Northwards of Trieste specimens occur that are identical with *tusca* and *emipauper*, occasionally a few specimens with heavier black and therefore resembling *phoebina Trti.* from Aspromonte. Actually one should expect to find *koios* and *tusca.* — Also **narenta** *Fruhst.* (13 d) is a large race, ♀ larger than *caucasica Stgr.* Forewings a richer red, the red-brown rows of spots separated by wider black bands. Hindwings very dark. Underside similar to *lokris Fruhst.* but deeper brown. Herzegowina, also in Serbia and Montenegro. — **malvida** *Fruhst.* (13 d) ♂ with fairly pointed wings. The black bands narrower on forewings than in *narenta* (especially on forewings) where the outer band is almost extinct. Underside of forewings faintly reddened. Outer band on hindwings dark yellow-red, heavily margined with black. Bosnia, Maklen Pass. — As a *didyma-caucasica* already exists, one can make use of either *phoebe-caucasica* or at one's own discretion now *phoebe-ottonis Fruhst.* or *caucasicola Vrty.*, as 2 Authors felt themselves simultaneously induced to alter this name. The alpine races of lower altitudes are similar to *tusca*, but they generally have a band of large black middle spots, but less prominent marginal spots: **monilata** *Vrty.*, typical of Martigny. The high altitude form from the Valais is the much brighter coloured *alternans Seitz.* A subform to same occurs on Mount Cenis which is so dark, that one can scarcely recognise same as being *phoebe*, ♀ almost as black as *changaica* (Vol. 1, pl. 65 h) but smaller: **nigro-alternans** *Vrty.* Larger than *alternans* and with blackened base, is the description given elsewhere. — If flying among *tusca* one finds specimens like *monilata*, one does not say that both races occur in the same locality, but one denominates same then **monilataeformis** *Vrty.* But when one finds ♀ specimens among *tusca* where all black markings except the marginal bands and lunules are entirely or nearly extinct: **deleta** *Vrty.* — **sylleion**

phoebe. *confusa.* *geyeri.* *cinxioides.* *totita.* *minoa.* *canellina.* *koios.* *rovia.* *autumnalis.* *tusca.* *aetheraeformis.* *pauper.* *emipauper.* *rostagnoi.* *sterlineata.* *narenta.* *malvida.* *monilata.* *nigro-alternans.* *monilataeformis.* *deleta.* *sylleion.*

Fruhst. (13 d). This is in point of size between *alternans* and the following *virgilia*. The ground colour
virgilia. darker. Forewings with heavier black bands than either. Piedmont. — **virgilia** *Fruhst.* (13 e) ♂ very large. Ground colour light red-brown. The larger submarginal spots of hindwings stand out less prominently than in *occitanica Stgr.* (Vol. 1, pl. 66 a), discal area of forewings with faint black spots. Maritime Alps. Verity describes the 2 last races as follows: *sylleion Fruhst.* from the Cogne Valley only differing from *phoebe* by more brilliant yellow-red ground colour and uniform trellis marking of black lines which do not expand forming patches. Also the race from Gèdre, Pyrenees, belongs here, being isolated. *virgilia Fruhst.* forms a transition between the alpine and spanish races by its thinner black lines and alternately paler and bolder yellow-red wide patches. — French specimens up to northwards of Paris are often similar to *occitanica Stgr.* on upperside, but not so white on underside, the black markings not so thin and therefore not so pale as spanish specimens.
suboccitaniea. Long series show also specimens with more extensive black markings on upperside: **suboccitanica** *Vrty.* In order
subcorythallia. to differentiate the 2nd generation it is to be named **subcorythallia** *Vrty.* Typical from Vendée. — In W. France
erassenigra. quite contrasting specimens occur corresponding to *phoebina*: ground colour very pale yellow-red, in the ♀ almost whitish, only the small space between the 2 submarginal bands deep reddish, especially in ♂, black markings heavy: **crassenigra** *Vrty.* Gironde and East Pyrenees. — Fruhstorfer mentions a small race from Mount Doré, Auvergne, that has the inner margin of forewings and the entire hindwings suffused with green:
galliaemontium. **galliaemontium** *Vrty.* — Now we turn to the spanish group. Esper's *corythallia* originates from Spain (a name that Hübner later also used for an *athalia* form. If anyone is put out thereby they can, according to Verity, substitute the latter name by *eos Haw.*). Specimens of the 2nd generation agree with Esper's plate 61 fig. 5 and 6.
guevara. Therefore the name *francescoi Sag.* is superfluous. The 1st generation is *occitanica Stgr.*, Barcelona. — **guevara** *Fruhst.* (= bethune-bakeri *Sag.*) (13 e) varies considerably. Upperside dull buff, black bands reduced. Underside with less black markings than in *occitanica*, without yellow streaks in the middle of forewings. Castile. — Among *occitanica* specimens occur in which the black crescents at outer margin of forewings are separated by a pale
uelensis. line: **uelensis** *Melcon.* — **gerinia** *Fruhst.* differs from the typical *occitanica* from Andalusia by more extensive
gerinia. transcelullar spots on upperside of forewings. Ground colour uniform ochre-yellow without yellow-red sub-
sextilis. marginal spots. Portugal. — In the East the 2nd generation of *caucasica Stgr.* has been named **sextilis** *Jach.* Hindwings blackish on upperside, the yellow band wide; inner margin yellow-red without black. Underside
lokris. with white-yellow bands. North Caucasus. — **lokris** *Fruhst.* is more extensively black on hindwings than *caucasica* with small light yellow spots behind cell. At the same locality one finds a form with light basal area. Both forms with wide submarginal black bands on underside of both wings. Saratov. — In Asia Minor a few
almana. pale races: **almana** *Rbl.* quite similar to *telona Fruhst.* North Syria. — **amanica** *Rbl.* uniformly yellow-brown,
amaniea. black markings well developed. Amanus Mountains. — **dorae** *Graves*, smaller than *telona* from Beirout. Ground
dorae. colour similar. The dark margin more or less interspersed with yellow-red. The 1st or 2nd submarginal bands incomplete, the 3rd as in *telona*. The margin of hindwings as on forewings, all 3 submarginal bands faint. Black markings on underside of forewings still fainter than in *telona*. Palestine, Trans-jordania. — In central Asia
alatauica. the ground colour again becomes richer. **alatauica** *Wagner* is reddish-brown on upperside with reduced black markings. There are fairly large black dots in the submarginal band as in *cinxia* and *arduinna*, which very rarely also occurs in *caucasica*. The underside of hindwings is striking. The black marking is heavier and conjoined, bands darker brown, ground colour paler, almost white. Ala-tau. — Finally the southernmost races.
phoebina. **phoebina** *Trti.* is similar to the race from Sicily, but the inner margin of forewings and basal half of hindwings are blackened. Aspromonte. — In Sicily they approach *punica Oberth.* (Vol. 1, pl. 66 a) in appearance. Wings short and wide. Ground colour often pure yellow. The black markings fine but complete. ♀ extensively grey-
emipunica. green at base of wings. Underside rather more like *punica* than *tusca*, which is quite comprehensible: **emipunica** *Vrty.* Probably the same race, as it is also described from Palermo is *punicata Rag.* Small uniformly light red-brown, similar to *cinxia*, black markings reduced. — In Taormina and N. Africa there is still a subform to
powelli. *punica Oberth.*, namely **powelli** *Oberth.* Ground colour lighter. Black markings on forewings reduced, almost absent on hindwings. Underside of hindwings orange-yellow as far as the inner line, then pale yellow. Only
leechi. small yellow-red dots are left of outer band. — **leechi** *Rothsch.* is probably the largest race. Larger than *punica*, deep red-brown, not yellowish, black markings finer. Mogador.

sibina. **M. sibina** *Alph.* (Vol. 1, p. 217, pl. 66 a, b). In the aberration **neglecta** *Schultz* the row of black middle
neglecta. spots is absent on both wings, whilst in **delunata** *Schultz* these are present, but the light marginal lunules are
delunata. absent on hindwings, so that the black margin appears wide.

didyma. **M. didyma** *O.* (Vol. 1, p. 218, pl. 66 c). The description of this species in Vol. 1 is comprehensive, but the subject is by no means exhausted, as one will see; fully 30 names for aberrations have been given during
pudica. the last years! **pudica** *Stich.* represents an albino. — Other albinos are: **emicandida** ♀ *Vrty.* Forewings nearly
emicandida. white, only faintly yellowish at costa and outer margin. — **latonigenoides** *Kesenh.* Yellowish-white, the black
latonigenoides. patches heavier than normal. Underside also paler with duller markings. — **pallida** *Skala* "a pale form". —
pallida. Similarly important is the name **calcea** *Skala* for other pale specimens, occuring chiefly on arid chalky mountains.
calcea. — **albicans** *Pisz.* has the usually black patches coloured dull silvery, ground colour normal. — **bosphorana**
albicans. *Cul.* A small stunted form with less black markings. ♂ yellow-red, ♀ pale ochre-yellow. — **acrogynoides**
bosphorana.
acrogynoides.

Rev. has 3—4 small white spots at the apex of the forewings. — **tenuisignata** *Skala* with faint black markings in the discal area on upperside and also traces on underside of forewings. Similar to *neera*. — **alaida** *Std.* has almost no black spots only the forewing is completely surrounded by black. Ground colour fiery. Reminding one of *ferghana Stgr.* (Vol. 1, pl. 66 b). — **speciosa** ♀ *Schultz.* With violet sheen, ground colour yellowish-brown. — **griseofusca** ♀ *Brams.*, both wings uniformly dusted grey-brown. The pale ground colour only retained at costa and as a submarginal band. — **discolor** *Brams.* is similar. Marginal area brownish-yellow. Hindwings adumbrated. — **fulvocincta** *Brams.* Wings dark brown, only a yellow-red stripe of ground colour in marginal area; this is wider on hindwings. — The number of more or less melanic forms is large, so that each collector must decide for himself how many denominations he will apply to the various degrees of melanism. — First we will deal with the forms with heavier spots. **depauperata** *Sag.* Almost without black markings in discal and marginal areas of forewings. Black markings on hindwings enlarged and ray-like. On underside however of forewings ray-like markings but hindwings fairly normal. — **jaika** *Krul.* Forewings extended, ground colour duller. Black markings "strongly developed". — **nigrita** *Skala.* A further distinct row of spots on forewings between the submarginal band and main row of spots in discal area. A large black spot also on inner margin. Hindwings widely black at base and inner margin. — **fasciata** *Skala* (= fasciata *Vorbr.*). The middle row of spots forms a band. Hindwings similar to *nigrita*. On underside of hindwings the red-yellow band narrower, subdivided into 3 parts. — **antico-radiata** *Sauss.* has the middle spot on upperside elongated radially. — **oblongomaculata** *Skala* has the middle row of spots only heavily developed on upperside at inner margin of forewings. Also marginal lunules bold. — In **ochracea** *Skala* besides, the underside is ochre-yellow instead of sulphur yellow and in **inversa** *Skala* the apex is black on underside. — In **ocellata** *Skala* the marginal lunules only of hindwings form large ocellus-like spots. — The following forms are more heavily spotted in outer area. **pieszeki** *Skala.* Submarginal spots merged and with violet sheen. — **marginemaculata** *Kautz.* Both wings with less black markings in discal area. Submarginal spots on forewings somewhat enlarged, more heavily so on hindwings and conjoining with the margin. Similarly on underside of hindwings. — **striata** *Skala.* Margin of both wings 2 mm black, submarginal row of spots conjoining. — **marginata** *Skala* is the same, only the yellow-red colouration of underside is brighter. — **latefascia** *Brams.* has a wide outer band on forewings. Ground colour buff, densely scaled with black. — Now to the more or less quite black forms. **radiata** *Aign.* Forewings black on upperside, only red-brown on costa at base, submarginal band and the veins. In discal area of hindwings only a few black patches. — **latefasciata** *Vorbr.* Base and discal area of forewings almost completely deep black. Obtained also as a form due to exposure to temperature. — **ziegleri** *Stich.* Forewings blackened at base. At end of cell and above inner margin black spots and besides small marginal dots. Hindwings have submarginal band in ground colour, wide at costa tapering off narrowly at anal angle. On underside of both wings black spots in basal area and before the margin. — **fischeri** *Aign.* (= zinburgi *Skala*). Margin of both wings widely black. Basal area of forewings black, only in the cell 2 patches of ground colour. The submarginal row of spots very small. Hindwings black at base and inner margin. Underside of forewings only black at base. Hindwings yellow-red at base with black spots; discal and marginal areas yellowish with a few brown spots; marginal spots large, black. — **mauritii** *Rev.* heavily blackened on forewings from base to the outer row of spots. — **kempelini** *Skala.* Black spots of both wings heavily merged, marginal area of forewings retaining only a few radial streaks, otherwise dark. Pale radial patches longer on hindwings. On underside of forewings also radial streaks, base of hindwings densely black. — **nigra** *Ballestre.* Upperside quite black, only 2 yellow-red patches on forewings. — **bockleti** *Heuer* is a form created by narcosis. Forewings pale orange, veins grey, margin narrowly black, outer bands diffuse, discal area open, base grey-green. Hindwings black at base, costa and inner margin. Marginal lunules widely diffuse. — Variations of underside are as follows: **demaculata** *Brams.* Underside of forewings almost bare of markings. Upperside of hindwings with black patches at base and inner margin diffuse and elongated. — **subtus-crassipuncta** *Rev.* The black marginal dots on underside of hindwings very large. — **interrupta** *Skala.* The yellow-red band of hindwings near the base dissolved into several parts. — **mariannae** *Skala.* The yellow-red marginal band is dissolved into pale patches and surrounded by black scales. — In **cumulans** *Skala* hindwings have blaek basal marks radially prolonged. — According to Verity the author of the typical race was Esper and not Ochsenheimer. According to the illustration it is a small ochre-yellow ♀ of the 2nd generation and this alone suffices to denominate the large fuscous 1st generation **rubida** *Vrty.* Specimens with extensive black marking and only narrow yellow-red marginal lunules, of which the ♀ is similarly but more diffusedly marked, are named **nigrorubida** *Vrty.* Chiefly found in "Saxony", a rather valueless definition, as specimens from Leipzig and the Erzgebirge cannot be identical. Smaller, paler yellow-red specimens with variable black marking are **subrubida** *Vrty.* from Berlin. In the north of Austria no new races are denominated. — Only in S. Tyrol there is a new race: **naina** *Fruhst.* Fairly large with few black markings, therefore similar to *dalmatina Stgr.* but deeper brick-red. ♀ very variable but generally red-brown, rarely yellowish-green. — **lesora** *Fruhst.* ♂ with elongated wing contour, otherwise similar to *oreithyia* by the heavy black markings and wide black margin, especially on hindwings, ♀ smaller than same and inclining towards melanism. Carniola. — **oreithyia** *Fruhst.* (13 e, f) is a large race. ♂ bright brick-red with rounded wing contour. Black spotting heavy, especially middle band of forewings and submarginal crescents on both wings. ♀ as large as the largest ♀ from the Maritime Alps. Colour paler than in Carniola and the Maritime Alps. Dalmatia. — Specimens from Bosnia: **druentia** *Fruhst.* somewhat smaller. ♂ deep red-brown, black marking coarse and

tenuisignata. alaida. speciosa. griseofusca. diseolor. futvocincta. depauperata. jaika. nigrita. fasciata. antico-radiata. oblongomaculata. ochracea. inversa. ocellata. pieszeki. marginemaculata. striata. marginata. latefascia. radiata. latefasciata. ziegleri. fischeri. mauritii. kempelini. nigra. boekleti. demaculata. subtus-crassipuncta. interrupta. mariannae. cumulans. rubida. nigrorubida. subrubida. naina. lesora. oreithyia. druentia.

similar to that of ♀. ♀ very variable, generally forewing is brown-green, hindwing red-brown. Besides these ♀
ochracea. also some that are dull buff or ochreous: **ochracea** *Fruhst.* (this name has already been utilised by Skala); or red-
androtropia. brown: **androtropia** *Fruhst.*; when powdered over with greenish the name is **viridescens** *Fruhst.* and **nigerrima**
viridescens. *Schaw.* has the entire upperside greenish-black. In Herzegowina and Bulgaria a race occurs similar to *dalmatina*
nigerrima. *Stgr.*: **praxilla** *Fruhst.* (= dalmata *Galv.*) (13 e). — **rebrensis** *Guss.* classified by the author as a sub-race to
praxilla. *meridionalis*, with 2 wide black bands on both wings. Base of both wings also black. On hindwings counting
rebrensis. from the outer margin a third band is perceptible. Croatia. — An aberrative specimen of same: **stupenda**
stupenda. *Nitsche* has both wings blackened on upperside except for a few reddish patches at base, discal and outer marginal areas. Same are larger on underside of both wings, merging radially. In the alps there is no uniform race *alpina Stgr.* (typical of Zermatt), in which the typical ♀ is unicoloured grey or grey-green and only
subalbida. exceptionally pale yellow, then denominated **subalbida** ♀ *Vrty.* Another form with red-yellow ground colour,
subalpina. black markings extended and bold (not diffuse like *alpina* and smaller than same): **subalpina** *Vrty.* (= parvalpina
tarlonia. *Vrty.*). Typical of Susa and Bardonechia. — Eastwards we find **tarlonia** *Fruhst.* similar to *lesora* from Carniola but the margin more narrowly black. ♀ partly yellow-brown, partly red-brown. Southern slopes of Simplon. — In the Tessin the 3rd generation of same is small with finer black markings. On underside the otherwise
georgi. pale yellow patches are dull clay colour: **georgi** *Fruhst.* According to Verity these are late emergences of the
armoricana. 2nd generation that elsewhere appears at separated periods. — **armoricana** *Oberth.* the northernmost race of France. Small, very variable and therefore without definitely describable characteristics. Bretagne. — A ♂ of
nominoë. same **nominoë** *Oberth.* has on upperside only bold submarginal spots and a few at base of both wings. On underside of hindwings still a narrow yellow-red band before these spots and a few similarly in the cell. —
bouléi. Another specimen **bouléi** *Oberth.* only varies by the pale colouration. — **wullschlegeli** *Oberth.* is a *nominoë* with
wullschlegeli. wide black margin. On underside of hindwings base red-yellow, rest pale yellow almost devoid of markings. —
seilemis. **seilemis** *Fruhst.* is darker than the neighbouring *subalpina*, dark brick-red, ♀ generally greenish. Maritime
marsilia. Alps. — **marsilia** *Fruhst.* (13 f) has quite a different appearance. ♂ dull brick-red, similar to *dalmatina* but with heavier black markings, ♀ generally yellow-brown, smaller than *seilemis*. Underside with narrow red-brown middle band on hindwings. Riviera. — From Spain only 2 races from Castile described, that are probably
aabaca. identical, as both remind one of the eastern forms: **aabaca** ♀ *Fruhst.* (13 f). Upperside poor in marking. Ground colour dull ochre-yellow similar to *persea* and *dalmatina*, differing from these by the small or absent black spots
castiliana. especially on hindwings. — **castiliana** *Melcon* is compared with *neera*, similar in colour and wing contour but a ring-shaped macula instead of a crescent-shaped one at cell-end of forewings. No black dusting at base of both wings, this otherwise only occurs also in *occidentalis*. The black band of scallops at margin of both wings narrower than in *occidentalis*. Cuenca. — Before we proceed to the new italian races, we must correct a few
persea. earlier incorrectitudes. **persea** *Koll.* is typically often very large. Small ochre-yellow S. European specimens
pumila. which are often so designated, should be named **pumila** *Vrty.* The names *dalmatina Stgr.* and *romana Calb.* are also not identical with *persea*. They denominate the small ochre-yellow to reddish-yellow 2nd generations from their localities in Dalmatia and Rome. Nothing is known of the names and appearance of the 1st generation.
roccii. — **roccii** *Trti.* has the size of *romana*, the very light colour is like *deserticola Oberth.* The black middle spots
eutitania. reduced, especially on hindwings. Genoa. — **eutitania** *Fruhst.* is larger than *pekinensis* (Vol. 1, pl. 66 e) ochre-yellow as most italian races with few black markings, especially on hindwings. According to Verity, a late
protea. emergence of 1st generation of *patycosana Trti.* (described however from Calabria). — **protea** *Vrty.* occurs at Tuscany and Elba. As the name indicates it is very variable, often mistaken for *meridionalis*, larger, more
caldaria. brightly coloured, also the ♀ very variable, never uniformly grey. The 2nd generation **caldaria** *Vrty.* is only $^2/_3$rds the size and less dimorphous, typical of Florence and Caserta. It resembles *persea Koll.* and *romana Calb.* In ♂ and ♀ the discal area has less black than the 1st generation, no melanic ♀, but generally light yellow-red. On the other hand some specimens of the 1st generation are identical with *graeca Stgr.* and even if there is no difference at all (because Verity does not examine the genitals), nevertheless the specimens must at all events
graecaeformis. be differentiated by name: **graecaeformis** *Vrty.* There is scarcely an acceptable description of *protea* and *caldaria*, as Verity wants to extend the name to cover all races between *alpina* (Zermatt) and *meridionalis* (from Sicily) whereby innumerable names would become invalid. The 2nd generation on Elba varies slightly, the ♀ is however just as pale yellowish-red without adumbration at base as in *caldaria*, although the black marking is not so varyingly faint, but consists of uniform large regular round black spots; marginal band narrow
leopardata. but transverse: **leopardata** ♀ *Vrty.*, exceptionally also near Florence similar ♀ under *caldaria*, the ♂ from Elba differing little from *caldaria*. — From the delta of the Arno (Pisa) ♂ and ♀ are very darkly marked, the ♀ as
palustris. grey as *alpina*: **palustris** *Vrty.* in the 1st generation, the 2nd is not known. — A mountain form from the Apennines is not so melanic as *alpina*. The ♀ is never so white and marking of underside less extensive than in
apenninigena. *protea* (the reference to *alpina* is therefore nonsensical), the ♂ exactly like *protea*: **apenninigena** *Vrty.*, typical
subpatycosana. of Lucca at 1200 m altitude. The 2nd generation of same is also *caldaria*. — **subpatycosana** *Vrty.* occurs in the same locality but from the damp low lying coastal region. It is similar to *patycosana Trti.* discussed below but the ground colour is pale yellowish-red, spots clear but smaller, among the ♀ rarely specimens with grey ground
romula. colour. The 2nd generation of same is **romula** *Vrty.* Lucca. — **romana** *Calb.* is the form from the roman
romana.

Campagna, in spite of the distance separating same from *persea Stgr.*, it can scarcely be differentiated except by its smaller size. It is compared by the Author with a pale *neera F. d. W.* which amounts to practically the same. The 2nd generation is said to be the same as *caldaria*. — **majellensis** *Dhl.* can scarcely be much different. *majellensis.* Small, light yellow-red, similar to *pumila-persea*. Markings concentrated almost always on the middle band and submarginal without the intervening rows. Basal markings sparse but distinct. Margin narrow, dentate. The ♀ also light yellow-red with small spots. Underside of hindwings with uniform wide yellow band, closed narrower in the ♂ and intersected by veins, Majella. — **diluta** ♀ *Brams.* Ground colour dark yellow-brown. The *diluta.* Abruzzi race. Probably only an occasional aberration, as no such race is ever mentioned elsewhere. — **patycosana** *Trti.* *patycosana.* ♂ bright yellow-red. All spots and dots large, separated, marginal lunules merged. Only a few spots, in the disc of hindwings like *meridionalis Stgr.* from Sicily. The yellow-red lunules on underside of hindwings diffuse and often separated. ♀ large, ground colour sulphur-yellow, more or less reddish-yellow on costa of hindwings, not so much dusted with green as *meridionalis* ♀ and *alpina* ♀. The black spots large, somewhat diffuse but separate, a little like *caucasica*. On underside of hindwings darker yellow, not sulphur yellow, otherwise like *turanica Stgr.* This is the 1st generation from damp regions of the plateaux of Calabria, the 2nd resembles *romula Vrty.* In the mountains of Calabria, as in Aspromonte **neeraeformis** *Vrty.* occurs. Similar *neeraeformis.* to specimens from Tuscany. ♂ fiery colouration, black markings extensive, the yellow-red bands of underside wide and bright, similar to the S. Russian race. Ground colour of ♀ light, inclining to rose rather than yellowish-red. — According to Verity these specimens from Calabria bear a resemblance to oriental races by reason of their pointed wing contour. — In Sicily the main race is *meridionalis Stgr.* Among typical ♀ there are some with almost white ground colour: **albescens** *Vrty.* — **sicula** *Std.* is a starvation form. Ground colour similar *albescens.* to *occidentalis Stgr.*, but with little black marking. On forewings only a middle row of small almost conjoined *sicula.* dots and an antemarginal row, on hindwings only the latter, therefore similar to *didymina* or *deserticola*. ♀ somewhat grey on forewings, hindwings brownish, markings similar to those of ♂. In arid zones in Sicily. — In N. Africa the 1st generation is **mauretanica** *Oberth.*, differing from *deserticola* by more fiery-red ground colour, *maure-* both red bands on underside of hindwings always complete. Algeria. The 2nd generation, illustrated as *lanica.* *occidentalis Stgr.* (Vol. 1, pl. 66 d) should be called **occasus** *Vrty.*, as *occidentalis* is utilised for the 1st generation *occasus.* from S. Russia and central Asia and besides represents a conglomeration of races, which must still be subdivided. The size of the black spots in the middle row is said to be characteristic of the african races. — **nisseni** *Rothsch.* is as pale as *deserticola* but has more numerous black discal spots. Margin of hindwings more *nisseni.* widely black. Tunis. — Specimens with rather less black marking, somewhat larger than *deserticola* are named **interposita** *Rothsch.* Batna. In all 3 forms the width of the yellow-red band on underside of hindwings varies *interposita.* considerably. — **harterti** *Rothsch.* is a very pale form reminding one somewhat of *acraeina Stgr.* (Vol. 1, pl. 66 c) *harterti.* from Asia. The black margin very narrow. The ♀ generally with few and small black spots. El-Golea. — A form similar on upperside to a large *deserticola* but on underside of hindwings like *mauretanica* is **abyssinica** *abyssinica.* *Oberth.* — In Russia the 2nd generation of *neera F. d. W.* has been given a name: **kazanskyi** *Krul.* Forewings *kazanskyi.* elongated. Ground colour dark brick-red, black marking heavier, black triangles at outer margin. Kasan. — Asia is the home of many forms. **transcaucasica** *Trti.* ♂ with lively colours. Marginal band of both wings *transcau-* widely black, marginal lunules wide and conjoined. ♀ marked like the ♂. Transcaucasia. — Perhaps identical *casica.* and then with right to claim priority is **paphlagonia** *Fruhst.* ♂ and ♀ between *turanica Stgr.* and *persea Koll.* *paphlago-* Upperside more heavily marked with black than *persea*, ground colour darker ochre-yellow, not red-brown *nia.* like *turanica*. On underside the red-brown spots of submarginal band heavily surrounded with black, much less so in *persea*. Transcaspia. — **elavar** *Fruhst.* Similar to *druentia Fruhst.* Hindwings with quite faint marginal *clavar.* lunules. ♀ darker on forewings than *persea* with heavier black markings, hindwings pale red-brown like *turanica* with less black markings than *persea*. Sarafshan. — The form *turanica Stgr.* dealt with in Vol. 1, should be named *turkestanica* according to Sheljushko, as there is already a *minerva-turanica Ersch.* (= pamira *Stgr.*). An aberrative ♀ of this race is not as customary only somewhat paler than the ♂, but resembles *ala Stgr.* (Vol. 1, pl. 66 f) in colour and is named **pseudoala** *Shelj.* The red-brown outer band on underside of hindwings *pseudoala.* is not only intersected by the light veins, but the single spots have white centres and therefore this underside is named: **alboocellata** *Shelj.* — **nadezhdae** *Shelj.* is like a small *turanica*. In the ♀ fewer black marks on hind- *alboocellata.* wings, without any in discal area. In the ♂ 2 yellow-white patches in apex of forewings that occur rarely in *nadezhdae.* *turanica* and then only faintly. Pamir. — Besides this the following new races occur in Pamir: **shugnana** *Shelj.* *shugnana.* from the neighbourhood of Chorog. In the ♂ the black markings are heavier than in *nadezhdae*. The submarginal spots on both wings are large, luniform almost band-like. The next row is absent as in *nadezhdae*. The spots of the middle row are also larger but do not form a band. The whitish apical marks are absent or only faint. Base of hindwings less adumbrated. Dark margin, submarginal spots present, middle spots only indicated by small dots. The ♀ resembles on upperside a pale *ala* ♀. On underside of ♂ and ♀ the black marking is heavy, the spots of the middle row on forewings large and bold. The yellow-red bands on hindwings are wide. — From the same locality other *didyma* specimens have a different appearance: **problematica** *Shelj.* In these the ♂ has *proble-* brighter colours, of more reddish tone than *nadezhdae* and *shugnana*. The white patches at apex of forewings *matica.* are absent. The black markings like in *shugnana*. The space between the dark margin and the submarginal spots is narrower than in the latter. The ♀ rather paler than the ♂. Costa of forewings somewhat whitish; outer

margin fairly widely dark, marginal spots merge with same, submarginal spots closely attached. The next row faint or absent, the middle row bold, especially the spot on inner margin, the upper 4 merged together. The submarginal spots of hindwings large and round, not forming a narrow line of lunules as in *shugnana*. On underside the yellow-red patches perhaps a little more intensive than in latter. According to the dates of capture
ishkashima. perhaps *problematica* is a 2nd generation of *shugnana*. — **ishkashima** *Shelj.* occurs in S. W. Pamir and is perhaps similar to *chitralensis Mr.* (Vol. 1, pl. 66 f) but larger, ground colour deeper orange-red, little paler than *nadezhdae*. The ♂ corresponds on forewings to *problematica*, the band of lunules on margin of hindwings
enarea. resembles *shugnana*. On underside of hindwings with narrow but transverse yellow-red bands. **enarea** *Fruhst.* ♂ has a completely transverse submarginal undulate line which is much fainter than in *didymoides Ev.* Forewings with indistinct black maculae. Discal area of hindwings of ♂ and ♀ without markings. ♀ dull buff on
altaica. forewings, hindwings brilliant yellow-red. Garm. — **altaica** *Gr.-Grsh.* is also similar to *didymoides*. Forewings of ♀ yellowish-red with very large quadrangular spots, especially in the middle and outer rows. On underside of hindwings in ♂ and ♀ a completely transverse band of red-brown spots with black border. Altai. —
yugakuana. **yugakuana** *Mats.* is similar to *didymoides* but the spots of both wings are distinctly smaller. A yellow-red pupilled black spot on forewings at base over the inner margin. The black marginal band is narrower. Discal spots in centre of hindwings, the spots at base in cellules 3, 4 and 5 smaller, the black marginal band narrower. On underside of forewings the spots are only distinct in the cell and at apex. Submarginal spots in cellules
eupatides. 3—6. The yellow-red band on hindwings is wider. S. Mandchuria. — **eupatides** *Fruhst.* ♂ and ♀ like *pekinensis Seitz*. The black margination of wings narrower. Forewings more heavily sprinkled with black, the middle band dissolving at the wall of cell. On underside all black spots small, the dull yellow bands wide. ♀ dark clay colour, slightly paler than ♂. Forewings with 2 submarginal rows, hindwings with 3 discal rows of black spots.
kalugini. Bands of underside whitish. Kansu, 1200 m. — **kalugini** *Kardak.* belongs to *sutschana Stgr.*, but its black
robiginosa. marking is very extensive, ground colour dusky. — **robiginosa** *Kard.* (13 c) is ochre-yellow on underside of
lilliputana. hindwings, nowhere yellow. The black marking is as in *sutschana*. — **lilliputana** *Oberth.* is a small race. Ground colour and marking not described. Underside of hindwings in ♂ and ♀ heavily orange-yellow. Not dimorphous. Akbès.

agar. **M. agar** *Oberth.* (Vol. 1, p. 220, pl. 67 e). **baileyi** *Watk.* is the only new race to be mentioned. Upperside
baileyi. of ♂ and ♀ lighter and diffuse. Underside of hindwings without black dots in outer yellow-red band, thereby somewhat like typical *didyma*. The black submarginal sagittate marks very distinct. Thibet.

trivia. **M. trivia** *Schiff.* (Vol. 1, p. 220, pl. 66 g). Paler aberrations or such with fainter black markings are:
variegata. **variegata** ♀ *Grund.* Wings somewhat yellowish at base and middle. Spots therein brownish-red with black
ornata. surrounds on forewing. Marginal lunules light ochre-yellow on both wings. — **ornata** *Grund.* has only these
tenuisignata. marginal lunules whitish ochre-yellow. — **tenuisignata** *Skala* has faint black markings on upper and undersides; *ardens Erfurth* is approximately the same. The black lines in marginal area of forewings faint, absent in the centre, veins as fine black lines. Hindwings similar . Underside of forewings like upperside, hindwings yellow
aequivalens. with black marginal dots: middle band and base yellow-red, almost without black patches. — **aequivalens** *Sag.* corresponds on upperside exactly to *didyma-depauperata*. On underside of hindwings also somewhat radiating
hoffmanni. markings. — Dark forms are: **hoffmanni** *Skala* (= radiata *Skala*). Described as a form of *didyma*. Patches
lalemarginata. of the discal row form longitudinal streaks in both wings. Ground colour red-brown. — **latemarginata** *Grund.* has a very wide black margin especially on hindwings, so that the marginal lunlues are absorbed therein. —
melanina. **melanina** *Grund* has forewing heavily blackened, hindwing black only at costa. — **interrupta** *Skala* varies on
interrupta. underside. Band on hindwing interrupted like in *didyma-interrupta*. — Now a few new races: **lathon** *Fruhst.*
lathon. (13 f) ♂♀ size like *fascelis Esp.* from S. Russia but darker with heavy black markings not conjoined or forming bands. Underside with heavier black margin to the red-brown band of spots on hindwings. Bosnia, Herzegowina.
catapelioides. — **catapelioides** *Std.* Quite as large as *fascelis*. Ground colour light ochre-yellow reminding one of *catapelia Stgr.* from Central Asia. The black markings with bold outline, not dusted with black. Marginal lunules dainty and contiguous. Middle spots of forewing about quadrangular, especially the anterior ones on hindwing elongated. Some dots at margin of both wings between crescents and margin, such as are not found in any other race.
mixta. Calabria. — **mixta** *Evans.* More variable and brightly coloured than *didyma-chitralensis Mr.* As *mixta* and *chitralensis* occur together, both cannot be *didyma* forms. Chitral. More detailed description not available.

aurelia. **M. aurelia** *Nick.* (Vol. 1, p. 221, pl. 66 h). Pale aberrations are: **latonigena** *Splr.* Ground colour yellow-
latonigena. white. — **chappuisi** *Heinr.* Ground colour normal. Counting from outer margin the 3rd black band is missing
chappuisi. on forewings, the others also are fainter. Hindwings similarly. Base however is rather deeper black. Darker
virgata. forms are: **virgata** *Closs.* Both wings with black discal band. — **radiata** *Kieff.* ♂ adumbrated arising at base,
radiata. extending ray-like along the veins, named similarly in *aurelia* and *rhaetica* as the markings are the same. —
pyronioides. **pyronioides** *Reuss.* Forewings striped radially orange-yellow and black. Underside of both wings black at base.
corythalina. In the forks of the veins on forewings black cuneiform marks like *athalia-pyronia Hbn.* — **corythalina** *Rbl.* corresponds to *athalia-corythallia*. Forewings yellow-red with 2 black maculae in cell, veins widely black at

margin. Hindwings black-brown with yellow-red centre and band of spots before margin. Underside of forewings almost completely yellow-red, hindwings light yellow. — **melanodes** *Cab., charlotta Rbl., lessmanni Closs*, vary slightly from one another in detail. All are, corresponding to *athalia-navarina*, quite black forms with the exception of very few pale patches. — The new race **valsunga** *Fruhst.* attaches itself to *rhaetica Frey.* ♂ compared with german and austrian specimens is smaller, hindwings generally with heavier black, suppressing the red-brown spots. ♀ with more extensive and paler ochre-yellow colouration on upperside, so that it has resemblance with *parthenie-varia M.-D.* Upper Bavaria. — **mendrisiota** *Fruhst.* also similar to *rhaetica*, varying by the larger ochreous spots on forewings, the black inner submarginal line can be missing, so that longish yellow-red spots are created. In ♀ all bands of spots pale yellowish or red-brown, but never varying alternately. Lugano 600 m, 2nd generation. — **luceria** *Fruhst.* is very large, similar to *mongolica Stgr.* Fiery yellow-brown, rows of spots especially on forewings very wide. Piedmont, Cogne Valley. — **lucasi** *Vrty.* is again somewhat similar to *rhaetica*, but black bands more irregular in both sexes thereby somewhat similar to typical *athalia*. The middle "S" shaped band faint whilst in Swiss specimens it remains bold even if the others are finer. Ground colour of ♂ and ♀ pale yellow, in the ♀ base and discal area often very pale being similar in this to *parthenie* of N. France. Also from N. France. According to Fruhstorfer the french *aurelia* is actually *athalia*. — **mussinae** *Costant.* Large. Upperside deeper yellow-red. Underside more yellowish with black lines and whitish bands. Borzana. — **marussia** *Fruhst.* differs from the similar *seminigra Seitz* by the smaller submarginal spots on hindwings which are generally darker. The red-brown outer band on underside is more pronounced than in Carniola, darker and yet with more distinct black crescents. Saratov.

melanodes. *valsunga.* *mendrisiota.* *luceria.* *lucasi.* *mussinae.* *marussia.*

M. athalia *Rott.* (Vol. 1, p. 221, pl. 66 i). Albinotic specimens are named **latonigena** *Spuler*; *alba Rehfous* and *leucophana Cab.* will be about the same. Other pale forms with reduced black markings are **dorfmeisteri** *Hellw.* The usual black markings are here grey-wood colour, paler than ground colour. Markings on underside coffee-brown. — **parnassiotropa** *Bryk.* Submarginal band on forewings quite extinct, the adjoining inner one almost, the next short one again quite. — **obsoleta** *Tutt* has the black traverse lines considerably reduced or absent. In *corythallia Hbn.* (= samonica *Riesen*) only the middle lines are absent. — **tricolor** *Horm.* The middle row of spots is orange-red, anteriorly with pale yellow central dots. Beyond the cell and in basal area dark yellow-red spots. Inner and outer bands light yellow-red. (The bands mentioned here refer to the ground colour of other authors.) — Dark forms are: **virgata** *Tutt*, with heavy middle band on both wings. — **bifasciata** *Rev.* With wide black band at base and in middle of forewings. — **semiradiata** *Trti. & Vrty.* Forewings deep brown on upperside but not glossy. Also hindwings widely dark brown on costa. Narrowly dark at base and cell, more widely so towards the margin. — **csikii** *Aign.* Discal and marginal area of forewings black. Basal area of hindwings brown with large black spots. — **illyrica** *Std.* Upperside like *athalia-corythallia Hbn.*, underside like *aurinia-sebaldus Schultz* (Vol. 1, p. 214). — **pseudaurelia** *Ebert.* Upperside darker like *britomartis* (Vol. 1, pl. 66 h), on underside of hindwings between the marginal lines more prominently dark than anterior marginal lunules. — **melanaurelia** *Oberth.* Dark brown, only on hindwings an inner yellow-red submarginal band, very dark also on underside. — **melanoptera** *Oberth.* is less extremely dark especially on underside. According to Fruhstorfer these 2 forms should not be under *aurelia* but here. — **fasciata** *Vorbr.* has a dark middle band only on forewings. — **cinnamomea** *Vorbr.* is widely coppery at margin on underside of hindwings. — The swedish race **lachares** *Fruhst.* is smaller than the mid-german. ♀ less brightly coloured on upperside, ♂ with daintier submarginal band on forewings. On underside the middle band is narrower, red-brown bands bold, reminding one of *dejone*. Sweden, Norway and similarly also from Königsberg. In Finland the black markings on upperside of hindwings are reduced, so that similarity is created with *alatauica Stgr.* (Vol. 1, pl. 67 b). This race is described elsewhere as **fennica** *Reuter*: wings with wide black margin on upperside, other traverse lines thin. Hindwings yellow-red on underside from base to discal band, therefore without basal spots. Finland. — **tessellata** *Tutt.* Hindwings straw colour on underside with black veins and yellow spots, of which 3 are situate at base, a double middle row with black borders and marginal spots with black lunules. England. — **suessula** *Fruhst.* is like *helvetica Rühl* from Engadin on upperside, but smaller. On hindwings the light spots are punctiform on black ground. In the moors of Upper Bavaria. — In the Salzkammergut there are 2 dark races. **pseudodictynna** *Std.* Ground colour dark brown. Black markings of forewings increased frequently forming bands at base and in middle. Submarginal band 2—3 mm wide, similar to *fennica Reuter.* Brown spots quadrangular, sharply outlined as in *dictynna*. Hindwings also similar to *dictynna* by the dark base and widely black margin. Discal area with faint pale patches, which in the ♀ are often whitish. — Next **funesta** *Std.* Ground colour impure dark brown. Dark markings can be brown instead of black. — An aberrative specimen of same that might be a hybrid with *cinxia* is named **cinxiodictynnoides** *Std.* — A sub-form: **permixta** *Std.* reminding one somewhat of *phoebe-alternans Seitz* has a paler middle band on upperside of both wings, similarly the marginal lunules that develop into ivory white in the ♀. Antemarginal band very dark brown, basal half fairly dark but with white spottings. Lambach. — Among the Swiss races *helvetica Rühl* was first described, it is limited to the Engadin, as naturally many races occur in Switzerland. — **alpestris** *Vorbr.* is a small dark mountain form; an ≍-mark on inner margin of forewings. Zermatt. — **noctula** *Fruhst.* ♂ very small and like the darkest

athalia. *latonigena.* *dorfmeisteri.* *parnassiotropa.* *obsoleta.* *tricolor.* *virgata.* *bifasciata.* *semiradiata.* *csikii.* *illyrica.* *pseudaurelia.* *melanaurelia.* *melanoptera.* *fasciata.* *cinnamomea.* *lachares.* *fennica.* *tessellata.* *suessuta.* *pseudodictynna.* *funesta.* *cinxiodictynnoides.* *permixta.* *alpestris.* *noctuta.*

north german *aurelia*. Base of hindwings extensively black, yellow-red streaks weak, also outer margin widely black. ♀ more like *dictynna*, as rows of spots are yellowish and often punctiform. Longish ochreous streaks in middle of hindwings or even little pale yellow dots. In the latter case very like *dictynna-vernetensis Oberth.*

luciflua. Glärnisch. — At lower levels the species is much paler: **luciflua** *Fruhst.* ♂ and ♀ ochre-yellow on upperside with sparse black bands. Almost pure white middle bands on underside of hindwings. Lower Valais, Geneva, Jura.

melida. — **melida** *Fruhst.* is like *luciflua* from Geneva on upperside, but rarely with white middle band on underside and throughout darker yellow. Margin on upperside very narrowly black and the submarginal band is often missing on both wings. Hindwings with little black at base. Ground colour especially in ♀ duller than in other southern races and thereby like *iberica Stgr.* (Vol. 1, pl. 67 a). Melide (Lugano). The 2nd generation is darker. Other specimens from Tessin more or less form a transition to *celadussa* from the Maritime Alps or *delminia*. —

delminia. **delminia** *Fruhst.* (= teriolensis *Wagn.*) (13 g). Ground colour rich red-brown, post-discal area very wide on both wings. Hindwings with less black at base than in northern races. Similar to *mehadiensis Gerh.* (Vol. 1,

britannica. pl. 66 i) but yellow and red spots and bands on underside of hindwings less intensive. S. Tyrol. — **britannica** *Vrty.* (= britanna *Vrty.*). Highly variable. A few pale specimens like those from Central Europe but generally larger. All black bands wider, diffuse. Red-yellow marginal lunules smaller, rounder. The space between the two dark antemarginal bands appears to be larger, ground colour more reddish, duller. ♀ darker, sometimes however yellowish like italian high altitude forms. S. Devon. — In Italy as also in France specimens are found

punctifera. in hot dry localities in which the black band of hindwings behind the cell is dissolved into spots: **punctifera** *Vrty.*

celadussa. — **celadussa** *Fruhst.* Large. Brown patches large. With wide yellow middle bands on underside of hindwings, on the other hand submarginal band reduced. Maritime Alps. — On italian territory *celadussa* occurs, but at Turin it is replaced by a small dark race, similar to *aurelia Nick.* and is only recognisable thereby that it flies

aureliae-formis. concurrently with genuine *athalia*: **aureliaeformis** *Vrty.* (25—28 mm). The yellow-red colour is dull, often red, also faint rusty coloured spots on underside have yellow centres with reddish hue. — On Elba and again in

maxima far away Calabria a large race occurs: **maxima** *Trti.* Ground colour fiery yellow-red, extensive black markings especially at margin. Hindwings bright yellowish on underside. In a few specimens from Elba the yellow-red

berisali-formis. marginal lunules are as reduced as in *dejone-berisali Rühl* (Vol. 1, pl. 66 i), they are named **berisaliformis** *Vrty.* — Other specimens among *maxima* have as few black bands as normally occur in specimens from the hills

dejone-formis. around Florence: **dejoneformis** *Vrty.* — Finally in some ♂ and ♀ the middle band of forewings is wide: **atrovittata**

atrovittata. *Trti. & Vrty.*, in other ♂ it is quite absent: **evittata** *Vrty.* And all this on little Elba! — In describing these

evittata. forms the long out-of-date name *cymothoë Bart.* has been revived also for *navarina Selys.* — *magna Seitz* (Vol. 1, pl. 66 i) and *nevadensis Oberth.* occur according to Verity not alone in Spain, but also in Italy. These *nevadensis* were originally described as a form of *dejone* which Oberthür later on allotted to *athalia*. As there is already a *parthenie-nevadensis Spul.*, Verity alters this name into *dejoneformis*. There are no particulars as to locality

tenuis. of *magna* in Italy. — In the italian peninsular and also in Spain, but typical of Florence we have: **tenuis** *Vrty.* ♂ 27—34 mm, ♀ 33—36 mm. A mixed race among which also typical *athalia* and similarly such like *dejoneformis*, *mehadiensis*, *magna* and *iberica* occur. More richly coloured with yellow-red than Mid-European specimens. The black marking thinner, often more like *dejone* or *parthenie* than *athalia*. At higher altitude the race becomes

tenuicula. smaller: **tenuicula** *Vrty.*, typical of Mount Sibillini, 1200 m. It is fairly like *nevadensis* (*dejoneformis*). — Also

parthenides. *parthenie-varissima Vrty.* occurs there and there are transition forms; **parthenides** *Vrty.* Upperside like *athalia*,

athalides. underside of forewings with black marking extinct like *parthenie*, and **athalides** *Vrty.*, upperside like *parthenie* but inner margin of upperside of hindwings quite light yellow-red. — ♀ from there have sometimes elongated wings, fringes long, alternately pure white and blackish, like *parthenie*, but with straw-yellow colouration on

paleatincta. upperside: **paleatincta** *Vrty.* — In other localities we have the following subforms of *tenuis*: **atrovittata** *Trti. &*

atrovittata. *Vrty.* with very wide and deep black middle band of forewings, Valdieri, also similar from Elba; and **aterrime-**

aterrime-vittata. **vittata** *Vrty.* in which this band covers ¼ of width of wings. The band adjoining inside touches it, the 3

submaxima. following remain separated. Caserta. — **submaxima** *Vrty.* represents *maxima* in damp regions along the coast. It is smaller, not quite such a fiery yellow-red, not so heavily marked with black as *obscura Vrty.* from Calabria. The 2nd generation to same is *tenuis Vrty.* Lucca. — In S. Italy and Sicily *tenuis* is also found in the plains, although in consequence of the hotter climate there it should develop an altitude form. Instead of this a larger race is indicated from Aspromonte in 1200 m altitude of deep reddish colouration with extensive black markings,

obscura. especially in ♀ at base of wings: **obscura** *Vrty.* — Speeimens that on the contrary are paler on both wings,

rhodoleuca. whitish-yellow at base to middle of wings are named: **rhodoleuca** *Stdr.* Cosenza. — In the Madonie Mountains

sicula. in Sicily we find **sicula** *Trti.* like *luciflua* from Geneva, but it is darker on underside, the ♀, according to Oberthür, is very pale, dusted with blackish-green, so that it becomes like *parthenie*. Verity states as the differences between *athalia* and *parthenie* that the inner margin at anal angle of hindwing is partially yellow-red in *athalia*, whilst in *parthenie* it is always quite black, so that where the races occur concurrently they are fairly easy to

scardona. classify. — On the other shores of the Adriatic we find in Agram **scardona** *Fruhst.* (13 g). Similar in size to *celadussa* from the Maritime Alps. Wings longer and more pointed. Black outer margin of both wings wider. There and at base of hindwings only sparse yellow spots. Underside more uniform, with darker yellow-brown

limera. bands and thereby separable from the pale *mehadiensis*. Agram. — **limera** *Fruhst.* (13 g) closely resembles *scardona*. Can be differentiated on upperside by very regular and small spots on forewings almost always

separated into 3 rows. Hindwings with very wide black margin, generally without light spots. Mountain form from Bosnia. Other specimens from there belong to *scardona*, which is not remarkable as they are relatively close. — **aceras** *Horm.* also has spots arranged in 3 parallel rows, here they are light ochre-yellow, less bright than in *athalia* and quadrangular on brown ground. The outer row is more or less extinct. Basal area of underside orange-red, not adumbrated. Middle band of white oval spots and orange-red lunules at margin. A longish white spot at anal angle, bordered with black anteriorly, similar to *dictynna*. ♀ still lighter reddish-yellow on upperside with thin black-brown bands. Cernowitz. — According to Fruhstorfer *dictynnoides* dealt with under *aurelia* in Vol. 1 belongs here. Transylvania, Hungary. — **dejonides** *Wagn.* is also a light race, but small. ♂ fairly pale on upperside, ♀ still more so, in ♀ about similar to *dejone* from Andalusia. The black markings faint, in this also like *dejone*, middle band is still the heaviest. Just before the margin both wings show yellow-brown ground colour especially in the ♀ like *dejone*. Rumania. — **boris** *Fruhst.* (13 g) is larger than the races from Bosnia, Croatia, Hungary. Upperside extensively spotted with ochre-yellow, more so than in *scardona*. Forming a transition to *bathilda Fruhst.* from the Amur. Bulgaria. — **anatolica** *Wagn.* In colour and markings like a pale *dictynna*. Remarkable on account of the complete absence of marginal lunules on both wings so that a wide black margin is created. Also the penultimate row of spots is small. The pale yellow patch on underside of forewings at apex and margin is absent. Hindwings contrast less strongly. Sultan Dagh, Asia Minor. — **lucifuga** *Fruhst.*, a new race from Russia still darker on upperside than *limera* (but no mention was made in respect of degrees of darkness when describing same) still fewer spots on hindwings. Also underside heavily adumbrated. A transition to *tinica* from the Lake of Baikal. Saratov and Caucasus. — This **tinica** *Fruhst.* is like *kenteana Stgr.* Hindwings heavily black except for a red-brown submarginal band. Base of forewings also more heavily black. Underside reminding one of *dejone*, dark red-brown with narrow yellow middle band on hindwings and with submarginal band widely bordered with black. Irkutsk. — From the same region, but probably different altitude we have **bathilda** *Fruhst.* Upperside very like Japanese specimens and often classified as *latefasciata Fixs.* Actually however the middle band of underside of hindwings is very narrow, being formed of white spots like *dictynna*. Lake of Baikal and Amur. — **conica** *Mats.* differs from *latefasciata Fixs.* on upperside by wider black band on both wings, the yellow-brown spots are more striking. The middle and outer black band on underside of forewings wider, reaching from vein 4 to costa. The yellow spots in middle of cell on hindwings are larger, conical. Brownish submarginal band is wider, yellow marginal lunules small. This and the following **flavescens** *Mats.* are from Corea. Here the outer black bands are narrower, submarginal row consisting of smaller yellow-brown spots on both wings. Middle and outer band on underside of forewings narrower. No yellow spots near the apex. The wide middle band is yellow-red, not whitish, as also is the row of lunules at margin. — **sachalinensis** *Mats.* Similar to *ambigua Mén.* ♂ rounder at apex of forewings, also like *protomedia Mén.*, but all black bands narrower. Hindwings with 3 rows of yellow-red spots, of which the innermost is the less distinct. Sachalin. — **nossis** *Fruhst.* (= niphonica *Mats.*). Smaller than specimens from the main Island with increased black markings. The white middle band on underside of hindwings consists of large longish spots, that are still wider than in *latefasciata* from Corea. Kiushiu? — In some of the above described forms, for instance *pseudodictynna* or *cinxiodictynnoides*, the name already indicates the possibility that they may not be pure forms. This is more probably the case with **athalioides** *Trti. & Vrty.* It forms a transition from *athalia* to *dictynna*, as the yellow-red anal spot on underside of hindwings is not isolated, which is a characteristic for *dictynna*. — **melicerta** *Pfitzner* is said to be a sure hybrid of *athalia* ♂ and *dictynna* ♀ and *learchus Ebert* a reverse cross-breed. The race **retyezatica** *Diosz.* just described from Transylvania is stated by its author to be a small *mehadiensis Gerh.* Whilst the other forms mentioned above like *aceras*, *dejonides*, *boris* have light spots, here same are bright yellow-red in the ♂. Basal area of both wings heavily black, markings sharply outlined. Underside of hindwings variable, generally brightly coloured. ♀ paler, light yellow bands more extensive and probably differing little from *aceras Horm.*

aceras. *dejonides.* *boris.* *anatolica.* *lucifuga.* *tinica.* *bathilda.* *conica.* *flavescens.* *sachalinensis.* *nossis.* *athalioides.* *melicerta.* *retyezatica.*

M. pseudathalia *Rev.* Being constantly different from *athalia* in the genitals, otherwise not to be differentiated. According to Reverdin the typical race of *athalia* occurs at Paris. Besides the races of England, N. France, Germany to S. Tyrol, the Adriatic coast, Caucasus, Japan and the territory north thereof belong to it. *pseudathalia* has been proved to occur in Central and W. Switzerland, throughout Italy, S. France and Spain. According to Verity *pseudathalia* is only a subspecies and the following races belong to same: *tenuis*, *tenuicula*, *maxima*, *submaxima*, *obscura*. However as Verity gives no consideration to the genitals, which are the main difference, this list cannot lay claim to correctitude or completeness.

pseudathalia.

M. dejone *Hbn.* (Vol. 1, p. 222, pl. 67 b). **tessinorum** *Fruhst.* comes between *berisali Rühl* and the races from the Mediterannean. As light as the latter, but black bands heavy. Base and discal area of hindwings dark, but not as dark as in *berisali* (Vol. 1, pl. 66 i). ♀ less brightly coloured than those from N. Italy, with heavier black markings. Tessin. — **phaisana** *Fruhst.* (= felkeli *Std.*). Also like *berisali*. The black longitudinal stripe of upperside of both wings somewhat more pronounced than in *dejone* from S. France. The typical white patches of underside not as dark yellow as in *berisali* from the Valais. S. Tyrol. — **rondoui** *Oberth.* Somewhat

dejone. *tessinorum.* *phaisana.* *rondoui.*

less large than the following *nitida*. The outer yellow-red band on underside of hindwings transverse and not only formed of spots. Gèdre, Pyrenees. — **mediofasciata** *Bub.* denominates specimens in which the 3rd row of black spots from the margin is merged together forming a middle band on upper and undersides. The other rows of spots smaller. Pyrenees. — **nitida** *Oberth.* is a large pale form with narrow black lines as also occurs in specimens in the East Pyrenees and Andalusia. Algeria. — **rosinae** *Rbl.* Similar to *nitida*, larger than *dejone* from S. France. Darker, more brightly marked. Black marks somewhat heavier. Margins of both wings wider black. The 2 yellow-red bands of underside of hindwings darker. Portugal. — According to Ribbe a *dejone-magna O. B.-H.* is erroneously mentioned in Vol. 1, p. 222 as *athalia-magna*, it is said to be the same as *dejone-nevadensis Oberth.*, which we have mentioned here as *athalia-nevadensis* (*dejoneformis*). The differences will not be great between *magna* and *nevadensis* and whether they belong to *dejone* or *athalia* cannot be decided by an opinion, but only through an examination of the genitals.

mediofasciata. *nitida.* *rosinae.*

M. parthenie *Borkh.* (Vol. 1, p. 222, pl. 67 a). An albino is **albida** *Vorbr.* Ground colour of forewings whitish, marking grey instead of black. — **fasciata** *Vorbr.* has a wide dark middle band on forewings. — **rhoio** *Oberth.* is unicoloured on upperside of forewings, either yellow-red with little black markings or black with submarginal yellow-red spots (therefore a single name for entirely contrary forms!). Hindwings accordingly. Underside of forewings often quite black except at margin of forewings, only veins light. Hindwings only yellow-red at base, otherwise pale yellow and almost without markings. — **molpadia** *Oberth.* is like *rhoio* on upperside, but there are 1—2 wide black bands on underside of hindwings behind the pale middle band. — **elongata** *Oberth.* has both submarginal bands wider on both wings. — **nigra** *Aign.* is probably like the melanic form of *rhoio* and *varia-nigrita Aign.* is approximately the same. — **cincta** *Blach.* varies on underside of hindwings by a wide grey-brown middle band, *faivrei Le Charles* is the same. — **sphines** *Fruhst.* forms a transition from the S. German to the french *parthenie*. ♂ and ♀ with finer black trellis on forewings. ♀ sometimes with pale yellow submarginal lunules at margin of hindwing but with grey-yellow spots in median band. Geneva. — **gilbon** *Fruhst.* is half way between the S. German *parthenie* and high alpine *varia M.-D.* Lighter red-brown than *varia* but darker and with finer black trellis than specimens from Wuerttemberg. ♀ differing from *varia* by a double row of light yellow submarginal dots. Underside like *varia*. Jura and Bernese Oberland. — *varia M.-D.* also occurs in Piedmont and Valdieri. — **varia-varissima** *Vrty.* is a small race. The black markings very extensive, a dense black cloud at base of wings; similarly around the marginal lunules and encircling the cell. Behind the middle band yellowish white, strongly contrasting with the adjoining fiery yellow-red band. A few ♀ have a greenish sheen like typical *varia*. Mount Sibillini, Bologna. *nevadensis Spul.* (Vol. 1, p. 223) is similar

parthenie. *albida.* *fasciata.* *rhoio.* *molpadia.* *elongata.* *nigra.* *cincta.* *sphines.* *gilbon.* *varia-varissima.*

but not so full of contrast. — From France Verity mentions 2 races: **inanis** *Vrty.*, it is small and pale, varying little individually. The black markings in ♂ and ♀ well developed, but the marginal line often subdivided on upperside, more frequently still on underside. In the ♀ the black marking less heavy than in ♂, yellow-red spots sometimes replaced in patches by impure white. Rouen. — **plena** *Vrty.* In contrast this is very dark by extension of black markings and somewhat like *aureliaeformis Vrty.*, that according to Reverdin is a species of itself, whilst *plena* belongs to *parthenie*. Very characteristic is the width of the 2 black submarginal lines on both wings, between which are placed small round yellow-red spots, no lunules. These spots are more reddish than usual. Gironde. — As against these small races we have **beata** *Caradja*, a large, pale form from the Valleys of the Pyrenees near Garonne. — The name *parthenie-orientalis Mén.* is altered into *ménétriési Caradja* and *nevadensis Spul.* into *veletaensis Rbb.* Now there is no *nevadensis* either among *parthenie* or *athalia*! If a name has been doubly utilised, both are cancelled, is this a new law in the rights of priority?! Probably it would take up too much time to ascertain which name was the older!

inanis. *plena.* *beata.*

M. elisabethae *Avin.* (13 g). Similar to *parthenie-sultanensis Stgr.* Upperside pale yellow-red with faint black lines. Hindwings milky white on underside with pale brown bands. 30 mm. Pamir.

elisabethae.

M. sindura *Mr.* (Vol. 1, p. 224). **uitasica** *Wagn.* (13 g). The ♂ is with still paler markings on upperside than *clara Stgr.* and *pallida Stgr.* ♀ differs by varying shades on wings. Forewings fairly yellow, lighter or darker, hindwings reddish-yellow. Underside of forewings without any black markings, only appearing shadow-like and reflected through from the upperside. Hindwings also almost without markings. Alatau. This is a sub-form to *asteroida Stgr.* mentioned in Vol. 1 as *asterioides*.

sindura. *uitasica.*

M. balbita *Mr.* (Vol. 1, p. 224, pl. 67 e). **balba** *Evans*, just as fiery coloured as *balbita*, but smaller and discal band more complete. Chitral. Evans mentions *balbita* as a species, not as a form of *sindura*, as dealt with in Vol. 1, p. 229.

balbita. *balba.*

M. dictynna *Esp.* (Vol. 1, p. 223, pl. 67 b). **gramanni** *Vorbr.* with pale white-yellow costa and 2 outer bands on forewings. All spots on hindwings white-yellow. — **candidata** *Std.* Middle spots and outer row of dots on forewings whitish. Also hindwings with whitish spots. Therefore not much different from *gramanni*. — **albida** *Skala.* "Pale". — **perrhoio** *Rev.* corresponds to pale *parthenie-rhoio*. The black lines on upperside

dictynna. *gramanni.* *candidata.* *albida.* *perrhoio.*

of forewings partially absent. On underside, base of hindwings darkened, discal area lighter. — **aduaticana** *Lamb.* The middle, submarginal and marginal rows of yellow-red spots on forewings merged to bands. — **fasciata** *Lamb.* Only the 2 first united in a band. Therefore both like *perrhoio*. — **corythalioides** *Spannr.* Upper and undersides like *athalia-corythalia Hbn.* Also *fasciata* is similar, but same has a normal underside. Here underside of forewings is yellow brown with a few black spots. Hindwing red-brown at base with black border; outer half yellow-white with orange-yellow spots. Margin rusty brown. — **seminigra** *Mussch.* has margin of hindwing similarly dark as *phoebe-cinxioides*. — **johni** *Std.* corresponds to *athalia-funesta*. — **amaura** *Schaw.* Upperside dusky brown, black lines still clearly perceptible. Therefore not differing much from *johni*. — **trifasciata** *Guss.* almost black. Only in basal area 2 interrupted brown bands and 4 brown spots. — **semidetrita** *Hartig.* Forewings almost without markings, only 2 marginal lines and basal spots present. Costa and the beginnings of traverse lines black. Base and marginal areas of hindwings darker, black markings in discal area diffuse. Underside of forewings poor in markings, hindwings normal. — **semilearchus** *Ebert.* Underside of hindwings somewhat paler than usual in *dictynna*; small yellow dots interposed in brown outer band with a few black scales within them. — **subtus-ocellata** *Rev.* Underside of forewings almost devoid of marking, a median row of 6 black-brown ocelli with light centres on hindwings. Upperside of forewings without bands, hindwings black. — **moffartii** *Lamb.* No markings on middle of underside of forewings, no spots at base of hindwings. — Hitherto races were only described from Asia, now we have a large number in Europe. — **praxilla** *Fruhst.* ♂ and ♀ large, therefore fuscous spots on upperside large. In ♀ on upperside of hindwings 3 rows of fulvous spots like in S. Tyrol. Underside very variable. The usually white middle row of spots on hindwings, is ochreous here also in the ♀, submarginal zone dark red-brown. Carniola. In Bosnia the ♀ is similar, rows of spots pure white on underside. — **alpestris** *Fruhst.* ♂ smaller than the form from the plains. Hindwings generally blackened, underside with buff instead of red-brown antemarginal band. Engadin, Zermatt. Similar specimens are found in the Jura, but ♀ has white dots in discal and marginal areas on upperside of hindwings. — **vernetensis** *Oberth.* Black markings of upperside so reduced at cost of yellow-red, that general appearance is like *athalia*. Yellow-red bands on underside browner. ♀ large, upperside very light, submarginal spots of both wings buff. East Pyrenees. — **briantea** *Trti.* 1st generation like *vernetensis*, but ♂ and ♀ larger. Ground colour bright yellow-red, often with whitish patches at apex in ♀. On underside all dark spots more distinct but with less black than in *dictynna*. Bands and lunules at margin of fore and hindwings brown. White bands in middle and before margin of hindwings glistening like mother-of-pearl. — The 2nd generation is smaller, like *aurelia Hufn.* lighter fuscous than the 1st generation: **autumnalis** *Trti.* On swampy meadows near Brianza. Among the 2nd generation one finds ♀ with 3 bands on upperside of both wings beyond the middle, the 1st and 3rd whitish, the middle one yellow-red. Predominantly milky-white on underside of hindwings: **variegata** *Trti.* — **wheeleri** *Chapm.* very close to *vernetensis*, double brooded in the Tessin. And that is the description!

aduaticana. fasciata. corythalioides. seminigra. johni. amaura. trifasciata. semidetrita. semilearchus. subtus-ocellata. moffartii. praxilla. alpestris. vernetensis. briantea. autumnalis. variegata. wheeleri.

M. protomedia *Mén.* (Vol. 1, p. 224, pl. 66 g). In **regama** *Fruhst.* the ♂ is darker on upperside with wider black margins and spots than typical. Submarginal spots on underside of both wings more than double as wide. Sub-basal area on hindwings scarcely half as wide as typical. W. China.

protomedia. regama.

M. arcesia *Brem.* (Vol. 1, p. 224, pl. 67 d). **rucephala** *Fruhst.* ♂ similar to *protomedia* from Amur but more intensively red-brown. Outer margin of both wings less wide than in *arcesia* from Irkutsk, but more sharply outlined; submarginal and discal black bands correspondingly. Underside with more sharply outstanding almost whitish yellow spots and patches. ♀ similar on upperside to *dejone* from the Maritime Alps, but with wider black bands, not so diffusedly grey-black as in Irkutsk. Chingan Mountains, 2000 m. — **carmana** *Fruhst.* Similar to *minor Elw.* (Vol. 1, pl. 67 d) but varying by a richer red-brown on upperside. On underside of hindwing, especially in the ♀ a narrower yellow-white submarginal band, the fulvous basal spots larger. Sajan Mountains.

areesia. rucephala. carmana.

M. asteria *Frr.* (Vol. 1, p. 225, pl. 71 e). **obscura** *Hosp.* are dark, almost black specimens without the yellow-red discal and marginal spots on upperside. The light yellow bands also on underside more widely interrupted. — **mevania** *Fruhst.* (13 h). ♂ with fuscous instead of buff spots on upperside. Only 2 rows of same instead of the normal 3 on hindwings, the inner row on forewings also is faint. Sub-basal and submarginal bands on underside of hindwings wider dark brown. Groß-Glockner.

asteria. obscura. mevania.

14. Genus: **Argynnis** *F.*

This genus has recently been much sub-divided by Reuss. He introduces in his works the names *Dryas*, *Prodryas*, *Damora*, *Mimargyra*, *Eudaphne*, *Brenthis*, *Rathora*, *Boloria*, *Clossiana*, *Acidalia*, *Mesoacidalia*, *Proacidalia*. Even specialists should be satisfied with fewer names. Although, following Vol. 1, we do not enter into subdivisions here, nevertheless it seems commendable to separate as subgenus *Brenthis Hbn.*, in which the forewing nervule 10 stalks with 9 + 8 + 7. In genuine *Argynnis* nervule 10 arises free at the anterior margin of the cell. According to this all species as far as and inclusive of *thore* would be classified as *Brenthis* with the exception of *gemmata*, but including *altissima Elw.* and *mackinnoni Nic.*, which consequently cannot be forms of *gemmata*. Also *hecate* does not belong to *Brenthis*, as stated in Vol. 1, p. 233 in the last line.

aphirape. deanella. **A. aphirape** *Hbn.* (Vol. 1, p. 227, pl. 67 f). — **deanella** *Schmidt.* The black submarginal spots almost extinct, also the black middle lines fainter. The spots on underside of hindwings only retained as dots. —

marga. **marga** *Schmidt* has especially on hindwings, less often also on forewings white lunules beyond the black line

haverkampfi. of cone-like marks. — **haverkampfi** *Ball.* a heavy black middle line on both wings, the round submarginal spots inclined to be smaller. On underside of hindwings the black border of the anterior part of middle band is

eustigmoea. missing. — In **eustigmoea** *Cab.* the black middle spot above vein 2 on the upperside of forewing is large and

peleis. excelsa. quadrangular. — **peleis** *Cab.* has black ray-like streaks at margin on upperside of hindwings. — **excelsa** *Schmidt.* Margin of both wings so widely black that the round black submarginal spots are merged therein. On the other

franckii. hand the black lines in discal area are weakly developed on upper and undersides. — **franckii** *Lamb.* Ground

helmina. colour more fiery. Margin blacker and wider. Forewings black at base, middle band wide. — **helmina** *Fruhst.* Somewhat like a less small *ossianus* (Vol. 1, pl. 67 f) in size and colouration. ♂ and ♀ small, upperside dull ochreous with subdued black submarginal dots, ♀ lighter on upperside with still less black markings, underside however like *ossianus* from Sweden. East Prussia, Esthland.

hegemone. tienschanica. chotana. **A. hegemone** *Stgr.* (Vol. 1, p. 228, pl. 67 i). — **tienschanica** *Wagn.* Ground colour somewhat lighter. Submarginal lunules of both wings isolated and do not merge with the more narrowly black border. Juldus, Uitas. — **chotana** *O. B.-H.* Ground colour more fiery red than typical and probably thereby like *erubescens Stgr.* (Vol. 1, pl. 67 i). Outer margin of both wings black up to the row of scallops, otherwise the black spots are smaller. Chotan.

selenis. festiva. onorensis. chosensis. takamukuella. **A. selenis** *Ev.* (Vol. 1, p. 228, pl. 67 g). A few new east asiatic races: **festiva** *Krul.* Larger with more lively markings on upper and undersides. East Siberia. — **onorensis** *Mats.* Similar to *sibirica Ersch.* (Vol. 1, pl. 67 g) but with more pointed apex. In middle of underside of hindwing a whitish violet band; a striking black ringlet in the middle of cell. Marginal spots smaller and whitish. N. Sachalin. — **chosensis** *Mats.* Similar to *onorensis* but the submarginal row of black spots nearer to the margin on both wings. The ground colour does not form crescents beyond same. On underside the white crescents before the margin are bordered by a band of black scallops, which is absent or faint in *onorensis.* Corea. — **takamukuella** *Mats.* differs from *onorensis* by larger band-like black spots, margin of both wings black. Disco-cellular spot far removed from the angular mark. Compared with *sibirica Ersch.* the whitish outer band on hindwings is more striking, it has a tinge of violet, with 2 white spots at each end. Also from Corea.

selene. **A. selene** *Schiff.* (Vol. 1, p. 228, pl. 67 g). Albinos are named *pallida Spul.* and *decolorata Oberth.*, the

chlorographa. pallida-parvipunctata. nigricans. nigricans-parvipunctata. berolinensis. nigromarginata. interligata. latter not quite so pale. — **chlorographa** *Cab.* has light reddish yellow forewings with yellowish white marginal lunules. Apex of forewings delicately paler. Underside of both wings paler than normal. — **pallida-parvipunctata** *Oberth.* is a pale specimen with few black spots on upper and undersides. — **nigricans** *Oberth.* has yellow-red rays at margin of both wings, which otherwise are blackish. — **nigricans-parvipunctata** *Oberth.* has only a wide black margin to forewings, which are otherwise yellow-red. On hindwings only a small fuscous spot in middle of wing. — **berolinensis** *Reuss.* Ground colour dusky, black markings increased. — *bernhardi P. Schulze* is about the same. Ground colour, especially of forewings, blackish on upper and undersides. — **nigromarginata** *Lamb.* Upper side of wings yellow-red with slight violet sheen. Spots and lines rather indistinct. Margin widely black with yellow-red dots, not lunules, like *euphrosyne-obscura Stgr.* — **interligata** *Cab.* has the 2 black spots above the middle of inner margin on upperside of forewings conjoined by a streak. — In Asia 2 new races:

lucetia. **lucetia** *Fruhst.* ♂ like *dilutior Fixs.* (Vol. 1, pl. 67 g), still somewhat larger, lighter with bold black spots. Unusually wide middle band on underside of hindwings. Silvery spots behind the cell scarcely perceptible, silvery white half-band on costa diffused, but silvery marginal spots more sharply pronounced than in *dilutior.*

chibiana. Japan. — **chibiana** *Mats.* is also similar to *dilutior*, but with larger cell spots and darker base on forewings. The marginal spots larger, roundish, between them yellow spots. Hindwings with dusky basal area. Kurile Islands.

castiliana. — There is still a description of **castiliana** *Lowe*: "very like *hecate*". — According to Watkins *perryi Btlr.* (pl. 67 g) dealt with in Vol. 1, as a variety, is a separate species.

sachalinensis. **A. sachalinensis** *Mats.* Similar to *selene* but larger. A row of lunules at outer margin of forewings. Black spot in middle of cellule 6 is quite absent. Hindwings with larger spots and wider bands than *selene.* No silvery white spots on underside at base, but there are in cells 2—6. Sachalin.

angarensis. alticola. herzi. **A. angarensis** *Ersch.* (Vol. 1, p. 229, pl. 67 h). Of this 2 small dark races are new: — **alticola** *Suschk.* Forewings narrower, blackish at base. Underside of hindwings with narrow middle band. Minussinsk. — **herzi** *Wnuk.* Also darker on underside of hindwings and at apex of forewings. Differing from *alticola* by the absence of the shading at base of wings and without the middle band on underside of hindwings being reduced. Jakutsk.

euphrosyne. pallida. **A. euphrosyne** *L.* (Vol. 1, p. 229, pl. 67 h). Dwarf forms are exceptionally not named *parva* or *minor*, but *euphrosynella Cab.* More or less albinotic specimens are named **pallida** *Oberth.*, *nivcola Stich.* with yellowish underside and little silver, *albinea Lamb.* with somewhat darker underside, no rusty red band on hindwings.

chlorographa. parvipunctata. — **chlorographa** *Cab.* is only yellowish white at middle of inner margin on upperside of forewings. — **parvipunctata**

Oberth. only few and small spots on both wings within the outer row of small spots. — **slegersi** *Lamb.* Ground colour of forewings rather darker. Discal area almost devoid of markings. Black radial spots at margin, hindwings almost completely black. — **radiata** *Spul.* is darker with radial stripes. — **pittionii** *Nitsche* has a black middle band on forewings, base of hindwings black. — **melanotica** *Spul.* is more or less dusky, only lighter submarginal spots before margin of forewings, *tatrica Aign.* and *nigricans Oberth.* are approximately the same. — **plumbea** *Cock.* has lead-coloured instead of silvery spots on underside. — **alpina** *Ebert.* is a single brooded lower alpine race from 1000—1600 m altitude. Darker brown instead of red-brown, black markings heavily increased, especially the large ocelli. Strongly reminds one of *fingal Hbst.* (Vol. 1, pl. 67 h) but their margin is darker. Underside of hindwings rusty colour with large ocelli. Algau. — **cynosoma** *Fruhst.* is striking by its palish light yellow colour as compared with specimens of alpine or german origin. Underside also is paler, silvery spots more diffuse, larger than in specimens from Simplon, Trafoi, Ampezzo. Described from Geneva. — **densoi** *Fruhst.* Similar, differing by the very wide yellow middle band on underside of hindwings. Champery (Dent du Midi). — **neston** *Fruhst.* is like *cynosoma*, as light as same, but with very small rows of submarginal spots on both wings and in this respect like *rusalka Fruhst.* Black and red-brown bands on underside of hindwings much reduced. Monte Generoso (Tessin). — **calynde** *Fruhst.* is larger than *cynosoma.* Ground colour reddish ochre-yellow, all black spots heavy. Hindwings widely black at base. Underside brightly marked. Hindwings with dark red-brown wide spots. Silvery marginal spots still larger than in *orphanus Fruhst*, from Amur. Fusio (Tessin) 1250 m. Similar races are found in Bulgaria and S. Russia. — **rusalka** *Fruhst.* Similar to specimens from Berlin. So light on underside of hindwings that only traces of the red-brown bands are still perceptible, yellow subapical marks on forewings larger, white marginal lunules on hindwings very large. Saratov. — Then still 2 races from the Caucasus: **dagestanica** *Sowin.* Pale on upper and undersides, black markings reduced, therefore probably like *cynosoma*. The black antemarginal lunules on underside of both wings and the round spots on hindwings almost extinct. Dagestan. — **phaënna** *Jach.* Rather more reddish yellow on upperside. Underside of hindwings with large glossy antemarginal silvery spots, therefore probably like *calynde.* Post-median area wider, suffused rusty red, middle band darker yellow. Borshom.

slegersi. *radiata.* *pittionii.* *melanotica.* *plumbea.* *alpina.* *cynosoma.* *densoi.* *neston.* *calynde.* *rusalka.* *dagestanica.* *phaënna.*

A. pales *Schiff.* (Vol. 1, p. 230, pl. 67 i). It was already mentioned in Vol. 1 that *pales* and *arsilache Esp.* behave differently and may therefore perhaps be separate species. Reuss also considers *isis Hbn.* to be a species of itself. Unfortunately this sub-division into 3 species cannot be carried through in the races, as the authors all enumerate them under *pales.* — After this diversion we turn firstly to the aberrations, which being mostly from the lowlands belong to *arsilache.* — **pseudathalia** *Rbl.* The dark transverse stripes of forewing are absent, hindwings dark but with light marginal spots. — **elongata** *Le Charles.* No dark spots at base and discal area of forewings, but marginal spots radially longer, only the veins radially black on hindwings. Silvery spots at base and margin on underside of hindwings longish. — **haematodes** *Lamb.* Upperside of both wings redder than normal. Silvery spots on underside of hindwings only half as large and the silvery dots of the antemarginal line extinct, the 3 rusty bands are red here, all the otherwise yellow patches are pale red. — **conducta** *Schultz.* The 2 rows of dots on upperside of hindwings are conjoined forming stripes, on forewings only the inner row like stripes, but not touching the outer row. — **guédati** *Vorbr.* (= interligata *Cab.*). Like *amathusia-tramelana.* Over the middle of the inner margin of forewings 2 black spots are united by a bar. — **asopis** ♂ *Reuss* is inclined to have completely black base to wings, discal marking on the other hand reduced. Belonging hereto as ♀ **berolinensis** *Hannem.* Ground colour duller yellow, black markings, especially the submarginal dots wider. — **chlorargyra** *Hellw.* Upperside much darker with violet sheen. Submarginal band of forewings indistinctly double, base and inner margin of hindwings dark with radial marginal streaks. Larger silvery spots on underside of hindwings. — **obsoleta** *Tutt* has brown ground colour with black radial streaks at margin. — **hannoverana** *Füge* is quite black on upperside. Underside of forewings also blackish with yellow veins. Hindwings sulphur yellow, a dark band from apex to anal angle, beyond same the veins widely dark, between them silvery spots formed like an "8". — **radiata** *Nordstr.* with dark forewings on upperside with small light marginal stripes, the marginal veins on hindwings are black. The silvery spots on underside at base elongated. — **othello** *Cornels.* is a lighter *radiata.* — **nigra** *Aign.* is dusky brown, only at margin of both wings yellow-brown radial streaks. Underside of forewing reddish brown, devoid of markings, hindwings with only 3 large silvery basal spots. — **deflavata** *Wagn.* has no paler yellow patch on underside at apex of forewing, same is also absent on hindwing. In the ♀ it is normally present. ♂ and ♀ much more fiery colour on upperside reminding one of *generator.* — Among the new races the most northerly is **aquilonaris** *Stich.* (14 a). Upperside bold reddish brown, black markings increased, especially at margin of hindwing. Underside of hindwing rusty red and ochreous, middle band narrow and ochre-yellow. Gellivare. — **palustris** *Fruhst.* Small. Underside sometimes dark red, always with smaller white dots. ♀ paler than north german specimens. Engadin, Simplon, Piedmont. — **brogotarus** *Fruhst.* The spots at apex of forewing and submarginal spots of hindwing more striking, White discal patches on underside of hindwings larger. Col di Tenda. — **medioitalica** *Trti.* ♂ not much larger than *palustris.* The same arrangement of markings and yellowish colour but more diffuse. ♀ almost without black dusting, much less than in *palustris.* Black dots at margin as in ♂, light yellow interspersed. Gran Sasso. — **juldussica** *Wagn.* A sub-race to *generator.* Smaller. In ♂ often, in ♀ always paler underside. Upperside of ♂ dull brown. ♀ generally blackish green, similar to *napaeae Hbn.* — **extrema** *Wnuk.* Also a *generator* form. ♂ paler on upper and

pales. *pseudathalia.* *elongata.* *haematodes.* *conducta.* *guédati.* *asopis.* *berolinensis.* *chlorargyra.* *obsoleta.* *hannoverana.* *radiata.* *othello.* *nigra.* *deflavata.* *aquilonaris.* *palustris.* *brogotarus.* *medioitalica.* *juldussica.* *extrema.*

undersides, the little black marking only present at outer margin. Altai. — **lucida** *O. B.-H.* is larger than *sifanica Gr.-Grsh.* paler yellow-brown, rarely yellowish white on upper and undersides. Kansu. — **palinoides** *Reuss* (14 a) is much more fiery than *palina Fruhst.* (Vol. 1, pl. 68 b) (14 b), underside of ♂ not so diffusedly red, but boldly marked. In the ♀ underside is strikingly pale sulphur yellow, much paler than in *palina* ♀. Ta-tsien-lu. A sub-form of same is **tatsienluana** *Reuss* (14 a). Underside of hindwings heavily carmine red with transverse dentate silvery middle band. — **isisoides** *Heydem.* Like *banghaasi Seitz* (Vol. 1, pl. 68 a). Underside almost without silver, all markings diffuse with red-brown confused band on hindwing. In ♀ hindwing lighter on underside with 3—4 silvery marginal dots, upperside dusky. Sajan mountains. — **nikolajewski** *Heydem.* Upperside light, markings precise and black, finer than in *banghaasi*. Underside like *isisoides*, but with distinct silvery spots and without the dark band on hindwings. Nikolajewsk. — **sachalinensis** *Mats.* Also similar to *banghaasi*. The silvery band and yellow middle band on underside of hindwings narrower; the latter bordered on both sides by an undulate black line, which is particularly distinct at costa. North Sachalin. — *semisifanica Reuss* from Macedonia is very like *graeca Stgr.* and may therefore be identical with *balcanica Rbl.* For safety's sake an illustration may prove useful, which may eventually serve for *balcanica* (14 a). — It is impossible to ascertain how the *pales* forms would sub-divide over the 3 species or subspecies. An incomplete list, generally according to Reuss is as follows: —

lucida. *palinoides.* *tatsienluana.* *isisoides.* *nikolajewski.* *sachalinensis.*

1) *pales*, *graeca*, *arctica*, *semisifanica*.

2) *arsilache*, *sifanica*, *palinoides*, *lapponica*, *banghaasi*, *isisoides*, *tatsienluica*, *sachalinensis*.

3) *isis*, *napaea*, *generator*, *korla*.

A. chariclea *Schneider* (Vol. 1, p. 231, pl. 68 c). — **kolaensis** *Reuter* is darker on underside of hindwings, almost unicolorous red-brown, silvery spots decidedly smaller. Kola. — The form *boisduvali Dup.* occurs according to specimens in the Püngeler Collection also in Lapland and not only in America.

charielea. *kolaensis.*

A. freija *Thnbg.* (Vol. 1, p. 231, pl. 68 c). — **calais** *Fruhst.* Roundish wing contour. More heavily marked with black in discal area. On underside of both wings an extensive tinge of white-violet. Very broad dark red-brown crescents as middle band of hindwings and besides white marginal spots. Shawyr, East Tannuola, 2500 m. — **jakutensis** *Wnuk.* Underside of hindwings, including the middle band, very dusky. — **asahidakeana** *Mats.* like *aphirape-triclaris Hbn.* The black spots larger, more sharply outlined than shown in Vol. 1, pl. 67 g, thereby appearing lighter. Underside of hindwing with lighter inner band which is bordered at its lower end inwardly by a brown-black line, outwardly by a similar row of spots. Hokkaido.

freija. *calais.* *jakulensis.* *asahidakeana.*

A. frigga *Thnbg.* (Vol. 1, p. 231, pl. 68 c). — **parnassica** *Bryk* denominates occasional specimens that only have a spot in the middle of the cell and at its extremity on forewings, other spots absent; otherwise normal. — **improbula** *Bryk* (13 h) is the Lapland race of *frigga*, which was mentioned as *improba Btlr.* in Vol. 1, p. 232, which is limited to N. America. According to Aurivillius it does not occur at Novaja Semlja. *improbula* strikes one by its dusky colouration on upperside, the submarginal spots of forewings are conjoined almost forming a band. Probably this is a species of itself. — **maritima** *Kardak* (13 h) has orange yellow ground colour on forewings, black middle band is wider outwardly, black submarginal spots fine. Basal area on underside of hindwings larger, middle band dusky, outer margin an impure rose. Ussuri territory.

frigga. *parnassica.* *improbula.* *maritima.*

A. dia *L.* (Vol. 1, p. 232, pl. 68 f). — In **ornata** *Aign.* black markings of basal and discal areas are merged on both wings. Underside normal. — *hudaki Aign.* mentioned already in Vol. 1, has forewings heavily marked with black, hindwings quite black with faint yellow-red marginal lunules, *seminigra Metschl.*, *lugens Grund* and *daphnoides Schultz* are about the same. — **bivittata** *Cab.* has wider inner and outer black bands that are united in a large rectangular spot above the inner margin. — For specimens with radial black stripes, there are the names *nigrostriata Schultz*, *radiata Skala* and *radiosa Mayer*. — *berolinensis Reuss* is darkened on upperside by black scales. It is possible that this description only refers to *selene* as the text is not quite clear. — **senta** *Schultz* has 3 silvery ray-like streaks on underside of hindwing, the one near the costa is particularly long; upperside rather darker than normal. — According to Verity the type is the mid-european race. — In mid-Italy the 1st generation is somewhat larger, more brightly coloured with less black: **laetior** *Vrty.* — The 2nd and 3rd generations are less fiery, yellowish red-brown, but also with little black marking: **flavens** *Vrty.* On underside it is less violet with heavier yellow markings; similar to *leonina Fruhst.* and *diniensis Oberth.* — **leonina** *Fruhst.* Similar to *amathusia-serena* from the Valais. Lighter yellow, even whitish specimens occur. Savoy, lower Rhone valley, Geneva. — **diniensis** *Oberth.* also has bright light orange yellow ground colour. A wide violet middle band on underside of hindwings. Digne, Riviera. — **setania** *Fruhst.* is still paler on upperside. . On underside of hindwings the median silvery spotting is wider, red ground colour lighter. Morocco. In regard to the last 3 races no mention is made as to which generation they belong to. — **baldohnensis** *Teich* is the 2nd generation. Black markings thicker than usual; underside very dusky. Courland. — **disconota** *Jach.* has wider black markings in marginal area, base of hindwings also blackish, sometimes extending over the whole hindwings.

dia. *ornata.* *bivittata.* *senta.* *laetior.* *flavens.* *leonina.* *diniensis.* *setania.* *baldohnensis.* *disconota.*

Also underside dark. 1st generation, East Russia. — **calida** *Jach.* is larger, black markings narrower and more diffuse, yellow-red colouration also at base. Less violet on underside of hindwing, silvery spots fainter often with yellow glistening, middle spot longer. Transcaucasia. *calida.*

A. amathusia *Esp.* (Vol. 1, p. 232, pl. 68 e). Only one aberration is to be enumerated. — **tramelana** *Culot.* (14 b). Black spots reduced, 2 horizontal spots on inner margin of forewing conjoined, forming an "8". — According to Fruhstorfer the typical race occurs at St. Petersburg. Numerous european races are newly described: — **jugurtha** *Fruhst.* Upperside heavily marked with black. Underside of hindwing predominantly red. Bavaria, Tyrol. — **serena** *Fruhst.* from the S. Tyrol and Valais is like *titania Hbn.* Especially the outer half of both wings pale yellow brown. In comparison to german specimens the black dot-marking is more delicate, yellow submarginal spots larger and lighter. Underside more extensively yellow, submarginal dentations larger, pale yellow without reddish dusting. — **bosna** *Fruhst.* ♂ similar to specimens from Bavaria and Tyrol. Smaller, wings rounder, base more heavily black. Underside with wider yellow distal bands. Bosnia. — **dinara** *Fruhst.* (13 h). Larger than *bosna* and reminding one of *serena*. Ground colour pale brown, not dark red-brown, black marking daintier. Underside paler than *bosna*, hindwings with less yellow marking than *serena*. Herzegowina. — **blachieri** *Fruhst.* Ground colour yellowish red. Black markings heavier, somewhat merged at margin. Frequent in Tessin among normal (probably among *serena*?) specimens. — **pralognana** *Fruhst.* Small. Hindwings with wide black margins. Black spot marking medium heavy. Underside slightly less light than *serena*. Savoy. — **halesa** *Fruhst.* is the largest race. Black marking well developed. Underside like *pralognana* by its yellow markings. Pyrenees. — **transsilvanica** *Tiltscher.* Small. Upperside lighter, black markings fainter. Underside pale, the yellow band on hindwings more complete, marginal spots smaller, marginal triangles shorter. Transylvania. *amathusia. tramelana. jugurtha. serena. bosna. dinara. blachieri. pralognana. halesa. transsilvanica.*

A. gong *Oberth.* (Vol. 1, p. 232, pl. 68 g). — The race **perimia** *Fruhst.* is very large. Lighter ochreous. Base of hindwings only with black dots, all black markings smaller. Kansu. *gong. perimia.*

A. gemmata *Btlr.* (Vol. 1, p. 233, pl. 68 d, e). **altissima** *Elw.* mentioned already in Vol. 1. As the wing contour certainly varies a little, we are giving an illustration of it. (14 a). *gemmata. altissima.*

A. eugenia *Ev.* (Vol. 1, p. 233, pl. 68 e). — **fulgens** *O. B.-H.* Lighter than *rhea Gr.-Grsh.* Ground colour brown, small black spots similar to *montana O. B.-H.* The black marginal band is entirely missing on both wings. On underside of hindwings the silvery spots are duller and yellowish. Kansu. *rhea* also occurs in the Urals. — **anargyron** *Oberth.* varies from type by entire absence of silvery spots on underside, the spots are yellow. Ta-tsien-lu, Szechuan. — **rheaoides** *Reuss* (14 a) mentioned by the author but not described. Apex of forewings more pointed, black spots rather smaller; marginal band narrower on both wings. Underside of hindwings more heavily dark red-brown, the outer row of silvery spots larger than in *eugenia*, otherwise like *rhea*. Szechuan. *eugenia. fulgens. anargyron. rheaoides.*

A. thore *Hbn.* (Vol. 1, p. 234, pl. 68 e). — **fasciata** *Vorbr.* has a wide black middle band on forewings. — **daphnoides** *Stdr.* Somewhat similar to the illustration of *daphne* in Berge-Rebel (plate 9, fig. 4). Ground colour darker brown, but black spots distinctly separated, also on hindwing of ♀. Underside much darker, forewing reminding one of *daphne* in general impression, owing to heavy spot marking. Ground colour brick-reddish, yellow apical patch distinct but dark. Underside of hindwings also like *daphne*, only the characteristic marginal spots and lunules near the inner margin indicate the *thore*. Brick-red base darker, middle band deep yellow, outer area violet instead of rusty red. Salzkammergut. — **meridionalis** *Kardak.* (13 h). Wings wider, black markings distincter; hindwings not dark at base, a distinct black dot in disc. Underside tawny, with enlarged white streaks near the outer band, middle band light yellow. Upperside like *hypolampra Fruhst.* but larger. Forewings rounded. In southern Suchan, Sidemi; in northern Suchan *borealis Stgr.* occurs. — **karafutonis** *Mats.* Upperside as light as pale *borealis Stgr.*, underside darker red-brown at base and marginal band of forewings without yellow streaks. — *splendida Krulik.* is synonymous with *excellens Krulik.* (Vol. 1, p. 234). *thore. fasciata. daphnoides. meridionalis. karafutonis.*

A. hakutosana *Mats.* Similar to *thore*, but most of the black spots are smaller on both wings, especially the hindwing. In the ♂ the submarginal row is somewhat arched instead of straight, in the ♀ these spots mostly triangular, the next row inwards small. Base of hindwing in ♀ not dark, but with a round black spot. The 2nd spot in cell on underside of forewing longer and with light middle streak, the 3rd scarcely bulging in the middle. The submarginal row of spots of both wings like the upperside. Hindwings with 3 silvery spots at base. In middle of cell a black dot with white surround, the subsequent yellow band with silvery mark at each end, the outer silvery band wider, especially at costa. Corea. *hakutosana.*

A. hecate *W. V.* (Vol. 1, p. 234, pl. 68 f). — **radiata** *Silbn.* Basal and discal bands reduced on forewing, marginal spots merged forming short radial marks. Hindwings more heavily dusted with black at inner margin, otherwise like forewings. — **triburniana** *Fruhst.* (14 b). Differing from (typical?) hungarian specimens by paler yellow ground colour in place of red-brown. Base of hindwings blacker, especially in ♀. Underside of both wings whitish instead of spotted yellow. Herzegowina. — **nautaca** *Fruhst.* is larger than *triburniana*. The ♂ is with very wide black discal band on the forewings. The base of hindwings is more heavily black in both ♂ and ♀. The underside is like *caucasica Stgr.*, but the yellow middle band is still wider. Carniola. *hecate. radiata. triburniana. nautaca.*

harmothoë. — **harmothoë** *Fruhst.* Like *aigina Fruhst.* from Andalusia, almost as large as *triburniana.* Blaek margins narrower and other blaek markings redueed. Underside pale, blaek dot marking less heavy than in *alaica Stgr.* Maritime *florida.* Alps. — **florida** *Vrty.* is large, espeeially the ♀ and on the average with fewer blaek markings. Therefore seareely different from *harmothoë.* Florenee. — Aeeording to Verity, Schiffermiller was the author first deseribing *hecate* and the type is from Turin. — From Spain 3 new races have been deseribed in the eatalonian dialeet *weissiana.* and therefore there is no guarantee for eorreet translation. — **weissiana** *Sag.* Large with relatively large *poecilla.* hindwing, espeeially in the ♀. Underside paler, blaek markings at base redueed. Catalonia. — **poecilla** *Sag.* Not so large as former, hindwings normal. Upperside with heavy blaek markings, espeeially at base. Underside of forewings more riehly marked in ♂, elaret eoloured in ♀. The green (?) markings on hindwing eontrast with *rubecula.* the reddish patehes, that are interspersed with blaek seales. Albarraein (Aragon). — **rubecula** *Sag.* The smallest of the 3 raees. Underside of both sexes elaret eolour on forewing. Red patehes on hindwings more prominent than in *weissiana*, the postmedian and marginal spots on the eontrary being less. Aragon. — Aeeording to the poor material of the Berlin Museum, *aigina* from Andalusia has the 2 outer rows of blaek spots more heavily developed than the other raees. In Albarraein and Catalonia the buff eolour is predominant on the underside of hindwings. In Moseardon, Aragon the forewing has a slight tinge of rose, the red eolouration being more extensive on hindwing, yellow brighter. One ean elassify, as Püngeler has done, all these 3 raees under *aigina*, whieh was already dealt with in Vol. 1.

ino. **A. ino** *Rott.* (Vol. 1, p. 234, pl. 68 g). — **virgo** *Oberth.* denominates a speeimen that is pale on upper and *virgo.* undersides. — **chlorographa** *Cab.* has yellow-white spots at middle of inner margin on forewing. — **gracilens** *Cab.* *chloro-* *grapha.* has normal ground eolour, but the blaek marking is almost eompletely extinet. — **interligata** *Cab.* two spots *gracilens.* above the inner margin of forewings horizontally eonjoined. — **zinalensis** *Favre.* Forewings blaekened in the *interligata.* middle, radial streaks near the margin. Hindwings similarly. Also radial streaks on underside of forewings. — *zinalensis.* *berolinensis.* **berolinensis** *Reuss.* Ground eolour duskily adumbrated with violet sheen. More or less entirely blaek speeimens are named: *melania Oberth.*, *tabusteani Oberth.*, *lambinii Lamb.* and *melanosa Cab.* — Dwarf forms are named *adula.* *minor Cab.* — The new raees are mostly determined for Europe: **adula** *Fruhst.* varies from speeimens from north Germany by lighter eolour and more delieate blaek marking; margin of both wings narrow without blue-blaek *tergesta.* gloss. Smaller. Engadin. — **tergesta** *Fruhst.* Similar to *adula*, still smaller and paler. Blaek dots very small, so that *eporedia.* the yellow submarginal spots appear very large. Esthland, Finland. — **eporedia** *Fruhst.* In proportion to the forms from the north, the blaek margin and middle band are mueh wider. S. Tyrol and Courmajeur. — Of the *erilda.* 2 spanish raees the 1st may be deseribed as a large *adula*: **erilda** *Sag.* Upper and undersides less riehly eoloured than typieal, blaek markings redueed espeeially at base of forewing. Aragon. — The 2nd is a small *eporedia*: *pyrenaica.* **pyrenaica** *Sag.* Smaller than type, darker; the ♀ espeeially in the basal half of both wings. Valleys at high *trachalus.* altitudes in Catalonia. — Also in Asia, a few new raees: **trachalus** *Fruhst.* The ♂ as large as *amurensis Stgr.* with more pointed forewing, similarly eoloured to a briek-red *didyma.* The blaek dot marking in the postmedian area of forewings is faint. Underside of forewings a rieh deep red, hindwings more yellow, without green *tarnis.* dusting. Tien-Shan. — **tarnis** *Fruhst.* Small, ground eolour light yellow, blaek marking faint, but nevertheless heavier than in *paidicus* (Vol. 1, pl. 68 g) from Altai. Underside like *sibirica Seitz* (= adalberti *Fruhst.*). Ussuri *atra.* territory. — **atra** *Kardak.* (13 h) a sub-form to *amurensis Stgr.* Ground eolour darker, espeeially on hindwings, *karafutonis.* markings bolder. Also underside darker. Ussuri territory. — **karafutonis** *Mats.* (= parvimarginalis *Nak.*) (14 a) has smaller blaek spots at outer margin, exeept in eellule 2 where there are none. ♀ similar to *amurensis Stgr.*, but ground eolour paler, similar to *tigroides Fruhst.* Probably not mueh different from *tarnis.* Saehalin.

daphne. **A. daphne** *Schiff.* (Vol. 1, p. 235, pl. 69 a). The form with blaek radial streaks was already mentioned in Vol. 1 as *conjuncta Tuti*, *obscura Aign.* is approximately the same, *melanotica Gillm.* is darker especially on *x-puncta-* forewing. Only the yellow middle band is still light on underside of hindwing. — **x-punctatum** *Vorbr.* eorresponds *tum.* to *dejone-berisali Rühl* and *amathusia-tramelana Cul.* — **brunnea** *Guss.* has the bands on underside of hindwings *brunnea.* uniformly brown. — **nikator** *Fruhst.* Larger than normal. Ground eolour paler yellow-brown, blaek markings *nikator.* finer. Underside of apex on fore and hindwings throughout paler, the outer row of dark spots more distinet; *radiala.* the yellow diseal area paler, more sharply outlined. S. Tyrol and the Valais. — **radiata** *Trti. & Vrty.* designates *japygia.* speeimens with radial markings like those deseribed under *nikator.* Valdieri. — **japygia** *Std.* ♂ normally large, *tenuiter-* fiery eoloured. ♀ also large bright fuseous. Blaek markings heavy but not eonfluent. — **tenuitermaculosa** *Vrty.* *maculosa.* As the name indieates, with narrow bands. Florenee. — **mediofusca** *Mats.* Differing from *fumida Btlr.* by paler *mediofusca.* ground eolour. The blaek spots smaller, exeept those of the submarginal row. The pale violet lunules of *nakaharae.* underside of hindwings wider. Corea. — A melanotie aberration is **nakaharae** *Mats.* The inner half of both wings is blaek, the outer half is yellow, but wide blaek triangular shaped marks point inwards from the margin along the veins. Japan.

lathonia. **A. lathonia** *L.* (Vol. 1, p. 235, pl. 69 a). No one has yet named dwarf forms. — **alba** *Spul.* is silvery *alba.* white on upperside. — **pallida** *Fritsch* is pale yellow-brown, eorresponding to *niobe pallida Gillm.* — **reducta** *pallida.* *Schirm.* has praetieally no markings in diseal area of both wings. — **ardens** *Jach.* (= fervida *Fritsch*) designates *reducta.* partieularly fiery yellow-red speeimens. — **caeruleomarginata** *Vorbr.* has grey-blue seales on the marginal marks *ardens.* *caeruleo-* *marginata.*

of both wings. — **j-nigrum** *Tutt* (= interligata *Cab.*). The 2 black spots on middle of inner margin of forewings merged horizontally. — **triangularis** *Rev.* Like *j-nigrum* without more detailled description. — **goetgheburi** (recte *goetghebueri*) *Lamb.* Black spots on upper and underside prolonged to points, marginal spots merged in pairs, the small spots at apex larger and triangular. Base of both wings pale greenish. — Names for melanotic specimens are *melaena Spul.*, *erebina Oberth.*; *hungarica Aign.*, the latter varying however by having normal hindwings. — According to Verity the typical locality for *lathonia* is Sweden. The race there is small and pale. — **florens** *Vrty.* Larger and brighter than typical. The 1st generation still resembles the northern, in the 2nd and 3rd generations the difference is greater. These are larger and with much brighter colours. The greenish black cloud on upperside at base is more or less absent. Typical of Florence. — Nevertheless transitions to the northern form occur in Tuscany: **emiflorens** *Vrty.* — The 2 asiatic races are pale: **messoa** *Fruhst.* much larger than the europeans. Underside with even larger silvery spots than in *isaea Gray* (Vol. 1, pl. 69 a). Ta-tsien-lu. — **sheljuzhkoi** *Std.* Black markings of upperside much reduced. Underside with less silver and less rusty coloured spots. Wing contour more truncate. Ili district. — **isaea** *Gray* is, according to Reuss a different species from *lathonia* through the genitals. — **isaeoides** *Reuss* is like a large *lathonia*, not a large *isaea*. Szechuan. Perhaps like *messoa Fruhst.* *j-nigrum.* *triangularis.* *goetgheburi.* *florens.* *emiflorens.* *messoa.* *sheljuzhkoi.* *isaea.* *isaeoides.*

A. elisa *Godt.* (Vol. 1, p. 236, pl. 69 b). The typical form from Sardinia is illustrated in Vol. 1. — **stechei** *Vogt* is larger. Forewings more brilliant, darker. Underside of hindwings darker, the green colour turned brownish. Corsica. *elisa.* *stechei.*

A. aglaja *L.* (Vol. 1, p. 236, pl. 69 b). Besides the pale forms already enumerated in Vol. 1, there are still to be named: **albomaculata** *Rbl.* with silvery grey to white spots. — **molybdina** *Newnh.* Ground colour buff, all other markings of upperside silvery. — **susanna** *Steph.* is leathery yellow on hindwings, black spots thereon widely surrounded by white. — **aurantiaca** *Reuss* with light golden yellow ground colour. — Now the dark forms: **neoarctica** *Reuss.* Both wings dark on upperside at base. All the otherwise green spots on underside are olive brown to red-brown. *viridiatra Strd.* is dark coffee-brown, probably like *suffusa Tutt* and a transition to *emiliae Quens.* mentioned already in Vol. 1. — **hindenburgi** *Schuster* differs from the latter by also having a black underside, only the silvery spots still slightly reflect through. — According to Verity the typical race occurs in Sweden. It occurs there together with *borealis Strd.* and specimens like those from central Europe. The races from S. Tyrol and the Tessin are not yet named. — In the Maritime Alps the species is much larger, richer reddish yellow, black markings reduced. The silvery markings on underside more extensive: **locuples** *Vrty.* (= locupletata *Vrty.*). Specimens from Geneva and the Simplon look slightly different. — **emilocuples** *Vrty.* is a gradation between *locuples* and specimens from Sweden. Typical of Berlin; this form also occurs in the South of England, whilst in Scotland we find the swedish. Nevertheless a race from there is named: — **scotica** *Watk.*, as of course identically the same specimens do not occur at different altitudes. Larger than typical. The black markings on upper and undersides bolder. Underside with darker green, silvery spots larger. ♀ very dark with whitish submarginal spots. Sutherland. — In mid-Italy the species becomes smaller. The black markings often as faint as in *vitatha Mr.* (Vol. 1, pl. 69 c): — **apenninicola** *Vrty.* ♂ and ♀ scarcely differing in colour. The spot below the costa on forewings always small or absent. Much more uniform than the bright coloured northern specimens. Piceno (Apennines). — From Spain we have **methana** *Fruhst.* ♀ strikingly pale in the outer half of both wings in comparison with german or alpine specimens, the black median spots larger, submarginal silvery lunules smaller. Upperside lighter than german specimens, black markings daintier, especially at margin of hindwing. Sierra Guadarrama. — **mirabilis** *Sag.* Very large with bold colouration, very variable. Aragon. — In Asia we have firstly **anxo** *Jach.* Large, black dots larger, base of hindwings darker, ♂ upperside rich yellow-red; ♀ darker with violet or greenish sheen. Pjatygorsk. North Caucasus. — Then new races are only established much further eastwards: — **valesinoides** *Reuss.* Coloured like a brown *valesina Esp.* The type is illustrated as from Kashmir, the spots on costa of forewing and marginal spots of both wings almost white. — **ashreta** *Evans* is the high altitude form of *vitatha Mr.* Larger, brilliant yellow-red, ♀ dark and often dusted with violet. S. Chitral at 2000—3000 m altitude. — **yopala** *Fruhst.* Upperside especially of ♀ very dark. A white spot on costa of forewing behind the cell. White centres to the 2 anterior black spots of the outer row. White spots in the band of cone-like marks before the margin. Perhaps this is a transition to the form *valesinoides* from Kashmir already described. — **kenteana** *Stich.* Especially dark ♀ from Transbaikal, possibly with right of priority over *yopala* and *valesinoides.* — **taldena** *Fruhst.* Very like european *aglaja* and not the western chinese *bessa Fruhst.* (Vol. 1, pl. 69 b). No spots on upperside of hindwing, underside with normal silvery spots in pale grass green ground. Yellow-brown submarginal area as narrow as in *bessa.* Ta-tsien-lu. — **plutus** *Oberth.* from the same district is totally different. The round black spots of both wings larger, the middle row on forewings narrower. No silver on underside of apex of forewings, brown spots before the margin on hindwing. Ta-tsien-lu. — **clavimacula** *Mats.* Differing from *fortuna Jans.* by the black apex, disco-cellular spot formed about like a "6"; middle band of hindwings more dentate. The silvery spot in middle of cell on underside of hindwings is missing. Corea. — **graeseri** *Kardak.* Very large, ground colour more crude reminding one somewhat of *myoniae Fruhst.* from Japan. Ussuri. — **sachalinensis** *Mats.* (= matsumurai *Nakah.*). Like *selene Schiff.* Luniform spots at outer margin of forewings. Upperside of hindwings with larger spots and wider bands, on underside each in cellules 2—6 a silvery white spot with brown ringlet. Sachalin. — **otaniana** *Mats.* has a wider margin on both wings than *sachalinensis* and therein a row of small yellow spots. Base and *agtaja.* *albomaculata.* *molybdina.* *susanna.* *aurantiaca.* *neoarctica.* *hindenburgi.* *locuples.* *emilocuples.* *scotica.* *apenninicola.* *methana.* *mirabilis.* *anxo.* *valesinoides.* *ashreta.* *yopata.* *kenteana.* *tatdena.* *plutus.* *clavimacula.* *graeseri.* *sachalinensis.* *otaniana.*

chishimensis. inner half of inner margin black brown. Sachalin. — **chishimensis** *Mats.* is also like *sachalinensis* (= tonnai *Mats.*) but black margins of both wings narrower. The yellowish spots are smaller, especially in the cell. Submarginal lunules on forewing nearer margin, each crescent enclosing outwardly a smaller yellow spot. Underside of forewing apex of ♂ dusky and dark submarginal lunules larger. Kurile Islands. — There are 3 new forms from *basalis.* Japan: **basalis** *Mats.* very dark on upperside. At base on underside of hindwings 4 large silvery white spots, *isshikii.* besides in each cellules 1—2 brownish spots, only that in cellule 3 is silvery. N. Japan. — **isshikii** *Mats.* A sub-form to *myoniae Fruhst.* Similar to *wilemani Kuway.* (this description is unknown to me), but the yellow spots in the submarginal row, especially on hindwings are smaller, turning into short lines. Large, longish silvery spots at base on underside of hindwing. The middle one lined inwardly by dark brown, and outwardly *gutta.* by a black line. Submarginal silvery spots narrow, not round as in *wilemani.* Jesso. — **gutta** *Wilem.* Among *fortuna Janse* specimens like *charlotta Haw.*, ♂ without silver at apex on underside of forewings, silvery spots on hindwings merge at base. Japan.

liauteyi. **A. liauteyi** *Oberth.* Described as a species, deemed by Reuss to be a form of *aglaja.* It differs on upperside from *auresiana Fruhst.* (Vol. 1, pl. 70 g) by lighter ground colour. On underside of hindwings the row of post-median silver spots is smaller, in the subsequent brown-green spots the silvery dots are missing. Central Atlas.

niobe. **A. niobe** *L.* (Vol. 1, p. 237, pl. 69 c) **extincta** *Rbl.* is only paler than normal owing to smokey grey *extincta.* markings instead of black. — **diocletiana** *Std.* closely resembles *kuhlmanni Seitz.* Upperside fiery fuscous. *diocletiana.* Underside of forewings almost brick-red like *pandora.* Basal and discal areas of hindwings pale yellow, the black lines delicate. Faint silvery spots before the margin. ♂ still paler yellow. — The following forms are *fasciata.* darker: **fasciata** *Blach.* (= fasciata *Closs*) (14 f) with black middle band on upperside of wings. — **thyra** *Schultz.* *thyra.* The black edge of the marginal lunules conjoined with the antemarginal spots forming radial stripes. — In *nigromarginata.* **nigromarginata** *Reuss* only the margin somewhat wider black, otherwise ground colour of the type happens to *berolinensis.* be light. — **berolinensis** *Reuss* is dusky with faint violet sheen, probably like *obscura Spl.* — **sahlbergi** *Bryk.* *sahlbergi.* Forewings dark violet, yellow-brown in middle and end of cell. Hindwings blackish. Underside of forewings adumbrated except for a small patch at base of cell. Hindwings shining like mother-of-pearl to beyond the *radiata.* middle, then dark. — Variations of underside are: **radiata** *Splr.* Silver spots of underside merging forming rays. *rufescens.* — **rufescens** *Tutt.* Patches on underside of hindwings that are usually pale reddish are turned deep red or red brown and contrasting strongly. According to whether the silvery spots are present or absent the form sub-*rufescens-typica.* divides into **rufescens-typica** and **rufescens-eris.** — In *eris* the fine silvery dots in the rusty red spots can be *rufescens-eris.* absent: **caeca** *Rbl.* Or the band from costa to anal angle is heavily dark brown; inside of same richly yellow lunules, marginal crescents similarly coloured: **phaeotaenia** *Schaw.* — *cloppenburgi Reuss* varies slightly by a *caeca.* microscopic difference in the form of the androconia and *cornuta* by the form of the genitals which is like those *phaeotaenia.* of the asiatic races, no other outward difference from normal specimens being apparent. — Differences in ground *aurea.* colour have produced the following names: **aurea** *Tutt* pale orange brown. Yellower than typical ♀ and **flavescens** *flavescens.* *Tutt* not so dark red yellow as typical ♂♂ but more orange yellow; **fusca** *Tutt* with reddish brown or yellow *fusca.* base on underside of hindwings instead of greenish as typical. — Besides we have a *nana Wheeler.* — According to Verity there is no definite locality for the typical race of *niobe*, whilst Fruhstorfer names northern *sisenna.* Europe. Therefore the southern races must have names. — **sisenna** *Fruhst.* Larger than typical. Forewings with heavier black markings at base and marginal area. On underside of hindwings often a red or green-brown *laranda.* traverse band sharply outlined with black-brown. South Tyrol. Carniola. — **laranda** *Fruhst.* is still slightly larger than *sisenna.* Lighter red-brown, smaller black spots on both wings. Band of underside of hindwings *pinguis.* quite dull. Dalmatia, S. Hungary, Saratov. — **pinguis** *Vrty.* is the fiery S. W. Alpine race like *aglaja-locuples.* *apenninica.* Typical of Valdieri. — **apenninica** *Vrty.* is, as usual in this territory, smaller, black markings reduced. Underside *rubida.* of many specimens whitish and diffuse, green patches reduced. Abetone, Apennines. — **rubida** *Vrty.* Very striking. Upperside of forewing coloured reddish like underside of *A. pandora.* Black markings less distinct, but more extensive than in *apenninica.* ♀ with scarcely any dark patches at base, therefore very like the ♂. On underside of forewings many red and yellow scales. Hindwings whitish red, spots red, whilst green and *sicula.* blackish patches are reduced. Aspromonte 1200 m. — **sicula** *Rag.* Close to *rubida* and *eris Meig.* More greenish on underside of hindwings, forewing darker, greenish at apex. Upperside of both wings darker. Silvery spots *altonevadensis.* quite absent on underside, replaced by grey-black. Sicily. — **altonevadensis** *Reisser* is another *eris* form. Smaller than alpine specimens. Reminding one of *elisa Godt.* by its lively colour. Base not so extensively dark. ♂ and ♀ less dimorphous. Black markings also in ♀ little developed. Sierra Nevada. — A number of new *orgowa.* forms from Asia: **orgowa** *Teich.* Similar to *gigantea Stgr.* Ground colour fiery yellow-red. Markings fine and deep black. Underside remarkably pale without red-brown spots, markings sharply outlined. Basal black *changaiea.* mark large. Ararat. — The following forms from much further eastwards: **changaica** *Reuss* ♂ with dense androconia agglomerations on veins 2 and 3 of forewings. Underside of apex of forewing with olive brown mark generally without silver there. Hindwings greenish brown with yellow spots. Changai, Sajan mountains. *alaiensis.* — **alaiensis** *Reuss* (14 d). Size like *aglaja-vitatha.* Underside with only olive-grey to brownish markings, *subornatissima.* without the red-brown or black marks of normal *niobe.* Alai. — **subornatissima** *Reuss* (14 e) is said to have a single androconia stripe in contrast to *adippe-ornatissima Leech*, but those in the Berlin Museum have two.

Underside with few silvery markings. Kansu. — **intermedia** *Reuss* is a form of *subornatissima* without silvery markings. Peking. — **subornatissimoides** *Reuss*. Similar to *ornatissima Leech* in the plumules. Size approximating to *niobe* from Europe. Colour identical with *subornatissima* from East Asia, with a single plumule, fiery orange. Underside with rich silvery markings on green ground. ♂ and ♀ not inclining to adumbration. Ta-tsien-lu. The subform **anargyra** *Reuss* has no silvery markings on underside. Szechuan. — **voraxides** *Reuss* (14 e) is also similar to *ornatissima*, upperside brilliant yellow-red. Underside of hindwings olive-green. Similar to *niobe*, the silvery marking does not extend or only rarely extends to the anal margin of hindwings. Marginal markings sharply outlined like in *niobe*. Ussuri territory. — **xanthodippoides** *Reuss* is the form of this without silvery markings, from warmer regions. Upperside faintly greenish. Peking. — **valesinoides**-♀ *Reuss* (14 c) (illustration pl. 14 b = *niobe-valesinoides*) is as large as *gigantea Stgr.* The black spots on upperside are relatively heavier than in normal *niobe*, especially on hindwings. Ground colour of both wings dusky with the exception of few small patches. Underside of hindwings greener than in typical specimens. Corea.

intermedia. *subornatissimoides.* *anargyra.* *voraxides.* *xanthodippoides.* *valesinoides.*

A. adippe *L.* (Vol. 1, p. 238, pl. 69 d). This species is now also named *cydippe L.*, Verity's proposal to rename it *esperi Vrty.* has met with little support. — The number of new aberrations is relatively small. — In **extincta** *Bryk* (14 c) the middle band of hindwings is absent, on underside the corresponding row of silvery spots diffuses inwards. — **varenii** *Holmgr.* Forewings with black veins up to the apex. On hindwings the black, respectively brown spots are absent on upper and undersides; silvery spots reduced. — **margareta** *Steph.* has darker fuscous forewings with black ray-like markings near the margin. Hindwings with blue sheen, almost quite blackish, but with ray-like markings in pale ground colour at margin. — **berolinensis** *Reuss* is dusky, black with violet sheen. — **cuneata** *Tutt* has the large quadrangular black spot in the middle of underside of forewing extended towards the base. — Under *cleodoxa* a specimen with deep fuscous ground colour is denominated as **fulvescens** *Tutt*, the band in which the small silvery spots are situated is especially dark. On the other hand the spots that replace the other silvery spots are dark ochre-yellow. — **töroki** *Aign.* Forewings olive-green at base, a few brown spots on margin, otherwise velvety black, a light patch only in the cell. Hindwings olive-green in marginal area. Underside like a normal *cleodoxa*. — **virgata** *Tutt* has a fulvous band on underside of hindwings behind the central row of silvery spots. — **mainalia** *Fruhst.* (? = berecynthia *Poda*) is large, ground colour deeper, resembling *aglaja-locuples Btlr.* Alpin. — **clarens** *Vrty.* is smaller than the alpine races and those from southern France. Upperside brilliant red-yellow, the black marking reduced especially in the ♀ like other italian Argynnides. Underside rarely suffused with green, similar to *chlorodippe* from Spain. Typical from Florence but occurring from Turin to Calabria and also found in Barcelona. — Among the ♀♀ of *chlorodippe H.-Schäff.* which are mostly yellowish there are also red-brown specimens: **morena** *Rbb.* from the Sierra de Alfacar. — **adelassia** *Fruhst.* Very large and fiery. Markings not diffuse on underside. Mentone. — **siciliensis** *Reuss* (14 c) classified to *cleodoxa*, is also fiery coloured with reduced black markings. Underside only pale greenish-yellow; ♀ greenish on underside of hindwings in the region of the band of ocelli, however otherwise yellowish. — **garcila** *Fruhst.* is also a large but pale race. The black spots of upperside of both wings are small. Saratov. — In Asia a considerable number of new races is described: **thalestria** *Jach.* is a richer red-yellow on both sides, black markings heavy. Underside uniform; hindwings yellowish, sometimes coppery at the inner margin, without any green sheen, maculae glossy silvery or yellow (as in the subform **chalciope** *Jach.*). Caucasus and Transcaucasia. — **formosa** *Krul.* Ground colour ochre-yellow, spots black-brown. The costa on underside of forewings greenish-yellow, with browny-green spots. Hindwings pale yellowish-grey, especially at costa. Silvery spots poorly developed; bluish silvery dots in a few of the ochre coloured eyespots at the margin; yellow spots with silvery sheen and browny-greenish crescents at costa. From the Amur territory; possibly identical with *pallida Btlr.* — **martini** *Reuss* is a very large race with silvery spots on underside. Specimens without silver are named **bischoffi** *Reuss* (14 d). Turkestan. — **tianschanica** *Alph.* (enumerated in Vol. 1, p. 238 as *tianchanica Stgr.*) according to Fr. Wagner is a transition from *adippe* to *chlorodippe* in regard to the colouring of the hindwings. The silvery spots are fairly large and in the ♀ often especially well developed. Tian-shan. — **juldana** *Reuss*. The plumules are like those of *niobe* in the apical half and like those of *adippe* in the basal half. Exceptionally the notorious black spot occurs in the cell on the underside of hindwings, which otherwise only occurs in *niobe*. From the description of the author it would appear that the form described in Vol. 1, p. 238 would more correctly be denominated *niobe-tianschanica*. Consequently the name *juldana* becomes necessary for the *adippe* race. Tian-shan. No particulars are given as to how it differs from the *niobe* race. — **taliana** *Reuss* (14 e) is precisely like *adippe* in regard to the plumules. It differs from closely allied races, for instance *pallescens*, *vorax* through the shorter androconia stripes which do not extend beyond the outer border of the neighbouring black spots and end almost abruptly. Heavy silvery markings on underside of hindwings, a considerable patch also between the base of vein 8 and the cell; the one at end of cell heavily bordered with black on both sides. A spot also between veins 4 and 5 behind the cell. Tali, Szechuan. — **stoetzneri** *Reuss* (= leechi *Wtk.*) is closer to *locuples Btlr.* from Japan than to the chinese *vorax Btlr.*, of which *pallescens Btlr.* is the paler form from the northern island. The coloured underside and rounder forewing correspond to *vorax*, but the ♂ has distinct silvery marginal spots like *locuples* but smaller than *taliana*. Ta-tsien-lu. — **niraea** *Oberth.* (14 d) as *nivaea* is similar to the widely distributed *cleodoxa O.* which has no silvery markings. Underside base of hindwings is more green, yellow patches thereby standing out more prominently. Probably a (previously denominated) *taliana* race. — **rückerti** *Fruhst.* Similar to *ornatissima Leech* and *locuples*. Upperside with deep blue-green sheen, the black submarginal spots on forewings particularly

adippe. *extincta.* *varenii.* *margareta.* *berolinensis.* *cuneata.* *fulvescens.* *töroki.* *virgata.* *mainalia.* *clarens.* *morena.* *adelassia.* *siciliensis.* *garcila.* *thalestria* *chalciope.* *formosa.* *martini.* *bischoffi.* *tianschanica.* *juldana.* *taliana.* *stoetzneri.* *niraea.* *rückerti.*

striking. The black spots on underside of forewings widely diffusing; the eyespots on hindwings with heavier black ringlets than in *xanthodippe Fixs.* (as illustrated in Vol. 1, pl. 69 e), silvery spots reduced. Chefoo. —

zarewna. **zarewna** *Fruhst.* similar to a european mountain form; ♂ dark ochreous on upperside, ♀ darker at base than alpine ♀♀. Underside similar to *xanthodippe.* Irkutsk. — According to Reuss *pallescens Btlr.* is illustrated on

xanthodippe. pl. 69 e as *xanthodippe*, the correct **xanthodippe** according to his opinion is now illustrated here (14 c). —

aglaiaeformis. **aglaiaeformis** *Wtk.* differs from other specimens from Amur by heavier black markings on upperside and sharply defined glossy silvery spots on underside. Possibly this is a subform to *chrysodippe Stgr.* Amur

numerica. territory. — There are 4 new races from Corea: **numerica** *Mats.* has smaller black spots than *xanthodippe Fixs.* Ground colour duskily dusted. Silvery spots on underside of hindwings larger at margin, smaller at base; also

non-argentata. brown submarginal spots smaller. — **non-argentata** *Mats.* Similar to *coredippe Leech.* Marginal spots on underside of hindwings dusted with silver. The 3 basal spots silvery, discal spot and a further spot below white with a

flavescens. slight metallic sheen. — **flavescens** *Mats.* More heavily darkly dusted than *coredippe.* Yellow spots consequently more distinct. On underside of hindwings greenish-yellow without silvery spots, a marginal row of pale

mumon. yellow lunules, beyond same a dark greenish band. — **mumon** *Mats.* Similar to *vorax Btlr.* (Vol. 1, pl. 69 e) without the silvery spots on underside of forewings at margin, which are pale yellowish here; the other silvery

doii. spots are smaller. — **doii** *Mats.* Similar to *sachalinensis Sat.* (= satakei *Mats.*) which is not enumerated here, but the marginal row of yellow spots is quite absent on forewings; the disco-cellular spot becomes linear, towards the costa; the outer row of spots larger. Hindwing with distinct and larger spots, only the marginal

kurosawae spots linear. On underside of forewings there are 2 silvery spots near the apex, the yellow marginal line on hindwings narrower. Kurile Islands. — **kurosawae** *Mats.* is a form in which the silvery spots on underside of hindwings are elongated. The 2 anterior spots extend from base to ⅓rd of the distance from apex. Sapporo. —

pallida. Of the race (or species) *jainadeva Mr.* (Vol. 1, pl. 69 f) the form **pallida** *Evans* is new: paler and smaller

elwesi. Ladak. Besides this **elwesi** *Reuss* (14 e): differentiated by green submarginal ocelli on underside of hindwings with faint silvery centres, on underside of forewings 2 silvery patches at apex just before the marginal lunules. Kulu.

taigetana. **A. taigetana** *Reuss* (14 d). Superficially like *pallescens Btlr.* Margin of forewings heavily curved, ground colour more greenish. Underside with green bands and green-brown ocelli on hindwings. Plumules brown on upperside. Greece.

nerippe. **A. nerippe** *Fldr.* (Vol. 1, p. 239, pl. 69 f). — **acuta** *Mats.* differs from *coreana Btlr.* by the more reddish-

acuta. yellow upperside of both wings, all black spots are smaller. The silvery spots in the discal row are large on the underside, no spots however at margin, spot in disc smaller and pointed. Also from Corea.

laodice. **A. laodice** *Pall.* (Vol. 1, p. 239, pl. 70 a). One aberration is new: **disco-confluens** *Rev.* The 2 outer

disco-confluens. marginal rows of spots on hindwings and partly also on forewings are confluent. — A few new races are

melloides. described, all from East Asia: **melloides** *Reuss.* Very large, upperside fiery. The margin on underside of hindwings very dark. A transition to *melli.* Peking. (*melli Reuss* from South China and therefore not palaearctic

producta. is described as being "as large as *childreni-sakontala*".) — **producta** *Mats.* Differs on underside from *japonica Mén.* (Vol. 1, pl. 70 a) by a deeper violet colour in outer area, narrower inner brown line, wider silvery spots;

fletcheri. the violet crescents at the margin very wide, on innerside with green spot. Corea. — **fletcheri** *Wtk.* is smaller

ussurica. and paler than specimens from Corea. Vladivostock. — **ussurica** *Kard.* Ground colour more brilliant, black

ferruginea. marking bolder, somewhat larger than specimens from East Prussia. Ussuri territory. — **ferruginea** *Wtk.* Differs on underside from *japonica Mén.* by rust coloured outer $^2/_5$ths of hindwings (instead of rose) intersected by a silvery-grey submarginal shadow. On upperside the heavy black marking corresponds to *ariana Fruhst* (Vol. 1, pl. 70 c), but the hindwing is still darker around the cell and similarly at the base of both wings. Sachalin.

childreni. **A. childreni** *Gray* (Vol. 1, p. 240, pl. 70 b). — **binghami** *Oberth.* (14 f) is much darker on upperside than

binghami. *childreni.* Underside of forewings is also dark, on hindwings the green ground colour is replaced by brown.

caesarea. Siao-lu. — **caesarea** *Fruhst.* Similar to *sakontala Koll.* (Vol. 1, pl. 70 b). The anal angle of hindwing of ♂ is more extensively bluish, the silvery stripe on underside of hindwing narrower. West and Central China.

anadyomene. **A. anadyomene** *Fldr.* (Vol. 1, p. 241, pl. 70 d; 71 b, c). — **obliterata** *Kard.* (14 f). ♂ more brilliantly

obliterata. coloured. The silvery marking is absent on underside of hindwings which are almost unicoloured in ♂ and ♀: only a white streak is visible at costa and a few white discal dots. Hindwings more finely marked than in *pandora-seitzi* and a duller green than in same, as shown in Vol. 1, pl. 71 c. South Ussuri, Amur territory.

paphia. **A. paphia** *L.* (Vol. 1, p. 241). The dwarf form has 3 names: *minor Der.*, *nana Steph.*, *pusilla Wnuk.* —

confluens. The following are dark aberrations: **confluens** *Splr.* The 2 outer rows of spots are converged. — **nigricans** *Cosm.*

nigricans. corresponds with *niobe-pelopia*; *backei Unterb.* is almost the same. — **ocellata** *Frings* (14 f) has elongated black

ocellata. eyespots with ringlets in the ground colour in front of the margin of both wings. Immediately anterior to same is a black band. *pelopioides Kromb.* is similar, only on the hindwings the eyespots are separated into 2 round

diluta. dots. — **diluta** *Splr.* are specimens with diffuse black marking. *conjuncta Schaw.* and *sylva Fischer* are probably

lutea. identical. — In the ♀♀ besides the normal yellow-brown, one also finds pale yellow specimens: **lutea** *Reuss*;

rutila. fiery-orange yellow: **rutila** *Reuss*; faintly green forming a transition to *valesina*: **viridescens** *Reuss.* — **hulsti**

viridescens. *Reuss* is a form between *paphia* and *valesina* and in same the mosaic markings on upper and undersides vary.

hulsti. — **lubbeana** *Fisch.* is fairly similar to *valesina.* The bands of black spots are varyingly heavier and fainter,

lubbeana. ground colour inclined to be paler. The silver bands on underside of hindwings are more extensive and paler.

Königsberg. — **rosea** *Cosm.*, described as *nov. spec.* has golden-yellow forewings, the outermost of the 4 rows of spots is almost extinct. Underside pale golden-yellow, hindwings ¾ greenish, margin rose, black spots reflecting through from upperside. — Variations of underside occur in the following forms: **subtusaurea** *Reuss* has a golden-brown ground colour to all wings. — **fasciata** *Adler*: in *anargyra Stgr.* from Corsica occasionally there are only 2 dark violet narrow marginal bands on the green iridescent ground colour on underside of hindwings. — **marillae** *Aign.* (14 f) has the metallic stripes of underside of hindwings so extended that the entire base and discal areas are silvery, the band of eyespots before the outer margin is brownish-green. — **harmsi** *Reuss* is a *paphia*-♂ with colouration of *valesina* and with considerably larger androconia than customary in *paphia*. — According to the colour of the paler patches otherwise typical *valesina* have been sub-divided into *valesina-alba*, *-flava*, *-brunnea* (= Esper's name type form), *-nigra Reuss*. The aberrations are almost immaterial. — *valesina*-**udei** *Reuss* varies a little more; ground colour almost white-grey, all the other green patches incline to be violet. — *valesina*-**miranda** *Fisch.* is fairly dusky, with a few brown radial stripes on forewings, those of hindwings fainter. — *valesina*-**eudora** *Fisch.* Still darker than *miranda*. Quite grey-black except for a streak at the apex and base of forewings, underside of forewings blackish in the middle, hindwings verdigris in the middle, with silvery sheen. *atrox. Niep.* is probably the same. Both are forms due to temperature. — *valesina*-**nigricans** *Cosm.* is a transition to *eudora*. The whitish patches on costa of forewings are absent, the black marginal spots are confluent, other spots large. — Typical *paphia L.* originate from Sweden. They show a sharp contrast on the hindwings between the silvery-white ground colour and the comparatively deep green spots and bands of the ♂. Further south the species develops larger. The contrast of colours on the hindwings becomes less pronounced as the white spots at the base are suffused with green and rose at outer margin. — The green spots become paler and yellowish in the ♂: **magnata** *Vrty.*, typical of central France. — Further south in Italy besides, the black spots on underside of forewings become smaller and reddish; **magnifica** *Vrty.*, typical of Corsica and Valdieri. — **calidigenita** *Std.* is similar. Almost as large as *tsushimana Fruhst.* (Vol. 1, pl. 70 e), the apex of forewings unicolourous pale brown, 10 mm wide, without black marking. Aspromonte. — *anargyra Stgr.* according to Vol. 1, p. 241 occurs in southern Spain; according to Ribbe it occurs at Bilbao, Catalonia, Albarracin. Besides according to Schawerda the race should be named **immaculata** *Bell.* It is without silver on the golden-green underside of hindwings; specimens with narrow, deep yellow margin are named: **lilamarginata** *Schaw.*, if they have besides some silver: **transiens** *Schaw.* — **zariquieyi** *Sag.* is perhaps identical with the latter. Small, silvery bands on underside of hindwings reduced. Aragon. — Turning to the East: **butleri** *Krul.* is a transition from *thalassata Fruhst.* from east Russia to *paphioides Btlr.* from Japan. Wiatka. — **argyrophontes** *Alph.* corresponds as a race in the Caucasus to the aberration *marillae Aign.*, eventually the latter name should have precedence. — **sachalinensis** *Mats.* Ground colour olive-brown with bluish shade, instead of olive-yellow. At outer margin of forewings the black spots are olive-bluish with yellow centres. South Sachalin. — The race *dives Oberth.* was erroneously named *diva* in Vol. 1, this however was corrected in the register of misprints (p. 379). According to Dioszeghy the name *marillae Aign.* can claim priority over *argyrorrhites Alph.* which was used in Vol. 1, p. 241.

rosea. *subtusaurea* *fasciata.* *marillae.* *harmsi.* *udei.* *miranda.* *eudora.* *nigricans.* *magnata.* *magnifica.* *calidigenita.* *immaculata.* *lilamarginata.* *transiens.* *zariquieyi.* *butleri.* *argyrophontes.* *sachalinensis.*

A. pandora *Schiff.* (Vol. 1, p. 242, pl. 71 c). — **mediodefecta** ♀ *Std.* The 3rd row of spots counting from the margin is almost absent on upperside of hindwings. — **cuneigera** *Std.* On upperside in outer area the cuneiform spots are confluent. — **fulva** *Cosm.* is a half-sided hermaphrodite, in which the spots neither correspond to normal ♂ or ♀. — **lilicina** *Oberth.* (14 e) is fairly normal on upperside, more brick-red on underside of forewings. — **melanophylla** ♀ *Std.* corresponds to *paphia-valesina Esp.* Upperside greenish-black, only dull brownish-yellow at apex of forewings, black markings daintier. Monte Faito. — **cyrnea** *Schaw.* Ground colour dark green, almost blue-green on hindwings. In the ♂ only brown at costa of forewings, in the ♀ besides at the apex a few yellow-brown patches, the black marking more massive. *seitzi Fruhst.* from Algeria forms a transition to same. Corsica. — **chrysobarylla** *Fruhst.* is also similar to *seitzi*. The subapical and cell spots are larger and more yellow than brown. On underside the black discal and marginal spots wider, the silvery bands bolder. Teneriffe. — **violacea** *Trti.* Large and well developed. The upperside of specimens from Algeria differ in all cases by faint green dusting and somewhat more ochre-brown ground colour. Underside similar to *lilicina Oberth.* Underside of hindwings also similar to *lilicina* (14 f), but the ground colour of forewings is claret coloured in the disc, in the ♀ almost carmine red, also the subapical area which is generally yellow, is here suffused with reddish. Apex is green with violet sheen as on hindwings. On underside of forewings the submarginal spots have centres of mother-of-pearl. On hindwings the 2 rows of mother-of-pearl spots are glossy and contiguous, in *lilicina* the row is interrupted and of duller colouration. Submarginal line somewhat bluish, anterior to same distinct mother-of-pearl spots. Cyrenaica.

pandora. *mediodefecta.* *cuneigera.* *fulva.* *lilicina.* *melanophylla.* *cyrnea.* *chrysobarylla.* *violacea.*

A. hyperbius *Joh.* (niphe *L.*) (Vol. 1, p. 242, pl. 71 c, d). — **hybrida** *Evans.* ♂ with thickened veins similar to specimens from Palni (= castetsi), the ♀ resembles a normal *hyperbius*. — **castetsoides** *Reuss.* Differing from *castetsi Oberth.* by a commencement of dimorphism in the ♀. India: southern Himalaya.

hyperbius. *hybrida.* *castetsoides.*

According to Bryk the ♀♀ of *adippe*, *paphia* and probably also *improbula* have a small sphragis.

Addenda

to the palaearetic Nymphalides.

nigromaculata. P. 200 add to *io*: in **nigromaculata** *Kleinschm.* from Elisabethpol and Amasia, the outer margin of forewings is densely spotted with blaek. In other districts such spots only oecur rarely or in much smaller form.

rizana. P. 201 add to *urticae*: aeeording to KLEINSCMIDT **rizana** *Mr.* in Vol. 1, pl. 63 a is incorrectly depicted. The raee is smali, fairly typical on upperside but with a yellow traverse line over both wings. The underside is the darkest of all existing raees. *ladakensis Mr.* is lighter on underside, upperside more widely yellow with *obtusa.* a black band aeross the forewing. — **obtusa** *Kleinschmidt* is similar to *ladakensis*, but less yellow although more *stoetzneri.* so than *rizana*; underside darker than *ladakensis*. Kansu, 3500 m altitude. — **stoetzneri** *Kleinschmidt* is like *obtusa* but more unicoloured, rarely brightened up with yellow, dusky on underside. Forewing band (on *chinganensis.* upperside?) not always eompletely traverse. Wasseku. — **chinganensis** *Kleinschm.* is similar to *kansuensis* (description see p. 201), but upper and underside still paler, sometimes reminding one of *ichnusa* through absenee of the spcts. The outline of the blaek basal mark of hindwings very dentate. As variable as *kansuensis* *coreensis.* in regard to size. — **coreensis** *Kleinschm.* has a darker underside to hindwings than *chinganensis* and *kansuensis* and underside of forewing darker than *connexa Btlr.* (Vol. 1, pl. 62). Upperside similar to *connexa*, but larger, *baicalensis.* the blue spotted margin of forewings is less heavily dentate. — **baicalensis** *Kleinschm.* is like large european *ussuriensis.* specimens but hindwings are darker on an average. "Further partieulars to follow". Irkutsk. — **ussuriensis** *Kleinschm.* is distinetly more heavily striated on underside of forewings than specimens from Irkutsk. Vladi- *mand-* vostoek. — **mandschurensis** *Kleinschm.* is not as dark as *coreensis*, but darker than *chinganensis*. Mandchuria. *schurensis.*

kultukensis. P. 203 add to *c-album*: **kultukensis** *Kleinschm.* is "blacker in general eolouration than european races of *chingana.* a corresponding season of the year". Lake Baikal. — **chingana** *Kleinschm.* is larger, lighter and more reddish than *kultukensis*. Chingan Mountains.

meinhardi. P. 220 add to *selenis*: **meinhardi** *Schelj.* is the name type form from Kasan and different from *sibirica Ersch.* Underside of hindwings is fairly uniformly yellow, paler than in *sibirica* (Vol. 1, pl. 67 g). All spots of middle band and those of the outer margin are yellow, in *selenis* very often the first and penultimate of the middle band are whitish. Also the basal band in this case is not red-brown, but yellow, sometimes faintly reddish. The brown outer band is edged with violet inwardly like *selenis*. The blaek markings of upper side are finer than in *selenis*, base is not darker. Tomsk.

P. 223 add to *aglaia-valesinoides* the reference to plate (14 b).

Alphabetical List

of all palaearctic Nymphalides mentioned in Supplement Vol. 1, Index and referenee of original descriptions.

* signifies that the form is also illustrated at the place quoted.

aabaca Mel. *Fruhst.* Soc. Ent. 32, p. 19.
abyssinica Mel. *Oberth.* Lép. Comp. 3, p. 243.
acedia Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 7.
aceras Mel. *Horm.* Ztschr. wiss. Ins.-Biol. 7, p. 241.
acrogynoides Mel. *Rev.* Bull. Soc. Lép. Genève 2, p. 47.
acuminata Erib. *Lathy* Enc. Ent. Lep. 1, p. 96. *
acuta Arg. *Mats.* Ins. Mats. 3, p. 154.
adelassia Arg. *Fruhst.* Int. Ent. Ztschr. 4, p. 48.
aduaticana Mel. *Cabeau*, Rev. Mens. Namur 1903, p. 38.
adula Arg. *Fruhst.* Soc. Ent. 25, p. 52.
adumbrata Van. *Raynor* Ent. Rec. 21, p. 8.
aësis Van. *Fruhst.* Seitz Macrolep. 9, p. 527.
aethereaeformis Mel. phoebe *Vrty.* Ent. Rec. 31, p. 183.
afflicta Apat. *Cabeau* Rev. Mens. Namur 1910, p. 33.
aglaiaeformis Arg. *Wtk.* Ann. Mag. Nat. Hist. (9) 13, p. 455.
alaeida Mel. *Std.* Entom. Anz. 5, p. 43.
alaiensis Arg. *Reuß* Arch. f. Nat. 87 A 11, p. 187.
alatauica Mel. *Fruhst.* Arch. f. Nat. 83 A 3, p. 179.
alatauica Mel. phoebe *Wagner* Entom. Mitt. 2, p. 89.
alba Arg. lath. *Spuler* Schmett. Eur. 1, p. 29.
alba Arg. paphia *Reuß* Arch. f. Nat. 87 A 11, p. 210.
alba Mel. *Rehfous* Bull. Soc. Lép. Genève 1, p. 262. *
alba Pantop. *Oberth.* Lép. Comp. 6, Fig. 972.
alba Van. *Raynor* Entom. Rec. 21, p. 7.
albapicta Van. *Cabeau* Rev. Namur 25, p. 81.
albescens Mel. *Vrty.* Boll. Soc. Ent. It. 48, p. 184.
albescens Poly. *Std.* Ztschr. wiss. Ins. Biol. 17, p. 21.
albicans Nept. *Oberth.* Lép. Comp. 12, Fig. 3610.
albida Mel. *Skala* Int. Ent. Ztschr. 3, p. 15.
albida Mel. parthenie *Vorbr.* Butterflies of Switz 2, p. 610.
albina Mel. *Vrty.* Entomologist 1904, p. 54.
albomaculata Arg. *Rbl.* Berge's B'fly Book IX, p. 33.
alceste Apat. *Cabeau* Rev. Mens. Namur 13, p. 100.
alcithoe Apat. *Cabeau* Rev. Mens. Namur 1919, p. 33.
alfacaria Mel. *Rbb.* Iris 23, p. 132.
algirica Mel. *Oberth.* Lep. Comp. 10, Fig. 2339.
alpestris Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 14.
alpestris Mel. athalia *Vorbr.* Iris 42, p. 21.
alpina Arg. *Ebert* Iris 40, p. 33.
altaica Mel. *Grum.-Grsh.* Horae Soc. Ent. Ross. 27, p. 127.
alticola Arg. *Susehk.* Horae Soc. Ent. Ross. 38, p. 18.
altonevadensis Arg. *Reißer* Int. Ent. Ztschr. 20, p. 337 (1927).
alutoya Euthal. *Fruhst.* Seitz Macrolep. 9, p. 682.
amanica Mel. *Rbl.* Sitz.-Ber. Akad. Wien 1917, p. 252.
amanra Mel. *Schaw.* Z. öster. Ent. Ver. 4, p. 67.
ambina Nept. *Fruhst.* Stett. Ent. Ztg. 69, p. 389.
anargyra Arg. *Reuß*, Iris 39, p. 220.
anargyron Arg. *Oberth.* Lép. Comp. 9 (2), p. 46. *
anatolica Mel. *Wagner* Mitt. Münch. Ent. Ges. 19, p. 22.
andetria Nept. *Fruhst.* Seitz Macrolep. 9, p. 609. *
androtropia Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 10.
anglicana Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 6.

angustibalteata Van. *Raynor* Ent. Rec. 21, p. 8.
antigone Limen. *Cabeau* Rev. Mens. Namur 1912, p. 88.
aonis Precis *Fruhst.* Seitz Macrolep. 9, p. 529.
apenninica Arg. *Vrty.* Boll. Soc. Ent. Ital. 45, p. 213. *
apenninicola Arg. *Vrty.* Boll. Soc. Ent. Ital. 45, p. 213. *
apenninigena Mel. *Vrty.* Entom. Rec. 31, p. 179.
apiciata Mel. *Röb.* Entom. Mitt. 15, p. 228.
aquilonaris Arg. *Stichel* Berl. Entom. Ztschr. 53, p. 81. *
ardens Arg. *Jachont.* Mitt. Kaukas. Mus. 5, p. 308.
ardens Mel. *Erfurth* Z. öster. Ent. Ver. 8, p. 56.
arelatia Mel. *Fruhst.* Entom. Ztschr. 29, p. 144.
argyrophontes Arg. (*Alph.*) *Oberth.* Lep. Comp. 20, p. 303. *
aristides Euthal. *Oberth.* Bull. Soc. Ent. Fr., p. 260, 1907.
armorieana Mel. *Oberth.* Lep. Comp. 3, p. 241.
asahidakeana Arg. *Mats.* Ins. Mats. 1, p. 104. *
ashreta Arg. *Evans* Journ. Bombay Nat. Hist. Soc. 21, p. 558.
asopis Arg. ino *Reuß* Int. Ent. Ztschr. 10, p. 23.
asopis Arg. pales *Reuß* Int. Ent. Ztschr. 10, p. 23.
asopos Van. *Fruhst.* Int. Ent. Ztschr. 3, p. 94 (1909).
astrida Van. *Derenne* Lambill. 26, p. 73.
atalantoides Pyr. *Lamb.* Rev. Mens. Namur 1911, p. 91.
aterrimevittata Mel. *Vrty.* Bull. Agric. Portici 14, p. 61.
athalides Mel. *Vrty.* Entom. Rec. 31, p. 194.
atlantis Mel. *Le Cerf* Bull. Soc. Ent. Fr. 1923, p. 224.
atra Arg. *Kardak.* Entom. Mitt. 17, p. 270.
atrieolor Mel. *Schultz*, Entom. Ztschr. 19, p. 205.
atrovittata Mel. *Trti.* & *Vrty.* Boll. Soc. Ent. Ital. 42, p. 209.
atrox Arg. *Niepelt* Int. Ent. Ztschr. 8, p. 144.
aurantiaea Arg. *Reuß* Int. Ent. Ztschr. 10, p. 30 (1916).
aurea Arg. *Tutt* Brit. Butt., p. 291.
aurelia Mel. *Fruhst.* Arch. f. Nat. 83 A 6, p. 12.
aureliaeformis Mel. *Vrty.* Boll. Soc. Ent. Ital. 48, p. 186.
aurinoides Mel. *Kiefer* Z. öster. Ent. Ver. 3, p. 108.
auronitens Limen. *Cabeau* Rev. Mens. Namur 1912, p. 3.
aurunca Mel. *Trti.* Entom. Ztschr. 23, p. 223.
australis Mel. *Vrty.* Entom. Rec. 28, p. 128.
autumnalis Mel. phoebe *Fruhst.* Arch. f. Nat. 83 A 3, p. 169.
autumnalis Mel. dictyuna *Trti.* Nat. Sicil. 23, p. 233. *
auxo Arg. *Jachont.* Revue russe Ent. 8, p. 287.
avinovi Mel. *Schelj.* Iris 28, p. 20. *

backei Arg. *Unterberger* Ill. Ztschr. Ent. 2, p. 652.
baikalensis Van. *Kleinschm.* Falco 25, p. 13, 1929.
baileyi Mel. *Wtk.* Ann. Mag. Nat. Hist. (9) 19, p. 512.
balba Mel. *Evans* Journ. Bombay Nat. Hist. Soc. 21, p. 558.
balbina Mel. *Tytler* Journ. Bombay Nat. Hist. Soc. 31, p. 583.
baleanica Mel. *Schaw.* Verhdl. zool. bot. Ges. Wien 63, p. (146).
baldohnensis Arg. *Teich* Corr.-Blatt Riga 44, p. 11.
bareina Apat. *Vrty.* Bull. Soc. Ent. Fr. 1927, p. 176.
basalis Arg. *Mats.* Entom. Ztschr. 22, p. 158.
bathilda Mel. *Fruhst.* Arch. f. Nat. 83 A. 3, p. 179.
beata Mel. *Caradja* Iris 6, p. 181.
belgiensis Limen. *Cabean* Rev. Mens. Namur 1914, p. 23.
berisaliformis Mel. *Vrty.* Boll. Soc. Ent. Ital. 48, p. 186.
bernhardi Arg. *P. Schultze* Deutsche Ent. Ztschr. 1918, p. 188.
berolinensis Arg. arsilache *Hannemann* Int. Ent. Ztschr. 9, p. 115.
berolinensis Arg. selene *Reuß* Int. Ent. Ztschr. 10, p. 20 (1916).
berolinensis Arg. adippe *Reuß* Int. Ent. Ztschr. 10, p. 29 (1916).
berolinensis Arg. ino *Reuß* Int. Ent. Ztschr. 10, p. 23.
berolinensis Arg. niobe *Reuß* Int. Ent. Ztschr. 10, p. 29.
berolinensis Arg. selene *Reuß* Int. Ent. Ztschr. 10, p. 20.
bhutanica Nept. *Tytler* Journ. Bombay Nat. Hist. Soc. 31, p. 582. *
bialbata Pyram. *Cabeau* Rev. Mens. Namur 1911, p. 22.
bifaseiata Limen. *Nicpelt* Int. Ent. Ztschr. 8, p. 144 (1914).
bifasciata Mel. athalia *Reverd.* Bull. Soc. Lep. Genève 3, p. 35. *
bifaseiata Mel. cinxia *Hartig* Ent. Rundsch. 41, p. 42.
bifulvata Limen. *Cabeau* Lambill. 26, p. 74.
bimaculata Van. *Bubac.* Verh. zool.-bot. Ges. Wien 72, p. (29).
binghami Arg. *Oberth.* Lep. Comp. 6, Fig. 966.
bipunctata Pyram. *Gussich* Glasnik 29, p. 219.
bischoffi Arg. *Reuß* Deutsche Ent. Ztschr. 1922, p. 197.
bivittata Arg. *Cabeau* Rev. Mens. Namur 25, p. 7.
boekleti Mel. *Heuer* Int. Ent. Ztschr. 17, p. 169 (1929).
bolandii Van. *Lambitt.* Rev. Mens. Namur 1907, p. 42.
borealis Van. *Wnukow.* Mitt. Münch. Ent. Ges. 17, p. 69.
borgesti Arasch. *Kardak.* Ent. Mitt. Dahlem 17, p. 269 u. 415. *
boris Mel. *Fruhst.* Societ. Ent. 32, p. 19.
bosna Arg. *Fruhst.* Int. Ent. Ztschr. 2, p. 114 (1909).
bosphorana Mel. *Culot* Bull. Soc. Lep. Genève 1, p. 166.
boulei Mel. *Oberth.* Lep. Comp. 3, p. 241. *
brahma Calin. *Oberth.* Lep. Comp. 17, Fig. 4304.
brenthis Mel. *Reuß* Int. Ent. Ztschr. 15, p. 5 (1922).
brevicauda Char. *Vrty.* Ent. Rec. 31, p. 179.
briantea Mel. *Trti.* Nat. Sicil. 23. p. 232. *
britannica Mel. *Vrty.* Boll. Soc. Ent. Ital. 45, p. 210.
brogotarus Arg. *Fruhst.* Int. Ent. Ztschr. 3, p. 112 (1910).
brunnea Arg. daphne *Gussich* Glasnik 29, p. 217.
brunnea Arg. paphia *Reuß* Arch. f. Nat. 87 A 11, p. 210.
brunnea Mel. *Tutt* Brit. Butt., p. 316.
bulgarica Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 6.
bureana Apat. *Cabeau* Rev. Mens. Namur 1910, p. 33.
butleri Arg. *Krutik.* Rev. russe Entom. 9, p. 298.

cabeanensis Pyram. *Lambitt.* Rev. Mens. Namur 1903, p. 22.
caeca Arg. *Preiß* Verhd. zool.-bot. Ges. Wien 60, p. (89).
caerulapicata Van. *Raynor* Entom. Rec. 18, p. 298.
caeruleomarginata Arg. *Vorbr.* Mitt. Schweiz. Ent. Ges. 12, p. 521.
caesarea Arg. *Fruhst.* Seitz Macrolep. 9, p. 516.
calais Arg. *Fruhst.* Arch. f. Nat. 82 A 2, p. 17.
calcea Mel. *Skala* Ztschr. östr. Ent. Ver. 13, p. 85.
caldaria Mel. *Vrty.* Boll. Lab. Agr. Portici 14, p. 59.
calida Arg. *Jachont.* Mitt. Kaukas. Mus. 5, p. 306.
calidegenita Arg. *Std.* Iris 35, p. 30.
calynde Arg. *Fruhst.* Arch. f. Nat. 82 A 2, p. 16.
candidata Mel. *Std.* Ent. Anz. 2, p. 44.
canellina Mel. *Std.* Ent. Ztschr. 36, p. 17.
capnodes Nept. *Fruhst.* Stett. Ent. Ztg. 69, p. 326.
carbonaria Polyg. *Vrty.* Entom. Rec. 28, p. 100.
cardueliua Pyr. *Alpher.* Hor. Soc. Ent. Ross. 38, p. 574.
carmana Mel. *Fruhst.* Soc. Ent. 30, p. 58.
carnea Pyr. *Fritsch* Ent. Rundsch. 29, p. 136.
carolus Erib. *Fruhst.* Ins. Börse 1904, p. 83.
cassubiensis Van. *Heinrich* Berl. Ent. Ztschr. 55, p. 106.
castiliana Mel. cinxia *Trti.* Nat. Sicil. 23, p. 224. *
castiliana Mel. didyma *Metcon* Boll. Soc. Esp. 1910, p. 219.
castillana Mel. *Oberth.* Lep. Comp. 3, p. 226.
catapelioides Mel. *Stdr.* Ztschr. wiss. Ins. Biol. 14, p. 57.
catherinei Mel. *Le Charles* Amat. Pap. 2, p. 88. *
caucasica Van. *Jachon.* Mitt. Kaukas. Mus. 5, p. 304.
caucasicola Mel. *Vrty.* Entom. Rec. 31, p. 184.
celadussa Mel. *Fruhst.* Societ. Ent. 25, p. 51.
cerberus Apat. *Cabeau* Rev. Mens. Namur 1919, p. 19.
chaleiope Arg. *Jachont.* Rev. russe Ent. 8, p. 287.
changaica Arg. *Reuß* Deutsche Ent. Ztschr. 1922, p. 198.
chappuisi Mel. *Heinrich* Deutsche Ent. Ztschr. 1916, p. 503. *
charlotta Mel. *Rbl.* Verh. Siebenbürg. Ver. Nat. 62, p. 4.
cheesmani Jun. *Ritey* Ann. Mag. Nat. Hist. (9) 15, p. 151. *
chibiana Arg. *Mats.* Ins. Mats. 2, p. 116. *
chinensis Arasch. *Oberth.* Lep. Comp. 14, Fig. 3906.
chinensis Pseud. *Fruhst.* Seitz Macrolep. 9, p. 461.
chinganensis Van. *Kleinschm.* Falco 25, p. 13, 1929.
chishimensis Arg. *Mats.* Ins. Mats. 2, p. 192.
chlorargyra Arg. *Hettw.* Macrolep. N.-Tirol, p. 37.
chlorographa Arg. euphrosyne *Cabeau* Rev. Namur 1921, p. 21.
chlorographa Arg. ino *Cabeau* Rev. Mens. Namur 1919, p. 49.
chlorographa Arg. selene *Cabeau* Rev. Namur 1912, p. 112. *
chosensis Arg. *Mats.* Ins. Mats. 1, p. 165. *
chosensis Limen. *Mats.* Ins. Mats. 3, p. 152.
chotana Arg. *O. B.-H.* Iris 29, p. 100.
chrysina Apat. *Oberth.* Lép. Comp. 3, p. 180.
chrysobarylla Arg. *Fruhst.* Int. Ent. Ztschr. 3, p. 20.
cibinensis Van. *Dhl.* Entom. Ztschr. 39, p. 6.
cineta Mel. *Blach.* Bull. Soc. Lep. Genève 3, p. 82. *
cinxiodictynoides Mel. *Std.* Entom. Anz. 2, p. 33.
cinxioides Mel. *Mussch.* Bull. Soc. Lep. Genève 1, p. 69. *
circumpunctata Apat. *Cabeau* Rev. Mens. Namur 1910, p. 4.
circumpunctata Van. *Cabeau* Lambill. 26, p. 18.
clareus Arg. *Vrty.* Entom. Rec. 31, p. 196.
clarirufa Van. *Raynor* Entom. Rec. 21, p. 7.
clavimacula Arg. *Mats.* Ins. Mats. 3, p. 154.
cloppenburgi Arg. *Reuß* Int. Ent. Ztschr. 15, p. 5 (1921).
cloqueti Van. *Clement* Bull. Soc. Ent. Fr. 1917, p. 125.
clossi Arasch. *Krombach* Ent. Mitt. 5, p. 299.
comaeina Mel. *Trti.* Entom. Ztschr. 23, p. 223.
completa Limen. *Derenne* Lambill. 26, p. 91.
conducta Arg. *Schultz* Entom. Ztschr. 22, p. 39.
confluens Arg. *Sptr.* Schmett. Eur. 1, p. 30.
confusa Mel. *Joann.* Bull. Soc. Ent. Fr. 1908, p. 45.
conica Mel. *Mats.* Ins. Mats. 3, p. 155.
conjuncta Arg. *Schaw.* Verhd. zool. bot. Ges. Wien 1905, p. 171.
conjuncta Pyr. *Vrty.* Entom. Rec. 31, p. 197.

eorax Apat. *Cabeau* Rev. Mens. Namur 1919, p. 34.
coreana Limen. *Mals.* Ins. Mats. I, p. 165. *
coreensis Van. *Kleinschm.* Falco 25, p. 13, 1929.
cornuta Arg. *Reuß* Arch. f. Nat. 87 A 11, p. 187.
corythalina Mel. *Rbl.* Rovart. Lap. 20, p. 82. *
corythalioides Mel. *Spannr.* Verhd. zool.-bot. Ges. Wien 72. p. (8).
crassenigra Mel. *Vrty.* Entom. Rec. 40, p. 162.
creta Van. *Vrty.* Entom. Rec. 28, p. 101.
cruenta Van. *Fritsch*, Entom. Rundsch. 30, p. 9.
csikii Mel. *Aign.* Ann. Mus. Hung. 4, p. 496. *
cuneata Arg. *Tutt* Brit. Butt., p. 286.
cuneata Arg. adippe *Tutt* Entom. Rec. 20, p. 222.
cuneatiguttata Van. *Raynor* Entom. Rec. 21, p. 7.
cuneigera Arg. *Sld.* Iris 35, p. 30.
curvata Nept. *Mats.* Ins. Mats. 3, p. 152.
cyanosticta Pyr. *Fritsch* Entom. Rundsch. 30, p. 25.
cynosoma Arg. *Fruhst.* Arch. f. Nat. 82 A 2, p. 15.
cyrnea Arg. *Schaw.* Ztschr. öster. Ent. Ver. 11, p. 109.

dagestanica Arg. *Sovin.* Rev. russe Ent. 5, p. 108.
danae Apat. *Cabeau* Rev. Mens. Namur 1919, p. 27.
daphnoides Arg. thore *Std.* Entom. Anz. 2, p. 46.
daphnoides Arg. daphne *Schultz* Entom. Ztschr. 22, p. 39.
deanella Arg. *Schmidt* Entom. Ztschr. 24, p. 185.
debilis Mel. *Oberth.* Lep. Comp. 3, p. 228. *
debilis-provincialis Mel. *Vrty.* Entom. Rec. 40, p. 90.
deeempunctata Arg. *Vorbr.* Mitt. Schweiz. Ent. Ges. 12, p. 437.
decolorata Arg. *Oberth.* Lep. Comp. 20, p. 229. *
deficiens Mel. aurinia *Cabeau* Lambill. 28, p. 11.
deficiens Mel. cinxia *Cabeau* Rev. Mens. Namur 22, p. 45.
deficiens Apat. *Cabeau* Lambill. 29, p. 110.
deflavata Arg. *Wagner* Entom. Ztschr. 23, p. 17.
dejoneformis Mel. *Trti.* & *Vrty.* Atti Soc. It. Sc. Nat. 53, p. 600.
dejonides Mel. *Wagner* Ztschr. öster. Ent. Ver. 3, p. 12.
deleta Mel. *Vrty.* Entom. Rec. 31, p. 184.
dellabeffae Arg. *Rocci* Boll. Soc. Ent. It. 61, p. 153.
delminia Mel. *Fruhst.* Soc. Entom. 25, p. 51.
delta-album Polyg. *Joseph* Verhd. zool.-bot. Ges. Wien 69, p. 57. *
delunata Mel. *Schullz* Entom. Ztschr. 22, p. 91 (1908).
demaculata Mel. aurinia *Bubac.* Verhd. zool.-bot. Ges. Wien 73. p. (24).
demaculata Mel. didyma *Brams.* Horae Soc. Ent. Ross. 39. p. 395.
denigrata Mel. *Trti.* Nat. Sicil. 23, p. 221. *
densoi Arg. *Fruhsl.* Int. Ent. Ztschr. 3, p. 113.
depauperata Mel. *Sag.* Trab. Mus. Barcel. 11, p. 14. *
deschangei Apat. *Cabeau* Rev. Mens. Namur 1910, p. 32.
de Walsehei Pyr. *Dercnne* Lambill. 26, p. 90.
diabolus Mel. *Schaw.* Verhd. zool.-bot. Ges. Wien 64, p. (352).
diaphona Apat. *Cabeau* Rev. Mens. Namur 1910, p. 34.
dictynnoides Mel. *Hormuz.* Ztschr. wiss. Ins.-Biol. 1911, p. 214.
diffusa Van. *Fritsch* Entom. Rundsch. 29, p. 136.
dilucidus Van. *Fruhsl.* Int. Ent. Ztschr. 1, p. 208 (1907).
diluta Arg. *Splr.* Schmett. Eur. 1, p. 31.
diluta Mel. aurinia *Heinrich* Deutsche Entom. Ztschr. 1923, p. 48.
diluta Mel. didyma *Brams.* Horae Soc. Ent. Ross. 39, p. 405.
dimeres Apat. *Cabeau* Rev. Mens. Namur 1919, p. 19.
dinara Arg. *Fruhst.* Int. Ent. Ztschr. 2, p. 214 (1908).
diniensis Arg. *Oberth.* Lep. Comp. 3, p. 216.
diocletiana Arg. *Std.* Boll. Soc. Adriat. 25, p. 93.
diseolor Mel. *Brams.* Horae Soc. Ent. Ross. 39, p. 405.
disconota Arg. *Krulik.* Rev. russe Ent. 9, p. 298.
divisa Nept. *Oberth.* Ann. Soc. Ent. Fr. 1908, p. 310. *
dixeyi Van. *Standfuß* Handb., p. 247.
doii Apat. *Mals.* Ins. Mats. 2, p. 199.
doii Arg. *Mals.* Ins. Mats. 2, p. 193.
dorae Mel. *Graves* Trans. Ent. Soc. Lond. 1925, p. 100.
dorfmeisteri Mel. *Hellw.* Macrolep. N.-Tirol, p. 33.
drenowskii Mel. *Röb.* Ent. Mitt. 15, p. 227.
druentia Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 8.
dubernardi Apat. *Oberlh.* Lép. Comp. 6, Fig. 958.
dubernardi Calin. *Oberth.* Lép. Comp. 17, Fig. 4302.
dubia Mel. *Krulik.* Bull. Soc. Nat. Mosc. 4. p. 234.

elavar Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 11.
elisa Van. *Stephan* Iris 37, p. 34.
elisabethae Mel. *Avin.* Horae Soc. Ent. Ross. 39, p. 235.
elongata Arg. *Le Charles* Amat. Pap. 3, p. 120. *
elongata Mel. *Oberth.* Lép. Comp. 4, Fig. 347.
elwesi Arg. *Reuß* Arch. f. Nat. 87 A 11, p. 186.
emba Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 7.
emicandida Mel. *Vrty.* Boll. Soc. Ent. Ital. 42. p. 266.
emielymi Pyr. *Vrly.* Entom. Rec. 31, p. 198.
emiflorens Arg. *Vrty.* Entom. Rec. 31, p. 195.
emiloeuples Arg. *Vrly.* Entom. Rec. 31, p. 195
emipauper Mel. *Vrty.* Entom. Rec. 31, p. 183.
emipunica Mel. *Vrty.* Entom. Rec. 31, p. 182.
emma Van. *Stephan* Iris 37, p. 38.
enarea Mel. *Fruhst.* Arch. f. Nat. 82 A 2. p. 11.
eos Pyr. *Fritsch* Ent. Rundsch. 30, p. 25.
eothena Mel. *Röb.* Entom. Mitt. 15, p. 228.
epatides Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 11.
epimolpadia Mel. *Rev.* Bull. Soc. Lep. Genève 4, p. 108. *
eporedia Arg. *Fruhsl.* Soc. Ent. 25, p. 54.
equivalens Mel. *Sag.* Trab. Mus. Barcelona 11, p. 15. *
erebina Arg. *Oberth.* Lep. Comp. 3, p. 213.
erebina Pant. *Oberth.* Lep. Comp. 7, Fig. 1823.
erilda Arg. *Sag.* Buttl. Catal. (2) 5, p. 270.
erythrophaea Van. *Fritsch* Ent. Rundsch. 30, p. 9.
eseheri Van. *Gramann* Mitt. Schweiz. Ent. Ges. 1920, p. 69.
eudora Arg. *Fischer* Soc. Ent. 30, p. 49.
euphrosinella Arg. *Cabeau* Rev. Mens. Namur 24, p. 34.
europaeus Char. *Vrly.* Fauna Elba 2, p. 182.
eustigmaea Arg. *Cabeau* Rev. Mens. Namur 24, p. 34.
eutitania Mel. *Fruhst.* Arch. f. Nat. 83 A 6, p. 13.
exeelsa Arg. *Schmidl* Entom. Ztschr. 24, p. 185 (1911).
eximia Limen. *Moltr.* Entom. Ztschr. 22, p. 184 (1909).
expuncta Mel. *Cabeau* Lambill. 26, p. 75.
extiucta Arg. niobe *Rbl.* im Berge-Rebel, p. 34.
extincta Arg. adippe *Bryk*, Entom. Tidskr. 42, p. 146. *
extineta Polyg. *Rbl.* Verhd. zool.-bot. Ges. Wien 70, p. (12). *
extincta Van. *Gönner* Entom. Ztschr. 42, p. 13. *
extrema Arg. *Wnuk.* Mitt. Münch. Ent. Ges. 17, p. 71.
extrema Van. polychl. *Gönner* Entom. Ztschr. 42, p. 14. *
extrema Van. urticae *Schönfeld* Entom. Ztschr. 39, p. 143.
evittata Mel. *Vrty.* Boll. Soc. Ent. Ital. 48, p. 187.

faivrei Mel. *Le Charles* Bull. Soc. Ent. Fr. 1920, p. 131.
f-album Polyg. *Gillmer* Int. Ent. Ztschr. 1. p. 88.
faroensis Char. *Rbb.* Iris 23, p. 128.
faseiata Arg. niobe *Blachier* Bull. Soc. Lep. Genève 2, p. 52. *
faseiata Arg. niobe *Cloß* Int. Ent. Ztschr. 13, p. 51.
faseiata Arg. paphia *Adler* Ent. Rundsch. 33, p. 4.
fasciata Arg. thore *Vorbr.* Mitt. Schweiz. Ent. Ges. 12. p. 521.
faseiata Mel. athalia *Vorbr.* Butterflies of Switz. 2, p. 610.
faseiata Mel. dict. *Lambill.* Rev. Mens. Namur 1906, p. 47.
faseiata Mel. didyma *Vorbr.* Mitt. Schweiz. Ent. Ges. 12. p. 521.
faseiata Mel. didyma *Skala* Entom. Ztschr. 20, p. 310. *
fasciata Mel. parthenie, *Vorbr.* Butterflies of Switz. 1. p. 455.
ferruginea Arg. *Wtk.* Ann. Mag. Nat. Hist. (9) 13, p. 456.
fervida Arg. *Fritsch* Entom. Rundsch. 29, p. 144.
fervida Van. *Fritsch* Entom. Rundsch. 30, p. 9.
festiva Arg. *Krulik.* Soc. Ent. 7, p. 182.
fiseheri Mel. *Aign.* Ann. Mus. Hung. 4, p. 494.
fischeri Neptis *Rbl.* Ann. Hofmus. Wien 25. p. 287. *
flava Pyr. *Eitel* Int. Ent. Ztschr. 18, p. 141.
flava Van. *Banderm.* Int. Ent. Ztschr. 22, p. 236.
flavens Arg. *Vrty.* Ent. Rec. 31, p. 194.
flavescens Arg. aglaia *Tutt* Brit. Butt., p. 291.
flavescens Arg. adippe *Tutt* Ent. Rec. 20, p. 222.
flaveseens Mel. *Mats.*, Ins. Mats. 3, p. 155.
flaveseens Pyr. *Fritsch* Entom. Rundsch. 30, p. 25.
flavotessellata Van. *Raynor* Entom. Rec. 21, p. 7.
fleteheri Arg. *Walk.* Ann. Mag. Nat. Hist. (9) 13, p. 456.
florens Arg. *Vrty.* Ent. Rec. 28, p. 130.
florida Arg. *Vrty.* Ent. Rec. 31, p. 195.
fluvescens Arg. Mats. Ins. Mats. 3, p. 154.
fokienensis Calin. *Fruhst.* Seitz Macrolep. 9, p. 705.
formosa Arg. *Krulik.* Rev. Russe Ent. 2. p. 74.
formosana Van. *Mats.* Journ. Coll. Agric. 15, p. 97. *
franckii Arg. *Lambill.* Rev. Mens. Namur 1908. p. 38.
frigescens Mel. *Vrty.* Entom. Rec. 40, p. 45.
fruhstorferi Limen. *Krulik.* Rev. russe Ent. 9, p. 111.
fulgens Arg. *O. Bang-Haas* Horae Macrolep. 1, p. 52.
fulgida Mel. *Schultz* Ent. Ztschr. 22, p. 90.
fulva Arg. *Cosmov.* Bull. Soc. Ent. Fr. 1904, p. 163.
fulva Van. *Raynor* Entom. Rec. 21, p. 7.
fulvacea Mel. *Cabeau* Rev. Mens. Namur 1911, p. 78.
fulvocineta Mel. *Brams.* Horae Soc. Ent. Ross. 39, p. 393.
fulvomarginata Van. *Raynor* Entom. Rec. 21, p. 7.
funesta Mel. *Sld.* Entom. Anz. 2, p. 32.
fusca Arg. *Tutt* Brit. Butt., p. 291.

g-album Polyg. *Gillmer* Int. Ent. Ztschr. 1, p. 88.
galliac-montium Mel. *Vrty.* Entom. Rec. 40, p. 162.
geminifasciata Apat. *Cabeau,* Rev. Mens. Namur 22, p. 18.
geminifasciata Mel. *Derenne* Lambill. 27, p. 11.
genulfa Neptis *Oberth.* Ann. Soc. Ent. Fr. 1908, p. 310. *
georgi Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 10.
gergovia Mel. *Fruhst.* Soc. Ent. 33, p. 42.
gerinia Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 1.
geyeri Mel. *Aigner* Entom. Ztschr. 19, p. 208.
gibrati Mel. *Oberth.* Lep. Comp. 19, p. 46. *
gilbon Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 12.
gilgitica Lim. *Tytt.* Journ. Bomb. Nat. Hist. Soc. 31, p. 581. *
glaciegenita Mel. *Vrty.* Entom. Rec. 40, p. 43.
glorifica Limen. *Fruhst.* Int. Ent. Ztschr. 3, p. 94 (1909).
goetghebueri Arg. *Lambill.* Rev. Mens. Namur 1911, p. 9. *
gracila Arg. *Fruhst.* Entom. Ztschr. 24, p. 37.
gracilens Arg. *Cabeau* Rev. Mens. Namur 25, p. 7.
gracilens Mel. *Derenne* Lambill. 27, p. 11.
graecaeformis Mel. *Vrty.* Boll. Soc. Ent. It. 48, p. 183.
graeseri Arg. *Kardak.* Ent. Mitt. Dahlem 17, p. 270. *
gramanni Mel. *Vorbr.* Butterflies of Switz. 2, p. 610.
grisea Arg. *Reuß* Arch. f. Nat. 87 A 11, p. 210.
griseofusca Mel. *Brams.* Horae Soc. Ent. Ross. 39, p. 404.
griseomarginata Van. *Raynor* Entom. Rec. 21, p. 7.
guedati Arg. *Vorbr.* Butterflies of Switz. 2, p. 611.
guevara Mel. *Fruhst.* Soc. Ent. 32, p. 19.
guhni Van. *Tschauner* Int. Ent. Ztschr. 20, p. 273.
gutta Arg. *Wilem.* Entomologist. 44, p. 55.

hackreyi Van. *Cabeau* Rev. Mens. Namur 25, p. 6.
haematodes Arg. *Lambilt.* Rev. Namur 1913, p. 7.
hakutozana Arg. *Mats.* Ins. Mats. I, p. 165. *
halesa Arg. *Fruhst.* Int. Ent. Ztschr. 2, p. 214.
hannoverana Arg. *Füge* Ztschr. wiss. Ins.-Biol. 8, p. 189. *
harmothoë Arg. *Fruhst.* Soc. Ent. 32, p. 26.
harmsi Arg. *Reuß* Arch. f. Nat. 87 A II, p. 210.
harterti Mel. *Rothsch.* Novit. Zool. 20, p. 115.
haverkampfi Arg. *Balt* Ann. Soc. Ent. Belg. 56, p. 280. *
heijona Apat. *Mats.* Ins. Mats. 2, p. 198.
helmina Arg. *Fruhst.* Arch. f. Nat. 82 A 2, p. 17.
hemisilvia Apat. *Cabeau* Rev. Mens. Namur 1912, p. 87.
herzi Arg. *Wnuk.* Mitt. Münch. Ent. Ges. 17, p. 70.
hiemalis Van. *Martin* Iris 35, p. 18.
hindenburgi Arg. *Forstner* Lep. Rundsch. 2, p. 157.
hoffmanni Mel. *Skala* Verh. Nat. Ver. Brünn 50, p. 63.
houlberti Limen. *Oberth.* Lép. Comp. 7, Fig. 1824.
huhsti Arg. *Reuß* Soc. Ent. 38, p. 26.
hungarica Arg. *Aign.* Ann. Mus. Hung. 4, p. 509. *
hyensis Pyr. *Lambill.* Rev. Mens. Namur 1913, p. 126.

idunides Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 3.
ignea Van. *Raynor* Entom. Rec. 21, p. 7.
iliella Apat. *Cabeau* Rev. Mens. Namur 1910, p. 35.
illyrica Mel. *Std.* Entom. Ztschr. 28, p. 68 (1914).
ilos Neptis *Fruhst.* Entom. Ztschr. 23, p. 42 (1909).
imitans Neptis *Oberth.* Lép. Comp. 12, Fig. 3507.
immaculata Arg. *Bell.* Ann. Soc. Ent. Fr. 1862, p. 616.
imperfecta Arg. *Reuß* Arch. f. Nat. 87 A II, p. 210.
imperfecta Polyg. *Btachier* Ann. Soc. Ent. Fr. 77, p. 214.
improbula Arg. *Bryk* Ent. Tidskr. 41, p. 131.
impunctata Mel. aurinia, *Schultz* Int. Ent. Ztschr. 19, p. 205 (1906).
impunctata Mel. cinxia *Osthetder* Schmett. S.-Bayern, p. 85.
impunctata Mel. merope *Vorbr.* Iris 42, p. 20.
impunctata Mel. cynthia *Hoffmann* Int. Ent. Ztschr. 5, p. 227.
inanis Mel. *Vrty.* Entom. Rec. 33, p. 213.
infrabrunnea Pyr. *Vrty.* Entom. Rec. 31, p. 198.
infraflava Pyr. *Vrty.* Entom. Rec. 31, p. 198.
infragrisea Pyr. *Vrty.* Entom. Rec. 31, p. 198.
infranigrans Pyr. *Vrty.* Entom. Rec. 31, p. 198.
infraochrea Pyr. *Vrty.* Entom. Rec. 31, p. 198.
infraradiata Van. *Raynor* Entom. Rec. 21, p. 8.
infuscata Van. *Rayner* Entom. Rec. 21, p. 7.
inops Pyr. *Vrty.* Entom. Rec. 31. p. 198.
interligata Arg. dia *Cabeau* Rev. Mens. Namur 22, p. 18.
interligata Arg. ino *Cabeau* Rev. Mens. Namur 22, p. 46.
interligata Arg. selene *Cabeau* Rev. Mens. Namur 1919. p. 49.
interligata Mel. *Cabeau* Lambill. 26, p. 91.
intermedia Arg. *Reuß* Iris 39, p. 213.
intermedia Erib. *Lathy* Enc. Ent. Lep. I, p. 96. *
interposita Mel. *Rothschild* Novit. Zool. 20, p. 115.
interrupta Mel. cinxia *Skata* Entom. Ztschr. 20, p. 311.
interrupta Mel. didyma *Skata* Entom. Ztschr. 20, p. 30. *
interrupta Mel. trivia *Skata* Entom. Ztschr. 20, p. 311.
inversa Mel. *Skata* Ztschr. öster. Ent. Ver. 13, p. 85.
ioformis Van. *Reuß* Entom. Rec. 21, p. 86.
iolata Apat. *Cabeau* Rev. Mens. Namur 1910, p. 3.
iolides Apat. *Cabeau* Rev. Mens. Namur 1910, p. 35.
ioprotoformis Van. *Reuß* Entom. Rec. 21, p. 86.
iriella Apat. *Cabeau* Rev. Mens. Namur 1910, p. 32.
irradiata Apat. *Cabeau* Rev. Mens. Namur 1910, p. 4.
isacoides Arg. *Reuß* Iris 39, p. 218.
ishkashima Mel. *Schelj.* Mitt. Münch. Ent. Ges. 19. p. 359.
isisoides Arg. *Heydem.* Iris 34, p. 271.
isshikii Arg. *Mats.* Ins. Mats. 2, p. 193.
iwasakii Pol. *Mats.* Ins. Mats. 3, p. 92. *

j-album Polyg. *Gittm.* Int. Ent. Ztschr. 1, p. 88.
jaika Mel. *Krutik.* Horae Soc. Ent. Ross. 39, p. 396.
jakutensis Arg. *Wnuk.* Mitt. Münch. Ent. Ges. 17. p. 70.
japygia Arg. *Std.* Iris 35, p. 30.
jezoensis Van. *Mats.* Journ. Coll. Agr. 15, p. 97. *
j-nigrum Arg. *Tutt* Entom. Rec. 21, p. 225.
johni Mel. *Std.* Entom. Anz. 2, p. 44.
jugurtha Arg. *Fruhst.* Int. Ent. Ztschr. 3, p. 20.
juldana Arg. *Reuß* Deutsche Entom. Ztschr. 1921, p. 198.
juldussica Arg. *Wagner* Entom. Mitt. 2, p. 115.
junonis Apat. *Cabeau* Rev. Mens. Namur 1910, p. 34.

kalugini Mel. *Kardak.* Entom. Mitt. 17, p. 270.
kamonis Apat. *Mats.* Ins. Mats. 3, p. 93. *
kansuensis Van. *Kleinschm.* Falco 23, p. 4.
karafutonis Arg. *Mats.* Journ. Coll. Agr. 15 (3), p. 101. *
kautzi Mel. *Schaw.* Verh. zool.-bot. Ges. Wien 63, p. (146).
kazanskyi Mel. *Krul.* Horae Soc. Ent. Ross. 39, p. 397.
kempelini Mel. *Skata* Ent. Ztschr. 19, p. 208.
kenteana Arg. *Stichel* Berl. Ent. Ztschr. 46, p. 23.
koios Mel. *Fruhst.* Int. Ent. Ztschr. 2, p. 194.
kolaensis Arg. *Reuter* Act. Soc. Fenn. 9, p. 17.
konumensis Mel. *Mats.* Ins. Mats. 2, p. 117. *
köntzeyi Polyg. *Diosz.* Rov. Lapok 20, p. 193.
korla Arg. *Reuß* Deutsche Entom. Ztschr. 1926. p. 70.
kultukensis *Kteinschm.* Falco 25, p. 14, 1929.
kumamotensis Cyr. *Mats.* Ins. Mats. 3. p. 92.

lachares Mel. *Fruhst.* Arch. f. Nat. 83 A 3, p. 178.
lactoris Calin. *Fruhst.* Entom. Ztschr. 22, p. 147 (1908).
lacta Apat. *Oberth.* Lep. Comp. 2, p. 20.
lactifica Nept. *Oberth.* Lep. Comp. 12, Fig. 3514.
laetior Arg. *Vrty.* Entom. Rec. 31, p. 194.
lambilloni Apat. *Cabeau* Rev. Mens. Namur 1919, p. 39.
lambinii Brg. *Lambitt.* Rev. Mens. Namur 1905, p. 42. *
laranda Arg. *Fruhst.* Entom. Ztschr. 24, p. 37.
latefasciata Mel. didyma *Brams.* Horae Soc. Ent. Ross. 39, p. 293.
latemarginata Mel. *Grund* Int. Ent. Ztschr. 7, p. 128.
latericolor Van. *Raynor* Entom. Rec. 21, p. 7.
lathon Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 13.
latibalteata Van. *Raynor* Entom. Rec. 21, p. 8.
latonigena Mel. *Splr.* Schmett. Eur. 1, p. 24.
latonigenoides Mel. *Kescnh.* Ent. Rundsch. 38, p. 38.
laura Apat. *Oberth.* Lep. Comp. 3, Fig. 127.
lcarchus Mel. *Ebert.* Iris 40, p. 31.
leechi Arasch. *Oberth.* Lep. Comp. 3, p. 203.
leechi Arg. *Wtk.* Ann. Mag. Nat. Hist. (9) 13, p. 454.
lecchi Mel. *Alph.* Iris 8, p. 182.
leechi Mel. phoebe *Rothsch.* Novit. Zool. 24, p. 99.
lemonias Precis *Fruhst.* Seitz Macrolep. 9, p. 520.
leodiensis Van. *Cabeau* Lambill. 27, p. 33.
leonhardi Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 5.
leonina Arg. *Fruhst.* Int. Ent. Ztschr. 3, p. 21.
leopardata Mel. *Vrty.* Ent. Rec. 36, Suppl., p. 37.
lesora Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 8.
lessmanni Mel. *Ctoss* Int. Ent. Ztschr. 13, p. 51.
leucophana Mel. aurinia *Cabeau* Lambill. 28, p. 78.
leucophana Mel. athalia *Cab.* Rev. Mens. Namur 1912, p. 112.*
leucophana Mel. cinxia *Cab.* Rev. Mens. Namur 1919, p. 61.
leucophryne Mel. *Schaw.* Verh. zool.-bot. Ges. Wien 74/75, p. (67).
leucothea Apat. *Cabeau* Rev. Mens. Namur 13. p. 99.
lilicina Arg. *Oberth.* Lep. Comp. 9, p. 31. *
lilliputana Mel. *Oberth.* Lep. Comp. 3, p. 244.
limera Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 3.
locuples Arg. *Vrty.* Entom. Rec. 31, p. 195.
lokris Mel. *Fruhst.* Int. Ent. Ztschr. 2, p. 194.
lilamarginata Arg. *Schaw.* Ztschr. öster. Ent. Ver. 13. p. 44.
lubbeana *Arg. Fiseher* Soc. Ent. 35, p. 25. *
lucasi Mel. *Vrty.* Bull. Soc. Ent. Fr. 1920. p. 272.

lnceria Mel. *Fruhsl.* Arch. f. Nat. 82 A 2, p. 11.
lncetia Arg. *Fruhsl.* Arch. f. Nat. 82 A 2, p. 19.
lncia Van. *Derenne* Lambill. 26, p. 82.
lucida Arg. *O. Bang-Haas* Horae Macr. 1, p. 52. *
lncida Van. *Fritsch* Entom. Rundsch. 30, p. 9.
lneiflua Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 5.
lneifuga Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 4.
lngenda Apat. *Cabeau* Rev. Mens. Namur 1910, p. 34.
lngens Arg. *Grund* Soc. Ent. 23, p. 82.
luna Van. *Reuß* Entomolog. 42, p. 223. *
lutea Arg. aglaia *Reuß* Int. Ent. Ztschr. 10, p. 30 (1916).
lntea Van. *Raynor* Entom. Rec. 21, p. 7.
luteissima Apat. *Vrly.* Ent. Rec. 31, p. 178.
luteomarginata Van. *Lamb.* Rev. Mens. Namur 1906, p. 47.
lyauteyi Arg. *Oberth.* Scp. Comp. 17, Taf. D u. H.
lydiae Van. *Dublitz.* Iris 39, p. 207.

magnata Arg. *Vrty.* Entom. Rec. 31, p. 196.
magnifica Arg. *Vrty.* Entom. Recc. 31, p. 196.
magniguttata Van. *Rayner* Entom. Rec. 21, p. 7.
maguilunulata Van. *Raynor* Entom. Rec. 21, p. 8.
maguinotata Van. *Raynor* Entom. Rec. 21, p. 8.
magnipunctata Van. *Raynor* Entom. Rec. 21, p. 8.
mainalia Arg. *Fruhsl.* Int. Ent. Ztschr. 4, p. 48.
majellensis Mel. *Dhl.* Mitt. Münch. Ent. Ges. 17, p. 2.
mandschuriensis Van. *Kleinsehm.* Falco 25, p. 13, 1929.
marga Arg. *Sehmidt* Entom. Ztschr. 24, p. 185.
margareta Arg. *Stephan* Entom. Anzeig. 4, p. 50.
marginata Mel. *Skala* Entom. Ztschr. 20, p. 310. *
marginepunctata Erib. *Lathy* Enc. Ent. Lep. 1, p. 96. *
marginimaculata Mel. *Kautz* Verh. zool.-bot. Ges. Wien 69, p. (123). *
mariannae Mel. *Skala* Ztschr. öster. Ent. Ver. 13, p. 85.
marillae Arg. *Aign.* Verh. zool.-bot. Ges. Wien 53, p. (164).
maritima Arg. *Kard.* Ent. Mitt. Dahlem 17, p. 270. *
marsilia Mel. *Fruhst.* Arch. f. Nat. 82 A 1, p. 9.
martha Pyr. atalanta *Stephan* Iris 37, p. 36.
martha-maria Pyr. cardui *Stephan* Soc. Ent. 39, p. 25.
martini Arg. *Reuß* Deutsche Ent. Ztschr. 1922, p. 197.
marussia Mel. *Fruhsl.* Arch. f. Nat. 83 A 3, p. 171.
mauretanica Mel. *Oberth.* Lep. Comp. 3, p. 242.
mauritii Mel. *Rev.* Bull. Soc. Lep. Genève 4, p. 40. *
maxima Mel. *Trti.* Ann. Mus. Nap. n. s. 3, Nr. 18.
media Apat. *Oberth.* Lep. Comp. 6, Fig. 965.
mediodefecta Arg. *Std.* Iris 35, p. 30.
mediofasciata Arg. *Sehultz* Soc. Ent. 22, p. 177.
mediofasciata Mel. *Bub.* Verh. zool.-bot. Ges. Wien 74/75, p. 9.
mediofusca Arg. *Mals.* Ins. Mats. 3, p. 154.
medioitalica Arg. *Trti.* Ann. Mus. Nap. n. s. 3, Nr. 18.
meinhardi Arg. *Sehelj.* Mitt. Münch. Ent. Ges. 19, p. 359.
melaena Arg. *Splr.* Schmett. Eur. 1, p. 29.
melanaurelia Mel. *Oberlh.* Lep. Comp. 4, Fig. 354.
melania Arg. *Oberth.* Lep. Comp. 20, p. 299. *
melanina Mel. *Grund* Int. Ent. Ztschr. 7, p. 128.
melanis Neptis *Oberth.* Lep. Comp. 7, Fig. 1822.
melanodes Mel. *Cabeau* Rev. Mens. Namur 1910, p. 68.
melanophylla Arg. *Std.* Ztschr. wiss. Ins.-Biol. 10, p. 375.
melanoptera Mel. *Oberth.* Lep. Comp. 4, Fig. 361.
melanosa Arg. *Cabeau* Lambill. 26, p. 10.
melanosa Pyr. *Cabeau* Rev. Mens. Namur 1913, p. 43.
melanotica Arg. daphne *Gillmer* Int. Ent. Ztschr. 5, p. 189.
melanotica Arg. euphrosyne *Splr.* Schmett. Eur. 1, p. 27.
melanthes Apat. *Cabeau* Rev. Mens. Namur 1919, p. 35.
meliccrta Mel. *Stiehel* Berl. Ent. Ztschr. 17, p. 159.
melida Mel. *Fruhsl.* Arch. f. Nat. 83 A 3, p. 182.
melitoides Arasch. *Lamb.* Rev. Mens. Namur 1911, p. 78. *
melloides Arg. *Reuß* Iris 39, p. 213.
mendrisiota Mel. *Fruhst.* Arch. f. Nat. 83 A 3, p. 175.
ménétriési Mel. *Carad.* Iris 8, p. 50.
meridionalis Arg. *Kard.* Ent. Mitt. Dahlem 17, p. 270. *
merrifieldoides Pyr. *Reuß* Entom. 43, p. 303.
mesoides Van. *Reuß* Int. Ent. Ztschr. 13, p. 45 (1919).
mesoteloides Van. *Reuß* Int. Ent. Ztschr. 13, p. 44 (1919).
messora Arg. *Fruhsl.* Seitz Macrolep. 9, p. 514.
methana Arg. *Fruhsl.* Entom. Ztschr. 22, p. 161.
mevania Mel. *Fruhst.* Ent. Ztschr. 24, p. 14.
mikuni Apat. *Wilem.* Entom. 43, p. 93.
minima Mel. *Gianelli* Ann. Ac. Agr. Torino 33, p. 19.
minoa Mel. *Fruhsl.* Arch. f. Nat. 82 A 2, p. 2.
minor Arg. ino *Cabeau* Lambill. 28, p. 11.
minor Arg. paphia *Derenne* Lambill. 26, p. 4.
minor Mel. *Vorbr.* Mitt. Schweiz. Ent. Ges. 12, p. 435.
minor Neptis *Gussieh* Glasnik 29, p. 213.
minor Van. *Derenne* Lambill. 26, p. 4.
minutior Pyr. *Vrty.* Entom. Rec. 36, Suppl., p. 42.
mirabilis Arg. *Sag.* Buttl. Catal. (2) 5, p. 45.
miranda Arg. *Fiseher* Soc. Ent. 29, p. 81.
mittisi Limen. *Oberth.* Lep. Comp. 3, p. 184.
mixta Mel. *Evans* Journ. Bombay Nat. Hist. Soc. 21, p. 558.
moezaryi Mel. *Aign.* Entom. Ztschr. 19, p. 208.
modesta Apat. *Oberlh.* Lep. Comp. 2, p. 19.
moffarei Mel. *Lamb.* Rev. Mens. Namur 1919, p. 35.
mogadinensis Apat. *Gram.* Mitt. Schweiz. Ent. Ges. 9, p. 70.
molpadia Mel. *Oberlh.* Lep. Comp. 4, Fig. 337.
moltrechti Limen. *Kard.* Ent. Mitt. Dahlem 17, p. 269. *
molybdena Arg. *Newman* Entom. 50, p. 207 u. 230.
monbeigei Sas. *Oberth.* Lep. Comp. 17, Fig. 3907.
monilata Mel. *Vrty.* Entom. Rec. 31, p. 182.
monilata Mel. phoebe *Vrty.* Entom. Rec. 40, p. 162.
monilataeformis Mel. *Vrty.* Entom. Rec. 31, p. 184.
monophana Apat. *Cabeau* Rev. Mens. Namur 1919, p. 7.
morena Arg. *Ribbe* Iris 23, p. 149.
morena Mel. *Ribbe* Iris 23, p. 132.
moritura Mel. *Vrty.* Entom. Rec. 40, p. 89.
mumon Arg. *Mals.* Ins. Mats. 3, p. 153.
mundata Mel. *Trti. & Vrty.* Boll. Soc. Ent. Ital. 42, p. 206.
mussinae Mel. *Costant.* Atti Soc. Nat. Modena (5) 3, p. 14.

nadezhdae Mel. *Sehelj.* Iris 26, p. 137.
naina Mel. *Fruhsl.* Arch. f. Nat. 82 A 2, p. 8.
namurensis Mel. *Lamb.* Rev. Mens. Namur 1911, p. 21.
nana Arg. aglaia, *Wheeler* Butt. Switz. p. 72.
nana Arg. paphia *Stephan* Iris 37, p. 42.
nana Mel. *Rehfous* Catal. Rhop. Genève, p. 12.
nana Van. *Stephan* Iris 37, p. 38.
narbonensis Mel. *Fruhst.* Soc. Ent. 32, p. 19.
narina Mel. *Oberth.* Lep. Comp. 3, p. 230.
nantaca Arg. *Fruhsl.* Soc. Ent. 32, p. 25.
nebulosa Calin. *Oberth.* Lep. Comp. 17, p. 19. *
necraeformis Mel. *Vrly.* Boll. Soc. Ent. Ital. 45, p. 212.
neglecta Mel. *Schultz* Entom. Ztschr. 22, p. 91.
neoarctica Arg. *Reuß* Soc. Ent. 34, p. 31.
neston Arg. *Fruhst.* Arch. f. Nat. 82 A 2, p. 16.
nevadensis Mel. *Oberlh.* Lep. Comp. 3, p. 251.
niger Erib. *Lathy* Enc. Ent. Lep. 1, p. 97. *
nigerrima Limen. *Oberth.* Lep. Comp. 9 (2), p. 46. *
nigerrima Mel. *Sehultz* Entom. Ztschr. 22, p. 91.
nigra Arg. pales *Aign.* Ann. Mus. Hung. 4, p. 502. *
nigra Arg. paphia *Reuß* Arch. f. Nat. 87 A 11, p. 210.
nigra Mel. didyma *Ballestre* Bull. Soc. Ent. Fr. 1903, p. 306.
nigra Mel. parthenie *Aign.* Ann. Mus. Hung. 4, p. 499. *
nigricans Arg. euphrosyne *Oberlh.* Lep. Comp. 20, p. 299. *
nigricans Arg. paphia *Cosmov.* Naturaliste 1892, p. 256.
nigricans-parvipunctata Arg. *Oberlh.* Lep. Comp. 20, p. 299. *
nigricostata Van. *Raynor* Entom. Rec. 21, p. 7.
nigridorsata Van. *Raynor* Entom. Rec. 21, p. 7.
nigrimarginata Arg. *Reuß* Int. Ent. Ztschr. 10, p. 29 (1916).
nigrita Mel. didyma *Skala* Entom. Ztschr. 21, p. 268.
nigrita Mel. parthenie *Aign.* Ann. Mus. Hung. 4, p. 500. *
nigroalternans Mel. *Vrty.* Entom. Rec. 31, p. 182.
nigrolimbata Mel. *Sehultz* Entom. Ztschr. 19, p. 205. * (1906).
nigrolunaria Polyg. *Nitsehe* Verh. zool.-bot. Ges. Wien 62, p. (110).
nigromaculata Van. *Kleinschm.* Falco 25, p. 14, 1929.
nigromarginata Arg. *Lamb.* Rev. Mens. Namur 106, p. 48.
nigrorubida Mel. *Vrty.* Entom. Rec. 31, p. 179.
nigrostriata Arg. *Schultz* Entom. Ztschr. 22, p. 39.
nikator Arg. *Fruhst.* Int. Ent. Ztschr. 3, p. 113.
nikolajewski Arg. *Heydem.* Iris 34, p. 271.
niraca Arg. *Oberth.* Lep. Comp. 7, Fig. 1818.
nisseni Mel. *Rothsch.* Novit. Zool. 20, p. 115.
nitida Mel. *Oberlh.* Lep. Comp. 3, p. 254.
nivcola Arg. *Sliehel* Berl. Ent. Ztschr. 53, p. 80. *
noctula Mel. *Fruhsl.* Arch. f. Nat. 83 A 3, p. 189.
nominoë Mel. *Oberth.* Bull. Soc. Ent. Fr. 1900, p. 276. *
non-argentata Arg. *Mals.* Ins. Mats. 3, p. 153.
nossis Mel. *Fruhst.* Arch. f. Nat. 83 A 3, p. 180.
nubilata Van. *Raynor* Entom. Rec. 21, p. 7.
numerica Arg. *Mals.* Ins. Mats. 3, p. 153.

o-album Pol. c-album *Gillmer* Int. Ent. Ztschr. 1, p. 88.
o-album Pol. *Newnham* Entom. 50, p. 230.
obliterata Arg. *Kard.* Ent. Mitt. Dahlem 17, p. 271. *
oblongomaculata Mel. *Skala* Entom. Ztschr. 21, p. 238.
obnubila Apat. *Cabeau* Rev. Mens. Namur 1910, p. 68.
obscura Apat. *Sälzl* Ber. Nat. Ver. Regensbg. 1923, p. 34.
obscura Arg. *Aign.* Ann. Mus. Hung. 4, p. 503. *

obseura Mel. asterie *Hosp.* Int. Ent. Ztschr. 16, p. 199.
obscura Mel. athalia *Vrty.* Entom. Rec. 31, p. 193.
obseura Polyg. *Ctoss* Int. Ent. Ztschr. 9, p. 115 (1915).
obseura Van. antiopa *Gönner* Entom. Ztschr. 41, p. 459. *
obseura Van. urticae *Raynor* Entom. Rec. 21, p. 7.
obseura-maxima Mel. *Vrty.* Entom. Rec. 23, p. 213.
obseurata Mel. *Krul.* Bull. Soc. Nat. Mosc. 4, p. 235. *
obscurior Mel. *Hofer* Soc. Ent. 35, p. 46.
obsoleta Arg. *Tutt* Entom. Rec. 17, p. 9.
obsoleta Char. *Foutq.* Amat. Pap. 1923, p. 49.
obsoleta Mel. athalia *Tutt* Brit. Butt., p. 305.
obsoleta Mel. cinxia *Tutt* Brit. Butt., p. 311.
obtusa Van. *O. Bang-Haas* Horae Macr. 1, p. 115.
occasus Mel. *Vrty.* Entom. Rec. 31, p. 179.
ocellata Arg. *Friedländer* Berl. Ent. Ztschr. 1888, p. 491. *
ocellata Mel. *Rbl.* in Berge's B'fly Book B. (IX), p. 20.
ocelliformis Mel. *Reuß* Int. Ent. Ztschr. 15, p. 4.
ochracea Mel. *Skala* Entom. Ztschr. 21, p. 238.
ochrea Mel. *Tutt* Brit. Butt., p. 318.
ochrobrunnea Pyr. *Fritsch* Entom. Rundsch. 30, p. 25.
octocyanea Pyr. *Cabeau* Rev. Mens. Namur 1911, p. 23.
omnicola Nept. *Fruhst.* Stett. Ent. Ztg. 69, p. 411 (1908).
onorensis Arg. *Mats.* Journ. Coll. Agric. 15 (3), p. 100. *
opima Van. *Vrty.* Entom. Rec. 31, p. 199.
oreithyia Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 7.
orgowa Arg. *Teich* Corr.-Blatt, Riga 44, p. 16.
ornata Arg. *Aign.* Ann. Mus. Hung. 4, p. 503.
ornata Mel. *Grund* Int. Ent. Ztschr. 7, p. 127.
otanina Arg. *Mats.* Ins. Mats. 2, p. 192.
othello Arg. *Cornetsen* Int. Ent. Ztschr. 16, p. 213.
ottonis Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 2.

padana Apat. *Trti.* Atti Soc. Ital. Sc. Nat. 53, p. 483.
paleatineta Mel. *Vrty.* Boll. Soc. Ent. Ital. 45, p. 209.
palinoides Arg. *Reuß* Iris 39, p. 218.
pallens Van. *Knoch* Int. Ent. Ztschr. 20, p. 430.
pallida Arg. adippe *Evans* Journ. Bombay N. H. Soc. 21, p. 558.
pallida Arg. *Evans* Journ. Bombay N. H. Soc. 23, p. 540.
pallida Arg. euphrosyne *Splr.* Schmett. Eur. 1, p. 27.
pallida Arg. lathonia *Fritsch* Entom. Rundsch. 29, p. 143.
pallida Arg. selene *Sptr.* Schmett. Eur. 1, p. 26.
pallida Mel. cinxia *Tutt* Brit. Butt., p. 311.
pallida Mel. didyma *Skala* Entom. Ztschr. 20, p. 311. *
pallida Pyr. *Fritsch,* Entom. Rundsch. 30, p. 25.
pallida-parvipunctata Arg. *Oberth.* Lep. Comp. 20, p. 299. *
pallida-pupillata Apat. *Osthelder* Schmett. S.-Bayr. 1, p. 72.
pallidior Mel. *Oberth.* Lep. Comp. 3, p. 234.
palustris Arg. *Fruhst.* Int. Ent. Ztschr. 3, p. 112.
palustris Mel. *Vrty.* Entom. Rec. 31, p. 179.
paphlagonia Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 10.
parnassiea Arg. *Bryk* Entom. Tidskr. 44, p. 109. *
parnassiotropa Mel. *Bryk* Entom. Tidskr. 44, p. 110.
parthenides Mel. *Vrty.* Ent. Rec. 31, p. 194.
parva Mel. *Carad.* Iris 8, p. 47.
parvalpina Mel. *Vrty.* Ent. Rec. 40, p. 163.
parviguttata Van. *Raynor* Entom. Rec. 21, p. 7.
parvilunata Van. *Raynor* Entom. Rec. 21, p. 7.
parvinotata Van. *Raynor* Entom. Rec. 21, p. 8.
patyeosana Mel. *Trti.* Ann. Mus. Nap. n. s. 3, Nr. 18.
pauper Mel. *Vrty.* Entom. Rec. 31, p. 182.
peleis Arg. *Cabeau* Rev. Mens. Namur 24, p. 34.
pelopioides Arg. *Crombach* Int. Ent. Ztschr. 10, p. 45.
perfecta Arg. *Reuß* Arch. f. Nat. 87 A 11, p. 210.
perianthes Mel. *Cabeau* Lambill. 26, p. 74.
periommata Arg. *Cabeau* Rev. Mens. Namur 1919, p. 33.
perlinaghia Apat. *Trti.* Boll. Soc. Ent. Ital. 55, p. 117.
permixta Mel. *Std.* Entom. Anz. 2, p. 33.
peruimia Arg. *Fruhst.* Arch. f. Nat. 82 A 2, p. 17.
perrhoio Mel. *Rev.* Bull. Soc. Lep. Genève 5, p. 175. *
persicaria Prec. *Fruhst.* Seitz Macrolep. 9, p. 529.
perumbrata Apat. *Cabeau* Rev. Mens. Namur 1919, p. 7.
phaënna Arg. *Jach.* Rev. russe Ent. 8, p. 285.
phaeotaenia Arg. *Schaw.* Verh. zool.-bot. Ges. Wien 60, p. (220).
phaira Mel. *Fruhst.* Soc. Ent. 33, p. 15.
phaisana Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 11.
philomena Mel. *Fruhst.* Arch. f. Nat. 83 A 6, p. 12.
phoebina Mel. *Trti.* Nat. Sicil. 23, p. 222 u. 348. *
pietior Polyg. *Vrty.* Ent. Rec. 31, p. 200.
pieszeeki Mel. *Skata* Entom. Jahrb. 19, p. 136.
pinguis Arg. *Vrty.* Entom. Rec. 31, p. 196.
pittionii Arg. *Nitsche* Verhd. zool.-bot. Ges. Wien 74/75, p. (17).
plena Mel. *Vrty.* Entom. Rec. 33, p. 213.
plumbea Arg. *Cock.* Entom. Rec. 36, p. 8.
pluripunctata Van. *Heinrich* Berl. Ent. Ztschr. 61, p. 360. *
plutus Arg. *Oberth.* Lep. Comp. 3, p. 209.
poecilla Arg. *Sag.* Butll. Catal. (2) 4, p. 200.
polychloroides Van. *Raynor* Entom. Rec. 21, p. 7.
praeclara Apat. *Mottr.* Horae Macr. 1, p. 50.
pralognana Arg. *Fruhst.* Int. Ent. Ztschr. 2, p. 214.
praxilla Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 13.
primigenia Limen. *Vrty.* Entom. Rec. 36, Suppl., p. 35.
privata Mel. *Std.* Entom. Anz. 2, p. 30.
problematica Mel. *Schelj.* Mitt. Münch, Ent. Ges. 19, p. 357. *
prochnovi Van. *Pronin* Lep. Rundsch. 2, p. 179.
prodiga Limen. *Fruhst.* Int. Ent. Ztschr. 3, p. 94 (1909).
producta Arg. *Mats.* Ins. Mats. 3, p. 154.
protea Mel. *Vrty.* Boll. Soc. Ent. Ital. 48, p. 183.
pseudathalia Arg. *Rbt.* in Berge's B'fly Book B. (IX), p. 31.
pseudathalia Mel. *Rev.* Bull. Soc. Ent. Fr. 1920, p. 320. *
pseudaurelia Mel. *Ebert* Iris 40, p. 30.
pseudoconnexa Van. *Cabeau* Lambill. 27, p. 90.
pseudodietynna Mel. *Std.* Entom. Anz. 2, p. 31.
pseudodidyma Mel. *Rbt.* Ann. Hofmus. Wien 21, p. 6.
pseudoiris Apat. *Vrty.* Proc. Linn. Soc. Lond. 32, p. 181.
pseudomerope Mel. *Vorbr.* Butterflies of Switz. 2, p. 609.
pseudotureica Van. *Fritsch* Entom. Rundsch. 30, p. 9.
pudica Mel. *Stichel* Berl. Ent. Ztschr. 46, p. 23.
puellula Lim. *Fruhst.* Int. Ent. Ztschr. 3, p. 94 (1909).
pulchrior Van. *Vrty.* Ent. Rec. 28, p. 101.
pumila Mel. *Vrty.* Ent. Rec. 31, p. 181.
punctifera Mel. *Vrty.* Boll. Soc. Ent. Ital. 45, p. 209.
punctijuncta Van. *Raynor* Ent. Rec. 21, p. 8.
punica-powelli Mel. *Oberth.* Lep. Comp. 10, Fig. 2338.
pura Nept. *Grünbg.* Sitz. Ber. Nat. Fr. 1908, p. 286.
pusilla Arg. *Wnuk.* Mitt. Münch. Ent. Ges. 17, p. 71.
pygmaeana Limen. *Vrty.* Entom. Rec. 40, p. 143.
pyrenaica Arg. *Sag.* Butll. Catal. (2) 5, p. 270.
pyrenes-debilis Mel. *Vrty.* Entom. Rec. 40, p. 90.
pyronioides Mel. *Reuß* Int. Ent. Ztschr. 15, p. 5 (1921).

radiata Arg. daphne *Trti.* & *Vrty.* Boll. Soc. Ent. Ital. 42, p. 212.
radiata Arg. dia *Skala* Verhd. Nat. Ver. Brünn 50 Separ., p. 49.
radiata Arg. euphrosyne *Sptr.* Schmett. Eur. 1, p. 27.
radiata Arg. hecate *Silbern.* Entom. Ztschr. 25, p. 163.
radiata Arg. niobe *Splr.* Schmett. Eur. 1, p. 29.
radiata Arg. pales *Nordstr.* Entom. Tidskr. 39, p. 313. *
radiata Mel. didyma *Aign.* Ann. Mus. Hung. 4, p. 493. *
radiata Mel. trivia *Skata* Entom. Ztschr. 20, p. 310. *
radiata Mel. *Kiefer* Ztschr. öster. Entom. Ver. 3, p. 110.
radiata Van. *Raynor* Entom. Rec. 21, p. 7.
radiosa Arg. *Mayer* Entom. Ztschr. 22, p. 47.
rebrensis Mel. dictynna *Gussich* Glasnik 1917, p. 216.
rebrensis Mel. didyma *Gussich* Glasnik 1917, p. 216.
reducta Arg. *Schirmer* Deutsche Entom. Ztschr. 1918, p. 170.
reducta Mel. *Vorbr.* Butterflies of Switz. 1, p. 47.
regama Mel. *Fruhst.* Soc. Ent. 30, p. 58.
rheaoides Arg. *Reuß* Iris 39, p. 218.
rhodoleuca Mel. *Std.* Ztschr. wiss. Ins.-Biol. 9, p. 374.
rhoio Mel. *Oberth.* Lep. Comp. 4, Fig. 342.
richthofeni Erib. *Fruhst.* Iris 29, p. 38.
robiginosa Mel. *Kardak.* Ent. Mitt. Dahlem 17, p. 270. *
roceii Mel. *Trti.* Nat. Sicil. 23, p. 26.
romana Mel. *Calberla* Iris 1, p. 132.
romula Mel. *Vrty.* Entom. Rec. 34, p. 12.
rondoui Mel. *Oberth.* Lep. Comp. 3, p. 254.
rosacea Pyr. *Reuß* Int. Ent. Ztschr. 9, p. 131 (1915).
rosacea Van. *Ktoß* Int. Ent. Ztschr. 9, p. 115.
rosea Pyr. *Pionn.* l'Echange Nr. 423, p. 4.
rosea Arg. *Cosmov.* Naturaliste 1892, p. 256.
rosinae Mel. *Rbt.* Ann. Hofmus. Wien 24, p. 376.
rostagnoi Mel. *Trti.* Nat. Sicil. 1919, 23, p. 223 *
rotunda Mel. *Röb.* Entom. Mitt. 15, p. 238.
rovia Mel. *Fruhst.* Arch. f. Nat. 83 A 3, p. 169.
rubecula Arg. *Sag.* Butll. Catal. (2) 4, p. 20.
rubens Van. *Vrty.* Entom. Rec. 31, p. 199.
rubida Arg. niobe *Vrty.* Boll. Soc. Ent. Ital. 45, p. 214. *
rubida Mel. didyma *Vrty.* Entom. Rec. 31, p. 179.
rubra Pyr. *Fritsch* Entom. Rundsch. 30, p. 25.
rubroehrea Van. *Raynor* Entom. Rec. 21, p. 7.
rucephala Mel. *Fruhst.* Soc. Ent. 30, p. 58.
rückerti Arg. *Fruhst.* Soc. Ent. 26, p. 24.
rufescens Arg. *Tutt* Entom. Rec. 17, p. 4.
rufopunctata Limen. *Lucas* Amat. Pap. 1923, p. 50.
rusalka Arg. *Fruhst.* Int. Ent. Ztschr. 3, p. 113.
rutila Arg. *Reuß* Int. Ent. Ztschr. 10, p. 30 (1916).

sacaria Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 15.
sachalinensis Arg. pales *Mats.* Journ. Coll. Arg. 15 (3), p. 100.
sachalinensis Arg. paphia *Mats.* Journ. Coll. Agr. 15 (3), p. 102. *
sachalinensis Arg. selene, *Mats.* Entom. Ztschr. 22, p. 158.
sachalinensis Arg. *Mats.* Journ. Coll. Agric. Sapporo 4, p. 100.
sachalinensis Mel. *Mats.* Journ. Coll. Agric. 15 (3), p. 99.
sachalinensis Van. *Mats.* Journ. Coll. Agric. 15, p. 97. *
sahlbergi Arg. *Bryk* Medd. Soc. Flora & Fauna Fenn. 38, p. 94. *
sakota Euthal. *Fruhst.* Seitz Macrolep. 9, p. 684.
satakei Arg. *Mats.* Ins. Mats. 2, p. 193.
scandinavica Mel. *Stgr.* Iris 5, p. 327.
scardona Mel. *Fruhst.* Soc. Ent. 25, p. 51.
schaljapini Limen. *Kard.* Ent. Mitt. Dahl. 17, p. 269. *
schoenfellneri Pyr. *Hoffm.* Ztschr. öster. Ent. Ver. 10, p. 29. *
scotica Arg. *Wlk.* Entomol. 56, p. 108.
sebaldus Mel. *Schultz* Entom. Ztschr. 19, p. 206 (1905).
segesta Nept. *Fruhst.* Entom. Ztschr. 23, p. 42 (1909).
scilemis Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 9.
semialba Apat. *Cabeau* Rev. Mens. Namur 1913, p. 99.
semidetrita Mel. *Hart.* Entom. Rundsch. 41, p. 42.
semifuscata Mel. *Cabeau* Rev. Mens. Namur 1919, p. 61.
semiichnusoides Van. *Pronin* Lep. Rundsch. 2, p. 179.
semilearchus Mel. *Ebert* Iris 40, p. 31.
seminigra Mel. *Musseh.* Bull. Soc. Lep. Genève 1, p. 70.
semiradiata Mel. *Trti. & Vrty.* Boll. Soc. Ent. Ital. 43, p. 232.
senta Arg. *Schultz* Entom. Ztschr. 22, p. 40.
separata Van. *Kard.* Entom. Mitt. Dahlem 17, p. 415. *
septentrionalis Char. *Vrty.* Entom. Rec. 31, p. 179.
septiespupillata Pyr. *Vrty.* Entom. Rec. 31, p. 198.
serena Arg. *Fruhst.* Int. Ent. Ztschr. 2, p. 214.
sesostris Mel. *Schultz* Entom. Ztschr. 19, p. 206 * (1906).
setania Arg. *Fruhst.* Int. Ent. Ztschr. 3, p. 21.
sexiespupillata Pyr. *Vrty.* Entom. Rec. 31, p. 198.
sextilis Mel. *Jaeh.* Rev. Russe Ent. 8, p. 285.
sheljuskoi Apat. *Trti.* Atti Soc. Int. Soc. Nat. 53, p. 481.
sheljuzkoi Arg. *Std.* Deutsche Entom. Ztschr. 1923, p. 513.
shugnana Mel. *Schelj.* Mitt. Münch. Ent. Ges. 19, p. 355.
siciliensis Arg. *Reuß* Int. Ent. Ztschr. 20, p. 273 (1926).
sicula Mel. didyma *Std.* Lep. Rundsch. 2, p. 107.
sicula Mel. *Trti.* Atti Soc. It. Sc. Nat. 53, p. 600.
sisenna Arg. *Fruhst.* Entom. Ztschr. 24, p. 37.
sitis Nept. *Fruhst.* Stett. Ent. Ztschr. 69, p. 392.
slegersi Arg. *Lamb.* Rev. Mens. Namur 1903, p. 10. *
sordida Pyr. *Fritsch* Entom. Rundsch. 30, p. 25.
sordida Van. *Fritsch* Entom. Rundsch. 30, p. 9.
sphines Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 12.
spoliatus Char. *Std.* Boll. Soc. Adr. Sc. Nat. 25, p. 150. *
spuleri Mel. *Röb.* Entom. Mitt. 15, p. 226.
stechei Arg. *Vogt* Int. Ent. Ztschr. 15, p. 55.
sterlineata Mel. *Trti.* Nat. Sicil. 1919, p. 21.
stictica Apat. *Cabeau* Rev. Mens. Namur 1910, p. 32.
stoetzneri Arg. *Reuß* Int. Ent. Ztschr. 16, p. 110.
stoetzneri Tim. *Draeseke* Iris 39, p. 212.
stoetzneri Van. *Kleinsehm.* Falco 25, p. 12, 1929.
striata Mel. *Skala* Entom. Ztschr. 20, p. 310. *
strigata Van. *Raynor* Entom. Rec. 21, p. 7.
stupenda Mel. *Nitsche* Verh. zool.-bot. Ges. Wien 74/75, p. (62).
subalbata Apat. *Cabeau* Rev. Mens. Namur 1913, p. 99.
subalbida Mel. *Sehultz* Entom. Ztschr. 22, p. 91.
subalpina Mel. *Vrty.* Entom. Rec. 31, p. 179.
subcorythallia Mel. *Vrty.* Entom. Rec. 40, p. 162.
subiliades Apat. *Cabeau* Lambill. 29, p. 110.
submaxima Mel. *Vrty.* Entom. Rec. 36, Suppl., p. 40.
suboccitanica Mel. *Vrty.* Entom. Rec. 40, p. 162.
subornatissima Arg. *Reuß* Deutsche Entom. Ztschr. 1922, p. 198.
subornatissimoides Arg. *Reuß* Iris 39, p. 219.
subpatycosana Mel. *Vrty.* Entom. Rec. 35, Suppl., p. 38.
subrubida Mel. *Vrty.* Entom. Rec. 31, p. 179.
subtusaurea Arg. *Reuß* Soc. Ent. 38, p. 44.
subtuscoerulea Arg. *Reuß* Arch. f. Nat. 87 A 11, p. 210.
subtus-crassipunctata Mel. *Rev.* Bull. Soc. Lep. Genève, Taf. 6, Fig. 4.
subtus-lactea Van. *Raynor* Entom. Rec. 21, p. 8.
subtusmarcata Mel. *Reuß* Int. Ent. Ztschr. 15, p. 4.
subtusocellata Mel. *Rev.* Bull. Soc. Lep. Genève 3, p. 35. *
subtusrufa Van. *Raynor* Entom. Rec. 21, p. 8.
suessula Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 4.
suffusa Mel. *Tutt* Brit. Butt., p. 311.
susanna Arg. *Stephan* Entom. Anz. 4, p. 50.
sylleion Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 2.
sylvia Arg. *Fiseher* Soc. Ent. 29, p. 81.
sylvia Nept. *Oberth.* Lép. Comp. 2, p. 18. *
syriaca Mel. *Rbl.* Ann. Hofmus. Wien 21. p. 6. *

tabusteaui Arg. *Oberth.* Lép. Comp. 20, p. 299. *
taigetana Arg. *Reuß* Deutsche Entom. Ztschr. 1922, p. 197.
takamukuella Arg. *Mats.* Ins. Mats. 3, p. 155.
taldena Arg. *Fruhst.* Seitz Macrolep. 9, p. 515.
taliana Arg. *Reuß* Deutsche Entom. Ztschr. 1922, p. 196.
taphos Nept. *Fruhst.* Seitz Macrolep. 9, p. 619.
tarlonia Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 8.
tarnis Arg. *Fruhst.* Arch. f. Nat. 82 A 2, p. 19.
tatrica Arg. *Aign.* Ann. Mus. Hung. 4, p. 502. *
tatsienluana Arg. *Reuß* Int. Ent. Ztschr. 19, p. 280.
teloides Van. *Reuß* Int. Ent. Ztschr. 13, p. 44 (1919).
telomesoides Van. *Reuß* Int. Ent. Ztschr. 13, p. 44.
tenebricosa Mel. *O. Bang-Haas* Horae Macr. I, p. 51. *
tennicola Mel. *Vrty.* Entom. Rec. 31, p. 193.
tenuis Mel. *Vrty.* Entom. Rec. 31, p. 193.
tenuisignata Mel. didyma *Skala* Entom. Ztschr. 20, p. 310.
tenuisignata Mel. trivia *Skala* Verhd. Nat. Ges. Brünn 50, p. 63.
tenuitermaculosa Arg. *Vrty.* Entom. Rec. 34, p. 14.
tergesta Arg. *Fruhst.* Soc. Ent. 25, p. 54.
terioleusis Limen. *Dhl.* Entom. Ztschr. 39, p. 44.
terioleusis Mel. *Wagner* Verh. zool.-bot. Ges. Wien 62, p. (210).
terracina Mel. *Fruhst.* Arch. f. Nat. 82 A 2, p. 14.
tessellata Mel. *Tutt* Brit. Butt., p. 306.
tessinorum Mel. *Fruhst.* Soc. Ent. 33, p. 22.
testudinea Van. *Raynor* Entom. Rec. 21, p. 7.
tetrica Apat. *Cabeau* Rev. Mens. Namur 1910, p. 33.
thalestria Arg. *Jaeh.* Rev. Russe Ent. 8, p. 287.
thaumantias Apat. *Cabeau* Rev. Mens. Namur 1910, p. 35.
theia Apat. *Dhl.* Entom. Ztschr. 39, p. 40.
thyra Arg. *Schultz* Entom. Ztschr. 22, p. 39.
tiburniana Arg. *Fruhst.* Int. Ent. Ztschr. 2, p. 214.
tieuschanica Arg. *Wagner* Entom. Mitt. 2, p. 114.
tinica Mel. *Fruhst.* Soc. Ent. 25, p. 52.
töroki Arg. *Aign.* Ann. Mus. Hung. 4, p. 510. *
totila Mel. *Std.* Ztschr. wiss. Ins.-Biol. 9, p. 373. *
trachalus Arg. *Fruhst.* Arch. f. Nat. 82 A 2, p. 18.
tramelana Arg. *Culot* Bull. Soc. Lep. Genève I. p. 69. *
transcaucasica Mel. *Trti.* Nat. Sic. 23, p. 225 *
transiens Arg. *Sehaw.* Ztschr. öster. Ent. Ver. 13, p. 44.
transiens Van. *Lütkem.* Entom. Ztschr. 34, p. 51.
translucens Mel. *Vrty.* Entom. Rec. 40, p. 43.
transmutata Apat. *Cabeau* Rev. Mens. Namur 1919, p. 6.
transsylvanica Arg. *Tiltseher* Entom. Ztschr. 26, p. 210.
transvelata Apat. *Cabeau* Rev. Mens. Namur 1910, p. 4.
transversa Mel. aurinia *Cabeau* Lambill. 28, p. 11.
transversa Mel. cinxia *Reuß* Int. Ent. Ztschr. 15, p. 4.
treitschkei Nept. *Hoffm. & Klos* Schmett. Steierm. I, p. 122.
triangularis Arg. *Rev.* Bull. Soc. Lep. Genève 4, p. 139.
tricolor Mel. athalia *Hormuz.* Verh. zool.-bot. Ges. Wien 1897, p. 148.
tricolor Mel. cynthia *Sehaw.* Verh. zool.-bot. Ges. Wien 74/75, p. (67).
tricolorata Limen. *Grund* Soc. Ent. 23, p. 81.
trifasciata Mel. *Gussieh* Glasnik 1917, p. 216.
tripuncta Van. *Raynor* Entom. Rec. 21, p. 8.
tristis Nept. *Oberth.* Lép. Comp. 12, Fig. 3513.
trochoides Apat. *Cabeau* Rev. Mens. Namur 1910, p. 4.
tusca Mel. *Vrty.* Entom. Rec. 31, p. 182.
turkestanica Mel. *Sehelj.* Mitt. Münch. Ent. Ges. 19, p. 259.

udei Arg. *Reuß* Int. Ent. Ztschr. 20, p. 24.
uitasica Mel. *Wagner* Entom. Mitt. 2, p. 94.
umbrosa Pyr. *Fiseher* Soc. Ent. 23, p. 130.
uncipuncta Polyg. *Joseph* Verh. zool.-bot. Ges. 69, p. 48. *
unipuncta Van. *Raynor* Entom. Rec. 21, p. 8.
universa Pyr. *Vrty.* Entom. Rec. 31, p. 197.
ussurica Arg. *Kardak.* Ent. Mitt. 17, p. 271. *
ussuriensis Van. *Kleinsehm.* Falco 25, p. 13, 1929.

valentini Mel. *Nitsehe* Verh. zool.-bot. Ges. Wien 78, p. (14).
valesinoides Arg. aglaia *Reuß* Deutsche Entom. Ztschr. 1926, p. 69.
valesinoides Arg. niobe *Reuß* Deutsche Entom. Ztschr. 1926, p. 70.
valsunga Mel. *Fruhst.* Arch. f. Nat. 83 A 3, p. 172.
varenii Arg. *Holmgren* Entom. Tidskr. 9, p. 104. *
variegata Mel. cynthia *Trti. & Vrty.* Boll. Soc. Ent. Ital. 42, p. 205.

6. Family: **Erycinidae.**

A. Sub-family: **Libytheini.**

1. Genus: **Libythea** *F.*

L. celtis *Fuessly* (Vol. 1, p. 251, pl. 71 f). A few aberrations have been named: **denudata** *Dhl.* The small spot near the inner angle is missing. — In **separata** *Dhl.* the spot on costa of hindwings is very small, the main spot is incised. — **pallida** *Dhl.* has bands of normal shape but light yellow. — **conjuncta** *Schaw.* Apical spot on forewings is conjoined with the main spot. Occasionally the quadrate spot near mid-costa can be isolated from the basal streak and the large spot obliquely posterior. Not yet denominated! *pygmaea Dhl.* is a dwarf form. — *sophene Fruhst.* from Thibet is the same, occurring there perhaps as a race. — **chinensis** *Fruhst.* Similar to *lepita Mr.* (Vol. 1, pl. 71 f) but larger, inspite of which the yellow bands are narrower and more horizontal on hindwings. Omei-Shan. — **celtoides** *Fruhst.* Also similar to *lepita*, but the small yellow-red spot near the inner angle and the small spot near the apex on hindwings are present, as in *celtis*. S. Japan. — **matsumurae** *Fruhst.* varies from *lepita* by the wider and darker fuscous bands, especially on underside. N. Japan. *celtis. denudata. separata. pallida. conjuncta. chinensis. celtoides. matsumurae.*

L. myrrha *Godt.* (Vol. 1, p. 252, pl. 71 f). — **thira** *Fruhst.* is like a *myrrha* with widely diffusing bands. Yunnan, not yet found in palaearctic territory. *myrrha. thira.*

B. Sub-family: **Nemeobiini.**

2. Genus: **Nemeobius** *Stph.*

N. lucina *L.* (Vol. 1, p. 252, pl. 89 a). Many aberrations have been added: — **leucodes** *Lamb.* Especially the ♀ often pale yellow instead of red-brown. — **gracilens** *Mellaerts* has normal ground colour, but the black traverse bands are narrow. — **fulvior** *Rocci* (= fulva *Osth.*) has fulvous ground colour also in basal area of forewings and sparse black markings. — In **obsoleta** *Tutt* the black marginal spots are absent. — **pallida** *Guss.* has all bands and spots white instead of black-brown. — **albomaculata** *Blach.* (= constellata *Cab.*) (16 a) has a striking white spot in the middle of hindwing, instead of being reddish yellow. — An extreme form of this with a well extended white streak is named **erica** *Stph.* — **alba** *Guss.* has a white base to forewings instead of black. — **obscura** *Aign.* Only traces of yellow-brown spots left on hindwings, especially in ♂ otherwise dark. *primipara Costant.* and *semibrunnea Vorbr.* are approximately the same. *nana Steph.* is a dwarf form. — **thurneri** *Dhl.* is a very large race with a wing expanse of 30—32 mm, against a normal 25—27 mm. Drau Valley. *lucina. leucodes. gracilens. fulvior. obsoleta. pallida. albomaculata. erica. alba. obscura. thurneri.*

4. Genus: **Polycaena** *Stgr.*

P. tamerlana *Stgr.* (Vol. 1, p. 253, pl. 89 b). — **attila** *O. B.-H. i. l.* The ♂ has a paler patch of yellow-red on forewings in the space from the outer margin to the trans-cellular row of spots. On hindwings the submarginal black spots with broad yellow-red ringlets. ♀ is darker than my single *tamerlana* ♀, forewings only with yellow-red band between submarginal and trans-cellular spots. Hindwings with quite dusky yellow-red ringlets round the spots. Underside as *tamerlana*. Chan-tengri. — **helcha** *O. B.-H. i. l.* (16 a). Upperside of forewings dusky grey-brown without any yellow-red patches, costa whitish behind the cell. Underside of forewings scarcely fuscous, hindwings approximately of same shade. Chan-tengri. — *banghaasi Fruhst.* is probably the same *). In typical *tamerlana* the upper part of the middle row of black spots of forewings is arched outwards and *tamerlana. attita. heteha.*

*) In this case the latter name would have right of priority over the i. l. — name of Staudinger.

the innermost 2 spots are placed vertically one above the other. Apart from the row of white marginal spots the *tamerlana* ♀ illustrated in Vol. 1, pl. 89 b almost exactly represents *attila* ♀. In *helcha* the shape of the black row of spots is the same as in *attila*.

6. Genus: **Abisara** *Fldr.*

sobrina. **A. sobrina** *Mell.* Dull woody-brown. Forewings with dull buff outer band and still paler submarginal stripe. Hindwings with abbreviated outer band. West Yunnan and scarcely palaearctic.

7. Genus: **Dodona** *Hew.*

durga. rubula. **D. durga** *Koll.* (Vol. 1, p. 254, pl. 89 d [var.]). — **rubula** *Fruhst.* With smaller yellow-red spots than *durga* and *sinica Meng.* on upperside of hindwings. Submarginal stripes also very narrow on underside. Kweichow. See Vol. 9, p. 775.

maculosa. kansuensis. **D. maculosa** *Leech* (Vol. 1, p. 255, pl. 89 d). — One new form **kansuensis** *Gaede* is described. It corresponds to *durga-rubula*. There are more numerous small spots on upperside of hindwings than are shown in illustration of *maculosa*. Arrangement of markings of underside as in *maculosa*, but the 2 bands which are only halfway white in *sinina* (pl. 89 d) are more extensively white. Kansu.

8. Genus: **Stiboges** *Btlr.*

nymphidia. elodinia. **S. nymphidia** *Btlr.* (Vol. 1, p. 255, pl. 89 d). — **elodinia** *Fruhst.* (Vol. 9, pl. 139 c) denominated there as *nymphidia*. See Vol. 9, p. 796. The dark marginal band of forewings somewhat narrower, the white apical spots larger than in *nymphidia*. From the Omei-Shan. The name type form is described from Penang.

Alphabetical List

of all palaearctic *Erycinides* mentioned in Supplement Vol. 1, Index and reference of original descriptions.

* signifies that the form is also illustrated at the place quoted.

alba Nem. *Guss.* Glasnick 29, p. 221.
albomarginata Nem. *Btach.* Bull. Soc. Lep. Génève 1, p. 379. *
attila Pol. *Gaede*, Seitz Macrolep. Suppl. 1, p. 237.

celtoides Lib. *Fruhst.* Entom. Zeitschr. 22, p. 209.
chinensis Lib. *Fruhst.* Entom. Zeitschr. 22, p. 209.
conjuncta Lib. *Schaw.* Mitt. Münch. Ent. Ges. 14, p. 88.

denudata Lib. *Dhl.* Entom. Zeitschr. 39, p. 64.

elodinia Stib. *Fruhst.* Seitz Macrolep. 9, p. 796. *
erica Nem. *Stph.* Zeitschr. Wiss. Ins.-Biol. 19, p. 49.

fulvior Nem. *Rocci* Mem. Soc. Ent. Ital. 2, p. 6.

gracilens Nem. *Mell.* Lambillionea 27, p. 11.

helcha Pol. *Gaede*, Seitz Macrolep. Suppl. 1, p. 237. *

leucodes Nem. *Lamb.* Rev. Mens. Namur 1913, p. 100.

matsumurae Lib. *Fruhst.* Entom. Zeitschr. 22, p. 209.

obscura Nem. *Aign.* Ann. Mus. Nat. Hung. 4, p. 514. *
obsoleta Nem. *Tutt* Brit. Butterfl. 1, p. 211.

pallida Lib. *Dhl.* Mitt. Münch. Ent. Ges. 17, p. 6.
pallida Nem. *Guss.* Glasnick 29, p. 221.

rubula Dod. *Fruhst.* Seitz Macrolep. 9, p. 775.

separata Lib. *Dhl.* Entom. Zeitschr. 39, p. 64.
sobrina Abis. *Mell* Deutsch. Ent. Zeitschr. 1923, p. 159.

theria Lib. *Fruhst.* Seitz Macrolep. 9, p. 770.
thurneri Nem. *Dhl.* Entom. Zeitschr. 39, p. 64.

7. Family: **Lycaenidae.**

In this family the formation of races is not especially large in the palaearctic regions, whilst the inclination to form aberrations is excessively great. Courvoisier has, as far as was possible, without encroaching on denominations already given, created an orderly classification by giving the same name for similar forms of aberration in all species. Further he has utilised names that are comprehensible without special elucidation. Tutt has also made a systematic study of the aberrations, but has gone so far in subdivision that even specialists will find their requirements supplied by an excessive number of names. The new species naturally mostly originate in the asiatic regions of the territory covered. There are however a few from Europe, although not nearly so many as in the following family of Hesperides.

A. Group of the Theclini.

1. Genus: **Rapala** *Mr.*

R. nemorensis *Oberth.* Upperside dark brown with violet sheen. Forewings with yellow-red centre, marginal bands of hindwings the same. On underside of both wings 2 white marginal bands, of which the outer one is fainter; on forewings only the inner one has a yellow-red border on inner side, on hindwings both are bordered in this way. 32—34 mm. Tzekoo. *nemorensis.*

R. coreacola *Mats.* Similar to *micans-betuloides Btlr.* (Vol. 1, pl. 72 a). However the reddish spot on upperside of forewings is smaller in ♂. Underside more similar to *D. arata Brem.* (Vol. 1, pl. 72 b) but the submarginal bands of both wings are not intersected by the pale veins. (But neither is this the case in *arata*!). The 3 black spots near the anal angle of hindwings as in *arata*, but the 2 anterior ones are white, angular and edged with black. ♀ without the red spot on upperside of forewing, hindwings with a row of large red spots at inner margin (at posterior end of outer margin?). 36 mm. Corea. *coreacola.*

R. micans *Brem.-Grey* (Vol. 1, p. 259). — **suzukii** *Mats.* The red spots on upperside of both wings smaller than in *betuloides.* Underside grey with golden sheen. Outer band of forewings wider, narrower posteriorly and bent outwards at end. Submarginal band of both wings narrower, the one on forewings ¼, that on hindwings ⅓rd as wide as the outer band. Corea. *micans. suzukii.*

3. Genus: **Deudorix** *Hew.*

D. shakojiana *Mats.* Similar to *arata-tyrianthina Btlr.* (Vol. 1, p. 260). The ♀ darker violet-blue on upperside. The middle bands on underside of both wings not contracted posteriorly and closer to the outer band especially on hindwing. The lower third of the outer band of hindwing is filled with yellow-red and edged on both sides with dark brown. The yellow-red anal spot is smaller. Differs from *coreacola* by the absence of red spots on upperside of hindwings. ♀ 32 mm. Corea. *shakojiana.*

D. arata *Brem.* (Vol. 1, p. 260, pl. 72 b). — **juliae** *Kardak.* (15 a) has wings with blue sheen on upperside and not violet. The pale stripes on underside are almost pure white: the 4 black spots at anal angle of hindwings smaller, more precise, their orange-red surrounds more pronounced. Vladivostock. *arata. juliae.*

D. sylvana *Oberth.* (15 a). The ♂ not resembling the two other species, except through the dark outer band on underside. Upperside blackish with blue sheen with a small orange-yellow spot in middle of forewing. A double streak on underside at disco-cellular. A blue angular mark at anal angle of hindwing. 36 mm. Tzekoo. *sylvana.*

6. Genus: **Camena** *Hew.*

ctesia. agalla. **C. ctesia** *Hew.* (Vol. 1, p. 261, pl. 72 c). The type race occurs at Assam and Sikkim. — **agalla** *Fruhst.* from W. China has a heavier black discal spot on forewing and less blue colouration. Underside is darker, more yellowish than white and heavily spotted. On the other hand a ♂ from Kansu has quite minute spots.

8. Genus: **Laeosopis** *Rmb.*

roboris. escorialensis. **L. roboris** *Esp.* (Vol. 1, p. 262, pl. 72 d). — **escorialensis** *Oberth.* from Spain is larger and especially the ♀ has practically no blue sheen on upperside.

9. Genus: **Niphanda** *Mr.*

fusca. tituria. shijima. niphonica. **N. fusca** *Brem.-Grey* (Vol. 1, p. 262, pl. 72 c). — **tituria** ♀ *Fruhst.* Very different from *lasurea* ♀ *Graes.* (pl. 72 e). Upperside brown-grey, pale blue at base. Underside predominantly white-grey. Forewings with small brown spots with wide white surrounds. Chingan mountains. — **shijima** ♀ *Fruhst.* Differing from ♀♀ from the main-land by the smaller brown post-discal spots on underside of both wings. Japan. — **niphonica** *Mats.* The single ♀ is similar to *formosensis Mats.* that cannot be dealt with here, the forewings are therefore paler, so that the spots from the underside are reflected through. On underside the spots decrease in size towards the costa. The most anterior spot on hindwings is very small, the next one being much larger. Honshu (Japan). Perhaps identical with *shijima*.

11. Genus: **Callophrys** *Billb.*

rubi. borealis. chalybeitincta. schamyl. herculeana. sachalinensis. leucosticta. cinerascens. avis. mystaphia. **C. rubi** *L.* (Vol. 1, p. 263, pl. 72 c). — According to Courvoisier the northernmost race should be named **borealis** *Krul. polaris Krul., sibirica Rühl* and *nordlandica Strd.* are approximately the same, as they are all not a pure green on underside, but mixed with yellowish or brownish. — **chalybeitincta** *Sov.* (= caerulescens *O. B.-H.*) is distinctly suffused with blue on upperside and with heavy white markings on underside. Elisabethpol. — **schamyl** *Sheld.* is small, typical on underside, upperside of ♂ and ♀ black without any markings and with green-blue sheen. Novorossiisk. The form from Sarepta is somewhat darker than typical *rubi* being a transition to this form. — **herculeana** *Pfeiff.* from Inner Anatolia is very large (31—33 mm). Upperside like specimens from mid-Europe, underside pale verdigris, the white spots practically absent. — **sachalinensis** *Mats.* is naturally somewhat similar to *sibirica Rühl*, already dealt with in Vol. 1. In the ♂ the sexual mark is longer than in type. Green colour of underside is almost normal, 2 white dots on hindwings of which the posterior one is very small. Sachalin. — The following aberrations have been named and unless specially otherwise mentioned, the denominations are by Tutt: **leucosticta** *Std.* A very small *immaculata* ♂ *Fuchs* with very pale sexual mark. — Tutt has denominated according to the number of dots on underside: *punctata* with 3 on forewing and 7 on hindwing, *inferopunctata* only has dots on hindwing, *incompleta* has an incomplete row on hindwing, which in *bipunctata* is reduced to 2 dots. The name of *caecus Geoff.* is sometimes used for *immaculata Fuchs*, but according to Courvoisier the name does not exist and can only have been used erroneously. For varying shades of ground colour of upperside we have: *viridis Courv.* with green sheen, *pallida* for reddish yellow, *fervida Stgr.* for reddish, *suffusa* for grey-black specimens, *pigmentocarens Vrty.* for dark grey with a somewhat golden gloss, thinly scaled. For the underside: *brunnea* (= olivacea *Blach.*) brown instead of green and *caerulescens* for bluish-green. — The ♀ of *suaveola Stgr.* is somewhat lighter grey-black with silky gloss on upperside of forewings. Underside impure green. Forewings grey at inner and outer margins. Forewings with 3 white spots, hindwings with 2, palpi white outwardly. — **cinerascens** *Rbl.* is lead-grey on upperside.

C. avis *Chapm.* (15 a). Similar to *rubi* and therefore not previously discerned. Somewhat larger, scarcely a trace of tails. On upperside somewhat more reddish than *rubi-fervida Stgr.* In the ♂ veins 3—5 generally darker. No metallic line around eyespots. The androconia spot is approximately triangular, not oval. The shaft of antennae is reddish flesh coloured inwardly on underside, instead of only around the tip. Green colour of underside somewhat different. The white line is fine, but almost completely traverse, not separated into spots and without dark margination inwards. The first white spot on hindwing situate further inwards, so that the second one appears to be displaced outwardly. The reverse is the case in *rubi*. S. France, Spain, Morocco.

C. mystaphia *Miller.* Smaller than *rubi*, apex of forewings rounder. In ♂ there is a grey-yellow elliptical spot on forewings, where in *rubi* ♂ there is a small cavity. Vein 1 of hindwing does not end in a projection. Underside grass green, only inner margin of forewings pale brown. A dull white row of spots parallel to outer margin. A similar pure white band on hindwing which is bent at a right angle at vein 5. This is the chief difference as compared with *rubi*. Transcaucasia, Sultanabad (Persia).

13. Genus: **Thecla** *F.*

spini. brevicaudis. **T. spini** *Schiff.* (Vol. 1, p. 265, pl. 72 g). — **brevicaudis** *Pnglr.* from Zermatt has very short tails to hindwings, the extension is also absent in the ♀. The yellow red spots at anal angle on upperside are fainter.

Underside darker, more grey. — **major** *Oberth.* denominates somewhat larger specimens from the Maritime Alps, which also occur in Piedmont and around Caserta. — **minuta** *Vrty.* from Monti Sibillini is small (24—25 mm), upperside blackish with faint orange-yellow spot in anal angle. All markings of underside less extensive and pale, white lines heavily curved. — **bofilli** *Sag.* does not vary in size or on upperside from typical specimens. A few ♀♀ certainly show a paler patch in the middle of forewings, but not anything like in the same degree as in *lynceus* from Andalusia. Underside only slightly different by less extensive red marginal lunules, which retain their black borders. Albarracin. — Aberrations naturally only vary on underside. *fusca-extensa Pether* has blue spots of underside suffused with black. — In **erythrophoba** *Bub.* the orange-red surrounds to blue spots are missing. — **latefasciata** *Courv.* (= albosparsa *Oberth.*, albo-extensa *Pether*, latifasciata *Rbl.*) has a wide white band on underside of hindwings. — **deleta** *Rbl.* is entirely without same, paler on underside, red spots present on hindwings. Besides these Courvoisier has named the following forms: **elongata**: spots elongated inwards; **multiconfluens** with continuous line (according to Vorbrodt *radiata* is said to occur, but this does not seem probable to me, as there is no discoidal lunule with which a junction could be formed), *paucipuncta* with only few spots. Besides we have *minor Lamb.* for small specimens.

major. *minuta.* *bofilli.* *erythrophoba.* *latefasciata.* *deleta.* *elongata.* *multiconfluens.*

T. w-album *Kn.* (Vol. 1, p. 265, pl. 72 h). — **majuscula** *Jach.* from the North Caucasus (Borshom) is more distinctly marked on underside. — **latefasciata** *). (*Courv.* = albovirgata *Tutt*, semi-albovirgata *Tutt*. meridionalis *Schultz*) occurs. Also *minor Pionn.*

w-album. *majuscula.* *latefasciata.*

T. ilicis *Esp.* (Vol. 1, p. 266, pl. 73 a). — Specimens from Valais: **inalpina** *Vrty.* are inclined to be larger than type. A very constant yellow band on forewings in ♂, among the ♀♀ only a few with band. In ♂ and ♀ spots always present at anal angle of hindwings. Underside darker. — **inornata** *Vrty.* from Tuscany is very different. Smaller, paler on underside, chestnut brown and in ♂ without exception unicoloured upperside and without spots. In ♀ there is rarely a small yellow spot. Among these there are some that somewhat resemble *acaciae*: **acaciaeformis** *Vrty.* — **welantho** *Klug* has darker margins to upperside of wings, anal spots smaller and less pronounced. Underside paler, outer marginal bands reduced, tails longer. Syria, Caucasus. — **latior** *Fixsen* is larger, scaling denser with the appearance of velvet. Underside also varies slightly. Corea, China. — **latefasciata** *Courv.* (= albosparsa *Oberth.*, bialbolineata *Oberth.*, latifasciata *Rbl.*) (15 a) also occurs in this species, as also *inornata-latefasciata.* — *alineata Vrty.* is synonymous with *esculi Hbn.* — Among this form one finds the following sub-forms: **privata** *Courv.* with white bands quite absent on underside of forewings and almost so on hindwings. — *powelli Oberth.* is synonymous with *fountainei Aign.* (15 a), it is illustrated here, as it was only mentioned in Vol. 1. — **graslini** *Oberth.* (15 a) has long black rays extending inwards from the yellow-red spots on underside of hindwings. — **aurea** *Std.* belongs to *cerri Hbn.* in which the pale outer band is so extended towards the base, that the whole discal area is filled with yellow-red. Small specimens are named *minor Lamb.*

ilicis. *inalpina.* *inornata.* *acaciaeformis.* *welantho.* *latior.* *latefasciata.* *privata.* *graslini.* *aurea.*

T. acaciae *F.* (Vol. 1, p. 267, pl. 73 b). According to Courvoisier the oriental race also named *abdominalis Gerh.* is the typical one. The western race from the neighbourhood of Vienna, Delta of Rhone and England is separated as **nostras** *Courv.* — Sub-races are: **italica** *Vrty.* differing from more northern specimens by a paler and more reddish underside. Markings consisting of white patches, black striations and orange-red lunae are fainter and less well developed. Tuscany. — The other race **frigidior** *Vrty.* from Oulx (Turin) and the Maritime Alps is larger, with wider wings, darker. Underside is remarkable, dull grey, with faint golden sheen instead of dark nut-brown. — According to Courvoisier the species dealt with in Vol. 1 as *myrtale Klug* (which is only a syrian mountain form) is related to same as a race through the sub-form **armena** *Rbl.* (15 c). This is darker black-brown on upperside with white fringes, anal spot is brighter yellow, ♀ with long tails. Underside is pale blue-grey. Cassicoparan. In both forms the ♀ sometimes has a greenish sheen on underside.

acaciae. *nostras.* *italica.* *frigidior.* *armena.*

T. marcidus *Riley.* Underside similar to *acaciae*, but the transverse line takes a different course. The dark spots are absent on underside at anal angle of forewings. Ground colour grey-yellow. The 3 spots near the inner margin of hindwings have a V shape with the point pointing inwards. Besides there are black spots at margin from over median vein to over discoidal nervure diminishing in size, the first one yellow anteriorly, black with white border, the others with pale edges. On upperside fairly like *gerhardi Stgr.* (Vol. 1, pl. 73 c). ♀ 30 mm. N. W. Persia.

marcidus.

T. pruni *L.* (Vol. 1, p. 267, pl. 73 d). — The following aberrations have been named: **fulva** *Gillm.* (= fulvior *Tutt*) wings suffused with yellow-red, usual spots normal. — **latefasciata** *Courv.* (= albofasciata and semialbofasciata *Tutt*) as in other species. Besides Tutt has created the following names: *progressa* and *excessa* for specimens with a greater number of spots on both wings, in *lutea* the spots are more yellowish, without consideration to their number, *obsoleta* has no spots on hindwings. Another *obsoleta Tutt* has no white lines on underside, *paupera* has only a white line on forewing, 2 black marginal dots on hindwings. *major* and *minor Tutt* are specimens over 32 mm and under 25 mm, intermediate size are not yet named.

pruni. *fulva.* *latefasciata.*

T. prunoides *Stgr.* (Vol. 1, p. 267, pl. 73 d). The forms *fulva* and *fulvo-fenestrata* mentioned in Vol. 1 under *herzi* belong here.

prunoides.

*) As the names indicate identical variations, we do not repeat the description.

14. Genus: **Zephyrus** *Dalm.*

taxila. **Z. taxila** *Brem.* (Vol. 1, p. 270, pl. 73 g). — **sachalinensis** ♂ *Mats.* is darker green on upperside, margin
sachalinensis. more narrowly black. Underside browner, postdiscal line narrow, submarginal line indicated by grey shading.
Lines of hindwings also narrower, anal spot pale yellow. Sachalin. — *aurorina Oberth.* (= maculata *Stgr. i. l.*).
unicolor. It was not mentioned in Vol. 1 in regard to this form, that it referred to a ♀ form. — **unicolor** ♀ *Kard.* Both
wings without markings on upperside, dark brown. In the form *japonica Murr.* ♀ is also devoid of markings
bellus. on upperside, but with a silvery blue dot in orange red of anal angle on underside of hindwings. — **bellus** ♀
Kard. (15 a) has spots like *aurorina* and besides a wide blue stripe in cell and a longer one below same. —
quercus. **quercus** ♀ *Kard.* has the blue streaks of *bellus*, but the spots are missing. — **sidemina** ♂ *Kard.* (15 b) has a wide
sidemina. band on underside in place of the white middle line. All these forms are from the Amur territory.

desgodinsi. **Z. desgodinsi** *Oberth.* (Vol. 1, p. 271, pl. 74 a). Only the ♀ is illustrated in Vol. 1. The ♂ is similar to *scintillans Leech* (pl. 73 h), but the tone of the green colour varies on upperside and the fringes are brown instead of white. The 2 shadowy bands on underside are more distinct than in *scintillans*. ♂ 42 mm. Ta-tsien-lu.

pedius. **Z. pedius** *Leech* (Vol. 1, p. 271, pl. 74 a). In Vol. 1 only the ♀ is described and illustrated. The ♂ is fairly similar on upperside to *tsangkie Oberth.* ♂ (pl. 74 b), only the black margin on forewings is barely 1 mm wide, on hindwings fully 2 mm. Underside is paler, somewhat more finely marked than in the ♀.

neis. **Z. neis** ♀ *Oberth.* (15 b). Similar to *tsangkie*. Forewings darker, blue basal ray-like marks are situated differently. Underside similar to the larger *coelistis Leech* (Vol. 1, pl. 74 b). Tali (Yunnan).

vallonia. **Z. vallonia** *Oberth.* (= hecale ♂ *Leech*) (15 b). ♂ dark green on upperside, all wings with wide black margins. The *vallonia* ♀ has blue basal ray-like streaks on upperside of forewings like *neis* ♀, but extensive yellow spots in disc. Underside naturally very like *hecate* ♀ (Vol. 1, p. 271). 36—38 mm. Ta-tsien-lu.

zotelistis. **Z. zotelistis** *Oberth.* (15 b, c). The ♂ similar to *vallonia* on upperside, but margin of forewing somewhat narrower, the green colour heavily adumbrated. Underside somewhat lighter than *vallonia*, otherwise very similar. The ♀ probably belonging to same is extensively blue on forewings with 2 orange yellow patches. Underside varies somewhat from *vallonia*. 35 mm. Tze-ku.

sulgeri. **Z. sulgeri** ♀ *Oberth.* (15 b). Similar to *quercivora Stgr.* (Vol. 1, pl. 74 c). The blue basal spot on upperside of forewings is similarly formed, but the blue marking on hindwing is missing. The white lines on underside of forewing extend further towards the inner margin in *sulgeri* and the orange red spot at anal angle of hindwings is divided in two and between there is a small white spot. 34 mm. Tze-ku.

courvoisieri. **Z. courvoisieri** *Oberth.* (15 c). Similar to *tsangkie Oberth.* (Vol. 1, pl. 74 b). Upperside of ♂ a nice blue, veins black, margin fairly widely black, broadest at apex of forewings. Forewings of ♀ black brown with a large blue basal spot. Hindwings of ♂ and ♀ with fairly long tails. Underside dark reddish brown with 2 white submarginal lines on forewings. Hindwings like *tsangkie*. 36 mm. Ta-tsien-lu, Tien-tsuen.

quercus. **Z. quercus** *L.* (Vol. 1, p. 272, pl. 74 c, d). The extremes of variation according to Verity are the
interjecta. typical northern race and *iberica Stgr.* — **interjecta** *Vrty.* from mid-Italy is half-way between. It has neither the brownish underside with extensive black markings and orange red lunae of the one nor the pale pearly grey
longicauda. underside with indistinct markings and yellow lunae of the other. — **longicauda** ♂ *Riley* from N. W. Persia is larger than type. Upperside brilliantly coloured, tails double as long. Underside paler grey, white line straighter. Submarginal spot at inner margin of forewings large, the others extinct. The anal lobes on hindwings are large.
violacea. — **violacea** ♂ *Niep.* is not a dark violet on upperside, but a nice glossy blue like the basal patch of forewings
albovirgata. of ♀. — **albovirgata** *Oberth.* has a wide white band on underside of hindwings.

atabyrius. **Z. atabyrius** ♂ *Oberth.* (15 c). Similar to *pedius* owing to the pale underside. But very different on upperside through the blue-violet ground colour with wide black margin. Differing from *pedius* on underside of hindwing by the compression in the middle of the outer line; anterior to the 2 of *pedius* there is a third marginal line. 36 mm. Ta-tsien-lu.

enthea. **Z. enthea** *Jans.* (15 d). Vol. 1, p. 272). In the typical form from Japan and Amur the forewing has only 2 faintly pale patches, fringes have no white inner line and on underside of forewings the round basal spot
entheoides. is not so extremely large. Oberthür separates the chinese form as **entheoides.** In it the forewing is heavily spotted with white; this is the form illustrated in Vol. 1, pl. 74 e. The genuine *enthea*, which we are illustrating now, is scarcely different on the underside except for the basal spot of forewings.

attilia. **Z. attilia** *Brem.* (Vol. 1, p. 272, pl. 74 d). — In **subgrisea** *Wilem.* the dark marking of the underside
subgrisea. reflects through translucently on upperside. On underside the form is distinctly different by the orange-yellow borderation of the marginal spots near to the inner margin of forewings. Japan.

atilla. **Z. atilla** ♀ *Oberth.* (15 d). Upperside not materially different from *attilia Brem.* (Vol. 1, pl. 74 d). Ground colour of underside is lighter. The outer black band of forewings more arcuate. The same band on hindwings much narrower, more inclined to be dissolved into spots, more heavily marked with orange red at anal angle. ♀ 34 mm. Siao-lu.

Z. picquenardi ♀ *Oberth.* (15 d). Upperside similar to *hecale* ♀ but with smaller spots on forewings. Underside like *atilla*, but with a W mark above the anal angle of hindwings in main band. 30 mm. Ta-tsien-lu. *picquenardi.*

Z. comes *Leech* (Vol. 1, p. 273, pl. 74 f). — **wilemaniella** *Mats.* ♀ very similar to *comes*. Apical spot on upperside regularly somewhat larger. Underside paler, similar to *minerva Leech* (pl. 74 f). The principal white line on forewings is not edged inwardly with black: beyond same a few dark brown scales in cellule 2 and a short white submarginal line from inner margin to cellule 2. The principal white line on hindwings is also straight anteriorly like in *minerva* and dentate posteriorly, a black spot at costa and in cellule 2 similar to *gabrielis Leech* (pl. 74 g). Japan. *comes.* *wilemaniella.*

Z. betulae *L.* (Vol. 1, p. 273, pl. 75 a, b). Only aberrations have been named: **steinbühleri** *Hoffm.* is devoid of markings on underside except for the discal spots. Tutt has created the following names: (only for ♂) *unicolor*: upperside of forewings without light patches, *subunicolor*: posteriorly with pale orange-red tinge on forewings, *spinosae Gerh.* is sub-divided according to colour into *lutea-*, *grisea-*, *pallida-spinosa*, just as (for ♀) the *lineata Tutt* is sub-divided into *restricta-* and *lata-lineata* to define the breadth of the spots, in *uncilinea* the inner line on underside of hindwings forms a hook mark. Besides this, there are *major* and *minor Tutt* for large and small specimens. *betulae.* *steinbühleri.*

Z. hecale *Leech* (Vol. 1, p. 271, pl. 74 b). According to Oberthür the ♂ illustrated in Vol. 1 does not represent the ♂ of *hecale*. The actual ♂ is the same on underside as the ♀. On upperside of forewings only the lower outer orange red spot is present in smaller size. — **shirakiana** *Mats.* differs from the ♀ of typical specimens by smaller yellow-red spots on forewings. The outer line on underside of forewings is wider, the same applies to the white lines on hindwings. The wide black submarginal band is paler anteriorly, edged with white outwardly and grey inwardly. Daisuikutsu. *hecate.* *shirakiana.*

Z. jezoensis *Mats.* is very similar to *orientalis Murr.* and was classified in the Puengeler Collection under the latter name. The forewing of the ♂ does not vary, the hindwing has a complete black margin, however it is only half as wide as in *brillantina* (Vol. 1, pl. 73 g) from the angle above tail onwards. On underside the streaks at the disco-cellular nervule are absent on both wings, the principal white lines are only faintly edged with dark inwardly, the one on hindwing is not incurved at anal angle, so that no complete W is formed. ♀ is brown without blue-white submarginal line on upper side of hindwings as in *orientalis*. 40—43 mm. Sapporo and E. Siberia. *jezoensis.*

Z. aino *Mats.* Differing slightly from *brillantina Stgr.* (Vol. 1, pl. 73 g). In ♂ black margin of forewings narrower than shown in the illustration, which was anyhow on the wide side. On underside the light lines finer and apparently somewhat excurved at costa of hindwings in ♂ and ♀. 35—37 mm. Sapporo. *aino.*

Z. jozanus ♀ *Mats.* Smaller than *orientalis* ♀ *Murr.* On underside the inner ⅔rds pale yellowish brown, the streaks at disco-cellular indistinct. The marginal line of forewings yellowish in the lower 3rd. On hindwings the black anal spot is as small as in *orientalis*. The only certain characteristic appears to be the sharply dentate W, which is more pointed than illustrated for *scintillans* in Vol. 1, pl. 73 h. ♀ 32 mm. Sapporo. *jozanus.*

B. Group of the *Polyommatini*.

18. Genus: **Ilerda** *Dbl.*

I. stötzneri *Dräs.* Similar to *epicles Godt.* (Vol. 1, pl. 75 g). Smaller, wings narrower and more pointed. Forewings marked as *epicles*. Hindwings with slight inclination to metallic sheen at lower border of cell and a little also towards margin. The red anal spot is larger, only separated from margin by a fine white arcuate line. Underside of forewings only with narrow red margin, black spot at anal angle larger, inner margin whitish, black submarginal spots being absent. Hindwings as *epicles* but with a black cell spot. W.-China. *stötzneri.*

19. Genus: **Aphnaeus** *Hbn.*

A. syama *Horsf.* (Vol. 1, p. 278, pl. 75 h). — **sepulveda** *Fruhst.* is larger than type and white on underside. Central and West China. *syama.* *sepulveda.*

20. Genus: **Cigaritis** *Bsd.*

C. zohra *Donz.* (15 e) (Vol. 1, p. 279). In Vol. 1, pl. 75 h the species is illustrated as *jugurtha Oberth.* We are now giving a better illustration, as in the previous one the light apical spot was not sufficiently indicated and the underside appeared much too like *allardi Oberth.* The name type form has relatively many black spots on upperside and on underside the hindwings are almost as pale in ground colour as *allardi*, but with different spot-marking. — **oberthueri** *Riley* is not much different on underside. On upperside the marginal band is narrower on both wings. On forewings there is only one spot at disco-cellular and a subapical spot, no other spots. These 2 forms occur on the southern side of the high plateau of north Algeria. — **littoralis** *Riley* has the row of marginal and submarginal spots generally separated on upperside of forewings and also otherwise reduced black markings. Hindwings approximately like *siphax Luc.* Black markings of underside sharply outstanding, especially on forewings. Oran. — **jugurtha** *Oberth.* is similar to *zohra* on upperside, but the spots are more sharply outlined and deeper black. Underside of hindwings is never white, but grey or generally brown. Saida, Sebdou, Tabia. — **orientalis** *Riley* forms a transition to *siphax* and thereby supplies the proof that the *zohra.* *oberthueri.* *littoralis.* *jugurtha.* *orientalis.*

latter is not a separate species. Upperside like a pale *zohra* with small black spots. On underside the ground colour is about as light as *zohra*, but the rows of spots incline to be dissolved, which is more pronounced in *siphax*. Boghari (Algeria). — Nothing is to be added to that which was written about *siphax Luc.* and *erythrea* *confusa.* *Stgr.* in Vol. 1. — **confusa** *Oberth.* designates specimens, especially ♀♀, having ground colour of underside of hindwings approximately like *jugurtha*; however the spots there are larger, ring-shaped, so that there is little *pallescens.* room for the ground colour between them. — **pallescens** *Oberth.* is like *erythrea* on underside, upperside is pale *supra-* straw yellow like *phlaeas-schmidtii*. — **supra-impunctata** *Oberth.* (= impunctata and paucimacula *Oberth.*). *impunctata.* On upperside only the spots at disco-cellular and traces of a submarginal row are present. The outer margin *funebris.* is whitish to anal angle of forewings. *immaculatus Oberth.* is the same, but without the white patch. — **funebris** *Oberth.* has a more or less completely adumbrated hindwing. On underside the ground colour is as brown as the centre of the dark brown ringlet spots, so that the markings are indistinct.

allardi. **C. allardi** *Oberth.* Upperside approximately like *zohra* (15 e) but the margins more narrowly black. Black markings on the other hand sharply outstanding and more extensive. Easily differentiated from *zohra* on underside by the straightness of the dark bands of hindwings, which contrast sharply from the light ground colour. Sebdou. The ♂ illustrated in Vol. 1, pl. 75 a as *zohra*, represents *allardi* according to the underside, *meridiona-* whilst the upperside would indicate the race of *occidentalis*. — **meridionalis** *Riley* is pale ochreous on upperside *lis.* instead of coppery. Black markings small, sharply outlined. The ochreous marking on underside is also pale, hindwings not such a pure white; the short black streaks, that adjoin the bands, stand out clearly. All spots *occidentalis.* smaller, intersected by veins. Algeria. — **occidentalis** *Le Cerf.* Larger, more brilliantly coloured than typical specimens from Sebdou. Black markings heavier, margins and base of wing blackish. White patches at costa and outer margin on underside of forewings reduced. Lines and spots larger, more completely surrounded by black and somewhat confluent, especially on hindwing. Both wings with yellow marginal line. Morocco.

Genus: **Apharitis** *Riley.*

In colouration and marking similar to previous Genus. Neuration of wings similar to *Spindasis Wallgr.* Forewings more acute, hindwings with more acute anal angle, the hindermost tail very long. Type: *epargyros Ev.*

epargyros. **A. epargyros** *Ev.* (15 e). This species was dealt with in Vol. 1, p. 279 as being synonymous to *acamas Klug.* The illustrations on pl. 75 i represent *acamas*. In the latter, base of forewings is darkly dusted, *epargyros* is pure yellow. In *acamas* submarginal band on underside is edged by an almost straight line, whilst in *epargyros* there are sharply curved lunules, that almost dissolve the band into spots. Persia, Turkestan, Ili *marginalis.* territory. — **marginalis** *Riley* is somewhat smaller. Margin of forewings is so wide that it unites with the submarginal spots and joins up with the discal row close to the inner margin. Black markings of hindwings are also more extensive. Underside faintly suffused with green. Suleimanieh. — Whilst previously this species was not even deemed to be a form, the researches of Riley have on the other hand established, that the previously known species *cilissa Led.* (Vol. 1, p. 279, pl. 75 i) with its sub-form *minima Stgr.* cannot be distinguished as a species from *epargyros*. On the other hand the former *cilissa-maxima Stgr.* is a genuine species:

maxima. **A. maxima** *Stgr.* It is larger. Upperside brilliant ochre-yellow. Black basal spot more or less absent, black basal dusting less extensive. Costa only narrowly black, outermargin black to a depth of 1 mm, submarginal spots absent. Hindwings scarcely black at all at base. Colour of underside approximately like *cilissa*. Marginal and submarginal spots of hindwings more widely separated. Kurdistan, North Syria.

myrmeco- **A. myrmecophila** *Dum.* Similar to the following *acamas*, smaller and more delicately built. Forewings *phila.* more convex at outer margin. Underside of all 4 wings pure white with orange-red spots, instead of being impure yellowish white with ochre-brown spots as in *acamas*. 24—32 mm. Tunis.

acamas. **A. acamas** *Klug.* (Vol. 1, p. 279, pl. 75 i). The form *transcaspica Stgr.* of this species mentioned in Vol. 1 *egyptiaca.* should, according to Riley, be classified under *epargyros*. — **egyptiaca** *Riley* is typical in regard to size and markings. But the ground colour is a brighter ochreous. Spots smaller, more precise and deeper black. Marginal and submarginal bands of forewings well separated. Similarly on underside of forewings. Basal and discal *cypriaca.* bands on hindwings more or less conjoined at costa. Mocattam Mountains. — **cypriaca** *Riley* is little different from typical specimens from N. W. Persia and Mesopotamia. Grey dusting on upperside extends from base to deeply into the wing. Dark markings are well developed. The two marginal bands are inclined to be confluent. *obscurata.* Spots on underside somewhat brown-black, ground colour purer white. Cyprus. — **obscurata** *Stgr.* from *chitralensis.* Hadjin is dusted with black on upperside. This name may claim priority over *cypriaca*. — In **chitralensis** *Riley* only the hindwing is very dusky, forewing deep ochre-brown. The two marginal bands are confluent. White apical spot is present. Chitral. — *divisa* (Central Sahara) has not been definitely ascertained on palaearctic territory.

21. Genus: **Thestor** *Hbn.*

ballus. **Th. ballus** *F.* (Vol. 1, p. 280, pl. 75 d, e). — **mareoticus** ♂ *Graves* has an orange red spot in outer half *marcoticus.* of cell on upperside of forewings and separated from same a row of submarginal spots diminishing in size upwards.

Also in ♀ the red-yellow colour is often more extensive than in type. Steppes of Mairut. — A few more aberrations have been added: **subtus-partim-confluens** *Oberth.* On underside of forewing in discal area a few of the black spots somewhat confluent. — **undulatus** ♂ *Oberth.* denominates specimens having small, distinct yellow-red spots on upperside of hindwings at anal angle, which are larger and suffused in *mauritanicus-undulatus.* — **oberthüri** *Holl* is a cream white albino. — **weberi** ♀ *Holl* is melanic, hindwings dark brown. — *crosi Dup.* is a transition to *oberthüri.* *subtus-partim-confluens.* *undulatus.* *oberthüri.* *weberi.*

Th. mauritanicus *Luc.* (Vol. 1, p. 280, pl. 75 d). Normally the ♂ is uniform grey-brown on upperside (= tristis *Oberth.*); specimens with scattered yellow scales are named **sabulosus** ♂ *Oberth.* — As already mentioned in Vol. 1 the ♂ can have an orange yellow patch on forewings, which however is less extensive and duller in colouration than in ♀: **boisduvali** *Oberth.* — In the type the hindwing of ♂ is devoid of markings, sometimes there are 2—3 diffuse marginal spots as indicated on pl. 75 d: **undulatus** *Gerh.* *mauritanicus.* *sabulosus.* *boisduvali.* *undulatus.*

Th. romanovi *Christ.* (Vol. 1, p. 280, pl. 75 d). — **cyprius** *Stich.* (15 e) has the copper red patch on forewings suffusing outwards towards margin, so that in the ♂ the ground colour projects into same in an angle behind the cell; often this angle is also filled with red. The latter form does not differ from typical forms. The extension of the red patch has certainly turned out rather small in the illustration on pl. 75 d. *cyprius* also occurs in Erivan, not far distant from the typical locality Ordubad and can only be decmed an aberration. The spot situate in anal area on hindwings is distended, especially in ♀. Fewer black spots on underside of forewings. This however does not seem to be in accordance with the original illustration. Sultanabad. *romanovi.* *cyprius.*

Th. callimachus *Ev.* (Vol. 1, p. 280, pl. 75 e). Here we have to add *maculifera Stgr.* as synonymous with *hafiz Koll.* Sultanabad. *callimachus.*

22. Genus: **Chrysophanus** *Hbn.*

Chr. virgaureae *L.* (Vol. 1, p. 281, pl. 76 a). The typical race emanates from Sweden according to Verity. The race from Central Europe is therefore separated as **inalpina** *Vrty.*, as typical of which however a southern european race, namely that from Valdieri has been chosen. No description has been given and in fact there cannot be a uniform central european race, as the territory is too large. — To be added to the northern races is: **apicipunctata** *Huene*, which is as small as *estonica Huene* and which does not vary from *virgaureae* except through being smaller. In this case there are 3 additional small black subapical spots on upperside of forewing. Esthland. The form from Holstein *chrysorhoas Fruhst.* must be passed over owing to insufficient description. — A very similar race occurs in the Cevennes having a warmly coloured underside, being at the same time smaller: **gravesi** *Vrty.* — Starved specimens from Aigoual are given the superfluous name of *gravesica Vrty.* — Normal *virgaureae* with these spots are named **tripuncta** *Closs.* — **zermattensis** *Fall.* is identical with *montana M.-Dür.* (erroneously printed as *Meissn.* in Vol. 1) according to Courvoisier. **caeruleopunctata** *Oberth.* denotes specimens of *zermattensis* ♀ with blue submarginal spots on upperside of hindwings. — **delicata** *Higgins* from the Col di Sestrières was formerly classified under *zermattensis* by Verity. The ♂ is rather pale on upperside, small, black margins narrow especially on hindwings, very small marginal spots there. On underside the outermargin of forewings and the entire hindwings are pale reddish yellow, often a pure yellow without the dusky dusting of *montana M.-Dür.* Spots on underside of forewings are fairly large, the white band on hindwings is as insignificant as in *inalpina Vrty.* The underside of ♀ resembles that of ♂, upperside that of a small specimen of *inalpina*, but the ground colour is a paler yellow (on underside ?). — **osthelderi** *Fruhst.* from the Tessin is larger than *zermattensis*, outer margin double as wide, hindwings more heavily black and dentate. Hindwing of ♀ almost completely black blue submarginal spots. Underside of hindwing green to greenish black. South Tessin. — **pelusiota** *Fruhst.* from Cogne (Piedmont). The only description of the ♂ is "similar to *osthelderi*", the ♀ is very large, like a fine *zermattensis*, but underside of hindwing with wide white band. — **theages** *Fruhst.* from the Puschlav Valley in Southern Switzerland forms a transition from *athanagild* (dealt with in Vol. 1) from the Engadin and *osthelderi*, but the underside of hindwing is not such a rich green. The black spots of forewing are punctiform and small like in specimens from the Engadin. — **cissites** *Fruhst.* from northern Switzerland and also from the Ortler region combines *osthelderi* and *zermattensis.* The ♂ is about as large as medium *osthelderi*, the black margin shows indications of developing wider as is characteristic for the southern race. Also the ♀ is medium large and resembles *osthelderi* more closely. Forewings buff to dark grey brown, heavily spotted with black. Underside extremely dusky, not suffused with orange yellow, as in specimens from the Jura (as *juvara Fruhst.*) but more inclined to be green. — In North Italy **emilianus** *Trti.* naturally comes between *osthelderi* and *apennina Calb.* but it is larger than the latter. Black margin at apex is wider, somewhat like *miegii.* The ♀ is dark, black spots large. Apennines. — **quercii** *Trti.* has a narrow margin on forewing in ♂, the ♀ is exactly like *apennina*, and one can therefore subscribe to the view expressed by Querci, that therefore the ♂ is undeserving of a special denomination. Mti. Sibillini. — The following new form is described from France: **vera** *Hemm.* The ♂ is pale golden on upperside similar to the following race from the Pyrenees. The black margin is relatively wide at apex of forewing. Margin and spots of hindwing normal. The ♀ is also pale golden with more gloss than in the Pyrenees. Base and outermargin of forewings darker. *virgaurcae.* *inalpina.* *apicipunctata.* *gravesi.* *tripuncta.* *zermattensis.* *caeruleopunctata.* *delicata.* *osthelderi.* *pelusiota.* *theages.* *cissites.* *emilianus.* *quercii.* *vera.*

Hindwings very dusky. Blaek spots on underside of both wings in ♂ and ♀ are minute, white spottings quite insignificant. In the Vulcan territory in mid Franee. — In the Maritime Alps (Cerana 1300 m) a race oeeurs that is quitc similar to *apennina*. It differs solely by the paler eolouration on both sides and fainter yellow red:

mediomontana. **mediomontana** *Vrty.* — **pyrenaeicola** *Graves* from the East Pyrenees has according to the author a pale golden red ground eolour in ♂, whilst according to Fallou specimens from the Pyrenees are a deeper golden red like *apennina*. Probably both oecur simultaneously and vary aeeording to the altitude. The ♂ differs from *miegii* by the absenee of the small blaek subapical spots in both wings, therefore approximately like *zermattensis*. In the ♀ base of forewings is not adumbrated, thereforc in this regard there is no similarity to *zermattensis*. In the High Pyrenees one naturally finds transition forms to the latter. — *pyrenemontana Vrty.* is a superfluous name for a transition form also mentioned by Graves of his *pyrenaeicola* and the form *montana*. — In

pyrenaeicola.

balcanicola. **balcanicola** *Graves* the black margin at apex of forewing in ♂ is slightly wider than in german speeimens, towards the inner margin it is slightly diffuse, the golden red ground colour generally darker. In the ♀ the spots are small, hindwing somewhat dusky. Generally speaking there is little variation from german specimens, as the

alexandrae. more southern longitude is compensated by the greater altitude. Bulgaria 900—1500 m altitude. — **alexandrae** *Fruhst.* The ♂ ean be deseribed as a large *apicipunctata*. Blaek margin of forewings is wide, the spots close to apex in ♀, as in other races, are here precise and small, but distinct. A streak occurs at diseo-eellular. Large marginal spots on hindwings. Forewings of ♀ dusky, only paler in centre. Hindwings uniformly dark. South Urals. ♂♂ from Sojmonovsk (Urals) resemble the speeimens deseribed, but there seems to be an inelination

armeniaca. for the margin of forewings to extend internervally inwards in ray formation. — **armeniaca** *O. B.-H.* agrees with

caucasica. *apicipunctata* in eolouration and marking, but is somewhat larger than *miegii*. Tschorum (Armenia). — **caucasica** *Jach.* The ♂ scareely differs from *miegii*, the ♀ is similarly dark as *zermattensis*. Beshtai (North Caucasus). Probably this raee is identieal with the preeeding. — Courvoisier groups *zermattensis* of the Swiss races to *montana* and declares that *inalpina* and *theages* as well as *pelusiota* are valueless names, as only *osthelderi* should be reeognised. Aeeording to Graves the following is a list of synonymous denominations: *montana M.-Dür.* (= athanagild, cissites, theages *Fruhst.*, suldensis *Tutt*), *osthelderi* (= pelusiota *Fruhst.*), *apennina* (= quercii *Trti.*). — Besides the aberrations mentioned in Vol. 1, there are still the following: Specimens that are more or less pale: *virginalis Oberth.*, *onka Fruhst.*, *pallida Rbl.*, *alba Schönf.*; a golden yellow ♂ is named *chryson Oberth.* Speeial names given to forms of *zermattensis* are *cuneifera* ♀ *Oberth.* in whieh the blaek dots of forewings are extended radially inwards and *caeruleopunctata* ♀ *Oberth.* having blue spots on hindwings. Both forms are very frequent. Specimens eombining both charaeteristies have not yet been named. Among

lunulata. speeimens from South Switzerland **lunulata** *Courv.* is of frequent oeeurrenee. The ♂ with large diseoidal spot on forewings and often with wide blaek margin, the ♀ varying less. — Other forms named by Courvoisier are:

angustimargo. **angustimargo** with narrow blaek margin: — *paucipuncta.* **paucipuncta** without basal spots either on hindwings alone or also on forewings on underside, other rows of spots small; — *pluripuncta.* **pluripuncta** ♀ with supernumerary eyespots between diseoidal lunule and areuate row of spots; — *punctifera.* **punctifera** the marginal spots on hindwings are situate quite free from margin; — *elongata.* **elongata** with extended areuate row of spots on forewing; — *parallela.* **parallela** ♀ the diseoidal lunule and 2 areuate spots heavily eonjoined. — Among eastern specimens one finds *subtus-rufo-marginata.* **subtus-rufo-marginata** *Grav. & Hemm.* having red marginal spots on underside of hindwings like *ottomanus Lef.*

phoebus. **Ch. phoebus** *Blach.* (15 f). Wc are supplementing thc bricf deseription of this speeies in Vol. 1, p. 285 by giving an illustration of the type.

zahaltensis. *Ch. thetis Klug* (Vol. 1, p. 282, pl. 76 c). — **zahaltensis** *Grav.* The ♂ is typieal on upperside. Underside of forewing with finer spots more partieularly in outer area. Hindwings without spots. Ain-Zahalta (Lebanon).

militaris. *Ch. thersamon Esp.* (Vol. 1, p. 283, pl. 76 e). — **militaris** *Grav.* is very large, vividly coloured on upperside.

kurdistanica. Underside of forewings orange yellow to orange red, not reddish brown as in *thersamon*. Palestine. — **kurdistanica** *Ril.* Small, not so fiery, eolour reminding one somewhat of *ochimus H.-Schäff.* (76 d). Underside more unicoloured. Hindwings approaeh forewings in colouration, dark spots smaller, tails long. N. Persia. *persica*

costojuncta. *Bien.* is similar but larger with dark margins. — Besides these the following forms are named: **costojuncta**

discoelongata. *Courv.* foremost basal eyespot on hindwing conjoined with arcuate eyespot; — **discoelongata** *Courv.* the middle arcuate eyespots extended.

batavus. *Ch. dispar Haw.* (Vol. 1, p. 283, pl. 76 f). — According to Riley **batavus** (Aut. ?) from Holland is very elose to the old english name type form. The only differenee is that the red marginal band on hindwings is

burdigalensis. narrower, although it is wider than any other eontinental raee. — **burdigalensis** *Luc.* is in point of size between *dispar* and *rutilus*. This is a valueless indieation, as the size of both is the same. The ♀ with very dark hindwing (which occasionally oceurs anywhere), spots therefore not easily distinguishable, only the red marginal band

obscurior. present. In regard to the underside, which is decidedly of importance, nothing is said. Bordeaux. — **obscurior** ♀ *Hoffm.* (= semibrunnea *Müller*) has upperside of hindwings dark to the margin. — The reverse is the ease in

aurata. **aurata** ♀ *Hirschke* the dusky shading has quite disappeared, only the margin itself is black, the red edge of same

paucipuncta. is dissolved in the ground eolour. — Courvoisier has named: **paucipuncta** with redueed number of spots; —

pluripuncta with supernumerary dots in arcuate line of spots. — In **extincta** ♀ *Hens.* the submarginal row of dots on forewings is almost entirely extinct, on hindwings quite. — **festivus** *Krul.* are large specimens among *dahurica Graes.* A black discoidal streak on both wings in ♂, the ♀ has longish black spots on forewings, hindwings blackish only slightly dusted with gold. Underside of hindwings whitish. Wiatka. — **heyni** *Strd.* is a symmetrical malformation of hindwings. Albinotic specimens are named *alba Tutt, albina Leonh., albidoflava Galv.* — *minor Diosz.* is the name for especially small specimens. *pluripuncta. extincta. festivus. heyni.*

Ch. splendens Stgr. (Vol. 1, p. 284, pl. 76 g, h). The form of *paucipuncta Courv.* mentioned above under *dispar* also occurs in this species.

Ch. hippothoë *L.* (Vol. 1, p. 284, pl. 76 h). — **testacea** ♂ *Lagerbg.* is a sub-form to *stieberi.* Forewings pale brown. Hindwings blue violet in discal area otherwise brown with dark brown outer margin. — **cisalpina** *Fruhst.* is larger, the dark margin wider in ♂; ♀ with fiery light patch in disc, somewhat dusted with black. Tessin. — **valderiana** *Trti. & Vrty.* comes between *eurybia O.* and *italica Calb.* (Courvoisier would prefer to resuscitate the name *eurydome Hoffmgg.* for the former). ♂ with only slight violet sheen. Ground colour less coppery than in *eurybia* and *italica.* Entire outer margin less widely black than in *eurybia* in contrast to *cisalpina* from Tessin. The discoidal lunule is rarely indicated on forewing. Ground colour of *eurybia* is uniformly dark grey brown, in *italica* it is yellow on forewings and yellowish on hindwings; generally forewings chiefly bright coppery, hindwings dark grey. ♀ similarly on underside. Upperside however neither as dark brown as *eurybia*, nor as fuscous as *italica* on forewings, hindwings brown with fuscous band, otherwise like typical *hippothoë.* Valdieri. — **caeruleopunctata** *Trti. & Vrty.* (also *Schaw.*) denotes specimens with blue spots on hindwings of ♀ such as frequently occur among *eurybia.* — **oblitera** *Trti. & Vrty.* with discoidal spots on underside more or less suppressed. — **leonhardi** *Fruhst.* A ♂ with wide black margin on both wings, hindwing nevertheless intensively violet. The ♀ with extensive fiery yellow basal area on forewings. Submarginal band of hindwings wide, almost ochreous. Underside of forewings of ♂ similar to *eurybia* owing to the dull colouration. Bulgaria. — **spadona** *Krul.* Upperside of ♂ devoid of violet gloss, the golden band on underside of hindwings is more or less absent. ♀ quite similar to *stieberi Gerh.* Wiatka. — **flavescens** ♂ *Fiedl.* is a pale golden yellow albino with considerable violet sheen. — The names *confluens, fere-confluens* and *radiata Oberth.* explain themselves. — **violacea** *Oberth.* is dark with fiery colour. — **schirmeri** *P. Sch.* is more intensively dark blue-black at margin of forewings. — **wallentini** ♀ *Hirschke* is unicoloured black on upperside without a trace of red marking. Hindwings with blue spots and a black mark at disco-cellular. — **albidolunulata** *Rev.* denotes *eurybia* ♀ having white lunules in front of the red marginal band on upperside of hindwings. — **purpureopunctata** *Wheel.* has small purple spots on upperside of hindwings in the orange-red band. — **stieberioides** *Ebert* is a ♀ with the reddish yellow blotch on forewings extending to the base. — Besides Courvoisier has named: **elongata** with elongated arc of dots; **radiata** (= confluens *Gerh.*): arc of eyespots and marginal lunules confluent; **limbo-juncta**: one of the arcuate dots and relative marginal lunule conjoined; **caeca**: no arc of eyespots on underside; **paucipuncta**: a few of the black dots missing; **extincta** *Gillmer* about the same as *caeca*; **privatissima** has only the discal dots and marginal lunules; **obscura** is darker on upperside. — In **ornata** ♂ *Züllich* the 4 lower black spots in the discal area between discal spot and outer margin on forewing reflect through on upperside. *caerulcopunctata. oblitera. leonhardi. spadona. flavescens. violacea. schirmeri. wallentini. albidolun. purpureopunctata. stieberioides. elongata. radiata. limbojuncta. caeca. paucipuncta. extincta. privatiss. obscura. ornata.*

Ch. alciphron *Roth.* (Vol. 1, p. 285, pl. 77 a). This and the following species are more liable to vary than other closely related species and the results are seen as follows: — **gaudeolus** *Fruhst.* The ♀ is much lighter, more yellow, smaller and with fainter dots. Zermatt and the northern slopes of the Simplon. — In **isokrates** *Fruhst.* from the southern slopes of the Simplon the spots on forewings adhere more loosely. It is more delicate and ground colour suffused with lilac. The ♀ is larger. Underside of forewings with a yellowish hue. Hindwings with a wider submarginal band. — According to Turati specimens from Valdieri and the french Maritime Alps belong here (= *epidelion Fruhst.*). Besides we are to give rights of priority to *columbanus Prunn.* which has not been mentioned for 100 years and of which there is no clear description! **mirabilis** *Vrty.* ♂ large and fiery coloured, only hindwing somewhat adumbrated, like *melibaeus*, but spots are smaller. The ♀ corresponds partially to *romanorum, isocrates* and *gordius*, from which no one will know where they are, but one can assert, that it is simply a large, light *gordius.* Many ♀ have a slight adumbration of hindwings. Florence. — **ultragordius** *Vrty.* from Oulx is also large. The ♂ paler without violet sheen, dark spots small in ♂ and ♀. Underside pale grey. — **romanorum** *Fruhst.* from Abruzzi is a small *gordius* ♂, the ♀ approximately like *intermedia Stef.* Poorer in black markings when compared with *diniensis Oberth.* ground colour darker, more extensively suffused with violet blue. Underside of ♂ and ♀ is darker grey. As *intermedia* ♀ is described from Rome, the *romanorum* ♂ described, is simply the ♂ belonging to *intermedia* ♀ and the name is superfluous. The *diniensis Oberth.* referred to is said to be poorly marked, but specimens from Digne in the Puengeler Collection have large spots. — **ruehli** *Trti.* also from Abruzzi is described as an *alciphron* ♂ with heavier yellow-red gloss on costa of hindwings, the corresponding ♀ is about like *gordius* ♀ but grey on underside like *alciphron.* — **dainareton** *Fruhst.* is the high altitude form of *romanorum.* The ♀ darker red-brown on upperside than *gordius* ♀ from the South Tyrol. Hindwings also darker and occasionally blackish except for the red submarginal band. Underside paler than *romanorum.* Gran Sasso, Mti. Sibillini. — **calabrus** *Vrty.* is generally smaller than *granadensis Rbl.* (Vol. 1, pl. 77 b), the ♂ of same is also whitish with small black spots. The ♀ a similar warm coppery, only also here the black spots are small, the *alciphron. gaudeolus. isokrates. mirabilis. ultragordius. romanorum. ruehli. dainareton. calabrus.*

black margin narrow and antemarginal dots appear to be isolated. Therefore like *virgaureae-apennina*. Calabria.

bellieri. — **bellieri** (*Oberth.*) *Trti.* from the Madonie Mountains is a small *gordius*. ♂ paler on upperside, less violet. Spots on forewings more diffuse, smaller on hindwings. Pearly white on underside in middle of forewings, often yellowish at anal angle, black spots broad. Hindwings pearly grey in middle, red submarginal band more or less absent, black spots small. In ♀ the pearly white patch is more distinct, as it is naturally quite free of violet suffusion. Some ♀♀ approach *intermedia Stef.* owing to their dark hindwings. — An albinotic variety

citrina. of same is the lemon yellow **citrina** *Züllich.* —

madytus. **madytus** ♀ *Fruhst.* from Sicily is perhaps the same as *bellieri*. It differs from *calabrus* by reduced black spots on upperside, naturally also similar to *dainareton*. Smaller than latter and differentiated from same by underside of hindwing, which has a much fainter yellow-red submarginal

aetnea. band. The colour is white-grey (as described for *gallon* ?) from Digne or slate-grey from Tessin. — **aetnea** *Trti.* differs from *bellieri* owing to the dark volcanic ground. Small, the ♂ dusted with violet-blackish. Brillant yellow-red in cell of forewing and on costa of hindwing. Spots approximately as in *gordius*, somewhat diffuse.

chairemon. ♀ yellow-red, marginal spots united with margin, submarginal spots elongated inwards. — **chairemon** *Fruhst.* from the Balkans forms a transition to the greek *melibaeus*. The ♂ lighter on hindwings and differing from *gordius* by sparser black spot-marking. The ♀ like *alciphron* on upperside, underside of hindwings pale grey instead of yellowish. Sometimes there is a diffusion of the yellow-red marginal band. Herzegovina, Bulgaria

fruginus. and the passes of Budapest. — **fruginus** *Fruhst.* The ♀ is tawny on upperside like *virgaureae-zermattensis*. Base of forewings and entire hindwings grey-brown. Submarginal band of hindwings yellow instead of reddish. Underside a lighter pale grey than *chairemon*. Black spots and yellow submarginal narrower. Armenia. —

naryna. **naryna** *Oberth.* from Turkestan is the most easterly known race. It is very large, ♀ very dark, hindwings with buff marginal spots. The ♀ from Djarkent is also very large, the yellow markings of *naryna* are inclined to red and therefore more normal; spots at the margin of hindwings on underside are red. Specimens from Uralsk are also similar to *naryna*, but somewhat smaller. The ♂ from Uralsk has more pronounced blue on hindwings than shown by most german specimens; from costa to upper median nervure much paler red, red submarginal

epidelion. line can be absent, as also the outer row of dots on forewings. — The race of **epidelion** *Fruhst.* already mentioned above, from the Maritime Alps is allied to *gaudeolus* from Zermatt. The ♂ corresponds approximately to the latter but the black spots are almost extinct and covered by violet sheen. The ♀ is light and with small spots like ♀♀ from Valais and therefore like *gordius*. Underside of forewings of ♂ is dull yellow. Black spots more

veronius. diminished in ♂ and ♀ than in specimens from Valais. Type from Moulinet. — In **veronius** *Fruhst.* from Gèdre the ♀ is similar to *epidelion*, but lighter on upperside with smaller spots and narrow black margin on both wings. Less grey at apex and outer margin on underside of forewings, hindwings yellowish instead of grey. In all specimens from Digne in the Puengeler Collection the hindwings are also already yellowish. Submarginal

insignis. band inclined to be dissolved into spots. Pyrenees. — Finally 2 races from Spain: **insignis** *Sag.* Very large. Ground colour fiery, spots small. Underside of forewings redder, hindwings grey-yellow, white lunae situate

paupercula. clear of the small black marginal spots. Albarracin. — **paupercula** *Sag.* Somewhat smaller. Upperside more suffused with violet, spots larger. Aragon. — In a pair in the Puengeler Collection from Mercia the ♂ resembles a small *melibaeus*, the ♀ is very large with relatively small black spots without any dark dusting, most similar to specimens from Digne. — — Now to the aberrations. Albinos are named *albescens Oberth.* (quite pale yellow)

obscura. and *pallida Fritsch* (only hindwings considerably paler yellow). — **obscura** *Courv.* is darker on upperside,

gerhardti. underside of hindwings dark grey. — **gerhardti** ♀ *Hirschke* has violet blue spots on upperside of hindwings in

caerulescens. front of the red marginal spots. Common everywhere. — **caerulescens** *Rbl.* has hindwings suffused with blue

mediterranea. nearly as far as costa. — A variation of *isokrates* is named **mediterranea** *Trti.* that resembles *melibaeus Stgr.* — The

midas. following variations of *gordius* are named: **midas** *Wheel.* with punctiform dots on forewing in postdiscal area. Marginal dissolved into spots at anal angle. Band of hindwing black, disc with coppery sheen except for a black

diniensis. discoidal spot. — **diniensis** *Oberth.* has few spots on upper side, those of the outer row are radially diffuse.

rondoui. Underside as poor in markings as *midas*. — In **rondoui** *Oberth.* submarginal spots are elongated inwards radially

subtus-minus-punctata. on upper and undersides of both wings. — **subtus-minus-punctata** *Oberth.* is normal on upperside and like *midas* on underside. — **subtus-fere-radiata** *Oberth.* is like *rondoui* but only on underside. — **herrichi** *Oberth.* has almost

subtus-fere-radiata. no spots on underside and therefore is like an extreme *midas*. — **nevadensis** *Oberth.* is not only paler, as is

herrichi. otherwise generally the case in Spain, but the spots themselves are paler. The author describes it as an aber-

nevadensis. ration and not as a race. — **heracleana** *Blach.* is also very pale, spots smaller but distinct. Hindwings grey-

heracleana. yellow on underside in ♂ and ♀. — The list compiled by Courvoisier shows how great the variety of aberrations can be. We are mentioning them here even if they are synonymous, as there is more reason in these names

basinovop. than in those of many other authors. — **basinovopunctata** with supernumerary basal eyespots; **centro-juncta**

centro-junct. denotes a conjunction between a basal eyespot and discoidal lunule on one wing; **bicentro-juncta,** the same on

bic.-juncta. both wings; **confluens-transversa** (= subfasciata *Schultz*) here the arcuate spots are conjoined in bands over the

conf.-transv. veins; **confluentia-multiplex**: basal spots and discoidal lunule conjoined on more than one wing; **elongata** the most

confl.-mult. posterior arcuate spots of forewing elongated; **radiata** (= constricta *Schultz*): arcuate spots and marginal spots

elong.-rad. conjoined, the others not; **sinistra-radiata**: the same but merely on one side; **caeca** and **paucipuncta**: without

sin.-radiata. spots or only with very few; *mutilata Schultz, evanescens* and *extincta Gillmer* denote the same.

caeca.

paucipuncta.

Ch. phlaeas *L.* (Vol. 1, p. 285, pl. 77 b). All specimens from the circumpolar regions have been named hitherto *hypophlaeas Bsd.* Now 2 new names are created: — **polaris** *Courv.* has small spots on upperside, hindwings dark grey, wide margin, only a small projection instead of a tail. Underside of forewings grey-white at apex and outer margin, fuscous in middle. Hindwings pale bluish-grey, marginal band red. Lapland and Finland. As there is no reference to *hypophlaeas* in the description it is possibly identical with same. — **hyperborea** *Ford* (16 a) is similar to *hypophlaeas* but somewhat yellower on upperside. Underside of hindwings blue-grey, therein minute black dots distinctly visible, submarginal line somewhat brownish. Arctic Norway, Lapland. *hypophlaeas Bsd.* (15 h) is smaller and more fiery coloured. In order to show the distinction we are also illustrating a specimen of the latter from Lapland. — Now to the furthermost south. **cyrenaica** *Trti.* is like the race from Sicily. The ♀ with blue spots on hindwings such as occur occasionally in all races. On underside of forewings the spots have pale yellow ringlets in the middle of the wing. Ground colour of hindwings is ash-grey not reddish-yellow. Cyrenaica. — Here follow a few asiatic races: **stygianus** *Btlr.* Large. ♂ dark brown on forewings but spots still discernible, 2 small orange-yellow spots posterior to the principal row (as an aberration ?). Hindwings dark with orange-red submarginal band and blue spots anteriorly. Underside of forewing yellow, spots with white ringlets. Apex of forewing and entire hindwing pale grey. ♀ with orange-red discal and outer area on upperside of forewing. Hindwing on underside inclined to be pale brown. Afghanistan, Kashmir. — **pseudophlaeas** *Luc.* described from W. China and therefore possibly identical with *chinensis Fldr.* However the black spots on upperside of forewing are said to be margined with yellow-white. Underside of forewings grey-yellow, the deep black spots with paler surrounds than ground colour, the fuscous marginal band on hindwing wider than in european specimens. — **coccineus** *Ford* is of medium size, without tails. Upperside almost scarlet, glossy. Marginal band of hindwings very wide. All patches otherwise only dusky are intensively black on upperside. Underside of hindwings pale grey with a tinge of yellow, sometimes with black dots, with faint red submarginal band. Tian-Shan. — **flavescens** *Ford* is somewhat larger than the average, without tails. Upperside very pale, yellowish, the dark marking inclined to be brown, spots on forewings fairly large.Underside of hindwings unicoloured lemon-yellow with indication of a red submarginal line. Yangtsze, Shasa. — *japonica Ford* according to Kuwayama is identical with *daimio Seitz*; as a matter of fact the original illustration of the forewings of *japonica* shows much less extensive red, this however may vary. — **kurilensis** *Mats.* from the Kurile Islands is perhaps a sub-form to *daimio*. ♀ black (?). Margin of forewings much narrower, spots smaller. The red submarginal band on hindwings wider. — **distalba** *Kuway.* is an albino form of *daimio*. — — Now to the aberrations: the varying depth of colour between the palest and darkest forms has already been favoured by Tutt with so many names that in superabundance they become valueless. Nevertheless Verity has given the name **nigrioreleus** for specimens from the northern part of southern Europe without giving further description and **varieleus** from the temperate southern alpine valleys, where *phlaeas* and *eleus* occur simultaneously, thus denominating the "half-way" form. Further *eleoides Splr.* is "fainter" and "more uniformly" dusky than the southern *eleus*, a name which seems unimportant. Meanwhile it must be pointed out that the typical *eleus F.* are ashy-grey on underside of forewings and hindwings. This occurs very rarely, most specimens are grey-red on underside. — Typical *schmidtii Esp.* (Vol. 1, pl. 77 c as *albicans*) are pale in ground colour, **hermation** *Oberth.* is a quite extreme form of this. — **hübneri** *Oberth.* is a reverse form. The ground colour is normal but the black patches are white. — **semialba**-♀ *Strd.* has 2 radial white stripes on upperside of forewings, otherwise colour and markings are normal. — Now to a classification of aberrations, as systematically as possible and denominated unless otherwise stated by Tutt. a) Aberrations of forewing: *unipunctata*: only middle spot present; **impunctata**: no spot on forewing; *remota* (= punctis nigris remotis *Oberth.*). The arc of eyespots small, thereby seeming to lie further outwards; *parvipunctata Strd.*: spots small, situate normally, partly indistinct; *magnipuncta* is a counterpart and must therefore be denominated; *juncta*: the spots of the transverse row large and directly contiguous or conjoined by a zigzag line; *extensa* is approximately the same: *radiata Splr.* has black streaks in the marginal cells; *supra-radiata Oberth.*: the arc of eyespots are radially elongated inwards; *extensa-conjuncta*: a few of the spots are confluent with the discoidal lunule; if the same also occurs on the underside: *infra-radiata* and *infra-extensa*; *centroconjuncta*: discoidal lunule and arcuate row of spots confluent to a large spot; *latomarginata*: margin is very wide; *nigroapicata*: black margin is so wide at apex that it includes the 3 spots that approximate to same; *basilipunctata*: an additional dot in the cell at base; *melanophlaeas de Vill.* is a dark form of *supra-radiata*, the red marginal band on hindwing can be absent . b) Aberration of hindwings: *caeruleopunctata Stgr.* is also named *coerulepuncta Strd.*; *subradiata* (= rubrohastata *Std.*) denominates specimens where streaks extend inwards from red marginal band; *radiata* (for the 2nd time!): in place of the band only red streaks; *obsoleta*: these streaks may be absent. — For differences in the ground colour a few further names have been given than those already mentioned in Vol. 1, with a further super-addition viz: *caudata* when they concern specimens that are with tails; we are not enumerating them as the differences are too small and would serve no purpose without a colour chart. — For variations of the underside 2 names have already been mentioned above; besides these there is also *disconjuncta Tutt*, in which the 2 cell spots are confluent. — For specimens of the spring brood without tails there is the name *vernalis Oberth.*, in contrast hereto we have *aestians Oberth.*, a name which has already been superseded by *aestivus Z.* (= *eleus*). — **vernus** *Z.* from Sicily has bright red forewings with narrow black margin and may differ from *vernalis Oberth.*— Courvoisier has created the following name: *parallela*: the discoidal lunule conjoined with 2 of the arcuate eyespots. The other names *basijuncta*, *confluens-transversa*, *elongata*, *obscurata* explain themselves.

phlaeas. *polaris.* *hyperborea.* *cyrenaica.* *stygianus.* *pseudo-phlaeas.* *coccineus.* *flavescens.* *kurilensis.* *distalba.* *nigrioreleus.* *varieleus.* *hermation.* *hübneri.* *semialba.* *impunctata.*

amphidamas. marchica. **Ch. amphidamas** *Esp.* (Vol. 1, p. 287, pl. 77 d). The name type form originates from Halle. — **marchica** *Hannem.* from Mark Brandenburg in the spring form of *vernalis* has a shorter and fainter fuscous submarginal band on upperside of hindwings; in the ♀ besides the fuscous band on forewings is very wide. The darker *phintonis.* summer form *obscura Rühl* has a fainter band also on hindwings in the ♂ and ♀. — **phintonis** *Fruhst.* from Irkutsk is smaller and paler than mid-european specimens. Underside pale yellow; the white band on both *amethystina.* wings is more than double as wide. — **amethystina** ♀ *Wagn.* has forewings densely suffused with violet, only the inner angle remains fuscous and a similar band in the marginal area. Hindwings normal. — Besides these there is the name *minor Der.* for dwarf forms.

dorilis. locarnensis. italorum. **Ch. dorilis** *Hufn.* (Vol. 1, p. 287, pl. 77 c). According to Courvoisier *tibyus Poda* is the correct name for this species. The typical race occurs around Berlin. — **locarnensis** *Tutt* is copper red on upperside, ochre yellow on underside, heavily spotted, ♀ very large, band of hindwings glossy. S. Tessin. — **italorum** *Vrty.* is large. Submarginal red lunules larger, brighter on upper and undersides in ♂ and ♀. The ♂♂ are not dusky on underside, the ♀ generally not dusky on upperside. Uniformly so from N. Italy to Calabria. — In descriptions it is expressly ascertained that the generations do not differ. Later on however the author denominates them *italoveris.* separately and the spring form is classified as **italoveris** *Vrty.* It is said to be paler on the underside, whiter, *reverdini.* rarely dusted with grey. Base striking and extensively dusted with blue. Typical of Florence. — **reverdini** *Std.* is as dark as *bleusei Oberth.* (Vol. 1, pl. 77 d), the ♂ reminds one of *subalpina* (pl. 77 d) with yellow-red marginal lunules, ♀ similar to *virgaureae-stieberi*, the black dots as heavy as in *orientalis Stgr.* (Vol. 1, pl. 77 d). Underside is greenish-grey to yellowish-grey. Aspromonte, 400—950 m. — *bleusei Oberth.* is subdivided into *vernalis Oberth.* with orange-red ♂ on upperside and *aestivalis Oberth.* in which forewings of ♂ and ♀ are yellowish and both in ♂ and ♀ the hindwing has a tail. — *dorilis-vernalis Rbl.* is often without red marginal line in the ♂, *straminea.* underside less yellowish, the ♀ brown-black with red marginal line. — **straminea** *Blach.* is a yellowish-white *monterfilensis.* albino. — **monterfilensis** *Oberth.* (= fulvomarginalis *Schultz*) is a dusky ♂ with dark red submarginal lunules *flavimarginata.* on both wings. — **flavimarginata** *P. Sch.* has yellow marginal lunules. — **fulva** ♀ *Lamb.* forewings fuscous, *fulva.* hindwings brown with wide red marginal lunules. — **purpureopunctata** ♀ *Wheel.* has blue submarginal spots on *purpureopunctata.* upperside of hindwings. — **brunnea** *Wheel.* has orange-red spots at outer margin on underside of hindwings, the ♀ *brunnea.* is occasionally as uniformly dark brown on the upperside as otherwise the ♂. — **argentea** *Guss.* has a silver spot *argentea.* on upperside of forewings besides the black discal spot. Hindwings with a wide silvery band. Underside of forewings bluish, hindwings reddish-yellow. Courvoisier has created the following names: *elongata*: the spots radially prolonged inwards; *radiata* (= strandi *Schultz*, striata *Gillmer*): the arc of eyespots and marginal lunules radially conjoined; *paucipuncta*: with fewer spots, *basipuncta* with supernumerary basal spots: *parallela* with 2 streaks from discoidal lunule outwards, *caeca* almost without spots. *radiata* and *subradiata Oberth.* and *radiata Spul.* are also probably the same as *radiata Courv.*; *cuneifera Oberth.* is the same on the upperside as *elongata Courv.* — Besides this we have *nana Wheel* for dwarf-like specimens.

C. Group of *Lycaenini. Lycaenides.*

23. Genus: **Virachola** *Mr.*

livia. pallida. fumata. **V. livia** *Klug* (Vol. 1, p. 291, pl. 77 g). Graves has found the following 3 new forms in Egypt; ab. **pallida** is a ♂ with pale reddish brass-like upperside instead of the customary fiery orange. The dark apical, marginal and basal markings are more pronounced than in the name type form. — ab. ♂-**fumata** is particularly dusky in the neighbourhood of the costa of the hindwings by the interspersion of dark black scales; nearly all the dark markings especially on the hindwing are almost black. — A counterpart hereto is formed by the ♂ ab. *clara.* **clara** in which the dark markings especially in the distal area of the forewings are reduced to a single small spot in the apex on upperside.

24. Genus: **Polyommatus** *Latr.*

baeticus. fasciata. marginata. **P. baeticus** *L.* (Vol. 1, p. 290, pl. 77 h). Tutt has described a number of more or less justified forms which are enumerated as follows. — ab. **fasciata** *Tutt* has an additional and well developed traverse white band between hindmargin and disc of hindwing; synonymous to this is ab. *albo-vittata Oberth.* — ab. **marginata** *Tutt* bears the same customary hindmarginal spots on the forewings which otherwise only occur on hindwings, even if same are only faintly developed. — Combinations of these 2 aberrations with modifications in the colouring have been denominated by Tutt in his monumental Work: ab. *coerulea-fasciata*, glossy *bellargus*-blue but nevertheless with a pale traverse band on the hindwings. — ab. *coerulea-marginata* similarly only with *marginata* characteristics. Further *clara-fasciata* (= clara + fasciata); *clara-marginata*; *fusca-fasciata* and *fusca-marginata*. All these denominations are on a par with those given to Pierides etc., they are unfortunately established and for this reason must be mentioned. Already a small specimen from the Gironde has been named *minor.* by conscientious Mr. Pionneau as **minor** and Oberthür received from Powell a bred specimen from Hyères *ecaudata.* which is quite without tails and which he therefore names **ecaudata.**

25. Genus: **Tarucus** *Mr.*

T. telicanus *Lang* (Vol. 1, p. 293, pl. 77 h). Verity introduces a new subspecies **simplicior** from Modena in Italy, which is said to be characterised by the very much reduced and simplified decorations of the underside. Similarly reduced markings are shown by ab. **immarginata** *Std.* These are ♂♂ from the Tyrol with uniform blue without a trace of darker margin. The counterpart to this is ♂-ab. **boeticoides** *Std.*, which as the name already indicates, reminds one of *P. boeticus* by the wide marginal bands especially when they are of a similarly wide width. Stauder has given the name of **pygmaea** to dwarf forms of 15—17 mm. expanse, which occur especially frequently among the antumn and late autumn generation. — Sagarra denominates a race **tetrica** that occurs at St. Pere de Vilamajor near Barcelona, it differs from specimens from southern France and Italy chiefly by the much browner ground colour of the wings on upper and undersides. *telicanus. simplicior. immarginata boeticoides. pygmaea. tetrica*

T. theophrastus *F.* (Vol. 1, p. 293, pl. 77 i). Only a few aberrations have been made known. ab. **micaerulescens** *Oberth.* is a ♀ from Zebeh near Sebdou in Algeria having the left side normal and the right suffused with very dark blue with faint, although clearly outlined markings. — ab. **radiata** *Oberth.* also from Sebdou has typical *radiata* markings on the underside. Elongated eyespots in the arcuate spots are shown by ab. **disco-elongata** *Courv.* and ab. **tribasipuncta** *Courv.*, an aberration only rarely met with, which shows very striking combinations on the hindwings between the 3 basal spots on the one hand and the first arcuate eyespot, discal lunule and second lowest dot in the arc of eyespots. — The ab. *rosea* mentioned by Rühl-Heyne is identical with *rosacea Aust.* (Vol. 1, p. 293). ♀ ab. **frivaldskyi** *Aign.* from Turkey belongs to subsp. *balkanicus Frr.* (Vol. 1, p. 293). It is grey-brown with little blue sheen. Instead of the absent middle band of ocelli, white rays stretch towards the base from the wide outer margin which almost completely covers the marginal spots. In the hindwing all the spots in the discal and basal area are replaced by such rays. The white underside of both wings has only small reduced dots. *theophrastus. micaerulescens. radiata. disco-elongata. tribasipuncta. frivaldskyi.*

T. mediterraneae *B.-Bak.* from Alexandria (Egypt), Algeria and Palestine seems to be a new species. The ♂♂ have lilac uppersides and a black end cell spot on forewings, the anal spot of hindwings is distinct, margin narrow, blackish. Underside white-grey with dark markings. Basal and subbasal markings are as usual but well separated. A long narrow streak stretches from the costa to the end of cell on forewings, under same a wide diffuse streak, then follows a subcostal spot with a second spot to veins 5 and 6, then still another spot almost immediately under the subcostal spot between veins 3 and 5. The postmedian line is continuous, forming an obtuse angle between veins 5 and 6. The submarginal consists of a row of dots lying internervally. On the hindwings a marginal dot is placed below the basal streak and a median row of 4 dots one above the other of which the 2 lowest are sometimes confluent. Under the costa there are 2 dots usually united; further 3 conjoined dots lying further outwards between veins 3 and 6 as well as 2 confluent dots and a streak at the close of the cell. Further outwards is a coherent arcuate line, which adjoins the submarginal spots which show a metallic green sheen. The second anal spot is the most striking. In the ♀ the upperside of both wings is brown with whitish traces in the disc. The underside is the same as in the ♂. *mediterraneae.*

26. Genus: **Zizera** *Mr.*

Z. lysimon *Hbn.* (Vol. 1, p. 295, pl. 79 c). Of this common species Graves has described the following forms from Egypt, which may occur anywhere under the name type form. ab. **minor** is smaller than the summer generation with reduced row of eyedots and smaller spots. ab. **subtus-radiata** could be placed under the *centroelongata* forms established for all Lycaenides by Courvoisier. — A large form with dusky underside, in which nearly all spots, especially those of the underside of the hindwing are reduced or almost absent with the exception of the arcuate eyespots, which are large and bold, is called **imperator.** — Oberthür denominates the ♂ ab. **vandalusica** from Grenada in S. Spain, it differs from the name type form by a specially wide marginal band on the upperside of the wings. *lysimon. minor. subtus-radiata. imperator. vandalusica.*

Z. minima *Fuessl.* (Vol. 1, p. 295, pl. 82 d). Colour variations occurring in the ♂♂ in the blue dusted basal area have given Tutt an occasion to denominate ab. **viridescens,** specimens with greenish sheen in basal area, **violascens** those with distinct violet sheen and ab. **coerulescens** those with bright pale blue scaled base. — A rare aberration ♂ **pallida** *Tutt* has quite lead-grey ground colour. — Aberrations in markings are named: **caeca** *Courv.* with extinct row of eyespots, eventually also the middle and marginal lunules are absent. — ab. **paucipuncta** *Courv.* with very reduced number of ocelli dots. — In ab. **semiobsoleta** *Tutt* the dots are present on the underside of forewings, whilst they are absent on the hindwings. — ab. **obsoleta** *Tutt* (= simplex *Aign.*) is almost without dots on the underside and ab. **extrema** *Tutt* denominates specimens which are absolutely without spots on the underside of all wings. In this form only the discoidal lunule is recognisably retained. — *minima. viridescens. violascens. coerulescens. pallida. caeca. paucipuncta. semiobsoleta. obsoleta. extrema.*

Of specimens with a more luxurious marking, that is to say an enlargement of the ocelli dots and spots, only
striata. the ab. **striata** *Tutt* (= elongata *Courv.*) has received denomination. In this form the spots of the underside seem inclined to be elongated, forming streaks and marks more or less like a comma. — Denominations given
major. to variations in size are: ab. **major** *Tutt* for specimens larger than 24 mm, and ab. **minor** *Tutt* for those that are
minor. less than 19 mm. Stephan has given the name **minutissima** for a dwarf form of 14 mm. — ab. **pseudodolus**
minutissima. *Bergstr.* is a pretty form with rounded wings and uniform brown colour on upperside. Underside is a clear
pseudodolus. ashy-blue with a single arc of dots and a small ocellus in the disc of the forewing as well as 3 dots in the disc
montana. of the hindwing. — **montana** *Favre.* from the Valais is larger than the name type form, heavily dusted with grey-green. This may be a race and it would be well to define its locality more precisely. — A very small race
trinacriae. **trinacriae** *Vrty.* of 18 mm and often even as small as 14 mm expanse occurs in Sicily, St. Martin delle Scale, 700 m altitude. Neither the ♂♂ nor ♀♀ show a trace of metallic sheen at base of wings on upperside; the
volpii. colour is a dull grey-black but lighter than in other races. — Romei classifies as a separate race: **volpii** from Sidi-Messri in Tripoli. This is reported to vary considerably from the name type form so that the author is almost of the opinion that it is a separate species. Unfortunately the description which covers 2 pages does not help one to form a correct opinion as to the exact appearance of the insect, as the treatise deals chiefly with extraneous matters such as a reference to books of Oberthür etc. which are not very helpful. The butterfly is said to resemble specimens from Portugal, which Querci had captured, but is rather smaller. The ♂ is a brighter and lighter violet shade and a warmer tone. The marginal band is lighter and more extended on all wings than in the name type form. The insect can only be recognised when combined with a locality label. —
carswelli. Stempffer has described as **carswelli** a race occurring in May in the Sierra Espuña in the province of Mercia in Spain. Shortly afterwards Riley described the same insect as a new species under the name *arcilais*, but he soon recognised that he was too late and withdrew the name in favour of *carswelli*. The form corresponds exactly to the name type form in regard to size but differs in the ♂ sex by the absence of all metallic blue-green scaling on the upperside at base of wing, such as is the rule with races from neighbouring countries. The chief difference is, however, in the underside in the ordination of the ocelli dots. In the forewing the arc of dots is closer to the outer margin, in the hindwing however the row is interrupted in such a way that below the 2 upper spots 4 form an arc. Under these are the 3 last anal dots. The ordination of the spots is most readily comparable
howkowi. with those of *semiargus*, with which they have the greatest possible similarity. — subsp. **howkowi** *Tutt* from Howkow near Ta-tsien-lu is a very large representative of the species. The ♂ has heavy blue scaling at base of wings and in disc and differs considerably on the underside from all other races. Underside is strikingly white
noguerae. and shows poorly developed spots. The name established by Verity of **noguerae** is a nomen nudum. Verity indicates that *minima* is very rare in Spain, he has seen a specimen marked "Sierra Nevada" in South Kensington and he has named the race "*noguerae*". This procedure designates better than any words what one must think of Mr. Verity and his new races.

lorquinii. **Z. lorquinii** *H.-Schäff.* (Vol. 1, p. 295, pl. 82 d). Ribbe found a form in the Sierra de Alfacar with reduced markings on underside. There are no ocelli on the hindwings except the one in the middle and also on
nodibuja. the forewings they are reduced or extinct, this form has therefore been named **nodibuja.** — Verity deems it desirable to create a separate race for the form flying in the neighbourhood of Albarracin: in appearance it somewhat closely approaches *Lyc. sebrus Bsd.* (Vol. 1, p. 319) and is quite different from the specimens occur-
pseudolorquinii. ring in Grenada and Africa. It has therefore been named **pseudolorquinii** *Vrty.* — Tutt found a further race
moreana. in Morea, Greece, which he named **moreana.** It is the same size and form as the spanish *lorquinii*, but differs through the absence of the dark marginal border and the discoidal lunule on upperside of forewings. Fringes are nicely white and form a striking contrast with the delicate black marginal line. Markings on underside differ only by the absence of 2 spots, of which there are usually 4 in the disc.

maha. **Z. maha** *Koll.* (Vol. 1, p. 296, pl. 79 c). This species varies very little, being most constant. Courvoisier
radiata. discovered the ab. **radiata** in which the arc of eyespots is confluent with the relative marginal lunules. — ♀ ab.
insolita. **insolita** *Wilem.* from Tokio, Japan, is classified to subsp. *argia Mén.* (Vol. 1, p. 296). The marginal lunules on the underside are extended to form a row of longish interr erval spots; 6 on the forewings and 8 on the hindwings. —
saishutonis. The ♂ form described as **saishutonis** *Mats.* found on the Island of Quelpart, Corea is probably only a form of the widely distributed *argia Mén.* and not a subspecies. It differs from same by the wide white edge to the costa of the forewings excepting the apex, and by a row of pale bluish submarginal eyespots which diminish in size towards the costa. The ocelli of hindwings are brown with white surrounds. Underside is darker than in *argia*, dots distinctly smaller, only those in the submarginal appear somewhat larger and are distinctly dentate on the hindwings.

sylvia. **Z. sylvia** *Nakahara* from Kusakimura in the province of Harima in Japan, reminds one of the summer generation of *maha Koll.*, but differs only through the smaller and narrower shape of the wings. As the other differences are also minute we must wait until an examination of the genitals has taken place to establish the justification of a species.

Z. aricia *Gr.-Grsh.* from Szechuan resembling *prosecusa Ersch.* (Vol. 1, p. 296) also in the size. Wings are brown-black on upperside, a blue sheen at base and in disc. Fringes are dull brown. The underside pale brown. Submarginal ocelli very light, other spots and eyespots small, brown-black. No basal eyespots. ♂♂ only 22 mm expanse. *aricia.*

Z. gisela *Püng.* (Vol. 1, p. 296). Types are now illustrated on pl. 16 b. *gisela.*

Z. draeseckei *Schawerda* is closest to *gisela Püng.* (16 b) (Vol. 1, p. 296). It is also related closely to *prosecusa Ersch.* (Vol. 1, p. 296). Size is like *gisela*; underside brown with diffuse marginal striations. Blue of upperside is glossy like that of *L. orion L.* The 2 mm wide black margin is very striking for this small insect, it transfuses into the blue without any harsh outline. In certain light the entire outer ⅓rd of the forewing is dark. Outer margin of forewing is straight as in *gisela*. In front of the outer margin of hindwing there are no perceptible dots on the upperside. Fringes are dark grey-brown, somewhat darker than the pale brown of *gisela*. Ocelli are quite well developed, with white borders like in *Lyc. semiargus* but somewhat smaller. The arc of ocelli of forewings is more extended than in *semiargus*. Basal eyespots are absent on forewings, there are 2 on hindwings. There are 2 rows of quite pale marginal striations towards the border on both wings besides the white edged streak at close of cell on the underside of both wings and the 2 arcs of ocelli. No blue scaling at base of wings. The species has an expanse of 21—24 mm and occurs at Wasseku, Kwanshien in Szechuan. *draeseckei.*

27. Genus: **Chilades** *Mr.*

C. trochylus *Frr.* (Vol. 1, p. 297, pl. 77 k). Only few of the usual aberrations have been observed: ab. **caeca** has the entire arc of eyespots and occasionally also the discoidal and marginal lunules extinct. — ab. **subtus-obsoleta** *Graves* from Gezirah in Egypt has the black spots and markings on the underside of all wings entirely or chiefly extinct. — Similarly from Gezirah and Maadie in Egypt we have ab. **mandersi** *Graves* in which the submarginal band is reduced to a faint, scarcely perceptible orange-red spot. — From the boundary of the palaearctic region around the reservoir at Assouan in Egypt, Hayward describes the ♂ ab. **albolunulata** which has the discoidal lunule on upper and undersides of hindwings coloured white. — The variation **grisea** described by Aigner is smaller than the name type form, grey-brown inclining more to grey, with pale grey almost white underside and appears to occur in the island of Cyprus as a race. *trochylus. caeca. subtus-obsoleta. mandersi. albolunulata. grisea.*

C. yunnanensis *Watkins* from Yungchang in N. W. Yunnan at an altitude of 5500 ft. occurring in May. It is therefore only a boundary form and has not yet been found on genuine palaearctic territory. The only ♂ known reminds one of a small *Euchrysops (Catochrysops) pandava Horsf.* (Vol. 1, p. 292, illustrated in Vol. 9, pl. 153 k) with its black-brown colouration and faint bronze green sheen. The forewings show at base and the entire hindwings with the exception of the margin, pale blue metallic glossy scales. The black discoidal lunule of the forewings has a faint light edge. On hindwings in cellules 1—3 there are also black marginal spots without any admixture of orange. Tails are scarcely perceptible. On the underside the only known ♂, which is unfortunately considerably damaged, resembles a *pandava* of the rainy season. *yunnanensis.*

28. Genus: **Everes** *Hbn.*

E. argiades *Pall.* (Vol. 1, p. 297, pl. 78 a). Tutt has created innumerable little forms of this species in the same way as of those species which he has treated in his extensive researches, and whatever one may think of the matter, these forms should be mentioned. They are chiefly variations in colouration. — ab. **ardescens** *Tutt*, of pale grey-blue ground colour — ab. **purpurascens** *Tutt* ground colour purple-blue. — ab. **ardescens-marginata** *Tutt* and **purpurascens-marginata** *Tutt* the same as the above but with wider dark margin than the name type form. — ab. **bergstraesseri** *Tutt* is a rare ♀ aberration of the spring form with blue colour and dark margin. Marginal spots in hindwings are surrounded by pale blue crescents. — ab. ♀ **jodina** *Aigner* resembles the former closely but the marginal spots of hindwings are enclosed by orange-brown crescents. — ab. **ardescens-fulva** *Tutt* the pale blue-grey crescents in marginal spots on hindwings as in *ardescens* but orange-yellow in this case. — ab. **ardescens-restricta** *Tutt* has the delicate grey-blue restricted to the base of the wings, also the orange coloured lunules are absent, whilst in **ardescens-completa** *Tutt* the lunules are a nice orange colour. — ab. **pallida-fulva** *Tutt* is pale brown with blue sheen and orange coloured lunules, whilst ab. **pallida** *Tutt* is without these orange lunules and simply pale brown without the blue sheen. — ab. **coerulescens** *Tutt* is brown, forewings with blue scales as far as behind the disc and on the hindwings as far as the outer margin. In exceptionally richly marked specimens an almost parallel blue band is created to the black outer margin. — If there are orange coloured lunules in the marginal spots then we have ab. **coerulescens-fulva** *Tutt.* — **coerulescens-restricta** *Tutt* has blue scales only at base of wings, however when with orange coloured lunules we have *argiades. ardescens. purpurascens. a.-marginata. p.-marginata. bergstraesseri. jodina. ardescens-fulva. a.-restricta. a.-completa. pallida-fulva. pallida. coerulescens. c.-fulva. c.-restricta.*

cocrulescens-completa. *fusca-fulva.* *fusca.* *extrema.* *extrema-fulva.* *extrema-restricta.* *extrema-completa.* *nigrescens.* *fulva-nigrescens.* *striata.* *latimargo.* *diminuta.* *luteumfera.* *semicaeca.* *metallica.* *rufomaculata.* *pallida.* *ornata.* *dipora.* *diporides.* *kawaii.*

ab. **coerulescens-completa.** — ab. **fusca-fulva** *Tutt* is brown without blue, but with orange coloured lunules and ab. **fusca** *Tutt* is brown with blue and without orange lunules. — ab. **extrema** *Tutt* is coloured entirely black-brown with blue scaling up to behind the disc in forewings and up to the outer margin in hindwings having besides well developed round marginal spots. — If in this form there are still orange coloured lunules then it is named **extrema-fulva** *Tutt*; if the blue is confined to base of wings we have **extrema-restricta** *Tutt* and if with this latter form we have again the orange lunules it is named **extrema-completa** *Tutt*. — ab. **nigrescens** *Tutt* is completely black-brown without blue and without lunules; similarly but with orange coloured lunules we have ab. **fulva-nigrescens** *Tutt*. Variations of markings occur in ♀ ab. **striata** *Tutt* (= extrema *Courv.*). Upperside is brown dusted with blue at base of hindwing. A yellow spot in anal angle. On underside of forewings there is a discal spot extended to form a black crescent and a few spots of the submedian row are extended to form streaks. The spots of submedian row on hindwings are changed to streaks towards the base. In the anal angle there are 2 yellow anal spots. — The ♂ ab. **latimargo** *Courv.* is distinguishable by unusually wide black margin to all wings. — In the neighbourhood of Bale Courvoisier captured an albino specimen in 1895. — There are also new denominations of the subsp. *coretas O.* (Vol. 1, p. 298). The ab. **diminuta** *Vrty.* occurs only in the first generation and is said to be smaller and appear paler than any other form of the second generation. ab. **luteumfera** *Vrty.* is a highly unnecessary superfluous denomination as *alcetas Hbn.* shows the identical spots in the illustration which have moved Verity to give this denomination, only Hübner did not mention them specially in his description. — ab. **semicaeca** *Krul.* is entirely or almost entirely without ocelli. — **metallica** *Courv.* denominates specimens bearing anal spots with metallic markings on the hindwings, whilst in **rufomaculata** *Courv.* these anal spots are filled with red. ab. **pallida** *Pionn.* is a pale french form from the Gironde and **ornata** *Pionn.* from the same district is a ♀ decorated with blue on the upperside like a ♂. — The form described as *vernalis* by Grund is identical with *decolor Stgr.* (Vol. 1, p. 298). **dipora** *Mr.* is not synonymous with *parrhasius F.* (Vol. 1, p. 298), it is a distinct subspecies occurring in the Khasia Hills at the same time as subsp. **diporides** *Chapm.* The latter also occurs in palaearctic territory in the N. W. Himalaya, Kulu and Kashmir. The summer form is darker on the underside than the european name type form and has a wider, darker margin on forewings. The red spot at anal angle of hindwings is more sharply outlined on underside. The spring form from the N. W. Himalaya compares with the summer form like the german *polysperchon* does with the summer form *argiades*. — subsp. **kawaii** described by Matsumura from Nihonkusu (Kiushiu) varies only little from *parrhasius F.* (illustrated Vol. 9, pl. 153 h). In the ♂ the round black spots surrounded with whitish-blue in cellules 2 and 3 without orange and the black streak in cellule 1 b is not interrupted and similarly edged with bluish-white. The anal spot is shorter, not extending beyond median vein. ♀ unicoloured brown, anal spots much larger, oval, each with a crescent formed orange coloured cap.

ion. *cellariusi.* *cratylus.*

E. ion *Leech* (Vol. 1, p. 298, pl. 78 b). From Hwei-si in the western Tsingling-Shan in east Kansu a new race is described from the collection of O. Bang-Haas which I am naming **cellariusi** in honour of our Editor. It is closely related to *cratylus Fruhst.*, but varies slightly from it by the delicate dove grey colouration of the underside which in a certain light takes on a pale silvery sheen. On the underside of forewings all spots of the discal band are deep black with a sharp white outline, increasing in size from the costa to the hindmargin: of the spots of the submarginal row only the 3 lowest are deep black-brown with a sharp white outline, whilst the 3 upper ones are only slightly darker than the ground colour and occasionally with a delicate white surround. All spots of both bands are conjoined through white surrounds, the black spots themselves lie internervally. The pale markings of the hindwings resemble those of *cratylus*, but the colouration is a pure white. In the submarginal band from the anal angle to lower median nervure there are 3—4 small metallic black dots of which the 2nd — opposite the tail — and the 3rd are the largest. Both are dusted with metallic blue-green scales and faintly surrounded towards the base with a reddish hue. There are also blue-green metallic scales in the anal angle towards the margin. — subsp. **cratylus** *Fruhst.* from Batang in Szechuan is larger than specimens from Ta-tsien-lu. On the upperside of forewings the white submarginal dots are absent and the underside of forewings is darker than in the name type form. Both wings are a delicate grey-brown on the underside. The discal area of the hindwings which in *ion* is only faintly circumscribed by bands, is much more sharply outlined, it is a curious grey-brown with pure white edge. The subanal spot is more prominent. Presumably this is a rainy season form, whilst *ion* may be a spring form.

29. Genus: **Lycaena** *F.*

argus. *caeruleus.* *lilacina.* *pallida.* *plumbea.*

L. argus *L.* (= aegon *Schiff.*, argyrotoxus *Bergstr.*) (Vol. 1, p. 209, pl. 78 c). Of this widely distributed species a number of new races and forms are described, the differences between which are generally infinitesimal. Tutt differentiates according to colour the ♂ ab. **caeruleus**, a glossy violet-blue form and ♂ ab. **lilacina** a slightly paler shade which is closer to lilac or azure blue. — ♂ ab. **pallida** *Tutt* inclines to pale pink, whilst ♂ ab. **plumbea** *Tutt* is blue-grey or slate, with fairly narrow black border and no discal band.

In ab. **caerulea** *Courv.* (1910) the ♂♂ have a pale blue upperside to all wings with a quite narrow black border and fine yellow-red lunules, especially on hindwings. — ab. **unicolora** *Favre* denotes ♂♂ occurring in the Valais which frequently show no red lunules together with blue colouration. — ♂ ab. **alcippe** *Stephens* is smaller than the name type form with narrower wings. Upperside blue with wide black border. Underside a rich grey; ocelli very pronounced as in the ♀, the inner row consists of 4 ocelli. — ♂ ab. **obscura** approaches a melanic form as the entire upperside of the wings is so dusky that only when viewed from an angle a slight bluish sheen is perceptible. Underside normal. — ab. **nigrescens** *Courv.* also represents a dusky form. In both sexes all wings show a smoky grey to blackish ground colour on upperside and underside. the reddish lunules of forewings as well as those of hindwings are suffused by a dark shadow. — ♀♀ resembling ♂♂ of *hypochiona Rmb.* viz: almost entirely white and with upperside pale blue, are named ♀ ab. **caerulea** *Tutt.* Margin is narrowly black and contrasts strongly from white fringes. On forewings in place of orange lunules there are whitish patches between the veins. Hindwings show almost the same ground colour; dark black submarginal spots are edged with white and discoidal lunule of forewings is more strongly developed than on hindwings where it is almost extinct. — Courvoisier denominates and understands under the same name of **caerulea** ♀♀ with a varying blue tone to the wings. — ab. **falloui** *Tutt* is a large ♀ and has a blue colouration on upper and underside of all wings, but chiefly of the hindwings, as well as white discoidal lunules on all 4 wings. On underside of forewings white rays extend from the brown submarginal band towards the base. Underside is somewhat paler than in the name type form and shows the otherwise numerous black spots changed to white and besides the metallic green is absent from base of wings. — The ♀ ab. **brunnea** shows a uniform brown upperside without red marginal lunules; it occurs at higher altitudes in the Alps. — ab. **duplex** *Cock.* appears to be a hermaphrodite, the right of upperside of hindwings is brown and the corresponding left side is blue. Actually however it was a ♀. —

caerulea. *unicolora.* *alcippe.* *obscura.* *nigrescens.* *caerulea.* *caerulea. falloui.* *brunnea.* *duplex*

Tutt has denominated a large series of ♀ aberrations which are only enumerated here as having been described, although it would have been better had they not been named ♀ ab. **fuscus** *Tutt* has a more dusky ground colour and ♀ ab. **croceo-lunulatus** *Tutt* has well developed orange spots on all wings. ♀ ab. **postcoerulescens** *Tutt* is besides brown on upperside, only the hindwings with blue scales, ♀ ab. *coerulescens Tutt* is identical with a similarly named form by Peters, Vol. 1, p. 300, and ♀ ab. **posterocrocea** *Tutt* has the same appearance but it has orange lunules on all wings. — ♀ ab. **croceopostcoerulescens** *Tutt* is brown with a few distributed blue scales on all wings and orange lunules on the hindwings, ♀ ab. **croceocoerulescens** *Tutt* is of similar appearance but it has an orange band on all wings, **croceosemivirgatus** designates brown ♀♀ without blue, having only an orange band on hindwings, and **croceovirgatus** such brown ♀♀ having all wings decorated with an orange band. ♀ ab. **croceosemivirgatus-coerulescens** *Tutt* has an orange band on the hindwings and blue dusting. In ♀ ab. **croceovirgatus-coerulescens** *Tutt* the orange band also extends to forewings and similarly blue dusting. According to Tutt these combinations also occur in insects with a yellow ground colour (= flavus) and then they are named: ♀ ab. *flavolunulatus*, ♀ ab. *flavopostcaerulescens*, ♀ ab. *flavosemivirgata*, ♀ ab. *flavovirgata*, ♀ ab. *flavovirgato-coerulescens* and ♀ ab. *posteroflava.* Stauder denominates ♀ ab. **flavodentata** from inner Istria showing throughout an albinotic tendency which also seems to extend to the ♂♂ belonging thereto. These do not show the typical dark violet blue so characteristic of mid-european specimens, but they appear to be pale and a very faint blue. Submarginal band is yellow-red and coherent on both wings. — ♀♀ which show a decided reddish colouration on underside are named **rufescens** *Tutt* and those with a yellow ground colour ab. **flavescens** *Tutt.* — ♀ ab. **chrysophthalma** *Std.* from Opacinor, Prosecco in the Karst has generally 6 dots occurring on the margin of hindwing on the underside with a pretty metallic gloss and without any sign of a black pupil. — The sizes are denominated as ab. **major** *Tutt*, insects with an expanse of 27 mm and **minor** *Tutt* for such as are of less than 23 mm expanse. Still smaller starved summer forms of scarcely 21 mm from Italy are named **minutissima** *Tutt*, these also occur in Lapland and are clearly a starvation form.

fuscus *croceo-lunulatus.* *postcoerulescens.* *posterocroc.* *croccopost-coerulescens.* *croccocoer.* *croccosemi-virgatus.* *croccovir-gatus.* *croccosemi-virgatus-coe-rulescens.* *croccovirga-tus-coerules-cens.* *flavoden-tata.* *rufescens.* *flavescens.* *chrysoph-thalma.* *major.* *minor.* *minutis-sima.*

The variations of markings occur as in all Lycaenides in regard to the form, number etc. of the dots and bands and these have again become the subject of a superabundance of denominations. I am not certain if I have included all in those enumerated. ab. **marginipuncta** *Tutt* has well developed marginal spots on upperside of hindwings. — Insects with very wide margin are named **lata-marginata** *Tutt*, such with medium well developed black margin are ab. **intermedia-marginata** and with quite narrow margin are ab. **angusta-marginata** *Tutt.* With the latter 2 aberrations ab. *angustimargo* (*Hosp.* i. l.) *Vorbrodt* is identical. — ab. **disco-obsoleta** *Tutt* are ♂♂ without discoidal lunule on all wings; ♂ ab. **disco-anteriora** *Tutt* has a lunule only in the disc of upperside of forewings; ♂ ab. **disco-posteriora** *Tutt* has discoidal lunule only on upperside of hindwings and ♂ ab. **disco-lunulata** *Tutt* shows the same well developed on upperside of all wings. — An additional dot between the discoidal lunule and base of wings is shown by ♂ ab. **unipuncta** *Tutt* on upperside of forewing. — ab. **aurofasciata** (*Hosp.* i. l.) *Vorbrodt* shows fiery red marginal lunules on all wings up to the apex. — ab. **albo-punctata** *Galv.* and *Preissecker* is a ♀ form which is analogous to *Chr. virgaureae-albopunctata Huene*

marginip. *lata-marg.* *intermedia-marginata.* *angusta-marginata.* *disco-obso-leta.* *d.-anteriora.* *d.-posteriora* *d.-lunulata.* *unipuncta.* *aurofas-ciata.* *albo-punct.*

(Vol. 1, p. 282) with an additional row of white spots on upperside of hindwings, also underside of all wings throughout paler. — ♂ ab. **punctifera** *Courv.* has enlarged black marginal dots on hindwings and ab. **albomarginata** *Ebert* has these marginal spots enclosed in white instead of orange on upperside of hindwings. — ab. **marpurgica** *Strd.* are very small ♀♀ on which the red marginal lunules are absent. — The ♀ ab. **tribasipuncta** *Courv.* shows on the one hand 3 basal eyespots, on the other hand connecting bars between the furthest arcuate eyespot, discoidal lunule and second lowest arcuate eyespot. — In ab. **maritima** *Steph.* ocelli of underside are diffused into longish stripes; **radiata** *Oberth.* as well as **juncta** *Tutt* are very similar, the dark cone-shaped spots on the underside which adjoin the orange lunae are united with the dots of the postdiscal band by streaks which are constricted in the middle. There are 6 stripes of this nature on the forewing and 8 on the hindwing. Ground colour on underside very pale yellow. In ab. *juncta Tutt* there is the same sort of variation. The rays are created by a junction of the spots of the submedian row with the corresponding black internerval cone-shaped markings which adjoin the orange lunae inwards. A form approaching this aberration is named *approximata-juncta Tutt*, it would better have been left unnamed. — ab. **discoelongata** *Courv.* has elongated postdiscal eyespots on the underside. — ab. **extrema** *Courv.* shows the greatest extension of confluence in spots and dots. All spots are conjoined by rays from the base through the discoidal lunule to the postdiscal eyespots and marginal lunae, also other basal and arcuate eyespots on all wings are confluent. — ab. **vulgaris** *M.-Dür.* in contrast to ab. *valesiana M.-Dür* (Vol. 1, p. 300) shows very large ocelli on a yellow-grey underside. — Similar, perhaps identical with this form is ab. **magnipuncta** *Tutt* but the spots are often elongated; on the other hand ab. *parvipuncta Tutt* is nothing else than *valesiana M.-Dür.* — ab. **irregularis** *Tutt* shows irregularly formed spots and dots of varying size. ♂ ab. **anticoradiata** *Tutt* is characterised by the 2nd to 5th spot of the postdiscal row of spots of forewing on underside being extended towards the base like a streak; hindwings show normal marking. Impoverished markings are shown by ab. **obsoleta-juncta** *Tutt* on which on the underside of forewings all spots are absent with the exception of the discoidal lunule whilst on the hindwings the spots and dots are united to form 6 rays. — In ab. **leodorus** *Gerhard* the metallic centres of the marginal spots on underside of hindwing are absent; this form is found more frequently in the ♂♂ than in the ♀♀. ab. *inornata Grund.* is identical with this form. — ab. **caeca** *Grund* are ♀♀ on which the dots and spot markings are absent on underside of all wings. The discoidal spot is still faintly indicated; the brown ground colour is interspersed especially in the discal area by white rays. Specimens however also occur in which there are a few spots although very minute and these should be placed here. — Tutt designates as ab. **extrema** insects in which all the dots of the arcuate row are absent both on forewings and hindwings. — The variation of the discoidal lunule is denoted by Tutt as **anticoimpunctata,** when it is absent on the forewing; as **postereoimpunctata** when it is absent on hindwing and as **impunctata** when it is extinct on all wings; if it is cordiform, he names it **cordata** *Tutt.* — Confluent forms are: ab. **cuneata** *Tutt*, the spots are cuneiform pointing inwards, these marks proceed only from the black inner lunae, submedian spots are extinct. — ab. **obsoleta-juncta** *Tutt* has dots 2—6 of the arcuate row of forewings combined to a black transverse band. These spots are similarly also conjoined on hindwings taking in the costal spots. — **basijuncta** *Tutt* is similarly marked, but in this case the basal spots are also conjoined. — ab. **costa-juncta** *Tutt* (= costajuncta *Courv.*) shows the first basal spot confluent with the upper spot of the submedian row so that a patch is formed on the hindwings. — Also the discoidal lunule of the forewings can be joined together with the dot of the arcuate row lying immediately above same and this is then designated as ab. **mediojuncta** *Tutt.* — Tutt combines the forms under ab. **addenda** which have additional spots between the discoidal lunule and the arcuate row or such that have additional spots beyond the normal number on one or both sides. — Courvoisier has named the following forms: *crassipuncta, elongata, pluripuncta* and *paucipuncta*, a further description is unnecessary more especially as they agree with the forms enumerated above. — Too much good work has also been done in the establishment of races; in order to decide with certainty in a great many cases it is absolutely necessary to have a full knowledge of the locality label. Subsp. **aegiades** *Gerh.* designates the usual race of the plains of mid-Europe and is characterised by the absence of the discoidal lunule on the upperside of the forewings and the formation of the spots on the underside. — From the hill of Pollau in Moravia Verity describes a very small race **aegusella** of only 21—22 mm expanse of which the ♂♂ are opalescent deep purple with a heavy black margin, very dark-grey underside with striking small black dots. —

Tutt discriminates between 3 races in England. The race **argus** *L.* occurs on heathland, the ♂♂ with sharply outlined black margin and completely dusky underside. The ♀♀ show no trace of blue sheen. — In contrast thereto the race **cretaceus** *Tutt* occurring on chalky hills is larger than the former. ♂♂ with a very narrow black margin to forewings and fairly large spots on hindwings. Underside fairly pale. ♀♀ sometimes with blue sheen. — The race occurring on moorlands is smaller than *cretaceus* and ♂♂ also with a narrow black margin and pale und erside, whilst the ♀♀ show dense blue scaling so that they differentiate strongly from other english races. — In Brittany around Plouharnel we find the race **plouharnelensis** *Oberth.*

punctifera. *albomarginata.* *marpurgica.* *tribasipuncta.* *maritima.* *radiata.* *juncta.* *discoelongata.* *extrema.* *vulgaris.* *magnipuncta.* *irregularis.* *anticoradiata.* *obsoleta-juncta.* *teodorus.* *caeca.* *extrema.* *anticoimpunctata.* *postereoimpunctata.* *impunctata.* *cordata.* *cuneata.* *obsoleta-juncta.* *basijuncta.* *costa-juncta.* *mediojuncta.* *addenda.* *aegiades.* *aegusella.* *argus.* *cretaceus.* *plouharnetensis.*

(16 g) of which the ♂♂ have grey undersides. Frequently there is a large somewhat cuneiform mark in the disc. Upperside of hindwings often has orange coloured marginal spots. Glais described the following 3 varieties of this race: ab. **lepontoisi** is a *nigropunctata* form in which the 4 spots reflect through on the upperside. They are surrounded with pale blue ringlets. Besides this, a few specimens show the blue scaling arranged like rays on the hindwings. — ♂ ab. **joannisi** *Glais* has the 4 upper spots of the arcuate row on the underside of the forewings united forming a black band and also on the hindwings these ocelli are similarly confluent. The discoidal lunule is in the shape of a horizontal bar. This aberration belongs to the *centro-juncta* group. — In the ab. **crassipuncta** the discoidal lunule is changed to a large triangular black spot. — subsp. **philonomus** *Bergstr.* (= philonome ♀ *Bergstr.*) is a very small high altitude form from the Swiss Alps with not more than 23 mm wing expanse and of very dark ground colour. It is frequent in July and August. Identical with it are *aegidion Meissner* and *alpina Berce* and *Wheeler* (Vol. 1, p. 300). Also **alpina** *Courv.* belongs to this race and at the best can only be termed a variety occurring in the Valais, Tessin and Les Grisons. The ♂♂ have rounded wings, blue-black upperside and a wide black margin. Underside is ashy-grey with the usual 4 arcuate rows of ocelli. The space between the 2 outermost is filled with orange. ♀♀ show all wings unicoloured brown on upperside and ashy-grey on underside. Marking as otherwise in ♂. The varieties already described above, *duplex Cock.* and *falloui Tutt* occur and besides these ab. **rufolunata** *Tutt*, which is characterised by the leather coloured cones situate over the black marginal spots to the number of 4, but the 1st and 4th are only indicated whilst the 2 inner ones are very striking. — On the southern slopes of the Swiss Alps we find the race **killiasi** *Christ.* The ♂♂ show a wide black marginal band on upperside which diffuses inwardly in rays along the veins so that only little blue is left. The ♀ is remarkably small.

lepontoisi. *joannisi.* *crassipuncta.* *philonomus.* *alpina.* *rufolunata.* *killiasi.*

In Carinthia, Tyrol, Croatia and Herzegovina subsp. **carinthiaca** *Courv.* occurs, a large race exceeding the name type form in size. ♂♂ are much darker violet on upperside. The wide black margin of 2—4 mm is very striking, it projects along the veins in fine black rays into the area of the wings. The black discoidal lunules generally distinctly developed. On underside grey-white is the dominating colour with very striking ocelli which are often confluent. The outer band shows a vivid red colour which is somewhat clouded over on margin of forewing. The ♀♀ belonging hereto have only faintly developed marginal lunules on upperside of hindwings. Same are scarcely indicated on the forewings. The white zone between the arcuate and marginal lunae in typical specimens is generally duskily clouded over. — A melanic race occurs in Carniola, **cleomenes** *Fruhst.*, of which the ♂ resembles the illustration in Vol. 1, pl. 78 c, Fig. 7 in regard to the size and colouration. In some specimens the entire hindwing is black on the upperside with only minute remnants of blue dusting. Underside of forewings is black-brown, only the basal area faintly blue grey; hindwings with dark blue basal area with a wide dark red-yellow submarginal band edged inwardly widely black. Forewings have a very distinct black discoidal lunule and only faint traces of a red-brown submarginal band.

carinthiaca. *cleomenes.*

In Gavarnie, Pyrenees, Tutt discovered the race **pyrenaica**; somewhat larger than the typical spanish *argus*, with the deep blue of *hypochiona Rmb.* (Vol. 1, p. 300, pl. 78 d) and a wide black margin to forewings. The marginal spots of hindwings vanish in the dark margin and the vivid white fringes form an effective striking contrast. Underside is grey with heavy bluish suffusion at base of wings, orange band fainter than in *hypochiona*. The ♀♀ have dark brown upperside with 3 or 4 orange lunules on hindwings; fringes are grey with the exception of white tips to forewings. Underside similarly brown, orange markings nicely developed with striking white band between the submedian and orange band of hindwings. As a variety we have here ab. **hypochionides** *Tutt*, characterised by the more lilac tone of the ground colour and the narrower black margin to forewings. Underside is white but not so pure as *hypochiona*. — ab. **iberica** *Tutt* is a variety of *hypochiona Rmb.* (pl. 78 d) and only differentiated thereby that the marginal band on upperside of all wings is wider and appears more diffuse. Further, the marginal spots of hindwings are always less pronounced. The underside of ♂♂ shows a less pure white. It occurs on the mountains around La Granja. — **casaicus** *Chapm.* like the following forms is allied to *hypochiona*, it is a very large aberration of from 35 mm occurring at Vigo and Brañuelas in Asturia. The ♂♂ are glossy blue on upperside like *corydon var. corydonius* and underside unicoloured pale silvery-white similar to *hypochiona* and *bejarensis* (Vol. 1, p. 300). ♀♀ have 2 or 3 red lunae on upperside of hindwings at outer margin which however do not have an orange or red-brown tone. On the other hand they have a peculiar pale rosy sheen through the admixture of blue. — **brañuelasensis** *Tutt* from Brañuelas in Asturia differs only slightly from *hypochiona*. The black spots on hindwings are almost entirely merged in the submarginal band, but the chief difference lies in the colouration of underside, the forewings and basal half of hindwings are distinctly grey not white; white is only visible in the submarginal band of hindwings. Spots are well developed and orange band heavy. — ab. **vigensis** *Tutt* from the neighbourhood of Vigo is much smaller than the usual asturian forms, otherwise only minutely different. Black marginal spots of hindwings are more distinct and the costa is dark. — Variations of colour are ♂ ab. **lilacina-minor** *Tutt* with a more lilac colour tone and **lilacina-rufolunulata** *Tutt* with yellow lunae on lilac lustrous ground. — ab. **vacaresa** *Ribbe* differs by a small spur on the tibia and by

pyrenaica. *hypochionides.* *iberica.* *casaicus.* *brañuelasensis.* *vigensis.* *lil.-minor.* *lilacina-rufolunulata.* *vacaresa.*

nomancha. a duller darker blue on the upperside of ♂, also underside distinctly grey. — ♂ ab. **nomancha** *Ribbe* also from the Sierra de Alfacar belongs to the starved forms, underside of forewing and also of hindwing shows only the outer rows of dots, the greater part of the wing towards the base is quite white without any markings. — According to Verity a race occurs in Greece which varies from *hypochiona* by having a grey-white underside, which *graeca.* has been named **graeca.** — The local form occurring in the Maritime Alps in the neighbourhood of Mentone: *lydides.* **lydides** *Fruhst.* is remarkably pale and forms a transition to the insects of the S. Tyrol and the large forms from the Valais to the pale spanish *hypochiona Rmb.* But *lydides* shows a distinct black margin and submarginal band which does not consist of isolated spots. Ground colour pale blue with a faint violet sheen, paler than in specimens from Carniola and S. Tyrol. The ♀♀ show a distinct red-brown submarginal band. Underside very pale, bluish-white with somewhat larger black spots than spanish specimens. — In the region of the coast in *lunensis.* the Gulf of Spezia Verity found a further race which he names **lunensis.** The ♂♂ show an unusually wide margin on hindwings whilst in contrast to *ligurica Oberth.* it is quite absent on forewings. The ♀♀ are extremely dark and the yellow lunae are absent on upperside. Close by in Tuscany not far from the Abetone Pass a *italorum.* very large race occurs, the largest in Tuscany: **italorum** *Vrty.* The black margin is narrower than in the foregoing 2 races and the blue of the ♂♂ is more vivid. The black spots of underside are very small and the *tuscana.* median arcuate row very straight. — The race occurring in the neighbouring plains of Tuscany, **tuscana** *Vrty.*, has a still narrower almost extinct black margin in the ♂ sex, this is particularly striking on the forewings; on hindwings it does not reach to the black marginal spots which are without metallic centres on underside. The ♀♀ show remarkable widely separated yellow marginal lunae on both sides of wings. As a variety we have *alboradians.* ab. **alboradians** *Trti.* from Sestole on the Lake of Budalone. The ♂♂ have the blue suffused with white and on hindwings the black marginal dots are cuneiform with white edge. — As a race of mid-Italy which is throughout *latialis.* smaller than most other italian races being only 24—26 mm expanse, Rostagno describes his **latialis.** It does not vary much from *ligurica Oberth.* but the dots and spots of the underside are larger. The race named by Verity as *mira* is identical with *latialis.*

From the Apennines a whole series of races is established which in further research work will probably *apenninicola.* be further increased. From the Apuan Abruzzi we have **apenninicola** *Vrty.* In many respects it resembles *philonomus Bergstr.*, but differs by the completely purely white underside of the ♂ and smaller size. — *pallidula.* **pallidula** *Vrty.* from the Sibillini Mountains at an altitude of 1700 m looks very pale in both sexes, like specimens that have been long exposed to the light in some old collection. The ♂♂ are glossy silvery-blue, widely white along the costa of forewings, submarginal spots frequently with white ringlets. The ♀♀ are either pale reddish-brown or grey, the latter frequently entirely or partially suffused with silvery-green scales and a white ring around the discoidal lunule of forewings as well as whitish streaks on hindwings. Underside is *majellensis.* pale grey with very small black spots and small yellowish-orange lunae. — **majellensis** *Dannehl* and *abruzzensis.* **abruzzensis** *Dannehl* are the races from the Majella and the slopes of the Gran-Sasso. They are both only of small expanse, about 21 mm, being much more delicate than the closely related *italorum Vrty.* The black margin of forewings is scarcely of medium breadth, on hindwings it is so narrow that the marginal spots are widely separated from same. Underside very pale, mostly a nice white, base dusted with light blue and yellow bands pale orange. The fringes are very wide in comparison to the size of the insect and pure white. The ♀♀ of both forms are pale brown on underside, those from Majella almost always with well developed bands on upperside of both wings. On underside they are even bolder being very widely developed and always bordered inwards by a wide white band; a similar white band before the outer margin. The ♀♀ from Gran-Sasso are less richly decorated with yellow-red bands and therefore easily differentiated; sometimes specimens are found that are unicoloured brown. Both races occur at an altitude of 1400—2200 m. — The races from Velino and *sirentina.* Sirente give us **sirentina** *Dannehl*, a larger race than the 2 before mentioned. Black margin very narrow but frequently extending over the surface of the wings like streaks or rays. Underside ground colour pure white, dusted with grey at base of wings and reaching to the discal row so that generally only a wide band remains between the arcuate row and the yellow marginal band. ♀♀ incline to be pale brown. The fulvous band of hindwings generally well developed but absent on forewings. Underside shows a diffuse dull brown so that the *calabrica.* white band is not clearly pronounced. — The race from the calabrian coastal region, **calabrica** *Trti.* (= calabricola *Vrty.*), is very large, 27—30 mm expanse and according to its entire appearance closely resembling the japanese *insularis Leech* (Vol. 1, p. 300, pl. 78 d), so that same could best be classified to it. The black margin is very wide, underside vivid white with very large spots and markings. Verity has quite unnecessarily *veris.* given the designation **veris** for the 1st generation.

orientalis. subsp. **orientalis** *Tutt* from Asia Minor and Persia is a race of medium size. ♂♂ have a more vivid blue than the central european *argus*; black margin of forewings is inclined to be narrower, in a few specimens being even dissolved. This is the rule on hindwings where internerval black dots indicate the margin. ♀♀ are dark brown and development of orange lunae vary. Generally same are well developed on both wings but can be quite extinct on forewings and much reduced on hindwings. Underside of ♀ is pale grey with whitish submedian band, well developed spot and dot markings. The ♀ is quite similar on underside but

the orange lunae are united to a fine orange coloured band. *bella H.-Schäff.* (Vol. 1, p. 300, pl. 78 d) should be placed here as a variety.

From Naryn in Turkestan we have a small race only 23—24 mm wing expanse named **naruena** *Courv.* The ♂♂ have dark blue upperside with heavily black dusted veins and unusually wide black margin which on the hindwing develops large cuneiform marks extending into the blue surface. Sometimes these dentations have dissolved their connection with the margin and are shown as isolated spots fairly far from the margin. Underside is pale grey, nearly white, with wide greenish basal dusting, bold arcuate row and bright yellow-red marginal bands especially on hindwings. The single ♀ known expands 20 mm. — The var. **sifanica** described by Grum-Grshimailo from the Jakar Mountains also occurs according to Tutt in "Soochow, Kansu". The original description only says that it is larger, darker, with very wide margin and very distinct discoidal lunule. — subsp. **ongodai** *Tutt* from Ongodai in the Altai is a very large race of 31—33 mm wing expanse. ♂ almost purple-blue with heavily developed black margin and black veins. Fringes white, discoidal lunule prominent on all wings. ♀ red-brown with bold orange lunae on the hindwings, rather fainter on forewings. — **coreana** *Tutt* occurring in Corea and Japan is a ♂ of deep purple-blue with prominent dark margin on forewings and more or less strikingly black edged veins. Discoidal lunule only faintly developed on all wings. Fringes grey inwardly white outwardly with black checks at ends of veins on hindwings. Underside bluish-white, dusted with dark blue at base of wings. Spots of underside with paler ringlets than ground colour; orange marking bold especially on hindwings. ♀ dark red-brown almost uniformly so on forewings with a fine white border along the outer costal half, without indication of any orange lunae. Hindwings show the same colouration with vivid orange markings. Underside is brown with ocelli dots sharply encircled by white. Orange band as in ♂, pale submarginal band only present on hindwings. Green metallic scales at base of wings only in corean and not in japanese specimens. — **japonica** *Oberth.* (16 f) is quite similar and may eventually be attached to same.

naruena. *sifanica.* *ongodai.* *coreana.* *japonica.*

insularis *Leech* (Vol. 1, p. 300, pl. 78 d) is a separate species according to the researches of Chapman and Verity, being distributed from Japan to Europe. *euergetes* as well as *calabrica Trti.* and *aegusella Vrty.* mentioned below, also **praeterinsularis** *Vrty.* (named according to Fig. 305 in Oberthür's Et. Lép. Comp.) from Yokohama, belong to same. — ab. **kononis** *Mats.* is a large ♀ of 32 mm expanse, having an additional round black spot in the disc of the forewings which is edged with white like the discoidal lunule. Submarginal spots grey with white cones on both sides. On hindwings the dots of the arcuate row are extended like an "!" and in the submarginal area there is a row of double brown lunae. — ab. **septentrionalis** *Beuret* from the neighbourhood of Bâle belongs here. ♂♂ 22—27 mm, the ♀♀ 24—29 mm expanse. Upperside pale violet and iridescent. Black margin of wings forming only a narrow line, veins narrowly dusted with black at outer margin forming black streaks. Fringes blackish in basal area especially at end of veins on hindwing, margin of the latter with distinct black row of spots, often conjoined with the margin. ♀ very dark blackish always more or less dusted with blue. Underside of ♂ pale grey, ♀ with an inclination towards brownish. Base of hindwings to the basal eyespots faintly bluish in ♂ and more greenish in ♀. Arcuate eyespots well developed, yellow-red marginal lunules pronounced, especially on hindwings in ♂ and on all wings in ♀. Black marginal spots on hindwings with bold bluish or greenish metallic scaled centres towards the anal angle of hindwings. — The race **aegus** *Chapm.* occurs around Geneva and Budapest. It is the same as Figures 296 and 297 in Oberthür's Et. Lép. Comp. ♂ is paler blue than *latialis Rost.*, which was described above and which could be classified here, and the ♀ is brown but not extensively suffused with blue. Underside is less dark than in *latialis.* — subsp. **ligurica** *Oberth.* (nec. *Courv.*) has a wide distribution in north and mid Italy, France, Allier, and Isère, at Sidemi in Manchuria, as well as in the north of China. Size is considerable, ground colour of the ♂♂ dark violet with narrow black margin; on hindwings the black marginal spots contrast more or less sharply. Colour of underside is partly pale bluish toned grey with vivid, wide orange coloured marginal band and 2—3 blue ocelli towards the anal angle. The other black dots are well developed, ♀♀ show brown upperside with or without blue dusting. Orange lunae of hindwings generally prominent. Underside is a mixture like pale buff, orange band always distinct and of varying width, generally vivid in colour. Blue ocelli vary in number but always present on hindwings. Black spots as in ♂ bold and with pale ringlets. — **euergetes** *Std.* from Scorcola near Trieste can also be added to *insularis.* It is another large form of which the ♂♂ are deep blue on upperside with a striking enlarged black border on forewings and deep black veins. The large black marginal dots on hindwings are striking. Underside is similarly adumbrated as compared with specimens from Gorizia and S. Tyrol, besides all dots are enlarged and with white ringlets. According to recent researches also *calabrica Trti.* and *aegusella Vrty.* belong to the new species *insularis* described above.

insularis. *praeterinsularis.* *kononis.* *septentrionalis.* *aegus.* *ligurica.* *euergetes.*

L. argyrognomon *Bgstr.* (Vol. 1, p. 300). The confusion that prevails in the nomenclature of this *Lycaena* is large. The old name of **idas** given by Linne used by many authors should be cancelled according to recent opinions and it seems that the safest would be to use *argus Schiff.* Variation is large in this species and its resemblance to *argus L.* has made it difficult to classify correctly to each species the various forms that

argyrognomon. *idas.*

brunnea. should belong to them. Spuler separates according to the colouration as ab. **brunnea** all such ♀♀ which have no blue suffusion and no distribution of blue scales; he justifies this procedure by stating that the illustration *caerulescens.* of Bergsträsser showed a ♀ with blue scaling. — In the ♀ ab. **caerulescens** *Gr.-Grshm.* the forewings are sky-blue with a wide black margin. On underside ocelli are small and the submarginal shows large white *caeruleomarginata.* triangular lunae. From Nishnaja Saldo in the Urals. — ab. **caeruleomarginata** *Lange* has ocelli on upperside of hindwings circumscribed by blue instead of orange whilst the black row of dots on upperside of hindwings *albomarginata.* in ♀ ab. **albomarginata** *Ebert* have white surrounds. — ♀ ab. **brunnea** *Courv.* (= extincta *Strd.*) is quite brown *brunnea.* on upperside and red marginal lunules are absent. — **coerulea** *Strd.* denotes ♀♀ with normal colouration but *coerulea.* they are said to belong to *aegidion Meissn.* which however as a rule also have blue dusted ♀♀. Markings of *inornata.* underside vary in ab. **inornata** *Grund* in such a way that the metallic markings before the outer margin are *demaculata.* entirely absent on hindwings exactly as occurs in *argus L.* — ♀ ab. **demaculata** *Strd.* has the yellow-red lunae *unipuncta.* on underside of both wings extinct. — ab. **unipuncta** *Grund* is a ♂ which shows only one basal spot on underside, a transition to *caeca Courv.* which is marked analogously to the forms already described. Of the forms *paucipuncta.* established by Courvoisier the following have been found: ab. **paucipuncta** with reduced number of ocelli: *elongata.* ab. *pluripuncta* with supernumerary eyespots; ab. **elongata** *Courv.* with elongated arcuate eyespots; ab. **extenta** *extenta* *Strd.* with cuneiform basal and arcuate eyespots; — ab. **radiata** with a confluence of marginal and arcuate *radiata.* eyespots; ab. **costajuncta** *Courv.* with a conjunction of the foremost arcuate eyespot with the corresponding *costajuncta.* basal eyespot of hindwing; ab. **retropuncta** *Courv.* with a confluence of basal and arcuate eyespots in the 3rd *retropuncta.* last hindwing cellule; ab. **limbojuncta** *Courv.* a confluence of one arcuate eyespot with the corresponding marginal *limbojuncta.* lunule; ab. **subtus-radiata** *Courv.* with ray-like confluence of all spots on underside. — ab. **misera** *Vrty.* is a *subtus-radiata.* poorish specimen probably of the autumn generation from the neighbourhood of Florence.

misera.

astragaliphora. From Pfynwald in Thurgovia Vorbrodt describes in 1911 the race **astragaliphora** which is identical with *nivea Courv.* and *nivea Oberth.* ♂ is large, lustrous light blue on upperside, underside snow white, ♀♀ unusually large, not under 28 mm wing expanse, with varying often very glossy blue dusting, however chiefly characterised by a coherent chain of yellow-red pointed spots to all wings from anal angle to apex. Under- *vallesiaca.* side is grey-yellow to yellow-brown. — **vallesiaca** *Oberth.* may be considered as belonging to subsp. *calliopis Bsd.* It occurs in the Rhone Valley in Valais. It is distinguished by a violet streak surrounded by the paler blue of the disc stretching from the discal cell of forewings, sometimes also of hindwings in cuneiform shape to the apex, often extending into the dark margin. — In northern France, Morbihan, Landes, Charente, *armoricana.* but especially around Rennes we find subsp. **armoricana** *Oberth.* ♂ is bluish violet on upperside with a particularly fine black margin and white fringes. Ground colour of underside is grey with brownish tone and well developed markings. There are metallic black surrounded ocelli in the yellow submarginal band on hindwings. ♀ is brown on upperside with dark grey fringes and faint violet sheen at base of wings. Underside somewhat paler brownish than ♂, all black spots and dots as in ♂ but with paler surround. Orange band is wider than in ♂ and the metallic blue ocelli therein more prominent on hindwings. ♀♀ occur having the basal half of the wings, especially the hindwings, scaled with blue. The race is larger than normal.

saturior. From Vernet-les-Bains in the east Pyrenees Verity describes the race **saturior** which according to his opinion is a mountain form of *armoricana.* It corresponds to the illustrations 261 and 262 in Oberthür's Et. Lép. Comp. The upperside is very dark, margin of ♂ unusually wide and black. — In Sierra Nevada and *nevadensis.* Sierra de Alfacar in southern Spain Oberthür discovered subsp. **nevadensis** which somewhat resembles ♂ *bellieri Oberth.* from Corsica both in colouration and width of the black margin, whilst the underside varies considerably. Ground colour of same is a brownish tinged paler grey. Base of hindwings is suffused bluish-green to the row of 4 black basal spots widely encircled by white. Discoidal lunules and large black ocelli of the arcuate row of forewings are widely circumscribed by white. Orange band only narrow. Discoidal lunule on hindwings and the 2 upper dots of the discal ocelli are blackish with white ringlets whilst the remainder of the dots of the discal ocelli lie in a wide whitish band which extends to the orange coloured submarginal band. Blue ocelli are complete and very striking. Ground colour of ♀ is brown on upperside with grey-brown fringes and vivid orange lunae on margin of all wings. Underside almost as in ♂ only the bluish-green dusting is missing at base of hindwings and the blue ocelli in the orange band are still larger than *vogelii.* in ♂. — From Taghzeft in the middle Atlas in Algeria a further race is reported viz: **vogelii** *Oberth.* with upperside of both sexes grey-brown, somewhat paler in ♀. Discoidal lunules are black and especially large on forewings. with faint white ringlets. Fringes checked white and brown. Black submarginal spots are edged by an orange coloured band which again is margined finely by black. Close to the outer margin there is a row of small whitish-blue sagittate marks lying internervally with the points towards the base. Underside is pale flax-grey with slight silvery sheen. Forewings with very large vivid black ocelli with white ringlets and the submarginal orange lunae have inwards and outwards black conical marks. These attach themselves to white sagittate marks towards the base. Body is brown on upperside with whitish hairs on underside. — *corsica.* subsp. **corsica** *Tutt* (= bellieri *Oberth.*) is generally of goodly size. ♂♂ of this race have the wide black margin typical of *argus L.*, whilst the corsican *argus* have a narrow black margin of the typical *argyrog-*

nomon. A research undertaken by Dr. Chapman has established the specific relationship of both races. ♂ is violet-blue on upperside, slightly darker than *armoricana* with the wide margin and white fringes already mentioned. Underside is grey with an inclination to brownish. Black spots large with light surrounds. Ocelli blue with metallic sheen situate in the orange band of hindwings and not being very striking. The orange band of forewings is still more suppressed by the ground colour than on hindwings. Ground colour of ♀ is brown-black on upperside with black marginal spots on hindwings. Basal area of both wings and inner margin of hindwings violet-blue. Underside is somewhat lighter than in ♂, orange band more vivid especially on hindwings on which also the metallic blue ocelli with their black surrounds stand out more sharply. — In Italy we find a series of more or less justified races, which however are not always easily distinguishable from one another. The hilly country of Parma and Modena is the home of the race **argellus** *Trti.* A fairly large form with ♂♂ 23—26 mm and ♀♀ 25—28 mm expanse. The ♂ is paler lilac-blue than all other italian races and the fringes contrast sharply from the hair-fine black marginal. On hindwings the small black marginal spots are distinct and well separated from margin. Ground colour of underside is whitish-grey with reduced spots. Ochre-yellow submarginal band is narrow and light on hindwings, absent on forewings. The metallic blue ocelli are round and brightly glossy. Base of all wings shows bluish sheen. ♀♀ show a rich violet-blue dusting on upperside of all wings; ochre-yellow marginal lunules are mostly extinct; marginal dots of hindwings large, longish, on blue ground distinctly separated from margin, decorated towards base with fine faint orange-yellow lunules. — In northern Italy on the Lake of Lugano and in Liguria we find in May and again in September **ligurica** *Courv.*, a larger race than name type form. Colouration of upperside resembles *semiargus Rott.* (Vol. 1, p. 319) with a wide dark margin of 1½ mm which extends on the hindwings inwards in a few dentations and dots; veins are dusted with black. Underside often yellowish. — **nocensis** described by Dannehl from the Etsch and Nons Valleys is a very large form and the ♂ is said to remind one of ♂ *calliopis* with a lead-white-grey (sic!) underside. According to the description the race must have close resemblance to *ligurica Courv.* — **opulenta** *Vrty.* is a sub-race classified here from below Intra on the Lago Maggiore (900 m) which varies so little that it might just as well be placed to *ligurica*. Specimens with especially wide margin are denominated as **latolimbo** by Verity.

argellus. *ligurica.* *nocensis.* *opulenta.* *latolimbo.*

The author would like to see **difficilis** *Std.* recognised as a separate species. It is from the Arlberg territory (1400 m) on the tyrolian side, from the neighbourhood of Innsbruck on the Talsohle, limited to localities of only a few square metres. As it varies so little from *ligurica Oberth.* (?) and also from *argyrognomon*, only an examination of the genitals and androconia would give certainty as to whether it should be separated. This however has been too much trouble for the author according to what he writes. However until this is done *difficilis* can at the best only achieve the rank of a doubtful race. — **abetonica** *Vrty.* from the Abetone Pass in the Apennines, occurring at 1400 m altitude, shows a tendency in the ♀ to approach the appearance of the ♂. Occasionally it can only be distinguished by the darker colouration of the underside. — **alpophila** *Vrty.* (= calliopides *Vrty.*) belongs to *calliopis Bsd.* (Vol. 1, p. 301) and is a new name for *alsus Hbn.* and denotes the alpine form of *calliopis* in contrast to the form of this race occurring in the plains. — **apenninophila** *Vrty.* from the neighbourhood of the Apennines around Lucca differs from the former by the distinctly browner underside as well as by the somewhat paler upperside. The ♀♀ have a limited blue area at the base on upper surface of wings. — In contrast to the former: **australissima** *Vrty.* the race (according to Verity!) from the plains and the coast of Tuscany around Forte dei Marmi; this is of somewhat smaller size than *apenninophila* and has white or pale grey underside in the ♂. Colour and markings are vivid in both sexes. ♀ has large orange lunae and black marginal spots on upperside which are extended as in *ncvadensis Oberth.* As a sub-race Verity describes **ultima** from the Mainarde Mountains of the province of Caserta. The differences however are so minute and it is questionable whether they are constant so that a denomination had best been left. The same may apply to many others. — **magnalpina** a race established by Verity describing a form occurring with *calliopis* and said to be a transition between this and *opulenta Vrty.* It is a question of an individual aberration in which the ocelli of the arcuate row are larger and the metallic ocelli more vivid. The grey ground colour of underside is generally paler. — The form **bellerioides** *Vrty.* from the Cottic Alps is exceedingly similar to *bellieri Oberth.* and belongs to *calliopides Vrty.* from the same locality. — A most pronounced moor race from Beuerberg and the Loisachtal is named **uliginosa** *Dannehl.* ♂♂ are brilliant silvery blue with white dusting which is particularly striking on the veins towards the margin where it forms rays. On hindwings the black marginal spots form ocelli with white ringlets, on the other hand they sometimes unite forming a wide black band. Underside is also very light without brown tone. ♀♀ vary very much both in size and marking. Often unicoloured black-brown specimens occur and again such with a wide yellow band which extends also to the forewings. Quite blue ♀♀ are very rare, more often the hindwings appear completely blue and the forewings only as far as the basal area. The ray-like ordination of the blue dusting is characteristic. — A smaller race occurs in the croatian Velabit and in Dalmatia, described as **croatica** *Grund.* Both sexes are only 22 mm and less expanse. ♂♂ are coloured a dull blue on upperside but not so dark as *ligurica*; on underside they are characteristically pale, appearing almost whitish with sharply outlined, strongly contrasting black dots. ♀♀ never show a blue sheen, however slight on upperside. — **balcanica** *Züllich* occurs at medium altitudes at about 1400 m in the Rilo territory and Gioktepa in southern Bulgaria. It is distinguished by very dark violet upper-

difficilis. *abetonica.* *alpophila.* *apenninophila.* *australissima.* *ultima.* *magnalpina.* *bellerioides.* *uliginosa.* *croatica.* *balcanica.*

side almost as in typical *optilete*, and by a wider more intensive black margin as in *latolimbo Vrty.*, with which however it is not in any way related; the curious felt-like androconia appression of *latolimbo* is absent in *balcanica*. Underside brown-grey, more inclined towards brown as in mid-european specimens. — I could *bergeri.* not obtain a specimen of the var. **bergeri** *Kunezow* from the north coast of the Aral Lake and also the russian *trans-* description was not available to me. — subsp. **transcaucasica** *Rbl.* occurring in S. Armenia shows the ♀♀ with *caucasica.* blue dusting on upperside and wide black margin. Marginal spots of hindwings are large and inwardly edged with red, therefore closely resembling *callarge Stgr.* (Vol. 1, p. 303, pl. 78 e). On the underside both sexes show a brownish-grey ground colour and in the ♂ considerably reduced marginal spots. General appearance resembles *maracandica Ersch.* (Vol. 1, p. 304) and *argiva Gr.-Grshm.*

barine. **L. barine** *Leech* (Vol. 1. p. 305, pl. 78 f). Matsumura describes according to a ♂ the subsp. **asonis** from *asonis.* Mount Aso near Kumamoto at Kiushiu, it is smaller than the name type form and has pale blue-grey upperside to forewings without black markings with the exception of the discoidal lunule and marginal dots on hindwings. Fringes are brown proximally and white distally. On underside of hindwngs submarginal spots are consider- *heijonis.* ably smaller than in the name type form. — **heijonis** *Mats.* described from a ♀ from Heijo in Corea turns out to be a race of *barine*, differing from same by the reduced lilac on forewings which are brown in the outer ⅓rd; also on hindwings only the basal area is lilac and the brown submarginal spots appear to be reduced. Fringes of forewings are brown but white at apex. Underside has a dark grey ground colour and enlarged black spots. Expanse of wings 36 mm.

cleobis. **L. cleobis** *Brem.* (Vol. 1, p. 302, pl. 78 f). Matsumura also describes further additions to this eastern species and all the races mentioned here are described as separate species, generally only from a few or even a single specimen. No examination of the genitals has taken place and from the descriptions as well as the unsatisfactory, scarcely successful black illustrations one must presume a relationship to *cleobis*; in any case to justify a species, a more thorough examination of a greater number of specimens is essential. — subsp. *ishidae.* **ishidae** *Mats.* from 5 ♂♂ originally placed in 1919 to *cleobis*, but differing from same as follows: black spots of all wings with white ringlets. Veins the same as ground colour. Arcuate row in an oblique line, spot in cellule 2 placed far nearer the base than the 3rd cellule spot. The double spot in submarginal dark grey with a faint yellow lunule in cellules 2 and 3. Only 3 basal spots on hindwings, the spot at base of costa and discoidal lunule missing. Costal spot in centre of cellule 7 largest, roundish not crescent-shaped as in *cleobis*. Margin only very *asamensis.* narrow, veins expanded triangularly. — subsp. **asamensis** *Mats.* according to 4 ♂♂ from the Mountains of Asama, Yunomaru and Mitsutoge (Fuji) on Honshu, differ from *ishidae* by more extensive blue dusting of wings and wider black margin with white fringes which are darker in the basal half. Discoidal lunule of forewings black whilst in *ishidae* it is the same colour as ground colour. At base of hindwings there is a faint greenish sheen. Spot in cellule 2 of forewings moved further towards the base like the one in cellule 3, whilst in *ishidae* both these spots are placed immediately below the discoidal lunule. The double marginal spots larger and more distinct and with a yellowish band between the rows of spots like *cleobis Brem.* Hindwings with 2 spots in *shiroumana.* cellule 7 widely separated from one another, discoidal lunule black and distinct. — subsp. **shiroumana** *Mats.* according to a ♂ from Mount Shirouma in the province of Shinano is described as a separate species and differs from the previous races as follows: veins of both wings more narrowly margined with black, black discoidal lunule more distinct; fringes of wings white mixed with black hairs, whilst in *asamensis* the basal half is black. Underside darker, with many larger black spots on forewings of which the one in cellule 2 is immediately below the discoidal lunule, therefore moved much nearer to base than in *asamensis*. Both spots in cellule 7 are much more closely proximated than in the previous race. Black anal spot in cellule 2 with a few metallic blue scales. Fringes black towards the apex at extremities of veins. — Also according to a single ♂ from the Mountain *yarigada-* Yarigadake near Kamicochi in the province of Shinano **yarigadakeana** *Mats.* has been described as a separate *keana.* species. It differs from *asamensis* by the narrow black margin of all wings and the fringes which are completely white except at the extremities of the veins. Ground colour of underside grey-white and the space between the arcuate row and submarginal row of dots is paler on forewings than on hindwings. Apex of hindwings pure white whilst in *asamanis* it is grey.

lucifera. **L. lucifera** *Stgr.* (Vol. 1, p. 302, pl. 78 g, h). In the mountains around Batang in Szechuan subsp. *lucifuga.* **lucifuga** *Fruhst.* was captured but only in the ♀ sex. It is considerably smaller than the name type form and distinctly distinguishable by the completely black upperside. On the hindwings it is true there are quite faint traces of greenish crescent marks. Underside is darker than typical *lucifera*. Black marks are striking when considered in relationship to the smallness of the insect; base of wings suffused with green. Yellowish submarginal lunules are absent so that the black insignificant striations only form quite minute silvery conical *lucina.* marks. — Grum-Grshimailo also describes from Sung-pang in Szechuan the subsp. **lucina** from 3 ♂♂ which are larger and darker than the name type form and at the same time show reduced markings. Forewings show smaller spots, hindwings with almost completely metallic green lustre. Almost without spots and markings.

L. pylaon *Fisch.-Wald.* (Vol. 1, p. 302, pl. 78 h). Only 3 varieties of this not very rare species are newly deseribed. — ab. **nigropuncta** *Sheldon* corresponds exactly to Figure 339 of Herrich-Schäffer which showed a row of black marginal dots on the upperside of hindwings whilst ab. **immaculata** *Sheldon* shows neither these blaek marginal spots nor the red lunae. — ab. **lederi** *Thierry-Mieg* is a ♀ with elongated spots from Anatolia which Lederer illustrated in his Ann. Soc. Ent. Belg. Vol. 9, pl. 3. Fig. 2. *pylaon. nigropuncta. immaculata. lederi.*

L. sephyrus *Friw.* (Vol. 1, p. 303, pl. 78 h) has chiefly been added to by the usual individual aberrations. — ab. **albolimbata** *Courv.* has white instead of yellow-red marginal stripes and ab. **rubrimaculata** *Courv.* is a ♂ having 4 dots with red ringlets on the margin of both hindwings. — ab. **elongata** *Courv.* shows arcuate eyespots elongated; — ab. **parallela** *Courv.* has the 3rd and 4th arcuate eyespot conjoined with the discoidal lunule by parallel streaks, whilst in ab. **radiata** *Courv.* various arcuate eyespots are conjoined in rays with the marginal lunules. — subsp. **philbyi** *Graves* from Petra, Zarga and the Valley Kluweilfa in Transjordania is a very pretty and easily recognisable raee. The ♂♂ are pale violet on upperside with narrow black margins. Extremities of veins are scaled with black on both wings, on hindwings there are internervally further small black marginal striations. Underside darker grey-brown than *zephyrinus Christ.* (78 h). Oeelli of underside are larger, espeeially those of the arcuate row, black encireled with white. The red-orange band is edged on both sides with small blaek rows of spots which are partially margined with white. Hindwings also show bold ocelli. Red-orange band distinetly bordered inwards with sagittate marks which vary in size. all the black spots have distinet white ringlets. *sephyrus. albolimbata. rubrimaculata. elongata. parallela. radiata. philbyi.*

There are 2 main forms of the ♀ and a 3rd individual aberration. The larger one has dark brownish ground eolour on upperside; forewings sealed with purple-violet in ⅔rds of the basal area of the wings and a fine blaek margin with white fringes. The blaek marginal spots are partly capped with red. Hindwings the same but with more extensive purple-blue dusting as well as narrow black margin and white fringes. The black marginal dots are bordered distally by a fine white line, the 3 anal spots are capped with red. Underside somewhat more pale reddish-brown than in the ♂. All ocelli are deep black and prominent with white ringlets. Orange-red lunae remarkably large, eapped inwardly with black and outwardly with the white surround of the marginal dots. The other much smaller form of the ♀ shows deep dark brown ground colour reminding one somewhat of *medon* but with traces of faint violet dusting on all wings and with small orange-red submarginal spots in eellules 2 and 3 on both wings. Underside is a fairly dusky mouse grey. The black spots are larger and more pronounced than in any other related race. The blaek marginal dots on hindwings show traces of greenish silvery seales in eellules 1 c and 2. As a variety there is a 3rd ♀ aberration whieh is larger than the first above described having an almost complete row of orange-red submarginal lunules of almost reetangular shape. — subsp. **trappi** *Vrty.* is a new name for *lycidas Trapp* nee *Meigen.* which had already been utilised. *trappi.*

L. allardi *Oberth.* (Vol. 1, p. 303, pl. 78 i). The new subsp. **ungemachi** *Rothsch.* captured in the Reraya Valley at an altitude of 1500—2000 m in the High Atlas differs from the name type form by the deeper blue upperside and intensive mouse-grey underside. Also the spots of underside are eonsiderably smaller in the majority of specimens, especially the ♀♀. *allardi. ungemachi.*

L. loewii *Z.* (Vol. 1, p. 303, pl. 78 i). Of this very small species the following new races are established; — subsp. **johannae** *Andres* from Wadi Riehed near Heluan and the Mokkattam mountains in Egypt. The differenee lies chiefly in the ♀ which is blue on the upperside like typical asiatic ♀♀ although inclining more to violet; black margin is wider than in the ♂ and thereby veins appear thicker. Further the metallic spot on the underside of hindwings reflects through distinctly on the upperside as a black dot whieh is not the case in the ♂. The underside of ♀ is paler, markings clearer and not so diffuse as in the ♂ which has a suffusion of bluish on the underside especially at base of wings. A transition to the typical ♀ form is a ♀ captured in the same locality. — ab. **dingleri** *Andres* whieh has a grey-brown instead of a blue surface and streaks of lustrous light blue extending into forewings from the dark margin. On hindwings there are similar coloured and some white streaks, partly with black centres. — subsp. **lockharti** *Hemming* from Quasr Azraq in Transjordania differs in the ♂ from the name type form by the clear, glossy sky-blue ground eolour of the upperside whieh is entirely without a purple sheen. The margin is narrower, black and intersected by the veins which appear to be paler than ground colour. Fringes glossy snow-white. Underside is pale whitish-grey without brown tone; the white ringlets to the submedian ocelli form a slight contrast to the pale ground eolour. Upperside of ♀ is grey-brown with a row of whitish streaks lying internervally behind the disc and small blackish-brown marginal spots on all wings. Diseoidal lunule of forewings is eneireled by white. On the hindwings in eell 1 b there is an orange eoloured submarginal lunule. Underside is pale brownish-grey instead of pale brown as in *loewii*. Markings closely resemble the ♂ but are more redueed than in name type form. Among the ♀♀ of this region there are some having the clear, glossy sky-blue of the ♂♂ and have been named ab. **margaritae** *Hemming.* *loewii. johannae. dingleri. lockharti. margaritae.*

antilibanotica. gigas. — A further subsp. **antilibanotica** *Hemming* emanates from Baalbeck and has a very limited distribution in a small very deep waterway. It is a large race approximately like **gigas** *Stgr.* (Vol. 1, p. 303, pl. 78 i, k). The ♂ is somewhat darker than *lockharti* and the veins do not appear lighter than the ground colour and are margined with black towards the black margin, which is wider. Fringes are snow-white. ♀♀ differ from *lockharti* quite apart from the pale grey underside, by the large vivid orange-red instead of yellow-orange lunule spots in cellule 1 b, and similarly smaller ones in cellules 1 a and 2. Blue metallic spots are small and only faintly developed.

sanoga. — subsp. **sanoga** *Evans* from Chitral and Kashmir is also of the size of *gigas Stgr.* Ground colour of ♂ is dark purple-blue with exceptionally wide black margin. Veins are lined with black and also the discoidal lunule. ♀♀ appear uniformly dark black-brown with 2 medium large yellow-orange coloured lunae in anal angle. Ground colour of underside darker than in name type form; ocelli of arcuate row and submarginal lunae appear bolder and more prominent. — *baroghila.* **baroghila** *Tytler* (16 h) from the Baroghil Pass in N. E. Chitral is very close to *sanoga* the ♂ 33 mm, the ♀ 35 mm expanse. Upperside of all wings ashy-brown in ♀ as in the ♂, but with blue scales scattered over the basal area of wings and hindwings with a row of dark marginal spots bordered with blue-grey. Upperside of ♂ unicoloured ash-brown without any marking, underside precisely as *sanoga.*

christophi. lesliei. **L. christophi** *Stgr.* (Vol. 1, p. 303, pl. 78 k). A new race from Ladak, Hunza and Gilgit is named subsp. **lesliei** *Tytler.* On upperside it is like *samudra Mr.* (79 a) and not easily distinguishable from same, whilst the ♂♂ have very much larger and more prominent black ocelli of the arcuate row on underside of forewings. The ♀♀ occurring at Kiris are much more blue on upperside than those from Chitral.

alcedo. noah. **L. alcedo** *Christ.* (Vol. 1, p. 304, pl. 79 a). A pair described by Herz from Noah-Pairambar in Bokhara is named **noah.** The race varies from the persian *alcedo* by its greater size and lighter, more brilliant blue ground colour, the narrower black margin which is not so sharply outlined but gradually merges into the ground colour. Basal spot is absent in both sexes on underside of forewings. This never occurs in the name type form and is a feature of both sexes. The silver spots on hindwings are also absent whilst they regularly occur in persian specimens.

optilete. elongata. pluripuncta. ochrostigma. **L. optilete** *Knoch.* (Vol. 1. p. 304, pl. 79 b). — Of the usual variations also ab. **elongata** *Courv.* with distended marginal spots and ab. **pluripuncta** *Courv.* with additional dots are found in this species. — From the Grossglockner region Züllich records ♀ ab. *obsoleta* with reduced ocelli on underside of forewings as well as arcuate eyespots of hindwings absent. Dannehl describes ab. **ochrostigma** from E. Prussia and Hanover. These are ♀♀ with well developed orange to pale yellow spots in front of the outer margin on upperside of hindwings; also ab. **illustris** which has a distinct white submarginal formed from fine undulating lines enclosing the ocelli in front of the margin of hindwings. — *illustris. daisetsuzana.* subsp. **daisetsuzana** *Mats.* from Mount Daisetu in Hokkaido only known in the ♂ sex and differing from *sibirica Stgr.* (Vol. 1, p. 304) by the more reddish tone of the blue of upperside and the dark margin of both wings which is only half as wide. Underside of forewings is darker grey with larger, more distinct spots with white ringlets. Hindwings grey-white with faint green hue; basal spots appear larger, submarginal region smaller and lighter, reduced as also are the red anal spots. — subsp. *shonis.* **shonis** *Mats.* from Happa in the province Kankyonando in Corea has an expanse of 30 mm in the ♂ and 29 mm in ♀ and reminds one also of *sibiricus Stgr.* The ♂♂ are distinguishable by the larger, wider form of the wings, the darker blue which does not incline to reddish on the upperside, as well as the enlarged spot marking of the upperside. The reddish lunae in cellules 1 b and 2 are particularly striking. The ♀ shows only one reddish spot in cellule 1 b on underside of hindwings. — Of subsp. *kurilensis.* **kurilensis** *Mats.* captured on the Kurile Islands the ♂♂ have the expanse of about 37 mm, they are smaller than *sibiricus* and therefore show much smaller spot markings on underside of wings. Generally the marginal spots are absent on forewings and the reddish lunule in cellule 1 b on hindwings is scarcely perceptible. — Also from the Kurile Islands, from Kamuikota, Etorop Island, we have subsp. *kamuikotana.* **kamuikotana** *Mats.* and also only the ♂♂ which differ on the underside of forewings from *sibiricus.* They show larger spots with paler surrounds of which the black inner spot in cellule 1 b is separated into 2. Ground colour of underside is considerably darker.

panagaea. taygetica. **L. panagaea** *H.-Schäff.* (Vol. 1, p. 304, pl. 79 b). — Rebel obtained at an altitude of 2100 m on the Taygetos the race **taygetica** of which the ♂ is distinguishable by a narrower margin, only 2 mm on forewings, 1 mm on hindwings. The discoidal lunule of forewings is crescent shape in both sexes. It is absent on hindwings. The ♀ is black-grey on upperside with a nebulous blue at base of wings. In front of the margin there are as in the ♂ blackish marginal dots with faint surrounds. Underside is grey without the brownish tone of the name type form. The red spots at the anal angle of the hindwings are absent, whilst all the other markings are normal.

iris. astorica. **L. iris** *Stgr.* (Vol. 1, p. 305, pl. 79 b). — Only subsp. **astorica** *Tytler* (16 e) from the Gudhai in Astor and Haita nela in Gilgit is newly described. We have here a very fine race which has more yellowish-brown in place of brown on the upperside of forewings, especially in specimens from Gilgit. Underside of forewings is light yellowish-brown, that of hindwings more yellowish-grey with very wide white band between the arcuate row and the submarginal spots. The black ocelli have white ringlets and are somewhat irregularly placed.

L. osiris *O. B.-H.* from the Kagysman Mountains in Armenia flying on meadows at an altitude of 2300—2500 m. Upperside a uniform black-brown without any markings, slightly darker than *isis Stgr.*, only the black end cell spot is faintly visible. A ♀ has 2 yellow marginal spots on hindwings. Fringes are pure white without checking. Underside reminds one of *eumedon Esp.*, but is paler brownish grey. Arcuate row on forewings consists of 6 large ocelli. Hindwings show a white streak, base of wings with metallic green dusting with 4 basal spots and yellow-red triangular marginal markings. *osiris.*

L. baton *Bgstr.* (Vol. 1, p. 305, pl. 79 a) and allied forms have been minutely examined by Capt. A. F. Hemming. *abencerragus Pier.* and *vicrama Mr.* hitherto deemed subspecies of *baton* have consequently been separated as distinct species. The formation of the androconia and differences in the genitals have brought about this separation of species. Such a thorough examination of a species and its forms cannot be too highly welcomed and esteemed and forms an agreeable contrast to the claims of many well known authors when creating species, subspecies and aberrations on slight colour variations or quite negligible transpositions of markings. The following individual variations of *baton* are described: ab. **obscurata** *Vrty.* are extremely small ♀♀ with distinctly brownish underside, — ♀ ab. **nigra** *Hannem.* is grey-black without any blue dusting and ♀ ab. **caerulea** *Hannem.* is completely suffused with blue. The two latter forms are from the neighbourhood of Berlin. — ab. **praecocior** *Vrty.* are ♀♀ from the surroundings of Florence, which are so heavily covered with blue that it is difficult to separate them from ♂. Probably *caerulea Hannem.* belongs to this form. — **oicles** *Dannehl* from the warm valleys of the Mendel and of Terlan is a larger summer form, pale grey with markedly bleached appearance, thinly scaled, so that markings of underside reflect through; marginal dots very large, somewhat diffuse, the yellow marginal band enlarged and often coherent. Margin black and very narrow. — ab. **impunctata** *Skala* is without basal eyespots. — According to the denominations of Courvoisier we have: — ab. **costajuncta** with conjoined anterior basal eyespot and anterior eyespot of arcuate row on hindwings; — ab. **multipuncta** with supernumerary arcuate eyespots; — ab. **unipuncta** with only one basal eyespot and **tripuncta** *Courv.* with 3 basal eyespots. — subsp. **occidentalis** *Hemming* from N. Portugal, Morocco and Algeria has a brownish grey underside instead of bluish or whitish grey ground colour and with lighter checked fringes than name type form; orange lunae of the submarginal on hindwings more heavily developed and are more or less quadrate or wider than long, in contrast to *baton*. Ground colour of upperside of ♂ is a dull blue. margin of forewings narrow, black marginal spots of hindwings small; a black cell end spot on both wings. Upperside of ♀ shows a blackish brown, dusted with blue at base of wings. — Verity describes the race *baton.* *obscurata.* *nigra.* *caerulea.* *praecocior.* *oicles.* *impunctata.* *costajuncta.* *multipuncta.* *unipuncta.* *tripuncta.* *occidentalis.*

praepanoptes from Ambollas and Vernet-les-Bains in the East Pyrenees. It is halfway between *baton* and *panoptes Hbn.* (79 e) inclining more to the latter. However it has minutely small orange lunae on underside and besides it is larger than typical andalusian *panoptes* of average size. In the ♂ the blue of the upperside extends to the fringes and the small black marginal dots are covered thereby. Underside shows a paler grey with small black dots. The ♀ has a faint blue tinge on upperside. — The race described by Ribbe as *andalusica* is nothing else than *panoptes Hbn.*, whilst on the other hand **orlaria** *Ribbe* is a very rare modification of *panoptes* (= andalusica *Ribbe*) showing a more or less very striking row of white spots at outer margin on upperside of forewings. — **madriti** *Vrty.* from Escorial near Madrid is said to be a larger race of *baton*, larger than the andalusian *panoptes* and characterised by extensive blue scaling on upperside of wings in ♂♂. Underside however just like *panoptes*, grey with large black spots without a trace of orange. As however at Escorial we find other *baton*, identical with *panoptes*, this may be a more or less frequent modification. — The race **albonotata** *Sag.* occurs in the Province Toledo, Saragossa, New Castile, at Escorial near Madrid, in Catalonia and beyond Spain in the Department of the East Pyrenees. It can be considered a transition from the name type form to *panoptes*. As the name indicates it has white streaks lying internervally near margin of wing on underside; these chiefly occur in the ♀, but can also be found in the ♂, although they are less pronounced. With the characteristic white markings it reminds one somewhat of the rare *orlaria* of *panoptes*. The upperside of the ♂ is also lighter and more lustrous blue with narrower black margin. *albonotata* differs from the name type form distinctly and can be immediately recognised by the absence of the orange lunae on underside of hindwings. *praepanoptes.* *orlaria.* *madriti.* *albonotata.*

L. abencerragus *Pier.* (Vol. 1, p. 305) is now considered a species and includes only the race *famelica Seitz* (79 e) of those described in Vol. 1, p. 305. The following new subspecies have also been classified to it: — **amelia** *Hemming* from Alemtejo in Portugal, it is smaller than the other races of *abencerragus*; the wing contour is more rounded with a considerable reduction in the blue scaling on upperside of ♂ and with darker, more ashy grey ground colour of underside with larger basal spots and ocelli in the arcuate row. — A further subspecies **cavazzae** *Romei* from Sidi-Messri and Homs in Tripolitania shows a darker upperside of wings than in name type form, but not so dark as *amelia*. The marking of the spots on underside of hindwings is just as pronounced as that of forewings, thus reminding one of *amelia*. The ashy grey underside, whilst being paler than *amelia* is nevertheless darker than in name type form. — G. Krüger discovered the race **coloniarum** *Trti.* which is characterised by the extensive lustrous blue scaling of upperside of ♂. The fairly well developed ocelli of underside remind one very much of *cavazzae*. In size it is somewhat smaller than *abencerragus* and rather larger *abencerragus.* *amelia.* *cavazzae.* *coloniarum.*

than *famelica Seitz*. It is also from N. Africa and around Derna in Cyrenaica. — The largest of all *abencerragus*
nabataeus. races is **nabataeus** *Graves* from Petra, Qasr-Wimad and Qasr-Azraq in Transjordania. The ♂ is easily recognisable by the considerable reduction in the blue scaling of upperside reminding one at the same time of *amelia*, although the tone of the ground colour is not such a dark black brown. The ground colour of underside and its markings closely resemble those of *cavazzae*. Orange markings are generally present, but only faintly developed and not especially striking.

vicrama. The newly created species **vicrama** *Mr.* (Vol. 1, p. 305 and Vol. 9, p. 929) has, of the races described
schiffer- in Vol. 1, p. 305, *clara Christ.* and *cashmirensis Mr.* allotted to it. Further as a new subspecies **schiffer-**
mülleri. **mülleri** *Hemming* from Deutsch-Altenburg, Marchfeld and Oberweiden in Lower Austria and Gratz in Styria. The length of wings is on the average about 11 mm in ♂, 12,5 mm in ♀. In appearance it quite resembles the *baton* name type form, but it has quite differently formed androconia and genitals. The other differences and macroscopic characteristics are difficult to describe but sufficient to diagnose the race without having to resort to an examination of the genitals and androconia. In both sexes on upperside the check markings of the fringes extend to the outermost margin, whilst in *baton* generally they only extend to half the cilia. Discoidal lunule of ♂ is small or absent in contrast to *baton*; it is always absent on hindwings, similarly the black borderation of veins in the ♂, which is generally present in *baton*. Upperside of ♂ is pale light blue, in *baton* dark blue. Underside in both sexes whitish grey whilst in *baton* it is bluish or brownish grey, basal spots and arcuate ocelli with faintly indicated white ringlets in contrast to those of *baton* which are generally with distinct ringlets. Discoidal spot of forewings generally long and narrow, in *baton* often wide in comparison to
rubri- length and often quadrate. — An individual aberration is ♀ ab. **rubripuncta** *Courv.* classified to *clara Christ.*
puncta. It is described from Van in Armenia and has on upperside of hindwings 3 round nice red ocelli in the anal part of outer margin. The middle one is the largest with a smaller one each side.

orion. **L. orion** *Pall.* (Vol. 1, p. 306, pl. 79 e). — ♂ ab. **czernyi** *Diöszeghi* from Hungary has a silvery blue
czernyi. upperside with violet sheen and very large discoidal lunules, below which there are longish black dots on
rubrifascia- forewings. — ♀ ab. **rubrifasciata** *Courv.* was caught in Silesia and shows on upperside a contiguous reddish
ta. zone corresponding to the yellow-red marginal band of underside and next to the dark marginal spots of hind-
arcuata. wings with their light edges. — ab. **arcuata** *Courv.* has the posterior basal eyespots and the 2 posterior arcuate ocelli of forewings merged forming one eyespot and between these conglomerate spots there is a sort of a bar. —
semiar- **semiarcuata** *Courv.*, as the name indicates, has only a partial confluence of this nature. — In ab. **costa-juncta**
cuata. *Courv.* the most anterior basal eyespot is conjoined with the corresponding submedian eyespot. — ab.
costajuncta. *striata.* **striata** *Schultz* (= radiata *Courv.*) has ocelli of underside widely elongated like streaks and merging with one
caeca. another. — ab. **caeca** *Züllich* from the surroundings of Vienna is a ♂ that is almost entirely without eyespots on underside and only the deep orange submarginal band with the small marginal dots and the 4 discal lunae
metioche. are retained. — Fruhstorfer found the subsp. **metioche** in the Valais, Tessin and S. Tyrol, which is larger than the more northern races with restricted blue suffusion at base on upperside. It is also characterised by the very large black maculae, which often merge forming complete bands. Submarginal band is ochre yellow
menippe. and relatively narrow. Here we should classify a ♀ form **menippe** *Fruhst.* from Lana near Meran which differs by its yellowish instead of whitish underside, the black spots of which distinctly reflect through on upperside.
lariana. — In subsp. **lariana** *Fruhst.* from Monte Bisbino and from the Lake of Como, the ♂♂ are distinguishable by a paler blue which extends to the whitish submarginal dots of forewings, whilst the hindwings are richly marked with white like *ornata Stgr.* (79 e) but without the black ocelli with white ringlets. Underside as in *metioche*
parvula. but with much wider and paler submarginal band that appears more red-brown than yellowish. — **parvula** *Sag.* is a very small race from Espluga de Francoli in Spain which is characterised by a strong contrast on underside between the pale ground colour and the sharply outlined black border. Hindwings are paler still than forewings
coreana. and have still more restricted markings than same. — Of the subsp. **coreana** *Mats.* only the ♂♂ are known, they differ from those of the name type form by having the basal half of forewings suffused with lilac, discoidal spots smaller and narrower. The white submarginal line is absent. On hindwings the large black marginal spots
schmidti. are enclosed in scarcely perceptible whitish cuneiform marks. ♂ ab. **schmidti** *Kard.* comes under *ornata Stgr.* (79 e) and emanates from the neighbourhood of Vladivostock, where it occurs in the Spring generation and is distinguished by heavy antemedial dots.

bavius. **L. bavius** *Ev.* (Vol. 1, p. 306, pl. 79 e). Diöszeghi describes the race **hungarica** from the Comitat
hungarica. Szolnok in East Hungary. The ♂ has a greenish blue or turkish blue colour, rarely with violet sheen and sometimes with golden spots on costa. The ♀ is three-quarters dark violet with greenish or ultramarine lustre on forewings. Hindwings suffused to the extent of ⅔rds with turkish blue or green violet. Both sexes have
rothschildi. pale grey undersides with slight violet sheen; the spot markings vary in development. — The ♀ ab. **rothschildi**
vargai. *Diösz.* is distinguishable from *hungarica* by the yellow red spots on hindwings and ♀ ab. **vargai** *Diösz.* by the discoidal lunule on hindwings which is heavily marked and prominent.

L. cyane *Ev.* (16 e and Vol. 1, p. 306). The ♀ of the name type has base of underside dusted with blue and there are several small, clear-cut glossy metallic, blue-green dots at margin of anal angle. Koschantschikov discovered ♀ ab. **radiata** in the neighbourhood of Minussinsk in E. Siberia. It has upperside scaled with blue in ray-like formation. — subp. **maxima** *O. B.-H.* occurs in Kansu around Lanchowfoo, the ♂♂ are of 25 mm expanse and thus much larger than typical *cyane* from the Urals. Upperside intensely lustrous light blue; underside more brownish and with smaller spots than *cyane*. Discoidal lunule of forewings just as faint as in specimens from the western Sajan mountains; the red band of hindwings dissolved into separate spots. The ♀ looks unicolourous brown. — Around Minussinsk we find the race **kozhantschikovi** *Shelj.* which is very close to the name type form. It is also larger than same, especially the ♀♀ which have an expanse of 35 mm. whilst typical *cyane* scarcely exceed 31 mm. Wing contour is somewhat wider and more rounded. Blue of upperside of ♂♂ shows a still purer sky blue and both sexes show somewhat larger black marginal dots on hindwings than *cyane*. — A ♂ from Issykkul in the collection of O. Bang-Haas is classified as a separate race **ella,** it can be recognised at once by its dusky impression. Upperside dull purple-violet, not sky blue, with a wide black border of 1½ mm breadth. Ground colour scarcely any paler anterior to margin, cell end spot of forewing only indicated by a faint striation. Underside impure white, even a delicate grey; blue-green dusting of hindwings covers the basal eyespots and extends up to the anal submarginal row. All ocelli dark brown with white edges. Submarginal lunae contiguous, brown, very prominent, the yellow marginal lunae extremely pale, only one distinct metallic blue anal spot is present. — Suschkin described a further race **tarbagata** from Tarbargatai. The upperside of ♂ is without whitish spots, black margin of forewings generally wider. In the ♀ the whitish spots before the margin of wing are absent. The yellow-red lunules only present in cellules 2 and 3. Black markings reduced in size, but a very deep black shade. The ♂ has an expanse of 24—29 mm, the ♀ 26—29 mm.

cyane. *radiata* *maxima* *kozhantschikori.* *ella.* *tarbagata.*

L. orbitulus *Prun.* (Vol. 1, p. 307, pl. 79 f). Of this common Lycaena, that is distributed over the entire palaearctic territory, a large number of new subspecies have been created, quite apart from the usual variations. Whether these races that are described as separate species, often according to one or a few specimens captured in hardly accessible regions in Asia, will actually prove to be species, must be left to further research when a richer and more comprehensive material may be available. — ♀ ab. **striata** *Rev.* (= ab. radiata *Courv.*) from the Torrentalp, has a blue circumscription to the discoidal lunule on upperside of forewings and two blue streaks at apex. The black spots of underside of forewings are elongated to streaks and merge. — ab. *subtus-punctis-fortissimis Favre* with larger ocelli on underside can be classified with *orbitulinus Stgr.* (Vol. 1, p. 307). — ab. **transparens** *Courv.* has markings of underside reflected through on upperside. — ab. **albopuncta** *Tutt* has the normal black spots, as white spots without black centres, but transition forms also occur having pure white ocelli mixed with such with black pupils. — In ab. **obsoleta** *Tutt* (caeca *Courv.*, caeca *Musch.*) only the discoidal lunule is retained on underside of hindwings, all the other maculae, the basal and costal spots, as well as spots of arcuate row are missing. — ab. **sinepuncta** *Tutt* denotes specimens without basal spots on fore and hindwings and ab. **unipuncta** *Tutt* such with only one basal spot. — ♂ ab. **latimargo** *Ebert* is classified to **albo-ocellata** *Wheel.-Gillm.* It occurs in the Alps of Algau and has a dark upperside with wide black margin extending into the area of the wings as far as discoidal lunule, so that there is only a small area at base for the blue dusting. — An exact counterpart hereto is ♂ ab. **pseudoborealis** *Ebert* having the black margin reduced to a fine line, so that the marginal spots of hindwings stand out unattached in the ground colour. — **dealbata** *Vrty.* from Stelvio and Schmalzkopf can scarcely claim to be a race, it is said to be less densely scaled and much paler on upper and undersides than normal specimens.

orbitulus. *transparens* *albopuncta.* *obsoleta.* *sinepuncta.* *unipuncta.* *latimargo.* *alboocellata.* *pseudoborealis.* *dealbata.*

L. nevadensis *Züllich* is described as a separate species chiefly on account of a variation in the androconia, but would better be classified under *orbitulus*. It occurs on Monte Lobo at 2400 m altitude in the Sierra Nevada and resembles the name type form in many essential features. Expanse on the average is 25 mm in ♂, 23 mm in ♀. Ground colour of ♂♂ is uniformly dusky brown, somewhat like *orbitulus* ♀♀ with metallic green scaling at base of wings. Fringes are yellowish in ♂, pure white in ♀. Dark margin does not contrast with ground colour. Discoidal lunules of both sexes better developed on forewings than on hindwings, generally with white surround on former. Both sexes have marginal spots surrounded with white and decorated inwards with dark brown triangular cuneiform marks. ♂ and ♀ show the same brown ground colour on underside. In contrast to *orbitulus* the oval black ocelli of the arcuate row have distinct white surrounds and attach themselves to the row of black cuneiform spots next to the orange coloured anal lunae. Also all the other ocelli are a deep black with rich white surrounds. The form of the androconia is somewhat more widely oval with fewer ribs than in the name type form. — subsp. **astorica** *Tytler* (16 c) from the Stacksby Pass and Goorais in Astor is far removed from the typical *orbitulus leela Nic.* (Vol. 1, p. 307) by the absence of the pale spots on upperside of ♂ and reduction of the pale patches which have become small and unimportant. — subsp. **walli** *Evans* is described from Chitral. It has a prominent cell end spot on upperside of forewings, but no white cell spots; sometimes dark ones occur in the ♀. Ground colour of ♂ is

nevadensis. *astorica.* *walli.*

greenish blue with a 2 mm wide dark margin, that of ♀ unicoloured brown. Underside of forewings is grey with striking large black cell spot. The 2nd ocellus of the postmedian row is situate below the cell spot. Hindwings with outer area white, discal area brown and base more or less green. At cell end large white spots; *lamasem.* ocelli six and seven conjoined. — subsp. **lamasem** *Oberth.* (16 b) from the neighbourhood of Ta-tsien-lu in Szechuan is deemed by Oberthür to be a separate species, but without a doubt it should be ranged to *orbitulus*. Upperside in both sexes shows blackish ground colour with white and brown checked fringes. Forewings to the extent of three quarters, hindwings half scaled with violet, so that there is only a wide black margin left. On underside the ground colour is grey brown, rather lighter grey on forewings, whilst a brownish tone predominates on hindwing. In each cellule on all wings there are two white spots, the one behind the other, situate internervally. The proximal one is double as long and more than the one that is nearer the margin; both taper off towards the base and are rounded. There is a white cell spot on forewing; on hindwing a white spot close to costa and base and from base of wing a white streak extends almost to the margin nearly filling out the entire cell.

L. pyrenaica Bsd. (Vol. 1, p. 307, pl. 79 g) according to the researches of Chapman is a distinct species to *asturiensis.* *orbitulus*, occurring concurrently with same. — Closely related to *pyrenaica* is **asturiensis** *Oberth.* from the Picos de Europa in the Spanish Pyrenees and classified under same as subspecies. It differs by a row of whitish dots lying internervally along the very fine black margin of all wings. The ♀ has the submarginal zone of all wings decorated with whitish triangular spots, the black discoidal spot on forewings with fine white border, on hindwings with wide whitish nebula. Ground colour brown on upperside, pale ochre-brown on underside in both sexes. Black markings of forewings very pronounced and with whitish outlines; only a few whitish spots on hindwings and the wide whitish submarginal zone is bordered by a fine black marginal line. In the anal angle there are usually two small dark reddish brown spots.

pheretiades. **L. pheretiades** *Ev.* (Vol. 1, p. 307, pl. 79 h). — ♀ ab. **caerulea** *Courv.* from Pamir is a fine colour *caerulea.* variation showing the forewings brown and hindwings suffused nearly all over by blue. — ab. **caeca** *Courv.* *caeca.* shows the retrogression so often described in that all spots of underside show strong inclination to disappear. — Avinoff describes a smaller, more thinly scaled race from the eastern Pamir, which shows less silver lustre *micra.* than name form and which he has named **micra.** Only the ♂♂ are known to him, they have dark underside with small black ocelli with dainty white pupils and are characterised by the absence of submarginal markings *philebus.* on all wings. — subsp. **philebus** *Fruhst.* is a high alpine race from Kashgar. It is small and should be classified between *pheretulus* (79 h) and *pheres Stgr.* (Vol. 1, p. 308). Both sexes are still smaller than the smallest ♂♂ from Alai, whilst the brown-black margin is more extensive, the black cell end spot of forewings is more prominent than in other local races. On underside of hindwings the ♂ is richly decorated with a number of small black dots which are more numerous than in those from more westerly localities. The green base of wings *dschagataicus.* is darker. — **dschagataicus** *O. B.-H.* from Chotan is only known in ♂ sex. It expands only 23 mm and is close to *pheretulus Stgr.* (79 h). Upperside metallic green, less bluish than *pheretulus* and with wide black margin. Underside of all wings dark grey with distinctly developed row of pupilled ocelli, also on hindwings, not white with faint eyespots as *pheretulus*.

pheretes. **L. pheretes** *Hbn.* (Vol. 1, p. 308, pl. 79 h, i). As was to be expected Asia has provided a number of new races of this species that is distributed over the entire palaearctic area, although it is nowhere common. In this *azurica.* case also however there is insufficient material available for exhaustive research. — A ♀ ab. **azurica** *Rowl.-Br.* from Larche shows a black upperside (instead of cinnamon brown) with striking azure blue discoidal spot on *pupillata.* forewings. Base of all wings heavily scaled with blue in the same shade as in ♂. — ab. **pupillata** *Musch.* from Glärnisch shows all white spots of hindwings with pupils, as on forewings with the exception of the discoidal *minor.* lunule. — ab. **minor** *Musch.* are small specimens with wing expanse of 23 mm from the same locality as the *caeca.* former and ♂ ab. **caeca** *Courv.* from the Frutt in Oberwalden has all other ocelli and spots extinct with the *pharis* exception of the black discoidal spot on forewings and the white middle streak on hindwings. — subsp. **pharis** *Fawc.* (Vol. 9, pl. 153 m) has a lustrous sky blue upperside with very distinctly checked fringes and is distinctly *artenita.* separable from the following *artenita Fruhst.* by the marking of the underside. — subsp. **artenita** *Fruhst.* (Vol. 9, pl. 153 m) from Mus-tag-ata, Yarkend and Beik in Hindu Kush is distinguishable from *pharis* by the lighter blue ♂♂ and the more sharply outlined black margin to all wings. The ♀ has dark smoky brown colouration of upperside with very faint blue basal dusting on both wings. Underside of ♂ is darker grey than in *pharis*: black spot markings of forewings as in *lehanus Mr.* (79 i and Vol. 9, pl. 153 m); white spots of hindwings more roundish than in *pharis*. *artenita* differs from *lehanus* by the much fainter margin, as well as by the dark brown *armathea.* tone of the white and the dusky underside of hindwings of ♂. — **armathea** *Fruhst.* (Vol. 9, pl. 153 l as *armathoa*) occurs in June at an altitude of abt 4500 m around Shahidulla in South Chotan. It approaches *asiatica Elwes* from Sikkim, but the ♀ is not unicoloured brown-black as same, but has an extensive dark blue hue at base of all wings. In colouration of underside it closely resembles *pheretes* from the Engadin, but the hindwings are darker brown. The spots that are characteristic of *pheretes* are yellowish and more distinct than in *artenita* and

lehanus, whilst the black dot marking is precisely like the latter. — subsp. **arcaseia** *Fruhst.* from Kambajong in Thibet has paler blue ♂♂ than name type form, about in the colouration of *L. hylas Esp.* (Vol. 1, pl. 80 i) but with not such a strong lustre and with a faintly greenish hue. The black margin is almost as wide as in *L. tithonus O.* (Vol. 1, p. 311) and the fringes are unusually long. Ground colour of hindwings is strikingly pale: forewings whitish with black streak at end of cell with a white nebula. Between end of cell and apex of wings there are 3 round whitish spots. Hindwings resemble those of *L. galathea Blch.* (Vol. 9, p. 929) from Kashmir, but without metallic gloss. Basal area more extensive and lighter green than in *asiatica Elw.*, the white spots just like same. — subsp. **tatsienluica** *Oberth.* from Yunnan and Thibet generally has a greenish or yellowish white underside to hindwings, with which the usual *pheretes* markings only slightly contrast. — **amphirrhoë** *Oberth.* (16 c) also from the neighbourhood of Ta-tsien-lu is of same size as name type. Both sexes have unicoloured brown upperside with whitish discoidal lunule and long white fringes. Underside whitish with yellowish tinge. Basal ⅔rds of forewing pale ochre brown with a few patches of same shade as ground colour. Hindwings have an ochreous band in the middle which is interrupted by patches of ground colour. Near the costa and base are 2 ochreous spots; basal and inner area of wings inclined to be grey with 2 round patches of ground colour. *amphirrhoë* was described as a new species, but without a doubt it can be classified to the *pheretes* group.

arcaseia. *tatsienluica.* *amphirrhoë.*

L. janigena *Riley* (16 c) occurs at great altitudes in the Mount Everest territory at around 15 000 feet. It closely resembles *artenita Fruhst.* (Vol. 9, pl. 153 m) but the whitish streaks on underside of forewings are larger and more pronounced and the spots at base and the ocelli are diffuse forming streaks and nebulae. Upperside reminds one of *pheretulus Stgr.* (79 h) and is not easily distinguishable on upperside, even though the middle spot of disc is usually fainter in ♂ and scarcely perceptible in ♀. — **morsheadi** *Evans* occurs similarly at great altitudes around 15 000 feet in Tasam and near Phusa, even at 16 000 feet altitude in the Mt. Everest territory. Originally the ♀ which is dark brown with slight dark blue dusting was described as the ♂. It is closely related to the previous *janigena Riley*. ♀ measures 23 mm, ♂ 19 mm. Margin of ♀ very narrow, dark, no white cell end spot. Underside of forewings lead grey with large diffuse discoidal lunule, white ocelli of areuate row with black pupils, fringes white with brown checks at the extremity of each vein. Underside chocolate brown, but with so many white markings that not much is left of ground colour. ♂ is deep purple blue on upperside with coarse silky lustre, almost like *pharis Fawc.* (Vol. 9, pl. 153 m) and is scarcely distinguishable from same on upperside. Both have the same narrow black margin on forewings and wide margin on hindwings. *morsheadi* is distinguishable from *janigena* by the less rounded wings and the narrower margin, as well as by the much larger white markings of underside.

janigena. *morsheadi.*

L. berezowskii *Gr.-Grshm.* from Sungpang in Szechuan, according to the author is closely related to *pheretes* and the 3 ♂♂ captured have violet upperside with wide brown margin. Fringes are white, brown at extremities of veins and the latter similarly brown. Probably also a race of *pheretes* and perhaps identical with one of those already described.

berezowskii.

L. omphisa *Mr.* (= metallica *Fldr.*) (Vol. 1, p. 308, pl. 79 i and Vol. 9, pl. 153 m). — subsp. **chitralensis** *Tytler* is a pretty race. The ♂ differs from name type by the 2½ mm wide dark margin and the blue of the upperside which has a purple sheen without any greenish hue. The ♀♀ are sometimes quite brown on upperside and sometimes they show a little blue dusting at base. Underside of both sexes is green with a wide white submarginal band. It occurs in S. Chitral. — subsp. **gilgitica** *Tytler* (16 e) from Shandur and Baroghil Pass in Chitral and from Gilgit and Astor, is closely related. The ♂ has a still wider, but somewhat paler margin than *chitralensis*, the blue of upperside is rather a lilac blue, appearing a purer light blue towards the base. Underside of hindwings is quite green with faint yellowish tone and a few white spots. The ♀ has a quite brown upperside.

omphisa. *chitralensis.* *gilgitica.*

L. galathea *Blanch.* (Vol. 9, p. 929) looks extremely like *omphisa Mr.* and is widely distributed from Kashmir to Kumaon. The ♂ is intensively metallic dark blue on upperside. On underside apex of wings and hindwings are bright blue green. On hindwings only at end of cell a white streak with a sinuate chain of same in middle from cell end spot to the margin through the disc of hindwings. — subsp. **chitralica** *Evans* from Chitral, the ♂ with a 1 mm wide dark margin; the ♀ brown with large orange spots at anal angle of forewings and hindwings. On underside the discoidal lunules are sometimes white.

galathea. *chitralica.*

L. felicis *Oberth.* (Vol. 1, p. 308, pl. 79 i). The species described by Elwes as **younghusbandi** from Gyantse in Thibet, can scarcely be differentiated from *felicis*. The markings of underside show only the smallest variation. Only the upperside of ♂ is slightly less dark grey-black, it is almost lead colour and the margin is scarcely perceptible. The absence of the discal spot on both wings in ♂ and ♀ is characteristic, as well as the more or less metallic spots visible at anal angle. Compare Vol. 9, p. 928.

felicis. *younghusbandi.*

dis. **L. dis** *Ev.* (Vol. 1, p. 308). Of this very little known species we have subsp. **luana** caught at Lhassa in
luana. Thibet. It is distinctly smaller than *dis* and has a pronounced greyish upperside with large crescent shaped cell end spot. Forewings are uniform grey on underside with similar markings to *dis* and the subsequent
errans. *errans*, although smaller than in the latter. — subsp. **errans** *Riley* is established from a single ♂ caught at Phari in Thibet at 14 000 feet altitude. It is smaller than *dis* and *luana*, upperside a rich dark brown with faint pale green dusting and with a prominent white discoidal spot. The fringes are long and pure white with small, intensively black dots at the extremities of the veins. The underside of the forewings is dark brown with faint greenish hue, large white spot at the end of cell and another shortly anterior to same in cell. On the hindwings rusty ground colour predominates, dusted with grey at base, otherwise richly marked with white as the forewings.

idas. **L. idas** *Rmb.* (Vol. 1, p. 308, pl. 79 k). — Also of this rare spanish species an ab. **caeca** *Courv.* has been
caeca. found, characterised by the reduction and absence of spots on underside. — In contrast hereto the race **chap-**
chapmani. **manni** *Ribbe* occurring in Casayo, Peña Trevinca in N. W. Spain has a much more richly developed spot marking of underside; the spots are larger and with much wider white borders than in other local races; ground colour
morronen- itself is a darker brown and not so light as in name type form. — **morronensis** *Ribbe* from Mte. Morron at 2000 m
sis. altitude in the Sierra Espuña, Province Murcia has a heavy white surround to the discoidal lunule on upperside of forewings. The underside of all wings is as pale brown as in specimens from Sierra Nevada, but there are fewer white ringed ocelli perceptible, especially on the hindwings. Altogether all the markings are characteristically reduced.

psylorita. **L. psylorita** *Frr.* (Vol. 1, p. 308, pl. 79 k). — Only ab. **caeca** *Courv.* of this Island Lycaena is newly
caeca. described. Basal and median ocelli of underside are absent.

astrarche. **L. astrarche** *Bgstr.* (Vol. 1, p. 309, pl. 79 k). A number of new subspecies and races are established of this common species, corresponding to its occurrence over the whole of the palaearctic zone and quite apart from the variations which occur everywhere. This is especially the case as Verity has busied himself with this
pallidior. species and in a none too precise way. — ab. **pallidior** *Oberth.* has very pale yellow spots on underside which are
radiata. otherwise orange red. — ab. **radiata** *Oberth.* with ocelli of underside extended like rays and ab. **elongata** *Courv.*
elongata. with elongated ocelli of arcuate row. — ab. **pluripuncta** *Courv.* shows supernumerary ocelli, whilst ab. **caeca**
pluri- *Blach.* has no basal eyespots or arcuate row of ocelli. — ab. **impunctata** *Oberth.* shows still greater reduction
puncta. of ocelli and retains only 4 black cell spots. — ab. **cuneata** *Carter* belongs to the scotch race *artaxerxes F.* (80 a)
caeca. with upperside like *semiallous Harr.* (Vol. 1, p. 309). Underside of all wings shows a confluence of submarginal
impunctata. spots with arcuate ocelli, especially on hindwings the cuneiform marks created in this way extend to the base
cuneata. of wings. — ab. **caeruleopuncta** *Haggart* is also of scotch origin, it has blue discoidal marks. — ab. **recessa** *Carter*
caeruleo- *& Harrison* shows discoidal spot absent, whilst ab. **caeruleoannulata** *Carter & Harr.* has discoidal spot with blue
puncta. ringlet and ab. **alboannulata** *Carter & Harr.* discoidal spot with white ringlet. — These 3 last aberrations
recessa. together with the following ab. **carteri** *Carter* — with extinct median ocelli — belong to the race of *salmacis*
caeruleo- *Harr.* (Vol. 1, p. 309) and were captured in Yorkshire and around Durham. — subsp. **gallica** *Oberth.* from the
annulata. surroundings of Paris, in the Bretagne, Poitou and certain parts of the Pyrenees comes between *agestis Hbn.*
albo- and *calida Bell.*: it has bright orange-red spots on upperside, somewhat smaller in ♂ than in ♀, often they form
annulata. a narrow band in the ♂, such as is always the case in the ♀. The underside of ♂ is grey, of ♀ yellow-red. —
carteri. *montana Rühl-Heyne* (Vol. 1, p. 309) (= heynei *Wnukowsky*) has had to be re-christened **montensis** *Vrty.* for
gallica. reasons of priority. *nevadensis Oberth.* is also synonymous with same. It differs from *allous Hbn.* (79 k) by greater size and the cream yellow underside of ♂ which has a somewhat reddish hue. Underside of ♀ is reddish yellow with red submarginal spots on all 4 wings; it is the counterpart of *calida Bell.* — Verity describes the
montensis. race **semimontensis** from Orihuela near Albarracin at 1700 m altitude, showing infinitesimal variations which
semi- are nevertheless said to be constant. The lunule spots are nearer the margin, other characteristics are shades of colours which can scarcely be described accurately enough to enable one to form a picture. — The same
montana- applies to the race **montanabella** *Vrty.* from Villabarcas and Huelama in New Castile at an altitude of 1200 m.
bella. Underside is slightly paler, orange spots of upperside larger, brighter and warmer in tone than in *montensis.*
montium- The safest characteristic is the locality label. — **montiummagna** *Vrty.* occurs in the Apuan Alps in N. Tuscany.
magna. it is said to closely resemble *montensis*, especially on account of the reduced lunules, which appear to have a more reddish orange tone in the ♂ than in specimens from Spain. Underside of ♂ pale light grey, rarely with yellow submarginal band, that of ♀ very pale grey-yellow. The situation of the marginal lunules is especially
infralbens. characteristic, they are further from the margin than in typical *astrarche.* — ab. **infralbens** *Vrty.* is classified to *ornata Stgr.* (80 a) from the neighbourhood of Florence, it is striking on account of the whitish underside in contrast to the relatively darkish grey of *ornata.* — Verity assembles the *astrarche* forms of N. Italy especially
pallidefulva. Tuscany and the surroundings of Florence under the race **pallidefulva** *Vrty.* They closely resemble *calida Bell.*,

but differ by the more yellowish brown upperside, the less brilliant orange red submarginal spots, which are inclined to be dark yellow on both sides. Underside of ♂ has the shade of creamy coffee colour and ground colour of ♀ is very pale reddish yellow. — The 1st generation ab. **subornata** *Vrty.* from the neighbourhood of the Pian di Mugnone differs from the 2nd generation by the white underside, such as occurs in specimens from Sicily, and the less well developed red lunule spots. — At the same time this *subornata* is the 1st generation of the following race **subcalida** *Vrty.* which is a mixture of *gallica Oberth.*, *calida Bell.* and *pallidefulva Vrty.* and is said to be the commonest and most widely distributed race of Mid and North Italy. — ab. **infraplumbens** *Vrty.* is a dark lead-grey form without scarcely any admixture of reddish. It occurs among the 2nd generation in Tuscany, whilst ab. **infracacaotica** *Vrty.* flies among the 1st brood in Tuscany and has a blue scaled base on a chocolate brown ground colour of upperside. — In Syria and Asia Minor we find **infracandida** *Vrty.* a sub-race of *ornata Stgr.* which shows considerable variation both in regard to the size and brilliance of the yellow-red lunules on upper and undersides, and the pure white ground colour of underside. — **inhonora** *Jach.* from central and South Russia has unicolourous dark brown ♂♂ and the ♀♀ are also almost without red lunule spots like *allous Hbn.* (79 k) and *calida Bell.* — **hakutozana** *Mats.* was described from a ♂ from Happa in Corea as a species, but certainly should be classified to *astrarche*. Upperside is dark brown, costa narrowly white, discoidal lunule darker than ground colour. Fringes snow white, dark brown in the proximal half. Underside almost exactly as *astrarche*, but the submarginal red lunae are absent on all wings.

subornata. *subcalida.* *infra-plumbens.* *infra-cacaotica.* *infra-candida.* *inhonora.* *hakutozana.*

L. cramera *Erschsch.* (Vol. 1, p. 309, pl. 80 a) hitherto held to be a subspecies of *astrarche Bgstr.* is however according to Verity's researches a distinct species. It is distributed from the Canary Islands over N. Africa to the iberian peninsular. The name form is described from specimens of the 1st generation from the Canary Islands. This is apparent as the ground colour of underside is indicated as grey, whilst **canariensis** *Bell.* (hitherto generally deemed to be synonymous with *cramera*) belongs to the summer generation and has a brown or dark yellow underside. — According to Verity 2 further races occur in Spain and Portugal. The race **subcramera** *Vrty.* occurs in May at an altitude of 1200 m in the Sierra Nevada, differing from the name type by the larger and brilliant red lunae. The exact opposite is the case with the other race **aridogenita** *Vrty.* which has very small and pale lunae. It occurs from mid June to September in Covilha in the Sierra da Estrella in Portugal at an altitude of 800—1000 m and around Cuenca in New Castile in September at 1200 m height. — The 1st generation has been named **minusornata** *Vrty.* having very slight variations. — Also at the end of June and beginning of July specimens taken at Albarracin have been named by Verity **subcanariensis.** These however also occur around Barcelona and in the middle Atlas in Algeria according to the illustrations 4433 and 34 in Oberthür's Et. Lép. Comp.; they form a transition of *aridogenita* and *canariensis*. — ab. **lilliputana** *Oberth.* is a dwarf race from Sebdou in Algeria and without justification was re-named *sebdouica* by Strand. — **delphica** *Wnukowsky* is a new name, that has become necessary for reasons of priority for **alpina** *Stgr.* nec *Berce* (Vol. 1, p. 309). — **pallidecramera** and **pallidecanariensis** *Vrty.* are 2 names Dr. Verity has kindly provided for forms still to be discovered, which he presumes occur in damp localities in Africa, bearing wide and pale lunules and which should be classified below his races *minusornata* and *aridogenita*. A kindlier provision for the future can scarcely be imagined!

cramera. *canariensis.* *subcramera.* *aridogenita.* *minus-ornata.* *sub-canariensis.* *lilliputana.* *delphica.* *alpina.* *pallide-cramera.* *pallide-canariensis.*

L. eumedon *Esp.* (= chiron *Rott.*) (Vol. 1, p. 309, pl. 80 a). — ab. **perversa** *Schultz* has poorly developed yellow red marginal lunules in ♂ sex on upperside and quite unicolourous black upperside without yellow red lunules in ♀. — ab. **vittata** *Oberth.* denotes forms showing the light streak on underside of hindwing constantly and pronouncedly, as appears to be a characteristic of the race of *eumedon* from E. Prussia. — ab. **nigrostriata** *Musch.* has the light streak of underside of hindwings intersected by a black streak. — ab. **plurimacula** *Schultz* shows supernumerary spots on underside of forewings, whilst **subtusimpunctata** *Oberth.* (= caeca *Courv.*, subtusimpunctata *Favre*) denominates the disappearance of basal and arcuate eyespots on underside. — ab. **alpicola** described by Kolar from Davos in the Engadin is close to *antiqua Stgr.* (Vol. 1, 80 b) in regard to size, grey underside of wings and reduced markings. The white streak is only very faint, as all the other light markings and the ocelli incline to be extinguished. — **alticola** *Nitzsche* can scarcely be differentiated from same and therefore scarcely justifies denomination. It occurs at Matrei in E. Tyrol. It is smaller than specimens from Lower Austria with faintly indicated red marginal spots on upperside and very reduced ocelli. — **maritima** *Oberth.* is a ♂ from the Maritime Alps with peculiarly coloured underside; this is a paler grey than *speveri Husz.* (80 b) with greenish dusted basal area on hindwings and a greenish dusted streak also in the proximal part. The arcuate ocelli of hindwings are situate in a fairly wide white band. — The race **glaciata** *Vrty.* discovered at Sulden at an altitude of 1800 m expands only 21—23 mm instead of 25—29 mm of a normal *eumedon*, also the wing contour is less elongated. The ground colour of upperside is a palish grey instead of the normal deep black or dark brown colour. The red maculae absolutely or nearly the same. — The name given by Stauder of *meridionalis* to denote a race occurring at an altitude of 1000—1500 m on the Mte Forito and the Aspromonte region is pre-occupied and must be altered into **stauderi.** The ♂ is deep black on upperside, the ♀ deep black-

eumedon. *perversa.* *vittata.* *nigrostriata.* *pluri-macula.* *sublus-impunctata.* *alpicola.* *alticola.* *maritima.* *glaciata.* *stauderi.*

brown with reddish marginal lunae on upperside of both wings. Underside is considerably darker than the name type; ocelli exceptionally large, standing out sharply and nicely surrounded by white. Streak on hindwings very large and distinct, also marginal spots and the row of brown cuneiform spots immediately next to same. — subsp. *sarykola.* **sarykola** *Shelj.* is a small race from the eastern Pamir, ♂ 22 mm and ♀ 28 mm expanse. It differs from the west european specimens by the duskier underside and expansion of dark basal dusting, which is inclined to be blue-green, sometimes even dark green without any lustre even though more extensive. The reddish marginal spots are less pointed, which is particularly the case in the ♂. Ground colour of underside of ♀ is brownish instead of grey. All ♂♂ are without the reddish marginal spots on upperside, whilst in the ♀ these are always well developed on hindwings and sometimes also on forewings.

donzelii. **L. donzelii** *Bsd.* (Vol. 1, p. 310, pl. 80 b). — ab. **obscura** *Courv.* are ♂♂ which can be so dusky that *obscura.* there is no trace of blue left. They are chiefly found in the high mountain valleys of the Valais. — ♀ ab. *caerulea.* **caerulea** *Courv.* from Turkestan has a few ocelli with light borders in the relatively narrow margin of hindwings and besides has the blue, faintly greenish grey ground colour of the ♂. — *caerulea Dannehl* cannot be differ- *carteri.* entiated from the former. — ab. **carteri** *Harris* is without the median ocelli. — subsp. **borsippa** *Fruhst.* from the *borsippa.* Kentei region differs from Swiss specimens by the richer blue-grey of upperside of ♂, besides the brown margin of both wings appears to be narrower. Underside especially of hindwings shows a predominantly smoky brown *bittis.* colour. — subsp. **bittis** *Fruhst.* from the central Altai is very similar, but the brown of the wing area shows a greater expansion. Underside is darker than in name type but nevertheless not such a smoky brown on hind- *kenteana.* wings. — Both races are closely related to *septentrionalis Krul.* (Vol. 1, p. 310). — ab. **kenteana** *Bang-H. i. l.* is synonymous with *borsippa Fruhst.* (Vol. 9, pl. 153 m) or in any case only a form of same. — According to Cour- *nicias.* voisier the name **nicias** *Mg.* should have rights of priority over *donzelii Bsd.*

anteros. **L. anteros** *Frr.* (Vol. 1, p. 310, pl. 80 c). — ab. **albata** *Courv.* shows a white underside and ♂ ab. *rubri-* *albata.* *maculata Courv.* is synonymous with ab. *pupillata Aign.* (Vol. 1, p. 310). — **altera** *Züllich* is the 2nd generation *altera.* flying from beginning to middle of August in the Rilo region at 1200 m altitude in S. W. Bulgaria and around Gosktepe at 200 m in S. E. Bulgaria. The ♂ is pale blue green on upperside, deep brown on underside and never pale grey like specimens of the 1st generation. Besides this *altera* is much smaller, sometimes only half the size. The ♀ differs by the pale brown upperside as against the chocolate brown of the 1st generation. Underside with still darker ground colour than ♂.

eros. **L. eros** *O.* (= tithonus *Hbn.*) (Vol. 1, p. 311, pl. 80 c, d). A number of the usual variations in colour and markings have been made known of this common and widely distributed species. — Firstly the ♀ ab. *caerulea.* **caerulea** *Courv.* from the Valais, which has many features in common with *caerulescens* (80 d) described by Oberthür from W. China. It has the nice silvery blue of the ♂ and at the same time a very narrow black *senilis.* margin. Further aberrations of the upperside are ♀ ab. **senilis** *Rbl.* from the Gross Glockner region, which looks like *albipicta Schultz* (Vol. 1, p. 311) and further has grey white marginal spots on all wings. — ♂ ab. *lunulata.* **lunulata** *Courv.* is a very rare form with black discoidal lunules on upperside and ♂ ab. **punctifera** *Courv.* has *punctifera.* dots along the margin on upperside of hindwings. — **impunctata** *Courv.* denotes specimens without basal *impunctata.* eyespots, **unipunctata** *Courv.* when with one and **tripunctata** *Courv.* when with 3 basal eyespots. — ab. **arcuata** *unipunc-* *tata.* *Courv.* and **semiarcuata** *Courv.* designate specimens with complete or partial arcuate conjunction of the two *tripunctata.* lower basal eyespots with the corresponding arcuate ocelli. — ab. **costapuncta** *Courv.* has the uppermost basal *arcuata.* eyespot conjoined with the uppermost spot of the median row and ab. **discojuncta** *Courv.* has the cell end spot *semiarcua-* *ta.* united with the median ocellus. — ab. **confluenstransversa** *Courv.* denotes the conjunction of single or several *costajuncta.* of the median ocelli. — ab. **obsoleta** *Courv.* is without median ocelli. — **subtusradiata** *Oberth.* (= radiata *Courv.*, *discojuncta.* subtusradiata *Blach.*) is the denomination for forms with ray-like extensions of eyespots of the median *confluens-* *transversa.* and submarginal rows whilst **digitata** denotes the same style of variation when these rays have the form- *obsoleta.* ation of fingers.

subtus- *radiata.*

digitata.

Oberthür has selected the name **subtus-minus-punctata** for forms with a reduced number of ocelli and spots *subtus-* *minus-* on underside. — The *eros* flying in the Apennines, which are characterised by more or less heavily developed *punctata.* yellow marginal lunules with attached black cuneiform marks are denominated **italica** *Oberth.* — **klaphecki** *italica.* *Courv.* is a fairly large race, ♂ 27—30 mm and ♀ 26 mm expanse described as occurring near Yenchowfoo in *klaphecki.* S. Shantung. The ♂ has strikingly acute wing contour and very pale silvery blue upperside with quite narrow margin. The ♀ is dark brown with yellow-red lunules on all wings. Underside of both sexes is of dark grey ground colour without any white interspersion. All wings are however decorated with a very wide chain of marginal lunules, golden yellow in ♂, brick red in ♀. These are quite contiguous on hindwings, whilst on forewings they are intersected by the extremities of veins. These lunules are more pronounced than in any other form *tartarus.* of *eros.* — subsp. **tartarus** *Fruhst.* is about of the same size as *eroides Friv.* (Vol. 1, p. 311) but easily distinguished from same by the narrower black margin. Upperside somewhat darker blue than swiss *eros.* Underside very similar to *eroides.* The submarginal yellow spots are also distinct on forewings. Ground colour is darker than

european specimens and the black spots more striking. Differs from *pseuderos Mr.* (Vol. 1, p. 311) from Kashmir by a generally paler colour. *tartarus* was collected around Linchowfu in Kansu. — subsp. **epodes** *Fruhst.* occurs in the Chingan Mountains. It is of the same size as *klaphecki* but with more roundish wing contour, about like *eroides*. In the colouration of upperside the race comes between *klaphecki* and the name type form, on underside it inclines more towards the latter. A row of faintly indicated yellowish spots with black surrounds on forewings together with the relatively wide row of yellow-red crescents on hindwings are characteristic. These are still larger than in *eroides*, but less extensive than in *klaphecki*. *epodes.*

L. venus *Stgr.* (Vol. 1, p. 311, pl. 80 e). — **wiskotti** *Courv.* from Naryn in Turkestan is distinguishable by its very dark underside and strikingly developed white streaks on hindwings as compared with name type. *venus. wiskotti.*

L. stoliczkana *Fldr.* (Vol. 1, p. 311). — From the western Karakoram, Khupjerah, Gujerab and Baturu we have **janetae** *Evans*, a similar race to *hunza Gr.-Grsh.* (80 e). It has however darker, more leaden ground colour, as well as dark ocelli, more boldly edged with white on both wings. On hindwings the white ringlets suppress the black pupils and create more or less wide white streaks from middle of cell to margin. In submarginal area there are fairly large triangular white spots lying internervally in place of the orange lunae. *stoliczkana. janetae.*

L. everesti *Riley* (16 d) is a new Lycaena discovered by the Mount Everest Expedition. It occurs on the northern slopes of the Himalayas at great altitudes. It is as yet not quite certain whether it is a separate species, but the genitals which are differently formed to those of *arena Fawc.* and which otherwise it closely resembles, seem to indicate that it is so. The ♀ differs considerably, the underside is darker, more brown than pale grey. The pale streaks and the more numerous small ocelli contrast more strongly than in *arena Fawc.* (Vol. 1, p. 311). Upperside of ♂ lustrous azure blue, margin narrowly black scalloped inwardly; fringes long, silvery white with darker edges. Underside of forewings a delicate grey with slight green suffusion at base, ocelli black with wide, sharply edged white ringlets. Underside of hindwings somewhat darker, inclined to brownish tone, base diffuse metallic green. A faint white spot in disc and over it a large white cuneiform mark. *everesti.*

L. superba *Stgr.* (Vol. 1, p. 312, pl. 80 f). — Only ab. **rubrimaculata** *Courv.* has been newly described, it is a ♂ with 4 black dots with red surrounds on hindwings. *superba. rubrimaculata.*

L. pulchra *Shelj.* is a fairly widely distributed species, although not frequent in any of its localities. It is known to occur at Pamirsky Post, Pshart in East Pamir and in the West Pamir at Chorog, Province Shugnan and on the river Gunt. ♂ with wing expanse 24—26 mm, ♀ 25,5—29,5 mm. Ground colour of upperside of ♂ black-brown, but almost the entire area of the forewing is fairly densely dusted with light blue scales, except at the margin. This increases in width from apex to hindmargin. The shade of blue resembles *glaucias Led.* (81 e) but differs from that of *superba Stgr.* and *dagmara Gr.-Grsh.* (80 f). A striking small black streak at closing nervure of disc. Costa with distinct white filaments up to the middle cell. Hindwings unicolourous black-brown with faint blue dusting only at base and inner margin. One or two more or less sharply outlined yellow-red spots at anal angle, corresponding to those of underside. Fringes pure white. Underside differs from *dagmara* by the grey, not yellow-brown tone. Further by the bluish green metallic lustrous and much more extensive basal dusting which extends almost to discoidal lunule and on inner margin to the dot of the median row. The white streak is bolder and more distinct than in *dagmara*, where it is often almost absent. The ♀ is brown without blue scaling on forewings, whilst faint traces of blue dusting are perceptible on hindwings. Markings agree with those of ♂. *pulchra.*

L. candalus *H.-Schäff.* (Vol. 1, p. 312, pl. 80 f). — Graves captured the new subsp. **isauricoides** on the Cedar Mountains on Lebanon at an altitude of 6000—6500′. The ♂♂ have pale greenish grey upperside with green sheen, at base inclined to metallic blue-green. Fringes long and white, margin of forewings dark brown with internerval scallops with points towards the base. Veins with black edges in outer area of wings, cell end spot narrow and black. Hindwings blue green with wide margin diminishing in size towards anal region and with a few similarly pointed processes as forewings. Ground colour of underside of forewing pale grey dusted at base with blue green, all ocelli black with white ringlets. Hindwings somewhat richer grey and blue-green dusting at base more extensive, whilst markings are fainter than in name form. ♀ differs from *candalus* by the paler brown of upperside and by the faint blue-green dusting at base of wings. Further by a submarginal band of large quadrate, diffusely pale yellow spots on forewings and a similar band of pale yellow crescents on hindwings enclosing dark blue marginal spots. Ground colour of underside is yellowish grey. Submarginal and marginal markings are fainter, but discal spots of forewings bolder than in name form. *candalus. isauricoides.*

L. dux *Riley* (16 c) from Milam and Burfu in Thibet is closely related to *icarus Rott.* (Vol. 1, pl. 80 f). The cell end spot is absent in ♂, margin as fine as a hair and black, fringes inwardly grey, outwardly white. *dux.*

Underside of forewings grey-brown. Veins darker in outer half of wings and a fine marginal line darker than ground colour. A large dark crescent mark with pale surround at cell end. The 5 ocelli of median row large, white and finely pupilled with black. Marginal spots diffusely pale grey. Hindwings verdigris, margin somewhat lighter grey than forewings and with a row of light submarginal spots. A large light mark with dark centre at cell end and behind it 2 median spots. Upperside of ♀ deep dark brown with bluish dusting at base of wings, as well as a blue sheen on inner margin of hindwings. At anal angle a grey-blue spot with black pupil. Underside resembles that of ♂ but the wings are rather wider and markings more pronounced with heavier green on hindwings. Submedian row of white spots complete, not 2 as in ♂, spots of inner submarginal row orange.

icarus. **L. icarus** *Rott.* (Vol. 1, p. 312, pl. 80 f). Individual variations, as well as the inclination to form races have been the cause for very many — often superfluous — denominations of this common and brightly marked species.

livida. Colour variations are: ♂ ab. **livida** *Gillm.* the usual bright blue is replaced by a leaden grey-blue.
albinos. Described from specimens from Speyer and Neustadt a. d. Hdt.; — ♂ ab. **albinos** *Vrty.* from Florence has quite pale white and bluish hindwings and margin of forewings of same colour, only the base of all wings shows the normal blue of the ♂. Underside very pale grey, almost white and the orange spots are scarcely perceptible; —
courvoisieri. ab. **courvoisieri** *Hirschke* is a ♂ from Bruck on the Leitha, showing upperside like the previous form only the usual *icarus* blue at base of wings, whilst the rest of the upperside of wings is considerably paler with a reddish sheen. On underside of all wings, all ocelli with the exception of basal spots are filled with red. Also the triangular submarginal spots of hindwings and the inner cuneiform marks are white instead of black. — ab.
supra-caerulea. **supra-caerulea** *Oberth.* is a ♀ from Lambèze in Algeria with quite violet blue upperside, with wide orange red complete submarginal band on all wings and margined by black cuneiform marks. Forewings show a narrow margin running to a point at anal angle and which is dissolved on hindwings to marginal dots lying internervally. — ♀ ab. **pseudocyllarus** shows a similar form of variation with heavily blue dusted basal area and is besides characterised by absence of the orange red spots on both sides of wings. — ab. **latimargo** *Courv.* are ♂♂ with much expanded black margin. The ♀♀ form is just the opposite, it has costa of forewings and margins of all wings whitish and this is particularly noticeable at apex of forewings. — When the yellow-red marginal spots on underside are only narrow, pointing inwards, so that a sort of *hylas* like white margin is created, we

pseudo-cyllarus.
latimargo.

albolimbata.
punctifera.
rufo-punctata.
albo-cuneata.
caerulea-cuneata.
flavocincta.
punctigera.
fuliginosa.
alboocellata.
parvi-puncta.
crassi-puncta.
multipuncta.
pluripuncta.
excessa.
paucipunc-ta.
vacua.
postico-inocellata.
subtus-minus-punctata.
caeca.
privata.
bion.

have ab. **albolimbata** *Baum.* — ♂ ab. **punctifera** *Courv.* from Bâle and surroundings has larger black marginal spots on upperside of hindwing. — ♂ ab. **rufopunctata** has 2 distinct red or orange-red spots on upperside at anal angle, which contrast nicely with the blue ground colour. Neuburger notifies these as occurring at Beirut in Syria. — ab. **albocuneata** *Cabeau* is a ♀ with a white cuneiform mark on upper and undersides of hindwings spreading over 2 yellow lunae in middle of wings. — ♀ ab. **caerulea-cuneata** *Tutt* is brown with a lilac dusted base, cuneiform mark and discoidal lunule on upperside of hindwings. — ab. **flavocincta** *Rowl.-Br.* is a ♀ from Lozère with rich brown upperside and a continuous row of orange coloured submarginal lunae. — ♀ ab. **punctigera** *Aign.* has 6 distinct black marginal spots on upperside of hindwings, a counterpart to the ♂ ab. *punctifera Courv.* — ab. **fuliginosa** *Courv.* has the area of the red marginal spots duskily suffused. — ab. **alboocellata** *Gillm.* has white ocelli without black centres. — ab. **parvipuncta** *Courv.* are specimens with reduced ocelli and dots. — ab. **crassipuncta** *Courv.* shows an inclination to increase size of ocelli; — the aberrations **multipuncta** and **pluripuncta** serve to denote forms with an excessive number of ocelli; Gillmer creates the name ab. **excessa** for a similar form of aberration, having supernumerary eyespots on underside between the discoidal lunule and arcuate row or beyond same. — ab. **paucipuncta** *Courv.* is the opposite of these richly marked forms and is synonymous with *semipersica Tutt*; — ab. **vacua** *Gillm.* is without basal and arcuate eyespots on all wings and besides on hindwings without discoidal lunule and marginal dots. — The ab. **postico-inocellata** *Gillm.* without any ocelli on hindwings. — ♀ ab. **subtus-minus-punctata** *Oberth.* (= carteri *Harris*) denotes specimens with only the arcuate row extinct on underside of hindwings. — ab. **caeca** *Oberth.* (= caeca *Courv.*, caeca *Gillm.*, duesseldorfensis *Strd.*) is without basal and arcuate eyespots. — ♂ ab. **privata** *Schönf.* from Kuchelbad near Prague has a normal upperside but with a very fine black margin. Underside also of normal ground colour, but of the usual markings only the black marginal spots are retained. In place of the basal and submedian spots and also of the discoidal lunule there are white spots. Only occasionally there are scarcely perceptible black dots retained, indicating a few of the spots of the arcuate row. — ♂ ab. **bion** (*Kolar i. l.*) *Rbl.* denotes the reduction of eyespots; spots at base of forewing are absent, as also are the yellow-red marginal spots. In place of same there is a longitudinal white streak stretching along the lower median nervure of hindwings almost to the base. From Bisamberg near Vienna.

The following modifications in the number of basal eyespots (2 are taken as normal) have been named: the old *iphis Mg.* = *unipunctata Courv.* and *icarinus Stgr.* = *impunctata Courv.* — Further by Courvoisier ab. **tripunctata**, **quatuorpunctata** and **quinquepunctata**. — To be classified under ab. *polyphemus Esp.* (Vol. 1, p. 313) and varying only very slightly from same, we have *regnieri André*, *semiarcuata* and *arcuata Courv.*; — whilst ♀ ab. **biarcuata** *Fritsch* is a duplication of the well known *arcuata* form. — ab. **arcuata-**

3-punctata.
4-punctata.
5-punctata.
biarcuata.
arc.-basiel.

basielongata *Beuret* has the 1st basal spot greatly extended and the 2nd conjoined with the seventh and eighth arcuate eyespot. — ab. **analijuncta** *Beuret* denotes the conjunction of the 4th basal spot with an additional supernumerary spot. — **elongata** *Courv.* denominates the form with extended (viz. distended) median eyespots. *basielongata.* *analijuncta.* *elongata.*

ab. **subtus-maculis-extensis** *Oberth.* are specimens with ocelli of underside of forewings extended in ray-like formation. — ♀ ab. **subtus-radiata** *Oberth.* from Besançon denotes the ray-like conjunction of basal and arcuate eyespots of hindwings; synonymous with this is ab. *striata Gillm.* — ab. **digitata** *Courv.* is a *radiata* form with marks like fingers and ab. **extrema** *Courv.* denominates the extremest form of ray-like conjunction of basal spots over the discoidal lunule with the arcuate ocelli and submarginal spots and dots. — A very nice form from Geneva is **nigro-cuneata** *Lacr.* with rather pale underside and with whitish streaks in which, within the orange band, there are cuneiform black markings. — Small forms are **nana** *Grund* from Croatia of which the ♂♂ show a row of minute dots before the margin of hindwings like *celina Aust.*; **minima** *Rost. & Zap.* are dwarf forms from the neighbourhood of Rome and **liliputana** *Strd.* a dwarf form from Stuttgart. — In place of *lucia Cul.* (Vol. 1, p. 312) **lucetta** *Cul.* is substituted, but the assumption that *lucetta* is a distinct species to *icarus* is by no means a fact; similarly for reasons of nomenclature **fuchsi** *Shelj.* must be substituted for *sibirica Fuchs* (Vol. 1, p. 312). *subtus-maculis-extensis.* *subtus-radiata.* *digitata.* *extrema.* *nigro-cuneata.* *nana.* *minima.* *liliputana.* *lucetta.* *fuchsi.*

subsp. **tutti** *Oberth.* is the english race of *icarus*, which is distinguishable from continental specimens by its more extended and less truncate wing contour. In the ♂ the underside is dark greenish grey and the upperside somewhat transparent and with a faintly rosy tinted blue. The ♀♀ are usually blue with orange lunae internervally with black dots inwards, especially on hindwings. There is a whitish streak visible at apex of forewings and also at the yellow-red band. — Verity designates the race from southern Europe as **zelleri** (= meridionalis *Tutt*) and not *zellerica*, as Verity named the race later. It is named after Zeller who described it without denominating it in the Isis p. 154 in 1847. Tutt proposed to use the name *meridionalis*, but this name is superseded for reasons of nomenclature. In denominating the race Verity at the same time restricted the original area of distribution in that he gave the name **celina** *Aust.* to the sicilian race of *icarus*, although same is scarcely separable from the other italian races. *zelleri* has practically the same appearance as *celina*, only the ♂ has a slightly narrower black margin. — Tutt discriminated between the two generations giving the names **vernalis** and **aestivalis.** — Verity further creates a sub-race **rasa** for specimens from the Mainarde mountains at abt. 500 m altitude, the ♂♂ have almost white undersides with reduced or almost absent grey dusting. Further ab. **transferens** *Vrty.* for an intermediate form occurring end of June and beginning of July between the 1st and 2nd generations. It is said to occur also in September. It would be idle to waste words over the justification for such names for forms and races that merge and show practically no distinctive feature. — **rufoprivata** *Vrty.* from Sestrières at 2035 m altitude is a race of which the ♂ and ♀ have dull dark grey undersides with pale yellow marginal lunae and ♀ with widely silvery grey dusted upperside more than is usual in *icarus* ♀♀. Fringes are snow white. — ab. **rosea** *Vrty.* from the Apuan Alps are ♂♂ with lilac upperside with slightly bluish gloss and a chestnut brown margin in place of the usual black. Underside shows reddish tinge and large bold orange lunae. — **pulcherrima** *Vrty.* is the 1st generation of subsp. *celina Aust.* The ♂ has black marginal spots in contrast to the 1st generation *vernalis Tutt* of *zelleri Vrty.*; the ♀♀ are beautifully decorated with large vivid orange-red marginal lunae with blue surrounds. — ab. **transvehens** *Vrty* from Montreale, Palermo occurs in June and the ♂ has red submarginal spots on upperside, whilst the ♀ is without the nice blue of *pulcherrima*. — **sardoa** *Wgn.* the sardinian race from Laconi has ♂♂ with somewhat deeper blue than *icarus*. Underside of hindwings has brownish or brown scales in place of greenish basal dusting. Marginal lunae are brilliant yellow-red and eyespots sharply edged with white. Upperside of ♀ dusted with blue with large distinct yellow-red marginal lunae; fringes quite brown; ground colour of underside of all wings dark brown without greenish dusting at base of hindwings. The other white markings are chalky white. — subsp. **balearica** *Rbl.* from Majorca and also from Minorca is a very small and yet lightly coloured race. ♂ varies only little from typical *icarus*, but the upperside is rather more glossy blue and a few specimens have marginal spots indicated at margin of hindwings (ab. *celina Aust.*). In the ♀ the yellow-red submarginal band extends over the entire wing. Underside varies somewhat from brown to grey according to the generation. Eyespot dots well developed. — In the neighbourhood of Algiers a distinct race, **rosina** *Holl* occurs of which the ♂♂ are a a nice lilac blue on upperside with wide black margin and fairly long fringes with white extremities. As in many *celina Aust.* the spots of the underside are reflected through on upperside. The red cuneiform marks adjoining the black marginal spots on hindwings are the chief characteristic. — Stauder discovered a genuine dwarf race at Menah in the Djebel-Aures in Algeria. It is named **menahensis** *Std.* and is only 16—18 mm expanse. Upperside of ♂ very dull blue and transparent, so that the dot marking of underside is reflected through. Margin only quite narrowly indicated with short fringes. On account of the reduced eyespots of underside the race is fairly close to *semipersica Tutt.* The ground colour is much paler than in name form and dusted somewhat greenish at base. Upperside of ♀ reminds one of *rufina Oberth.* (80 g) but without the wide or continuous submarginal lunae. — **taurica** *Venzmer* which is described as a species from a ♂ taken at Tehain- *vernalis.* *aestivalis.* *rasa.* *transferens.* *rufoprivata.* *rosea.* *pulcherrima.* *transvehens.* *sardoa.* *balearica.* *rosina.* *menahensis.* *taurica.*

Alan in Bulgar-Dagh at an altitude of 1000 m, should be classified to *icarus* or *thersitis Chapm.* It is a very small ♂ of not quite 15 mm expanse, upperside very pale, transparent violet blue with very narrow black margin. Underside of forewings light grey-yellow, hindwings pure yellow. Basal spots are missing on forewings, arrangement of ocelli as in *icarus*. On hindwings the uppermost of the 4 basal spots is much enlarged, similarly the corresponding dot of the median row in cellule 7, whilst the others are all minute. In the submarginal area a row of light yellow-red roundish spots and beyond same very delicate black dots. Fringes as *icarus*. — *fugitiva.* Probably the southernmost of all *icarus* races is **fugitiva** *Btlr.* from Beluchistan, which can immediately be distinguished from all european and near asiatic forms by the extremely pale colouration of underside; this is a boundary insect that has not yet actually been taken on palaearctic territory but may probably still be found there.

thersites. **L. thersitis** (*Cant.*) *Chapm.* This species, that has fallen into oblivion for nearly 100 years and subsequently was classified as a variety (*icarinus*, *alexis*) to *icarus*, has been re-established in 1912 as a genuine species thanks to exhaustive researches of Chapman. Apart from differences in genitals and varying plumules *thersitis* can be distinguished by the absence of the two basal eyespots on underside of forewings. This it has in common with subsp. *icarinus* of *icarus* but with a little care it can be distinguished without the use of a microscope. In *thersitis* the 3 last ocelli of the median row of forewings are generally in a straight row at right angles to hind margin, whilst in *icarus* they seem to be bent because the two last median ocelli are nearer to the outer margin. Further in *thersitis* the distance on the forewings between the uppermost median ocellus to the 1st marginal lunule is the same as the distance between the 1st and 2nd arcuate eyespots, whilst in *icarus* the distance between the 1st arcuate eyespot and 1st marginal lunule is generally greater than that of the two first arcuate eyespots to one another. *thersitis* has without exception a more elongated wing contour and is considerably smaller than *icarus* from the same locality and besides *thersitis* always occurs a few days earlier and one can capture *thersites* ♀♀ before the first *icarus* ♂♂. There is a noticeable difference in the colour of the ♂, which is particularly striking where long series are available. The blue of *thersites* has a more reddish tinge and therefore does not appear as vivid as in *icarus*. In the ♀ the division is more difficult, but the elongated wing contour *caerulescens.* and smaller size are always a guide. — ♀ ab. **caerulescens** *Cab.* has base of upperside of wings powdered with *caerulea.* blue and in ♀ ab. **caerulea** *Cab.*, the blue extends to the light submarginal lunae, whilst in ♀ ab. **amethystina** *amethystina.* *Cab.* is extends beyond the submarginal lunae. — Specimens with reduced ocelli formation are named **pauci-** *paucipuncta.* **puncta** *Pionn.* and especially small specimens are named **minor** *Pionn.* — *thersites* has been rediscovered *minor.* also in Germany in Thuringia and was recognised by its captor B. Alberti as the long forgotten race **alexius** *alexius.* *Frr.* (O. Schreiner was the first discoverer). From the illustration this very distinct race can immediately be recognised from *icarus* and its group of forms. — According to the researches of Verity the form of *thersites* used by Chapman for his fresh description was a specimen of the 2nd generation from France and *hibernata.* although there are only microscopic distinctions between this and the 1st generation he names it **hibernata.** — In Tarentaise and surrounding country a large race of 36—38 mm wing expanse occurs, which Chapman has *centro.* named **centro.** — The race from upper Italy and around Florence differs only slightly from *thersites-thersites* *meridiana.* and is named **meridiana** *Vrty.* with 1st generation *hibernata Vrty.* and the 2nd *meridiana*; this is characterised by the absence or considerable reduction of the metallic scales on underside, as well as by the distinct yellowish tone in the ground colour of the underside. In the ♀ of the 2nd generation there is no trace of blue dusting on upperside, sometimes we find the same in ♀♀ specimens of the 1st generation occurring in late June. In order *interjecta.* to be on the safe side these intermediate forms have been named **interjecta** *Vrty.* and according to Verity they *josephina.* are said to have certain features of both broods. — Sagarra has ascertained a distinct race **josephina** occurring at Albarracin in Spain and which differs from french ♀♀ by the absence of the blue basal dusting and considerable *grawesi.* reduction of submarginal lunae. — **grawesi** which was originally described by Chapman as a distinct species and occurring at 6400′ altitude on Cedars of Lebanon in Palestine is a *thersites* race. It is of stately size, the ♂ reminding one on underside of *astrarche*, whilst the ♀ is still a little darker. Markings are bold and vivid, *orientis.* especially those of the ♀ and they resemble macedonian *thersitis*. — subsp. **orientis** *Shelj.* (= orientalis *Chapm.*) occurring in Ongodai, Thian Shan and differs from name form by the considerably paler colouration of all markings. Size is the same.

devanica. **L. devanica** *Mr.* (Vol. 1, p. 313) occurs in N. Chitral and Thibet as **gracilis** *Evans.* ♂ only dusted with *gracilis.* dark blue at base on upperside, but the blue can extend along costa and penetrate the disc. Margin very dark and 4 mm and more wide.

sarta. **L. sarta** *Alph.* (Vol. 1, p. 313, pl. 80 h). — Courvoisier describes from the Juldus the ♀ ab. **pupillata** *pupillata.* which bears 5 black marginal dots with greenish blue iridescent metallic centres at outer margin of underside. — *rupala.* **rupala** *Tytler* (16 g) from the Rupal Valley in Astor has a more purple violet shade of blue than name form and much wider margin, up to 3 mm. ♀ brownish with reddish yellow tinge in outer part of wing area and *sartoides.* yellow-red submarginal band on all wings, which can be more or less boldly developed. — **sartoides** *Swh.* from

Chitral shows upperside of ♂ dark blue to the dark brown margin with cell end spot on the forewings and the discoidal lunule on the hindwings. The ♀ unicolorous is brown only rarely with orange submarginal spots. — **gooraisica** *Tytler* from Goorais are ♂♂ in which the upperside shows the blue much more suppressed than is the case in *rupala Tytl.* *gooraisica.*

L. serica *Gr.-Grshm.* from Szechuan has black-brown upperside in both sexes, fringes white, brown at extremities of veins. The underside is exactly like *sarta Alph.* of which it may merely be a race, differing only by the grey-brown tone, a dot in the disc, a spot with wide white surround in place of the triangular white middle spot on the hindwings. The colour of the underside is the same in both sexes, as also is the average wing expanse of 30 mm. *serica.*

L. amandus *Schn.* (Vol. 1, p. 313, pl. 80 h). — The ♀ varies in colour as **caerulea** *Rbl.* (= ab. cyanea *Aign.*, huebneri *Oberth.*) with blue upperside, black costa and similarly coloured wide margin to forewings and as ab. **brunnea** *Vorbr.* with quite unicolourous brown upperside to all wings without red marginal lunae. — ab. **amandina** *Krul.* are ♂♂ with more or less distinct black marginal spots on upperside of hindwings. Synonymous with this or the reverse is *punctifera Schaw.* as both names were given in the same year 1908. — ♂ ab. **aviator** *Oberth.* (16 b) is a very nice *radiata* variation, the median ocelli of forewings are elongated and those of the hindwings conjoined with the cuneiform marks of submarginal area. — subsp. **hispelis** *Fruhst.* from Martigny and the Simplon territory has ♂♂ of a richer blue than name form and whitish underside. The chief characteristic is the almost extinct, pale yellowish red of the sub-anal maculae. — The race **isias** *Fruhst.* from the Maritime Alps has darker and more lustrous blue ♂♂ than those of other localities and these strike one by their unusually wide black margins. Underside of hindwings shows very large sub-anal maculae, which are edged inwardly by distinct and sharply outlined black cuneiform marks. The chief characteristic is the unusual size. — Very close to it is subsp. **libisonis** *Fruhst.* (= andreas *Dhl.*) from the surroundings of the Clausen and Waidbruck in S. Tyrol. The rich silvery blue is very dark without violet tinge. the black of the wide margin extends to end of cell on both wings, on hindwings generally extending inwards in cuneiform shape. ♀ has a row of yellow spots in place of the light blue sub-anal dots on hindwings. Underside of ♂ and ♀ bluish grey, darker than in *isias.* reminding one more of the shade of *hispelis.* Submarginal shows the yellow-reddish spots with distinct black cuneiform marks. The race which has an expanse of 37 mm is among the largest. — In the roman Campagna a brilliant light blue race **splendida** *Rost. & Zap.* occurs with very narrow margin. Underside is dark grey with prominent orange lunae. It also occurs in Tuscany to an altitude of 400 m and is close to *isias Fruhst.*, although somewhat smaller. — **apenninogenita** *Vrty.* from the Sibillini Mountains and the higher altitudes of the mid-italian Apennines is very close to *hispelis Fruhst.* and in size to *splendida*, differing from same by the darker, less brilliant blue of upperside and the darker grey of underside. — **bruttia** *Vrty.* from the San Fili on the Calabrian coast also reminds one of *hispelis Fruhst.*, but it has a wider and darker margin and the blue of upperside shows a peculiar green tinge. Underside grey in varying degree and with its large pale lunules inclines strongly towards *splendida.* — The race **abd el aziz** *Blach.* from the moroccan Atlas scarcely differs in the ♂ from the name form, whilst the ♀ with an expanse of 31—35 mm shows considerable differences. Ground colour of upperside is brown with faint reddish hue and the very striking large lunae on both wings are light reddish yellow. Underside has a grey-brown, slightly olive colour and the lunae are more yellow than red. — Base of wings shows blue dusting in varying degree; in one specimen the wings are dusted with metallic blue up to the yellow marginal lunae and this variation has been separated and named **azurea** *Blach.* *amandus.* *caerulea.* *brunnea.* *amandina.* *aviator.* *hispelis.* *isias.* *libisonis.* *splendida.* *apenninogenita.* *bruttia.* *abd el aziz.* *azurea.*

L. putealis *Mats.* described from a ♂ from Mount Hokkuto in Corea. It has an expanse of 26 mm and according to Matsumura it is different from any other Lycaena known to him. Upperside of forewings dark brown with violet sheen, which in certain light shines golden. At base of costa a few bluish white scales. Longitudinal veins lustrous green, fringes white. Hindwings show violet powdered base and also white fringes. Underside pale grey with blue dusting at base, all brown spots and dots circumscribed by white. *putealis.*

L. isaurica *Stgr.* (Vol. 1, p. 314, pl. 80 i). Courvoisier received from russian Armenia a ♂ ab. **latimargo** which differs from the name type chiefly by a very wide, sharply outlined black marginal band; it shows more heavily developed ocelli and marginal lunules on underside, a long, wide white streak extending to base of hindwings and distinct, even though interrupted, marginal band of yellow-red spots. — subsp. **dorsum-stellae** *Grav.* was discovered around Ain Haour in Ante-Lebanon at an altitude of 5900′ in June. Upperside more lustrous, more greenish blue than in *isaurica*, black margin narrower and fringes pure white. On hindwings the distinct internerval scallops at margin are smaller than in name form. Underside shows a darker grey; markings of forewings inclined to be reduced, ocelli often consist only of white ringlets without the black pupils. On hindwings the greenish basal dusting is heavier and more extensive and the white streak in cellule 3 is larger. Upperside of ♀ shows a lustrous brown with a small black cell end spot on forewings, a narrow margin and brown fringes to all wings. Base of wings only faintly dusted with blue and the reddish submarginal spots *isaurica.* *latimargo.* *dorsum-stellae.*

delicately indicated. Underside pale buff, markings better developed than in ♂ but not so pronounced as in name form.

florenciae. **L. florenciae** *Tytler* (16 f) is very close to the syrian *isaurica Stgr.* of which inspite of being so widely separated from same (it occurs on the Baroghil Pass in N. E. Chitral) it probably forms a race. Upperside of the only ♂ known shows a brilliant blue without grey admixture. Markings of underside are similar, but all spots on hindwings are larger and more striking, especially however those of the red submarginal lunules.

hylas. **L. hylas** *Esp.* (Vol. 1, p. 314, pl. 80 i). — The ♂ ab. **icaroides** *Sauruck* shows on upperside the colouration
icaroides. of an *icarus* ♂ and ♂ ab. **griseoviolaceus** *Oberth.* has a grey-violet hue on upperside. — ♀ ab. **brunnea** *Vorbr.* is
griseoviolaceus. quite brown without reddish marginal lunules and ♀ ab. **gabrielis** *Oberth.* (= caerulea *Courv.*) has rich blue
brunnea. dusting like the ♂. — ab. **depauperata** *Std.* from the Mte Faito has the black margin on upperside reduced to a
gabrielis. fine line and underside like *obsoleta Gillm.* (Vol. 1, p. 314) nearly unicoloured grey without any black spots. —
depauperata. ♂ ab. **albimargo** *Vorbr.* differs by having white margins to wings on upperside, whilst ab. **fuliginosa** *Vorbr.* has
albimargo. dusky margins to underside. — ♀ ab. **apicipunctata** *Hannem.* from the Harz Mountains has a white spot at
fuliginosa. apex of forewings. This variation occurs in the name form as well as in the ♀♀ of *metallica Favre* (Vol. 1,
apicipunctata. p. 314). — **basipuncta** *Trti. & Vrty.* are specimens with 2 basal spots on undersides of forewings and ♂ ab.
basipuncta. **subtus-radiata** *Oberth.* shows the median ocelli of underside diffusing and conjoining with marginal spots. —
subtus-radiata. Tutt gives the denomination **minor** to especially small, dwarf forms. — **dorylas** *Schiff.* (= enervis *Vrty.*) denotes
minor. the *hylas* occurring in May around Vienna and Klosterneuburg. This is a smallish and blackish race with
dorylas. narrow wings. The ♂ often has a pale blue upperside and underside is darker grey than in alpine races of this group. Upperside of ♀ is indeterminate brown. On underside both sexes show reduced black markings and
tiroliensis. insignificant orange spots. — The race **tiroliensis** *Heydem.* from Trafoi near Bolzano in the S. Tyrol scarcely differs on upperside from name form, whilst the underside is remarkable through the expansion of the yellow marginal lunae and the increase in the size of ocelli of forewings. The very large yellow marginal lunae are decorated inwardly with large pointed black cuneiform marks and outwardly by black marginal spots. They are rather fainter on forewings than on hindwings. Ocelli especially on forewings very large with white circum-
micro-margarita. scriptions and standing out clearly from the grey ground colour. — Verity has described 2 races **micromargarita**
macro-margarita. from Oulx, Cesana and Clavieres of 25—28 mm expanse and **macromargarita** from Valdieri of 30—32 mm expanse, which only differ by their size; they are said to be smaller than more northern races and have a more pearly grey underside instead of the dark grey of the north, whilst the orange lunae are larger and more vivid. Both races seem to correspond to *tiroliensis Heydem.*, that is to say the differences are so small, that at the best
correpta. they could only be termed aberrations. — The race from mid-Italy **correpta** *Vrty.* is also said to be smaller than name form, it never has such a dark underside as *hylas* and the markings appear to be reduced. The ♀ never shows blue dusting. Verity designates the race name *correpta* to the 1st generation from Tuscany, the Sibillini Mountains and Mainarde with expanse of 25—29 mm. For the 2nd and smaller brood, which is often only 21 mm but on an average 22—24 mm, he gives the name *golgus Hbn.* which was originally given to a spanish dwarf
albicans. race and with which it is identical. — According to Hemming the old name given by Boisduval **albicans** should
clara. be used for *nivescens Kef.* (Vol. 1, p. 314) and **clara** *Ribbe* belongs to this race. These are ♂♂ from S. Spain
uclensis. having no black spots or red dots on underside of hindwings. — **uclensis** *Melcon* from Uclès (Cuenca) differs from *albicans* in that the two lower eyespots at least are missing from the median ocelli and a further one in the
castilla. arcuate row. — **castilla** *Fruhst.* is smaller than the mid and southern european forms, upperside darker blue,
atlantica. underside brown-grey instead of whitish and red submarginal band indistinct. Castile. — **atlantica** *Elw.* is a race of *hylas* found in Morocco. The ♂♂ have the typical blue and show black marginal dots on upperside of hindwings. Both sexes have a wide and distinct white streak on underside. All ♀♀ have a wide band of orange coloured lunules on forewings.

meleager. **L. meleager** *Esp.* (Vol. 1, p. 314, pl. 81 a). — ♀ ab. **seminigra** *Rbl.* from the Weizklamm near Gratz
seminigra. has a blue colour and only apex of forewing deep black widely to discoidal lunule. ♀ ab. **squalida** *Vrty.* from
squalida. Mti Sibillini shows no blue on upperside; the white is suffused by a faint brownish grey shadow. — **argentata**
argentata. *Hartig* is smaller than *steeveni Tr.* (81 a) with dark veins and whitish dusted discal and marginal areas. Discoidal lunules of all wings situate in a whitish nebula. Submarginal spots of all wings distinct. Underside precisely
uni-punctata. like *steeveni*. From S. Tyrol and Styria. — ab. **unipunctata** *Rbl.* has only one basal spot, whilst **punctata** *Skala*
punctata. has one or two. — **aucta** *Std.* has a distinct additional basal spot on underside of hindwing. — ab. **obsoleta** *Rbl.*
aucta. is quite without eyespots on underside of hindwings and **radiata** *Courv.* has a ray-like combination of eyespots
obsoleta. with the marginal lunules. — **falcata** *Std.* belonging to the race *macra Vrty.* has heavily falcate margins to
radiata. forewings. — The two following races described by Verity can scarcely be distinguished from *steeveni* and
falcata. are insufficiently described like nearly all races of this author. The varying characteristics are so inadequately given that they cannot be recognised without a locality label and even then a distinction is difficult to observe.
alpium. — **alpium** *Vrty.* from Oulx has ♂♂ with wider margin to forewings and the black marginal spots on hindwings

more prominent than in name form. The ♀ is deep black-brown with slight traces of silvery blue scaling and a few silvery hairs at base besides having more or less pronounced white lunules. Underside somewhat paler grey than *meleager*. — **alpiumclara** *Vrty.* from the S. Tyrol is said to have still paler underside. *alpiumclara.* — ab. **superlunulata** *Vrty.* is a ♂ from Oulx with a row of pale grey lunules in front of the submarginal spots on hindwings and a row of similar spots on forewings. It forms a transition to Herrich-Schäffer's Fig. 244—245. *superlunulata.*

The race **macra** *Vrty.* occurs at higher altitudes in Tuscany, the Mainarde and in Sicily. It is smaller than name type, ♀♀ are considerably darker but not so dark as *steeveni Trk.* — **dalmatina** *Wgn.* from the neighbourhood of Zara in Dalmatia, described from 2 ♂♂. Upperside shows a wider black margin, which can extend to the end of cell. Anterior to margin of hindwings is a faint dark shadowy band. Underside of all wings is brownish without greenish dusting at base of hindwings. — The race **marteniana** *Sag.* from Santa Coloma de Queralt in Spain has intensively blue ♂♂ showing only slight grey in disc and brown plumules. Margin is diffuse brown. extremities of veins black. The blue of the ♀ is sharply separated from the brown margin and fairly extensive. The description like all those of this author is in catalonian dialect and it is difficult to obtain a precise translation. — subsp. **oricus** *Fruhst.* from S. Russia can be distinguished by the narrower black margin to wings, the paler underside of all wings and the considerably smaller black spots in the median area of hindwings from specimens from mid Europe and the northern parts of southern Europe. The chief difference however lies in the absence of both black basal eyespots on underside of hindwing. *macra.* *dalmatina.* *marteniana.* *oricus.*

hybr. ♂ **meledamon** *Rbl.* from Bisamberg near Vienna is said to be bred from *meleager Esp.* ♂ and *damon Schiff.* and this seems credible on account of the small size and the predominance of the *damon* characteristics. *meledamon.*

L. escheri *Hbn.* (Vol. 1, p. 314, pl. 81 a, b). — The ♀ ab. **caerulescens** *Vorbr.* is dusted with blue from base of wings to disc and closely resembles *subapennina Trti.* (Vol. 1, p. 314). — ♀ ab. **styx** *Trti. & Vrty.* from Valdieri has a dark chestnut brown upperside without the yellow-red marginal lunules; underside normal. ab. **albata** *Courv.* from Bérisal is completely white on underside. — ab. **chryseis** *Trti. & Vrty.* from Vadieri has large golden yellow lunules up to apex on both sides in place of the yellow-red. — The ab. **escherinus** *Rowl.-Br.* is a ♀ with underside coloured a rich buff with irregular submarginal spots, two on the right and one on the left wing. The submarginal spots are absent on left hindwing, whilst on the right wing there is a single spot which is very small and close to anal angle. — ab. **subtus-impunctata** *Oberth.* is a ♂ without basal and arcuate eyespots. — **rostagnoi** *Stef.* has no ocelli on underside with the exception of the discoidal lunule and the innermost (3rd) basal spot. — ab. **radiata** *Oberth.* (= radiata *Siepi*, valderiensis *Strd.*, radiata *Trti. & Vrty.*) shows a conjunction of all arcuate ocelli with the marginal lunules and eventually also with basal spots. — ab. **novopuncta** *Courv.* (= bipunctata *Musch.*) has two additional median ocelli. — subsp. **rhaetica** *Vorbr.* from Filisur has ♂♂ with strikingly wide black margin and ♀♀ with dark bluish black colour almost without orange spots. It has a slight resemblance to the blue *subapennina Trti.* Underside of ♂ is dark grey, of ♀ very deep brown. Frequently one or two basal eyespots occur in ♀ on forewings, which otherwise *escheri* does not have. — var. **helenae** *Oberth.* has its home in the chalky plains of Charente-Inféricure around Dompierre-sur-Mer. Its underside is dark grey, almost brown in ♂, differing thereby from all other forms. The ♀ has a very dark upperside of a warm rich brown, whilst the underside is slightly more grey-brown than ♂ and differs in this respect from all other races which throughout have a light creamy coffee ground colour. — The ♀♀ of **foulquieri** *Oberth.*, the race from Provence are characteristic. They have a complete orange yellow submarginal band on forewings from costal margin to hindmargin, consisting generally of 6 almost quadrate spots. — var. **balestrei** *Fruhst.* from Moulinet near Mentone can be distinguished from all allied races by its prominent size. Upperside of ♂ unusually light reminding one of *dalmatica Speyr.* (81 b). Underside is also very light with very outstanding black markings. The ♀ is striking by its very wide red-brown submarginal band. — **rondoui** *Oberth.* is a small race from the High Pyrenees, it is one third smaller than specimens from the estuary of the Rhone. The ♂ is blue with slight greenish sheen in certain light; underside grey with strikingly small black spots. On the hindwings the small white patches around the black marginal dots are almost absent. Ground colour of ♀ is dark brown with narrow blue basal dusting, which sometimes extends to the disc. Black marginal dots on hindwings distinct, the 3 to 4 anal spots finely outlined with grey outwardly, inwardly with small orange-red triangles. Fringes white in both sexes. — **roseonitens** *Oberth.* occurs as a race in the E. Pyrenees. Upperside of ♂ suffused with rosy blue, being more transparent than all other races. Underside lively grey-white with very large black spots. Underside of ♀ like pale creamy coffee but more vivid than *foulquieri*. Band of lunules is orange-red or yellow, varyingly wide, sometimes touching the costa of forewings. The ♀♀ are very variable. but the character of the rosy tinge to the tone of the wings on upperside of ♂ seems common to all specimens. The race is generally of goodly size. — **ahmar** *Le Cerf* on the other hand is a very small race from the Middle Atlas of Djebel Ahmar and Tizi s' Tkrine. The ♂ is still slightly smaller than southern french specimens and *escheri.* *caerulescens.* *styx.* *albata.* *chryseis.* *escherinus.* *subtusimpunctata.* *rostagnoi.* *radiata.* *novopuncta.* *rhaetica.* *helenae.* *foulquieri.* *balestrei.* *rondoui.* *roseonitens.* *ahmar.*

upperside of wings with less purple blue reminding one thereby of the mid-italian *escheri*. The ♀ is not such a dark brown as european *escheri*, but submarginal spots more yellow almost touching the margin of forewing. Ground colour of underside light clay colour in ♂, light buff in ♀. Generally spots of underside are smaller. The row of triangular marks poorly developed especially on hindwings, also lunules fainter and not such a vivid red: submarginal spots mostly reduced to faint minute streaks. — The race **altivolans** *Vrty.* belongs to Tuscany and the central italian mountain ranges below 900 m altitude. It reminds one by its smallness and the small spots and lunules of underside of *rondoui Oberth.* from the Pyrenees, but differs from same by the vivid blue of the ♂, the orange spots of upperside of ♀ and finally by the very pure and often completely white underside of the ♂. — On the other hand **turatii** *Vrty.* is a very large race of 30—33 mm expanse from Salsomaggiore in the Province of Parma. Underside of ♂ is nearly completely white, that of ♀ brownish grey. All black markings are reduced like in *rondoui Oberth.* Orange lunules are small and pale forming a pale nebula around the black submarginal dots. The latter have strikingly metallic green pupils such as is not found in any other race. The ♀ has very reduced lunules on upperside. The blue scaled ♀♀ that are named *subapennina Trti.* are relatively frequent in this race. — **splendens** *Stef.* from around Rome has ♂♂ in which the blue is still more vivid, purer and more brilliant than in *dalmatica Spey.*; black margin is delicate and narrow. — Verity still mentions **microsticta** as a race from Cesana in the Cottic Alps and Annot in the Basses Alpes, which like the race **rondouidimidia** from Gèdre in the E. Pyrenees are best distinguished by their smallness. The ♀♀ are said to have dark undersides and similar fringes. — Verity found the race **sicca** on the dry mountains of Auvergne, which closely resembles *splendens Stef.* from the neighbourhood of Rome. However it is of smaller and more dainty build and not such a vivid blue. The black margin is diminished and all black markings on both wings reduced. The lunules are very pale yellow. The underside is whitish grey. Also the ♀ is generally darker than *splendens* ♀♀.

altivolans. *turatii.* *splendens.* *microsticta.* *rondouidimidia* *sicca.*

L. bellargus *Rott.* (Vol. 1, p. 315, pl. 81 b). Innumerable of the usual Lycaenides aberrations have been named of this extremely variable and common species. — Variations in the colour of underside of both sexes are differentiated: ab. **pallescens** *Tutt* whitish grey and hindwings with a tinge of yellowish; — **fuscescens** *Tutt* darker grey with heavily brownish hindwings and **atrescens** *Tutt* quite black-grey with black-brown underside to hindwings. — According to the upperside of ♂: ab. **excelsia** *Tutt* silky glossy blue upperside or pearly blue with silky sheen. — **purpurascens** *Tutt* glossy blue with strong purple or violet tone. — **argentea** *Tutt* a nice silvery grey with bluish sheen. — ab. **nigra** *Cock.* with lead-grey dull surface of upperside. These variations as also *pallida Tutt*, it is said, can be artificially produced. — **viridescens** *Tutt* is a ♂ form with greenish blue iridescent upperside and **hyacinthus** *Lewin* is a nice hyacinth blue and especially distinguishable by the absence of the dark spotted extremities of veins on hindwings which otherwise coincide with the dark spots of the fringes. — ab. ♂ **detersa** *Vrty.* has silvery white upperside with black marginal spots and orange spots on hindwings. Underside palish grey appearing somewhat rubbed. The white surrounds to ocelli diffuse in the grey of ground colour. Submarginal spots extinct. — **supra-violaceo-grisescens** *Oberth.* is of a remarkable colour shading, it is suffused with grey-violet and thereby has a pale reddish sheen in certain light. — **courvoisieri** *Std.* is a very dull dark sky-blue and underside is similarly dusky. — *plumbeus Courv.* can scarcely differ from *suffusa Tutt* and *nigra Cock.* and such denominations are a matter of personal taste. — The ♀ is not behind the ♂ in these denominations, as the following will show: ab. **brunnescens** *Tutt* has a distinctly brownish ground colour and **nigrescens** *Tutt* generally black-brown, especially in 1st brood: in both forms the blue scaling can be completely absent or spread about in patches more or less over the whole area of the wing. — **metallica** *Tutt* shows a pronounced metallic lustre over the *adonis* blue of the more or less extensive scaling. — ♀ ab. **grisea** *Courv.* shows a grey sheen especially at apex of forewings. — *caerulea Courv.* is identical with *ceronus Esp.* (81 c). — ab. **albinismo-rufescens** *Oberth.* is a ♀ from Vienna making an albinotic impression. Ground colour of upperside is yellowish with a tinge of reddish, all other markings normal, although somewhat pale.

bellargus. *pallescens.* *fuscescens.* *atrescens.* *excelsia.* *purpurascens.* *argentea.* *nigra.* *viridescens.* *hyacinthus.* *detersa.* *supra-violaceo-grisescens.* *courvoisieri.* *brunnescens.* *nigrescens.* *metallica.* *grisea.* *albinismo-rufescens.*

Number and arrangement of spots and markings are subject to the variations that occur in all Lycaenides and in both sexes. — Forms with additional ocelli are named ab. **pluripuncta** *Courv.* (= niesiolowskii *Prüff.*) and with reduced number of ocelli ab. **paucipuncta** *Courv.* — The shape of the spots is strikingly enlarged in **crassipuncta** *Courv.* and reduced in **parvipuncta** *Courv.* — When the basal ocelli and eyespots of arcuate row do not appear to have black pupils it is ab. **alboocellata** *Tutt* and when the reverse is the case so that the white surrounds are missing from the black pupils of these two rows of ocelli we have ab. **nigro-ocellata** *Tutt.* — If the arcuate row has additional ocelli it is **addenda** *Tutt* and when ocelli are missing from the normal number it is **obsoleta** *Tutt.* — **cinnus** *Hbn.* has spots on underside, of hindwings without pupils. — Synonymous with *sapphirus Mg.* (Vol. 1, p. 315) are ab. *bellargoides Stef.*, *impunctata Courv.* and *weileri Std.* — *caeca Courv.* is identical with *krodeli Gillm.* and also *cinnoides Favre* will not be materially different. — *punctulata Courv.* is the same as *puncta Tutt* (Vol. 1, p. 315). — ab. **analoga** *Std.* are specimens with equally heavily developed ocelli markings on undersides of fore and hindwings. — The basal spots have given rise to the following names: ab. **unipunctata** *Courv.* with

pluripuncta. *paucipuncta.* *crassipuncta.* *parvipuncta.* *alboocellata.* *nigro-ocellata.* *addenda.* *obsoleta.* *cinnus.* *analoga.* *unipunctata*

1, **tripunctata** *Courv.* with 3 and **quadripunctata** *Courv.* with 4 basal spots. — If the discoidal lunule is absent on forewings the form is named **discoidalis-nulla** *Tutt* and if same is double on underside of forewings, **discoidalis duplex** *Tutt.* — The form with a wide nebula around the discoidal lunule is named by Stauder **leucophthalma.** — ab. **albolunulata** *Courv.* has white marginal lunules on hindwings. — ab. **discoelongata** *Tutt* has discoidal lunule extended in crescent shape. — ab. **conjuncta** *Tutt* shows 2 or more of the spots conjoined by streaks. — ab. **arcuata** *Courv.* is the arcuate conjunction of the lowest basal spot of hindwings with the lowest arcuate ocellus; — **semiarcuata** *Courv.* has the same tendency but not completed. — **costajuncta** *Courv.* represents the conjunction between the uppermost basal eyespot with the corresponding arcuate ocellus and **basijuncta** *Courv.* of the penultimate basal spot with the penultimate arcuate ocellus. — **confluens** *Aign.* is a combination of the forms *arcuata* + *discoidalis-duplex* + *basijuncta.* — **partim-radiata** *Oberth.* shows ray-like combination of the arcuate ocelli with the marginal lunules on forewings and at the same time a conjunction of the discoidal lunule with basal spot, and **posticostriata** *Tutt* has the discoidal lunule on hindwings conjoined with the arcuate ocelli. — **radiata** *Oberth.* has arcuate ocelli and marginal lunules united in ray-like formation, whilst **digitata** has the same formation but the markings are inclined to be of finger shape. — The most extreme *radiata* form in which all the spots of both wings are conjoined in rays is represented by **striata** *Tutt* (= extrema *Courv.*). — Similarly a very well developed *radiata* form is **mixta** *Tutt* in which all the spots are diffused and partially conjoined, whilst the margin is very pale, the band of triangular marks on forewings widely white with grey points and similarly on hindwings but with red points. — A ♀ ab. **irregularis** *Tutt* combines a number of forms of aberration. — ab. **flavomaculata** *Lekic* are ♀♀ in which the lunae on both sides of the wings are yellow instead of red. — **fuliginosa** *Vorbr.* is the same form as in *icarus*, the zone of the red marginal spots is duskily suffused on underside. — Tutt denominated the colouration of the marginal lunules in the ♀ as ♀ ab. **flavescens,** when same are pale yellow; **aurescens,** when vivid orange and **rufescens** when orange-red. — ♀ ab. **posticolunulata** *Tutt* only has orange lunae on hindwings; — **lunulata** *Tutt* only has same on forewings and **marginata** *Tutt* shows same well developed on all wings. — ♀ ab. **venilia** *Bergstr.* has orange lunules only on hindwings which however are scaled with blue, whilst on forewings this only occurs at base. — **venilia-lunulata** *Tutt* as *lunulata* but with blue scaling at base of forewing and inner margin to the lunae. — ab. **salacia** *Bgstr.* is like *marginata* but with blue scaling at base of forewing and inner margin and at outer margin at the lunae. — ab. **caerulea-cuneata** *Tutt* like *venilia* but with blue lunae or cuneiform marks on the inner side of the lunae. — ab. **cuneo-marginata** *Tutt* like *salacia* but with blue lunae or cuneiform marks as in the previous form. — ab. **caerulescens** *Tutt* looks like *posticolunulata* but the forewings are scaled with blue to beyond the disc and on hindwings at inner margin over the disc to the orange lunae. — ab. **caerulescens-lunulata** *Tutt* is like the previous form but also has faint lunae on forewings. — **caerulescens-marginata** *Tutt* has marginal lunae on all wings and at the same time the dusting as previous form. — ♀ ab. **semiceronus** *Tutt* has blue scaling up to the margin, only the veins and margin remaining dark (= thetis-♂ *Rott.*, part.), as well as with orange spots on hindwings. — **ceronus-lunulata** *Tutt* resembles the previous form but has also faint indications of lunae on forewings. — ♀ ab. **semicoelestis** *Tutt* is quite blue to the margin, also the veins; orange lunae on hindwings. — ab. **subcoelestis** *Tutt* like the former but also with faint lunae on forewings. — ♀ ab. **marginata** *Tutt* uniform black-brown with very sparse or absent blue dusting, whilst as already mentioned above, it has vivid orange-red marginal spots. — ab. **brunnea** *Tutt* is a pure brown ♀ without any sign of red marginal lunae. — In the ♀ the discoidal lunules can have a white ring and this form is named **albicincta** *Tutt*; when with blue ringlet it is **caeruleocincta** *Tutt* and when unicoloured blue without black centre **caeruleopuncta** *Tutt.* — **rufomarginata** *Wgn.* from Zara in Dalmatia is a ♀ without blue dusting on upperside, with very large, vivid, redbrown marginal lunae. These are also distinct on forewings and often form a coherent band. Underside is paler than in specimens from Vienna and Budapest which also have very brilliant red marginal lunae on all wings. — **urania** *Gerh.* is a ♀ from Turkey of blackish ground colour with blue dusting to the discal area and without any trace of orange lunae. — ab. **particolor** *Tutt* is a ♂ of which the right wings are a normal sky blue and the left ones violet-grey. — ♂ ab. **rufolunulata** *Tutt* from Sebdou in Algeria shows orange spots on hindwings; — ♂ ab. **rubromaculata** *Oberth.* has red marginal spots in place of the black ones. — ab. **albolineata** *Tutt* is a ♂ having small white streaks lying internervally and parallel with the black margin, sometimes these can form a coherent white line. — Specimens with completely white fringes (not checked) are named **albofimbriata** *Gillm.* — ♂ ab. **initia** *Tutt* has the antemarginal triangular marks a plain grey on the underside. — Dwarf forms of 26 mm and less are named **minor** *Tutt* (= minor *Musch.*) and specimens of 28 mm and more are named **major** *Tutt.* — **newmani** *Reuss* is a ♀ from Folkestone in England, which the author considers to be the result of a cross between *bellargus Rott.* ♂ × *icarus Rott.* ♀ or possibly of ♂ *coridon Poda* × *icarus Rott.* ♀ — In the chalky districts of Vendée and near Bordeaux, as well as in western France we find the fine race **coelestis** *Oberth.*, the ♂♂ are lustrous blue of varying shades whilst the otherwise more dull ♀♀ compete here with the ♂♂ in brilliance of blue on the upperside; only the discoidal lunule and a black line before the fringes are black. — ab. **radiosa** *Gaschet* is a very fine *radiata* form belonging here and also ab. **lucretia** *Gaschet*, in which all the ocelli on the underside are absent except for the white discoidal spot. — **bicolor** *Gaschet* are ♀ *coelestis* forms with interspersed black cuneiform marks or rays extending

tripunctata.
quad.-punct.
disc.-nulla.
disc.-dupl.
leucophth.
albolunul.
discoelong.
conjuncta.
arcuata.
semiarc.
costajuncta.
basijuncta.
confluens.
partim-radiata.
posticostriata.
radiata.
digitata.
striata.
mixta.
irregularis.
flavomaculata.
fuliginosa.
flavescens.
aurescens.
rufescens.
posticolunulata.
lunulata.
marginata.
venilia.
venilia-lunulata.
salacia.
caerulea-cuncata.
cuneo-marginata.
caerulescens.
caerulescens-lunulata.
caerulescens-marginata.
semiceronus.
ceronus-lunulata.
semicoelestis.
subcoelestis.
marginata.
brunnea.
albicincta.
caeruleocincta.
caeruleopuncta.
rufomarginata.
urania.
particolor.
rufolunulata.
rubromaculata.
albolineata.
albofimbriata.
initia.
minor.
major.
newmani.
coelestis.
radiosa.
lucretia.
bicolor.

atfacarensis. into the vivid blue on upperside of hindwings. — In the Sierra de Alfacar Ribbe found a race named **alfacarensis**, having the ♀ with grey-brown ground colour and a very pronounced yellow submarginal band on all wings such as otherwise generally only occurs very faintly in *bellargus*-♀. In some specimens here however it is up to 3 mm wide. Fringes are sharply checked with black. Underside brownish with larger ocelli with white ringlets.

rubromaculata. — Oberthür often found around Sebdou in Algeria a form **rubromaculata** *Oberth.*, having 2 red spots on the inner side of the anal marginal spots. This form is the regular form of *coelestis Oberth.* and characterises same.

etrusca. — The race **etrusca** *Vrty.* from Etruria is somewhat larger than mid-european *bellargus*, wing contour more rounded, black extremities of veins less distinct or even absent in ♂, black marginal spots less numerous and reduced. Underside of both sexes varies considerably. — The first generation which varies only very slightly

maja. is named by Verity **maja,** besides he names such specimens having a whitish underside to forewings and

petri. pale brown hindwings with prominent black submarginal spots as **petri.** — A further race originates from the

inalpina. Valais of Martigny **inalpina** *Vrty.*, it inhabits considerable heights and is distinct from specimens occuring in the valleys. The ♂♂ are distinguishable by their very dark underside and the pronounced black marginal spots on upperside. Sometimes the white marginal area of underside is as wide as in *hylas*; ocelli have wide white circumscription and the black centres incline to be extinct. The ♀♀ are often without blue or with only very

apenninigena. reduced blue scaling. — In the Sibillini mountains at an altitude of about 1200 m we find **apenninigena** *Vrty.*, a race of very small size with extremely pale underside, which is sometimes pure white in single ♂♂; the black marginal spots are very minute, submarginal lunae pale yellow in ♂ and pale orange in ♀. — The english race

britannorum. **britannorum** *Vrty.* generally has ♀♀ scaled with a richer blue and with smaller and less lively coloured marginal lunae than name form. Underside of ♂ is darker and not so richly decorated with yellow. Black ocelli are smaller and median ocelli show a more regular formation than in typical *bellargus*. Verity's specimens originate

vestae. from Kent. — A still smaller race than the former occurs in the Isle of Wight and is named **vestae** *Vrty.* It makes a very poor impression. The blue of the ♂ has a more silvery sheen almost like in *hylas*; most of the ♂♂ have black marginal spots of most minute dimensions. In the ♀ generally the orange lunae are absent or at the best only occur to the extent of 3 or 4. The blue dusting is generally extensive. On underside both sexes show a very dark ground colour and the black ocelli have narrow white ringlets. Orange spots are exceedingly pale and basal spots of forewings are generally absent.

coridon. **L. coridon** *Poda* (Vol. 1, p. 315, plate 81 c, d). — In both sexes the markings of the name form vary:

crassipuncta. parvipuncta. multipunct. paucipunct. stefanellii. unipuncta. tripuncta. quadripuncta. obsoleta. vacua. guedati. semiarcuata. biarcuata. arcuata-clongata. arcuata-centrojunct. elongata. basietongata. radiata. digitata. striata. parattela. minor. suffusa. hafneri. roystonensis. impar. inaequalis transpar. nigrocost. seminigra. divisa. cacr.-marg. viridescens-marginata. lunulata. ab. **crassipuncta** *Courv.* with enlarged and bolder ocelli and **parvipuncta** *Courv.* with reduced ocelli. Ocelli can occur in an increased number and these forms are called **multipuncta** *Courv.*, whilst **paucipuncta** *Courv.* denotes those with reduced number of ocelli. — In **stefanellii** *Vrty.* (= impunctata *Courv.*) all basal spots are absent, whilst **unipuncta, tripuncta** and **quadripuncta** *Courv.* indicate the number of basal spots in the relative form. — *caeca Courv.* and *privata Courv.* are synonymous with ab. *cinnus Hbn.* — **obsoleta** *Tutt* denotes such forms having the arcuate eyespots partially absent and could be classified with *semicinnus Cab.* — ab. **vacua** *Gillm.* has all ocelli and discoidal lunules absent on underside. — ab. **guedati** *Rev.* is a ♀ with reduced submarginal ocelli of hindwings and basal area suffused with greenish-grey. — *arcuata Wheel.*, *arcuata Weym.*, *arcuata Courv.* and *Vorbr.* are identical with *tiphys Esp.* (Vol. 1, p. 316) whilst **semiarcuata** *Courv.* denotes a *tiphys*- ab. not fully developed and **biarcuata** *Courv.* denotes a double formation of same by the conjunction of the 2 lowest basal and arcuate ocelli. — **arcuata-elongata** *Sauss.* has the conjoining bar extending beyond the basal ocellus right to the base. — A combination of the 2 forms is **arcuata-centrojuncta** *Beuret.* — ab. **elongata** *Courv.* and **basielongata** *Courv.* denote specimens as already previously described having the ocelli diffusing lacriform or in streaks. — **radiata** *Courv.* (= tarasina *Cab.*) has arcuate and marginal ocelli conjoined in rays. — **digitata** *Courv.* has these rows of spots conjoined forming finger-like marks, whilst **striata** *Tutt* (= extrema *Courv.*) shows all existing ocelli diffusing and conjoined. — **paralleia** *Courv.* shows a parallel conjunction of the discoidal lunule with 2 of the arcuate ocelli. — **minor** *Tutt* designates very small specimens. — ab. **suffusa** *Tutt* are ♂♂ with a dark grey suffusion over the upperside. — ♂ ab. **hafneri** *Preiss.* shows the upperside a sky blue, almost like *damon* from Carniola. — The names **roystonensis** *Pickett* and **impar** *Cock.* designate specimens which like **inaequalis** *Tutt* (Vol. 1, p. 315) have the blue irregularly distributed over the surface of the wings. The former at the same time has the pairs of wings of different size on the 2 sides. It is possible that these are hybrid forms. — ♂ **transparens** *Courv.* has the arcuate row of underside reflecting through on upperside. — ab. ♂ **nigrocostalis** *Schultz* has the costal area on upperside of forewings blackened. — ♂ ab. *latimargo Courv.* and *obscurata Courv.* are identical with *marginata Tutt* (Vol. 1, p. 315). — ♂ ab. **seminigra** *Preiss.* has the black margin of forewings heavily widened at the apex extending to the middle cell. Also the hindwing shows an unusually extensive black margination. — ♂ ab. *limbomaculata Schultz* corresponds to *punctata Tutt* (Vol. 1, p. 315). — In ♂ ab. **divisa** *Tutt* the wide black margin to the wings is intersected throughout its length by a pale line. — ♂ ab. **caeruleomarginata** *Tutt* shows a silvery blue upperside and dark marginal bands which are without spots. — **viridescens-marginata** *Tutt* has a wide dark margin and upperside suffused with greenish blue. — ♂ ab. **lunulata** *Tutt* has a black discoidal lunule on forewings and synonymous with it is *torguiensis Haverk.* —

albocuneata *Wgn.* is a ♂ with a white cuneiform streak on hindwings stretching from marginal lunule in a point towards the discoidal lunule. — In ♂ ab. **cincta** *Tutt* the interstices are circumscribed with white on underside of hindwing. — ♂ ab. **cuneata** *Tutt* like *cincta* but the dark spots are cuneiform. — *caerulea Courv.* and *caerulea Musch.* are nothing else than the old *syngrapha Kef.* (81 d). — Also ♀ ab. **oberthüri** *Gélin* only differs on upperside of hindwings from *syngrapha*, they are suffused with brown internervally as in *semibrunnea Mill.* (Vol. 1, p. 315). A large black patch in disc. — ab. **anglica** *Oberth.* is a ♀ with the upperside dusted over with silvery blue-grey scales. — ab. **boisduvali** *Oberth.* is a ♀ from the old collection of Boisduval with the appearance of a normal coloured ♂ on upperside with pale margin and a row of brown ocelli situate internervally on forewings; these are margined inwardly by a silvery grey line and outwardly by a brown line . Hindwings have brown spots with silvery grey surrounds capped with orange red at outer margin. In disc of forewings 2 small black ocelli with white ringlets. — ♀ ab. **fuscociliata** *Metschl* has fringes, especially of forewing, so heavily suffused with smoky brown that the usual checks are scarcely discernible. — ♀ ab. **albomarginata** *Ebert* shows a 2 mm wide pure white marginal band on upperside of forewings, which is intersected by the dark veins. There are white marks between the dark and red marginal spots on hindwings. — ab. **albipuncta** *Tutt* is a ♀ with white discoidal lunules on upperside of all wings. Sometimes the lunules show a bluish white tinge. — **aurantia** *Tutt* designates blackish brown ♀♀ with the red marginal spots of hindwings with light edges towards the base and **semiaurantia** *Tutt* are similar but with the addition of a blue dusted base. — ♀ ab. **albicincta** *Tutt* has a white edge to all discoidal lunules and blue streaks on hindwings. — ♀ ab. **subalbolunulata** *Tutt* has orange coloured and white lunules on hindwings. — subsp. **borussia** *Dadd* (= borussia *Lange*, silesia *Strd.*) from E. Prussia and neighbourhood of Berlin is the most widely distributed race in mid and north Germany. It has considerably larger ♂♂ than the name form. Blue of upperside is a typical *coridon* blue, black margin very wide occupying almost ⅓rd of width of wing. The ♀ resembles typical *coridon* ♀♀ on upperside, on underside it varies by considerably darker brown ground colour, which is also the case in the ♂. — The race *saxonica* described by Verity from around Berlin and Dresden cannot be maintained, as ♂♂ with greenish tinge occur everywhere frequently among *borussia*. — The form described by Metschl as **infuscata** from the surroundings of Regensburg represents a genuine race, which later on (1926) was denominated *germanella* by Verity. It belongs to the small *coridon* races and the ♂ varies from *altica Neust.* by darker, deeper black markings, as well as by the more greenish tone of the blue. Underside shows considerable adumbration of ground colour as compared with name form and consequently the upperside appears darker. The ♀ is more dusky on upper and underside than *coridon*, especially the underside. — **altica** *Neust.* from Salzburg and the East Alps is of small size like all forms from high altitudes, with an expanse of little over 30 mm on an average. It is easily recognisable by the darker blue of upperside of ♂ and the narrow dark margin. Especially characteristic is the very pale, whitish underside with reduced ocelli and marginal lunules. — Verity describes a race **alpiumfusca** from Sistrans, 1000 m above Innsbruck which differs from the previous race by the wide dark margin covering about half the space between the outer margin and disco-cellular nervure, whilst the underside is precisely like *altica*. — subsp. **bieneri** *Std.* (= alpiumpallida *Vrty.*) from the north and south Tyrol, Waidbruck, Clausen and Eisack Valleys is characterised like all the swiss races by the especially pale underside of ♂ which is free of spot markings. Also upperside of ♂ has much paler blue with faint greenish hue, margin is ⅓rd to one half the distance between margin and cell end of forewings. The general impression is paler even than *pallida Tutt.* Among the ♂♂ specimens occur with pure white fringes, ab. *albofimbriata Gilm.* and ♀♀ frequently have all 4 discoidal lunules ringed with white, ab. **circumscripta** *Std.* — The form occurring in August around Oulx **rufosplendens** *Vrty.* is chiefly characterised by the light flame coloured underside of hindwings with vivid orange lunules. Ground colour of underside sometimes shows a slight admixture of grey. — **atrescens** *Vrty.* occurs as a variety among this race. Underside of forewings of ♂ is grey and that of hindwings almost black; that of ♀ almost the same colour. — **rufoclarens** *Vrty.* from the Fegana valley near Lucca in northern Tuscany closely resembles the race from Oulx, so that a separation and denomination are very superfluous. The differences mentioned are so immaterial that they may just as well be modifications.

albocuneata. *cincta.* *cuneata.* *oberthüri.* *anglica.* *boisduvali.* *fuscociliata.* *albomarginata.* *albipuncta.* *aurantia.* *semiaurantia.* *albicincta.* *subalbolunulata.* *borussia.* *infuscata.* *alpiumfusca.* *bieneri.* *circumscripta.* *rufosplendens.* *atrescens.* *rufoclarens.*

The specimens leading to the establishment of these races are generally only available in small quantity and from a single season. In order to establish a genuine race with definite characteristics one should insist upon large series spread over a number of years, so that one can watch and compare the reactions of the varying climatic conditions of the different years.

The race **jurae** *Vrty.* from Dombresson and the Grand Salève at Geneva is said to come between the former and *insulana Vrty.* as far as the colour and size of markings of upperside are concerned. The ground colour of underside of hindwings is deemed characteristic, it is impure white, sometimes with a faint yellowish brown hue. — ab. **samsoni** *Vrty.* also from the Grand Salève is said to be similar to the asiatic *caucasica Led.* (!) and according to the date of capture it belongs to the first brood. — **insulana** *Vrty.* from Kent in the south of England together with the following two races, quite resembles the typical *coridon* from Gratz in Styria in regard to size, the wide wings and especially the heavy spot marking

jurae. *samsoni.* *insulana.*

of underside. However the upperside of ♂ varies considerably. It is much paler and more lustrous, a purer sky blue with very slight greenish admixture. The black margin is generally only narrow, underside grey with quite faint yellowish tone. Most ♀♀ are brown on upperside with slight bluish scaling at base of hindwings and with small pale orange lunules. — The race from N. France as far as the Gironde — *galliae.* **galliae** *Vrty.* is somewhat smaller than the former and the upperside of ♂ is a pale, more milky blue. The dark margin is often interrupted by whitish rings and submarginal dots, even on forewings. Most of the *narbonensis.* ♀♀ belong to the form of "*mariscolore*" *Gerh.* — **narbonensis** *Vrty.* is the race from Provence, between the estuary of the Rhone and Var, it is very large with brilliant blue and narrow, sharply defined black border. Underside of forewings very white, but pale yellowish brown on hindwings in both sexes. Orange lunae large and vivid. The ♀ is a warm chestnut brown on upperside. — In N. E. France a small race occurs on the Plateau St. Claude *fumosa.* in the Oise named **fumosa** by Verity. It is just the reverse and approaches the german *altica* group. Upperside is decidedly greenish, duller and darker in tone than *galliae* and above all the underside is a steely dark grey. *italgallica.* The ♀ belongs to the brown forms and quitc resembles the german type. — **italgallica** *Vrty.* from Clavières and Cesana in the West Alps is a very small mountain race of only 25—30 mm expanse, being even smaller than *altica.* The ♂ has an even narrower black margin, which is never interrupted by white rings. Underside of hindwings is mostly buff, lunae similar to those of *rufosplendens Vrty.* Generally however it is paler and with *diniae.* many more spots and lunae than the following. — **diniae** *Vrty.* from Digne, Basses-Alpes and Vaucluse and whilst being similar to the former, can be distinguished by the paler colour of most specimens. The black margin inclines to bleach and disappear. This is caused by the wide white ringlet surrounds to submarginal spots. In size it exceeds *italgallica* to a slight degree. Underside of ♂ is still whiter, hindwings either quite white or *minute-* very palc to reddish yellow. — **minutepunctata** *Vrty.* from Cuchon, Haute Garonne is just as small as *italgallica* *punctata.* but more delicately and slenderly built. Underside is still whiter and paler than *diniae* and all the markings *hispan-* are very reduced. — **hispangallica** *Vrty.* from Gèdre in the High Pyrenees closely resembles the latter and *gallica.* *italgallica*, but differs through a slightly larger size, paler colours and the black marginal area which is often interspersed with white patches. Colouration of underside a colder grey, black spots standing out boldly. — *caelestis-* The race **caelestissima** *Vrty.* from Albarracin in Spain is best recognisable by the beautiful *bellargus* blue of *sima.* the ♂♂. The ♀♀ occur as an aberration with a similarly beautiful blue as the ♂♂ and these are called **deliciosa** *deliciosa.* *Sag.* — According to Sagarra the race **asturiensis** occurring at an altitude of 1300 m at Pájares belongs to *asturiensis.* *corydonius H.-Schäff.* (81 d). It stands half-way between the former and *sybillina Vrty.*, the colouration of upperside of ♂ is more green than in *caelestissima* and occlli of underside are very small. — As an aberration *syn-* we have here: ♀ ab. **syngraphoides** *Sag.* with more lively blue on upperside than *syngrapha Kef.* The brown *graphoides.* margin is much reduced. As all the new descriptions and diagnoses of Sagarra are in the catalonian dialect, it is difficult to obtain precise translations and for this reason we can only give them in abbreviated and not more detailed form.

Verity described in 1914 the following 4 races from Italy. I have not been able to give the descriptions, *apennina.* as I could not obtain a copy of the minutes of that year of the Boll. Soc. Ent. Ital. — The race **apennina** *Vrty.* from the Monte Fanna near Florence and Palazzuola in the Romagna at an altitude of 500—1000 m; — *sibyllina.* the race **sibyllina** *Vrty.* from the Sibillini mountains (Marche) and the Mainarde mountains (Caserta) at an *apuana.* altitude of 500—1000 m. — The race **apuana** *Vrty.* from the Apuan Alps in Tuscany at 1000—1300 m altitude and *superа-* also **superapennina** *Vrty.* from around Lucca, Abetone, Vallombroso and the Giogo pass in the province of *pennina.* Florence at 500—1000 m height. — The race **ciscaucasica** *Jach.* is darker than name form with intensively *eiseau-* brown underside. The ♂ has a wide brownish margin on upperside. *easica.*

albicans. **L. albicans** *H.-Schäff.* (Vol. 1, p. 315, pl. 81 d) is deemed by Verity as being decidedly a distinct species from *coridon.* The following races, which hitherto were grouped to *coridon* are now placed here. Ribbe and other authors had previously presumed these were different species and everything seems to point this way, although so far nothing has been published in regard to what result has been ascertained from an *alba.* examination of the genitals and plumules. — Fernandez describes as a modification a very pale form **alba** from Uclès (Cuenca) and Moredc (Grenada) having the nice azure blue of upperside almost quite white, as also the grey submarginal area. — *caerulescens Tutt* cannot be separated from *albicans* and *arragonensis Gerh.* is the dimorphous ♂ which occurs in some districts simultaneously with *albicans* ♂, in other places it occurs *morena.* separately. — ab. **morena** *Ribbe* are unicoloured brown ♀♀ from Andalusia. — The race occurring in the Sierra *guadar-* Guadarrama, **guadarramensis** *Ribbe* (= transalbicans *Tutt*) is smaller than *albicans* and more distinctly marked. *ramensis.* The wing contour appears more rounded and colouration more whitish blue. — The ♂♂ of the subsp. **penuelaensis** *penuela-* *Ribbe* from Grenada in Andalusia are paler white on upperside and margin is more brownish and bleached than *ensis.* in specimens from Murcia. Also the ♀♀ are of a paler brown and the red submarginal band is generally only *blanea.* faint on hindwings, whilst on forewings it is scarcely discernible. — ab. **blanca** *Ribbe* belonging to same is still lighter and the margin of both wings is reduced to a narrow stripe. In place of the mother-of-pearl spots, hindwings have semi-extinct black dots. On the other hand specimens also occur having a wide black outer margin, which on the forewings tends to diffuse towards the base and which have been denominated

negra *Ribbe.* — Further specimens having pronounced pearly marking at margins of both wings are named **margarita** *Ribbe.* — The race **bolivari** *Romei* from the neighbourhood of Madrid is a very small race, still smaller than the smallest *arragonensis* from Albarracin. Brown markings of upperside very reduced, blue scaling almost entirely absent, so that even in fresh specimens they give the impression of being a Pieridae. The brown ♀ shows the uniform brown of ground colour interspersed with whitish patches. — The race **cuencana** *Vrty.* is said to be a half-way transition between *arragonensis*, *hispana* and *rezniceki*. In appearance and size like the first-named, whilst the blue-green upperside faintly suffused with grey is like the latter two. All markings are more pronounced and with vivid colours. — Verity describes as **prior** the 1st generation of subsp. *hispana H.-Schäff.* (Vol. 1, p. 315) in contrast to the 2nd generation it is said to have a somewhat more glossy blue upperside and no yellowish red admixture on underside. — The 2nd generation of the race **rezniceki** *Bart.* is called **septembris** *Vrty.* (non *altera Vrty.*). It is larger than *florentina Vrty.* not so pale on both sides of wings and the markings of upper and undersides are everywhere heavier than those of the 1st generation. — **constanti** *Rev.* from the Department Var looks at first glance just like *rezniceki Bart.* but the underside is much greyer. Upperside of ♂ often like *suavis Schultz* (Vol. 1, p. 315); underside inclines to an enlargement of all dots and the creation of additional spots. — Verity named the 2nd generation **reverdini,** it is said to be recognisable in that all the characteristics of the race are more pronouncedly marked. — *meridionalis* described by Tutt from the Riviera is a mixture combining the characteristics of *rezniceki*, *constantini* and *reverdini Vrty.*; it cannot be upheld, neither can the names *vernalis* and *hiemalis Tutt* for the two presumed generations. — The race from around Florence, **florentinae** *Vrty.* is much smaller than the *rezniceki* from Genoa, especially when compared with the 1st generation. The ♂ is more brightly coloured, markings however reduced. Underside appears more grey, not so pure white. Black spots much smaller, also the orange spots are narrower, but darker and more vivid. The black triangular marks are reduced. The ♀ is of uniform dark brown like *bellargus*, so that it is easy to distinguish from *rezniceki*. — The 2nd generation is named **altera** *Vrty.* and has more whitish coloured ♂♂ as well as paler ♀♀.

negra. *margarita.* *botivari.* *cuencana.* *prior.* *rezniceki.* *septembris.* *constanti.* *reverdini.* *florentinae.* *altera.*

L. admetus *Esp.* (Vol. 1, p. 316, pl. 81 e). — **subtus-radiata** *Oberth.* from Naryn belongs to the race *ripartii Frr.* (81 f) and shows the usual form of ray-like conjoined ocelli of underside. — According to Oberthür a separate race **fabressi** *Oberth.* occurs in July and August at Albarracin in Spain and in the Crimea. The ♂ is relatively small, not very dark on upperside whilst being browner on underside and with less admixture of grey than french specimens. The white streak is also missing, which in the ♀ is a lively white, well outlined and standing in bold relief from the reddish brown underside. In the ♂ one can observe very pronounced black marginal spots capped by red on the upperside. In general the race is very similar to name form. — **exuberans** *Vrty.* from Oulx comes between the spanish form and *admetus* from Asia Minor. It occurs at end of July and beginning of August and is distinguishable from *ripartii* by its size and also by the deeper and more delicate black of upperside. Underside is a paler grey and the white streak less sharply outlined.

admetus. *subtus-radiata.* *fabressi.* *exuberans.*

L. dolus *Hbn.* (Vol. 1, p. 316, pl. 81 f). — **crassipuncta** *Std.* has exceptionally large ocelli on underside whilst **obsoleta** *Std.* (= paucipuncta *Le Cerf*) often has quite extinct ocelli and those that remain are generally without pale surround. Ground colour of underside is very pale and unicoloured. — In **exoculata** *Std.* all ocelli are absent. — **discoelongata** *Courv.* with elongated arcuate eyespots occurs rarely. — **rufomaculata** *Dhl.* is a ♀ form with well developed marginal spots on upperside of hindwings and **punctigera** *Dhl.* is a ♂ with most pronounced marginal dots on upperside. — ♂ ab. **splendida** *Dhl.* are ♂♂ without the grey or grey-brown dusting in front of the margin and with paler scaling along the basal part of costa, so that the insect has throughout a cleaner, more glossy and almost white appearance. All the last 3 forms are from the Mti. Sibillini in mid Italy. — From the same locality we have ab. **elachista** *Dhl.* a dwarf form of 22—25 mm expanse. — ab. **amasina** *Neub.* belongs to *menalcas Frr.* (81 g) and differs only by the absence of the uppermost median ocellus on underside of forewings and by the complete extinction of the arcuate eyespots on hindwings. The last median ocellus can only be discerned as a minute dot by means of a magnifying glass. — **antidolus** *Rbl.* from the Takaltu-Dagh in russian S. Armenia is a very pretty variation; it is a ♂ with pronouncedly female colouration of upperside. The whitish green somewhat metallic dusting is distributed sparsely over the forewings, leaving a very wide brown border and hind margin. Hindwings more liberally dusted with whitish green, but the margin is also unusually wide. All the veins and fringes are coloured brown. — **virgilia** *Oberth.* from S. Italy is distinguishable by the absence of the blue reflection in the disc, there is only a trace of blue at base like in *menalcas Frr.* On hindwings the marginal spots that are situate internervally, are distinct and brownish. The ♀♀ generally have the black marginal spots capped with orange. — **fulgens** *Sag.* is the race from Santa Coloma de Queralt, the ♂ has a nice sky-blue upperside without greenish tone, a brown-grey underside with more boldly developed ocelli than in neighbouring races. The ♀ has a darker brown ground colour on both sides, whilst the markings agree with those of the ♂.

dolus. *crassi-puncta.* *obsoleta.* *exoculata.* *disco-elongata.* *rufoma-culata.* *punctigera.* *splendida.* *elachista.* *amasina.* *antidolus.* *virgilia.* *fulgens*

phyttis. **L. phyllis** *Christ.* (Vol. 1. p. 317, pl. 81 g). — Only two of the usual Lycaenidae aberrations have been
radiata. discovered: **radiata** *Courv.* with ray-like conjunction of all ocelli, marginal spots and basal eyespots and ab.
schultzi. **schultzi** *Krodel* with conjunction of arcuate eyespots and marginal spots.

damon. **L. damon** *Schiff.* (Vol. 1, p. 317, pl. 81 h). A very variable species with many newly described races.
crassi-puncta. — ab. **crassipuncta** *Courv.* (= resarta *Musch.*) shows unusually heavy ocelli on underside; ab. **paucipuncta**
pauci-puncta. *Courv.* inclines to a reduction of the usual number of ocelli. — **costa-juncta** *Courv.* has the upper basal spot
costa-juncta. conjoined with the upper median eyespot by a streak. — ab. *discoelongata Courv.* corresponds to *extensa Krod.*
decorata. (Vol. 1. p. 317). — **decorata** *Courv.* is a ♀ aberration in which there are a few pale or even brownish patches
maculata. internervally along the margin of hindwing and on the forewing 4 white marginal dots with black pupils. On upperside of hindwings there are 3 white anal spots as in *maculata Rev.* — ♀ ab. **maculata** *Rev.* (= punctata *Lütthem.*) has base of wings dusted with bluish and on hindwings two similarly coloured cuneiform patches
caeru-lescens. at anal angle. — ab. **caerulescens** *Oberth.* (= caerulescens *Musch.*, caerulescens *Vorbr.*) are ♀♀ with more or less well distributed blue dusting on upperside. — ab. **transparens** *Courv.* is a ♀ with a white streak on upperside
trans-parens. of hindwing, corresponding exactly to a similar marking on underside. — **ausonia** *Vrty.* from Monte Piceno is
ausonia. a race of small dimensions with expanse of only 25—30 mm. The ♂ is of light, brilliant appearance like most
centrali-tatica. Lycaenidae from this altitude. — **centralitalica** *Dhl.* occurs at higher altitudes in the Monti Simbruini, Velino and Sirente group, as well as in the Majella. It is distinguishable by the clear very light blue with considerable silvery gloss and sharply outlined black margin. Underside of forewings shows a paler brown, that of hindwings being richer. In size it is smaller than mid-european specimens and fringes are wider. — In Noguera in Aragon
noguerae. at an altitude of 1400 m we find the smallest of all the known spanish *damon* races — **noguerae** *Sag.* — which
ultra-marina. is immediately distinguishable thereby. — **ultramarina** *Schaw.* from the Alps of Tyrol is a ♂ form standing out from all the other races by its ultramarine blue colouration. The blue is very deep blue without any admixture
merz-bacheri. of green: the race seems to be widely distributed. — **merzbacheri** *Courv.* is found at Djarkent and in the Ili region. On an average it is smaller than name form. Upperside of ♂ is blackish brown, veins discernible as blackish lines, only base of wings and neighbouring areas of the disc show green blue scaling, so that only the basal ⅓rd, rarely half or more of the wing surface appears blue. Occasionally specimens occur in this race showing a heavier blue scaling. In some specimens there are 2 or 3 vivid blue spots at anal angle analogous to those of ♀ ab. *maculata Rev.* Underside is of typical appearance and the ♀♀ also vary only little with the exception of 3 to 4 cuneiform very dark streaks expanding outwards on underside of forewings at edge of hind-
zhicharevi. margin. — **zhicharevi** *Sowinski* from Kislovadsk in the northern Caucasus is smaller than typical *damon.* Upperside darker with much wider black margin, dusted with black at costal margin. Underside with smaller ocelli, especially on hindwings. Forewings have 5 roundish median eyespots. Underside of ♀ also with reduced
kotshubeji. eyespots, differing thereby from *merzbacheri* but especially also by the narrower margin. — **kotshubeji** *Sov.* from Kagysman, Province Kars in Transcaucasia is much smaller; the wings are narrower and appear elongated. Upperside of ♂ is blue with faint greenish sheen, margin slightly enlarged. Ocelli of underside only small, the white streak narrow, base of wings lightly dusted with green. It differs from the former chiefly by its smaller size and the more greenish tone of the blue of upperside, as well as by the narrow black margin.

damone. **L. damone** *Ev.* (Vol. 1, p. 317, pl. 81 h). — The subsp. **krymaea** *Shelj.* (= krimaea *O. B.-H. i. l.*) is
krymaea [illegible] what larger than typical *damone* and ground colour of upperside is much lighter sky-blue. Veins are dusted [illegible] with blue, contrary to the darkly dusted veins of name form. Dark marginal line is finer, especially on hind-[illegible] wing. Underside very slightly paler than *damone.* Only ♂♂ are known from Kertsh, Staryjkrym. — **damalis** *Riley* from Harir and the Karind Gorge in N. W. Persia is closest to *xerxes Stgr.* (Vol. 1, p. 317) both in colour as in the absence of the white longitudinal streaks on underside, but differs by the larger wing expanse (30 mm and more against 23—24 mm) as well as by the absence of the green basal dusting of underside of both wings. Upperside of ♂ is a shade paler and more vivid than *xerxes* and the orange lunules at anal angle are more prominent in the ♀. The ground colour of ♂ is paler and greyer, that is to say not so brown as *xerxes*, that of
duplicata. the ♀ is more yellowish brown. The discoidal lunule of forewings is more pointed anteriorly. — **duplicata** *O. B.-H.* is a race occurring in the Juldus regions. It has an expanse of 30—32 mm and resembles *melania Stgr.* on upperside, but the ground colour is a more greenish blue. Underside varies considerably, it is a pure grey without reddish hue as in *melania*. The bold red marginal spots of *melania* are absent in *duplicata*, at the best there are only traces of reddish lunae indicated at anal angle. The discoidal lunule of hindwing is very faint, whilst in *melania* it is always boldly marked.

dama. **L. dama** *Stgr.* (Vol. 1, p. 318). — subsp. **karinda** *Riley* from Harir and the Karind Gorge in N. W. Persia
karinda. differs from *dama* in that the submedian ocelli on underside of hindwings are always completely developed inspite of their smallness and the submarginal and marginal spots are more pronounced. In the ♀ veins on upperside are strikingly darker.

L. peilei *B.-Bak.* from the Karind Gorge in N. W. Persia occurs in July at an altitude of 6000 feet and belongs to the *dama* group. The ♂♂ have all wings yellowish, both appearing almost like orange at the first glance. Forewings have numerous grey androconia hairs and small scales which give the wing a peculiar appearance. On the hindwings these scales are almost entirely absent except in the basal area. Fringes are grey inwardly darker. The underside of all wings is creamy coloured with slight reddish hue. The black spots with white ringlets; forewings have a dark cell end spot and arcuate row consists of 6 ocelli. On hindwings the very minute dots are inclined to be extinct, but even if small the upper basal spot is always distinctly visible. The submedian ocelli are reduced to small dots and often absent. The submarginal spots are faintly indicated in a deeper shade of the ground colour and capped by slightly paler triangular marks. The ♀ is pale brown, otherwise of the same markings as the ♂. Expanse of ♂ 38—42 mm, of ♀ 38 mm. The striking colour distinguishes this from all other palaearctic Lycaenidae, but the marking indicates its connection with the *dama* group with which it also flies concurrently. *peilei.*

L. gigantea *Gr.-Grshm.* (Vol. 1, p. 318). Tytler found a new subsp. **gilgitica** (16 h) in Yasin, Gilgit. Only the ♂♂ are known to me and these are distinguishable by the darker, more vivid blue of the upperside which only iridesces somewhat silvery in certain light. The underside is very similar to the typical form (16 h) from the Mountains of Hissar. *gigantea. gilgitica.*

L. jolas *O.* (Vol. 1, p. 318, pl. 82 b, e). — The race **wullschlegeli** *Oberth.* (= curysthenes *Fruhst.*) occurs in the Valais and S. Tyrol. It differs in the ♂ slightly from typical specimens from Hungary. It is smaller, the underside rather duller grey, the black spots of forewings somewhat more reduced. On the other hand the ♀♀ show considerable variation which is constant. The ground colour of the upperside is darker, the blue basal dusting of forewings very reduced and restricted to the lower half of the wing. The brown margin is extended reaching almost to the disc. On hindwings the blue extends up to the hind marginal angle and on the margin there is a row of dark marginal spots. — **protegenes** *Fruhst.* from Digne has ♂♂ which are still smaller and darker than *wullschlegeli*, whilst the ♀♀ are half way between *jolas* and the race from the Valais. — **powelli** *Oberth.* from Géryville in Algeria differs in the ♂ from european and asiatic *jolas* by the reduced black ocelli of the underside, which are almost extinct on the hindwings. The spots are indicated by faint white patches which mostly have a minute black centre; a few of the ocelli are extinct. In contrast to all other races the ♀ has the blue colour exceedingly heavily developed. — subsp. **andreasi** *Shelj.* from Firüza in Askhabad in Transcaspia denominates ♂♂ with blue-violet upperside and much wider black margin than the name form. Underside is brownish, ocelli larger and with wider white ringlets. Marginal spots almost absent. Base of hindwings more extensively dusted with blue than in *jolas*. *jolas. wullschlegeli. protegenes. powelli. andreasi.*

L. lycormas *Btlr.* (Vol. 1, p. 318, pl. 82 c). — ab. **paucimaculosa** *Kuway.* from Hokkaido in Japan has all median ocelli extinct except for one each in the 2nd and 3rd mediana and 1st cubitalis, which are still retained although reduced in size, nevertheless with white ringlets. — **lederi** *O.-B. H.* from Munku in the Sajan Mountains has the black margin much narrower than in typical specimens from Amur, especially on the hindwings only a faint black marginal line is left. The black dusting of the wings is only faint and therefore the blue appears more pronouncedly. — **tomarina** *Mats.* described from a ♂ from Tomari on the Isle of Kuashiri (Kurile Islands). It is very small with an expanse of only 28 mm. Upperside does not vary from type whilst the underside is darker so that the white ringlets round the black spots contrast more strongly; they are also much smaller. — **sumpantingi** (*O. B. i. l.*) from Szechuan is smaller than the name form. The ♂ is somewhat duller and duskier blue. Margin narrower, not so sharply outlined on the forewings as on the hindwings. Underside grey with slight brownish tinge. The reduction of the discoidal lunule and of the very small round ocelli with their white ringlets is characteristic. Blue dusting of hindwings heavier. The costal basal ocellus is absent and only the 3 middle eyespots are retained of the median row. These are most minute black dots with white surrounds. *lycormas. paucimaculosa. lederi. tomarina. sumpantingi*

L. happensis *Mats.* established as a distinct species according to a single ♀ from Happa in Corea should probably best be classified under *lycormas*. Upperside is brown without blue scaling, fringes brown and white mixed. Underside reminds one of *lycormas* in the arrangement of the spots and dots. However they are larger especially on the hindwings; they are of oblong shape with white surrounds. Fringes are pure white on underside. It expands 30 mm. *happensis.*

L. diana *Miller* (16 d, e) occurs in the Kagysman region in the province of Kars where it flies in June at an altitude of 1800—2000 m. It is most closely allied to *coelestina-alticola Christ.* (Vol. 1, p. 318) and has an expanse of 26—29 mm. Upperside of wings of ♂ is black-brown with extensive dark blue scaling, margin is widely black-brown expanding up to the apex. The blue of hindwings is more extensive and margin narrower. Underside is a nice pearl-grey to dark ash grey. Base of wings verdigris or blue-green on forewings, blue-green to light blue on hindwings. Discoidal lunule falcate and white. The median row consists of small dots which vary in size. Fringes white. The ♀ a uniform brown on upperside with black discoidal lunule, the underside pale grey-brown, otherwise as ♂. The specimens illustrated are the types. *diana.*

L. pontica *Courv.* from the neighbourhood of Amasia in Asia Minor is only known in the ♂ sex. Wing expanse is 29 mm. Upperside a vivid blue like *loewii Z.* with a 2 mm wide black margin on the forewings, *pontica.*

sending out fine black processes along the veins. Costa of hindwings is widely black. Along the outer and hindmargin of the hindwings there are 6 large roundish black spots which are connected internervally with the 1 mm wide black margin. Fringes are double, black on upperside, white on underside. Underside is a dark ash grey. Base of forewings slightly dusted with blue-green which extends on the hindwings far into the disc. In forewings the basal eyespot is absent, in hindwings only one near the costa. Discoidal lunule of forewings large, of hindwings small, both with whitish surrounds. On forewings there are 7 fairly large ocelli with whitish surrounds and on hindwings there are 7 such ocelli though smaller. The first has a faint "S" shape, the last forms an open arc towards the base. There are 6 blackish marginal spots circumscribed with dark grey on the forewing and 7 such on the hindwing. The black marginal line is very fine. The body is dark blue on upperside and pale grey on underside. Feelers are delicately black and white ringed. Club of feelers is long, narrow and white on underside to the extent of 4 mm. The species comes closest to *semiargus*, *lycormas* and *coelestina*.

sebrus. **L. sebrus** *Bsd.* (Vol. 1, p. 319, pl. 82 c). — Aberrations of marking occur more or less frequently and so far the following have become known: ab. **paucipuncta** with reduced number of ocelli. — **obsoleta** *Courv.* with extinct ocelli on underside. — **discoelongata** *Courv.* with streak-like or comma-like diffusion of the median ocelli. — ♀ ab. **caerulescens** *Rbl.* with blue-violet dusting, especially along the inner margin. — ♀ ab. **violacea** *Vrty.* with upperside quite dark violet and wide black margin. — ♂ ab. **plumbea** *Courv.* (plumbeus) from the Valais is quite lead-grey on upperside with dull gloss instead of being steely blue. — Verity notifies a race **angulosa** from Firenzuola at 500 m altitude in Tuscany and in the Sibillini Mountains, the ♀♀ constantly vary in that the 2nd cubitalis on hindwings projects in an angular way that is most striking. The ♂♂ are distinctly smaller than typical *sebrus* from the plains and the black markings of underside are considerably reduced. — **caerulea-grisea** *Shelj.* is found around Jalta in Crimea. The ♂♂ are notably darker and deeper blue than the name form. and the ♀♀ are striking in that the base of hindwings is dusted with blue-grey scales. — *pseudo-lorquini Vrty.* from Albarracin has already been described as *lorquinii H.-Schäff.* (p. 252). An examination of the genitals is still necessary in order to ascertain whether it belongs to this species.

paucipunct. obsolcta. discoc-longata. caeru-lescens. violacea. plumbea. angulosa.

caerulea-grisea.

semiargus. **L. semiargus** *Rott.* (Vol. 1, p. 319, pl. 82 c). — ♂ ab. **dubiosa** *Std.* from Prosecco has a blue upperside almost like *T. telicanus Lang* (77 h) and the black margin is reduced to a hair-fine line. Underside pale grey like *argiolus L.* (83 g, h) and eyespot dots are reduced to a minimum. — ♂ ab. **plumbea** *Tutt* has upperside a slate blue and ab. **damoetas** *Bgstr.* represents ♂♂ with pale blue upperside with narrow black margin and without discoidal lunule. The absence of the discoidal lunule on the underside of hindwings is characteristic so is the reduction of the median ocelli of forewings to 5 and the extension of the 5th eyespot to the wide surround of the discoidal lunule. — **byzenus** *Bgstr.* is a glossy blue ♂ with sharply outlined but not wide margin on upperside and without discoidal lunule. Underside grey with blue dusting at base without discoidal lunule and with irregularly placed median ocelli on hindwings. — ♂ ab. **argopoeus** *Bgstr.* has a blue upperside with fairly wide black margin, discoidal lunules are absent, underside grey, arcuate ocelli reduced to 5 and white fringes. — **byzas** *Bgstr.* is a variety of the ♂ which is distinguished by a unicoloured blue upperside with distinct discoidal lunule on forewings and internerval marginal spots on hindwings. Underside fairly dark with pronounced ocelli. — In ♂ ab. **dentata** *Tutt* the black margin of hindwings extends in small pointed cuneiform marks internervally. — In ♂ ab. **lineata** *Tutt* the median ocelli of underside of both wings are extended on both sides in long broad streaks. — ♂ ab. **lutea** is beautifully unicoloured on upperside like weak coffee colour. On forewings there are a only few black striations visible towards the apex. Underside is still paler, ocelli bluish, base of hindwings similarly. It occurs at Bérisal in Switzerland. — **flavescens** *Gillm.* is similarly a very pale and yellowish coloured ♀, it is not quite so pale as *lutea Car.* of *argyrognomon* (Vol. 1, p. 300). — **caerulescens** *Oberth.* are ♀♀ suffused with blue on upperside and **caerulescens** *Rev.* (= jura *Strd.*) are similarly ♀♀ having blue streaks situate internervally on the lower half of both wings and stretching partially as far as the margin. — A dwarf form from Marburg a. d. L. is named **pusilargus** *Strd.* — ♀ ab. **argopoei** *Bgstr.* shows unicoloured brown upperside without discoidal lunule, only the veins are deep black. On underside the chief characteristic lies in the reduced submarginal eyespots which number 5 on forewings and 6 on hindwings. The twin spot of the same is absent on both wings. On hindwings the upper (costal) basal spot is present. — ♀ ab. **byzene** *Bgstr.* is dusted with blue at base of hindwings on the brown upperside and underside is dark. Markings are normal. — ♀ ab. **byze** *Bgstr.* shows a blue dusted base on upperside of all wings and an ashy-grey underside with large arcuate ocelli. — ♀ ab. **brunnescens** *Tutt* has 2—3 red-brown spots (almost like burnt sienna) in the cellules 1—3 of hindwings. — ♀ ab. **semicaeca** *Tschugunov* from Zima in the province of Irkutsk has the underside of forewings without median ocelli and hindwings without basal spots but with 6 median ocelli. — Small insects expanding to 25 and 26 mm are named *minor Tutt* and specimens of over 36 mm expanse *major Tutt*. — **falcata** *Std.* are specimens with falcate outer margin. — ab. **initia** *Tutt* are specimens having grey marginal spots on upperside of hindwings. — **paucipuncta** *Courv.* (= paucipuncta *Gillm.*) are specimens with reduced number of ocelli. — ab. **antico-obsoleta** *Tutt* show the ocelli of forewings reduced and **caeca** *Oberth.* (= caeca *Courv.*, cala *Strd.*) has ocelli extinct on underside. — **addenda** *Std.* has 2—3 additional eyespots at base of hindwings below the furthermost basal eyespot. — **elongata** *Courv.* has elongated median ocelli. — *discoelongata Courv.*

plumbea. damoetas.

byzenus.

argopoeus.

byzas.

dentata.

lineata.

lutea.

flavescens.

caeru-lescens.

caeru-lescens. pusi-largus. argopoei.

byzene.

byze. brunnes-cens. semicaeca.

falcata. initia. pauci-puncta. antico-obsoleta. caeca. addenda. elongata.

is identical with *striata Wheel.* (Vol. 1, p. 319). — ab. **excessa** *Tutt* bears supernumerary arcuate eyespots or additional spots in the same region. — ab. **c-nigrum** *Tutt* has the 7th and 8th median ocelli conjoined on hindwings forming a "C". — *decorata Courv., alconoides Musch.* and *albipuncta Musch.* are synonymous with ab. *impura Krul.* (Vol. 1, p. 319). *excessa.* *c-nigrum.*

L. cimon *Lewin* originally described from England as an aberration is identical with specimens from Scandinavia to upper Italy and Russia and denominates insects with narrow borders. Ground colour of ♂♂ is mauve-blue and margin narrow and black. Base of wings is scaled with blue on underside and spots are small. *angustimargo Gillm.* cannot be differentiated from same. — **cyanea** *Höfer* from Eisenerz near Reichenstein is a race of which the ♂♂ appear to be coloured a beautiful pure azure blue without any admixture of a violet tone. The blue is precisely the same shade as fresh *arion* ♂♂. Underside is somewhat darker but both sexes are typical *semiargus.* — **montana-grandis** *Tutt* are specimens that are much larger than *montana M.-Dür* (82 h). they occur at an altitude of at least 4000′ in the Alps and can be immediately distinguished from the latter form by the wide black margin. — Stauder describes a race **transiens** from the Tyrol and Carinthia which is a transition from *semiargus* to *montana M.-Dür* (82 e). It occurs at an altitude of 800—1500 m and is generally not so large as typical *semiargus.* However it has a much deeper and richer blue than *montana* ♂♂. Margin is exceedingly narrow, sharply outlined and often narrower than in name form. The absence of the discoidal lunule on forewings is characteristic. — As the name *transiens* was utilised by Melcon already in 1910 for a race of *semiargus* I now alter same into **semimontana.** — **augusta** *Std.* from Trieste, Muggia and Noghera has ♂♂ which are half way between *montana* and *bellis Frr.* (82 e, f), they are not so dusky, nor have they such a metallic sheen as *athis* (82 a, Fig. 4). Underside is darker in both sexes, without a brownish hue in the ♀. Ocelli are considerably enlarged and have white ringlets. Discoidal lunule is bold and reniform. Ocelli of hindwings are strikingly larger than those of forewings. — **basicaeca** *Std.* occurs in this race, the basal eyespots of hindwings are absent.— **semisebrus** *Trti.* from Sestola has a less violet tone in the ♂♂ than name form, the blue is said to be deeper and more glossy. The ♀ is of normal brown without markings, underside more diffuse. — subsp. **salassorum** *Fruhst.* occurs in the Val Cogne at an altitude of 1000 m and is one of the commonest insects of this territory. It is larger than *semiargus* and striking on account of the dark blue, which is darker than in all other races. The black margin is very wide and in single specimens extends up to the disc. Underside is pale as in specimens from the Maritime Alps. — **porrecta** *Vrty.* from the Apennines varies from the race from the plains, *cimon Lewin.* by its much darker underside. The wings appear elongated and angular on account of the brevity of the anal nervures as compared with the upper — radial — nervures, as well as on account of the straight outer margin. — *cimon.* *montana-grandis.* *transiens.* *semi-montana.* *augusta.* *basicaeca.* *semisebrus.* *salassorum.* *porrecta.*

quercii *Vrty.* combines all these characteristics and has besides a wider black margin. It occurs on the highest peaks of Calabria. — **ausonidarum** *Vrty.* from the Aurunci Mountains in the province Caserta belongs to the finest races of western Italy. It is larger than *cimon* and the ♂ expands 29 mm. The clear vivid blue of same reminds one of *cyllarus* and the narrow, sharply outlined margin increases the resemblance. — **coelestina** *Mill.* is the race from the Maritime Alps. The ♂ is deep blue-violet with well outlined black margin and discoidal lunule. Underside is mouse-grey, dusted with blue at base of hindwings. — Upperside of ♀ is quite black with white fringes. On underside the characteristic basal blue of the ♂ is absent. Forewings have 5 ocelli with white ringlets, the twin spot of same is small or absent, hindwings have 6 spots and the twin spot is similarly only small. The discoidal lunules are faintly marked but distinct. — **transiens** *Melcon* (nec *Stauder*) occurs at Uclès, Cuenca, and forms a transition between *bellargus, coridon* on the one hand and *semiargus, cyllarus* on the other. The ♂ is pale azure blue with darker and wider margin than the name form. Similarly the ♀♀ are darker and have the discal area heavily dusted with blue. — **maroccana** *Lucas* from the neighbourhood of Meknès in Morocco is characterised by smaller size, darker underside in both sexes and by the ♀♀ being dusted with blue. — The race from Bosnia and Bulgaria is named **balcanica** *Tutt,* it is of goodly size having an expanse of 34—38 mm in the ♂ and 32—39 mm in the ♀. Upperside of ♂ is deep mauve-blue with a wide black margin, a well defined discoidal lunule and diffuse black veins. The ♀ is unicoloured dark black-brown on upperside. Underside of both sexes is almost typical with distinct ocelli and traces of 2—3 yellow crescents on anal angle of hindwings. *quercii.* *ausoni-darum.* *coelestina.* *transiens.* *maroccana.* *balcanica.*

The race from Asia Minor is named **intermedia** *Tutt.* from Taurus, N. Syria, Borzom and Transcaucasia. The ♂ expands 25—36 mm, the ♀ 28—37 mm. On an average the specimens are larger than *bellis Frr.* (82 f) and slightly smaller than *persica Tutt.* The ♂ is dark mauve-blue on upperside, veins diffusedly black, discoidal lunule dark and margin wide. The ♀♀ are generally brown but often suffused completely with blue. On hindwings there are more or less well developed orange lunules which sometimes even extend to the forewings. Underside of ♂ is dark grey, that of ♀ grey-brown. The black markings are only fairly pronounced whilst the submarginal spots of hindwings are grey and bold with reddish centres at the anal angle. — **persica** *Tutt* from Astrabad, Shakuh and Hadscyabad in Persia is of good size. ♂♂ 30—34 mm and ♀♀ 32—37 mm expanse. The ♂♂ are not nearly such a vivid blue, the margin is wider and more diffuse, the veins are darker than in european races. The discoidal lunule of forewings is distinct. The ♀♀ have dark brown uppersides and white fringes like the ♂, base of all wings is scaled with blue, sometimes the entire wing is more or less suffused with blue and at anal angle of hindwings shows distinct traces of yellow marginal lunules. The underside is the most characteristic. The discal and submarginal rows of spots are well developed and in the submarginal area both wings *intermedia.* *persica.*

show a similar ordination of marginal black spots capped with crescent shaped grey marks and faintly developed yellow anal spots, like in *icarus* and *escheri*. — **mesopotamica** *Tutt* is a fairly large race from Malatia in Mesopotamia. The ♂♂ have an expanse of 32—33 mm and the ♀♀ of 33 mm. The ♂♂ are thinly scaled with grey-blue, generally of dull appearance, with narrow black margin and veins and discoidal lunule of similar colour on forewings. The fringes are white. Ocelli of underside are well marked. There are 3 faint yellow-brown anal spots on hindwings with pale grey falcate surrounds. These latter are indicated along the entire margin of hindwings and also at anal angle of forewings. The ♀ resembles *persica* in its dark ground colour, as well as by the blue dusting at base of wings. Fringes are white; yellow lunules indicated at anal angle, the other spots do not vary from normal. —

mesopotamica.

uralensis.

The race **uralensis** *Tutt* from Miashk in the Urals is very large; ♂ 33—37 mm, ♀ 36—38 mm expanse. The ♂♂ dark mauve-blue with well developed black margin and diffuse dark veins, distinct discoidal lunules and white fringes. The ♀♀ unicoloured black-brown with grey fringes. Underside of ♂ grey, of ♀ brownish grey. Ocelli and spots typical but often reduced in size and number. — subsp. **altaiana** *Tutt* from the Changai Mountains, Ongodai in the Altai, Sarafshan and Thian Shan is a large race expanding 30—36 mm; the ♂ is somewhat paler but nevertheless always a rich mauve-blue with wide dark margin and well developed discoidal lunule. Underside of ♂ is grey, ♀ brownish-grey. Discoidal lunule of forewings prominent, poorly developed on hindwings. Submedian ocelli inclined to be reduced, spots 6 and 7 of forewings often absent. — **fergana** *Tutt* from Namangan in S. E. Altai is a race of almost the same size. The ♂ is somewhat paler in the ground colour than *altaiana*. Discoidal lunule of forewings absent. Veins are fairly well outlined by dark dusting. Margin is very narrow, black, fringes white. The ♀ is of the same size as the ♂, 30—36 mm expanse. It is quite brown on upperside with grey or whitish-grey fringes. Underside of ♂ is grey, that of ♀ brown-grey. Spots are fairly small, normal; spots 6 and 7 of forewings incline to be extinct. — **amurensis** *Tutt* from the Amur region, Blagowestshensk and Sutschan is a large race of 36—38 mm expanse. The ♂ is a nice blue with varyingly wide black margin. The veins are not sharply outlined with black. Discoidal lunule distinct, fringes white. Colour of the ♀ uniform brown with very narrow white costal margin to forewings and white fringes. Underside does not vary from type, but the ocelli are large, in the ♀ they are very large and with white edges. — **annulata** *Elwes* from Gyantze in Thibet has ♂♂ of dull blue-violet upperside with very wide black margins. On underside of hindwings the cell end spot is white. In the ♀ on the underside of hindwings marginal markings are absent, all submedian ocelli are smaller, otherwise all is normal.

altaiana.

fergana.

amurensis.

annulata.

atra.

L. atra *Gr.-Grshm.* from the neighbourhood of Woadilj in the Alai is related to the *semiargus* group. It is of the smaller dimensions of *Z. minima Fuessl.* (82 d). Upperside unicoloured black with faint bluish hue. Underside is reddish-grey with a row of black eyespots. Base is dusted with metallic greenish.

cyllarus.

alexis.

pluripuncta.

paucipuncta.

dimus.

ambigua.

subtus-impunctata.

subtus-radiata.

latimargo.

completa.

decolorata.

plumbeus.

caerulea.

nigra.

punctata.

punctata.

L. cyllarus *Rott.* (Vol. 1, p. 319, pl. 82 f). According to the researches of Courvoisier we should make use of the name **alexis** *Poda* instead of *cyllarus Rott.* — Both sexes can vary in the markings: ab. *multipuncta* or **pluripuncta** *Courv.* for an increased number of ocelli and **paucipuncta** *Courv.* with reduced number of eyespots. — ab. **dimus** *Bergstr.* (= subtus-partim-punctata *Oberth.*) has no eyespots on underside of hindwings; ab. **ambigua** *Rev.* similarly has eyespots absent on hindwings and besides reduced number of ocelli on forewings. — ab. **subtus-impunctata** *Oberth.* (= caeca *Courv.*) is quite without eyespots on underside and with discoidal lunule of forewings only faintly retained. — **subtus-radiata** *Oberth.* (= discoelongata *Courv.*) has the arcuate eyespots diffusing inwards. — **latimargo** *Courv.* is a ♂ with wider black margin. — **completa** *Vrty.* has a distinct row of submarginal spots on upperside. — ab. **decolorata** *Höfer* has dull grey-blue upperside, the lustrous light blue scaling is absent, the blue-green basal dusting on underside has also disappeared and been replaced by blackish dusting. — *sublugens Strd.* from Eregli can scarcely be distinguished from *lugens Car.* (82 g). — ab. **plumbeus** *Courv.* is a ♂ from the neighbourhood of Bâle with upperside coloured leady grey. — ♀ ab. **caerulea** *Courv.* are ♀♀ with upperside dusted with blue sometimes quite resembling the ♂. — **nigra** *Courv.* are ♀♀ that are deep blue-black. — ab. **punctata** *Musch.* is a ♀ which has 3 spots on upperside of forewings and 4 spots on upperside of hindwings. — **punctata** *Gouin* denominates ♀♀ from the Gironde which have black marginal spots on upperside.

martinalpium.

pauper.

illustris.

mitterbergeri.

L. martinalpium *Vrty.* (= alpina *Trti. & Vrty.*) is the race from Piedmont with dark sky blue ♂♂ of considerable size. They have chestnut brown undersides with large ocelli. The black margin exceeds in width that of specimens from mid-Europe and it is diffuse and not sharply outlined. The ♀ is dark chestnut brown on upperside without any trace of blue dusting. — The race **pauper** *Vrty.* from Florence is smaller than specimens from mid-Europe, the ♀♀ have no blue scaling on upperside, or when same is present it is always very reduced. On underside the blue or greenish dusting extends to the outer half of the costal area of hindwings and never beyond the submedian row. It is not synonymous with *andereggii Rühl.* — ♀ ab. **illustris** *Std.* belongs to the latter race, with deep black upperside, which at the same time is heavily dusted with blue, especially at the base of forewings and along the nervures of the forewings. It is found at Altipiano in the Karst. — f. **mitterbergeri** *Std.* from Mte. Faito quite resembles *andereggii* and is of 24 mm expanse and with black upperside. Discoidal lunule absent on hindwings. Underside mouse-grey and base dusted with blue green to discal area

and anal angle. — **subpauper** is the race from Cannes and the Champ de tir of Nîmes, named by Verity, although only varying minutely from *pauper Vrty.* The ♂♂ have somewhat darker undersides and the ♀♀ a rather poorer black ground colour with more extensive blue dusting, whilst *pauper* have a black-brown ground colour without blue dusting. — **pauperella** *Sag.* from Catalonia is just like the former, but slightly smaller. If both races prove to be identical, *subpauperella* would be a variation of the spanish race. *subpauper.* *pauperella.*

L. melanoposmater *Vrty.* from Aflou in Algeria is of poorer appearance to the two foregoing races. It is extremely thinly scaled, so that the black markings of underside are clearly reflected through on the very pale blue somewhat silvery upperside. Margin very narrowly grey-black. Blue basal dusting of ♀ more extensive than in *paupera.* Underside of both sexes darker with green metallic basal dusting; the bold large spots of underside remind one somewhat of *melanops Bsd.* (82 h). *melano-posmater.*

L. melanops *Bsd.* (Vol. 1, p. 320, pl. 82 h). This species only inclines slightly to the formation of races. Chiefly only the usual variations have come to notice. — ab. **paucipuncta** *Courv.* with reduced number of ocelli on underside of wings. — **subtus-partim-impunctata** *Oberth.* has forewings with reduced ocelli, hindwings without any at all. — **caeca** *Courv.* goes a step further in retrogression and shows all ocelli extinct. — ab. **unipuncta** *Rbl.* with a distinct basal eyespot on underside of forewings. — **subtus-radiata** *Oberth.* has arcuate eyespots of forewings diffusing widely in rays. — ♀ ab. **caerulea** *Wgn.* is dusted on upperside with blue like the ♂. — ab. **wheeleri** *Chapm.* is a ♀ with black spots on upperside like *euphemus Hbn.* (83 a). It was captured at Digne. — **boursini** *Metzg.* from Hyères, Var, is a ♀ in which all the ocelli of underside are clearly marked on upperside, where they form black markings, that are slightly larger on forewings than on hindwings. Some of the spots have a blue or pale halo and form similar ocelli to those of underside. — ab. **ocellata** *Metzg.* is a ♀ from Hyères that has the marginal ocelli of underside similarly developed also on upperside. The black spots of the ocelli merge in the black margin and the entire margin appears as if decorated with white lunae. — ♀ ab. **mediopunctata** *Oberth.* from Digne has a post-discal row of black spots lying internervally on upperside of hindwings and which run parallel to the outer margin. — **alluaudi** *Oberth.* from the High Atlas in Morocco differs by its considerable size and the wide black margin of the ♂ from the european races. The ♀ is quite black on upperside. Both sexes have the same dark grey underside. *melanops.* *pauci-puncta.* *subtus-partim-impunctata.* *caeca.* *unipuncta.* *subtus-radiata.* *caerulea.* *wheeleri.* *boursini.* *ocellata.* *medio-punctata.* *alluaudi.*

L. fascista *Trti.* from Derna in Cyrenaica is a ♀ which is closely related to *melanops Bsd.* and shows such immaterial differences according to the description and the black illustration that we must await the capture of a ♂ by Mr. Georg Krüger in order to ascertain whether or not this is a genuine species. Underside is said to be dark brown like *Z. galba Led.* (77 k) and bears smaller ocelli. *fascista.*

L. paphos *Chapm.* is very close to *L. charybdis Stgr.* (82 b) and it is found on Cyprus. It is only small, on an average 28—30 mm. The ♂ is dark blue on upperside with dark margin on all wings. In contrast to *charybdis*, it is not sharply outlined in *paphos* and diffuses along the veins. Markings of underside vary only little from *charybdis.* The ♀ has a black upperside, sometimes having blue scales distributed on hindwings especially towards the hind margin. *paphos.*

L. alcon *Schiff.* (Vol. 1, p. 320, pl. 83 a). — Dwarf specimens are named **minor** *Gram.* and specimens exceptionally having basal eyespots on underside, **basinovopuncta** *Courv.* — **caerulea** *Vorbr.* are ♀♀ with blue scaled uppersides to wings, like ♂♂. — ♂ ab. **latimargo** *Courv.* has very dark blue uppersides with black margin up to 2 mm breadth. — **spormanni** *Pfau* is a ♂ of remarkable colour having upperside completely uniform grey, about like the colour of the underside of normal specimens. However in sunlight or artificial light the upperside irideseces a pale grey-green with reddish silky gloss. With the exception of the brown-grey marginal line anterior to the grey fringes, only a few isolated whitish blue scales at base of forewing interrupt the uniform grey. Body is grey on upperside and almost white underneath. Underside of wings normal, but ocelli are not black but brown-grey and with white ringlets. — subsp. **haurii** *Fruhst.* from Filisur in the Grisons at an altitude of 1000—1100 m is larger in both sexes than any other known form. The ♂ has a wide black margin, the ♀ has a more sharply outlined, deeper blue and more intensively glossy basal spot than ♀♀ from any other swiss or mid european locality. Underside is characterised by the small black submarginal spots which have unusually wide white ringlets. *alcon.* *minor.* *basinovo-puncta.* *caerulea.* *latimargo.* *spormanni.* *haurii.*

L. turatiana *Vrty.* (= italica *Trti. & Vrty.*) from the Apennines of Modena is a good sized race, of which the ♂♂ have an expanse of 27—36 mm and the ♀♀ 32—39 mm. Underside of both sexes smoky brown with larger ocelli than name form having pale surrounds. The ♂ is azure blue on upperside with slight violet sheen somewhat like *cyllarus.* Costal area and veins are scaled silvery white. Discoidal lunule is sometimes absent. Margin is narrow, sharply outlined and running to a point at anal angle. Fringes are white instead of ash-grey. The ♀ resembles *arion-obscura Christ.* (83 c) by the development of its black spots and margin. — **tolistus** *Fruhst.* occurs around Koricna in Bosnia. It is paler blue than ♂♂ from north Germany, without reddish tone *turaliana.* *tolistus.*

as is shown by specimens of *alcon* from south Germany and Austria-Hungary. The ♀ is striking an account of the bright glossy basal dusting and the prominent spots in the median area of forewings. Underside is paler grey, slightly reminding one of *arion* on hindwings and the black spots contrast more vividly than in *alcon* from other localities. — **sordidula** *Jach.* from Zhelezdnovodsk in the northern Caucasus is small with almost grey upperside, underside greyish with blue dusting at base of wings. It was impossible for me to discern from the russian text, whether this form is a separate race.

sordidula.

coeli.

L. coeli *Oberth.* from Tzeku in Yunnan is perhaps only a race of *coeligena Oberth.* (Vol. 1, p. 320). The ♂ shows a nice pure sky blue, more opaque and less transparent than in *coeligena*. The ♀ is darker than the latter, of black-brown ground colour with blue dusted base which appears blue-grey in *coeligena*. Underside is reddish grey-brown with very large black submarginal spots on forewings which have lighter surrounds than ground colour. It certainly occurs very close to the palaearctic boundary.

cuphemus.

mamers.

albocuneata.

sanguisorbae.

obscura.

subunicolor.

bajuvaricus.

L. euphemus *Hbn.* (Vol. 1, p. 320, pl. 83 a). — ♂ ab. **mamers** *Bgstr.* has no spot markings on upperside and **albocuneata** *Spul.* is a ♂ with white cuneiform marks situate internervally on upperside extending towards base from margin. — ♀ ab. **sanguisorbae** *Oberth.* has a quite grey upperside with almost extinct spot marking, suffused with a delicate blue cloud over the disc. Underside slightly paler than normal specimens. — ab. **obscura** *Kaucki* has a melanic appearance, being a blackish ♀ from near Lemberg. — **subunicolor** *Pionn.* from the Gironde is a ♀ without spots on upperside of hindwings. — subsp. **bajuvaricus** *Fruhst.* from Kochelsee and Deininger Moos in Upper Bavaria has ♂♂ with darker blue on upperside and margins nearly double as wide as in name form. The ♀ is predominantly blackish brown on upperside having a blue discal area densely covered by brown scales. Underside is smoky brown instead of grey, as in specimens from north Germany. — **thersandrus** *Fruhst.* occurs at the end of July, beginning of August around Eclépens in Canton Waadt. It is of considerable size, the ♂ characterised by distinct white submarginal spots such as are also shown by north german specimens, but it can be distinguished immediately by the wider margin and the more prominent cuneiform marks, quite apart from the larger size. The ♀ partly resembles *bajuvaricus*, whilst on the other hand it seems to imitate an *arion* ♀ by the bold black post-discal markings of forewings. Blue of upperside is more vivid than the lightest north german *euphemus*. However underside is darker, almost like *bajuvaricus*.

thersandrus.

peninsulae.

The race **peninsulae** *Vrty.* occurs below Bologna at an altitude of 1000 m in the Sibillini Mountains in the province of Marche. This race makes a darker impression on upperside whilst underside is paler than name form. The basal half of wings of ♂ is admixed with grey scales, so that a duller, paler blue is created. Spots of all wings are blackish. Submarginal spots of hindwings are grey with white surrounds, black margin almost extinct. Underside is pale grey, a tone paler than in other races, with white streaks between the veins almost like *albocuneata Spul.* All marginal and submarginal spots are small and distinct, also on forewings. — subsp. **splendens** *Kosch.* from the borough of Minussinsk in E. Siberia only occurs in the steppes, in contrast to *euphemia Stgr.* (83 b) from the forest regions. It is smaller viz: 30—31 mm expanse against 33—35 mm of *euphemus* from those regions. All wings are darker, glossy grey-blue and black margins considerably wider. The ♀ is blue-black; crescent mark on forewings contrasts strikingly from the restricted blue-grey dusted area of disc; a few blue-grey streaks close to margin. Underside of both sexes darker than *euphemia Stgr.*, otherwise markings are identical with same. — **insignis** *Shelj.* is described as a race from the neighbourhood of the station Pogranitshnaja in E. Mandchuria and the frontier of the Ussuri territory and is probably identical with *splendens* or at the best could be classified as a variation of same. The general impression of the form is somewhat darker than that of *splendens*.

splendens.

insignis.

coreana.

L. coreana *Mats.* is described from a ♂ from Shakuoji in Corea and would come under *euphemia Stgr.* (83 b) from which it differs by the more azure blue upperside of wings and the cell end spot that is shaped like an "!". The black median spots of forewings are very elongated. Only 3 median spots on hindwings. Underside with small black spot in disc. — **ogumae** *Mats.* from Saghalin varies from name form by the whitish blue tone of the wings. Forewing has 3 and hindwing 4 black spots and underside is almost white with black spots having white surrounds such as do not occur in *euphemia*. — **doii** *Mats.* from the Kurile Islands is caught in July and August and as a race comes close to *ogumae Mats.* from Saghalin, but the black spots on forewings of ♂ are larger and more roundish and do not decrease in size towards the costa. Also on hindwings they appear to be smaller. Underside lighter and paler, so that the black spots contrast vividly. The ♀♀ also resemble *ogumae* in point of markings, but the brown margin is much narrower. — ab. **oiwakana** *Mats.* from Oiwake, Honsho, belongs to the race of *kazamoto Drc.* (83 b), forewings of ♂ are dusted with blue to the extent of ⅓rd, a black spot in disc. In certain light the postmedian and submarginal bands diffuse. Hindwings have dark, semi-extinct spots in the submedian area and are suffused with blue from there to base. There is a roundish brown spot in disc. Discoidal lunules large and oblong on both wings. An elongated brown spot in the cell on underside. — subsp. **shiriyensis** *Mats.* from Shiriya in Aomori (Honsho) also looks like *ogumae* but can be distinguished immediately by the wide black margin which is about 3 mm wide on forewings and 4 mm wide on hindwings. Underside is much darker, but somewhat paler than in *kazamoto Drc.* — subsp. **daisensis** *Mats.* from Daisen in Province Hoki (Honsho) varies from name form by the pale bluish ground colour of forewings in both sexes. Discoidal lunule

ogumae.

doii.

oiwakana.

shiriyensis.

daisensis.

is almost cuneiform, sometimes there is a further black dot in cell. Submedian spots larger and elongated. A black streak near base on median nervure. Margin is strikingly wider. Hindwings have 6 spots in a row and a distinct discoidal lunule. A distinct pale spot in cellules 1—3 in the somewhat narrower margin than on forewings with indications in the other cellules. Underside of forewings pale grey, a small dot in disc and 2 spots in cellule 1 b in the ♂. Size is considerable, 44—48 mm expanse. — subsp. **jezoensis** *Mats.* from Hokkaido is of medium size, 37—39 mm expanse. The ♂ has 6 slightly elongated arcuate eyespots on forewings, of which the last one is slightly smaller, the others of about equal size. The black cell end spot is larger than the one on hindwings, the number of arcuate spots is only 5 here. The brown-black margin is narrower on forewings than on hindwings. Underside is marked on underside almost similar to upperside. The ♀ only varies from name form in that the number of spots is reduced to 2—3. — ab. **teshionis** *Mats.* from Teshio and Hidako in Hokkaido is smaller and all spots are smaller and roundish. — ♀ ab. **muratae** *Mats.* is very large with expanse of 46 mm, brown forewings which are decorated with a wide blue median band in which there are 4 oval black spots. Hindwings with 4 roundish black spots and a more widely interrupted blue marginal band. The discoidal lunule is absent on underside of forewings which is always present in *jezoensis*. *jezoensis.* *teshionis.* *muratae.*

L. hozanensis *Mats.* described according to a ♂ from Hozan in the Province of Kankyonando, Corea has a wing expanse of 33 mm. It is open to doubt whether this is really a new species. So many new forms and species are being established without an examination of the genitals. Upperside is brown with blue scaling in disc which is heavier on forewings than on hindwings. Fringes white, slightly brown proximally. On forewings there is a trace of an undulate, dark submarginal band; the discoidal lunule is distinct whilst it is absent on hindwings but the submarginal undulate band is double there. Underside is dark grey with faint blue dusting at base of hindwings. Arrangement of spots and markings almost exactly like *euphemus* only somewhat fainter and more reduced. *hozanensis.*

L. arcas *Rott.* (Vol. 1, p. 321, pl. 83 e). The variations *caeca Oberth.*, *caeca Courv.* and *obsoleta Musch.* are identical with *inocellata Sohn* (Vol. 1, p. 321). — ab. **impunctata** *Haud.* is without basal eyespots on forewings. — **emutata** *Marschn.* is smaller and darker than name form, black margin wider and dots in marginal cellules are absent on underside. *arcas.* *impunctata.* *emutata.*

Subsp. **kijevensis** *Shelj.* from the Government of Kieff has ♂♂ of much darker blue colour with considerably wider margin on all wings than normal *arcas*. The entire costa of forewing widely suffused with dark blue almost to the disc. Margins very diffuse and in some specimens the black scaling is so extensive that the cuneiform marks on both wings are only faintly visible. The ♀♀ do not vary from type. Underside of both sexes somewhat darker and the pale surrounds to the ocelli slightly less distinct. especially on forewings, where sometimes they may be quite absent. *kijevensis.*

L. arion *L.* (Vol. 1, p. 321, pl. 83 c). The variability of this large and widely distributed, fine insect is considerable and accordingly the denominations of the many variations and races are numerous. — ab. **grisea** *Courv.* is a large ♂ from Mentone with wide black margin and very prominent black markings on upperside with supernumerary spots. These contrast sharply from the pale grey ground colour that has a faint rosy hue. Underside pale yellowish grey as in *ligurica Wgn.* — ab. **czernyi** *Diószéghi* is a ♂ from Hungary with upperside coloured a silvery blue with violet sheen. It has a large discoidal lunule with black spots underneath same. — **lacrymosa** *Oberth.* has lacriform spots on upperside like Herrich-Schäffer's illustrations No. 519 and 520. — **fasciata** *Skala* from Moravia has spots of forewings united forming a completely coherent band. — ♂ ab. **supra-impunctata** *Oberth.* is without the black discal spots on upperside. — ♀ ab. **imperialis** *le Chamb.* has glossy blue upperside and the black spots of forewing forming pearl-drop shaped marks. This variation is described from the Cotswolds in England and is common in the South of France. — **albofasciata** (*Musch. i. l.*) *Vorbr.* are ♀♀ having the black spots on upperside of hindwings with white edges. — ab. **subunicolor** *Pionn.* has upperside of hindwings without any black spots. This variation occurs commonly in ♀♀ from the Gironde, whilst in the ♂♂ it occurs exceedingly rarely. — ♀ ab. **major** *Oberth.* from Atzwang near Bolzano is remarkable by its size and **nana** *Courv.* owing to its dwarf form. — *arion.* *grisea.* *czernyi.* *lacrymosa.* *fasciata.* *supra-impunctata.* *imperialis.* *albofasciata.* *subunicolor.* *major.* *nana.*

L. paucipuncta *Courv.* are specimens with reduced number of ocelli on underside and **parvipuncta** such with smaller ocelli. — Variations in the normal number and shape of basal spots have been named *impuncta Courv.* without basal spots, *unipuncta Courv.* (= punctata *Musch.*) with one basal spot, as well as *tripuncta Courv.* and *quadripuncta Courv.* with 3 resp. 4 basal spots. — **novopuncta** *Courv.* (= bipuncta *Musch.*) denotes forms with one or more basal spots beyond the usual number. — **retrojuncta** *Courv.* has the 4th basal spot conjoined with an additional spot. — **discoelongata** *Courv.* denominates forms with an arcuate eyespot elongated towards the disc; **elongata** *Courv.* with lacriform elongated arcuate eyespots and **subtus-maculis-extensis** *Oberth.* with basal and arcuate eyespots enlarged in the shape of drops. — **discojuncta** *Courv.* denotes the conjunction of discoidal lunule with an arcuate eyespot, whilst **parallela** *Courv.* is the same conjunction but formed by *paucipuncta.* *parvipuncta.* *novopuncta.* *retrojuncta.* *discoclongata.* *clongata.* *subtus-maculis-extensis.* *discojuncta.* *parallela.*

radiata. two streaks with 2 arcuate ocelli. — **radiata** *Courv.* (= striata *Musch.*) are specimens in which the conjunction of the arcuate eyespots with the marginal spots and also with the basal eyespots forms rays across the wings. *digitata. extrema.* This creates fine forms with are subdivided again into **digitata** *Courv.* and **extrema** *Courv.* according to the degree of marking. — A quite extreme form is **subtus-impunctata** *Oberth.* from Vernet-les-Bains which is without *subtus-impunctata.* all basal spots and median ocelli on underside. — subsp. **eutyphron** *Fruhst.* from Cornwall in England and *eutyphron.* occurring according to Oberthür also in Bretagne is a relatively small race. The ♂♂ are fairly pale and generally have only 4 unimportant spots on forewings. The ♀ is somewhat larger and has heavier black margins than the ♂. — The following variations described by Champion le Chamberlain from the Cotswold Hills appear to *pallida.* belong to *eutyphron.* — ab. **pallida** *le Chamb.* is of pale and faded appearance in both sexes whilst **cotswoldensis** *cotswoldensis.* *le Chamb.* has all wings densely sprinkled with black scales thereby having a dusky, melanic appearance *marginata.* similar to *obscura Christ.* (83 c). — ab. **marginata** *le Chamb.* has a very wide black margin on all wings. — ♂ ab. *pseudoalcon.* **pseudoalcon** *le Chamb.* have uppersides without spots like *unicolor Hormuz.* (Vol. 1, p. 321). — ab. **coalitica** *le coalitica.* *Chamb.* has underside poorer in spots than normal *arion* and some of the few spots left have merged. — ab. *multo-maculata.* **multo-maculata** *le Chamb.* has the same number of spots on upperside of hindwings as on forewings and whilst these are smaller they are more or less distinct. — ab. **occidentalis** *le Chamb.* is a dwarf form, not much larger *occidentalis.* than *argus L.* — **nigricans** *Kitt* is of normal size, exceedingly like *obscura Christ.* (83 c) it occurs in contrast to *nigricans.* same on the plains and in the lower reaches of the mountains of the Tyrol and upper Austria and is widely distributed. In the ♀♀ the blue dusting does not extend beyond the row of cuneiform marks and is still more reduced on hindwings. In the ♂ it is somewhat more extensive on forewings, although it is sparse beyond the row of cuneiform marks and merging with the ground colour. There is therefore no distinctly outlined black margin. The black-brown spots are generally distinct. Underside does not vary from normal *arion.* — subsp. *arcina.* **arcina** *Fruhst.* is a transition form to *ligurica Wgn.* (Vol. 1, p. 321) and occurs around Eclépens in the Valais, Chiasso and Fontana in Tessin and around Geneva. The black discal spots are almost absent in ♂, the ♀ has oval median maculae on a whitish ground. Underside fairly pale.

laranda. **L. laranda** *Fruhst.* is a race from around the Clausen and Atzwang in S. Tyrol, it is larger than *obscura Christ.* (83 c) the lustrous blue upperside is usually extended up to the narrow sharply outlined margin and is a lighter and more intensive blue. Underside is characterised by the pale grey ground colour and bold black *magnifica.* spots, especially in the discal area of the forewing. — The variations *major Oberth.* in the ♀ and **magnifica** *Heydem.* belong to the previous race. The latter has very large ♂♂ with deep blue uppersides and a 5 mm wide diffuse margin with which the snow white fringes contrast sharply. The black longitudinal marks are like those of *fasciata Skala*, but they do not form such pronounced bands. On hindwings there is also a discoidal lunule and 3—4 deep black spots which correspond to the ocelli of underside. The latter is of darker ground colour *insubrica.* than *arion*, somewhat brownish and has all ocelli of large formation and marginal spots double. — **insubrica** *Vorbr.* from the Val Vedro, Misox, Fontana on the Monte Generoso is the counterpart to *obscura Christ.* (83 c) being as large as the largest *jolas O.* with very wide and deep velvety black margins; only the discal area retains a very glossy blue. Spots of forewings are extended forming long streaks. Ground colour of underside varies between dark smoky grey to yellowish. Wings are lightly dusted with pale green-blue at base, all ocelli are *delphinatus.* very prominent. — subsp. **delphinatus** *Fruhst.* from the Dauphiné between La Grave and the Col de Lautaret has very small ♂♂ which are smaller than the alpine *obscura Christ.* Upperside reminds one very much of *alcon Schiff.* (83 a) especially as the heavy black spot marking of *obscura* is absent. Underside uniform and darker *vesubia.* grey than the latter. Also the ♀♀ are small and remind one hereby also of the race of *alcon.* — The race **vesubia** *Fruhst.* from St. Martin-Vésubie in the Maritime Alps is common there in June/July. The ♂♂ are beautiful deep blue and richly marked with black; in many respects they remind one of *ligurica Wgn.* (Vol. 1, p. 321) and *caerulescens.* they are quite different from specimens taken around Digne. As a variety belonging here ♀ ab. **caerulescens** *Oberth.* from Larche with blue dusted base to wings, which especially on hindwings extends to anal angle. — *vernetensis.* **vernetensis** *Oberth.* from Vernet-les-Bains in the Pyrenees is the race joining *ligurica Wgn.* and the french *arion*, *aglaophon.* which may unite with **aglaophon** *Fruhst.* This is a splendid large race with extensive black spot-marking, even *tainaron.* on hindwings. Under side is light silvery blue. — subsp. **tainaron** *Fruhst.* from the Valais, Val Entremonts. southern slopes of the Simplon territory near Iselle, Bazano in the Val Antigoria is the transition from *arion* of the warm valleys to *arion-obscura Christ.* from high altitudes of 1400 to 2200 m and over. The ♂ strikes one by its beautiful glossy dark and yet brilliant blue. Forewings with bold discal spots, which even surpass those of *laranda Fruhst.* in size. They seldom merge with outer margin and stand isolated in the blue surface. Ground colour of underside bright yellowish grey, greenish suffusion at base like in *laranda*, spot marking heavier than in *obscura Christ.*

australpina. The Sibillini mountains in the province of Marche are the home of the race **australpina** *Vrty.* which occurs at an altitude of abt 1200 m and closely resembles *punctifera Grund* from Agram. It is of smaller size and all spot markings are of smaller dimensions. The blue colour seems a shade darker, more intermixed with black scales and margin is wider. Underside also shows a somewhat darker ground colour. — Fruhstorfer describes from the Monti Aurunci and the Valle dell Petralla at an altitude of 1200 m a further race namely

taras. The ♂ shows a reversion to the english *eutyphron* and is striking by the pale and indistinct grey-black margin. The black spot marking is very sparse, generally limited to only 3 spots which are approximately arranged in the same way as in the most poorly marked *ligurica Wyn.* The underside is pale grey with light green basal dusting and black spot marking similar to *arcina Fruhst.* *taras.*

L. punctifera *Grund* from Agram in Croatia is a glossy light blue race with feeble black markings and a narrow margin to forewings which only appears on the hindwings as a black marginal line; before same there are black marginal dots with white surrounds. — **antesion** *Fruhst.* is the race from Koricna and the Maklen Pass in Bosnia. The ♂ is of similar appearance and has the same arrangement of spots as *arcina Fruhst.* but differs by the more striking black cuneiform marks on upperside of forewings as well as by the wider black margin on all wings. Underside as a rule somewhat darker and basal blue more extensive than in *arion L.* — In the Government of Kieff we find the race **lutschniki** *Krul.* of which the ♂♂ are coloured with azure blue on upperside and a very wide dark margin. In the ♀ same are still wider and often merged with the cuneiform black marks. On underside the ground colour is pale grey with brown tinge, faint blue basal dusting and distinct marking. Forewings always have 1, more rarely 2, basal spots. — subsp. **naruena** *Courv.* from Naryn is a very large race expanding up to 42 mm in both sexes. The wing contour is strikingly narrow and elongated, outer margin of forewings, also in the ♀♀, is less rounded and extends rather obliquely. Ground colour of both sexes is unusually pale grey-blue, in the ♀♀ the forewings are heavily suffused with smoky grey whilst the hindwings remain distinctly blue. Instead of the wide margin as usual with *arion* the ♂ and ♀ only have a narrow black marginal line with small black dentations extending into the white fringes. Immediately on the margin on both wings there are dark marginal spots with pale surrounds situate internervally. On forewings there are 6—7 and on hindwings 3—5 arcuate spots and prominent discoidal lunules. Underside of forewings is normal in regard to markings and colour, generally somewhat darker, hindwings like *cyanecula Stgr.* (83 d) dusted widely with verdigris at base. — *punctifera.* *antesion.* *lutschniki.* *naruena.*

Subsp. **tatsienluica** *Oberth.* from Thibet has ♂♂ with quite blue upperside without spots and ♀♀ dusky blackish with black spotted upperside. On underside hindwings are widely dusted with greenish and the usual spot marking is much reduced. — From the Juldus, Thian Shan region, Fruhstorfer obtained the race **sosinomus** which he designates as an extremely dark race. Differing from *cyanecula Stgr.* (83 d) as well as *naruena Courv.* by the dusky upperside which is like *obscura Christ.* (83 c). It also has a reduced blue-green suffusion at base which is also similar to *obscura.* — **nepete** *Fruhst.* from the province of Kansu in Central China most closely resembles on the upperside the ♂ of *naruena Courv.* but the black spots of forewings are more prominent and longish. Outer margin of all wings is extensively black. The ♀ almost like large *laranda* ♀♀ from S. Tyrol but the heavy black discal spots of forewings are still larger than in the race named and also the submarginal spots of hindwings are almost double the size of those of *naruena Courv.* The light blue suffusion at base is very extensive. — In the Chingan Mountains in Mongolia we find the race **philidor** *Fruhst.* The ♂ closely approaches the former race and forms a transition to *naruena Courv.* but the black row of spots is bolder than in the latter and the individual spots are more shortly cuneiform. The ♀ is black-brown with quite minute remains of a blue suffusion in the disc of hindwings. Underside resembles *naruena.* The entire hindwing to the fringes is greenish blue but without the nice silvery sheen. — The race **ussuriensis** *Shelj.* from the southern Ussuri region of Novo-Kijewsk and from the Station Pogranitshnaja in E. Mandchuria has a length of 21—23 mm in the forewings of the ♂. The wings are fairly extended and the apex very acute. Blue of upperside approximately like *ligurica Wgn.* (Vol. 1, p. 321), cuneiform marks and also the discoidal lunule are more boldly marked. Fringes are white, extremities of veins black. Underside of forewings is yellow-grey, partly darker black-brown especially behind the median row of spots. The outer margin does not participate in this adumbration. Hindwings are also grey-yellow with a heavier green-blue basal dusting. Spots on underside of forewings similar to mid-european *arion*, those of the median row however are not so roundish but more elongated. The pale surround of the spots is also absent, whilst on hindwings it is present. — subsp. **shiranensis** *Scriba* from Shirane east of Nikko differs by its goodly size and the very wide black margin. The ♂ is a more vivid blue, black margin wider with heavy enlarged spot marking and sharply contrasting discal spot. The ♀ is very darkly dusted with a still wider margin than the ♂, it merges with the cuneiform marks especially on hindwings. These become so dark that the spot marking can no longer be clearly discerned. Only the cell area towards the base is scaled with vivid blue. Underside of forewings is bluish-grey, nicely dusted with blue at base. The large black spots diffuse. In the disc there are 2 further smaller spots besides the large discoidal lunule. The ♂ has an expanse of 41 mm, the ♀ 42½ mm on an average. The race is not exactly rare but it is very local in the high mountains of Shirane, east of Nikko. *tatsienluica.* *sosinomus.* *nepete.* *philidor.* *ussuriensis.* *shiranensis.*

L. arionides *Stgr.* (Vol. 1, pl. 83 d). — From the collection of Doerries, Warnecke describes a ♂ ab. **selzeri** which is only ⅓rd of the size of normal specimens and which in spite of the heavy black marking of upperside of wings did not prove to be a ♀. — **arionidula** *Kard.* from the Ussuri territory are small insects with an expanse of 29—30 mm. Ground colour of forewings dusky and markings diffuse grey-brown. Hindwings not quite such a grey-brown and on underside (sic!) the black marking extends considerably. — **sugitanii** *Mats.* *arionides.* *selzeri.* *arionidula.* *sugitanii.*

are two ♂♂ described from Corea which differ from the name form by the 3 mm wide black margin to forewings and the large undivided discoidal lunule of forewings. The underside is very adumbrated along the submarginal spots. On upperside of hindwings the margin is almost as wide as on forewings and the black spots of the submarginal zone are quite merged in same and only reflect through indistinctly, a row of bluish spots takes their place. Discoidal lunule large and striking as also is the spot marking of underside.

30. Genus: **Cyaniris** *Dalm.*

argiotus. **C. argiolus** *L.* (Vol. 1, p. 322, pl. 83 g, h). Tutt has worked up this common and widely distributed species in his meticulous way and thereby created a number of denominations which we enumerate briefly. *minor Tutt* (= microdes *Pionn.*) is the name for all specimens with an expanse of under 25 mm and *major Tutt* *c-nigrum.* for such expanding over 30 mm. — Aberrations of markings are: **c-nigrum** *Tutt* with the 2 lowest ocelli dots of *transversa.* the median row conjoined forming a stout "C" and ab. **transversa** *Tutt* has well developed dots and streaks *obsoleta.* of the median row but no marginal lunules. — ab. **obsoleta** *Tutt* (= caeca *Courv.*) is quite without markings on *punctata.* underside of all wings. — **punctata** *Tutt* is a ♀ with a black spot between lower and upper median nervures and *aquilina.* a much smaller one immediately above. — ab. **aquilina** *Grund* are extremely dark blackened ♀♀ of the summer *mixta.* generation from the neighbourhood of Agram in Croatia and **mixta** *Vrty.* is an english ♀ of the spring generation which nevertheless has very wide black margin on upperside of all wings. — For the various shades of blue of the upperside Tutt differentiates between the following ♀ forms: the colour of the name form is designated *lilacina.* azure blue: **lilacina** indicates ♂♂ and ♀♀ having the upperside a warm lilac tone and **clara** represents violet-blue *clara.* or violet ♂♂ and ♀♀. — **pauper** *Tutt* are ♀♀ with pale washed out violet and **pallida** *Tutt* are ♀♀ with whitish *pauper.* violet ground colour. Of all these forms combinations occur; *argiolus-lata Tutt* with azure blue upperside and *pallida.* wide black margin and costal area, hindwings fairly pale and spotted at margin, similarly; *lilacina-lata*, *clara-* *argiotus-* *lata*, *pauper-lata* and *pallida-lata*. — **argiolus-suffusa** *Tutt* is azure blue otherwise just like *arg.-lata* but the *suffusa.* hindwings are adumbrated and with marginal spots, a similar form of aberration also occurs as *lilacina-suffusa*, *britanna.* *clara-suffusa*, *pauper-suffusa* and *pallida-suffusa Tutt*. — The race **britanna** *Vrty.* from Epping Forest is striking by its brilliant light blue upperside and the more extensive basal dusting of underside, which exceeds that of all other northern races.

calido- **C. calidogenita** *Vrty.* denominates the southern european 3 brooded race, which on an average is larger *genita.* than those from mid-Europe and the blue is a warm tone with less silvery gloss. The 2nd and 3rd generations *canicularis.* differ in size from the 1st and are called **canicularis** *Vrty.*, whilst the 2nd generation from mid-Europe is named *parvipunc-* **parvipuncta** *Tutt* on account of the reduced spots. — **mauretanica** *Rothsch.* (= algiriea *Oberth.*) from Algeria is *ta.* characterised by the heavily darkened ♀♀ having the forewing scarcely dusted to the extent of ⅓rd with blue *maure-* whilst the hindwings are almost entirely deep black-brown and only the base and hindmargin slightly suffused *tanica.* *paralcuca.* with blue. — **paraleuca** *Rbr.* from Dorak in the Taurus is a transition to *hypoleuca Koll.* (83 h). The ♂ has a less reddish tone in the blue of upperside and on underside all the black marginal spots are absent; there is only a minute dot in the anal angle of hindwings besides a twin spot. Forewings only have a row of spots and the *trita.* green basal suffusion is very reduced. Fringes are less black cheeked than in *hypoleuca*. — **trita** *Swh.* from Mussure in N. W. Himalaya closely resembles the japanese *ladonides*. Upperside is a nice sky blue and underside cream colour with blue dusted base to all wings.

heringi. **C. heringi** *Kard.* from the entire Ussuri district is the spring generation and distinguished by the more violet lustrous ♂♂, whilst the ♀♀ show a pale blue ground colour. The dark margin shows a tendency to ex- *caphis.* pand. Underside less dark than in the summer generation. — **caphis** *Fruhst.* is a very large race widely distributed in China of which the ♀♀ are characterised by especially wide margins. The blue of the forewings scarcely shows a whitish sheen which is characteristic of japanese ♀♀. Also the hindwings are intensively blackened.

31. Genus: **Taraca** *Nic.*

hamada. **T. hamada** *Drc.* (Vol. 1, p. 323, pl. 83 f, g). — **interposita** *Fruhst.* from Kiushiu in the neighbourhood *interposita.* of Nagasaki is remarkable by the pointed instead of roundish wing contour, differing thereby from the name form. Although it is considerably smaller it has much more prominent minute black spots scattered over the *isona.* underside. A further race **isona** *Fruhst.* from Moupin and the Omei-shan in Szechuan has much narrower wings which thereby appear much more extended than in *interposita*. It is still smaller than the latter and has a grey-black upperside . The rich spot marking is very variable, but in spite of the smallness of the race it is more pronounced than in *hamada* from Nikko.

Alphabetical List

reference to the original descriptions of the forms of Palaearctic Lycaenides enumerated in Suppl. Vol. 1

* indicates that the form is also illustrated in the place referred to.

abdelaziz Lyc. *Btach.* Ann. Soc. Ent. Fr. 1908, p. 218.
abetonica Lyc. *Vrty.* Bull. Soc. Ent. Ital. 42, p. 273.
abruzzensis Lyc. *Dht.* Mitt. Münch. Ent. Ges. 17, p. 6.
acaciaeformis Th. *Vrty.* Bull. Soc. Ent. Ital. 45, p. 229.
addenda Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 356. *
addenda Lyc. sem. *Std.* Ztschr. wiss. Ins.-Biol. 18, p. 192.
aegiades Lyc. *Gerh.* Vers. Monogr. Lycaen., p. 19. *
aegus Lyc. *Champ.* Oberthür's Ét. Lép. Comp. 14, p. 41. *
aegusella Lyc. *Vrty.* Entom. Record. 33 (1921), p. 175.
aestivalis Lyc. ic. *Tutt* Brit. Butterfl. 3, p. 333.
aetnea Chrys. *Trti.* Societ. Entom. 25, p. 82.
agalla Cam. *Fruhst.* Berl. Entom. Ztschr. 56, p. 207.
aglaophon Lyc. *Fruhst.* Societ. Entomol. 30 (1915), p. 68.
ahmar Lyc. *le Cerf* Encycl. Entomol. Sér. B. Lep. 3, p. 117.
aino Zeph. *Mats.* Entomol. Month. Mag. 1 (2), p. 57. *
alba Lyc. alb. *Fern.* Relig. y Cult. 2 (1928), p. 209. *
alba Chrys. *Schönf.* Int. Ent. Ztschr. 18 (1924), p. 40.
alba Chrys. *Tutt* Brit. Butterfl. 1896, p. 355.
albata Lyc. *Courv.* Mitt. Schweiz. Ent. Ges. 12, p. 448.
albeseens Chrys. alc. *Oberth.* Ét. Lép. Comp. 4, p. 114. *
albicans Lyc. *H.-Schäff.* Syst. Schmett. Europa, p. 494. *
albicincta Lyc. *Tutt* Brit. Butterfl. (1896) p. 166.
albidoflava Chrys. *Galv.* Verh. Zool.-Bot. Ges. Wien 73, p. (21).
albidolunulata Chrys. *Rev.* Bull. Soc. Lép. Genève 1, p. 3.
albimargo Lyc. hyl. *Vorbr.* Berge Schmett. Bd. IX, p. 70.
albina Chrys. *Leonh.* Entomol. Ztschr. 17 (1904), p. 53.
albino Lyc. ic. *Vrty.* Bull. Soc. Ent. Fr. 1903, p. 288.
albinismo-rufescens Lyc. *Oberth.* Ét. Lép. Comp. 3 (1909) pl. 19. *
albipuncta Lyc. *Tutt* Entom. Record 20 (1908), p. 274.
albipuncta Lyc. cor. *Tutt* Brit. Butterfl. 1896, p. 166.
albipuncta Lyc. sem. *Musch.* Vorbr. Schmett. Schweiz 1, p. 152.
albocincta Lyc. *Cab.* Lambillionea 26, p. 90.
albocincta Lyc. cor. *Wgn.* Ztschr. Oesterr. Ent.-Ver. 11, p. 4. *
albocincta Lyc. euph. *Spul.* Schmett. Europa 1, p. 68.
albo-extensa Ch. (*Pether*) *Romei* Entomol. Record 39, p. 136.
albofasciata Lyc. ar. *Vorbr.* Schmett. Schweiz 1, p. 157.
albofasciata Th. pruni *Tutt* Entom. Ztschr. 25 (1911), p. 23.
albofimbriata Lyc. *Gittm.* Entomol. Ztschr. 18 (1905), p. 151. *
albolimbata Lyc. *Baum.* Mitt. Münch. Ent. Ges. 2, p. 44. *
albolimbata Lyc. *Vorbr.* Mitt. Schweiz. Ent. Ges. 13, p. 180.
albolineata Lyc. *Tutt* Brit. Butterfl. 3, p. 332.
albolunulata Chil. *Hayw.* Entomol. Record. 1925/26 (p. 13).
albolunulata Lyc. bell. *Vorbr.* Mitt. Schweiz. Ent. Ges. 13, p. 315.
albomarginata Lyc. cor. *Ebert* Iris 40 (1926), p. 36.
albonotata Lyc. *Sag.* Butll. Institt. Catalan. (2) 6, p. 137.
albocellata Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 337.
albocellata Lyc. ic. *Gillm.* Societ. Entomolog. 1904, p. 186.
albocellata Lyc. *Wheel.* Butterfl. Switzerl. (1903), p. 100.
albopunctata Lyc. *Gatv.* Jahresb. Wien. Ent. Ver. 22, p. 136.
alboradians Lyc. *Trti.* Atti Soc. Nat. Ital. 62, p. 42.
albosparsa Th. *Oberth.* Ét. Lép. Comp. 4, p. 74. *
albosparsa Th. ilicis *Oberth.* Ét. Lép. Comp. 4, p. 69. *
albovirgata Th. *Tutt* Brit. Butterfl. (1896), p. 200.
albovirgata Zeph. *Oberth.* Ét. Lép. Comp. 4, p. 60.
albovittata Poly. *Oberth.* Ét. Lép. Comp. 4, p. 156.
aleonoides Lyc. *Musch.* Vorb. Schmett. Schweiz 1, p. 152.
alexandrae Chrys. *Fruhst.* Int. Ent. Ztschr. 3, p. 120.
alexis Lyc. *Poda* Ins. Mus. Graec. (1761), p. 74.
alexius Lyc. thers. *Frr.* Neu. Beytr. 7. Taf. 676. *
alfacarensis Lyc. bell. *Rbt.* Societ. Entom. 20 (1905), p. 138.
algiriea Cyan. *Oberth.* Ét. Lép. Comp. 10 (1915), p. 420. *
alineata Th. *Vrty.* Boll. Soc. Zool. Ital. 16, p. 92.
alluaudi Lyc. *Oberth.* Ét. Lép. Comp. 19 (1922), p. 113.
alpicola Lyc. *Kot.* Verh. Zool.-Bot. Ges. Wien 1926, (p. 4).
alpina Lyc. arg. *Courv.* Entomol. Ztschr. 24 (1910), p. 94.
alpina Lyc. cram. *Stgr.* Hor. Ent. Ross. 7, p. 52.
alpina Lyc. *Trti.* & *Vrty.* Bull. Soc. Ent. Ital. (1911), p. 42.
alpium Lyc. *Vrty.* Entomol. Record 38 (1926), p. 120.
alpiumelara Lyc. *Vrty.* Entomol. Record 38 (1926), p. 121.
alpiumfusca Lyc. *Vrty.* Entomol. Record 38 (1926), p. 125.
alpiumpallida Lyc. *Vrty.* Entomol. Record 38 (1926), p. 123.
alpophila Lyc. *Vrty.* Entomol. Record 31 (1919), p. 46.
altacona Lyc. *Tutt* Brit. Butterfl. 3, p. 270.
altera Lyc. *Zütt.* Ztschr. österr. Ent. Ver. 14, p. 52.
altera Lyc. alb. *Vrty.* Ann. Soc. Ent. Fr. 84 (1916), p. 517.
altica Lyc. *Neust.* Int. Ent. Ztschr. 3 (1909), p. 118.
alticola Lyc. *Nitzsche* Verh. Zool.-Bot. Ges. Wien 1926, (p. 18).
altivolans Lyc. esch. *Vrty.* Entomol. Record 32 (1920), p. 144.
amandina Lyc. *Krut.* Societ. Entom. 23 (1908), p. 11.
amasena Lyc. dol. *Neub.* Ill. Ztschr. Ent. 5 (1900), p. 370.
ambigua Lyc. *Rev.* Bull. Soc. Lép. Genève 3, p. 4. *
amelia Lyc. *Hemm.* Entomologist 60 (1927), p. 277.
amethystina Chrys. *Wgn.* Int. Ent. Ztschr. 13, p. 157.
amethystina Lyc. *Cab.* Rev. Mens. Namur 24 (1924), p. 67.
amphirrhoë Lyc. *Oberth.* Ét. Lép. Comp. 4, p. 298. *
amurensis Lyc. sem. *Tutt* Brit. Butterfl. 3, p. 271.
analijuncta Lyc. *Beur.* Schweiz. Entom. Anzeig. 5 (1926), p. 4.
analoga Lyc. *Std.* Ztschr. Wiss. Ins.-Biol. 18, p. 188.
andreas Lyc. *Dht.* Entom Ztschr. 39 (1925), p. 76.
andreasi Lyc. *Shelj.* Neu. Beitr. syst. Ins.-B. 1, p. 129.
angliea Lyc. cor. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 277.
angulosa Lyc. *Vrty.* Entomol. Record 31, p. 47.
angusta Lyc. sem. *Std.* Ztschr. Wiss. Ins.-Biol. 18, p. 192.
angusta-marginata Lyc. *Tutt* Brit. Butt. 3, p. 174.
angustimargo Chrys. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 25.
angustimargo Lyc. sem. *Gittm.* Int. Ent. Ztschr. 2 (1909), p. 313.
annulata Lyc. *Etw.* Proc. Zool. Soc. Lond. 1906, p. 484. *
antesion Lyc. *Fruhst.* Iris 31 (1917), p. 27.
anticoinpunctata Lyc. *Tutt* Brit. Butterfl. 3, p. 179.
anticoradiata Lyc. *Tutt* Brit. Butterfl. 3, p. 177.
antidolus Lyc. *Rbt.* Ann. Wien. Hofmus. 16, p. 167.
antilibanotica Lyc. *Hemm.* Proc. Ent. Soc. Lond. 1929 (4), p. 4.
apennina Lyc. cor. *Vrty.* Bull. Soc. Ent. Ital. 46, p. 131.
apenninicola Lyc. *Vrty.* Entomol. Record 36, p. 110.
apenninigena Lyc. bell. *Vrty.* Entomol. Record 31 (1919), p. 29.
apenninogenita Lyc. *Vrty.* Entomol. Record 33 (1921), p. 190.
apenninophila Lyc. *Vrty.* Entomol. Record 31 (1919), p. 46.
apicipunctata Chrys. *Huene* Berlin. Ent. Ztschr. 1901, p. 154.
apicipunctata Lyc. hyl. *Hann.* Int. Ent. Ztschr. 1931 (nond. ed.).
approximata-juncta Lyc. *Tutt* Brit. Butterfl. 3, p. 186.
apuana Lyc. *Vrty.* Bull. Soc. Ent. Ital. 46, p. 131.
aquilina Cyan. *Grund* Int. Ent. Ztschr. 2, p. 88.
areascia Lyc. *Fruhst.* Entomolog. Rundsch. 33, p. 18.
arcilais Ziz. *Rit.* Entomologist 60, p. 269.
arcina Lyc. *Fruhst.* Int. Ent. Ztschr. 4 (1910), p. 55.
arcuata Lyc. *Courv.* Entomol. Ztschr. 24 (1910), p. 100.
arcuata Lyc. bell. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 20.
arcuata Lyc. cor. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 20.
arcuata Lyc. cor. *Vorbr.* Schmetterl. Schweiz 1, p. 145.
arcuata Lyc. cor. *Wheel.* Butterfl. Switz., p. 32.
arcuata Lyc. cor. *Vrty.* Bull. Soc. Ent. Ital. 42, p. 276. *
arcuata Lyc. ic. *Courv.* Entomol. Ztschr. 24 (1910), p. 141.
arcuata-basielongata Lyc. ic. *Beur.* Lambillionea 27, p. 31.
arcuata-elongata Lyc. cor. *Sauss.* Bull. Soc. Lép. Genève 3, p. 79. *
ardescens Ev. *Tutt* Brit. Butterfl. 3, p. 54.
ardescens-completa Ev. *Tutt* Brit. Butterfl. 3, p. 54.
ardescens-fulva Ev. *Tutt* Brit. Butterfl. 3, p. 54.
ardescens-marginata Ev. *Tutt* Brit. Butt. 3, p. 54.
ardescens-restricta Ev. *Tutt* Brit. Butterfl. 3, p. 54.
arena Lyc. *Fawc.* Proc. Zool. Soc. Lond. 1904, p. 137. *
argellus Lyc. *Trti.* Societ. Entom. 26 (1911), p. 67.
argentata Lyc. *Hart.* Entomol. Rundsch. 41, p. 45.
argentea Chrys. *Guss.* Glasnik 29, p. 222.
argentea Lyc. bell. *Oberth.* Ét. d'Ent. 20, p. 19.
argopoeus Lyc. *Bgstr.* Nomenclat. 3, p. 8. *
arieia Ziz. *Gr.-Grsh.* Annuaire Mus. Pétersb. 1920, p. 195.
aridogenita Lyc. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 183.
arionidula Lyc. *Kard.* Entomol. Mitteil. 17 (1928), p. 272. *
armathea Lyc. *Fruhst.* Entomol. Rundsch. 33, p. 18.
armena Th. *Rbt.* Ann. Wien. Hofmus. 16, p. 166.
armeniaca Chrys. *A. B.-H.* Iris 19 (1906), p. 129.
armoricana Lyc. *Oberth.* Ét. Lép. Comp. 4, p. 189. *

arteuita Lyc. *Fruhst.* Entomol. Rundsch. 33, p. 18.
asamensis Lyc. *Mats.* Insect. Matsumur. 3, p. 139.
asonis Lyc. *Mats.* Insect. Matsumur. 3, p. 141.
astorica Lyc. *Tytl.* Journ. Bomb. Nat. Hist. Soc. 31, p. 585. *
astragaliphora Lyc. *Vorbr.* Schmett. Schweiz. 1, p. 125.
asturiensis Lyc. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 293.
atalyrius Zeph. *Oberth.* Ét. Lép. Comp. 9 (2), p. 48. *
atilla Zeph. *Oberth.* Ét. Lép. Comp. 9 (2), p. 52. *
atlantis Lyc. *Elw.* Trans. Ent. Soc. Lond. 1905, p. 380. *
atra Lyc. *Gr.-Grsh.* Romanoff Mém. Lép. 2, p. 217.
atrescens Lyc. *Vrty.* Entomol. Record 38 (1926), p. 124.
atrescens Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 337.
aucta Lyc. *Std.* Entomol. Anzeig. 3 (1923), p. 7.
aurantia Lyc. cor. *Grund* Int. Ent. Ztschr. 1908, p. 87.
aurata Chrys. *Hirschke* Verh. Zool.-Bot. Ges. Wien 60 (p. 412).
aurea Th. *Std.* Int. Ent. Ztschr. 8, p. 178.
aurescens Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 336.
aurifasciata Lyc. *Vorbr.* Mitt. Schweiz. Ent. Ges. 13, p. 180.
aurorina Zeph. *Oberth.* Ét. d'Ent. 5, p. 18.
ausonia Lyc. dam. *Vrty.* Bull. Soc. Ent. Ital. 45, p. 232. *
ausonidarum Lyc. *Vrly.* Entomol. Record 31 (1919), p. 46.
australissima Lyc. *Vrty.* Entomol. Record 31 (1919), p. 46.
australpina Lyc. ar. *Vrty.* Entomol. Record 36 (1924), p. 109.
aviator Lyc. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 220.
avis Call. *Chapm.* Entomol. Record 21, p. 730.
azurea Lyc. *Btaeh.* Ann. Soc. Ent. Fr. 1908, p. 218.
azurica Lyc. *Rowl.-Br.* Entomologist 47, p. 127.

bajuvaricus Lyc. euph. *Fruhst.* Iris 31 (1917), p. 25.
balcanica Lyc. *Züll.* Ztschr. Oesterr. Ent. Ver. 14, p. 52.
balcanica Lyc. sem. *Tutt* Britt. Butterfl. 3, p. 272.
balcanicola Chrys. *Grav.* Entomologist 61, p. 106. *
balearica Lyc. *Rbl.* Iris 40 (1926), p. 140.
balestrei Lyc. *Fruhst.* Societ. Entomol. 25 (1909), p. 48.
baroghila Lyc. *Tytl.* Journ. Bomb. Nat. Hist. Soc. 31, p. 583. *
basicaeca Lyc. *Std.* Ztschr. Wiss. Ins.-Biol. 18, p. 192.
basielongata Lyc. cor. *Courv.* Iris 26 (1912), p. 46.
basijuncta Chrys. *Courv.* Iris 26 (1912), p. 50.
basijuncta Lyc. arg. *Tutt* Brit. Butterfl. 3, p. 178.
basijuncta Lyc. bell. *Courv.* Iris 26 (1912), p. 57.
basinovopuncta Lyc. alc. *Courv.* Iris 26 (1912), p. 58.
basinovopunctata Chrys. *Courv.* Iris 26 (1912), p. 58.
basipuncta Chrys. *Courv.* Iris 26 (1912), p. 48.
basipuncta Lyc. *Courv.* Iris 26 (1912), p. 57.
basipuncta Lyc. hyl. *Trti.* & *Vrty.* Bull. Soc. Ent. Ital. 42 (1910), p. 257.
basipunctata Chrys. *Tutt* Brit. Butterfl. 1, p. 363.
bellargoides Lyc. bell. *Stef.* Bull. Soc. Ent. Ital. 35, p. 11.
bellerioides Lyc. *Vrty.* Ann. Soc. Ent. Fr. 96, p. 7.
bellieri Chrys. *Oberth.* Ét. Lép. Comp. 4, p. 114. *
bellieri Lyc. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 191.
bellus Th. Zeph. *Kard.* Entomol. Mitteil. Dahl. 17, p. 271. *
berezowskii Lyc. *Gr.-Grsh.* Ann. Mus. Pétersb. 1902, p. 194.
bergi Lyc. *Kusn.* Taschk. Izn. Turk. Russ. geogr. Obs. 1908, p. 107.
bergstraesseri Ev. *Tutt* Brit. Butterfl. 3, p. 54.
bialbolineata Th. *Oberth.* Ét. Lép. Comp. 4, p. 74.
biarcuata Lyc. cor. *Courv.* Iris 26 (1912), p. 49.
biarcuata Lyc. ic. *Fritsch* Berlin Ent. Ztschr. 54, p. 233.
bicentrojuncta Chrys. *Courv.* Iris 26 (1912), p. 51. *
bicolor Lyc. *Gaseh.* Bull. Soc. Ent. Fr. 1914, p. 183. *
bieneri Lyc. *Std.* Deutsch. Ent. Ztschr. 1924, p. 27.
bion Lyc. *Rbl.* Berge Schmetterl.-Buch (IX), p. 70.
bittis Lyc. *Fruhst.* Societ. Entomol. 30 (1915), p. 73.
blanca Lyc. *Rbb.* Iris 23, Beih. (1910), p. 201.
boeticoides Tar. *Std.* Entomol. Anzeig. 5, p. 68.
bofilli Th. *Sag.* Butll. Inst. Catal. H. Nat. 1924, p. 200.
boisduvali Lyc. cor. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 279.
boisduvalii Thest. *Oberth.* Ét. Lép. Comp. 4, p. 96.
bolivari Lyc. *Romei* Entomol. Record 39 (1927), p. 129.
borsippa Lyc. *Fruhst.* Societ. Entomol. 30 (1915), p. 73.
borussia Lyc. *Dadd* Berl. Ent. Ztschr. 54, S.-Ber., p. 36.
borussia Lyc. *Lange* Iris 33 (1919), p. 23.
boursini Lyc. *Metzg.* Bull. Soc. Ent. Fr. 1927, p. 213.
brañuelasensis Lyc. *Tutt* Brit. Butterfl. 3, p. 198.
brevicaudis Th. *Püng.* Vorbr. Schmett. Schweiz 1, p. 106.
britanna Cyan. *Vrty.* Entomol. Record 31 (1919), p. 47.
britannorum Lyc. *Vrly.* Entomol. Record 31 (1919), p. 29.
brunnea Chrys. *Wheel.* Butterfl. Switzerl., p. 18.
brunnea Lyc. am. *Vorbr.* Schmett. Schweiz. 2, p. 616.
brunnea Lyc. arg. *Courv.* Entom. Ztschr. 24 (1910), p. 82.
brunnea Lyc. bell. *Tutt* Entomol. Ztschr. 24, p. 169.
brunnea Lyc. *Courv.* Entomol. Ztschr. 24 (1910), p. 93.
brunnea Lyc. hyl. *Vorbr.* Mitt. Schweiz. Ent. Ges. 12, p. 447.
brunnea Lyc. *Splr.* Schmett. Eur. 1, p. 61.
brunnescens Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 332.
brunnescens Lyc. sem. *Tutt* Brit. Butterfl. 3, p. 263.
bruttia Lyc. *Vrty.* Entomol. Record 53 (1921), p. 190.
burdigalensis Chrys. *Lue.* Int. Ent. Ztschr. 6, p. 282.
byzas Lyc. *Bgstr.* Nomenclat. 3, p. 79. *
byze Lyc. *Bgstr.* Nomenclat. 3, p. 79. *
byzene Lyc. *Bgslr.* Nomenclat. 3, p. 14. *
byzenus Lyc. *Bgslr.* Nomenclat. 3, p. 14. *

caeca Chil. *Courv.* Iris 26 (1912), p. 64.
caeca Chrys. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 75.
caeca Cyan. *Courv.* Entomolog. Ztschr. 25 (1911), p. 206.
caeca Lyc. argyr. *Courv.* Entom. Ztschr. 24 (1910), p. 89.
caeca Lyc. astr. *Blach.* Bull. Soc. Lép. Genève 2, p. 54. *
caeca Lyc. bell. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 75.
caeca Lyc. *Courv.* Entomol. Ztschr. 24 (1910/11), p. 107.
caeca Lyc. *Courv.* Iris 28 (1915), p. 217.
caeca Lyc. cyll. *Courv.* Entom. Ztschr. 24 (1910), p. 199.
caeca Lyc. eum. *Courv.* Iris 26 (1912), p. 63.
caeca Lyc. *Grund* Int. Ent. Ztschr. 2, p. 71.
caeca Lyc. ic. *Courv.* Entomol. Ztschr. 24 (1910), p. 142.
caeca Lyc. ic. *Gillm.* Int. Ent. Ztschr. 4 (1910), p. 3.
caeca Lyc. ic. *Oberth.* Ét. Lép. Comp. 4, p. 240. *
caeca Lyc. melan. *Courv.* Iris 26 (1912), p. 62.
caeca Lyc. orbit. *Courv.* Entomol. Ztschr. 24 (1910), p. 107.
caeca Lyc. orbit. *Museh.* Bull. Soc. Lep. Genève 1, p. 264.
caeca Lyc. or. *Züll.* Ztschr. Oesterr. Ent. Ver. 14, p. 52.
caeca Lyc. pher. *Courv.* Iris 26 (1912), p. 63.
caeca Lyc. psyl. *Courv.* Iris 28 (1915), p. 217.
caeca Lyc. sem. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 75.
caeca Lyc. sem. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 307.
caeca Ziz. *Courv.* Mitt. Schweiz. Entom. Ges. 11, p. 25.
caerulea Lyc. alc. *Vorbr.* Schmett. Schweiz. 2, p. 216.
caerulea Lyc. am. *Rbl.* Berge Schmett.-Buch (IX), p. 70.
caerulea Lyc. cor. *Neust.* Jahresb. Wien. Ent. Ver. 20, p. 8.
caerulea Lyc. *Courv.* Lycaen. Basel (1910), p. 108.
caerulea Lyc. *Courv.* Entomol. Ztschr. 24 (1910), p. 93.
caerulea Lyc. cyll. *Courv.* Entomol. Mitteil. 2 (1913), p. 293.
caerulea Lyc. donz. *Courv.* Entomol. Ztschr. 24 (1911), p. 127.
caerulea Lyc. donz. *Dannehl* Entomol. Ztschr. 39 (1925), p. 76.
caerulea Lyc. eros *Courv.* Entomol. Ztschr. 24 (1910), p. 148.
caerulea Lyc. *Hann.* Int. Entomol. Ztschr. 23, p. 153.
caerulea Lyc. melan. *Wgn.* Int. Ent. Ztschr. 13 (1919), p. 157.
caerulea Lyc. thers. *Cab.* Rev. Mens. Nam. 24 (1924), p. 67.
caerulea-cuneata Lyc. *Tutt* Brit. Butterfl. 3, p. 333.
caeruleoannulata Lyc. astr. *Cart.* & *Harr.* Entomologist 56, p. 107.
caeruleocincta Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 333.
caeruleo-cuneata Lyc. *Tutt* Brit. Butterfl. 3, p. 333.
caeruleo-grisea Lyc. sebr. *Shelj.* Entomologist 47, p. 274.
caeruleomarginata Lyc. *Lange* Iris 38 (1924), p. 134.
caeruleomargiuata Lyc. cor. *Tutt* Brit. Butterfl. (1896), p. 166.
caeruleopuncta Lyc. astr. *Hogg.* Entomologist 56 (1923), p. 107.
caeruleopuncta Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 333.
caeruleopunctata Chrys. virg. *Oberth.* Ét. Lép. Comp. 4, (1910) p. 135.
caeruleopunctata Chrys. *Trti.* & *Vrty.* Bull. Soc. Ent. Ital. 42. p. 244.
caeruleopunctata Chrys. *Tutt* Brit. Butterfl. 1, p. 368.
caerulescens Chrys. *Rbl.* Berge Schmett.-Buch (IX), p. 62.
caerulescens Ev. *Tutt* Brit. Butterfl. 3, p. 54.
caerulescens Lyc. *Gr.-Grsh.* Hor. Ent. Ross. 27, p. 127.
caerulescens Lyc. alb. *Tutt* Brit. Butterfl. (1896), p. 166.
caerulescens Lyc. ar. *Oberth.* Ét. Lép. Comp. 4, p. 214.
caerulescens Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 333.
caerulescens Lyc. dam. *Oberth.* Ét. Lép. Comp. 4, p. 264.
caerulescens Lyc. dam. *Vorbr.* Schmett. Schweiz 1, p. 149.
caerulescens Lyc. esch. *Vorbr.* Mitt. Schweiz. Ent. Ges. 13, p. 181.
caerulescens Lyc. sebr. *Rbl.* Berge Schmett.-Buch (IX), p. 73.
caerulescens Lyc. sem. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 308.
caerulescens Lyc. sem. *Rev.* Bull. Soc. Lép. Genève 3, p. 36. *
caerulescens Lyc. thers. *Cab.* Rev. Mens. Nam. 24 (1924), p. 67.
caerulescens Ziz. *Tutt* Brit. Butterfl. 3, p. 105. *
caerulescens-completa Ev. *Tutt* Brit. Butterfl. 3, p. 54.
caerulescens-lunulata Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 333.
caerulescens-marginata Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 333.
caeruleus Lyc. *Tutt* Brit. Butterfl. 3, p. 180.
calabrica Lyc. *Trti.* Societ. Entomol. 25 (1910), p. 84.
calabricola Lyc. *Vrty.* Entomol. Record 33, p. 175.

discoidalis-duplex Lyc. *Tutt* Brit. Butterfl. 3, p. 338.
discoidalis-nulla Lyc. *Tutt* Brit. Butterfl. 3, p. 337.
discojuncta Chrys. *Tutt.* Brit. Butterfl. 1, p. 380. *
discojuncta Lyc. ar. *Courv.* Iris 26 (1912), p. 50.
discojuncta Lyc. er. *Courv.* Entomol. Ztschr. 26 (1912), p. 50.
discolunulata Lyc. *Tutt* Brit. Butterfl. 3, p. 176.
discoobsoleta Lyc. *Tutt* Brit. Butterfl. 3, p. 176.
discoposteriora Lyc. *Tutt* Brit. Butterfl. 3, p. 176.
distalba Chrys. *Kuway.* Entomologist 59, p. 181. *
divisa Lyc. cor. *Tutt* Brit. Butterfl. 4, p. 10.
doii Lyc. euph. *Mats.* Insect. Matsumur. 2, p. 199.
dorsumstellae Lyc. *Grav.* Entomologist 56 (1923), p. 156.
dorylas Lyc. hyl. *Sehiff.* Wien. Verzeichnis, p. 322.
draeseckei Zig. *Schaw.* Iris 40 (1926), p. 204.
dschagataicus Lyc. *O. B.-H.* Iris 29 (1915), p. 100.
dubiosa Lyc. *Std.* Ztschr. Wiss. Ins.-Biol. 18, p. 192.
duesseldorfensis Lyc. *Strd.* Arch. Naturgesch. 91 A. 12, p. 282.
duplex Lyc. *Cock.* Entomologist 22 (1889), p. 6.
duplicata Lyc. *O. B.-H.* Iris 24 (1910), p. 30.
dux Lyc. *Ril.* Entom. Month. Mag. (3) 62, p. 278.

ecaudata Poly. *Oberth.* Ét. Lép. Comp. 4, p. 157.
egyptiaca Aphar. *Ril.* Novit. Zoolog. 32, p. 88.
elachista Lyc. dol. *Dht.* Mitt. Münch. Ent. Ges. 17 (1927), p. 7.
eleoides Chrys. *Splr.* Schmett. Europ. 1. p. 345.
ella Lyc. *Bolt.* Seitz Macrolep. Suppl. I, p. 267.
elongata Chrys. *Courv.* Entomolog. Ztschr. 24, p. 236.
elongata Chrys. alc. *Courv.* Entom. Ztschr. 24 (1911), p. 255.
elongata Chrys. hipp. *Courv.* Lyc. Basel (1910), p. 155.
elongata Chrys. phlae. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 19.
elongata Lyc. *Courv.* Entomol. Ztschr. 24 (1910), p. 99.
elongata Lyc. argyr. *Courv.* Entomol. Ztschr. 24 (1910), p. 91.
elongata Lyc. ar. *Courv.* Entomol. Ztschr. 24 (1910), p. 203.
elongata Lyc. astr. *Vorbr.* Schmett. Schweiz 1. p. 134.
elongata Lyc. cor. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 18.
elongata Lyc. ic. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 19.
elongata Lyc. optil. *Courv.* Entom. Ztschr. 24 (1910), p. 100.
elongata Lyc. sem. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 19.
elongata Th. (*Courv.*) *Vorbr.* Schmett. Schweiz. 1. p. 106.
emilianus Chrys. *Trti.* Atti Soc. Sc. Nat. Ital. 62, p. 42.
emutata Lyc. *Marsehn.* Berl. Entom. Ztschr. 54, p. 73.
enervis Lyc. hyl. *Vrty.* Entomol. Record 38 (1926), p. 122.
eutheoides Zeph. *Oberth.* Ét. Lép. Comp. 8, p. 53.
epargyros Aphar. *Ev.* Bull. Soc. Imp. Nat. Mosc. 1854 III, p. 178. *
epidelion Chrys. *Fruhst.* Entomol. Rundsch. 34, p. 17.
epodes Lyc. *Fruhst.* Entomol. Rundsch. 33 (1916), p. 39.
errans Lyc. *Ril.* Trans. Ent. Soc. Lond. 1927, p. 128.
erythrophoba Th. *Bub.* Verh. Zool.-Bot. Ges. Wien 73, (p. 24).
escherinus Lyc. *Rowt.-Br.* Entomologist 1909, p. 297.
escorialensis Laeos. *Oberth.* Ét. Lép. Comp. 4, p. 57.
etrusca Lyc. bell. *Vrty.* Entomol. Record 31 (1919), p. 29.
euergetes Lyc. *Stet.* Iris 28 (1914), p. 15.
eurydame Chrys. *Hffgg.* Illig. Magaz. 1806, p. 178.
eurysthenes Lyc. *Fruhst.* Iris 31 (1917), p. 31.
eutyphron Lyc. *Fruhst.* Societ. Entomol. 30 (1915), p. 67.
everesti Lyc. *Ril.* Trans. Ent. Soc. Lond. 1922, p. 473.
excelsia Lyc. *Tutt* Brit. Butterfl. 3, p. 331.
excessa Lyc. ic. *Giltm.* Int. Ent. Ztschr. 2 (1908), p. 178.
excessa Lyc. sem. *Tutt* Brit. Butterfl. 3, p. 261.
excessa Th. *Tutt* Brit. Butterfl. 2, p. 197.
exoculata Lyc. dol. *Std.* Iris 35, p. 31.
extensa Chrys. *Tutt* Brit. Butterfl. 1, p. 379.
extensa-conjuncta Chrys. *Tutt* Brit. Butterfl. 1, p. 363. *
extenta Lyc. *Strd.* Nyt. Mag. Naturv. 39, p. 47.
extincta Chrys. *Giltm.* Entomol. Ztschr. 18 (1904), p. 3.
extincta Chrys. *Hens.* Int. Ent. Ztschr. 14 (1920), p. 122.
extiucta Lyc. *Strd.* Nyt. Mag. Naturv. 39, p. 47.
extrema Ev. *Courv.* Lycaen. Basel (1910), p. 157.
extrema Ev. *Tutt* Brit. Butterfl. 3, p. 55.
extrema Lyc. *Courv.* Entomol. Ztschr. 24 (1910), p. 94.
extrema Lyc. arg. *Tutt* Brit. Butterfl. 3, p. 179.
extrema Lyc. ar. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 36.
extrema Lyc. bell. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 37.
extrema Lyc. cor. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 36.
extrema Lyc. ic. *Courv.* Entomol. Ztschr. 24 (1910), p. 142.
extrema Ziz. *Tutt* Brit. Butterfl. 3, p. 179.
extrema-completa Ev. *Tutt* Brit. Butterfl. 3, p. 55.
extrema-fulva Ev. *Tutt* Brit. Butterfl. 3, p. 55.
extrema-restricta Ev. *Tutt* Brit. Butterfl. 3, p. 55.
exuberans Lyc. *Vrty.* Entomol. Record 38 (1926), p. 121.

fabressi Lyc. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 260.
falcata Lyc. sem. *Std.* Entomol. Anzeig. 3 (1923), p. 7.
falconi Lyc. *Tutt* Brit. Butterfl. 3, p. 188.
fasciata Lyc. ar. *Skala* Verh. Nat. Ver. Brünn 50, p. 63.
fascista Lyc. *Trti.* Atti Soc. Sci. Nat. Ital. 67, p. 317. *
fereconfluens Chrys. *Oberth.* Ét. d'Ent. 20, p. 9.
fergana Lyc. *Tutt* Brit. Butterfl. 3, p. 271.
festivus Chrys. *Krul.* Rev. Russ. Ent. 9, p. 300.
flavescens Chrys. *Ford* Trans. Ent. Soc. Lond. 1923, p. 726.
flavescens Chrys. *Fiedl.* Int. Ent. Ztschr. 20, p. 60.
flavescens Lyc. arg. *Tutt* Brit. Butterfl. 3, p. 179.
flavescens Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 332.
flavescens Lyc. sem. *Giltm.* Int. Ent. Ztschr. 2, p. 312.
flavimarginata Chrys. *Sehtz.* Deutsch. Ent. Ztschr. S.-B., p. 326.
flavocinctata Lyc. ic. *Rowl.-Br.* Entomologist 42, p. 300.
flavodentata Lyc. *Std.* Iris 29 (1915), p. 29.
flavomaculata Lyc. *Lek.* Ztschr. Österr. Ent. Ver. 9, p. 42.
florencia Lyc. *Tytt.* Journ. Bomb. Nat. Hist. Soc. 31 (1926), p. 586.
florentinae Lyc. alb. *Vrty.* Ann. Soc. Ent. Fr. 84 (1916), p. 517.
fonlqnieri Lyc. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 214
frigidior Th. *Vrty.* Entomol. Record 38, p. 125.
frivaldskyi Tar. *Aign.* Ann. Mus. Nat. Hung. 4, p. 515. *
frnginus Chrys. *Fruhst.* Entom. Rundsch. 34, p. 17.
fuchsi Lyc. *Shetj.* Lepidopt. Rundsch. Wien 2, p. 119.
fugitiva Lyc. *Bttr.* Proc. Zool. Soc. Lond. 1881, p. 606.
fulgens Lyc. *Sag.* Butll. Inst. Catal. (2) 5, p. 271.
fuliginosa Lyc. hyl. *Vorbr.* Mitteil. Schweiz. Ent. Ges. 12. p. 447.
fuliginosa Lyc. *Vorbr.* Mitt. Schweiz. Ent. Ges. 13, p. 181.
fulva Chrys. *Lamb.* Cat. Lép. Belg., p. 424.
fulva Th. *Giltm.* Int. Ent. Ztschr. 2, (1918) S. 24.
fulva-nigrescens Ev. *Tutt* Brit. Butterfl. 3, p. 55.
fulvomarginalis Chrys. *Schtz.* Entomol. Ztschr. 18 (1905), p. 134.
fumata Virach. *Grav.* Entomologist 51, p. 97.
fumosa Lyc. *Vrty.* Entomol. Record 38 (1926), p. 123.
funebris Cig. *Oberth.* Ét. Lép. Comp. 10, p. 293. *
fusca Ev. *Tutt* Brit. Butterfl. 3, p. 55.
fusca-extensa Th. (*Pether*) *Romei* Entomol. Record 39, p. 136.
fusca-fulva Ev. *Tutt* Brit. Butterfl. 3, p. 55.
fuscata Lyc. *Metseht.* Ber. Nat. Ver. Regensburg 16, p. 8.
fuscescens Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 337.
fuscociliata Lyc. *Metsehl* Ber. Nat. Ver. Regensburg 16, p. 8.
fuscus Lyc. *Tutt* Brit. Butterfl. 3, p. 180.

galathea Lyc. *Bteh.* Voyage Ind. 4 (1844), p. 21.
galliae Lyc. cor. *Vrty.* Entomol. Record 38 (1926), p. 123.
gallica Lyc. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 252.
gaudeolus Chrys. *Fruhst.* Int. Ent. Ztschr. 3, p. 120.
gerhardti Chrys. *Htke.* Verh. Zool.-Bot. Ges. Wien. 60, p. 412.
germanella Lyc. *Vrty.* Entomol. Record 38 (1926), p. 125.
gilgitica Lyc. *Tytt.* Journ. Bomb. Hist. Nat. Soc. 31, p. 584. *
gilgitica Lyc. *Tytl.* Journ. Bomb. Nat. Hist. Soc. 31, p. 586. *
glaciata Lyc. *Vrty.* Entomol. Record 33 (1926), p. 174.
gooraisica Lyc. *Tytl.* Journ. Bomb. Nat. Hist. Soc. 31, p. 586.
gracilis Lyc. *Evans* Journ. Bomb. Nat. Hist. Soc. 21, p. 559.
graeca Lyc. *Tutt* Brit. Butterfl. 3, p. 196.
graslini Th. *Oberth.* Ét. Lép. Comp. 4, p. 77. *
grawesi Lyc. *Chapm.* Ent. Month. Mag. 48 (1912), p. 159.
grisea Chil. *Aign.* Entomol. Ztschr. 19 (1906), p. 209.
grisea Lyc. ar. *Courv.* Entomol. Mitteil. 2 (1913), p. 294.
grisea Lyc. bell. *Courv.* Lycaen. Basel (1910), p. 160.
grisea-spinosa Zeph. *Tutt* Brit. Butterfl. 2, (p. 278.
griseoviolacens Lyc. *Oberth.* Ét. d'Ent. 20, p. 17. *
guadarramensis Lyc. *Rbb.* Iris 23 Beih. (1910), p. 200.
guedati Lyc. *Rev.* Bull. Soc. Lép. Genève 5, p. 63.

hafneri Lyc. *Preiss.* Verh. Zool.-Bot. Ges. Wien 58, p. 68.
happensis Lyc. *Mats.* Insect. Matsumur. 1, p. 168. *
heijonis Lyc. *Mats.* Insect. Matsumur. 3, p. 141.
helenae Lyc. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 218.
heracleana Chrys. *Blaeh.* Bull. Soc. Lép. Genève 2, p. 255. *
herculeana Call. *Pfeiff.* Mitteil. Münch. Ent. Ges. 17, p. 40.
heringi Cyan. *Kard.* Entomol. Mitteil. 17 (1928), p. 272. *
hermatton Chrys. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 130 *
herrichi Chrys. *Oberth.* Ét. Lép. Comp. 4, p. 115.
heynei Lyc. *Wnuk.* Zoolog. Anzeig. 1929, p. 221.
heyni Chrys. *Strd.* Entom. Rundsch. 30, p. 98. *
hiberuata Lyc. thers. *Vrty.* Entom. Record 31 (1919), p. 43.
hispangallica Lyc. *Vrty.* Entomol. Record 38 (1926), p. 125.
hispelis Lyc. *Fruhst.* Societ. Entomol. 25 (1910), p. 48.
howkowi Ziz. *Tutt* Brit. Butterfl. 3, p. 112.
hozanensis Lyc. *Mats.* Insect. Matsumur. 1, p. 168. *
huebneri Lyc. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 219.
hiibneri Chrys. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 99.

hungarica Lyc. *Diösz.* Rovartani Lapok 20, p. 108.
hyacinthus Lyc. bell. *Lew.* Ins. Grt.-Brit. (1759), p. 78. *
hyperborea Chrys. *Ford* Trans. Ent. Soc. Lond. 1923, p. 739. *
hypochionoides Lyc. *Tutt* Brit. Butterfl. 3, p. 199.

iberica Lyc. *Tutt* Brit. Butterfl. 3, p. 194.
icaroides Lyc. *Saur.* Ztschr. österr. Ent. Ver. 12 (1927), p. 99.
idas Lyc. *L.* Fauna Suecica (1761), p. 284.
illustris Lyc. *Dht.* Mitt. Münch. Ent. Ges. 17 (1927), p. 7.
illustris Lyc. *Std.* Iris 29 (1915), p. 28.
immaculata Lyc. *Shetd.* Entomologist 47, p. 273.
immarginata Tar. *Std.* Entomol. Anzeig. 5, p. 68.
impar Lyc. *Coek.* Trans. Ent. Soc. Lond. 1916, p. 243. *
imperator Ziz. *Grav.* Andres' Lepid. Aegypt., p. 11.
imperialis Lyc. *Chamb.* Entomologist 41, p. 202.
impuneta Lyc. ar. *Courv.* Entomol. Ztschr. 24 (1910), p. 203.
impunetata Chrys. *Tutt* Brit. Butterfl. 1, p. 361.
impunctata Cig. *Oberth.* Ét. Lép. Comp. 3, p. 401.
impunctata Lyc. arc. *Hand.* Jahresb. Ver. Naturk. Linz, p. 30.
impunctata Lyc. astr. *Oberth.* Feuille jeun. Natur. 1900, Nr. 18. *
impunctata Lyc. bell. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 22.
impunctata Lyc. cor. *Courv.* Mitt. Schweiz. Ent. Ges. 11. p. 24.
impunctata Lyc. er. *Courv.* Entomolog. Ztschr. 24 (1910). p. 148.
impunctata Lyc. ic. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 239. *
inaequalis Lyc. *Tutt* Brit. Butterfl. (1896), p. 167.
inalpina Chrys. *Vrty.* Journ. Linn. Soc. Lond. (Zool.) 32. p. 187.
inalpina Th. *Vrty.* Bull. Soc. Ent. Ital. 42. p. 272. *
incompleta Call. *Tutt* Brit. Butterfl. 2. p. 92.
inferopunctata Call. *Tutt* Brit. Butterfl. 2, p. 92.
infracaeaotica Lyc. *Vrty.* Entomol. Record 32, p. 149.
infracandida Lyc. *Vrty.* Entomol. Record 32, p. 150.
infra-extensa Chrys. *Tutt* Brit. Butterfl. 1, p. 363.
infralbens Lyc. *Vrty.* Entomol. Record 32, p. 148.
infraplumbens Lyc. *Vrty.* Entomol. Record 32 (1920). p. 149.
infra-radiata Chrys. *Tutt* Brit. Butterfl. 1, p. 363.
inhonora Lyc. *Jaeh.* Rev. Russ. Entom. 9, p. 253.
initia Lyc. *Tutt* Brit. Butterfl. 3, p. 337.
inornata Lyc. *Grund* Int. Ent. Ztschr. 7 (1913), p. 127.
inornata Th. *Vrty.* Bull. Soc. Ent. Ital. 42, p. 273.
insignis Chrys. *Sag.* Butll. Inst. Catal. (2) 4 (1924), p. 201.
insignis Lyc. *Shetj.* Lepidopt. Rundsch. Wien 2, p. 51.
insolita Ziz. *Wit.* Entomologist 44, p. 55.
insubrica Lyc. *Vorbr.* Schmett. Schweiz. 1, p. 156.
insulana Lyc. *Vrty.* Entomol. Record 38 (1926), p. 123.
insularis Lyc. *Leech* Butterfl. China, Jap. 1, p. 302. *
interjecta Lyc. *Vrty.* Entomol. Record 31. p. 44.
interjecta Zeph. *Vrty.* Entomol. Record 31. p. 48.
intermedia Lyc. *Tutt* Brit. Butterfl. 3. p. 275.
intermedia-marginata Lyc. *Tutt* Brit. Butterfl. 3, p. 174.
interposita Tarac. *Fruhst.* Seitz Macrolep. 9, p. 884.
iphis Lyc. *Meig.* Syst. Europ. Schmett. 2, p. 25. *
irregularis Lyc. *Tutt* Brit. Butterfl. 3, p. 177.
irregularis Lyc. bell. *Tutt* Brit. Butterfl. 3. p. 348.
isauricoides Lyc. *Grav.* Entomologist 56, p. 155.
ishidae Lyc. *Mats.* Insect. Matsumur. 3, p. 139.
isias Lyc. *Fruhst.* Societ. Entomol. 25 (1910), p. 47.
isokrates Chrys. *Fruhst.* Int. Ent. Ztschr. 3, p. 120.
isona Tarac. *Fruhst.* Seitz Macrolep. 9, p. 884.
italaveris Chrys. *Vrty.* Entom. Record. 36. p. 108.
italgallica Lyc. *Vrty.* Entomol. Record 38 (1926), p. 124.
italica Lyc. alc. *Trti. & Vrty.* Atti Sci. Nat. Ital. 58, p. 149.
italica Lyc. er. *Oberth.* Ét. Lép. Comp. 4, p. 232. *
italica Th. *Vrty.* Entomol. Record 31, p. 49.
italornm Chrys. *Vrty.* Entomol. Record 31, p. 29.
italornm Lyc. *Vrty.* Entomol. Record 31 (1919), p. 45.

janetae Lyc. *Evans* Tijd. v. Entomol. 70, p. 161.
janigena Lyc. *Rit.* Trans. Ent. Soc. Lond. 1922, p. 475.
japonica Chrys. *Ford* Trans. Ent. Soc. Lond. 1923, p. 729. *
japonica Lyc. *Oberth.* Ét. Lép. Comp. 4, pl. 42. *
jezoensis Lyc. *Mats.* Insect. Matsumur. 1, p. 28. *
jezoensis Zeph. *Mats.* Entomol. Mag. 1 (2), p. 57. *
joannisi Lyc. *Gtais* Encycl. Entom. sér. B. Lép., p. 119. *
jodina Ev. *Aign.* Ann. Mus. Nat. Hung. 4, p. 515.
johannae Lyc. *Andres* Bull. Soc. Ent. Egypt. 7, p. 86.
josephina Lyc. *Sag.* Butll. Inst. Catalan. (2) 4, p. 202.
jozanus Zeph. *Mats.* Entomol. Mag. 1 (2), p. 57. *
jugurtha Cig. *Oberth.* Ét. d'Ent. 9, p. 35.
juliae Deud. *Kard.* Entomol. Mitteil. 17, p. 271. *
juncta Lyc. *Tutt* Brit. Butterfl. 3, p. 185.

jura Lyc. *Strd.* Arch. Naturgesch. 91 A. 12, p. 282.
jurae Lyc. *Vrty.* Entomol. Record 38 (1926), p. 123.

kakutozana Lyc. *Mats.* Insect. Matsumur. 1, p. 166.
kaminkotana Lyc. *Mats.* Insect. Matsumur. 2, p. 200.
karinda Lyc. *Rit.* Ann. Mag. Nat. Hist. (9) 8. p. 597.
kawaii Ev. *Mats.* Insect. Matsumur. 1, p. 29. *
kenteana Lyc. *Bolt.* Seitz Macrolep. Suppl. 1, p. 272.
kijevensis Lyc. *Shelj.* Lepidopt. Rundsch. Wien 2, p. 61.
kiliassi Lyc. *Christ.* Jahrb. Nat. Ges. Graubünd. 26, p. 10.
klapheeki Lyc. *Courv.* Entomol. Ztschr. 23 (1910), p. 148.
kononis Lyc. *Mats.* Insect. Matsumur. 1, p. 29. *
kosthubeji Lyc. *Sow.* Rev. Russ. Ent. 15, p. 388.
kozhantschikovi Lyc. *Shetj.* Lepidopt. Rundsch. Wien 1928. p. 116.
krodeli Lyc. *Gillm.* Ill. Ztschr. Entomol. 5, p. 51. *
krymaea Lyc. *Shelj.* Lepid. Rundsch. Wien 2, p. 45.
kurdistanica Chrys. *Ril.* Ann. Mag. Nat. Hist. (9) 8, p. 598.
kurilensis Chrys. *Mats.* Insect. Matsumur. 2, p. 200.
kurilensis Lyc. *Mats.* Insect. Matsumur. 1. p. 166.

lacrymosa Lyc. *Oberth.* Et. Lép. Comp. 4 (1910), p. 328.
lamasem Lyc. *Oberth.* Ét. Lép. Comp. 4. p. 299. *
laranda Lyc. *Fruhst.* Int. Ent. Ztschr. 4 (1910), p. 55.
lariana Lyc. *Fruhst.* Int. Ent. Ztschr. 4 (1916), p. 63.
lata Cyan. *Tutt* Brit. Butterfl. 2, p. 394.
lata-lineata Zeph. *Tutt* Brit. Butterfl. 2, p. 279.
latamarginata Lyc. *Tutt* Brit. Butterfl. 3. p. 174.
latefasciata Th. pruni *Courv.* Entom. Ztschr. 25, p. 23.
latefasciata Th. spini *Courv.* Mitt. Schweiz. Ent. Ges. 11. p. 24.
latefasciata Th. w-album *Courv.* Entom. Ztschr. 25 (1911). p. 15.
latialis Lyc. *Rost.* Boll. Soc. Zool. Ital. (2) 11, p. 338.
latifasciata Th. *Rbt.* Berge Schmett.-Buch (IX), p. 58.
latimargo Ev. *Courv.* Lycaen. Basel (1910), p. 157.
latimargo Lyc. *Courv.* Entomol. Mitteil. 2, p. 291.
latimargo Lyc. *Ebert* Iris 40 (1926), p. 35.
latimargo Lyc. alc. *Courv.* Entomol. Mitt. 2 (1913), p. 294.
latimargo Lyc. cor. *Tutt* Brit. Butterfl. 4, p. 10.
latimargo Lyc. cyll. *Courv.* Entomol. Mitteil. 1913. p. 294.
latimargo Lyc. is. *Ceurv.* Entomol. Mitteil. 2 (1913), p. 291.
latior Th. *Fixsen* Rom. Mém. Lép. 3, p. 271.
latolimbo Lyc. *Vrty.* Ann. Soc. Ent. Fr. 1927, p. 7.
latomarginata Chrys. *Tutt* Brit. Butterfl. 1, p. 363.
lederi Lyc. *O. B.-H.* Iris 20 (1907). p. 69.
lederi Lyc. *Thierry-M.* le Natural. 32, p. 235.
lecla Lyc. *Nie.* Journ. Asiat. Soc. Beng. 1883, p. 66. *
lehanus Lyc. *Mr.* Ann. Mag. Nat. Hist. (5) 1, p. 23.
leodorus Lyc. *Gerh.* Esp. Europ. Schmett. Suppl. I, p. 137. *
leonhardi Chrys. *Fruhst.* Entomol. Rundsch. 34. p. 17.
lepontoisi Lyc. *Gtais* Encycl. Entom. Sér B. Lép., p. 116. *
lesliei Lyc. *Tytl.* Journ. Bomb. Nat. Hist. Soc. 31, p. 584. *
leucophthalma Lyc. *Std.* Ztschr. Wiss. Ins.-Biol. 18, p. 188.
leucosticta Call. *Std.* Ztschr. Wiss. Ins.-Biol. 18. p. 66.
libisonis Lyc. *Fruhst.* Societ. Entomol. 25 (1910), p. 96.
ligurica Lyc. *Courv.* Entom. Ztschr. 24 (1911), p. 78.
ligurica Lyc. *Oberth.* Iris 25 (1911), p. 103. *
lilacina Cyan. *Tutt* Brit. Butterfl. 2, p. 294.
lilacina Lyc. *Tutt* Brit. Butterfl. 3, p. 173.
lilacina-lata Cyan. *Tutt* Brit. Butterfl. 2. p. 294.
lilacina-minor Lyc. *Tutt* Brit. Butterfl. 3. p. 172.
lilacina-rufolunulata Lyc. *Tutt* Brit. Butterfl. 3. p. 173.
lilacina-suffusa Cyan. *Tutt* Brit. Butterfl. 2, p. 294.
liliputana Lyc. ic. *Strd.* Arch. Naturgesch. 85 A. 4, p. 18.
lilliputana Lyc. cram. *Oberth.* Ét. Lép. Comp. 10, p. 386. *
limbo-juncta Chrys. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 36.
limbojuncta Lyc. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 51.
limbomaculata Lyc. *Sehtz.* Jahresb. Wien. Ent. Ver. 1905 p. 77
lineata Lyc. *Tutt* Brit. Butterfl. 3, p. 261.
littoralis Cig. *Rit.* Novit. Zoolog. 32, p. 75.
livida Lyc. *Gitlm.* Int. Ent. Ztschr. 3 (1909). p. 64.
locarnensis Chrys. *Tutt* Entomol. Record ~~14~~ p. 221. 15, p. 224, 1903
lockharti Lyc. *Hemm.* Proc. Ent. Soc. Lond. 1929, 4, p. 3.
longicauda Zeph. *Rit.* Ann. Mag. Nat. Hist. (9) 8, p. 599.
luana Lyc. *Evans* Journ. Bomb. Nat. Hist. Soc. 23, p. 544. *
lucetta Lyc. *Cul.* Bull. Soc. Ent. Fr. 1915, p. 242.
lucifuga Lyc. *Fruhst.* Societ. Entomol. 30 (1915), p. 73.
lucina Lyc. *Gr.-Grsh.* Ann. Mus. Pétersb. 1902. p. 193.
lucretia Lyc. *Gaseh.* Bull. Soc. Ent. Fr. 1877, p. 63.
lunensis Lyc. *Vrty.* Entomol. Record 31 (1919), p. 45.
lunulata Chrys. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 23.
lunulata Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 332.
lunulata Lyc. cor. *Lang* Iris 33 (1919), p. 22.

lunulata Lyc. cr. *Courv.* Mitt. Schweiz. Ent. Ges. 11 (1903). p. 23.
lutea Lyc. sem. *Rev.* Bull. Soc. Lép. Genève 4, p. 39. *
lutea Th. pruni *Tutt* Brit. Butterfl. 2, p. 197.
lutea-spinosa Zeph. *Tutt* Brit. Butterfl. 2, p. 278.
luteumfera Ev. *Vrty.* Entomol. Record 31, p. 47.
lutschniki Lyc. *Krul.* Trav. Mus. Zool. Acad. Sci. Ukr. 1, p. 69.
lydiades Lyc. *Fruhst.* Int. Ent. Ztschr. 4 (1910), p. 62.

macra Lyc. *Vrty.* Entomol. Record. 32, p. 144.
macromargarita Lyc. *Vrty.* Entomol. Record. 38 (1926) p. 121.
maculata Lyc. dam. *Courv.* Bull. Soc. Lép. Genève 1, Taf. 10. *
maculifera Thest. *Stgr.* Iris 4 (1891). p. 233.
madriti Lyc. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 143.
madytus Chrys. *Fruhst.* Entom. Rundsch. 34, p. 17.
magnalpina Lyc. *Vrty.* Ann. Soc. Ent. Fr. 96 (1927), p. 7.
magnifica Lyc. ar. *Heydem.* Entomol. Zeitschr. 23 (1910). p. 177.
magnipuncta Lyc. *Tutt* Brit. Butterfl. 3, p. 177.
magnipuncta Chrys. *Tutt* Brit. Butterfl. 1, p. 362.
maja Lyc. bell. *Vrty.* Entomol. Record 31 (1919), p. 29.
majellensis Lep. *Dhl.* Mitt. Münch. Ent. Ges. 17, p. 6.
major Cyan. *Tutt* Brit. Butterfl. 2, p. 394.
major Lyc. ar. *Oberth.* Ét. Lép. Comp. 12 (1916), p. 486.
major Lyc. *Tutt* Brit. Butterfl. 3, p. 172 (argus).
major Lyc. bell. *Tutt* Brit. Butterfl. 1896, p. 171.
major Th. *Oberth.* Ét. Lép. Comp. 4, p. 69.
major Th. pruni *Tutt* Brit. Butterfl. 2, p. 199.
major Zeph. betulae *Tutt* Brit. Butterfl. 2, p. 280.
major Ziz. *Tutt* Brit. Butterfl. 3, p. 107.
majusenla Th. *Jach.* Mitt. Kaukas.-Mus. 5, p. 313.
mamers Lyc. *Bgstr.* Nomenclat. 2, Taf. 43. *
mandersi Chil. *Grav.* Entomologist 51, p. 97.
marchica Chrys. *Hann.* Int. Ent. Ztschr. 22 (1928), p. 210.
marcidus Th. *Ril.* Ann. Mag. Nat. Hist. (9) 8, p. 600.
mareoticus Thest. *Grav.* Entomologist 51, p. 97. *
margarita Lyc. *Rbb.* Iris 23 Beih. (1910). p. 201.
margaritae Lyc. *Hemm.* Trans. Ent. Soc. Lond. 1929, 4, p. 3.
marginalis Aphar. *Rit.* Ann. Mag. Nat. Hist. (9) 8, p. 598.
marginata Lyc. ar. *le Chamb.* Entomologist 41 (1908), p. 202.
marginata Lyc. bell. *Tutt* Brit. Butterfl. 1896, p. 170.
marginata Poly. *Tutt* Brit. Butterfl. 1896, p. 167.
marginipunctata Lyc. *Tutt* Brit. Butterfl. 3, p. 174.
maritima Lyc. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 42. *
maritima Lyc. *Steph.* Catal. 1, Ed. 2, p. 25.
maroccana Lyc. *Lue.* Bull. Soc. Ent. Fr. 1920, p. 298.
marpurgica Lyc. *Strd.* Arch. Naturg. 85 A (4), p. 18.
marteniana Lyc. *Sag.* Butll. Institut. Catalan. (2) 5, p. 271.
martinalpium Lyc. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 141.
mauretanica Cyan. *Rothsch.* Novit. Zoolog. 32 (1925). p. 214.
maxima Aphar. *Stgr.* Stgr.-Rbl. Cat. Lep. Pal. (III), p. 76.
maxima Lyc. cy. *O. B.-H.* Hor. Macrolcpid. 1, p. 52. *
mediojuncta Lyc. arg. *Tutt* Brit. Butterfl. 3, p. 185.
mediopunctata Lyc. melan. *Oberth.* Ét. Lép. Comp. 10 (1915). p. 391. *
mediterranea Chrys. *Trti.* Soc. Entomol. 26 (1911), p. 84.
mediterraneae Tar. *B.-Bak.* Trans. Ent. Soc. Lond. 1917, p. 281. *
melanophlaeas Chrys. *Vitt.* Tab. Synopt. Lép. p. 36.
melanoposmater Lyc. *Vrty.* Bull. Soc. Ent. Fr.1 928, p. 141.
melantho Th. *Klug* Symbol. Physic. Tab. 40. *
meledamon Lyc. *Rbt.* Verh. Zool.-Bot. Ges. Wien 70, (p. 75). *
menahensis Lyc. *Std.* Entomol. Zeitschr. 27 (1913), p. 65.
menippe Lyc. *Fruhst.* Int. Ent. Zeitschr. 4 (1910), p. 63.
meridiana Lyc. *Vrty.* Entom. Record 31 (1919), p. 43.
meridionalis Cig. *Ril.* Novit. Zoolog. 32, p. 72.
meridionalis Lyc. *Std.* Iris 35 (1921). p. 30.
meridionalis Lyc. alb. *Tutt* Entomol. Record 21 (1909). p. 299.
meridionalis Lyc. ic. *Tutt* Entom. Record. 21 (1903), p. 299.
meridionalis Th. *Rbt.* Berge Schmett.-Buch (IX), p. 58.
merzbacheri Lyc. *Courv.* Entom. Mitteil. 2, p. 293.
mesopotamica Lyc. *Tutt* Brit Butterfl. 3, p. 256.
metallica Ev. *Courv.* Iris 34 (1920), p. 244.
metallica Lyc. *Ftdr.* Reise Novara Lep. 2, 283. *
metallica Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 332.
metioche Lyc. *Fruhst.* Int. Ent. Zeitschr. 4 (1910), p. 63.
micaerulescens Tar. *Oberth.* Ét. Lép. Comp. 4, p. 159. *
micra Lyc. *Avin.* Hor. Ent. Ross. 39, p. 244. *
microdes Cyan. *Gionn.* Rev. Mens. Namur 25, p. 7.
micromargarita Lyc. *Vrty.* Entomol. Record 38 (1926), p. 121.
microsticta Lyc. *Vrty.* Bull. Soc. Ent. Fr. 1929, p. 158.
midas Chrys. *Wheel.* Butterfl. Switzerl. p. 16.
militaris Chrys. *Grav.* Trans. Ent. Soc. Lond. 1925, p. 66.
minima Lyc. ic. *Rost. & Zap.* Boll. Soc. Zool. Ital. 1911, p. 340.
minor Chrys. *Der.* Revue Mens. Namur 25, p. 92.
minor Chrys. dispar *Diösz.* Rovart. Lapok 20, p. 194.
minor Cyan. *Tutt* Brit. Butterfl. 2, p. 394.
minor Lyc. alcon *Gram.* Entom. Zeitschr. 25, p. 217.
minor Lyc. bell. *Tutt* Brit. Butterfl. 1896, p. 171.
minor Lyc. cor. *Tutt* Brit. Butterfl. (1896), p. 166.
minor Lyc. hyl. *Tutt* Wheeler's Butterfl. Switzerl., p. 34.
minor Lyc. *Musch.* Bull. Soc. Lép. Genève 1, p. 369.
minor Lyc. thers. *Pionn.* Miscell. Entomol. 31 (1928) Nr. 5.
minor Lyc. *Tutt* Brit. Butterfl. 3, p. 172 (argus).
minor Poly. *Pionn.* Miscell. Entomol. 31, p. 50.
minor Th. ilicis *Lamb.* Revue Mens. Namur 1903, p. 15.
minor Th. spini *Lamb.* Revue Mens. Namur 1903, p. 15.
minor Th. *Pionn.* Revue Mens. Namur 1903, p. 15.
minor Th. pruni *Tutt* Brit. Butterfl. 2, p. 197.
minor Zeph. *Tutt* betulae Brit. Butterfl. 2, p. 280.
minor Ziz. *Grav.* Andres' Lepid. Aegypt. p. 11.
minor Ziz. *Tutt* Brit. Butterfl. 3, p. 107.
minnsornata Lyc. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 182.
minuta Th. *Vrty.* Entomol. Record 31, p. 48.
minutepunctata Lyc. *Vrty.* Entomol. Record 38 (1926), p. 124.
minutissima Lyc. *Tutt* Brit. Butterfl. 3, p. 173.
minutissima Ziz. *Steph.* Iris 37 (1923), p. 45.
mira Lyc. *Vrty.* Bull. Soc. Ent. Ital. 45, p. 230. *
mirabilis Chrys. *Vrty.* Entomolog. Record 31, p. 28.
misera Lyc. *Vrty.* Entomol. Record 31 (1919), p. 46.
mitterbergeri Lyc. *Std.* Zeitschr. Wiss. Ins.-Biol. 11, p. 4.
mixta Cyan. *Vrty.* Entomol. Record 31 (1919), p. 47.
montana Ziz. *Favre* Faune de Valais (1903), p. 25.
montanabella Lyc. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 180.
montana-grandis Lyc. *Tutt* Brit. Butterfl. 3, p. 257.
montensis Lyc. *Vrty.* Bull. Soc. Ent. Fr. 1928. p. 180.
monterfilensis Chrys. *Oberth.* Ét. Lép. Comp. 4, p. 109. *
montiummagna Lyc. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 181.
moreana Ziz. *Tutt* Brit. Butterfl. 3, p. 114.
morena Lyc. *Rbb.* Iris 23, Beih. (1910), p. 201.
morronensis Lyc. *Rbb.* Iris 23, Beih. (1910), p. 190.
morsheadi Lyc. *Evans* Trans. Ent. Soc. Lond. 1922, p. 478.
multiconfluens Th. *Courv.* (*Vorbr.*) Schmett. Schweiz 1, p. 106.
mutilata Chrys. *Schtz.* Ent. Ztschr. Guben 18 (1905), p. 131.
multipuncta Lyc. *Courv.* in: Berge Schmett.-Buch (IX), p. 67.
multipuncta Lyc. ic. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 74.
multo-maculata Lyc. ar. *le Chamb.* Entomologist 41 (1908), p. 202.
muratae Lyc. *Mats.* Insect. Matsumur. 1, p. 28. *
myrmecophila Aphar. *Dum.* Bull. Soc. Ent. Fr. 1922, p. 217.
mystaphia Call. *Mill.* Iris 26 (1912), p. 222.

nabataeus Lyc. *Grav.* Trans. Ent. Soc. Lond. 1925, p. 62.
nana Chrys. *Wheel.* Butterfl. Switzerl., p. 18.
nana Lyc. ar. *Courv.* Lycaen. Basel 1910, p. 163.
narbonensis Lyc. *Vrty.* Entomol. Record 38 (1926), p. 123.
naruena Lyc. *Courv.* Entomol. Mitteil. 2, p. 289.
naruena Lyc. ar. *Courv.* Entomol. Ztschr. 23, p. 202.
naryna Chrys. *Oberth.* Ét. Lép. Comp. 4, p. 115. *
neis Zeph. *Oberth.* Ét. Lép. Comp. 9 (2), p. 49. *
nemorensis Rap. *Oberth.* Et. Lép. Comp. 9 (2), p. 53. *
nepete Lyc. *Fruhst.* Societ. Entomol. 30, p. 68.
nevadensis Chrys. *Oberth.* Ét. Lép. Comp. 4, p. 114. *
nevadensis Lyc. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 259.
nevadensis Lyc. *Züll.* Ztschr. Österr. Ent. Ver. 13, p. 73. *
newmanni Lyc. *Reuss* Iris 26 (1912), p. 105.
nicias Lyc. *Meig.* Syst. Eur. Schmetterl. 2, p. 10.
niesiolowskii Lyc. *Prüff.* Spraw. Kom. Fiziogr. 57, p. 73.
nigra Lyc. *Hann.* Int. Ent. Ztschr. 23, p. 153.
nigra Lyc. bell. *Coek.* Entomol. Record 1 (1889), p. 5.
nigra Lyc. *Rbb.* Iris 23, Beih. (1910), p. 201.
nigra Lyc. cyll. *Courv.* Lycaen. Basel (1903), p. 163.
nigrescens Ev. *Tutt* Brit. Butterfl. 3, p. 55.
nigrescens Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 332.
nigrescens Lyc. *Courv.* Entomol. Ztschr. 24 (1911), p. 91.
nigricans Lyc. ar. *Kitt* Verh. Zool.-Bot. Ges. Wien 1912. p. 360.
nigriorelcus Chrys. *Vrty.* Entomol. Record 32, p. 5.
nigroapicata Chrys. *Tutt* Brit. Butterfl. 1, p. 363.
nigrocostalis Lyc. cor. *Sehtz.* Jahrb. Wien. Ent. Ver. 1905, p. 77.
nigro-cuneata Lyc. ic. *Laer.* Bull. Soc. Lép. Genève 1. p. 382. *
nigrocellata Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 333.
nigropuncta Lyc. *Sheld.* Entomologist 47, p. 273.
nigrostriata Lyc. *Museh.* Bull. Soc. Lép. Genève 1, p. 261.
niphonica Niph. *Mats.* Insect. Matsumur. 3, p. 103.
nivea Lyc. *Courv.* Entomol. Ztschr. 24 (1910), p. 88.
nivea Lyc. *Oberth.* Ét. Lép. Comp. 14 (1907), pl. 13. *
noah Lyc. *Herz* Ann. Mus. Petersb. 1900, p. 442.
nocensis Lyc. *Dhl.* Ent. Ztschr. 39 (1925), p. 76.

nodijuba Ziz. *Rbb.* Iris 23, Beiheft, p. 203.
noguerae Lyc. *Sag.* Butll. Inst. Catalan. (2) 4, p. 203.
noguerae Ziz. *Vrty.* Entomol. Record 41, p. 46.
nomancha Lyc. *Rbb.* Iris 23, Beih., p. 185.
nostras Th. *Courv.* Int. Ent. Ztschr. 7, p. 252.
novopuncta Lyc. *Courv.* Iris 26 (1912), p. 61.
novopuncta Lyc. ar. *Courv.* Iris 26 (1912), p. 58.

oberthueri Cig. *Ril.* Novit. Zoolog. 32, p. 75.
oberthüri Lyc. cor. *Gét.* Bull. Soc. Ent. Fr. 1914, p. 184. *
oberthüri Thest. *Holl.* Bull. Soc. Ent. Fr. 1909, p. 228. *
obliterata Chrys. *Trti & Vrty.* Bull. Soc. Ent. Ital. 42, p. 244.
obscura Chrys. *Courv.* Entomol. Ztschr. 24 (1911), p. 245.
obscura Lyc. donz. *Courv.* Entomol. Ztschr. 24 (1911), p. 126.
obscura Lyc. *Grund* Int. Ent. Ztschr. 2 (1908), p. 71.
obscura Lyc. *Kaueki* Polsk. Pism. Ent. 3, p. 93.
obscurata Aphar. *Stgr.* Stgr.-Rbl. Cat. Lep. Pal. (III), p. 76.
obscurata Chrys. *Courv.* Entomol. Ztschr. 24 (1911), p. 258.
obscurata Lyc. cor. *Courv.* Entomol. Ztschr. 24 (1909), p. 182.
obscurata Lyc. *Vrty.* Entomol. Record 31 (1919), p. 29.
obscurior Chrys. *Hoffm.* Mitt. Ver. Steierm. 1914, S. 288.
obsoleta Chrys. *Tutt* Brit. Butterfl. 1, p. 369.
obsoleta Cyan. *Tutt* Brit. Butterfl. 2, p. 398.
obsoleta Lyc. bell. *Tutt* Brit. Butterfl. 1896, p. 171.
obsoleta Lyc. cor. *Tutt* Brit. Butterfl. (1896), p. 167.
obsoleta Lyc. dol. *Std.* Iris 35, p. 31.
obsoleta Lyc. mel. *Rbt.* Berge Schmett. Buch (IX), p. 70.
obsoleta Lyc. orbit. *Tutt* Entomol. Record 20 (1908), p. 274.
obsoleta Lyc. sebr. *Courv.* Entomol. Ztschr. 24 (1910), p. 126.
obsoleta Lyc. *Züll.* Ztschr. Österr. Ent. Ver. 9, p. 25.
obsoleta Th. pruni *Tutt* Brit. Butterfl. 2, p. 199.
obsoleta Ziz. *Tutt* Brit. Butterfl. p. 161.
obsoleta-juncta Lyc. *Tutt* Brit. Butterfl. 3, p. 178.
occidentalis Cig. *le Cerf* Bull. Soc. Ent. Fr. 1923, p. 117.
occidentalis Lyc. *Hemm.* Entomologist 62, p. 19.
occidentalis Lyc. ar. *le Chamb.* Entomologist 41 (1908), p. 202.
ocellata Lyc. melan. *Metzg.* Bull. Soc. Ent. Fr. 1927, p. 214.
ochrostigma Lyc. *Dhl.* Mitt. Münch. Ent. Ges. 17 (1927), p. 7.
ognmae Lyc. *Mats.* Entomol. Ztschr. 23 (1910), p. 221.
oieles Lyc. *Dhl.* Entomol. Ztschr. 39, p. 72.
oiwakana Lyc. *Mats.* Insect. Matsumur. 1, p. 27. *
olivacea Call. *Btaeh.* Bull. Soc. Lép. Genève 1, p. 379. *
omphisa Lyc. *Mr.* Proc. Zool. Soc. Lond. 1874, p. 573. *
ongodai Lyc. *Tutt* Brit. Butterfl. 3, p. 199.
opulenta Lyc. *Vrty.* Ann. Soc. Ent. Fr. 96 (1927), p. 7.
orieus Lyc. *Fruhst.* Int. Ent. Ztschr. 4 (1910), p. 62.
orientalis Cig. *Ril.* Novit. Zoolog. 32, p. 76.
orientalis Lyc. *Chapm.* Trans. Ent. Soc. Lond. 1912, p. 675.
orientalis Lyc. *Tutt* Brit. Butterfl. 3, p. 192.
orientis Lyc. *Shetj.* Lepid. Rundschau Wien 2, p. 121.
orlaria Lyc. *Rbb.* Iris 23, Beih., p. 188.
ornata Chrys. *Zütlich* Ztschr. Österr. Ent. Ver. 14, p. 52.
ornata Ev. *Pionn.* Échange 43, No. 429, p. 12.
oseris Lyc. *O.-B. H.* Hor. Macrolepid. 1, p. 52. *
osthelderi Chrys. *Fruhst.* Int. Ent. Ztschr. 3, p. 113.

paralenea Cyan. *Rbr.* Entomol. Nachr. 23, p. 270.
pallescens Cig. *Oberth.* Ét. Lép. Comp. 3, p. 401.
pallescens Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 336.
pallida Call. *Tutt* Brit. Butterfl. p. 94.
pallida Chrys. *Fritsch*, Entomol. Rundsch. 29, p. 135.
pallida Chrys. *Rbl.* Berge Schmett.-Buch (IX), p. 61.
pallida Cyan. *Tutt* Brit. Butterfl. 2, p. 395.
pallida Ev. *Pionn.* Miscell. Entomol. 31 (1928), p. 50.
pallida Virach. *Grav.* Entomologist 51, p. 97.
pallida Lyc. *Tutt* Brit. Butterfl. 3, p. 173.
pallida Lyc. ar. *le Chamb.* Entomologist 41 (1908), p. 202.
pallida Ziz. *Tutt* Brit. Butterfl. p. 161.
pallida-lata Cyan. *Tutt* Brit. Butterfl. 2, p. 375.
pallida-spinosa Zeph. *Tutt.* Brit. Butterfl. 2, p. 197.
pallida-suffusa Cyan. *Tutt* Brit. Butterfl. 2, p. 395.
pallideanariensis Lyc. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 182.
pallideeramera Lyc. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 182.
pallidefulva Lyc. *Vrty.* Entomol. Record 32, p. 150.
pallidior Lyc. astr. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 253.
pallidula Lyc. *Vrty.* Entomol. Record 36 (1924), p. 110.
paphos Lyc. *Chapm.* Trans. Ent. Soc. Lond. 1920, p. 166.
parallela Lyc. cor. *Courv.* Entomol. Ztschr. 24, p. 236.
parallela Chrys. *Courv.* Iris 20 (1907), p. 36.
parallela Chrys. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 36.
parallela Lyc. *Courv.* Entomol. Ztschr. 24 (1910), p. 99.
parallela Lyc. ar. *Courv.* Iris 26 (1912), p. 51.
parallela Lyc. cor. *Courv.* Iris 26 (2912), p. 51.
partieolor Lyc. *Tutt* Brit. Butterfl. 3, p. 340.
partim-radiata Lyc. bell. *Oberth.* Ét. d'Ent. 20, p. 18. *
parvipuncta Chrys. *Strd.* Nyt. Mag. Naturv. 40, p. 162.
parvipuncta Cyan. *Fuehs* Stett. Ent. Ztg. 1880, p. 116.
parvipuncta Lyc. ar. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 24.
parvipuncta Lyc. cor. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 24.
parvipuncta Lyc. ic. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 20.
parvula Lyc. or. *Sag.* Butll. Instit. Catalan. (2) 5, p. 272.
paucimacula Cig. *Oberth.* Ét. Lép. Comp. 10, p. 369.
paucimaculosa Lyc. *Kuw.* Entomologist 50, p. 180. *
paucipuncta Chrys. *Courv.* Entomol. Ztschr. 24, p. 236.
paucipuncta Chrys. *Courv.* Entomol. Ztschr. 24 (1910), p. 255.
paucipuncta Chrys. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 75.
paucipuncta Chrys. dispar *Courv.* Iris 26 (1912), p. 63.
paucipuncta Chrys. hippothoë *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 75.
paucipuncta Lyc. argus *Courv.* Entomol. Ztschr. 24, p. 82.
paucipuncta Lyc. argyr. *Courv.* Entomol. Ztschr. 24, p. 82.
paucipuncta Lyc. bell. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 19.
paucipuncta Lyc. cor. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 74.
paucipuncta Lyc. cyll. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 74.
paucipuncta Lyc. dam. *Courv.* Vorbr. Schmett. Schweiz 1, p. 150.
paucipuncta Lyc. dol. *te Cerf.* Amat. Papill. 3, p. 191. *
paucipuncta Lyc. ic. *Courv.* Entomol. Ztschr. 24 (1910), p. 197.
paucipuncta Lyc. melan. *Courv.* Iris 26 (1912), p. 63.
paucipuncta Lyc. sebr. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 34.
paucipuncta Lyc. sem. *Courv.* Entomol. Ztschr. 24 (1919), p. 197.
paucipuncta Lyc. sem. *Giltm.* Int. Ent. Ztschr. 2 (1909), p. 313.
paucipuncta Lyc. thers. *Pionn.* Miscell. Entomol. 31 (1928), p. 50.
paucipuncta Ziz. *Courv.* Mitt. Schweiz. Entomol. Ges. 11, p. 25.
paucipunctae Lyc. ar. *Courv.* Entomol. Ztschr. 24 (1910), p. 203.
pauper Cyan. *Tutt* Brit. Butterfl. 2, p. 394.
pauper Lyc. cyll. *Vrty.* Entomol. Record 31 (1919), p. 29.
paupera Th. pruni *Tutt* Brit. Butterfl. 2, p. 199.
pauperula Chrys. *Sag.* Butllet. Inst. Catal. (2) 4 (1924), p. 201.
pauper-lata Cyan. *Tutt* Brit. Butterfl. 2, p. 394.
pauper-suffusa Cyan. *Tutt* Brit. Butterfl. 2, p. 394.
peilei Lyc. *B.-Bak.* Entomol. Record 33, p. 63.
pelusiota Chrys. *Fruhst.* Entomol. Ztschr. 24, p. 144.
peninsulae Lyc. *Vrty.* Entomol. Record 35, (Suppl.), p. 7.
penuelaensis Lyc. *Rbb.* Iris 23, Beih. (1910), p. 201.
persica Lyc. sem. *Tutt* Brit. Butterfl. 3, p. 277.
perversa Lyc. *Sehtz.* Jahrb. Wien. Ent. Ver. 1906, p. 75.
petri Lyc. *Vrty.* Bull. Entomol. Record 32 (1920), p. 129.
pharis Lyc. *Fawe.* Proc. Zool. Soc. Lond. 1904, p. 138. *
philbyi Lyc. *Grav.* Trans. Ent. Soc. Lond. 1925, p. 55.
philebus Lyc. *Fruhst.* Societ. Entomol. 30 (1915), p. 73.
philidor Lyc. *Frust.* Societ. Entomol. 30, p. 68.
philonomus Lyc. *Brgstr.* Nomenclat. 2, p. 72. *
phintonis Chrys. *Fruhst.* Entomol. Ztschr. 24 (1910), p. 144.
piequenardi Zeph. *Oberth.* Ét. Lép. Comp. 9 (2), p. 53. *
pigmentocarens Call. *Vrty.* Entomol. Record 38, p. 125.
plouharnelensis Lyc. *Oberth.* Ét. Lép. Comp. 4, p. 186. *
plumbea Lyc. *Tutt* Brit. Butterfl. 3, p. 174.
plumbea Lyc. sebr. *Courv.* Entomol. Mitteil. 2, p. 294.
plumbeus Lyc. *Courv.* Lycaen. Basels (1910), p. 161.
plumbeus Lyc. cyll. *Courv.* Lycaen. Basels (1903), p. 163.
pluripuncta Lyc. argyr. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 24.
pluripuncta Chrys. virg. *Courv.* Entomol. Ztschr. 21, p. 236.
pluripuncta Chrys. dispar *Courv.* Iris 26 (1912), p. 63.
pluripuncta Lyc. argus *Courv.* Entomol. Ztschr. 24, p. 82.
pluripuncta Lyc. astr. *Vorbr.* Schmett. Schweiz 1, p. 134.
pluripuncta Lyc. bell. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 36.
pluripuncta Lyc. Cyll. *Courv.* Ztschr. Wiss. Ins.-Biol. 3, p. 74.
polaris Call. *Krut.* Bull. Soc. Imp. Nat. Mosc. 4 (n. sér.), p. 217.
polaris Chrys. *Courv.* Entomol. Ztschr. (1911), p. 262.
pontica Lyc. *Courv.* Iris 25 (1911), p. 107.
porrecta Lyc. *Vrty.* Entomol. Record 31 (1919), p. 46.
posteocerulescens Lyc. *Tutt* Brit. Butterfl. 3, p. 180.
postereoimpunctata Lyc. *Tutt* Brit. Butterfl. 3, p. 179.
posterocrocea Lyc. *Tutt* Brit. Butterfl. 3, p. 181.
postico-inocellata Lyc. ic. *Giltm.* Int. Ent. Ztschr. 4 (1910), p. 4.
postieolunulata Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 332.
postieostriata Lyc. bell. *Tutt* Brit. Butterfl. 3, p. 352.
powelli Lyc. jol. *Oberth.* Bull. Soc. Ent. Fr. 1911, p. 268.
powelli Th. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 78. *
praecocior Lyc. *Vrty.* Entomol. Record 31 (1919), p. 29.
praepanoptes Lyc. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 143.

semisebrus Lyc. *Trti.* Atti Soc. Sci. Nat. Ital. 58, p. 149.
senilis Lyc. *Rbt.* Berge's Butterfly Book (IX), p. 69.
septembris Lyc. *Vrty.* Entomol. Record 35 (1923) (Suppl.), p. 11.
septentrionalis Lyc. *Beur.* Societ. Entomol. 43 (1928), p. 41.
sepulveda Aphn. *Fruhst.* Berl. Ent. Ztschr. 56, p. 217.
serica Lyc. *Gr.-Grsh.* Annu. Mus. S.-Pétersb. 7 (1902), p. 195.
shakojiana Deud. *Mats.* Insect. Matsumur. 3, p. 97.
shijima Niph. *Fruhst.* Arch. Naturg. 83 A. 1, p. 72.
shirakiana Zeph. *Mats.* Insect. Matsumur. 3, p. 100.
shiravensis Lyc. *Seriba* Entomol. Rundsch. 38 (1921), p. 25. *
shiriyensis Lyc. *Mats.* Insect. Matsumur. 2, p. 118. *
shiroumana Lyc. *Mats.* Insect. Matsumur. 3, p. 140.
shonis Lyc. *Mats.* Insect. Matsumur. 1, p. 166.
sibyllina Lyc. *Vrty.* Bull. Soc. Ent. Ital. 46, p. 133.
sicca Lyc. *Vrty.* Bull. Soc. Ent. Fr. 1929, p. 159.
sidemina Zeph. *Kard.* Entom. Mitteil. Dahl. 17, p. 271. *
sifanica Lyc. *Gr.-Grsh.* Hor. Ent. Ross. 25, p. 450.
silesia Lyc. *Strd.* Arch. Naturgesch. 91 A. 12, p. 282.
simplex Ziz. *Aign.* Rovartani Lapok 1900, p. 144.
simplicior Tar. *Vrty.* Bull. Soc. Ent. Ital. 42, p. 273. *
sinepuncta Lyc. *Tutt* Entomol. Record 20 (1908), p. 274.
sinistra-radiata Chrys. *Courv.* Bull. Soc. Lép. Genève 3, p. 79.
sirentina Lyc. *Dht.* Mitt. Münch. Ent. Ges. 17, p. 7.
sordidula Lyc. *Jaeh.* Rev. Russ. Ent. 8, p. 292.
sosinomus Lyc. *Fruhst.* Societ. Entomol. 30, p. 68.
spadona Chrys. *Krut.* Rev. Russ. Ent. 9, p. 300.
splendens Lyc. Euph. *Koseh.* Jahrb. Martianov. Min. 2 (1), p. 67.
splendens Lyc. *Stef.* Boll. Soc. Ent. Ital. 36, p. 11.
splendida Lyc. *Rost & Zap.* Boll. Soc. Zool. Ital. (2) 11, p. 341.
splendida Lyc. dol. *Dht.* Mitt. Münch. Ent. Ges. 17 (1927), p. 7.
spormanni Lyc. *Pfau* Int. Ent. Ztschr. 22 (1928), p. 193.
squalida Lyc. *Vrty.* Entomol. Record 32, p. 145.
stauderi Lyc. *Boll.* Seitz Macrolep. Suppl. I, p. 271.
stefanellii Lyc. *Vrty.* Bull. Soc. Ent. Ital. 36, p. 11.
steinbühleri Zeph. *Hoffm.* Mitt. Ver. Steierm. 50, p. 287.
stieberioides Chrys. *Ebert* Iris 40 (1926), p. 35.
stötzneri Il. *Draes.* Iris 39 (1925), p. 223.
straminea Chrys. *Btaeh.* Bull. Soc. Lép. Genève 2, p. 53. *
strandi Chrys. *Sehtz.* Nyt. Mag. Nat. 41, p. 25.
striata Chrys. *Giltm.* Societ. Entomol. 19, p. 179.
striata Ev. *Tutt* Brit. Butterfl. 3, p. 65.
striata Lyc. bell. *Tutt* Brit. Butterfl. 1896, p. 171.
striata Lyc. cor. *Tutt* Brit. Butterfl. 4 (1912), p. 10.
striata Lyc. ic. *Giltm.* Int. Ent. Ztschr. 2 (1908), p. 178.
striata Lyc. orb. *Rev.* Bull. Soc. Lép. Genève 1, p. 371. *
striata Lyc. or. *Schtz.* Jahresb. Wien Ent. Ver. 16, p. 75.
striata Lyc. sem. *Wheet.* Butterfl. Switzerl., p. 25.
striata Ziz. *Tutt* Brit. Butterfl. 3, p. 110. *
stygianus Chrys. *Bttr.* Proc. Zool. Soc. Lond. 1880, p. 408. *
styx Lyc. *Trti. & Vrty.* Boll. Soc. Ent. Ital. 42, p. 258.
subalbolunulata Lyc. cor. *Tutt.* Brit. Butterfl. 4, p. 14.
subcalida Lyc. *Vrty.* Entomol. Record 32, p. 150.
subcanariensis Lyc. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 183.
subcoelestis Lyc. *Tutt* Brit. Butterfl. 3, p. 333.
suberamera Lyc. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 182.
subgrisea Zeph. *Wilem.* Entomologist 44, p. 55.
sublugens Lyc. *Strd.* Int. Ent. Ztschr. 3 (1909), p. 78.
subornata Lyc. *Vrty.* Entomol. Record 32, p. 150.
subpauper Lyc. cyll. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 141.
subradiata Chrys. *Tutt* Brit. Butterfl. 1, p. 363.
subradiata Chrys. dor. *Courv.* Ét. Lép. Comp. 4, p. 108.
subradiata Lyc. *Oberth.* Ét. d'Ent. 20, pl. 3.
subtus-fere-radiata Chrys. *Oberth.* Ét. d'Ent. 20, Pl. V. *
subtus-impunctata Lyc. *Oberth.* Ét. d'Ent. 20, p. 3. *
subtus-impunctata Lyc. er. *Oberth.* Ét. d'Ent. 20, pl. 3. *
subtus-impunctata Lyc. cyll. *Oberth.* Ét. d'Ent. 20, p. 16. *
subtus-impunctata Lyc. esch. *Oberth.* Ét. d'Ent. 20, p. 3. *
subtus-maculis-extensis Lyc. ar. *Oberth.* Ét. d'Ent. 20, pl. 4. *
subtus-maculis-extensis Lyc. ic. *Oberth.* Ét. d'Ent. 20, p. 4. *
subtus-minus-punctata Chrys. *Oberth.* Ét. d'Ent. 20, Pl. V. *
subtus-minus-punctata Lyc. er. *Oberth.* Ét. d'Ent. 20, p. 3. *
subtus-minus-punctata Lyc. ic. *Oberth.* Ét. Lép. Comp. 1 (1904). *
subtus-obsoleta Chil. *Grav.* Entomologist 51, p. 97. *
subtus-partim-confluens Thest. *Oberth.* Ét. d'Ent. 20, p. 14. *
subtus-partim-impunctata Lyc. melan. *Oberth.* Ét. d' Ent. 20, p. 3. *
subtus-partim-punctata Lyc. cyll. *Oberth.* Ét. d'Ent. 20, p. 16. *
subtus-punctis-fortissimis Lyc. *Favre* Faune Valais Suppl. p. 4.
subtusradiata Lyc. adm. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 261.
subtus-radiata Lyc. cyll. *Oberth.* Ét. d'Ent. 20, p. 16. *
subtusradiata Lyc. er. *Blaek.* Bull. Soc. Lép. Genève 1910. *
subtusradiata Lyc. er. *Oberth.* Ét. d'Ent. 20, pl. 3. *
subtus-radiata Lyc. ic. *Oberth.* Ét. Lép. Comp. 4, (1910) p. 239.
subtus-radiata Lyc. melan. *Oberth.* Ét. d'Ent. 20, pl. 3. *
subtusradiata Lyc. *Oberth.* Ét. d'Ent. 20, pl. 4. *
subtusradiata Ziz. *Grav.* Andres Lepid. Ägypt., p. 11.
subtus-rufo-marginata Chrys. *Grav. & Hemm.* Entomologist 61, p. 30.
subunicolor Lyc. ar. *Pionn.* l'Échange 44 (1928), p. 3.
subunicolor Lyc. euph. *Pionn.* Miscell. Entomol. 31, p. 51.
suffusa Call. *Tutt* Brit. Butterfl. 2, p. 94.
suffusa Cyan. *Tutt* Brit. Butterfl. 2, p. 395.
suffusa Lyc. cor. *Tutt* Brit. Butterfl. (1896), p. 166.
sugitanii Lyc. *Mats.* Insect. Matsumur. 2, p. 118. *
sulgeri Zeph. *Oberth.* Ann. Soc. Ent. Fr. 1908, p. 312.
sumpantingi Lyc. *Bott.* (*O. B.-H. it.*) Seitz, Groß-Schmett. Suppl. I, p. 287.
superapennina Lyc. *Vrty.* Bull. Soc. Ent. Ital. 46, p. 131.
superlunulata Lyc. *Vrty.* Entomol. Record 38, p. 121.
supra-caerulea Lyc. *Oberth.* Ét. d'Ent. 20, p. 4. *
supra-impunctata Cig. *Oberth.* Ét. d'Ent. 20. *
supra-impunctata Lyc. ar. *Oberth.* Ét. d'Ent. 20, pl. 3. *
supraradiata Chrys. *Oberth.* Ét. d'Ent. 20, pl. 5. *
supra-violaceo-griseseens Lyc. *Oberth.* Ét. d'Ent. 20, p. 18.
suzukii Rap. *Mats.* Insect. Matsumur. 3, p. 97.
sylvana Deud. *Oberth.* Ét. Lép. Comp. 9 (2), p. 54. *
sylvia Ziz. *Nakah.* Entomologist 55, p. 124.
syngraphoides Lyc. *Sag.* Butllet. Inst. Catal. (2) 4, p. 202.

taras Lyc. *Fruhst.* Societ. Entomol. 30 (1915), p. 68.
tarasina Lyc. *Cab.* Rev. Mens. Namur 1920, p. 19.
tarbagata Lyc. *Suschk.* Entomol. Rundschau 26, p. 59.
tartarus Lyc. *Fruhst.* Entomol. Rundsch. 33 (1916), p. 19.
tatsienluica Lyc. *Oberth.* Ét. Lép. Comp. 4, (1910) p. 298.
tatsienluica Lyc. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 328.
taurica Lyc. ic. *Venzm.* Iris 34 (1920), p. 49.
taygetica Lyc. *Rbt.* Berlin. Ent. Ztschr. 1902, p. 90.
teshionis Lyc. *Mats.* Insect. Matsumur. I, p. 28. *
testacea Chrys. *Lagerb.* Entom. Tidskr. 32, p. 23.
tetrica Tar. *Sag.* Butlleti Inst. Catal. Nat. (2) 5, p. 45.
theages Chrys. *Fruhst.* Iris 31 (1917), p. 40.
thersandrus Lyc. *Fruhst.* Iris 31 (1917), p. 26.
thetis Lyc. *Rott.* Naturforscher 6 (1775), p. 24.
tiphys Lyc. *Esp.* Schmett. Abbild. I (2), Taf. 51. *
tiroliensis Lyc. *Heyd.* Entom. Ztschr. 23 (1910), p. 177.
titurica Niph. *Fruhst.* Seitz Macrolep. 9, p. 901.
tolistus Lyc. *Fruhst.* Iris 31 (1917), p. 24.
tomarina Lyc. *Mats.* Insect. Matsumur. 2, p. 200.
torgniensis Lyc. *Haverk.* Ann. Soc. Ent. Belg. 1906, p. 157.
transalbicans Lyc. *Tutt* Brit. Butterfl. 4, p. 15.
transcaucasica Lyc. *Rbt.* Ann. Wien. Hofm. 16, p. 166.
transferens Lyc. *Vrty.* Entomol. Record 37 (Suppl.), p. 45.
transiens Lyc. sem. *Mele.* Boll. Soc. Espan. 1910, p. 229.
transiens Lyc. sem. *Std.* Entomol. Anzeig. 5 (1925), p. 74.
transparens Lyc. *Courv.* Mitt. Schweiz. Ent. Ges. 11 (1903), p. 23.
transparens Lyc. cor. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 23.
transparens Lyc. dam. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 23.
transvehens Lyc. *Vrty.* Entomol. Record 37 (Suppl.), p. 46.
transversa Cyan. *Tutt* Brit. Butterfl. 2, p. 398.
trappi Lyc. *Vrty.* Ann. Soc. Ent. Fr. 96 (1927), p. 16.
tribasijuncta Tar. *Courv.* Iris 26 (1912), p. 52.
tribasipuncta Lyc. *Courv.* Iris 26 (1912), p. 52. *
tribyus Chrys. *Poda* Ins. Mus. Graec, p. 77.
trinacriae Ziz. *Vrty.* Entomol. Record 31, p. 47.
tripuncta Chrys. *Ctoss* Int. Ent. Ztschr. 14, p. 122.
tripuncta Lyc. *Courv.* in: Berge's Butterfly Book (IX), p. 67.
tripuncta Lyc. ar. *Courv.* Entomol. Ztschr. 24 (1910), p. 203.
tripuncta Lyc. cor. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 25.
tripunctata Lyc. bell. *Courv.* Mitt. Schweiz. Ent. Ges. 11, p. 22.
tripunctata Lyc. er. *Courv.* Entomol. Ztschr. 24 (1910), p. 148.
tripunctata Lyc. ic. *Fritseh* Berl. Entomol. Ztschr. 54 (1909), p. 234.
tristis Thest. *Oberth.* Ét. Lép. Comp. 10, p. 368.
trita Cyan. *Swh.* Ann. Mag. Nat. Hist. (9), p. 314.
turatiana Lyc. *Vrty.* Entomol. Record 35, Suppl., p. 7.
turatii Lyc. *Vrty.* Entomol. Record 31 (1919), p. 31.
tuscanica Lyc. *Vrty.* Entomol. Record 31, p. 45.
tutti Lyc. *Oberth.* Ét. Lép. Comp. 4 (1910), p. 238.

uclensis Lyc. *Melcon* Boll. Soc. Esp. Hist. Nat. 10, p. 228.
uliginosa Lyc. *Dhl.* Mitt. Münch. Ent. Ges. 11 (1921), p. 39.

Grypocera, 1. Family: Hesperidae.

Since the Publication of the 1st Volume quite considerable progress has been made in the knowledge of this family through examination of the genitals. In the extraordinary similitude of the species, formerly even relatively widely distributed species have been completely overlooked or deemed to be sub-forms of others. It has been necessary to alter somewhat the sequence of the species, for instance in the Genus *Hesperia*, in order to achieve uniformity with more recent opinions. As even the best illustrations (for which in the case of *Hesperidae* enlarged photographs can be accepted) do not suffice entirely we have given particulars of the differences where it seemed necessary so as to facilitate diagnosis of the species from closely allied species.

5. Genus: **Lobocla** *Mr.*

L. bifasciatus *Brem.* (Vol. 1, p. 332, pl. 89 b). — **contractus** *Leech* (16 i) is more grey, the spots of the discal band are narrower and shaped differently, those at the apex often minute. West China. *bifasciatus. contractus.*

L. simplex *Leech* (Vol. 1, p. 332, pl. 84 b). *gener Oberth.* is identical with same. *simplex.*

L. frater *Oberth.* (16 h i and Vol. 9, pl. 163 d) is very similar to *simplex* but all the spots are smaller and instead there is a submarginal streak behind the cell. On underside of hindwings the light coloured bands are more extensive than in *bifasciatus*. Yunnan; not yet discovered in palaearctic territory. *frater.*

6. Genus: **Celaenorrhinus** *Hbn.*

A few synonyms must be enumerated: *lucifera Leech* is identical with *pulomayo Mr.*, (Vol. 1, pl. 84 c) *pyrrha Nic.* with *sumitra Mr.* (Vol. 1, pl. 84 d) and *munda Mr.* with *leucocera Koll.*

C. asmara *Btlr.* (Vol. 1, p. 333, pl. 84 e). — **goto** *Mab.* is similar to *ruficornis Mab.* (Vol. 9, p. 1037) from Java. Forewings black. There are 3 hyaline spots at apex and a short wide band which does not reach to the costa, consisting of 3 spots of which the middle one projects outwardly. Hindwings without spots, brownish at base. On underside 2 yellow spots on costa before the white band. Japan. According to Elwes *goto* can scarcely be differentiated from *asmara* which also occurs in southern India and the Malayan Archipelago. *asmara. goto.*

C. tibetana *Mab.* (Vol. 1, p. 333, pl. 84 e). — **latifascia** *Mab. & Boul.* differs solely by its somewhat longer white band which is ⅓rd wider. Thibet, Yunnan. *tibetana. latifascia.*

7. Genus: **Satarupa** *Mr.*

S. gopala *Mr.* This species is dealt with in Vol. 9, p. 1033 and illustrated on pl. 163 d. Compared with *nymphalis* (Vol. 1, pl. 84 d) it has a wider white band on hindwings and abdomen. As the species also occurs in S. Sikkim and perhaps reaches palaearctic territory it is mentioned here. — **khamensis** *Alph.* Very similar to *nymphalis Spr.* (Vol. 1, p. 334, pl. 84 d) but larger. The white spots on forewings are bolder, the white band on hindwings wider especially in the ♀, also margin has more prominent white checking. It is not mentioned whether the similarity with *nymphalis* also includes the black abdomen. Kham. — **sugitanii** *Mats.* can scarcely be a separate species. According to the illustration the difference as compared with *nymphalis* consists of a larger cell spot on forewings. On hindwings the discal band is somewhat wider outwardly below the cell. Corea. *gopala. khamensis. sugitanii.*

S. valentini *Oberth.* is smaller than *nymphalis* (Vol. 1, pl. 84 d). Abdomen grey-white. The hyaline spots on forewings are very small and the anal angle of hindwings is whitish. Siao-lu. *valentini.*

monbeigei. **S. monbeigei** *Oberth.* differs from *nymphalis* (Vol. 1, pl. 84 d) by the form and position of the 4 hyaline spots on forewings below the cell. The white cell spot is relatively large. Pa-tse-fang.

ouvrardi. **S. ouvrardi** *Oberth.* Abdomen is quite black on upperside. The hyaline spots of hindwings are somewhat differently placed than in *nymphalis* and the white spot is quite absent in the cell. The white band on hindwings is as wide as in *nymphalis*-♀ (Vol. 1, pl. 84 d). Tse-ku.

sinica. epitaras. **S. sinica** *Fldr.* (Vol. 1, p. 334). — The race **epitaras** *Oberth.* has the hyaline spots on forewings combined forming a band. The extremities of veins on hindwings form white spots. There is a white streak in the cell and also the veins are somewhat white. Thibet. — *felderi Btlr.* is synonymous with *moorei Mab.* (Vol. 1, pl. 84 e).

tethys. lineata. chinensis. daiseni. **S. tethys** *Mén.* (Vol. 1, p. 334, pl. 84 f). Of this 2 chinese forms and 1 japanese are newly described. — **lineata** *Mab. & Boul.* has a row of white spots on upperside of hindwings. China. — **chinensis** *Stgr.* is somewhat larger than typical. A white discal band on upper and undersides of hindwings. On underside this is surrounded by black dots. China. — **daiseni** *Riley* also has a white band on upper and undersides of hindwings. On upperside it is 3 mm wide, diffuse at costa and inner margin, on underside it is double as wide as on upperside. There are long grey-blue hairs on upperside in basal area. Mount Daisen. It is impossible to decide from this description whether this form differs materially from *chinensis*.

13. Genus: **Carcharodus** *Hbn.*

alceae. australis. **C. alceae** *Esp.* (Vol. 1, p. 335, pl. 85 a). — Here Verity has resuscitated the form **australis** *Z.* from S. Calabria, Sicily and Algeria which had fallen into oblivion. It is smaller than the type, the brown ground colour on upperside inclined to be more reddish. The name is applied to the 2nd and 3rd generations. — The 1st generation is said to be still smaller. This can scarcely be believed in a spring form as usually heat produces smaller specimens. There are no other differences from *australis* except the name *praeaustralis Vrty.* — In mid Italy the 1st generation does not vary from type, the 2nd approximately resembles a large *australis* by its warm colouration, pale underside with large and dark spots. On account of this minute difference it is named *magnaustralis Vrty.* The 3rd generation **griseofulva** *Vrty.* differs a little more. It is smaller and darker on account of black scales on upper and underside. — **aestiva** *Horm.* is larger than the spring form. All hyaline spots are more quadrate. Underside of hindwings is dark grey-brown, the white markings considerably reduced, the veins only slightly paler. Bukowina. — **tripolina** *Vrty.* is on an average still smaller than *australis* from Sicily, the contrast between the dark bands and the pale reddish ground colour is more pronounced; the former stand out more sharply, they are partly nut-brown but chiefly blackish, the outline is sharp so that a striking stripe is created. The underside is still paler than in the most extreme *australis*, a brilliant pale yellow-red without nut-brown tone. Tripoli. — **centralanatolica** *Pfeiff.* has a pure olive-green ground colour and grey-white markings. Hindwings are black-brown on upperside, the white markings there very distinct sometimes forming bands. On underside in middle of forewings grey-brown, at margin whitish olive-green. Hindwings whitish with olive-green scales, the white markings very indistinct. The tuft of hairs of the ♂ is sienna-brown; ♀ lightly suffused with red-brown on upper and undersides. 29—32 mm. Central Anatolia. As the genitals have not been examined the position of this race is uncertain. — In mid Italy occasionally the upper and under-sides are quite without the yellow-red tone: **fulvocarens** *Vrty.* and thereby similar to *altheae*. Ground colour of both sides a pale slate-grey but with normal dark grey markings. Monti Sibillini.

griseofulva. aestiva. tripolina. centralanatolica. fulvocarens.

swinhoei. **C. swinhoei** *Wats.* is similar to *alceae Esp.* The upperside is a darker olive-green. The hyaline spots on forewings scarcely differ. There are dark streaks below the median vein and behind the cell under the subapical spots. These are not conjoined by faint shading as in *alceae*. The discal and marginal bands on hindwings are slightly less pronounced. Underside more greenish yellow. Beluchistan, Afghanistan. Also from Askabad according to the Püngeler Collection.

lavatherae. chlorotes. **C. lavatherae** *Esp.* (Vol. 1, p. 335, pl. 85 a). The 2nd generation **chlorotes** *Dhl.* has the upperside of forewings a greyer colour with diffuse markings. Hindwings with more strongly dentate wide white marginal fringes, ground colour a more uniform green-black, the spots distinct and white. Underside of forewings grey-white, markings pale, only indicated. Hindwings a bright grey-white with faint green hue, bands scarcely discernible. Typical from Terlan. — **rufescens** *Oberth.* (= australissima *Vrty.*) differs from specimens from the south of France by a deeper tone of brown on forewings. Hindwings darker, the pale submarginal row of lunules more distinctly isolated. Algeria. — **internirufus** *Rothsch.* has forewings suffused with dull orange. The spots glossy, creamy white and a brilliant carmine-brown especially below the submedian nervure exclusive of the base. This red colour very soon gets pale. Also from Algeria. — **australior** *Vrty.* is classified like *australis Z.* to *alceae Esp.*, that is to say they are the smaller 2nd and 3rd generations from Tuscany and elsewhere. Whether there is any difference in comparison to *chlorotes* cannot be discerned from the 2 descriptions; certainly it is not of great importance.

rufescens. internirufus. australior.

C. tauricus *Rev.* Similar to *lavatherae*. Both wings are darker, browner. The large spot at end of cell on hindwings is narrower, the streak behind same scarcely indicated, the spot below the lower median nervure somewhat quadrate. Both spots on costa of hindwings are absent, the band is narrower. Below the main spot there is a smaller spot which is situate further outwardly than in *lavatherae*. The underside is somewhat paler than the upperside. The submarginal row of spots on hindwings is distinct. Taurus. *tauricus.*

C. altheae *Hbn.* (Vol. 1, p. 335, pl. 85 a). The old race **floccifera** *Z.* which is resuscitated by Verity, is somewhat smaller than type. Ground colour on upper and undersides often faintly suffused with yellow-red, paler than in swiss specimens. The black spots are smaller and not so deep in colour. Sicily. It is not ascertainable from this description as to the generation to which it refers and also whether it is really in reference to *altheae*. — **fulvipinnulis** *Vrty.* is said to represent the 2nd generation in Tuscany. The tuft of hairs on underside of forewings in the ♂ is a brilliant yellow-red, on the other hand in the 1st and 3rd generations it is more or less black. Ground colour of underside is generally paler. — **australiformis** *Vrty.* is the 3rd generation from S. Europe, smaller, colours contrast more brightly. This name should also suffice for the 2nd generation in spite of the minute but actual difference. *altheae. floccifera. fulvipinnulis. australiformis.*

C. baeticus *Rmb.* (Vol. 1, p. 335, pl. 85 a). The examination of the genitals has determined that *baeticus* is a separate species. Originally Rambur described same as *marrubii* but subsequently withdrew this name. We are making use of the usual name and not the original name in agreement with Vol. 1 although according to the law of priority we should use the latter. — **octodurensis** *Oberth.* occurs in the most northerly locality of the species in the Valais. It has a paler, wider, discal band on hindwings. Oberthür mentions expressly "Fruhstorfer would have named the race *octodurensis*" but as he also illustrates same, he himself has given this name against his will. One cannot be careful enough, under certain circumstances one is forced into being an author. — **oberthüri** *Vrty.* is a name given to old specimens in the collection of Bellier from Sicily. The forewings are very pale and thereby the entire markings are very indistinct. As the colours have possibly changed with time, this name is only of conditional value. — **rostagnoi** *Vrty.* is smaller, darker, more brown and less green than the typical spanish race, similar to the race from the Pyrenees. Oricola in Latium. As the species otherwise does not occur in Italy, the author is in doubt as to whether it is really a *baeticus* race. — In Marseilles there are 3 generations which naturally have each received a name. The 1st has a pale grey tone on upper and undersides and the band of the hindwings on underside is steely grey: **grisea** *Vrty.* Similar specimens occur in the Pyrenees and in Granada. The 2nd generation is more yellow-red on upper and undersides, but the dark spots on upperside are not so wide as in the 1st generation. The bands on underside are dull yellow: **fulvescens** *Vrty.*, which can scarcely be differentiated from *baeticus*. — The 3rd generation comes between the other 2 in point of colour but can always be separated by its smallness; **aegra** *Vrty.* Among *fulvescens* one sometimes finds specimens with a moss-green upperside; **viridescens** *Vrty.* — The 1st generation in Spain is also *grisea*, the 2nd *baeticus* (= fulva *Vrty.*). This is at all events probable: such exact particulars in regard to the generations as are now given, were formerly neither customary nor necessary. The 3rd generation is not yet known. *baeticus. octodurensis. oberthüri. rostagnoi. grisea. fulveseens. aegra. virideseens.*

C. stauderi *Rev.* Similar to *baeticus* but not so heavily suffused with violet, more brownish. The 3 apical spots decrease in size from margin to base, or the middle one is as large as the outer one. In *baeticus* the middle spot extends towards the base and is thereby the largest. In *stauderi* the outer spot below the lower median nervure is situate between the 2 spots at end of cell, whilst in *baeticus* it lies below the outer of the 2. On hindwings the spots of the discal row are smaller, owing to being shorter outwardly, so that the distance from the submarginal row appears larger than in *baeticus*. On upperside the forewings are paler, on underside the hindwings. In same the veins are not white and the discal band uniformly narrower than in *baeticus*. Algeria and Tunis. — The syrian form has been illustrated by Oberthür, who however did not deem it necessary to denominate same. It is named *ambigua Vrty.* — Among the 1st generation (*stauderi*) there are specimens with pale grey tone with a slight violet sheen; **obscurata** *Vrty.* — The 2nd generation in Algeria is a brilliant red-brown on upper and undersides. On upperside of forewings there is no greenish grey admixture. — This can be replaced by nut-brown and the spots on both wings, that are otherwise black, are a rich dark brown. On underside of forewings the black markings are not mixed with greenish but bestrewn with red scales. The ground colour of hindwings is reddish salmon: **fulvissima** *Vrty.* *stauderi. obscurata. fulvissima*

C. barcaeus *Trti.* The smallest ♂♂ and ♀♀ of this species are always larger than the largest ♂♂ and ♀♀ of *baeticus* and *stauderi*. The contour of the wings is more truncate. Ground colour more uniformly dusted with olive-green. The spots of the discal band are less widely separated by the veins. On underside the spots are pale dull orange on whitish ground colour, in some ♀♀ almost rose, in others less pronouncedly and very like the similarly shaded underside of *lavatherae*. On upperside of forewings the 3 apical spots form a lunule which is incurved in the middle, similar to *altheae*, the middle spot is the largest. Of the 3 hyaline spots the one in the cell is double, the 2nd one is situate below same and the 3rd somewhat beyond the disco-cellular nervule. The pale basal band is more diffuse than in *stauderi* and *baeticus*. The marginal spots and streaks below the subapical spots are similar to *stauderi*. On upperside of hindwings the spots of the discal row are somewhat larger than in *stauderi* but nevertheless well separated and the submarginal spots are more distinct. In the fringes in *barcaeus* the pale and dark sections are almost uniformly wide on the forewings and fairly wide white dentations on the hindwings, somewhat as in *altheae*. Cyrenaica. *barcaeus.*

orientalis. **C. orientalis** *Rev.* The ground colour of upperside is less violet than in *altheae* and *baeticus* and less fuscous than in *stauderi*. Hindwings somewhat darker than forewings. Underside of forewings pale grey with a slight suffusion of pale brown, hindwings rather more fuscous. Underside of ♀ paler than ♂. Peloponnesia.

aestatis. — **aestatis** *Graves* (postorientalis *Vrty.*) the 2nd generation, is paler so that the hyaline spots are less distinct. The chief difference as compared with the 1st generation is the darker underside of forewings. The pale costa is only very narrow or absent. On hindwings the white patch is less extensive, the spots more distinct, more quadrate and very similar to *baeticus*. Constantinople, Transjordania.

ramses. **C. ramses** *Rev.* The genitals of *ramses* and *stauderi* are very similar. For this publication the outer resemblance is more important and a comparison with *lavatherae* consequently more suitable. The paler green-brown ground colour on forewings shows variation from the latter; all the spots are smaller and more sharply defined. Besides this, there is a transverse row of submarginal spots. Hindwings are approximately the same ground colour as *lavatherae*, but the front submarginal spot is as small as the others, the next spot on the costa is absent. On underside the pale spots on forewings are also smaller, otherwise there is scarcely any difference. Steppes of Mariut. — According to Graves the larvae feed on Phlomis floccosa, whilst the closely related *stauderi* and *baetica* feed on Marubium vulgare.

drawira. **C. drawira** *Mr.* (Vol. 9, p. 1047) is according to the author very similar to *baeticus*; in this case the original illustration is quite wrong. Ground colour of upperside dark grey-brown, black between the veins. At close of cell a triangular white spot and 2 other triangles below same. Besides these the usual 3 subapical spots. Hindwings with quadrate spot at close of cell and 2 small ones under same. Underside paler. Markings of upper wings as above. Hindwings with grey-white sub-basal and discal spots, a streak from close of cell to outer margin. Kashmir.

14. Genus: **Hesperia** *Latr.*

In the species of this Genus we will designate the spots in accordance with the exhaustive work of B. C. S. Warren in the following way. In the middle of the inner margin on the forewings we have a discoidal row consisting of utmost 3 spots, above same in the cell the discoidal lunule. Then outwardly we have the discal row. The counting of the spots commences at the inner margin, the 3 most anterior spots which are otherwise named apical respectively subapical spots are here counted to the discal row which contains at the utmost 9 spots. Then follows the outer row close to the margin. Above the discoidal lunule there can be up to 3 subcostal spots. On the disco-cellular nervule there is generally the indistinct discal spot. On hindwings we have 1—3 basal spots, a discal and marginal row. The subdivision of the Genus which is all based on differences in the genitals cannot be taken into consideration for our purposes. In order to facilitate the diagnosis of the species it seems to us more important to enumerate the differences as compared with other species.

1. *sao*-Group (*Powellia Tutt*).

In the species of this group spot 6 of discal row on forewings always closely approximates spots 7—9.

therapne. **H. therapne** *Rmb.* (Vol. 1, p. 336, pl. 85 b). Here we have to correct the localities. The species only occurs in Corsica and Sardinia. It does not occur in Elba or in N. Africa. In Africa only the similar *ali-therapnoides Oberth.* occurs, which has a different form to the spots on underside of hindwings.

orbifer. **H. orbifer** *Hbn.* (Vol. 1, p. 336, pl. 85 b). This species differs from *sao* by the less acutely angular spots of the discal band on underside; it differs from *phlomidis* by the fine white marking of upperside, on underside

secunda. of hindwings by the separated white spots. — **secunda** *Graves* denotes specimens of the 2nd generation in Palestine which are very close to *hilaris Stgr. hilaris*, which is typical of N. Asia Minor, has larger spots than *orbifer*. In specimens from Syria, especially those on the hindwings are still bolder. Only the 2nd generation has been named; whether the 1st generation more closely resembles typical *hilaris* cannot be seen from the description. — *minor Rbl.* denominates small *orbifer*.

sao. **H. sao** *Hbn.* (Vol. 1, p. 336, pl. 85 b). Although the name of *sertorius Hffgg.* could claim the right of priority, we are nevertheless using the usual name. The species is relatively easy to recognise. Small specimens are similar to *therapne Bsd.* (Vol. 1, pl. 85 b) but differ from same by the pure white spots of the upperside. In regard to the differences from *orbifer* please refer to what was said there. — *infraurata Vrty.* from Florence is an

gavarniensis. aberrative transition to same. Hindwings are coloured a nice dull gold on underside. — **gavarniensis** *Warr.* does not vary on upperside. On underside all spots that are white in *sao* are here reddish-brown; also the palpi, and costa and outer margin on forewings. Fringes of both wings orange. Hindwings a more brilliant red.

guadarramensis. Gavarnie. — **guadarramensis** *Warr.* differs from the former by its size (27—28 mm), besides the colouration contrasts brightly. Base of upperside of forewings suffused with golden yellow. Underside of hindwings as in *gavarniensis*. La Granja. The size is remarkable, as otherwise the southern races are more inclined to be small. Among the 1st generation in Catalonia one much more frequently finds melanic specimens than in Italy. The white spots except in middle of forewings are adumbrated. On hindwings only the disco-cellular spot is retained. When the costa of underside of forewings and inner margin of hindwings are suffused with grey we have:

albodetersa *Vrty.* — Dwarf forms normally coloured on underside in contrast to *eucrate O.* (Vol. 1, pl. 85 b) have been named *minor Rbl.*, *gracilis Vrty.*, *subgracilis Vrty.*; if on the upperside of the hindwings the marginal row of spots is absent, they are named **parvula** *Vrty.* — In **alioides** *Vrty.* the disco-cellular patch on upper and undersides of hindwings is extensively white projecting outwardly on underside and often also inwardly to a point; a white band before the outer margin. Oulx (Turin), also in Albarracin. — **subtus-brunnea** *Rev.* has a fuscous ground colour on underside of hindwings. A very rare variety. — The white spots vary considerably on the upper and underside, quite irrespective of the size of the specimen. — Only **kempnyi** *Schaw.* is named which has large spots on upperside of forewings. — **tesselloides** *H.-Schäff.* from Sicily should be placed here according to Warren, whilst according to Rebel it should be placed to *orbifer*; it is impossible to obtain proof of this, as such specimens are no longer to be found in Sicily. *albodetersa. parvula. alioides. subtus-brunnea. kempnyi. tesseloides.*

H. ali *Oberth.* (Vol. 1, p. 336, pl. 85 c). This is the spring form, whilst the summer form is named **therapnoides** *Oberth.* (16 k). The spots on upper and undersides are faintly yellowish. Underside of hindwings is suffused rosy, on forewings only the costa. On underside of hindwings the central spot of the discal row and the 7th spot of the marginal row are pointed inwards. This is not the case in *therapne*. No particulars are given in regard to the autumn form occurring from September to November which is represented in the Püngeler Collection. Perhaps these are supposed to represent the summer generation mentioned above. Specimens caught in June are classified to *ali*. *ali. therapnoides.*

H. carnea *Rev.* Ground colour dark brown. On forewings only 1 discoidal spot, discoidal lunule large, rectangular, in front of same a fine subcostal streak. The first 4 spots of the discal row are large, spots 1—3 are placed almost vertically above one another being contiguous, spot 4 is situate outwardly from same, spot 5 is small, above the outer edge of spot 4; 6 is contiguous with 7—9, 8 is slightly displaced inwardly. Submarginal spots are a delicate white, the 2 lowermost closely together. On hindwings a dainty basal spot. The main spot of the discal row is large and triangular; below same a smaller one, both separated by a cuneiform spot lying slightly beyond same. Submarginal spots larger than on forewings. Underside of forewings a paler brown; costa, apex and outer margin reddish, whitish to upper median nervure. A yellow radial streak in cell, below same 2 discoidal spots, the discal streak distinct. Hindwings flesh coloured, slightly clouded with paler brown. The spots are larger than on upperside. Of the basal row only spot 2 is present, triangular. The discal row is confluent. The middle spot quadrate and the spot in front of and behind same bordered with black. Below same a small triangular and below this a quadrate mark. ♀ 26 mm. Pagman Mountains (Afghanistan). *carnea.*

H. struvei *Pnglr.* (16 k). Similar to *phlomidis H.-Schäff.*, an easily recognisable species. The discoidal lunule on forewings is quadrate, the streak to the disco-cellular nervure is narrow. The discal row especially towards the costa and inner margin is wide and somewhat confluent. The outer row is finely marked, basal spots absent. Hindwings scarcely differ from those of *phlomidis*. On underside of hindwings the costal spot is not so very large and always separated from the next spot of the discal row. 23—28 mm. Bar-kul, Issyk-kul. *struvei.*

H. amenophis *Rev.* similar to *struvei*. However with additional fine basal streaks on forewings. The middle spot of the discal row is more isolated, marginal spots larger. On hindwings especially the marginal spots at the anal angle are much larger. On underside there is no considerable difference from *struvei*. 24 mm. Cairo. — *amenophis* is said to be a race of *adenensis Btlr.* (Vol. 13, p. 565) which however I have not come across in natura. — Andres captured this form chiefly in April and September. The larvae according to his statement feeds on Convolvulus lanatus, it is grey-green, thickly covered with felt-like hairs, the upper edge of the first segment is yellow-red and it lives in a follicle of leaves loosely spun together. *amenophis.*

2. *poggei*-Group (*Sloperia Tutt*).

H. poggei *Led.* (Vol. 1, p. 336, pl. 85 c). — **lutulentus** *Gr.-Grsh.* which was illustrated in Vol. 1, pl. 85 d is now said to be a separate species according to the genitals. *poggei. lutulentus.*

H. ioan *Warr.* (16 i). In size and markings very like *poggei*. Ground colour of upperside is deep brown, forewings suffused with grey. The spots of the discal row are large and quadrate, the 5th and 6th spots are absent as also in *poggei*, the 3rd and 4th are much larger, the three on the costa somewhat elongated. The discoidal lunule is much larger than in *poggei*, ♂ with a slight costal fold. The marginal row of hindwings is somewhat smaller and more sharply outlined, the section near the inner margin is also suffused with grey. On underside of forewings the markings are as on upperside, clearly visible on the dark ground. Underside of hindwings pale, dull yellowish; the 2 basal spots are larger than in *poggei*, the discal row does not vary, the marginal spots are small, well separated. 28—30 mm. Syria, Taurus. The species differs from *proto* in that the antennae have a pointed club which is slightly hooked at the tip. *proto* has the last spot in the discal row on the underside of hindwings as well developed as the other spots and widely confluent with same. In *lutulentus* which is also similar, the grey suffusion on the upperside is absent. *ioan.*

H. proto *Esp.* (Vol. 1, p. 337, pl. 85 d). This species differs on the underside of hindwings from *poggei*, *lutulentus* and *ioan*. The front 3rd basal spot is displaced only slightly outwards in *proto*, whilst in the other species it is situate much nearer to the front spot of the discal row. — **gigas** *Vrty.* (= macroproto *Vrty.*). Occasional large specimens of 34—36 mm size are thus denominated. Middle Atlas. — **aragonensis** *Sag.* is *proto. gigas. aragonensis.*

heavily scaled with white on underside of forewings so that the normal dark ground colour is covered thereby and the white marginal lunules are indistinct. On underside of hindwings the white marking is more extensive and more diffuse. *rubea Sag.* and *fenestrata Sag.* vary only slightly. Albarracin. — Querci even claims to have ascertained 3 generations in Albarracin. We cannot decide here who is right. According to Verity one should write *proto O.* instead of *proto Esp.* — **nigrita** *Vrty.* are very small, 18—22 mm. Upperside uniformly dark, all white markings reduced. Underside of hindwings pale yellow admixed with black scales having in certain specimens a grecnish sheen. Cuenca (Castile). — **lycaonius** *Wagn.* This eastern race reminds one somewhat of *mohammed Oberth.* (Vol. 1, pl. 85 e). It differs on upperside from typical *proto* by the denser yellowish-white dusting and white submarginal spots. Underside is reddish dull yellow or sand coloured. Anatolia. — An aberration from Algeria in which the markings on upperside are more or less suffused with yellowish-red has been named **fulvosaturata** *Vrty.* Verity presumes that this is a 2nd generation but Warren does not agree with this as *proto* is single brooded in the South. — In the Püngeler Collection there are 2 specimens from Palestine named *proto* which are perhaps different. On the upperside of forewings in the discal row the 3rd spot commences at the extremity of the 2nd, also the 4th appears to be situate further outwards, both are smaller. The 7th to 9th spots (the 3 apical spots) are curved inwards in *proto*, here the 8th spot is inclined to be situate somewhat further outwardly. On underside of forewings behind the disco-cellular nervule there is a long pale streak stretching to the apical spots which is not present in *proto*, or only faintly so, whilst behind the 2nd spot of the discal row the small outer spot is absent, which is always present in *proto*.

nigrita. *lycaonius.* *fulvosaturata.*

H. plurimacula *Chr.* in Vol. 1, p. 337 was only dealt with as a form of *staudingeri*. It is now considered to be a separate species.

plurimacula.

H. mohammed *Oberth.* (Vol. 1, p. 337, pl. 85 e) is a separate species and not a form of *proto*.

mohammed.

H. ahmed *Oberth.* Base of forewings dusted with green. The 2 first spots of the discal row are short, the 3rd and 4th approximately the same size. The marginal row on both wings is small, pronounced, white as the other spots. Hindwings with more sharply outlined spots than customary. Underside of forewings olive-grey-green and not blackish as in *mohammed* and *proto*; yellowish white at the margins and not orange-yellow, so that the hindwings vary considerably; here besides the 2 basal spots there is an additional costal spot. Algeria.

ahmed.

3. *staudingeri*-Group (*Reverdinia Warr.*).

H. proteus *Stgr.* (Vol. 1, p. 337, pl. 85 d). This species with its sub-form *prometheus* must be separated from *staudingeri*. *plurimacula Christ.* which formerly was classified here by Mabille has already been mentioned above.

proteus.

H. albata *Rev.* This species is established from 2 poorly preserved specimens so that it is impossible to give an illustration. The author compares it with *staudingeri* and *plurimacula*. In consequence of the unusually large spots there is the possibility that it belongs to *struvei Pnglr.* According to the description the only difference is that in *struvei* there is no incurving of the marginal row of spots behind the cell on the upperside of hindwings. Ili.

albata.

H. staudingeri *Spr.* (Vol. 1, p. 337). According to Oberthür this species also occurs in Algeria, it is described from Turkestan.

staudingeri.

4. *cribrellum*-Group (*Favria Tutt*).

H. cribrellum *Ev.* (Vol. 1, p. 337, pl. 85 e). **tesselloides** *Warr.* denotes specimens in which the white spots of the marginal row of underside of hindwings are separated and not as is generally the case confluent forming a band. Sarepta. — In **incompleta** *Warr.* the 2 small spots in the discal row behind the cell are absent on the upperside of forewings. Altai.

cribrellum. *tesselloides.* *incompleta.*

5. *tessellum*-Group (*Tuttia Warr.*).

H. nobilis *Stgr.* (Vol. 1, p. 337, pl. 85 e). — **kuenlunus** *Gr.-Grsh.* is described by the author in a 2 lined description as a form of *gigas*. This description is much too short to enable one to be certain as to its position. Warren classifies same as a race of *nobilis*.

nobilis. *kuenlunus.*

H. leuzeae *Oberth.* (Vol. 1, p. 337, pl. 85 e). The description can be somewhat amplified from 2 specimens in the Püngeler collection. The discal row on the forewings contains 4 apical spots. Somewhat inwards from the 1st there is still a further minute spot. The marginal row is more incurved at the median nervure than is shown in the illustration. The base of underside of hindwings is not white, the 2 green-brown bands are wider than the enclosed white band, all 3 are straight, there are green-brown spots in the white marginal area. Teniet-el-Had.

leuzeae.

H. tessellum *Hbn.* (Vol. 1, p. 337, pl. 85 e, f). This species is generally larger than the similar *cribrellum*. The white spots are small and especially those of the discal band are well separated. In *cribrellum* they are only

tessellum.

intersected by the black veins. In the discal band spots 5 and 6 are almost always absent in *tessellum*, whilst in *cribrellum* the reverse is generally the case. The best means of differentiation are on underside of hindwing. In *cribrellum* the ground colour within the discal band always extends beyond vein 8, even if only as a small spot, whilst in *tessellum* it never does. Besides this *tessellum* has a marginal row of white spots on underside of hindwings which always encloses a row of lunules in the ground colour between same and the margin, even if only minute. In *cribrellum* the marginal spots are confluent, forming a band which extends to the margin; this is similarly so in *tessellum-cribrelloides*. On underside of hindwings of *tessellum* the inner edge of the 1st and 2nd spots of discal band extends equally far towards base. In *cribrellum* spot 2 extends considerably further inwards. — **cribrelloides** *Warr.* are very small specimens of 25—28 mm with relatively large white spots on upperside. On underside of hindwings the marginal spots are large. Sarepta, Uralsk. *cribrelloides.*

H. gigas *Brem.* (Vol. 1, p. 338, pl. 85 f). — The form **dilutior** *Rühl* is somewhat smaller, less deep black with grey-green hairs at base of wing. Markings on hindwings not quite such a pure white, but much more distinct, similar to *tessellum*. On underside scarcely paler than *gigas*. Mongolia. *gigas. dilutior.*

6. *alveus*-Group (*Ateleomorpha Warr.*).

H. onopordi *Rmb.* (Vol. 1, p. 339, pl. 85 i). *subconyzae Vrty.*, *venusta Vrty.* and probably also *funginus Schilde* are only typical *onopordi*. — It is relatively easily differentiated from other species by the anvil-shaped main spot of the discal row on underside of hindwing. Besides the 1st spot of the basal row is elongated, the 1st of the discal row more or less hollow. The veins are somewhat paler, the main spot delicately circumscribed by black. — **fulvotincta** *Vrty.* has a somewhat more reddish ground colour on underside of hindwings. In mid-Italy this description can be applied to certain specimens of the 2nd generation, whilst in N. Africa it is the normal form. *tersior*, *tersissima*, *rubescens*, *pallidissime-fulva*, *postgenita* are further creations of Verity for slightly varying or quite identical specimens. — **albovelata** *Vrty.* denotes specimens with white scales distributed over the upperside. — **pallidissima** *Vrty.* are large specimens with very pale undersides, chiefly found in Central Spain. — In **reducta** *Warr.* the main spot on underside of hindwings is not elongated inwards like *armoricanus*. — **quercii** *Oberth.* is a large race. White markings on upperside of hindwings very distinct and wider at top and bottom. Just as *bellieri* is to *foulquieri*. Caserta. — **conyzae** *Guén.* is mentioned as a species in Vol. 1, p. 329. It is only a form of *onopordi* that occurs everywhere. Greyer than type on underside of hindwings. *onopordi. fulvotincta. albovelata. pallidissima. reducta. quercii. conyzae.*

H. serratulae *Rmb.* (Vol. 1, p. 338, pl. 85 h). *latealbata Vrty.* does not differ much from *serratulae*. — This species can be differentiated from the similar *carlinae* and *fritillum* by the yellowish underside of hindwings, which is more reddish in the other two species. On upperside of forewings the discoidal lunule is narrower and more irregular in *serratulae* than in *fritillum* and the markings of upperside of hindwings are much fainter. Besides this they occur at quite different seasons. *carlinae* can only be differentiated from *serratulae* by the colour on underside of hindwings. This colour is more uniform in *serratulae*, whilst in *carlinae* it is more spotted. On underside of hindwings in *serratulae* the front basal spot is oval whilst in *carlinae* it is shorter and often quadrate. The main marginal spot behind the cell in *serratulae* is scarcely longer than wide, whilst in *carlinae* it is distinctly longer. *alveus* can be differentiated by the veins on underside of hindwings. In *serratulae* they are the same colour as the ground colour, in *alveus* they are white in the region of the discal band like the spots. — **occidentalis** *Luc.* (16 i) is a very large form (29—31 mm). The white markings correspond to the size; only spot 3 of the discal row on forewings is inclined to be somewhat larger, whilst spot 5 is considerably smaller. Vendée. — **balcanica** *Warr.* 28—30 mm, therefore slightly smaller. The white spots on upperside of forewings in the ♂ are smaller, in the ♀ some can even be absent. The spots of the discal row are similar to *alveus*, that is to say spots 4 and 6 well separated from spots 3 and 7. Hindwings generally very dark. Spots on underside of forewings larger, therefore typical. Also on hindwings the spots especially of discal band very large and even more heavily intersected by ground colour along the veins than is typical. Montenegro. — **uralensis** *Warr.* (16 i). Somewhat smaller still. Ground colour of ♂ and ♀ brownish black. In the ♂ all white markings are large and distinct, also on hindwings. They are fainter in the ♀, but nevertheless bolder than in type. All markings on underside are heavy, the marginal row generally heavily developed. On forewings ground colour grey at base and apex. Underside of hindwings as greenish as is often the case in alpine specimens. Uralsk, Kisilskaja. — **planorum** *Vrty.* is somewhat paler than type on underside of hindwings, say yellowish orange with slightly greenish admixture and is scarcely worth denomination. It occurs everywhere. — **conspersa** *Rev.* has the 2 first spots of the discal row on upperside of forewings confluent, similarly in the discoidal row and besides the first spots of both rows; therefore a sub-form of *tarasoides*. — **ochracea** *Rev.* All markings of upperside suffused with ochreous, similarly the fringes and also the underside. — **extensa** *Warr.* On underside of hindwings the main spot of the discal row has not a straight edge inwardly, but bulges outwards in the middle, similarly to *carthami*. — In **alveiformis** *Warr.* the front basal spot on underside of hindwings is less elongated and more quadrate, also the 1st spot of the discal row is quadrate. — **fragilis** *Vrty.* is small, somewhat more grey. The 3rd basal spot on underside of hindwings is only present as a dot. — *nigra Hoffm.* and *restricta Hoffm.* are synonymous with *caecus Frey*. Besides there is a dwarf form which has been named *minor Oberth.* *occidentalis. balcanica. uralensis. planorum. conspersa. ochracea. extensa. alveiformis. fragilis.*

H. carlinae *Rmb.* (Vol. 1, p. 338, pl. 85 h). The 2nd basal spot on underside of hindwings is generally much smaller than the 3rd, the ground colour is uniform; it can thus be differentiated from *fritillum*. In *onopordi* the discoidal lunule of forewings is straight outwardly, in *carlinae* it is hollowed out. The 1st spot *carlinae.*

of discal band on underside of hindwings varies characteristieally in *onopordi*. — *olivacea Oberth.* and *atrata*
extensa. *Vrty.* resemble *carlinae*. — **extensa** *Warr.* has main spot of diseal band on underside of hindwings narrowly
fasciata. elongated inwards, varying in shape. — **fasciata** *Warr.* has a spot between median and lower median nervures
caeca. in discal row on underside of hindwings, forming a band. This occurs especially in ♀. — **caeca** *Trti. & Vrty.* are espeeially ♀♀ with spots more or less extinet.

alveus. **H. alveus** *L.* (Vol. 1, p. 339, pl. 85 h). With narrower forewing than the very similar *foulquieri Oberth.* The outer margin of forewing uniformly eurved, in *foulquieri* it is fairly straight from near lowest subcostal nervure to anal angle. Ground eolour more uniformly blackish brown in *alveus*, spots small and irregular, discoidal lunule narrow. In *foulquieri* ground eolour is cloudy and lighter, especially in ♂, spots larger, more or less quadrate, lunule wider and often of "I" shape. In *alveus* markings on upperside of hindwings only very faint, whilst in *foulquieri* they are distinct and often white. On underside ground colour generally yellowish or yellowish green in *alveus*, discal spot narrow; in *foulquieri* ochreous, spot generally wider and more diffuse. *armoricanus* is smaller and white spots also relatively smaller. On underside the ground eolour of forewings is dark, often blaekish, the hindwings yellowish, never orange-yellow and the white markings there are small, whilst even in small *alveus*, they remain large, so that just very small *alveus* show eonsiderable variation from *armoricanus*. Sueh *alveus* that have the 3rd basal spot on underside of hindwings rounded off, ean be separated from *serratulae* by the size of the basal spots. In *alveus* spots 3 and 4 of the diseal row are well separated on upperside of forewings and spot 6 is widely apart from spot 7, whilst in *serratulae* they are more elosely aproximated. The upperside of *carlinae* is eloudy and paler, the spots less clearly defined, more markings on hindwings. The form *sifanicus Gr.-Grsh.*, deseribed already in Vol. 1, does not differ on upperside from *alveus*, underside of forewings is paler on the average, the spots of the discal row have blaek edges. The ground eolour of underside of hindwings is uniform, the veins are visible between the white spots, as in *serratulae*. The white spots are very large, even for *alveus*. The form creates a note-worthy transition to the speeies *schansiensis Rev.*, which
accreta. is dealt with below. — **accreta** *Vrty.* is a large raee (30—32 mm) like *foulquieri*. Upperside of forewings with eloudy effect. Base and outer margin grey in ♂, yellow-green in ♀. The white spots of discal row larger than in *alveus*, but similarly situated. Hindwings with distinct diseal and marginal rows. Base on underside of forewings is grey, the spots of the discal row large. Ground eolour of hindwings is yellowish, paler than in *alveus* and more irregular. The spots of basal and diseal rows are large, the latter slightly edged with black;
pyrenealpium. the veins are paler than the ground colour. Gavarnie, Cauteret at an altitude over 1000 m. — **pyreneialpium** *Vrty.* is a sub-form of this from Gèdre, High Pyrenees, the underside of which is olive-green bestrewn with blaek scales. Underside of forewings besides is more extensively white and is thereby similar to the speeies (?) *bellieri Oberth.* — As however the typical *accreta* also oecurs in Gèdre, this new name appears to be superfluous.

In the Cottic Alps (Susa) another large race occurs, that on underside reminds one of *accreta*; it is named *magnalveus Vrty.*, a name that also seems superfluous. — An *alveus* race oceurs in the Sierra Nevada, which according to Verity closely resembles the species *numida*. In the ♂ the anvil-shaped mark is absent on underside of hindwings, whilst in ♀ it is very pronounecd. Otherwise the raee is the purest Proteus. The variation of the underside is as great as in *centralhispaniae*, resembling *carthami*. The club of the antennae is a lively red, with a blaek streak at the tip. The white spots on upperside of wings are very large in ♂, whilst
insigniamiscens. the ♀ appears dusky in eomparison. As types of this new form **insigniamiscens** *Vrty.* the two illustrations of Oberthür Nos. 2424 and 2431 *) are indieated. As Warren has not examined these, the name is somewhat
centralhispaniae. uneertain. — **centralhispaniae** *Vrty.* is an extreme *accreta*. Forewings heavily marked, the spots of the discal row somewhat quadrate. Hindwings of ♂ extremely distinctly marked, of ♀ not better than in typical *alveus*. Underside of forewings paler than *alveus*, only being darker along and between the spots. Hindwings coloured similarly to *carthami* and with cloudy effeet, the white spots mostly edged with black. Canales, Cuenca, Sierra
necaccreta. Nevada and Alfacar. — Another race from Catalonia: **necaccreta** *Vrty.* is somewhat similar to *jurassica Warr.*, the white spots of upperside are identical, i. e. coming in their extensiveness between *alveus* and *accreta*. Under-
centralitaliae. side corresponds to that of *accreta*. — **centralitaliae** *Vrty.* is the smallest form (25—28 mm) next to *ryffelensis*. Spots on upperside of forewings are well developed, varying on hindwings, but when they are present, the discal band is narrower. On underside the spots are as large or larger than in *alveus*, the discal band on hindwings
warrensis. also being generally narrower. Mid-Italy. — **warrensis** *Vrty.* (25—27 mm) is uniformly dark brown. All spots on forewings are punctiform, spot 5 of discal row is often absent. On hindwings the diseal and marginal rows are faintly discernible. Base of forewings of ♀ faintly golden. Underside of forewings diffusedly grey, the white spots larger than on upperside, diffuse and not contrasting strongly. Hindwings yellowish, discal band narrow, the spots without undulate edge; the spot between the subcostal nervures 7 and 8 when larger extends towards the outer margin and not towards base. The form does not occur at a lower altitude than 1500 m and is limited to the Grisons (Lenzerheide) and Larche. Speeimens from Zermatt do not belong to *warrenensis*; specimens from that locality which were formerly held to be *ryffelensis Oberth.*, should now be named *scandinavicus Strd.*
reverdini. — **reverdini** *Schaw.* (= trebevicensis *Warr.*) (16 k) is somewhat larger than type. Ground eolour of upperside is lighter, brown, not almost black, the white markings are bold. All white markings of underside are wider.
jurassica. Hindwings paler yellow. Bosnia. — **jurassica** *Warr.* is between *alveus* and *accreta*. The white spots are large,

*) In Lép. Comp. Vol. 10, plate. 295.

those of the discal row quadrate, the 6th spot that is usually small is here often the largest. Hindwings as type. Underside of forewings normal, hindwings pale orange-yellow, somewhat spotted, discal band occasionally narrower than normal, basal spots smaller. The veins appear paler and stand out; this is a chief characteristic, as in typical specimens the veins are scarcely noticeable. Salève (Geneva). — **kansuensis** *Rev.* described from a single and imperfect ♂, possibly a separate species. The discoidal lunule and discal streak are more distinct on forewings. Spot 5 of discal row is scarcely fainter than spot 6. Underside of forewings is pale grey, whitish at margins. Hindwings yellowish grey. The shape of the spots seems scarcely different from *alveus*. ♂ 24 mm. Richthofen Mountains. — **extensa** *Warr.* has the discal spot on underside of hindwings elongated inwards. On this account, unless one can see the locality label, it is almost impossible to differentiate from *numida*. — **serratulaeformis** *Warr.* The 3rd basal spot on underside of hindwings is oval or round and thereby similar to *serratulae*, but the pale veins are always decisive in classifying as an *alveus* form. — **lineata** *Rev.* The 1st spot of the discoidal row and also of discal row on upperside of forewings are confluent forming a long streak. — **scandinavicus** *Strd.* (= albens *Vrty.*, alticola *Rbl.*, ryffelensis *Oberth.*, serratuloides *Heinr.*, suffusa *Strd.*). All these names denote specimens with small spots on upperside of forewings, such as occur in all mountainous regions. According to Warren also *ballotae Oberth.* belongs here, but the only specimen in the Püngeler Collection has by no means small spots, whilst on the other hand the similarity of the ground colour on underside of hindwings with that of forewings is striking. — **foulquieriformis** *Vrty.* occurs among *centralitaliae* and can scarcely be separated from *foulquieri* except by locality label and genitals. — **thomanni** *Rev.* denotes a very remarkable specimen. On forewings the usual white spots are darker than the ground colour, hindwings almost normal. Underside of forewings more heavily greenish yellow, on hindwings the light spots merge in the ground colour being still more extensive than in *foulquieri*. — **bellieriformis** *Vrty.* captured at Sulden among *scandinavicus*. Upperside lightly dusted with white. Underside of forewings a heavy diffuse white and with a wide white band on hindwings. Classified to *alveus* on account of similarity of genitals.

kansuensis. *extensa.* *serratulae-formis.* *lineata.* *scandi-navicus.* *foulquieri-formis.* *thomanni.* *bellieri-formis.*

H. numida *Oberth.* Described as an *alveus* form. Upperside almost identical with *alveus*, underside like *cinarae*. The 2nd basal spot on underside of hindwings and the anvil-shaped main spot of discal band remind one of *onopordi*. Marginal spots elongated, especially the one behind the cell. Algeria.

numida.

H. armoricanus *Oberth.* Similar to a small *alveus*. Distributed over the entire central and southern Europe, but formerly not observed. Also one specimen from Algeria in the Püngeler Collection seems to belong here. — *armoricanus* occurs chiefly on the plains, *alveus* more in the mountains. The 3rd discoidal spot is always absent on forewings, often also the 2nd. The discal row is complete, spot 6 is well separated from spot 7, spot 5 is nearer spot 4 than 6, the discal spot is thin, generally diffuse, 1—2 subcostal streaks are present. On hindwings the light discal band is varyingly distinct, the marginal row is generally formed of small but distinct dots. Underside of forewings is grey, darker in discal area, the discal spot is usually narrow, sharply white, spots of discal row complete. Hindwings yellowish to brownish orange, veins lighter. Varies from *alveus* by its smallness, whilst the white markings are almost always large. The discal band of hindwings is narrower but clearer, marginal spots are smaller and rounder than in *alveus*. On underside of hindwings the discal band is narrower, somewhat diffusedly outlined above lowest subcostal nervure, the veins stand out more prominently than they ever do in *alveus*. Differs from *foulquieri* by the narrow and precise discal spot on underside of forewings. In comparison with *onopordi* the marginal spots on upperside of hindwings are small, round and well separated, in *onopordi* they are inclined to be confluent. On underside the discal spot differs, on hindwings the spots between median and lower median veins are small, well separated, no spot has a black border, the veins distinct and light as in *armoricanus*. If the discal spot is elongated inwards, then the elongation is never so extensive or pointed as in *onopordi*. In comparison with *fritillum* the 1st spot of the discal row on underside of hindwings is longer, if an intersection is indicated, it is into two approximately equal parts, in *fritillum* the spot is more pointed towards apex, sometimes "8" shaped. The ♂ generally has somewhat larger white spots on upperside, the ♀ shows golden to golden green dusting. — **persica** *Rev.* differs in the genitals from *armoricanus*, otherwise scarcely to be differentiated except by a slightly paler underside. Greece, Asia Minor, Persia. — **prostanae** *Pfeiff.* is a central Anatolian race, which differs on upperside of forewings by wider white spots, on hindwings they are confluent forming a discal band. The dark brown ground colour is heavily bestrewn with white, especially in centre of forewings. On underside the spots are with sharp outline and also wide; ground colour of hindwings in olive green and not reddish brown. Found on stony slopes with sparse vegetation. — **fulvoinspersus** *Vrty.* (= tersa and rufosatura *Vrty.*) somewhat darker underside, generally the 2nd generation. Mid-Italy. — In **onopordiformis** *Vrty.* the 1st spot of discal band on underside of hindwings approximately as in *onopordi*, i. e. somewhat more heavily incised at end near base. — **enervata** *Vrty.* dusted with grey and white on upperside, paler on both sides. — The **extensa** form also occurs here, similar as in *alveus*. — In Catalonia the 1st generation is the typical *armoricanus*, the 2nd corresponds to *fulvoinspersus*. A few of these have very black undersides to forewings and hindwings a chocolate brown and these are named **cacaotica** *Vrty.* Typical from Camaione. The 3rd generation is very variable. — **petheri** *Rom.* varies considerably. The light markings on upperside are fainter, but the fringes are scarcely intersected by black. Underside of hindwings is considerably lighter yellow-red than otherwise occurs in Spain and the forewings are like *tersa* from Italy because they are without brown dusting as is usual in Spain, the spots thereby contrasting only slightly. This is a weak small autumn form from Cuenca.

persica. *prostanae.* *fulvoinsper-sus.* *onopordi-formis.* *enervata.* *extensa.* *cacaotica.* *petheri.*

foulquieri. **H. foulquieri** *Oberth.* Also similar to *alveus*. The 1st and 2nd spots of the discoidal row can be present, the others correspond to *alveus*. The discoidal lunule often resembles an "I", the narrow shaft is often indented, if wider then often incurved. The discal row is complete, spots quadrate, about of same size, only the 5th smaller or absent. The discal spot is much wider than in *alveus* and not sharply outlined. Ground colour cloudy and espeeially in ♀ heavily greenish yellow, except close to margin between the 2 cell spots where it is blackish. On hindwings there are greenish yellow obscure bands behind base and behind the middle next to the marginal spots. Forewings pale grey on underside, darker in the middle, all spots bold, also the above-mentioned obscure discal spot. The 3 basal spots on hindwings are large, the 3rd one approximately quadrate; discal row bold, only between median and upper median nervures punctiform spots; marginal row faint. Ground colour greenish brown, veins in discal band similarly. The differences from *alveus* are mentioned there. Differs from *armoricanus* on upperside by the lightly cloudy ground colour, on underside of hindwings by the outwardly incised spot in discal row. *cinarae* also has the cloudy effect, but much larger spots and especially a heavy discoidal lunule. — *bellieri.* *foulquieri* occurs in S. France and N. Italy, but not in Switzerland. 27—30 mm. — **bellieri** *Oberth.* is lighter on upper and undersides. On underside of hindwings the discal band is much wider. Larche, Abruzzi, Mti. Sibil- *picena.* lini. — **picena** *Vrty.* is smaller, less well developed and with duller colouration. Hindwings with wider light *suprabel-* bands. Underside like *foulquieri*. Mti. Sibillini. — **suprabellieri** *Vrty.* is as light as *bellieri* on upperside, with *lieri.* as narrow bands as *foulquieri* on underside. From the same locality. — **extensa** *Warr.* also occurs here, corresponding to the same form of *alveus* and *armoricanus*, see p. 315. *extensa.*

iliensis. **H. iliensis** *Rev.* According to the author it is not definitely ascertained whether *iliensis* has already evolved into a separate species from *alveus*. The spots are larger. The two 1st spots of discoidal row large and distinct; the discoidal lunule similarly large and quadrate. The 2nd spot of discal row in comparison to spots 1 and 3 is not situate so far outwardly as normal in *alveus*. Ground colour of underside as in *alveus*. On hindwings veins 6 and 7 of same colour as ground colour and thereby the intermediate spot of discal row is isolated; the spot between median and lower median nervures appears to be nearer base. Ili territory.

fritillum. **H. fritillum** *Hbn.* (Vol. 1, p. 339, pl. 86 a). The variety *nigrocarens Vrty.* is approximately typical. There are often 2 subcostal spots on upperside of forewings. On underside of hindwings the 2nd basal spot is fully as large as the 3rd. The marginal spot behind the cell is scarcely longer than wide. The inner border of the main spot is straight, its outer border is compressed inwards. The species is almost always recognisable by the large discoidal lunule with straight borders. Differs on underside of hindwings from *alveus* by the smaller basal spots and by the greater prominence of the light veins. *fritillum* ♂♂ can be differentiated from *armoricanus* ♂♂ by the spots on upperside of forewings which are generally much smaller, especially the discoidal lunule. In *iberica.* *armoricanus* ♀ the white marking of hindwings is much more faint. — **iberica** *Gr.-Grsh.* (= fabressi *Oberth.*, parafabressei *Vrty.*) is described as a *cinarae* form, later on classified to *alveus* as was done in Vol. 1, p. 339; according to the genitals however it should be placed here. Ground colour of underside of hindwings is reddish *martorelli.* ochre, the spots more yellowish and not white. On forewings also the spots can be more yellow. — **martorelli** *Sag.* is the 2nd generation of same, of lighter ground colour. Underside of forewings less blackish, on hindwings *herrichi.* less reddish. Albarracin .— **herrichi** *Oberth.* Underside especially of hindwings paler, more grey or yellowish, markings however white, when yellowish then as a transition to *iberica*. Almost the normal form in S. France. *siciliae.* — **siciliae** *Oberth.* is a starvation form from Sicily. — A single ♂ in the Püngeler Collection from Bulgaria has as *extensa.* small spots on upperside as *alveus*; belongs here according to underside. — **extensa** *Warr.* occurs in a mild form. It is rare. — *cirsii Rmb.* held by some authors to be a species, as for instance by Mabille in Vol. 1, p. 388 sometimes deemed a form of *onopordi*, but classified by Warren here.

cinarae. **H. cinarae** *Rmb.* (Vol. 1, p. 338, pl. 85 h). — **clorinda** *Warr.* differs from the eastern forms: underside *clorinda.* of hindwings brilliant yellow, otherwise in eastern european and asiatic specimens always dull ochreous. Veins light yellow and standing out distinctly from ground colour. Underside of forewings, costa and apex a brilliant yellow. Upperside of hindwings has yellowish red to creamy yellow markings in ♂, ochreous in ♀. The relationship of *clorinda* to *cinarae* is the same as *iberica* to *fritillum*. The ♀ is generally darker on upperside than the ♂, as the markings of forewings are smaller, the hindwings darkly suffused. Underside of hindwings a more brilliant *extensa.* yellow in ♀ than in ♂ and the spots are a glossy white. Cuenca. — The **extensa** *Warr.* form resembling the same name-form of *alveus* also occurs. Such specimens are similar to *numida*.

schansien- **H. schansiensis** *Rev.* In *alveus* we already referred to the similarity between *sifanicus Gr.-Grsh.* and this *sis.* species, which on underside is simply an enlarged form of *sifanicus*. Ground colour of upperside is dark brown. The discoidal lunule on forewings has an "I" shape. In the type only spot 2 is present in the discoidal row. The discal spot is indistinct and wide; the only subcostal streak extends inwards from same. Of the spots of the discal row, spot 2 is smaller than spots 1 and 3. These 3 are in a straight line. The 3rd to 6th correspond to those of *alveus* in form and position. The three on the costa have straight borders. On upperside of hindwings the discal row is faintly indicated, only the uppermost spot under subcostal nervure 8 is long and almost white. On underside of forewings the spots are large and clear, the discal spot forms an angle with a long arm. Hindwings just like *sifanicus* only the veins are more pronounced in the ground colour. 30 mm. W. China.

reverdini. **H. reverdini** *Oberth.* Only one spot of the discoidal row is present on forewings, the discoidal lunule is octagonal, the discal spot is absent. The spots of the discal row are all small, the 2nd one further displaced

outwardly. Discal and marginal rows only faint on hindwings. Underside of forewings pale brown, spots larger, with a discal streak. Hindwings olive-brown. The 3 basal spots clearly separated. The spots of discal row between median and upper median nervures very small. Marginal spots large. 27—30 mm. Ta-tsien-lu.

Also *speyeri Stgr.* (Vol. 1, p. 338) belongs to this group.

7. *andromedae*-Group (*Teleomorpha Warr.*).

H. cashmirensis Mr. (Vol. 1, p. 336, pl. 85 c) belongs here.

H. cacaliae *Rmb.* (Vol. 1, p. 339, pl. 85 h). This species can easily be mistaken for *andromedae*. However in consequence of the light ground colour, the markings on underside of forewings are much less distinct and there is almost always a white streak to margin from spot 6 of discal band. In *andromedae* there is always still a little of the ground colour between the spot and the streak. It differs on upper and undersides of forewing from *serratulae* by the absence of the discal spot, which is always present, at least on underside in *serratulae*. In *cacaliae* also the 2nd basal spot on underside of hindwings is absent, whilst in *serratulae* it is always present even though small. *carlinae* has a deeper red ground colour on underside of hindwings than *cacaliae*, also the 2nd basal spot and the discal spot on forewings are always present in *carlinae*, *cacaliae* varies quite considerably in the number of spots. Often spots 5 and 6 of discal row on upperside of forewings are absent; the others can be very small. The ♀♀ are generally fairly heavily spotted. — **reducta** *Warr.* has the main spot in the discal row with a quite straight edge inwardly on underside of hindwings. — In **caeca** *Rev.* (= restricta *Hoffm.*) only spot 9 of the spots of the discal row is still retained. *cacaliae.* *reducta.* *caeca.*

H. andromedae *Wllgr.* (Vol. 1, p. 339, pl. 85 i). Well marked specimens have 3 discoidal spots and the discoidal lunule, but these can also all be absent. Then there is strong similarity to *cacaliae*. But in *andromedae* the inner margin of underside of hindwings is blackish to the median nervure, whilst in *cacaliae* it is light and even sometimes narrowly whitish along the inner margin. — **perseus** *Schaw.* denotes specimens that are heavily dusted with grey on upperside, sometimes even having small white spots. — **striata** *Vorbr.* has the spots on upperside of forewings extended forming steaks; there are black spots in the middle of these streaks. Corresponds to *malvae-taras*. — **reducta** *Warr.* also occurs. *andromedae.* *perseus.* *striata.* *reducta.*

H. centaureae *Rmb.* (Vol. 1, p. 339, pl. 86 a) can be differentiated from *andromedae* by the sharply delineated light veins and the very distinct 2nd basal spot on underside of the dark hindwings. Both 2nd and 1st basal spots short and with clearcut edges. — **fasciata** *Warr.* On underside of forewings ray-like light streaks enclosing dark rings extend from margin along the veins to the discal row. Lapland, Altai. — **striata** *Warr.* On underside of hindwings the marginal spot extends from behind the cell to the main spot of discal row. *centaureae.* *fasciata.* *striata.*

Specimens varying along the lines of *reducta* are not yet known in this species.

H. freija *Warr.* (16 i, k). Exeeedingly similar to *centaureae* and probably often mistaken for same (even in fact by Püngeler). In the same way as in *centaurcae* the discal row on upperside of hindwings and especially also the front spot of same, as well as the marginal row can be distinct or indistinct. Possibly only by chance, the white spots on upperside of forewings are smaller in the 2 specimens now before me. The underside of hindwings is the decisive factor. The 2nd basal spot is small in *freija*. The outer row of spots forms a continuous row of dentations. The margin is narrow and light throughout and quite separate from the dentate line. In *centaureae* on the other hand it merges with the much less distinct dentate line especially at discoidal nervure. Lapland, Greenland, Labrador and further west. All specimens of *centaureae* from Lapland should be checked through, they will be found to be mostly *freija*. *freija.*

H. sibirica *Rev.* Similar to *andromedae*. The spots on forewings appear to be slightly larger. Spot 6 of the discal row is not situate so far outwardly and is equidistant from 7 and 5. Usually there are 2 white streaks along the costa between spot 9 and the discoidal lunule. Upperside of hindwings as in *andromedae*. Also on underside it is observed that on the lighter forewing, spot 6 is not situate so far outwardly as in *andromedae*. The 1st basal spot of hindwings is shorter, rounder and not streak-like. The veins are slightly lighter. 28—30 mm. Altai. *sibirica.*

H. chapmani *Rev.* The chief difference from *sibirica* lies in the genitals. From the few known specimens or illustrations of *chapmani* it would appear that the marginal row and 1st basal spot on underside of hindwings are paler. So far only 1 ♂ has been captured each from Munko Sardyk, Witim and S. Siberia and besides one single ♀. *chapmani.*

H. alpina *Ersch.* (Vol. 1, p. 336) is a separate species and not a form of *cashmirensis*. *darwazica Gr.-Grsh.* (Vol. 1, p. 337) belongs to same as a race. *alpina.*

H. bieti *Oberth.* (Vol. 1, p. 339, pl. 86 b). The new race *yunnana Oberth.* has spot 2 of discal row on upperside of forewings scarcely displaced outwardly in comparison to spot 3. On underside of hindwings the discal row only begins with the small triangular spot below the main spot. As described from a single specimen, perhaps it is only an aberration. Yunnan; not actually palaearctic. — **tokachiana** *Mats.* from Japan has larger yellowish white spots in the submarginal area on upperside of forewings than the type form. On underside of hindwings the dark brown "y" shaped spot is absent. In place of same there is another spot with a light centre. Hokkaido. *bieti.* *tokachiana.*

H. oberthuri *Leech* (Vol. 1, p. 340, pl. 86 b). *delavayi Oberth.* is synonymous with this. *oberthuri.*

zona. **H. zona** *Mab.* (Vol. 1, p. 340, pl. 86 b). — **bocki** *Oberth.* does not vary from type form on upperside.
bocki. On underside only hindwing slightly different. Ground colour is more grey-yellow, the inner band grey-brown instead of red-brown, the white discal band only present in the posterior half. The marginal area with only
albistriga. a narrow brown band instead of entirely red-brown. Kiang-se. — **albistriga** *Mab.* enumerated in Vol. 1 (pl. 86 b) by Mabille as a species, but I consider same only a form of *zona*. Underside of hindwings brown with suffusion of violet instead of red-brown. Our illustration (Vol. 1, pl. 86 b) of *albistriga* is like a typical *zona*.

carthami. **H. carthami** *Hbn.* (Vol. 1, p. 338, pl. 85 g) is very like *sidae* on upperside. In *sidae* the two subcostal streaks on upperside of forewings are situate next to one another in the direction of spot 9, whilst in *carthami* they are both over the discoidal lunule. The undersides of the 2 species are as different from one another as is possible in *Hesperides*. In the Pyrenees small *carthami* are like *serratulae*. In *carthami* spot 5 of the discal row on upperside of forewings is always smaller, even though only slightly, whilst in *serratulae* it is considerably smaller or quite absent, even if the other spots are large. On underside of hindwings the 1st basal spot and spot 1 of the discal row are merged in the anterior part of the light inner margin. In *serratulae* the inner margin is dark. Also *alveus* is similar to *carthami* in Spain. The lower part of the discal streak on underside of forewings approximates strongly to the discoidal lunule, in *alveus* they are distinctly separated. — *speciosa Vrty.* and
valesiaca. probably also *major Rbl.* (heavily dusted with grey-green, row of spots complete) are identical with **valesiaca** *Mab.* as these all occur in the race of *valesiaca* from the S. Tyrol. This is the form that Mabille himself designated as *valesina* (= valesiaca *Rühl*) in Vol. 1. It is described in Bull. Soc. Ent. Fr. (5) 5, p. 214 and this was not
nevadensis. mentioned in Vol. 1. — **nevadensis** *Oberth.* is somewhat reddish at margin on underside of hindwings, similar
pyrenaica. to *alveus* from the same locality, but the genitals are different from *alveus*. Sierra Nevada. — **pyrenaica** *Warr.* (= microcarthami *Vrty.*) is very small, 26—28 mm, otherwise scarcely different from *nevadensis*. According
lucasi. to the size of the spots however sometimes like *serratulae*. Canales. — **lucasi** *Rev.* the race from Charente inf. is similar to the former, but there is a constant difference on underside of forewings. There are 3—4 small white streaks at outer margin over the inner angle behind the spots of the main row. These are also faintly discernible
reducta. on upperside. — The **reducta** *Warr.* form is even more like *serratulae* than *pyrenaica*. — **albana** *Heinr.* is on
albana. underside like *moeschleri H.-Schaeff.* (= galactites *Rmb.*) dealt with in Vol. 1, but on upperside like normal
vittatus. *carthami* and also inclined to be smaller rather than larger. Digne. — **vittatus** *Oberth.* has very large white spots
duosignata. on upperside of forewings. These merge like in *malvae-taras* and then form is named **duosignata** *Kilian.* —
rühli. **rühli** *Stgr.* (= immaculata *Warr.*) has fewer spots on forewings, none at all on hindwings. — **restricta** *Galv.*
restricta. Forewings heavily dusted with green-grey with extinct row of spots, only spots 3 and 4 distinct on forewings. On hindwings discal and marginal bands consist of radial streaks. On underside of hindwings the white spots
sidaeformis. predominate. — **sidaeformis** *Warr.* is as brilliant orange on underside of hindwings as *sidae*.

sidae. **H. sidae** *Esp.* (Vol. 1, p. 340, pl. 86 b). This belongs to the few species having marginal spots on upper and undersides of forewings. On underside very similar to a small spotted *antonia*. *sidae* can always be distinguished from *carthami* by the juxtaposition of the subcostal spots. The species decreases considerably
occidentalis. in size on an average from the East to the West. — In **occidentalis** *Vrty.* (= occidua *Vrty.*) the spots on upperside are not so quadrate, especially spots 1, 2, 5 and 6 of discal row. On underside of forewings the black border of the spots is possibly slightly finer. The cream-yellow bands on hindwings are narrower with slightly thinner black edges and less dentate. Within the white basal spots, which might almost be described as the ground colour, there is a further yellow basal spot lying on the costa. This also occurs in *sidae* but proportionately
hafneri. much smaller. It occurs west of the Adriatic and replaces *sidae*. — **hafneri** *Std.* In this unique specimen the white spots on upperside are heavily reduced in size, on underside the orange-yellow bands are suppressed by
reducta. the extension of the black margination. — **reducta** *Warr.* has the inner edge of the main white spot of discal band, respectively the outer edge of the inner yellow band, quite straight. Occurs frequently among *occidentalis*.
alboradiata. — **alboradiata** *Bub.* has the white spots on uppersides of both wings extended radially, on underside only on hindwings. The author is apparently not quite certain in his mind as to the differences between *sidae* and *onopordi*, therefore the classification here is uncertain. Distributed from South France to Ararat.

8. *malvae*-Group (*Hemiteleomorpha Warr.*).

malvae. **H. malvae** *L.* (Vol. 1, p. 339, pl. 86 a). This species is so nearly identical with *malvoides Elw. & Edw.* that quite justifiably no illustration of the latter was given in Vol. 1. Nevertheless the particulars of the descriptions can be amplified. a) Characteristics of *malvae*: On upperside of forewings the outer row of spots is somewhat diffuse but normally fairly distinguishable. Club of antennae when viewed from in front is black. Underside of hindwings yellowish brown with greenish sheen, occasionally reddish. The main spot more slightly incised outwardly. b) *malvoides*: The outer row of spots is at the best only slightly indicated above the inner margin. Club of antennae is golden brown when viewed from in front. Underside of hindwings reddish brown, frequently also yellowish brown. The main spot heavily incurved outwardly, sometimes quite angular. One cannot however depend on these distinctions in all cases. The examination of specimens with exact data has indicated that date of capture and locality are always the deciding factors in the classification. *malvae* is distributed from Ireland to E. Siberia, extends in W. Europe up to the Alps, but is missing in the southern Alps. The southern boundary extends from Bordeaux to Geneva, through north Switzerland and N. Tyrol

thence over the Balkans to Greece and Asia Minor. Northwards of this line only *malvae* is captured. The two seem only to mingle in the Rhone Valley. — The distribution of *malvoides* is not so well known. It occurs in Portugal, Spain and S. France and in central Switzerland fairly high up (Riffelalp). In the S. Tyrol the only known localities are Kastelruth and Grödnerjoch. Eastwards and south-eastwards of this there are no particulars. On the other hand it probably occurs throughout Italy including the Islands. Algeria is doubtful. In the north-west and parts of central Europe *malvae* is single-brooded. It occurs end of April to end of June, also in the hot Rhone Valley, whilst in N. Germany to Austria it is double-brooded in April—May and again in August. Only in Constantinople and Asia Minor is this again the case. — **graeca** *Oberth.* is much larger than typical *malvae*. Underside of hindwings olive green, the white markings considerably reduced. Greece. — **zagrabiensis** *Grund.* On upperside of forewings the outer row is conjoined forming a transverse band. On hindwings only 2 small spots of discal row are present. Fringes of both wings less intersected by black. Underside of forewings like upperside, on hindwings fewer but larger spots than normal. Agram. — **intermedia** *Schilde* has the white markings on hindwings as reduced as in *taras Bergstr.*, but forewings are normal. — **pseudotaras** *Lacr.* is like *taras* only on underside, upperside normal. — **punctifera** *Fuchs* is like the following type, markings very delicate. — **scabellata** *Rev.* has a white streak on forewings above the inner margin, sometimes same is turned upwards at the ends. — **bilineata** *Rev.* with 2 lines above the inner margin. This is a rare form, generally these two lines merge forming one mark. — **marginoelongata** *Rev.* has the marginal row of spots radially elongated on both wings. — **fasciata** *Tutt* has a complete transverse white band on upperside of hindwings. — **restricta** *Tutt.* The white spots of both wings smaller or absent. — In **moryi** *Strd.* the discal band on underside of hindwings is completely transverse. — **albina** *Tutt* has upperside a grey-white ground colour; — **albina** *Oberth.* has pale brown ground colour. — In **mülleri** *Diosz.* from Transylvania the white markings on upperside of hindwings are as extensive as they are on forewings of *taras Bgstr.* The white spots on forewings are small, only those around the discal cell being larger. On hindwings the spots of the outer half are considerably larger. Also on underside of hindwings the spots are larger. On forewings the white radial streaks in marginal area, which are characteristic of *malvae* are very distinct.

graeca. *zagrabiensis.* *intermedia.* *pseudotaras.* *punctifera.* *scabellata.* *bilineata.* *marginoelongata.* *fasciata.* *restricta.* *moryi.* *albina.* *albina.* *mülleri.*

H. malvoides *Elw. & Edw.* The same aberrations can occur here as in *malvae* and they can therefore be similarly named. Besides these there are the following: — **pyrenaica** *Tutt* (= fritillans *Oberth.*). Underside of both wings chocolate brown. — **tutti** *Vrty.* The white spots on upperside of forewings are very large, but do not merge. — **semiconfluens** *Rev.* has a large discoidal lunule on forewings. The first spots of the discal row are also large and are inclined to confluence. Hindwings with little white marking on upper and undersides. — Around Florence the 2nd generation differs somewhat from the typical spanish. It is smaller and paler. Both wings are grey on upperside and forewings also on underside and faintly suffused with reddish. Hindwings are very variable, generally pale ochreous reddish: **modestior** *Vrty.*, typical of Florence. — Some specimens among same are more yellowish and dusted with white in both sexes. On account of their similarity with *melotis Dup.* they are named **melotiformis** *Vrty.* — *pseudomalvae* and *luctuata Vrty.*, *alpina*, *andalusiaca* and *australis Tutt* scarcely differ from typical *malvoides.* — This species is double-brooded even at high altitudes.

malvoides. *pyrenaica.* *tutti.* *semiconfluens.* *modestior.* *melotiformis.*

H. pontica *Rev.* This species chiefly differs in the genitals from *malvae* and *malvoides.* In the specimens hitherto examined however these are also not absolutely constant, so that the species can be deemed as still being evolved. All markings are liable to vary. For instance spot 2 of the discal row on forewings can be approximately vertically above spot 1 or considerably further out. Spot 8 can be shorter outwardly than 7 and 9, thereby creating a bulge in the outer line of the spots or otherwise same may be quite straight. On hindwings on underside the marginal spot behind the cell is almost always shorter and more quadrate than in *malvae.* Amasia, Achalzich.

pontica.

H. melotis *Dup.* (Vol. 1, p. 338, pl. 85 d). — The form **reducta** *Warr.* also occurs in this insect.

melotis. *reducta.*

H. caid *Le Cerf.* Ground colour bronze-black. Faint marginal spots consisting of olive-grey scales on both wings. Forewings apparently without discoidal spots, discoidal lunule large, rectangular, a fine white discal streak beyond same. Of the discal row, spot 3 is round, spot 4 small, the 3 anterior spots are also present. Hindwings approximately as in *sao.* Underside of forewings is dark black-brown, olive-brown at costa and apex, similarly the triangular marginal spots and the spots of upperside. Hindwings ochreous reddish grey, longish white triangles at margin and the spots of upperside somewhat enlarged. ♂ 30 mm. Morocco. In regard to the classification of this species, the author has not expressed any opinion and it has therefore been placed at the end.

caid.

15. Genus: **Thanaos** *Bsd.*

Th. tages *L.* (Vol. 1, p. 340, pl. 86 c). — **clarus** *Caradja* the 2nd generation from hot localities in central and southern Italy is pale brownish grey on upperside and yellowish grey on underside. *subclarus Vrty.* from the S. Tyrol is a transition to same. — **posticeprivata** *Std.* has no white marginal spots on hindwings. — **coelestina** *Std.* is said to be similar to *marloyi Bsd.* (Vol. 1, pl. 86 d). Upperside of forewings bluish grey, hindwings brown-black. The white spots are absent on both wings. Underside of apex of forewings violet, white spots are present with a second row of spots 3 mm inwards. — **isabellae** *Lamb.* has a dark brownish black ground colour with

tages. *clarus.* *posticeprivata.* *coelestina.* *isabellae.*

violet sheen and wide grey discal band. — Tutt has ascertained three delicate differences in the shade of ground colour, so that each name can be combined in three different ways. Specimens without band are named *tages L.*, *brunnea-unicolor*, *unicolor Frr.*; specimens with faint band: *alcoides*, *brunnea-alcoides*, *suffusa-alcoides*; with well developed band: *transversa*, *brunnea-* and *suffusa-transversa*; with darker grey discal area *variegata*, *brunnea* and *suffusa-variegata*. Specially small specimens have also been named *minima Lamb.*

pelias. erebus. **Th. pelias** *Leech.* (Vol. 1, p. 341, pl. 86 d). — **erebus** *Gr.-Grsh.* is slightly more clearly marked and markings are more contrasting. Tatung, Seening-Shan.

21. Genus: **Aeromachus** *Nic.*

inachus. thibetana. **A. inachus** *Mén.* (Vol. 1, p. 342, pl. 86 g). — **thibetana** *Aust.* a dark race. The row of white spots on forewings more incurved towards inner margin. Without green dusting on underside of hindwings (like all specimens of *inachus* before me from the Amur). Also with 2 rows of light spots (the inner one is often boldly represented in *inachus* and is pure white). The name is of no importance. Thibet.

28. Genus: **Heteropterus** *Dum.*

morpheus. obscura. atrolimbata. phantasos. radiata. coreana. **H. morpheus** *Pall.* (Vol. 1, p. 344, pl. 87 b). — **obscura** *Skala* (= obsoleta *Fritsch*) has no yellow spots at apex of forewings. — In **atrolimbata** *Skala* the fringes are not checked with yellow. — **phantasos** *Stich.* (16 l). The yellow apical spots on upperside of forewings are more or less extinct. On underside of forewings the yellow spots reduced in size, ground colour of hindwings almost darker than that of forewings. The ground colour between the 2 rows of ivory-yellow spots has minute dark yellow dots. — **radiata** *Koll.* has the 5 yellow marginal spots on upperside of hindwings elongated inwards radially, with 3 fainter yellow spots towards base. — **coreana** -♀ *Mats.* Forewings darker with diffuse yellow submarginal band and a yellow streak above lower median nervure. Hindwings normal. On underside of forewings the yellow marginal line extends beyond median nervure, the eyespots smaller on hindwings. Corea. It cannot be stated definitely whether this is an aberration or a race.

31. Genus: **Pamphila** *F.*

silvius. pseudo-palaemon. evanescens. **P. silvius** *Knoch* (Vol. 1, p. 345, pl. 87 b, e). A few aberrations are newly described from european territory. — **pseudopalaemon**-♂ *Fritsch.* It is similar to a transition from *silvius*-♂ to *palaemon*-♀. The black markings are similar to *palaemon* but not so extensive. The 8 fine yellow streaks (marginal spots) which always occur in *palaemon* are also present here. Hindwings also similar to *palaemon* but lighter yellow. — **evanescens**-♂ *Heinr.* The black antemarginal spots on upperside of forewings are more or less extinct. — **atrolimbata**-♀ *Heinr.*

atrolimbata. fasciata. isshikii. doii. The small yellow lunules on upperside of forewings are extinct, the margin therefore widely black. — **fasciata** *Schrdr.* (= catella *Schultz*). The black spots on forewings are so confluent that a band is formed from the middle of the costa to the middle of the inner margin. — The description of the race **isshikii** *Mats.* from Saghalin was not available to me. — **doii** *Mats.* with larger black spots in cell of forewings and in middle of wings. They are narrower but not oval as in type, more roundish as in *sachalinensis*. The spots of submarginal row larger, all approximately of same size except the one above lower median nervure. Kurile Islands.

palaemon. albigutlata. shikolanus. conjuncta. carrueli. restricta. silvioides. freyi. luteana. melicertes. excessa. aurantia. restricta. lutea. circumcincta. extrema. **P. palaemon** *Pall.* (Vol. 1, p. 345, pl. 87 e). Two fresh east asiatic races are described: — **albiguttata** *Christ.* (16 l). Upperside with small yellow spots. Underside of hindwings is darker, spots white. S. Urals, Irkutsk, Vilui. — **shikotanus** *Nakah.* Compared by the author to *silvius*. The yellow spots more extensive especially in the discal cell and the black spots in this area half as large as in *isshikii Mats.*, less black in the outer area. The yellow discal spot on hindwings is narrower. Shikotan Island. — **conjuncta** *Blach.* Forewings normal on upper and undersides. On upperside of hindwings the cell is bordered by black, beyond same only the veins are black, the rest is yellow, on underside all veins except for the disco-cellular nervure are black. — *confluens Osth.* is practically the same. — **carrueli** *Le Charles* is identical with *conjuncta Blach.* on hindwings. According to the description the forewings are without markings, however the illustration indicates traces of the normal spots. — **restricta** *Tutt* (= habeneyi *Sigl*) has no yellow marginal spots on upperside of hindwings, discal spot is small. — **silvioides** *Müller.* Outer row of golden-yellow spots on forewings confluent, margin beyond same narrow and only faintly dark. On hindwings on the other hand only the 3 main yellow spots present, marginal spots practically absent. — In **freyi** *Hellw.* only the yellow marginal spots on hindwings absent. — **luteana** *Cab.* basal half on upperside of forewings uniformly yellow. — **melicertes** *Schultz* uniformly black forewings without yellow spots. — Tutt names the following: **excessa,** when spots are large and orange-yellow with a distinct marginal row between the veins; **aurantia,** when marginal spots are indistinct; **restricta,** when spots are small. — If spots are yellow, one adds the name **lutea.** — If spots on underside of hindwings are yellow with dark borders, **circumcincta.** — **extrema** *Diosz.* is due to exposure to heat, with much reduced yellow markings on both wings. The marginal spots, which may be small under normal circumstances, can be absent. On hindwings only the middle large spot still clearly distinct. — **murasei** *Mats.* wings narrower than type, smaller light spots on upperside of forewings, larger spots on underside of hindwings. S. Saghalin.

christophi. **P. christophi** *Gr.-Grsh.* (Vol. 1, p. 345, pl. 87 d). Oberthür says *christophi* is not synonymous with *niveomaculatus Oberth.* as indicated by Leech, nor with *dulcis Oberth.* as stated in the Staudinger-Rebel catalogue.

According to his opinion they are 3 separate species. Without having a definitely certain specimen of *christophi*, it is difficult to decide in this question.

P. flavostigma *Oberth.* Ground colour black-brown. On forewings 3 yellow spots, on hindwings 2. Underside of forewings grey, spots as on upperside. On hindwings a white discal, as well as submarginal band. Ta-tsien-lu. *flavostigma.*

P. dieckmanni *Graes.* (Vol. 1, p. 345, pl. 87 d). The form illustrated in Vol. 1 has 2 rows of white spots on underside of hindwings. Occasionally these are conjoined forming 2 bands as illustrated by Oberthür in Lép. Comp. 9, Fig. 2157. If these 2 bands merge forming a large white spot, it is named **plutus** *Oberth.* Ta-tsien-lu. *dieckmanni.* *plutus.*

32. Genus: **Ampittia** *Mr.*

A. trimacula *Leech* (Vol. 1, p. 346, pl. 87 e). — In **reducta** *Draes.* the yellow spot in cell of forewings is absent so that only 2 spots are left. Wasse-ku. *trimacula.* *reducta.*

34. Genus: **Adopaea** *Billberg.*

A. lineola *O.* (Vol. 1, p. 347, pl. 87 f). — **hemmingi** *Rom.* (= pseudothaumas *Zerny*) is smaller, lighter, inclined to buff, with sharply outlined black, not brown, margin. Fringes paler, sometimes whitish. Albarracin. Only slightly different in the S. Urals and Alai. Besides this race only aberrations have been named. *pallida Tutt* is probably the same aberration as *hemmingi* is, as a race. — **ardens** *Oberth.* is also pale yellow on upperside with black margin, besides base of forewings and inner margin of hindwings are dark. Inclined to be darker on underside. The apex of underside of forewings is grey and also to beyond the anterior half on hindwings. — **semicolon** *Stgr.* (16 l) is smaller, outer margin somewhat darker. The ♂ with larger androconia spot, below the base of same a black dash is distinctly visible. Underside of hindwings greenish grey in ♂ and ♀. Algeria. — Besides Tutt has named the following varieties: for ground colour pale golden brown and margin narrow and sharply distinct: *clara*, *major-clara* and *intermedia*; if ground colour dark chocolate brown: *brunnea*; with darker hindwings: *suffusa*. *lineola.* *hemmingi.* *ardens.* *semicolon.*

A. acteon *Rott.* (Vol. 1, p. 347, pl. 87 g). In this species, that is so little inclined to vary, nevertheless 2 new races have been enumerated. — **ragusai** *Vrty.* is characterised by complete absence of the dark dusting on the upperside, only the margin is narrowly black. On this account the specimens resemble *lineola*; nothing is said about the ♀. From Palermo. — **phoenix** *Graves* (16 l) from Syria, is very large. The ♂ a bright golden brown, the pale spots behind the cell not clearly visible on the pale ground colour. The black margin, especially on hindwings, narrow and less heavily darkly dusted than in typical *acteon*. Underside also paler. The *phoenix*-♀ (16 l) is relatively still larger, colouration as in ♂, but the pale spots on forewings are large, distinct and forming a long row. Beirut and Lebanon. — The following names for aberrations are given by Tutt: especially dark ♂♂ on upperside with green sheen: *virescens*; with pale band on both wings: *distincta*; without same on both wings: *obsoleta*; very pale specimens: *clara*; in *extensa* the pale spots on forewings merge and extend considerably towards base. *acteon.* *ragusai.* *phoenix.*

A. thaumas *Hufn.* (Vol. 1, p. 347, pl. 87 g). — **iberica** *Tutt* is a small brilliantly coloured form with narrow black margin on upperside. From Albarracin, also in Tuscany. — One finds there among *iberica* also specimens with black margin extending half way to the cell: **latenigra**-♀ *Vrty.*; when the margin is grey then it is named **lategrisea**-♀ *Vrty.* — **syriaca** *Tutt* is paler than European specimens, *obscura* from the High Pyrenees is darker. — In **antiardens** *Oberth.* the dark margin is quite absent, underside paler. — **pallidiscus**-♀ *Strd.* has a pale streak in the middle of upper and undersides of forewings, a similar streak to the margin only on upperside of hindwings. — Besides these Tutt has created the following names: pale specimens: *pallida*; for such with a green sheen on underside of hindwings: *pallida-virens*: when also forewings are greenish at margin: *suffusa-virescens*; for a ♀ with dark brown ground colour: *suffusa*; for a specimen in which the normally black marks (on margin ?) of the wings are said to be yellow and the discal streak of forewings a silvery grey: *reversa*. — There is still the name *major* (= macta *Vrty.*) for exceptionally large specimens. *thaumas.* *iberica.* *latenigra.* *lategrisea.* *syriaca.* *antiardens.* *pallidiscus.*

A. nova *Rev.* Similar to *thaumas*, but smaller. Ground colour of upperside a brilliant ochreous, less reddish than *thaumas*. The androconia streak finer, lighter, but in the same shape as in *thaumas*. Underside of apex of forewings is not grey. Base of both wings dusted faintly with grey, otherwise both wings uniformly yellow, hindwings somewhat paler. ♂ 25 mm. Amasia. *nova.*

A. novissima *Trti.* In the ♂ the androconia streak is as bent as in *thaumas* (Vol. 1, pl. 87 g). The ground colour is a golden yellow similar to *lineola O.;* the marginal line black, the fringes white or whitish. A fine black streak at close of cell on forewings. Margin of both wings narrowly black. On underside of forewings near the apex a round dark shadow and in the middle of the inner margin, a long deep black spot which touches same on ⅔rds of its length. Hindwings dusted with grey-green similar to *lineola* and *thaumas*, the inner margin is also similarly widely yellow and also the area above vein 8. Cyrenaica. *novissima.*

35. Genus: **Augiades** *Hbn.*

sylvanus. **A. sylvanus** *Esp.* (Vol. 1, p. 347, pl. 88 a). The smaller races from northerly regions incline to melanism. They are named *septentrionalis Vrty.* Extreme forms of same were previously named: — *obsoleta Tutt* and *minuta.* *paupera Tutt* (see below). — The first generation in Mainarde is *sylvanus*, the second in Tuscany **minuta** *Vrty.*, *sylvanellus.* the markings are larger in relation to the smallness of the insect, the third in Formia **sylvanellus** *Trti.* has *norwegica.* smaller spots. — **norwegica** *Tutt* is small. Basal area pale fulvous, only darker at the upper end of the androconia streak, outer margin widely dark. Hindwings also pale with still paler spots, margin narrowly black. The ♀ darker. Underside pale ochreous, the pale spots therefore not being so distinct. Base of hindwings greenish. The race therefore does not at all agree with Verity's claim that the northern races are dark. — *alpina.* **alpina** *Hoffm.* is grey-brown on upper and undersides, the pale spots in consequence much more distinct. *faunus.* Styria. — **faunus** *Trti.* has a very wide brown margin on underside of forewings, that on hindwings somewhat less wide, the inner area pale and devoid of markings. High Pyrenees. — Verity considers the name *anatolica.* **anatolica** *Plötz* is superfluous. It is quite true that in European specimens the underside of hindwings is also sometimes green, but *anatolica* is larger and the pale spots on underside more distinct. — Besides there are the following names for slight variations in colour on underside of hindwings: *infraflava*, *infraochracea* and with *taurica.* darker dusting *infranigrans Vrty.* — **taurica** *B.-H.* (16 k) denotes large pale specimens in which the marginal band on hindwings is more pronounced in comparison with the pale basal area. Underside reddish yellow not greenish, without markings. Taurus. — Specimens from Askabad are even paler still, as the marginal band *tochrana.* between the veins is almost dissolved into separate spots. — **tochrana** *Brem.* according to the author, forms a transition to *subhyalina Brem. & Grey*; it is large, almost the same lively fulvous on upperside as typical, more heavily adumbrated at outer margin. The markings are also typical and not hyaline. Underside almost cinnamon brown with outstanding dark veins. Japan. — The following names are created by Tutt: *obscura*, for small dark specimens, spots small and distinct; *juncta* has underside of hindwings pale in the middle, as the pale spots are merged; *paupera*, ground colour and markings paler, inclined to be albinotic; *obsoleta*, dark to the blackish margin, spots more or less absent. The latter 3 are found in more northerly localities. — *opposita* has striking pale spots on upper and undersides; *clara*, very pale ground colour, nevertheless spots distinct. Margin of forewings narrowly black, wider on hindwings; *extensa* similarly, but the spots more or *chosensis.* less merged. — **chosensis** *Mats.* The single ♂ differs from *selas Wab.* by paler spots on upper and undersides and on underside of forewings by a black inner margin. The specimen differs from *amurensis Mab.* by this black inner margin which extends from the base of median nervure almost to the margin having also a black mark immediately below the cell. Corea.

buddha. **A. buddha** *Mab.* (Vol. 1, p. 348, pl. 88 b). — **flavomaculata**-♂ *Draes.* is a reverse form of *consors Leech* *flavo-maculata.* (pl. 88 b). In same the spots of the forewings are as yellow as is normally the case with those of the hindwings. Szechuan.

36. Genus: **Erynnis** *Schrck.*

comma. **E. comma** *L.* (Vol. 1, p. 348, pl. 88 c). — **apennina** *Rost.* (16 l) combines the characteristics of *clara* *apennina.* *Tutt* and *intermedia Tutt* on upperside, that is to say the dark marking is paler and much less extensive or absent. Underside approximately like *flava Tutt.* Hindwings and quadrate spots of same almost the same bright yellow colour. Described from the Apennines (Caserta) and also found on the Mti. Sibillini at the same time as *alpina Bath.* According to Verity the race is almost the same as *intermedia-flava Tutt*, so that the name *apennina* would seem to be superfluous. — Among *apennina*-♀ one finds specimens in which the *mixto-* white spots are large and with narrow black borders. This is rarer in the ♂: **mixto-apennina** *Rost.* — In *apennina.* the Apennines (Bolognola, 1200 m altitude) there is a second and very similar race. Upperside of ♂ with dark markings fairly considerably reduced and also underside of both ♂ and ♀ less dusky. The latter is the chief difference as against the north european typical *comma*, which otherwise the form resembles: *alpapen-* **alpapennina** *Vrty.* — **alpiumflava** *Vrty.* is also similar to *apennina*, but smaller, the ♀ darker on upperside, *nina.* underside of ♂ and ♀ more extensively and heavily scaled with black. Atzwang (S. Tyrol). The race *alpium-* occurs on warm barren places in the S. Tyrol, whilst in more moist localities for instance Klobenstein, *flava.* Cortina quite typical *comma* are found. — **galliaemeridiei** *Vrty.* In the ♂ the dark areas are paler and *galliae-* less extensive than in *apennina*, also the fulvous ground colour is paler in extreme specimens. Underside *meridiei.* of hindwings often yellow with scarcely a trace of green scales. This is scarcely different to *aurata Vrty.* where the ground colour is more reddish yellow. In the ♀ the dark patches are fairly thin, especially on underside where the colour has a whitish greenish sheen. Nimes and Gèdre. — A spanish race reminds one somewhat of *pallida Stgr.* it is rather redder in the ♂ and ♀, the white spots near the apex in the ♀ *hibera.* being very striking: **hibera** *Vrty.* from Albarracin and also from Portugal. — Also *alpina Bath* is subdivided. The typical race from the Wengernalp and Scheidegg is large, inclining to melanism in such a *superal-* way that the dark areas are more dusky and the orange yellow spots incline to be reduced. — **superalpina** *pina.* *Vrty.* comes between *alpina* and the following *atralpina* both in regard to size as well as in melanism. Underside of hindwings and apex of forewings is green, heavily dusted with black in both sexes. Upperside of ♀ heavily blackish, the fulvous patches at base and the yellow-white spots at apex reduced to

minute squares or dots. Bormio, 1200 m. — Higher up on the Stilfser Joch at an altitude of 2300 m and in Sulden (1800 m) we find **atralpina** *Vrty.*, small and extremely melanic. Even in the ♂ there are often only 2 fulvous streaks at base and a row of small dots, otherwise the entire forewings are black. Underside greenish black, only on forewing the otherwise fulvous patches considerably reduced and whitish. In the ♀ the pale spots on upperside whitish. On underside the black patches are scarcely suffused with green, the pale spots thereby being striking. — In the warm valleys of the West Alps the race is naturally larger and the dark patches neither so deep nor extensive and in the ♂ especially with diffuse borders. It is clear that from such a locality the specimens should more closely resemble *apennina* than *alpina*, for instance on underside by the paler yellow ground colour. Nevertheless they are always faintly dusted with black on underside in the ♀. The white spots in ♂ and ♀ are large. This is **macrocomma** *Vrty.*, typical from Susa, (1200 m) and Valdieri. — **orae** *Vrty.* is a large race similar to *alpina* but not quite so dark. The ♀ dusted with reddish black on upperside. The quadrate spots on underside of ♂ ochreous, on upperside of ♀ fulvous. In size they come between *apennina* and *alpina*. The green scaling on underside is not mixed with blackish. Spezia, Leghorn in moist and warm localities. — On the other hand not far from there in N. Tuscany on stony, dry ground we find a small race: **aurata** *Vrty.* In the ♂ the dark markings are not very extensive. The ♀ especially on underside of hindwings a brilliant yellow shade without any greenish hue. Typical of the Abetone Pass. — Now to the aberrations: **dupuyi** *Oberth.* has only 2 small apical spots on underside of forewings. The spots near the inner margin on the somewhat darker hindwing are absent. — **faunula** *Oberth.* corresponds to *sylvanus-faunus Trti.* (vide there). — **guernisaci** *Oberth.* has heavily adumbrated underside on hindwings. — **albescens** *Oberth.* has a paler ground colour on upperside, spots however are darker and in consequence indistinct. Underside of both wings pale reddish yellow. — Tutt has given the following names: *clara* for specimens with light fulvous ground colour, almost free of spots. — If besides the margin is more widely dark and the spots of both wings indicated, we have *intermedia*. — If ground colour is for the most part darkly suffused and only the spots fulvous: *suffusa*. — If the spots are yellow to whitish then we have *pallidipuncta*. — *extrema* is still darker, the spots of forewings very small, absent on hindwings. — If the yellow spots almost merge in the ground colour: *flava* (probably identical with *albescens Oberth.*). — *conflua* has the marginal spots on underside of hindwings partially conjoined forming a zigzag line. — In *juncta* there is a diffuse white spot merged with a yellowish nebula in the middle of underside of hindwings. — In *centripuncta* the hindwings are dark on underside only a small middle spot remaining light. Also on forewings the margin is widely dark.

atralpina. *macrocomma* *orae.* *aurata.* *dupuyi.* *faunula.* *guernisaci.* *albescens.*

A. pallida *Stgr.* (Vol. 1, p. 348) was described as a form of *comma*. Declared to be a separate species by Reverdin on account of a variation in the genitals. The typical form is limited to Sicily. — As a form of same we have **benuncas** *Oberth.* from Algiers. It is named thus on account of the similitude with the american *Er. uncas Edw.*, which however belongs to a completely different Genus, but which nevertheless is similar to *comma L.* The dark marginal band of forewings has a somewhat greenish sheen, the spots as in *comma*, not arranged as in *uncas*. Also on hindwings the margin is widely dark.

pallida. *benuncas.*

37. Genus: **Gegenes** *Hbn.*

G. nostrodamus *F.* (Vol. 1, p. 349, pl. 88 e). — **pygmaeus** *Cyr.* (16 l) is smaller (28—30 mm) and darker. Generally the spots of upperside of forewings are absent. Underside almost as dark as normal specimens are on upperside. Caserta, Algeria. Perhaps *lefebvrei Rmb.* from Sicily is identical with same.

nostrodamus *pygmaeus*

39. Genus: **Parnara** *Mr.*

P. guttatus *Brem.* (Vol. 1, p. 350, pl. 88 g, h). *ormuzd Gr.-Grsh.* presumably scarcely varies.

guttatus.

P. borbonica *Bsd.* (Vol. 13, p. 535, pl. 78 e). The typical race originates from Madagascar, the species is distributed over the whole of Africa. The only palaearctic form **holli** *Oberth.* is somewhat smaller. The white spots on forewings smaller. Scarcely deserving of a name. Algeria.

borbonica. *holli.*

P. pellucida *Murr.* (Vol. 1, pl. 88 a). Of this a form **sachalinensis** *Mats.* has been described. It occurs in S. Saghalin, in accordance with its northerly locality is small and dark. The white spots on forewings between median and discoidal nervures are both equally small.

pellucida. *sachalinensis.*

Alphabetical List

Index and reference of original descriptions of all palaearctic Hesperides mentioned in Supplement Vol. 1.

* signifies that the form is also illustrated at the place quoted.

accreta Hesp. *Vrty.* Entomol. Record 37, p. 55.
aegra Carch. *Vrty.* Entomol. Record 37, p. 42.
aestatis Carch. *Grav.* Entomol. Record 40, p. 77.
aestiva Carch. *Horm.* Verh. Zool.-Bot. Ges. Wien 1897, p. 164.
ahmed Hesp. *Oberth.* Ét. Lép. Comp. 6, p. 108. *
albana Hesp. *Heinr.* Deutsch. Ent. Ztschr. 1928, p. 187.
albata Hesp. *Rev.* Bull. Soc. Lep. Genève 2, p. 157. *
albens Hesp. *Vrty.* Entomol. Record 37, p. 56.
albescens Aug. *Oberth.* Ét. Lép. Comp. 4, p. 361. *
albescens Aug. *Tutt* Brit. Butterfl. 1, p. 157.
albiguttata Pam. *Christ.* Iris 6 (1893), p. 87.
albina Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 396. *
albistriga Hesp. *Mab.* Bull. Soc. Ent. Fr. 1876, p. 27.
albodetersa Hesp. *Vrty.* Trab. Mus. Cienc. Nat. Barcel. 11, p. 17.
alboradiata Hesp. *Bub.* Verh. Zool.-Bot. Ges. Wien 1926, p. 174.
albovelata Hesp. *Vrty.* Entomol. Record 31, p. 27.
alcoides Than. *Tutt* Brit. Butterfl. 1, p. 265.
alioides Hesp. *Vrty.* Entomol. Record 38, p. 103.
alpapennina Aug. *Vrty.* Entomol. Record 36, p. 107.
alpina Aug. *Hoffm.* Schmett. Steiermarks 1 (1914), p. 314.
alpina Hesp. *Tutt* Brit. Butterfl. 1, p. 225.
alpiumflava Aug. *Vrty.* Entomol. Record 36, p. 107.
alticola Hesp. *Rbl.* Berge's B'fly Book (IX), p. 84.
alveiformis Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 100.
ambigua Carch. *Vrty.* Entomol. Record 37, p. 44.
amenophis Hesp. *Rev.* Bull. Soc. Lép. Genève 3, p. 55. *
andalusica Hesp. *Tutt* Brit. Butterfl. 1, p. 226.
antiardeus Ad. *Oberth.* Ét. Lép. Comp. 4, p. 357. *
apennina Aug. *Rosi.* Bull. Soc. Zool. Ital. 12, p. 72.
aragonensis Hesp. *Sag.* Butll. Inst. Catal. (2) 4 (1924), p. 203.
ardens Ad. *Oberth.* Ét. Lép. Comp. 4, p. 356. *
armoricanus Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 404. *
atralpina Aug. *Vrty.* Entomol. Record 36, p. 107.
atrata Hesp. *Vrty.* Entomol. Record 37, p. 57.
atrolimbata Hesp. *Skata* Verh. Nat. Ver. Brünn 50, p. 136.
atrolimbata Pam. *Heinr.* Deutsch Ent. Ztschr. 1916, p. 509.
aurantia Pam. *Tutt* Brit. Butterfl. 1, p. 195.
aurata Aug. *Vrty.* Entomol. Record 36, p. 107.
australiformis Carch. *Vrty.* Entomol. Record 31, p. 27.
australior Carch. *Vrty.* Entomol. Record 31, p. 27.
australis Carch. *Z.* Isis 1847, p. 285.
australis Hesp. *Tutt* Brit. Butterfl. 1, p. 224.
australissima Carch. *Vrty.* Entomol. Record 37, p. 41.

balcanica Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 97. *
ballotae Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 404. *
bellieri Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 404. *
bellieriformis Hesp. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 141.
benuncas Aug. *Oberth.* Bull. Soc. Ent. Fr. 1912, p. 349.
bilineata Hesp. *Rev.* Bull. Soc. Lép. Genève 3, p. 37. *
bocki Hesp. *Oberth.* Ét. Lép. Comp. 6, p. 71. *
brunnea Ad. *Tutt* Brit. Butterfl. 1, p. 96.
brunnea-transversa Than. *Tutt* Brit. Butterfl. 1, p. 265.
brunnea-unicolor Than. *Tutt* Brit. Butterfl. 1, p. 265.
brunnea-variegata Than. *Tutt* Brit. Butterfl. 1, p. 265.
brunnea-alcoides Than. *Tutt* Brit. Butterfl. 1, p. 265.

cacaotica Hesp. *Vrty.* Trab. Mus. Cienc. Nat. Barcel. 11, p. 15.
caeca Hesp. *Trti. & Vrty.* Bull. Soc. Ent. Ital. 42, p. 264.
caecus Hesp. *Frr.* Neu. Beytr. 6, Tab. 493. *
caid Hesp. *te Cerf* Bull. Soc. Ent. Fr. 1923, p. 198.
carnea Hesp. *Rev.* Bull. Soc. Lép. Genève, 2 p. 52.
carneli Pam. *te Charles* Encyclop. Entomol. Sér. B, Lép. 2 p. 150. *
catella Pam. *Schtz.* Iris 15 (1901), p. 322.
centralanatolica Carch. *Pfeiff.* Mitt. Münch. Ent. Ges. 17, p. 45.
centralhispaniae Hesp. *Vrty.* Entomol. Record 37, p. 56.
centralitaliae Hesp. *Vrty.* Entomol. Record 32, p. 4.
centripuncta Aug. *Tutt* Brit. Butterfl. 1, p. 157.
chapmani Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 41. *
chinensis Sat. *Stgr.* Roman. Mém. Lép. 6, p. 215.
chlorotes Carch. *Dhl.* Entomol. Ztschr. 39 (1925), p. 82.
chosensis Aug. *Mats.* Insect. Matsumur. 3, p. 156.
cinarae Hesp. *Rmb.* Faun. Andalus. Tal. 8. *
circumcincta Pam. *Tutt* Britt. Butterfl. 1, p. 195.
clara Ad. *Tutt* Brit. Butterfl. 1, p. 96.
clara Aug. *Tutt* Brit. Butterfl. 1, p. 156.
clarus Than. *Car.* Iris 8, p. 61.
clorinda Hesp. *Warr.* Entomol. Record 39, p. 81.
coeca Hesp. cac. *Rev.* Bull. Soc. Lép. Genève 2, p. 153. *
coelestina Than. *Std.* Int. Ent. Ztschr. 8, p. 183.
conflua Aug. *Tutt* Brit. Butterfl. 1, p. 157.
confluens Pam. *Osth.* Schmett. Süd-Bayerns 1, p. 159.
conjuncta Pam. *Blach.* Bull. Soc. Lép. Genève 2, p. 57. *
conspersa Hesp. *Rev.* Bull. Soc. Lép. Genève 2, p. 152. *
contractus Lob. *Leech* Butt. China Corea und Japan 2, p. 560. *
coreana Het. *Mats.* Insect. Matsumur. 1, p. 169.
cribelloides Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 58. *

darwazica Hesp. *Gr.-Grsh.* Roman. Mém. Lép. 4, p. 501.
dayseni Sat. *Rit.* Entomologist 54, p. 181.
delavayi Hesp. *Oberth.* Ét. d'Ent. 15, p. 20. *
dilutior Hesp. *Rühl* Palacarct. Macrolep. 1, p. 661.
doii Pam. *Mats.* Insect. Matsumur. 2, p. 10.
dulcis Pam. *Oberth.* Ét. d'Ent. 20, p. 40. *
duosignata Hesp. *Kilian* Societ. Entomol. 1897, p. 11.
dupuyi Aug. *Oberth.* Ét. Lép. Comp. 4, p. 360.

enervata Hesp. *Vrty.* Bol. Lab. Zool. Portici 14, p. 42.
epitaras Sat. *Oberth.* Bull. Soc. Ent. Fr. 1907, p. 93.
erebus Than. *Gr.-Grsh.* Hor. Ent. Ross. 25, p. 461.
evanescens Pam. *Heinr.* Deutsch- Entom. Ztschr. 1916, p. 509.
excessa Pom. *Tutt* Brit. Butterfl. 1, p. 195.
extensa Aug. *Tutt* Brit. Butterfl. 1, p. 135.
extensa Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 133.
extensa Hesp. alv. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 122.
extensa Hesp. arm. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 110.
extensa Hesp. carl. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 105. *
extensa Hesp. cin. *Warr.* Entomol. Record 39, p. 82.
extensa Hesp. frit. *Warr.* Entomol. Record 39, p. 82.
extensa Hesp. serr. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 100. *
extrema Aug. *Tutt* Brit. Butterfl. 1, p. 156.
extrema Pam. *Diösz.* 1, Verh. Siebenbürg. Ver. Nat. 79/80* p. 218.

fabrenei Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 412. *
fasciata Hesp. *Tutt* Brit. Butterfl. 1, p. 123.
fasciata Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 48. *
fasciata Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 106.
fasciata Pam. *Schrdr.* Int. Ent. Ztschr. 11 (1917), p. 48.
fannula Aug. *Oberth.* Ét. d'Entom. 20, p. 38. *
fannus Aug. *Trti.* Natural. Sicil. 18, p. 15. *
felderi Sat. *Bttr.* Ann. Mag. Nat. Hist. 1881, p. 140.
fenestrata Hesp. *Sag.* Butll. Inst. Catalan. (2) 4 (1924), p. 204.
flava Aug. *Tutt* Brit. Butterfl. 1, p. 157.
flavostigma Tam. *Oberth.* Ann. Soc. Ent. Fr. 1908, p. 313. *
floccifera Carch. *Z.* Isis 1847, p. 286.
foulquieri Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 404. *
foulquieriformis Hesp. *Vrty.* Entomol. Record 32, p. 4.
fragilis Hesp. *Vrty.* Entomol. Record 37, p. 56.
frater Lob. *Oberth.* Ét. d'Ent. 15 (1891), p. 18. *
freija Hesp. *Warr.* Trans. Ent. Soc. Lond. 1924, p. 56.
freyi Pam. *Hellw.* Groß-Schmett. Nord-Tirols (1914), p. 70.
fritillans Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 393. *
fritillum Hesp. *Hbn.* Samml. Europ. Schmett. Tb. 464. *
fulva Carch. *Vrty.* Entomol. Record 37, p. 43.
fulvescens Carch. *Vrty.* Entomol. Record 37, p. 42.
fulvipinnulis Carch. *Vrty.* Entomol. Record 36, p. 106.
fulvissima Carch. *Vrty.* Entomol. Record 37, p. 43.
fulvocarens Carch. *Vrty.* Entomol. Record 37, p. 54.
fulvoinspersus Hesp. *Vrty.* Entomol. Record 31, p. 27.
fulvosaturata Hesp. *Vrty.* Entomol. Record 37, p. 54.
fulvotincta Hesp. *Vrty.* Entomol. Record 31, p. 27.

funginus Hesp. *Schitdc* Berl. Ent. Ztschr. 30, p. 48. *

galactites Hesp. *Rmb.* Cat. Lep. Andal., p. 68.
galliaemeridiei Aug. *Vrty.* Entomol. Record 36, p. 107.
gavarniensis Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 139. *
gener Lob. *Oberth.* Ét. d'Ent. 15, p. 18. *
gigas Hesp. proto *Vrty.* Entomol. Record 37, p. 55.
goto Cel. *Mab.* Ann. Soc. Ent. Belg. 27, p. LVI.
gracilis Hesp. *Vrty.* Entomol. Record 31, p. 28.
graeca Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 394. *
grisea Carch. *Vrty.* Entomol. Record 37, p. 42.
griseofulva Carch. *Vrty.* Entomol. Record 36, p. 106.
guadarramensis Hesp. *Warr.* Entomol. Record 37, p. 77.
guernisaci Aug. *Oberth.* Ét. d'Ent. 20, p. 38. *

habenerji Pam. *Sigl* Entomol. Ztschr. 35, p. 51.
hafneri Hesp. *Std.* Boll. Soc. Adriat. 25, p. 93.
hemmingii Ad. *Rom.* Entomol. Record 39, p. 127.
herrichi Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 410. *
hibera Aug. *Vrty.* Entomol. Record 36, p. 107.
holli Parn. *Oberth.* Ét. Lép. Comp. 4, p. 364.

iberica Ad. *Tutt* Brit. Butterfl. 1, p. 107.
iberica Hesp. *Gr.-Grsh.* Hor. Ent. Ross. 27, p. 384.
iliensis Hesp. *Rev.* Bull. Soc. Lép. Genève 2, p. 155. *
immaculata Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 70. *
incompleta Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 160.
infraflava Aug. *Vrty.* Boll. Lab. Zool. Portici 14, p. 45.
infranigrans Aug. *Vrty.* Boll. Lab. Zool. Portici 14, p. 45.
infraochracea Aug. *Vrty.* Boll. Lab. Zool. Portici 14, p. 45.
infraurata Hesp. *Vrty.* Trab. Mus. Cienc. Nat. Barcel. 11, p. 14.
insigniamiscens Hesp. *Vrty.* Trab. Mus. Cienc. Nat. Barcel. 11, p. 14.
intermedia Ad. *Tutt* Brit. Butterfl. 1, p. 96.
intermedia Aug. *Tutt.* Brit. Butterfl. 1, p. 156.
intermedia Hesp. *Schilde* Berl. Ent. Ztschr. 30, p. 55.
intermedia flava Aug. *Tutt* Brit. Butterfl. 1, p. 156.
internirufus Carch. *Rothsch.* Novit. Zoolog. 21, p. 311.
ioan Hesp. *Warr.* Trans. Ent. Soc. Lond. (1926), p. 42. *
isabellae Than. *Lamb.* Rev. Mens. Namur 1920, p. 19.
isshikii Pam. *Mats.* Journ. Coll. Agric. 15 (3), p. 107. *

juncta Aug. *Tutt* Brit. Butterfl. 1, p. 134.
juncta Aug. *Tutt* Brit. Butterfl. 1, p. 156.
jurassica Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 121. *

kansuensis Hesp. *Rev.* Horae Macrolep. 1, p. 54. *
kempnyi Hesp. *Schaw.* Ztschr. Oesterr. Ent. Ver. 4, p. 31.
khamensis Sat. *Atph.* Roman. Mém. Lép. 9, p. 115.
kuenlunus Hesp. *Gr.-Grsh.* Hor. Ent. Ross. 27, p. 129.

latealbata Hesp. *Vrty.* Entomol. Record 37, p. 56.
lategrisea Ad. *Vrty.* Boll. Lab. Zool. Portici 14, p. 43.
latenigra Ad. *Vrty.* Boll. Lab. Zool. Portici 14, p. 43.
latifascia Cel. *Mab. & Boul.* Bull. Soc. Ent. Fr. 1916, p. 244.
lineata Sat. *Mab. & Bout.* Bull. Soc. Ent. Fr. 1916, p. 244.
lineolata Hesp. *Rev.* Bull. Soc. Lép. Genève 2, p. 152. *
lucifera Cel. *Lcech.* Entomolog. 24, Suppl., p. 61.
luctuata Hesp. *Vrty.* Boll. Soc. Ent. Ital. 45, p. 233.
lutea Pam. *Tutt* Brit. Butterfl. 1, p. 195.
luteana Pam. *Cab.* Lambillionea 26, p. 10.
lycaonius Hesp. *Wgn.* Mitt. Münch. Ent. Ges. 19, p. 64.

macrocomma Aug. *Vrty.* Entomol. Record 36, p. 107.
macroproto Hesp. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 141.
macta Ad. *Vrty.* Entomol. Record 38, p. 104.
magnalveus Hesp. *Vrty.* Trab. Mus. Cienc. Barcel. 11, p. 12.
magnaustralis Carch. *Vrty.* Entomol. Record 36, p. 106.
major Ad. *Tutt* Brit. Butterfl. 1, p. 107.
major Hesp. *Rbl.* Berge's B'fly Book (IX), p. 83.
major-clara Ad. *Tutt* Brit. Butterfl. 1, p. 96.
marginoelongata Hesp. *Rev.* Bull. Soc. Lép. Genève 3, p. 37. *
marrubii Carch. *Rmb.* Faun. Andal. (ined.), p. 323.
mastorelli Hesp. *Sag.* Butllet. Institut. Catalan. (2) 5, p. 272.
melicertes Pam. *Schtz.* Iris 15 (1901), p. 321.
melotiformis Hesp. *Vrty.* Trab. Mus. Cienc. Nat. Barcel. 11, p. 7.
melotis Hesp. *Dup.* Hist. Nat. Lép. Suppl. 1, p. 257. *
microcarthami Hesp. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 140.
minima Than. *Lamb.* Cat. Pap. Belg. Add. p. 432.
minor Hesp. sao *Rbt.* Berge's B'fly Book (IX), p. 83.
minor Hesp. serr. *Oberth.* Ét. Lép. Comp. 4, p. 401. *
minuta Aug. *Vrty.* Boll. Lab. Zool. Portici 14, p. 44.
mixto-apennina Aug. *Rost.* Bull. Soc. Zool. Ital. (2) 12, p. 12.
modestior Hesp. *Vrty.* Trab. Mus. Ci. Nat. Barcel. 11, p. 7.
monbaigei Sat. *Oberth.* Ét. Lép. Comp. 18 (1), p. 76. *
moryi Hesp. *Strd.* Nyt. Mag. Naturv. 40, p. 163.
möschleri Hesp. *H.-Schäff.* Syst. Schmett. Eur. 6, p. 175. *
mülleri Hesp. *Diösz.* Verh. Siebenbürg. Ver. Nat. 79/80, p. 218.

neaccreta Hesp. *Vrty.* Trab. Mus. Cienc. Nat. Barcel. 11, p. 12.
nevadensis Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 384. *
nigra Hesp. *Hoffm.* Mitt. Ver. Steiermark 50, p. 317.
nigrita Hesp. *Vrty.* Entomol. Record 37, p. 54.
nigrocarens Hesp. *Vrty.* Entomol. Record 37, p. 72.
norwegica Aug. *Tutt* Brit. Butterfl. 1, p. 135.
nova Ad. *Rev.* Bull. Soc. Lép. Genève 3, p. 122. *
novissima Ad. *Trti.* Atti Zool. Soc. Ital. 60, p. 221. *
numida Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 404. *

oberthüri Carch. *Vrty.* Entomol. Record 31, p. 27.
obscura Ad. *Tutt* Brit. Butterfl. 1, p. 107.
obscura Aug. *Tutt* Brit. Butterfl. 1, p. 134.
obscura Het. *Skala* Verh. Nat. Ver. Brünn 50, p. 136.
obscurata Carch. *Vrty.* Entomol. Record 37, p. 44.
obsoleta Aug. *Tutt* Brit. Butterfl. 1, p. 134.
obsoleta Het. *Fritsch* Entomol. Rundsch. 29, p. 135.
occidentalis Hesp. serr. *Luc.* Bull. Soc. Ent. Fr. 1910, p. 62.
occidentalis Hesp. *Vrty.* Entomol. Record 31, p. 27.
occidua Hesp. *Vrty.* Entomol. Record 37, p. 76.
ochraeca Hesp. *Rev.* Bull. Soc. Lép. Genève 2, p. 153. *
octodurensis Carch. *Oberth.* Ét. Lép. Comp. 5 (1) p. 195. *
olivacea Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 409. *
onopordiiformis Hesp. *Vrty.* Entomol. Record 31, p. 27.
opposita Aug. *Tutt* Brit. Butterfl. 1, p. 134.
orae Aug. *Vrty.* Entomol. Record 36, p. 107.
orientalis Carch. *Rev.* Bull. Soc. Lép. Genève 2, p. 225. *
ormuzd Parn. *Gr.-Grsh.* Hor. Ent. Ross. 22, p. 307.
ouvrardi Sat. *Oberth.* Ét. Lép. Comp. 18 (1), p. 94. *

palidissima Hesp. *Vrty.* Entomol. Record 37, p. 73.
palidissima-fulva Hesp. *Vrty.* Entomol. Record. 37, p. 73.
pallida Ad. *Tutt* Brit. Butterfl. 1, p. 96.
pallida Ad. *Tutt* Brit. Butterfl. 1, p. 107.
pallida Aug. *Stgr.* Hor. Ent. Ross. 14, p. 275.
pallida-virens Ad. *Tutt* Brit. Butterfl. 1, p. 107.
pallidipuncta Aug. *Tutt* Brit. Butterfl. 1, p. 156.
pallidiscus Ad. *Strd.* Entom. Ztschr. 25 (1912), p. 258.
parafabressei Hesp. *Vrty.* Entomol. Record 37, p. 72.
parvula Hesp. *Vrty.* Entomol. Record 33, p. 772.
paupera Aug. *Tutt* Brit. Butterfl. 1, p. 134.
persius Hesp. *Schaw.* Ztsch. österr. Ent. Ver. 4, p. 31.
persica Hesp. *Rev.* Bull. Soc. Lép. Genève 2, p. 218. *
petheri Hesp. *Rom.* Entomol. Record 39, p. 127.
phantasos Het. *Stich.* Berl. Entom. Ztschr. 1900, p. 137. *
picena Hesp. *Vrty.* Entomol. Record 32, p. 4.
planorum Hesp. *Vrty.* Entomol. Record 37, p. 56.
pontica Hesp. *Rev.* Bull. Soc. Lép. Genève 4, p. 66. *
postgenita Hesp. *Vrty.* Entomol. Record 38, p. 104.
posticeprivata Than. *Std.* Mitt. Münch. Entom. Ges. 14, p. 66.
postorientalis Carch. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 140.
pracaustralis Carch. *Vrty.* Entomol. Record 36, p. 106.
prostanae Hesp. *Pfeiff.* Mitt. Münch. Ent. Ges. 17, p. 46.
pseudomalvae Hesp. *Vrty.* Boll. Soc. Ent. Ital. 44, p. 212.
pseudopalaemon Pam. *Fritsch* Entomol. Rundsch. 29, p. 135.
pseudotaras Hesp. *Lacr.* Bull. Soc. Lép. Genève 2, p. 44. *
pseudothaumas Ad. *Zerny* Eos 3 (1927), p. 342.
pygmaeus Geg. *Cyr.* Entomol. Nap., p. 51. *
pyrenaica Hesp. *Tutt* Brit. Butterfl. 1, p. 225.
pyrenaica Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 69. *
pyrencialpium Hesp. *Vrty.* Trab. Mus. Cienc. Barcel. 11, p. 14.

quercii Hesp. *Oberth.* Ét. Lép. Comp. 6, Tab. 143. *

radiata Het. *Kotis.* Verh. Zool.-Bot. Ges. Wien, 1905. p. 275.
ramses Carch. *Rev.* Bull. Soc. Lép. Genève 3, p. 33. *
reducta Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 63.
reducta Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 70. *
reducta Hesp. androm. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 54. *
reducta Hesp. cac. *Warr.* Entomol. Rec. 39, p. 82.
reducta Hesp. onop. Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 90. *
restricta Hesp. *Hoffm.* Mitt. Ver. Steiermark 50, p. 317.
restricta Hesp. *Hoffm.* Mitt. Ver. Steiermark 50, p. 319.

restrieta Hesp. *Tutt* Brit. Butterfl. 1, p. 224.
restrieta Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 76.
restrieta Pam. *Tutt* Brit. Butterfl. 1, p. 195.
reverdini Hesp. *Oberth.* Ét. Lép. Comp. 6, p. 72. *
reverdini Hesp. *Schaw.* Verh. Zool.-Botan. Ges. Wien 68, p. (23).
rostagnoi Carch. *Vrty.* Entomol. Record 31, p. 27.
rubea Hesp. *Sag.* Butll. Inst. Catalan. (2) 4 (1924), p. 204.
rubeseens Hesp. onopordi *Vrty.* Entomol. Record 37, p. 74.
rufeseens Carch. *Oberth.* Ét. Lép. Comp. 5, Taf. 64. *
rufieornis Cel. *Mab.* Ann. Soc. Ent. Belg. 21, p. 32.
rufosatura Hesp. *Vrty.* Entomol. Record 37, p. 73.
rühli Hesp. (Stgr.) *Mab.* Wytsm. Genera Insect. 176, p. 82.
ryffelensis Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 405. *

sachalinensis Parn. pell. *Mats.* Journ. Coll. Agr. Sapporo 15, p. 106.
scabellata Hesp. *Rev.* Bull. Soc. Lép. Genève 2, p. 153. *
seandinavieus Hesp. *Strd.* Arch. Math.-Nat. Christ. 25, p. 6.
sehansiensis Hesp. *Rev.* Bull. Soc. Lép. Genève 3, p. 109. *
seeunda Hesp. *Grav.* Entomol. Reocrd 40, p. 77.
semieolon Ad. *Stgr.* Iris 5 p. 282.
semieonfluens Hesp. *Rev.* Bull. Soc. Lép. Genève 2, p. 73. *
septentrionalis Aug. *Vrty.* Entomol. Record 31, p. 28.
serratuloides Hesp. *Heinr.* Deutsch. Ent. Ztschr. 1916, p. 509.
serratulaeformis Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 122.
sertorius Hesp. *Hoffmgg.* Illiger Magaz. 3 (1804), p. 203.
sieiliae Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 410. *
shikotanus Pam. *Nakah.* Ins. Insc. Menstr. 14, p. 51.
sibiriea Hesp. *Rev.* Bull. Soc. Lép. Genève 2, p. 78. *
sidaeformis Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 70.
sifanieus Hesp. *Gr.-Grsh.* Hor. Ent. Ross. 25, p. 450.
silvioides Pam. *Mütter* Verh. Zool.-Bot. Ges. Wien 70 (p. 52). *
speeiosa Hesp. *Vrty.* Entomol. Record 33, p. 172.
stauderi Carch. *Rev.* Bull. Soc. Lép. Genève 2, p. 225. *
standingeri Hesp. *Spr.* Stett. Entom. Zeitg. 1879, p. 344.
striata Hesp. *Vorbr.* B'flies of Switz. 1, p. 170.
striata Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 48.
struvei Hesp. *Pnglr.* Iris 28 (1914), p. 37. *
snbelarus Than. *Vrty.* Entomol. Record 33, p. 172.
subeonyzae Hesp. *Vrty.* Entomol. Record 37, p. 74.
subgraeilis Hesp. *Vrty.* Entomol. Record 33, p. 172.
subtus-brunnea Hesp. *Rev.* Bull. Soc. Lép. Genève 5, p. 46.
suffusa Ad. *Tutt* Brit. Butterfl. 1, p. 96.
suffusa Aug. *Tutt* Brit. Butterfl. 1, p. 156.
suffusa Hesp. *Strd.* Arch. Math.-Nat. Christ. 25, p. 6.
suffusa-aleoides Than. *Tutt* Brit. Butterfl. 1, p. 265.
suffusa-transversa Than. *Tutt* Brit. Butterfl. 1, p. 265.
suffusa-variegata Than. *Tutt* Brit. Butterfl. 1, p. 265.
suffusa-virenseens Ad. *Tutt* Brit. Butterfl. 1, p. 107.
sugitanii Sat. *Mats.* Insect. Matsumur. 3, p. 106. *
superalpina Aug. *Vrty.* Entomol. Record 36, p. 107.
suprabellieri Hesp. *Vrty.* Entomol. Record 32, p. 4.
swinhoei Carch. *Wats.* Proc. Zool. Soc. Lond. 1898, p. 68.
sylvanellus Aug. *Trti.* Atti Soc. Ital. 53 (1914), p. 603.
syriaea Ad. *Tutt* Brit. Butterfl. 1, p. 107.

tauriea Aug. *Rev.* Bull. Soc. Lép. Genève 3, p. 103.
taurieus Carch. *Rev.* Bull. Soc. Lép. Genève 3, p. 103. *
tersior Hesp. *Vrty.* Entomol. Record 37, p. 74.
tersissima Hesp. *Vrty.* Entomol. Record 37, p. 74.
tesselloides Hesp. *H.-Schäff.* Syst. Schmett. Eur. 6, p. 36.
tesselloides Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 160.
therapnoides Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 385. *
thibetana Aerom. *Aust.* Naturaliste 1900, p. 48.
thomanni Hesp. *Rev.* Bull. Soc. Lép. Genève 5, p. 175. *
toehrana Aug. (Brem.) *Rühl* Macrolep. 1, p. 643.
transversa Than. *Tutt* Brit. Butterfl. 1, p. 265.
trebevieensis Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 121.
tripolina Carch. *Vrty.* Entomol. Record 37, p. 54.
tutti Hesp. *Vrty.* Entomol. Record 31, p. 28.

unieolor Than. *Frr.* Neu. Beytr. 6, Taf. 505. *
uralensis Hesp. *Warr.* Trans. Ent. Soc. Lond. 1926, p. 98. *

valentini Sat. *Oberth.* Et. Lép. Comp. 18 (1), p. 75. *
valesiaea Hesp. *Mab.* Bull. Soc. Ent. Fr. 1876, p. 214.
valesiaea Hesp. *Rühl* Palaearct. Groß-Schmett., p. 671.
vallesina Hesp. *Mab.* Seitz Macrolep. 1, p. 338.
variegata Than. *Tutt.* Brit. Butterfl. 1, p. 265.
venusta Hesp. *Vrty.* Entomol. Record 37, p. 73.
virideseens Carch. *Vrty.* Entomol. Record 37, p. 43.
vittalus Hesp. *Oberth.* Ét. Lép. Comp. 4, p. 383. *

warrenensis Hesp. *Vrty.* Bull. Soc. Ent. Fr. 1928, p. 140.

yunnana Hesp. *Oberth.* Ét. Lép. Comp. 6, p. 137. *

zagrabiensis Hesp. *Grund* Entom. Ztschr. 17, p. 77.

Addenda to Supplementary Vol. I.

The incessant exploration of new regions and present day more thorough research in regard to already well known species, lead to constant new denominations. Therefore since the inception of the 1st chapter of this supplementary Volume a large number of forms have again been named. In addition to these we are giving simultaneously a few new descriptions of forms, that have been discovered in the widely scattered literature of the world.

Addenda to the Family of Papilionidae.

Genus: **Papilio** *L.*

P. machaon L. (Suppl. Vol. 1, p. 9). Pionneau describes small forms from the Gironde, which otherwise do not differ from the name type, as **minor.** These occur everywhere when breeding large quantities, but are only rarely caught in nature. *minor.*

P. hospiton Gen. (Suppl. Vol. 1, p. 10). ab. **rufopunctata** *Mezg.* is an individual ♀ form with orange-red submarginal spots. From Sardinia. *rufopunctata.*

P. xuthus L. (Suppl. Vol. 1, p. 11). The form described as ab. **rufopunctata** *Pionn.* belonging to *xuthulus Brem.* will probably be found to be identical with *rubrolunulata Closs.* It has orange-red submarginal spots on hindwings. *rufopunctata.*

C. podalirius L. (Suppl. Vol. 1, p. 13). The form **aleramica** *Rocci* from Liguria is characterised by bands 4 and 6, counting from base, being interspersed with yellow. The form **pseudopersica** *Rocci* from the Riviera has longer tails and wider deep black bands. It is very large, as also is the previous form and is of the summer generation. Very small specimens are named *minor Pionn.* *aleramica.* *pseudopersica.*

P. sarpedon L. (Suppl. Vol. 1, p. 15). ♂ ab. **hirayamae** *Mats.* from Komada (Tokyo) has very truncate forewings, the median row of spots is very wide towards the inner margin and the tails of hindwings are much longer and narrower than name type form. *hirayamae.*

Genus: **Thais** *F.*

Th. polyxena Schiff. (Suppl. Vol. 1, p. 18). — f. **aemiliae** *Rocci* from Modena shows a combination of the characteristics of *cassandra Hbn.* and *latevittata Vrty.* It is very large and all markings are very deep black and extensive. The anal angle and base of wings are particularly characteristic by their deep black, also the discal spot is unicoloured black, in contrast to *latevittata.* — **padana** *Rocci* from around Turin in March and April, is still smaller and more delicate than *cassandra Hbn.* and with the smallness of the butterfly the more or less diffuse spots, which are characteristic, make a very melanic impression. *aemiliae.* *padana.*

Genus: **Doritis** *F.*

D. apollinus Hbst. (Suppl. Vol. 1, p. 20). — ab. **minor** *Pionn.* denotes small specimens with wing expanse of abt. 38 mm. Except for the small size they correspond exactly to name type form and they do not in any way resemble *apollinaris Stgr.* (Vol. 1, p. 19, pl. 10 d) which is also very small. *minor.*

Genus: **Parnassius** *Latr.*

P. mnemosyne L. (Suppl. Vol. 1, p. 20—33). The subsp. *hungaricus Rothsch.* (p. 24) is further subdivided and is now limited to specimens solely from Herculesbad and surroundings. In Transylvania, which
distincta. Rothschild also mentioned as the home of his *hungaricus*, there are 2 further distinct races: subsp. **distincta** *Bryk & Eisn.* from the neighbourhood of Kronstadt, the Cibin mountains, Komitat Klein-Kokal, Mount Butshatsh near Hermannstadt, is smaller than *hungaricus*, the cell spots bolder, the middle cell spot attached and suspended on top, diffusing below. The ♂♂ throughout belong to the *desintacta* type, the ♀♀ are gynaicotropic and often with ground colour of wings dusted with black. Anal spots conjoined with spot
bischoffi. at close of cell. — The other race **bischoffi** *Bryk & Eisn.* is a melanic high altitude form from the Rodna Mountains and is in relationship to *distincta*, as *P. apollo-transsylvanicus Schweitz.* is to *carpathicus Rbl. & Rogh.* The ♂♂ are similar to those of previous race, the hyaline band however is longer and it is of *arcuata* formation, especially in ♀. The ♀♀ with yellowish ground colour to wings, very melahyaline, costal and discal
dioszeghyi. spots very opaque, reminding one of *tubulus Fruhst.* — subsp. **dioszeghyi** *Bryk* (= transsylvanica *Diösz.*) occurs on the Retyezat Mountains at up to 1700 m altitude and comes between *hartmanni Stdf.* and *melaina Honr.* It is larger than the former and more heavily marked, base of forewings with dark dusting. In the ♀ the black spots in the disc are very large and often suspended. Hyaline margin as in *hartmanni*. At close of cell a heavily curved, often contiguous small band. Margin of hindwings dusted blackish, projecting in dentations between the cellules into the light ground colour. The "S" shaped transverse band generally contiguous, extending to costa, always wide and dark, occasionally interrupted in cellule 2. The ♂♂ heavily marked, middle cell spots of forewings large, inclined to *halteres* formation. — subsp. *perkele Bryk*
radiomarginata. (p. 30) f. **radiomarginata** *Bryk & Eisn.* is characterised by the intramarginal band, which extends in ray formation over the usually hyaline marginal band between the veins to the margin, so that in place of the small lunules there is a row of wide white cuneiform marks towards outer margin. From Nagu in Finland. — subsp.
gallicus. **gallicus** *Bryk & Eisn.* from Bonnéval-sur-Arc in Savoy is also a high altitude race coming close to *excelsa Vrty.* from Mt. Cenis and *pyrenaiana Bryk*. Both sexes are richly marked, being smaller than the surrounding races in S. France. The cell spots heavily black. The *lunulata* band occasionally occurs in the ♂, but not to such an extent as in specimens from S. France. ab. *antiquincunx Bryk* was observed in one ♂ and
sulmonensis. actually an extreme form. — **sulmonensis** *Dhl.* from Monte Paradiso, Montagna Granda and the Majella belongs to the smaller races of only 45—50 mm expanse and strikingly thinly scaled. The spots are smaller than in the surrounding races; the cell spot of hindwings is almost always absent or at the best represented by a faint streak. The hyaline margin reaches at the best only to the upper median nervure. Also in ♀ the black is generally pale, sometimes appearing only as if densely dusted on. Costal mark on hindwings only
velinensis. very rarely occurs in this race. — **velinensis** *Dhl.* from the Velino and Sirente region in Mid-Italy occurs at an altitude of 1400—2000 m and is abt the size of the fairly large *aquilensis Trti.* It is more boldly marked with black than the former. Costal marks of forewings and cell spots of hindwings are always large. Hyaline margin extends to subcostal in the ♂ and to the upper median nervure in the ♀. In *aquilensis* it usually extends to hindmargin. Costal spot generally widely diffuse, in the ♀ it very often forms a bar as
balcanica. far as cell spot. — subsp. **balcanica** *Bryk & Eisn.* from Shar-Dagh, Kakanik in Serbia, near to the Albanian frontier is larger than the closely related *leonhardiana Fruhst.* from Bosnia and other neighbouring Balkan races. The ♂ is remarkably light, whilst the ♀ is darkly adumbrated and hyaline. In the ♂ the *intacta* form, combined with *benanderi* markings is predominant. In specimens, which exceptionally are *desintact.* the end cell spot of hindwings is not attached. In the ♀ the whitish yellow ground colour predominates. Hindmarginal spot is generally present on forewings; between the two cell spots of forewings there is an appression of hyaline scales, so that the two spots seem to have a white halo. Anal spots and discal spots generally not conjoined; costal spot of hindwings only weakly developed. Hyaline band of ♂ generally shorter than in surrounding races, whilst in the ♀ it is strikingly wide, extending to hindmargin.

diabolicus. *P. stubbendorfi Mén.* (Suppl. Vol. 1, p. 33—35). — subsp. **diabolicus** *Bryk & Eisn.* from Maoreshan and Gaolindsy, between the stations of Progranitshnaja and Harbin on the eastern chinese railway, caught in June, is a striking race with characteristics of *melaina* to *umbratilis*. Among a large series of both sexes
inversa. only 5 specimens were found with light ground colour and these are named ab. **inversa** *Bryk & Eisn.* The ♂♂ are exceedingly variable, generally more richly marked than *siegfriedi Bryk*, which is characterised by the absence of the middle cell spot. Among the ♂♂ are some with exceedingly luxuriant marking, reminding one of *citrinarius Motsch.* (Vol. 1, pl. 11 a) by the ring-shaped combination of the two cell spots. Both sexes
baeckeri. are smaller in size than *siegfriedi Bryk* (pl. 4 b) from Taipinglin. — **baeckeri** *Kotzsch* from Kansu, Lhasa, 45 km N.W. of Seening and Nyamen, occurs in July at an altitude of 2700 m. The ♂ expands 52 mm, the ♀ 50 mm, thus the race is smaller than *jeholi O. B.-H.* (p. 34). In general both sexes are marked the same. Ground colour more yellowish than most other races of name type form. Hyaline margin almost absent, scarcely perceptible, the dark antemarginal band reduced to a few conglomerations of scales, disc of forewings
interrupta. without any markings. — ♀ ab. **interrupta** *Bryk & Eisn.* belongs to subsp. **funkei** *O. B.-H.* (p. 33) from the
funkei,

colleetion of Stoetzner. In this ♀ the upper part of the submarginal band is absent which otherwise forms a coherent band eommeneing at costa. Here it is only perceptible from the second median to the second cubital nervures. — Belonging to the raee *koreana Vrty.* (p. 34) we have ab. **crataegi** *Bryk & Eisn.* newly deseribed. Oecasionally in the ♀ of this form the middle eell spot is absent which otherwise always occurs in the race. Thereby it very elosely resembles *Ap. crataegi L.* from Nikolsk-Ussurisk and N. Corea in appearance. Also belonging to *koreana* there is ♀-ab. **decorata** *Eisn.* from Tjutiché having a distinct and prominent anal band between the first and seeond eubitalis. — The ♂-ab. **fermina** *Bryk & Eisn.* occuring among the already poorly marked *hoenei race* (p. 35) differs owing to the hindwings bearing the ♀ marks. The black dusting not only eneireles the middle eell but projects prominently along the edge of samc forming a small band-like costal spot. From Iburi in Japan. *crataegi.* *decorata.* *fermina.*

P. felderi Brem. (Suppl. Vol. 1, p. 36). — **innae** *Kotschubej* from Kuldur in the Bureja Mountains in the Amur territory, is somewhat smaller than name type form. The ♂♂ of 52—62 mm, ♀♀ of 56—60 mm expanse. Besides the small size they differ by the heavier dark markings, espeeially in the ♂. The hyaline margin of forewings as well as the dark submarginal band are more heavily developed and wider. The diseal band is often precisely as in ab. *herrichi Bryk* and oeeasionally so very wide that it ineludes the discal spots. Also the latter are larger and more prominent. The variation of the oeelli in the hindwings, as in *felderi*, is great, in some ♂♂ a band of cone-shaped marks oeeurs sueh as are regularly seen in *P. eversmanni*, but which are not otherwise observed in *felderi*. *innae.*

P. delius Esp. (Suppl. Vol. 1, p. 39—42). — *styriacus Fruhst.* (p. 40) ab. **huemeri** *Pagenst.* are ♀♀ with contrasting markings but very dusky and when with light ground eolour, very striking. The hyaline band is very wide, blaekish, the *lunulata* band narrow. Black submarginal band very wide, extending over into the very dusky dise. Hindmarginal spot roundish, blaek; the upper costal spot red, the lower one blackish and diffuse. Base of hindwings deep black extending in and around the lower edge of the discal cell. Outer margin widely blackish; anal spots only indicated by blackish dusting; ocelli very large filled with deep red and widely eircumscribed by blaek. Markings on underside of forewings diffuse, oeelli of hindwings with heavy white pupils; the upper anal spot red. The black abdomen has white hairs. — ab. **pseudonomionoides** *Pagenst.* has both costal spots with a few red scales dispersed therein and in the ♀ the hindmarginal spot of forewings similarly has red scales. — subsp. **ochotskensis** *Bryk & Eisn.* Hitherto *corybas Fisch.-Wald.* (Vol. 1, 11 e ♂, 13 d ♀) was the most northerly known representative of *delius phoebus F.* Now both these authors introduce a new raee from the neighbourhood of Oehotsk (60 ° northern latitude) which in spite of this geographically very interesting loeality, bears no other charaeteristie features. The ♂ in general appearance resembles the siberian races but has larger oeelli and a remarkably long marginal band for *phoebus*. Of the ♀♀ before me the one inelines through its considerable adumbration to the siberian races, the other is smaller and with relatively large ocelli, more to *corybas*. *huemeri.* *pseudonomionoides.* *ochotskensis.*

P. apollo L. (Suppl. Vol. 42—71).

P. 44, line 25 from bottom instead of ab. *pupillata Bryk* read **bipupillata.** *bipupillata.*

P. 44, line 21 from bottom instead of ab. *elongata Std.* read **perlongata.** *perlongata.*

subsp. *melliculus Stich.* (Vol. 1, p. 24). — ab. **ampliusdecora** *Eisn.* is a ♀ from Staffelstein with the red centred *ampliusmaculata* spot analogous to the same form of *eversmanni Mén.* (p. 36). — Belonging to subsp. *bartholomaeus Stich.* (Vol. 1, p. 25) we have: ab. **monstrosa** *Hofm.* an aberration of the nervures combining ab. *latreillei Bryk, verityi Bryk, seitzi Bryk* and median 3 peroneur on both wings. — ab. **paradoxa** *Hofm.* is a pathologieal ♂ with nervures almost extinet on all wings. Both these forms had far better remain unnamed. — ab. **complexa** *Eisn.* occurring among *suevicus Pagenst.* at Blaubeuren is a ♂ having the inner eell spot displaced outwardly so that the inner edge lies between cubitalis 1 and radialis 2. A large blaek spot is ereated hereby owing to confluenee with the end eell spot. — *valesiacus Fruhst.* (p. 63) ab. **praetexta** *Gelpke* is a small ♀ from the Lötschental having the entire basal area on upperside of hindwings filled with red similarly to the underside. — The raee **oulxensis** *Vrty.* occurs at the end of June to August on the hot dry roeky mountains around Oulx and is completely different from *valderiensis Vrty.* (p. 65). It inelines to resemble *valesiacus Fruhst.* (p. 63) and *caloriferus Fruhst.* (p. 64), but it is smaller and less strikingly marked; the ocelli are reduced, more weakly circumscribed by blaek and more faintly pupilled with white. — *finmarchicus Rothsch.* (p. 47). ab. **krogerusi** *Bryk* (= krogeri *Bryk*) is an extremely melanic ♂ from Lojo in S. Finland. It gives one a dusky brownish impression on upperside with deep blaek markings from whieh the deep earmine red eyespots with their small pupils stand out prominently. The outer part beyond the two submarginal bands is normal and thereby this new form is easily separable from *satanas Shelj.* Underside varies little from typical specimens. — subsp. **eubohemicus** *Bryk & Eisn.* from Libin near Praehatitz in S. Bohemia shows in the ♂ a relationship to *albus Rbl.* and in the ♀ to *brittingeri Rbl. & Rog.* In eontrast to the ♂♂ of *albus* the submarginal band extends to the 2nd cubitalis and leaves between the hyaline margin, a wider band of the ground eolour. Hyaline margin is approximately as long as in *albus*. Costal spots are more prominent and oceasionally eonjoined. In the ♀ the band of ground eolour is distinetly retained and the subeostal band always extends to the 3rd median nervure. Ground eolour is white *amplius-decora.* *monstrosa.* *paradoxa.* *complexa.* *praetexta.* *oulxensis.* *krogerusi.* *eubohemicus.*

with faint dusting. Black dusting at base extends round the cell as in *brittingeri*. Ocelli always with white pupils. In point of size the new race corresponds to *brittingeri*. The following individual forms were observed: 1 ♀ of the f. **amplius-maculuta** *Vrty.* + **decora** *Stich.* and 1 ♀ f. **margine-pupillata** *Bryk.* — subsp. **macedonicus** *Ros.* (6 e) is a form with very large ocelli and closely resembles *omotiomoius Fruhst.* (p. 55) from Vitosh near Sofia and *rhodopensis Mark.* (p. 55) from the Rilo-Dagh. It occurs on the Kobelija and Shar-dagh in N.W. Macedonia and on the Mala Rupa in S. Macedonia between Gjeogzeli and Monastir at an altitude of about 1600 m. Especially the ♀♀ are easily separable from *omotiomoius Fruhst.* by their richer markings. Thereby they resemble *rhodopensis Mark.* which however, is entirely distinct. — **vicinus** *Belling* from the Pitz Valley expands in ♂ 64—70 mm and in ♀ 70—74 mm. Forewings of both sexes are somewhat elongated, margin of ♂ nicely rounded, of ♀ straighter. The ♂ is fairly densely scaled with white, in places rather coarsely so. Hyaline margin about 4 mm wide and well separated from the bold submarginal band and extending to the hindmargin. End cell spot elongated to a point upwards and downwards. Middle cell spot large touching both nervures of the cell. Costal spots medium. Hindmarginal spot large, round and boldly black, costa and base dusted with black. Basal dusting of hindwing is heavy, extending half way through the cell. Both anal spots conjoined, margin dusted with blackish, especially on the nervules, a submarginal band of cone-shaped marks distinct. Ocelli carmine red with white pupils and widely surrounded by black. The ♀ is still more distinctly marked than the ♂. Upperside adumbrated and with a 5—6 mm wide hyaline margin. — **comes** *Belling* from the Puster Valley is very close to *ladinus Belling* (p. 61) from the Grödener and Enneberger Valleys and the variations seem scarcely sufficient to justify the naming as a race. — **andreashoferi** *Belling & Bryk* from the Passeier Valley, excepting the part near Meran where *bellarius Fruhst.* (p. 59) occurs, does not seem to justify a name and is based on insufficient material, possibly individual variations. — **rivalis** *Belling* occurs along the road leading from Auer (16 km south of Bolzano) over Fontana fredde, 950 m, and over the Lugano Pass, 1000 m, to Cavalese, 993 m, on the Avisio. This will differ little from *laurinus Belling* (p. 61) or the neighbouring valley forms, at all events not according to the description. I have therefore given the exact locality to enable one to ascertain the race. — **marmorarius** *Belling* from the Martell Valley in the S. Tyrol resembles *stelviana Dhl.* (p. 62) which is said to be larger and more densely and coarsely scaled. All these races will require to be thoroughly checked over by means of extensive material captured from a series of years. A few single specimens are really not sufficient in order to establish a new race for each valley and village. — subsp. **tauricus** *Bryk & Eisn.* originates from the Pisidish and Pamphylish Taurus in Asia Minor. The forewings of ♂♂ are 40 to 52 mm long and those of ♀♀ 40—50 mm. The ♂♂ are densely scaled with white, hyaline band narrow, generally not extending as far as 2nd cubitalis. Submarginal band varyingly long, narrow, dissolved into single arcs, subcostal spots separated, the lower one inclined to appear like a hook, bold, similarly roundish hindmarginal spot and 2 anal spots. The hyaline margin of ♀ is wider and extends to hindmargin where it combines with the diffuse submarginal band. Forewings faintly dusted over with black. In half of the ♀♀ before me the costal spots merge forming a small band. The following aberrations were observed: ♂-ab. *dentata* similar to *levantinus Rothsch.* and 1-♀ ab. *decora Stich.* End cell spot in both sexes generally shows the *antiquincunx Bryk* condition, discal spot is oblong. The ocelli of both sexes generally medium large and with white pupils, sometimes however the costal ocellus occurs with red centre. — The following hybrids have been obtained by breeding experiments: — hybr. **hofmanni** *Riemel* = *P. apollo* ♂ × *P. delius* ♀. The ♂ of brilliant pure white ground colour, antennae generally black and white ringed, sometimes appearing in the *apollo* form, sometimes *delius*. Wing contour either more like the male, or else the female parent. Markings very variable. In ♀ the *apollo* colouration on forewings is predominant, on hindwings *delius* markings and colouring. Here also markings and colouring are exceedingly variable. — hybr. **riemeli** *Frank* = *P. delius Esp.* ♂ × *P. apollo L.* ♀. The ♂ with extended *delius*-like wing contour, pure white ground colour with nervures dusted with black up to outer margin. Hyaline margin and submarginal band shortened, faintly dusted with black, reminding one of *delius*. Hindmarginal spot small, costal spots large, black and generally with small red pupils on upper and undersides. The size of ocelli half-way between *apollo* and *delius*, faintly pupilled with white. Hyaline margin absent, also submarginal band only faintly indicated. Cubital spot almost always absent; anal spots of comma shape. Antennae throughout with black and white rings, the shape sometimes like *delius*, sometimes like *apollo*. In ♀ the wing contour is not so pronouncedly like *delius* as in ♂, sometimes showing the *apollo* contour. Marginal and submarginal bands boldly developed, black markings as in *delius*, in some cases the costal spots with red centres. Hindwings quite of *delius* character, antennae as in ♂. — hybr. **geminosibiricus** *Riem.* = *P. apollo-sibiricus Nordm.* ♀ × *P. apollo-geminus Stich.* ♂. The ♂ is not quite as large as *sibiricus*, being only of the size of the bavarian mountain races, otherwise however it quite has the appearance of *sibiricus*. Ground colour white with narrow hyaline margin and similar submarginal band on forewings. On hindwings the hyaline and submarginal are only indicated, ocelli medium size. The ♀♀ of very dusky yellowish ground colour with black dusting. Black spot marking large. Hyaline margin and submarginal almost confluent. Ocelli large, fiery red with wide black surrounds. Hindwings with bold hyaline margin and similar submarginal band. Cubital and anal spots bold. The hybrid inclines very much towards *geminus* ♀. Expanse 76—79 mm. — hybr. **franki** *Riem.* = *P.*

amplius-maculata. *decora.* *margine-pupillata.* *macedonicus.* *vicinus.* *comes.* *andreashoferi.* *rivalis.* *marmorarius.* *tauricus.* *hofmanni.* *riemeli.* *geminosibiricus.* *franki.*

apollo-artonius Fruhst. ♂ × *P. apollo-pumilus Stich.* ♀. The result of this crossbreed shows *pumilus*-like characteristics, only a few specimens incline towards *artonius Fruhst.* ♂♂ expand 60—64 mm, ♀♀ 61—74 mm. Ground colour of ♂ yellowish with narrow and short hyaline margin and submarginal bands, less bold than in *pumilus*. Black marking normal. Ocelli small, dull red, narrowly edged with black. All with white pupils. Hyaline margin on hindwings generally absent, submarginal faintly developed on top and boldly below. Anal spots small. Basal dusting more heavy than in *pumilus*. The ♀ similarly yellowish with black dusted disc on forewings. Hyaline margin and submarginal wide and dark extending to hindmargin and separated by a band of white spots. Black markings bold. On hindwings the hyaline margin is always present and the undulate submarginal band is wide and bold. The dark red ocelli are small with white pupils and heavily surrounded with black. Basal dusting heavy. Anal spots smaller than in *apollo*. On underside both sexes quite resemble *pumilus Stich.*

P. davidis Oberth. (Vol. 1, p. 26). — **alburnus** *Stich.* (4 d) from the Pamir is strikingly different from *honrathi Stgr.* (Vol. 1, 13 d) by the purer white ground colour. Fringes of both wings are black and white checked. Antennae, legs and underside of body are black. *alburnus.*

P. nomion Fisch.-Wald. (Suppl. Vol. 1, p. 71—73). — subsp. *chosensis Mats.* (p. 72) ab. **flavoocellata** *Eisn.* is a ♀ from Seishin in N. Corea with deep yellow ocelli. Hitherto the occurrence of yellow ocelli in *nomion* was unknown. — subsp. *richthofeni O. B.-H.* f. **subcostatulipicta** *Bryk & Eisn.* has the 4th costal spot with red centre analogous to *jambicus Bryk* (p. 74), however in contrast to same the spots are not individually circumscribed by black but the red colour merges forming a continous band. *flavoocellata.* *subcostatulipicta.*

P. discobulus Alph. (Suppl. Vol. 1, p. 73). — ab. **nigricans** *Ros.* (4 e) is a very dusky individual form from Issyk-kul in the Tian-Shan. *nigricans.*

P. epaphus Oberth. (Suppl. Vol. 1, p. 75—76). Eisner mentions in regard to *abruptus O. B.-H.* (p. 76) that the ♀ has eyespots with a more beautiful red and it is more darkly scaled in contrast to the ♂. Expanse 57—58 mm.

P. hardwickii Gray (Suppl. Vol. 1, p. 76). — f. **inpicta** *Bryk & Eisn.* is the name given to such specimens of *hardwickii* having the costal spots 1—3 and hindmarginal spot of forewings completely black in contrast to the usual heavy red spot marking in the ♂ sex. *inpicta.*

P. orleans Oberth. (Suppl. Vol. 1, p. 76—77). — subsp. **dictator** *Mt. Her.* differs from *groumi Oberth.* (Vol. 1, 16 b) chiefly in that the hindwings no longer have such pronounced lunules as a submarginal band. This is more uniform and wider especially from the second median towards the inner margin. The black hyaline margin of forewings is not so heavily indented by the pale lunule spots before same on the inner side as in specimens from Amdo, and it is almost straight edged. All specimens have the black discal spots of the cell wider than the following light spot, which in *groumi* on the other hand is of the same size or narrower. The red ocelli of hindwings only faintly pupilled with white. From Kuku-Noor. — subsp. **consul** *Mt. Her.* from the S. Dahtung Mountains in the Nanshan range approaches the Amdo race in spite of the wide geographical separation. It is most easily distinguished thereby that the black submarginal band on the hindwings is formed of indicated crescents, but these crescents are thicker and coarser and not so sharply outlined. Besides this the blue submarginal ocellus is almost always equidistant from outer margin and the surround of the lower red ocellus; even if it is considerably reduced, it is nevertheless distinctly visible on the underside. The red ocelli are generally with heavier white pupils than the surrounding races. The black central spot of forewings is almost as wide as the following light spot, but it is always more faintly developed than in *dictator*. The black marginal hyaline band of forewings is not so smooth on the inner side as in *dictator*, but it is nevertheless less dentate than in *groumi*. The sub-basal spot below the cell generally scarcely exceeds the one in the cell. *consul* is most easily differentiated from *groumi* by the wider and diffuse submarginal band and the less well developed crescents. It is separable from *dictator* by the position of the blue submarginal ocellus which is above the third median halfway between the central ocellus and outer margin, further by the more heavily dentate inner side of the black hyaline band of the forewings. *dictator.* *consul.*

P. stenosemus Honr. (Vol. 1, p. 33, pl. 16 b). — subsp. **divinus** *Bryk & Eisn.* Both authors consider themselves justified also to separate *stenosemus* as a distinct species, analogous to *stoliczkanus Fldr.* (Suppl. Vol. 1, p. 49) in relationship to *delphius Ev.* They establish the above subspecies from a ♀ captured in August 1930 at Rupshu, between Hanle and Chumar. This closely resembles *stenosemus* but differs nevertheless from Verity's illustration and description. The ground colour of wings is densely scaled with white (in *stenosemus* according to Verity's illustration it is yellowish white), bands and spot markings deep black (according to Verity grey), costal ocellus black, median ocellus blood-red, with wide black ringlet. Only one small and black anal spot. Marginal ocelli larger and with more distinct blue patches than in *stenosemus*. Marginal band of hindwings reduced to a very narrow border. The black markings of the base and especially in the cell still more reduced than in *stenosemus*. *divinus.*

martini-heringi. *P. simo Gray* (Suppl. Vol. 1, p. 81—82). — subsp. **martini-heringi** *Bryk & Eisn.* belongs to the group of *simo* races without the bright colour in the ocelli. The middle cell spot of forewings is considerably reduced as in *P. mnemosyne L.* and is unattached in the cell. The intermediate spot marking which in the other races connects the anal spots with the median ocellus is generally absent here or only faintly indicated. Ground colour of wings more thinly scaled and thereby more transparent. The black dusting of hindmargin of hindwings more extensive, similarly but more intensively than in *holbecki Av.* (5 c). Ocelli considerably reduced, the median ocellus being sometimes only indicated by a black dot. The more or less bold black dusting of the ground colour submerges the markings of the bands. Between the two cell spots of the forewings there is a slight dark interspersion of dots and on the hindwings the *siegeli* spot of *mnemosyne-hassicus Pag.* is characteristic of the race, which is smaller than *boëdromius Püng.* (Vol. 1, pl. 16 d). It occurs in the zone of loose stones at 3200 to 3700 m on the Kungei-Ala-Tau. — subsp. **andreji** *Eisn.* is larger than *kozlovi Vrty.* (p. 82), 38—48 mm. The ground colour is dusky especially in the ♀♀, which are very hyaline. The faint markings particularly the costal band are throughout wider but diffuse. Ocelli are small, in a large percentage yellowish or even whitish, only occasionally red, they are heavily edged with black and generally conjoined by the *cardinalis* bar. The black dusting of hindmargin is considerably more extensive than in *kozlovi* and generally expands over and beyond a large portion of the cell. The *siegeli* markings are constant, as otherwise only rarely occur in *simo* races. Sometimes there is an additional spot between the cell spots of the forewings and O. Bang-Haas has named such specimens **centripuncta.** The *fermata* markings have been observed and in one ♂ same are conjoined with the hindmarginal spot forming a hammer-shaped mark. — subsp. *boëdromius Püng.* (Vol. 1, 16 d) ab. **fermata** *Bryk & Eisn.* has a supernumerary spot between the costal spot of hindwings and base of wings.

andreji. *centripuncta.* *fermata.*

eisnerianus. *P. charltonius Gray* (Suppl. Vol. 1, p. 82—83). — subsp. **eisnerianus** *Mt. Her.* comes closest to subsp. *ducalis Boull. & Le Cerf* (p. 83) and not to the geographically nearer *deckerti Vrty.* (p. 83). As in *ducalis* the spot between the costal cell and the base of hindwings, *subtus-interpunctata*, is present on underside, but it is considerably heavier, similarly as is the *atroguttata* spot in the cell of hindwings and the black markings around the disc. These markings are so intensive that in spite of the dense scaling they even are reflected on the upperside of the ♀♀. In the ♀-type the *subtus-interpunctata* spot is dusted with white in the centre. The marking of the bands is clear even if not dark and narrow, so that the subcostal band forms a nice distinct dentate band. A further characteristic of the race is the white ground colour of the hindwings which is retained as a continuous band between the hyaline submarginal and blue ocelli. Costal ocelli are small, median ocelli medium with small dull white pupils. The black borders of the ocelli are retained on the outer side but they are more heavily bordered inwards. The colour of the ocelli in half of the specimens before me is minium to violet brown. Both anal spots also always show these bright colours. The *amplius-maculata* spot is always absent.

Addenda to the Pierides.

Genus: **Aporia** *Hbn.*

takamukuana. *A. hippia Brem.* (Suppl. Vol. 1, p. 94). — subsp. **takamukuana** *Mats.* from Kyozyo in the province of Kankyohokudo in N. Corea differs from *japonica Mats.* (p. 94) by the much narrower brown scaling of the margin and the apex of forewings. The nervures are not edged with brown except at the apex of the wings. Markings in the disc more narrow, somewhat wider at the lower corner. Hindwings are distinctly narrower towards the apex and not adumbrated at the extremity of upper radial nervure. The veins of the underside are very much more narrowly edged so that the yellow ground colour appears more prominent, especially on hindwings. Only ♂♂ known.

Genus: **Pieris** *Schrk.*

P. brassicae L. (Suppl. Vol. 1, p. 95—96). In the Entomol. Record Vol. 41 and 42 (1929—1930) G. S. Graham-Smith and W. Graham Smith have described the following varieties: — ab. **binigronotata** resembles *nigrinotata Jach.* (Vol. 1, p. 45), but has besides a further similar streak between the submedian and median nervures. — ♀-ab. **marginata** shows on the upperside of the hindwings a band that is about 2 mm wide and which runs parallel to the upper part of the outer margin. — ab. **punctigera** is characterised by black spots or ray-like streaks on the extremities of the veins on the upperside of hindwings. — ab. **supra-fasciata** and **intra-fasciata** serve for a more exact description for *fasciata Kieff.* (p. 95). — ab. **seminigrescens** designates transitions from name type form to *nigrescens Newm.* (p. 96). — ♂-ab. **basinigrescens** has basal area of all wings powdered with black. — ♂-ab. **anthrax** has very adumbrated underside of hindwings, produced by an excess of black scales. — ab. **carnea** especially occurs in the ♂♂ and has a reddish sheen on upperside of all wings. — ab. **pallida** denotes specimens with strikingly pale underside of hindwings and similarly the apical part of forewings where the normal yellow dusting is missing. The black dusting that

binigronotata. *marginata.* *punctigera.* *supra-fasciata.* *intra-fasciata.* *seminigrescens.* *basinigrescens.* *anthrax.* *carnea.* *pallida.*

is generally present on underside of hindwings in the spring generation is better developed. — ab. **fischeri** *John* can be recognised by the absence of the costal spot on hindwings. *fischeri.*

P. manni Mayer (Suppl. Vol. 1, p. 97). — ♀-ab. **posticesignata** *Std.* has an additional fine black mark on upperside of hindwings between the 3rd radial and 1st median nervures, analogous to ab. *postero-maculata Vrty.* of *rapae*. — Belonging to the summer form of *rossii Stef.* (Vol. 1, p. 47, pl. 20 d) we have still: ab. **czekelii** *Diösz.* which inclines to reduction or complete extinction of the black spots on underside of forewings, whilst on upperside they are very prominent. — In ♀-ab. **nigropunctata** *Mezg.* there is a black spot in middle cell on upperside of hindwings. — ♂-ab. **binigrata** *Mezg.* has 2 additional black spots on upperside of hindwings, one of which is situate below the costal spot and the other in the disc. *posticesignata. czekelii. nigropunctata. binigrata.*

P. melete Mén. (Suppl. Vol. 1, p. 97—98). — ♂-ab. **feminalis** *Shelj.* from Kagoshima, Kyushyu, has almost the markings of the ♀ on hindwings. There is a coherent band from costa to the 2nd cubital running parallel to outer margin. *feminalis.*

P. napi L. (Suppl. Vol. 1, p. 98—100). — The circular spot at apex in *lusitanica*, is extended in the shape of a comma in ♀-ab. **tricircummaculata** *Sousa*. *tricircummaculata.*

P. narapae *Klemann* is a hybrid ex *P. napi L.* ♂ × *P. rapae L.* ♀. The butterflies are predominantly of *napi* characteristics, only a few of the ♂♂ clearly show *rapae* origin. Upperside of ♀ closely resembles *napi* ♀ with clearly marked black markings. Ground colour of underside has a deeper yellow than any of the ♂♂. One ♀ with particularly enlarged black markings and heavily yellowish ground colour has been classified as f. **flava** *Klem.* *narapae.* *flava.*

Genus: **Leucochloë** *Röb.*

L. daplidice L. (Suppl. Vol. 1, p. 100—101). — ab. **alba** *E. Müll.* is a ♂ from Zepernick in the Mark, with upperside of all wings completely white without any black spots and the markings of underside faintly reflecting through. *alba.*

Genus: **Pyrothoia** *Vrty.*

has been established as a "*nov. gen.*" for *Euchloë pyrothoë Ev.* (Suppl. Vol. 1, p. 103).

Genus: **Anthocharis** *Bsd.*.

A. cardamines L. (Suppl. Vol. 1, p. 103—104). — ab. **buschmanni** *E. Müll.* from the neighbourhood of Berlin is a ♂ having the usual orange red marginal half on upperside of forewings coloured a yellowish brown and this again is suffused with black. On underside the corresponding area of wing is deep black-brown, hindwings with deep green markings. — **ishikii** *Mats.* is a ♂ with much narrower red apex than name type form and same furthermore appears dentate inwardly. On margin there are 4 equally large red spots. The cell spot is much smaller than in *cardamines*, costa red; hindwings show a more creamy yellow ground colour and the basal dusting is more extensive. *buschmanni. ishikii.*

A. euphenoides Stgr. (Suppl. Vol. 1, p. 105). Dannehl describes the race **italorum** from Velino, Sirente, Monte Genzano and Monte Paradiso, as well as Majella in the Abruzzi mountains. The ♂♂ closely resemble specimens from the south of France, but the markings are more precise and never diffuse. The ♀♀ are characteristic, the large discal spot is extended inwards on the cubitalis and outwards along the lower median nervure in the shape of a hebrew "j". The entire area between the black spots and the outer margin is intensively dusted over with red, in extreme specimens entirely red. The black dusting around the veins is more concentrated towards the outer margin, the veins themselves being a nice red. Spots at base of wings more extensive in both sexes and deeper grey-black than in *euphenoides*. *italorum.*

Genus: **Zegris** *H.-Schäff.*

Z. eupheme Esp. (Suppl. Vol. 1, p. 105). — subsp. **uarda** *Hemming* occurs at Shunit-Nimrin in Transjordania and is closest to **dyala** *Peile* from Persia. Both sexes have the apical markings of upperside of forewings more grey and less blackish than *dyala*. This is brought about by the greater interspersion of white scales. The red-orange coloured spots are longer, wider and of more brilliant tone, also the black spot at close of cell is much larger and wider than in *dyala*. On underside of forewings the black cell spot is large and almost square, not crescent-shaped as in *dyala*. Hindwings show a considerable extension of the yellowish green markings and only about one-third remains showing the white ground colour. *uarda. dyala.*

Genus: **Colias** *F.*

striata. *C. palaeno L.* (Suppl. Vol. 1, p. 107). — ab. **striata** *Mellaerts* from Belgium is classified to *europome Esp.* (Vol. 1, 25 a, 6). The marginal band of forewings that is usually black is suffused with the ground colour and has a greenish tone. The intersecting veins remain black. Hindwings normal.

porrecta. *C. phicomone Esp.* (Suppl. Vol. 1, p. 109). — ab. **porrecta** *E. W. Hrch.* from the Strengmatt in Canton Uri is a ♀ in which the light submarginal spots of forewings form a wide pale band, that tapers off towards the hindmargin and which is of impure blue-green colouration. Hindwings have a narrow, indistinct marginal marking on upperside and the pale area next to same forms a sort of a very wide band with a sharp outline towards the base. Underside of forewings shows the apex of wing less extensively and intensively suffused with yellow than in name type form. Wing contour is remarkable owing to the straightness of the outermargin.

suzukii. *C. hyale L.* (Suppl. Vol. 1, p. 110—111). — ab. **suzukii** *Mats.* is a ♂ from Kyoto with both wings quite red-brown, discal spot is darker, costal margin narrowly reddish, like the fringes. Basal area of hindwings darkly powdered. Underside of forewings dark brown, narrowly dark yellow at costa and widely so at apex. Base of dark yellow hindwings is blackish, discoidal spot whitish.

aufderheidei. *C. christophi Gr.-Grshm.* (Suppl. Vol. 1, p. 110). — The race described as **aufderheidei** *Kotzsch* from Margalan in Turkestan would appear to be identical with *novosiltzovi Avin* (p. 110) according to the description of the ♀. The discal spot of forewings is the same colour as the ground colour, whilst it is red-brown in the name type form; the dark margin is somewhat wider and the underside paler, especially that of the forewings.

baeckeri. **C. baeckeri** *Kotzsch* occurs in July and August at altitude of 2800 m on the pass of Dingtsiang-miao in the Richthofen mountains. The ♂ has an expanse of 41—45 mm, the ♀ 42—48 mm. Upperside of ♂ is almost exactly like *C. thisoa Mén.* (p. 112) from Shakuh in Persia. The dark marginal band of both wings varies very much in regard to width, especially on hindwings, where the inner edge can be straight or notched. The dark cell spot of forewings varies in size, the red central spot of hindwings is absent or unobtrusive. Fringes in both sexes rosy-red. Underside more greenish than in *thisoa.* Submarginal spots only faintly indicated, central spot of hindwings small with silvery centre. The ♀♀ are striking on account of heavy adumbration and very dusky specimens occur, whilst the majority are blackish green with lighter greenish submarginal and discal spots. The latter are often streak-like and the black middle spot is situate in one of these streaks. Hindwings have similar submarginal spots, whilst the orange central spot stands out sharply from the otherwise dark hindwing. Underside of forewings impure whitish, greenish yellow at apex. Ground colour of hindwings somewhat darker than in ♂. The prothorax, antennae and palpi of both sexes are rosy red. Margin of all wings, especially of ♂ bulge out more pronouncedly than in *thisoa.*

orientalis. *orientis.* *C. sulitelma Auriv.* (Suppl. Vol. 1, p. 113). — In place of **orientalis** *Gr.-Grshm.* (Vol. 1, p. 67) substitute **orientis** *Wnuk.* for reasons of priority.

violascens. *C. chryotheme Esp.* (Suppl. Vol. 1, p. 113—114). — ab. **violascens** (*Rbl. i. l.*) *Galv.* is a ♂ from the surroundings of Vienna having a reddish violet sheen on upperside, especially on hindwings.

myrmidoneformis. *obsoleta.* *C. croceus Fourcr.* (Suppl. Vol. 1, p. 114—115). — ab. **myrmidoneformis** *Grub.* are ♀♀ with heavily yellow blotched outer margin on fore and hindwings. The forewing has 7—8 yellow spots. — ab. **obsoleta** *Grub.* are also ♀♀ having the yellow spots in outer margin heavily reduced, they form a transition to *poveli Aign.* (Vol. 1, p. 68). — The ♀-ab. **postero-pseudomas** *Kraut* belongs to the 2nd generation. Forewings do not vary, whilst on hindwings the dark marginal band is so exceedingly wide towards base of wings that the row of greenish yellow spots is quite submerged by black scales. — ab. **punctella** *Braun* from Belgium has the black cell spot of forewings small, partially covered with scales of ground colour, so that it is almost extinct. — ab. **helicinoides** *Braun* are ♂♂ of very pale yellow-green ground colour and form a counterpart to ♀-ab. *helicina Oberth.* (Vol. 1, p. 68). — ♀-ab. **derennei** *Braun* has a large and black median spot and yellow veins at apex. Marginal spots of forewings are reduced in number and size. Presumably scarcely differs from *helena H.-Schäff.* (p. 115). — ab. **naieri** *E. W. Hrch.* is a ♀ from Kloten in Canton Zürich, it has an orange-yellow upperside and the spots of marginal band are reduced to 2 and it is widely conjoined with the middle cell spot along the lower median nervure. Upperside of hindwing is of dull orange ground colour without yellowish hue, marginal spots only faintly indicated. Inspite of the size of the central spot, same is unobtrusive. Underside normal, except for the "8" which has only a single edge, instead of double. — ab. **nervosa** *Pionn.* has veins of upperside of forewings very heavily scaled with black and throughout their entire course they stand out prominently, so that the specimens have a peculiar appearance. Besides this half of the wings are powdered over with black. — ♂-ab. **subtuscuneata** *Galv.* The rusty red, antemarginal spots on underside of hindwings project in cuneiform shape inwards and merge in the cell with the central "8" mark. This has a rusty red halo extending inwards in two short dentations. Stolzalpe near Murow. — ab. **semi-demarginata** *Pionn.* has submarginal spots extinct on underside of hindwings. — ab. **pullata** *E. W. Hrch.* is a ♀-ab. *helicina Oberth.* with heavily blackened margin to hindwing, so that the

postero-pseudomas. *punctella.* *helicinoides.* *derennei.* *naieri.* *nervosa.* *subtuscuneata.* *semi-demarginata.* *pullata.*

yellow marginal spots are completely covered thereby. The large central spot is bright orange red extending over the light halo. — ab. **berthina** *Braun* is a ♀ *helice Hbn.* with submarginal spots of upperside a pale greenish yellow instead of white. — ♀-ab. **minor** *Pionn.* is as pale as *helice Hbn.* but only half as large, can scarcely be differentiated from *ridicula Alph.* — ab. *amethystina Froh.* is identical with *purpurascens Ckll.* (p. 114). *berthina.* *minor.*

Addenda to the Satyrides.

Genus: **Lethe** *Hbn.*

L. callipteris Btlr. (Suppl. Vol. 1, p. 129). — subsp. **obscura** *Nakahara* is in size about like *minima Es. & Nak.*, but much smaller than *diluta Es. & Nak.* (p. 129). It varies from the forms named, in the ground colour of upperside of wings, being dark brown without yellow tone. The yellowish markings resemble those of *minima*, but the band of hindwings that encloses the dark round spots is very reduced. Also ground colour of underside is distinctly darker, not so pale yellowish as the other races. Ocelli of hindwings as small or still smaller than *minima*. It occurs on the Kurile Islands Nikishiro and Kunashiri. *obscura.*

Genus: **Ypthima** *Hbn.*

Y. elongatum *Mats.* described from a single ♂ from Corea. Expanse about 46 mm. Appears most closely related to *motschulskyi Brem. & Grey* (Vol. 1, p. 95) and is probably a sub-species of same. Upperside unicoloured dark brown without nebulous markings. Forewings with 2 small ocelli with bluish pupils; fringes dark brown. Hindwings have a pupilled eyespot at anal angle. Underside of forewings is dark brown with almost extinct pale transverse bands which are rather distincter below the cell. Ocellus longish with an indistinct band on each side. Submarginal band narrow and black. A few grey-white stripes on hindwings which become extinct towards apex and anal angle and which do not form a continuous submarginal band. The upper circular ocellus is somewhat larger than the one on forewing; both ocelli at anal angle are of the same shape. The genital claspers are much longer than those of the ♂ of *motschulskyi*, they are almost straight and form a very long ellipse. *elongatum.*

Genus: **Erebia** *Dalm.*

E. epiphron Knoch. (Suppl. Vol. 1, p. 133—134). In the Retzezat mountains at abt. 1900 m altitude the ♂-ab. **latefasciata** *Diösz.* of subsp. *transsylvanica Rbl.* (p. 134) occurs. It is characterised by the bright fuscous band, that is 8 mm wide on top and 4 mm below and which contrasts sharply from ground colour and contains 4 eyespots without pupils. Outer margin is abt. 1 mm wide. *latefasciata.*

E. eriphyle Frr. (Suppl. Vol. 1, p. 135). — The variety described by Osthelder as **caeca** is simply *impunctata Höf.* (p. 135). *caeca.*

E. pharte Hbn. (Suppl. Vol. 1, p. 136). — Higgins has introduced the new name **spuleri** for *fasciata Spul.* nec. *Btlr.* *spuleri.*

E. manto Esp. (Suppl. Vol. 1, p. 137—138). This common and variable species is the subject of a monograph by Leopold Müller in the *Verh. der Zool.-Bot. Ges.* of Vienna and unless otherwise stated all the following forms are his denominations and I have also followed the same sequence: — ab. **minor** specimens with wing length of 18 mm and less, **media** with 18—20 mm and **major** exceeding 20 mm. — The following varieties of ground colour of upperside occur: — **pallida** *Osth.* with ground colour of upperside and occasionally of underside much paler ochreous brown than typical *manto.* — **castanea** is glossy dark chestnut brown, old and worn specimens bleach, getting paler and duller but still showing a pronounced brown. — **obscura** is more blackish and has much less brown tone than the former, but generally rather more metallic sheen. With age the blackish colouration of ♂♂ becomes a dark dusty grey, in the ♀♀ a pale dusty grey. The latter however generally retain the metallic sheen. — Underside shows the following variations: — **subtus-typica** with both wings unicoloured on underside, being slightly paler than on upperside. Forewings of ♀♀ have a grey costa. Bands stand out distinctly from ground colour. — **subtus-rufata** has discal area on forewings in both sexes with a reddish suffusion. — In **subtus-nigrobadiata** the underside of hindwings is blackish brown, decidedly darker than forewings. This variety generally occurs in combination with the former, so that the contrast in the wing colouration is accentuated. — **subtus-obsoleta** has entire underside darkly suffused, almost unicoloured and without contrasts, only the bands faintly reflecting through. This form seems to be limited to the ♂. — **subtus-grisea** is a ♀-aberration with hindwings appearing olive-grey to dust-grey on *minor.* *media.* *major.* *pallida.* *castanea.* *obscura.* *subtus-typica.* *subtus-rufata.* *subtus-nigrobadiata.* *subtus-obsoleta.* *subtus-grisea.*

subtus-cinnamomea. account of interspersed yellowish scales. — ♂-ab. **subtus-cinnamomea** with entire underside suffused with cinnamon-red, so that markings only faintly reflect through. — ♂-ab. **subtus-imitans** shows underside of both wings unicoloured dark brown, exactly like upperside, similarly bands and spot markings precisely as upperside. — ♂-ab. **subtus-cinerea** ground colour of both wings is uniform dull dust-grey, the disc of forewings nicely suffused with purple. Outer band of both wings dissolved into a few narrow streaks reaching almost to cell and which are also purple and merge in ground colour. This pretty form seems limited to subsp. *pyrrha Frr.* — **subtus-unicolor** are ♂♂ with hindwings with brown undersides without any markings at all.

subtus-imitans.

subtus-cinerea.

subtus-unicolor.

luteo-fasciata. The formation of the bands on upperside is subject to considerable variation on both wings. The following 6 forms are named: — **luteofasciata,** bands with orange-yellow with reddish tone, brightly coloured and contrasting sharply from ground colour. — **rufofasciata** have red-brown, duller bands that do not stand out so prominently from ground colour. Both forms occur in ♂ and ♀. — **purpureofasciata** appear only to occur in ♂, bands are dull purple and do not contrast very much. — ab. **albofasciata** *Osth.* with dull grey spots instead of the red band of spots. — **progressiva** denotes specimens now and then occurring among subsp. *mantoides Esp.* (p. 134), which exceptionally at least on upperside bear the characteristics of a more richly marked subspecies. — In contrast hereto **regressiva** denotes specimens of name type form and *mantoides Esp.* which exceptionally and at least on upperside show the characteristics of a more poorly marked race. — Band on underside of forewings varies as follows: **subtus-luteofasciata,** band on underside of forewings light, predominantly yellow, not only towards costa; on the other hand **subtus-rufofasciata** is darker on underside with mainly reddish tone. Both forms occur among ♂ and ♀.

rufo-fasciata.

purpureo-fasciata.

albofasciata.

progressiva.

regressiva.

subtus-luteo-fasciata.

subtus-rufo-fasciata.

subtus-brunnea. Also hindwing bands vary and caused Müller to give the following denominations: **subtus-brunnea** with outer band on underside of hindwings unicoloured brown, without reddish tone, but standing out clearly from ground colour. This form has only been observed in ♂. — **subtus-ferruginea** occurs in both sexes, rarely however in ♀♀, in certain local forms however commonly. The fuscous to fulvous unicoloured outer band characterises the form. — **subtus-bicolor** are ♂♂ with fuscous to fulvous outer band, but all or a few of the band of spots are yellow. This two-fold colour is very striking. — **subtus-aurantiaca** has a bright yellow outer band without a reddish tone, this variety occurs regularly in the ♂, but only very occasionally in ♀. — **subtus-ochrea** has a buff or pale ochreous band in both sexes. It is the usual form of ♀♀. — **subtus-maccabaeus** are ♀♀ with rusty red coloured outer band on underside of hindwings. — **subtus-lutescens** occurs in both sexes, outer band is very pale, creamy yellow. This form is often erroneously classified as ab. *bubastis Meissn.* — ♂-ab. **subtus-fasciata** has outer band on underside of hindwings wider and more or less contiguous, it stretches from costa to close to hindmargin. — **subtus-semifasciata** denotes forms having the *subtus-fasciata* band wide, but limited only to the costal half of wings or such with band of only half normal width, which however is coherent and extends from costa to hindmargin. — **subtus-basimacula** are ♂♂ with basal spots on underside of hindwings. — ♀-ab. **subtus-privata** have no basal band on underside of hindwings. This denomination only refers to forms, where it is not a characteristic of the race to be without basal bands.

subtus-ferruginea.

subtus-bicolor.

subtus-aurantiaca.

subtus-ochrea.

subtus-maccabaeus.

subtus-lutescens.

subtus-fasciata.

subtus-semi-fasciata.

subtus-basimacula.

subtus-privata.

maculatis. The marking of the bands is subject to the following variations: **macularis** has band of forewings on upperside dissolved into generally 6 well developed spots which fill out or almost so the interstices between the veins. Towards hindmargin these spots often decrease in size. — **reducta** has band of forewings reduced to 3 or 4 narrow streak-like spots, so that one can scarcely call it a band. — **reductissima** indicates a further reduction of the band. Here forewings show a more or less extensive circular halo around the 2 apical eyespots, as the only indication of a band and in extreme cases even this is absent. — ab. **diffusa** denotes specimens with less sharply outlined band which merges in ground colour. — ab. **postmacularis** has on upperside of hindwings several, most commonly 3 medium-sized spots forming a band, whilst **plurimacula** has generally 4 or more such spots. — **postreducta** in contrast hereto, is not rare. Spots of hindwing band are reduced in size and number and can even be completely absent. This reduction of hindwing markings is quite independant of the markings of forewings, which may be rich, whilst hindwings are poor. — **subtus-benesignata** are specimens in which the pale band on underside of forewings extends uninterruptedly in medium width from hindmargin to cellule 5 or 6 and often in cellules 4 and 5 is elongated towards the base. Band is sharply outlined on both sides. — **subtus-minussignata** in contrast hereto, has band of forewings reduced on underside, i. e. it is either considerably more narrow, shortened, or dissolved into single spots, which may also sometimes be reduced in number. Occasionally the spots are as faintly marked as in *subtus-obsoleta*, so that they almost entirely merge in ground colour. — **subtus-completa** occurs in both sexes and is characterised thereby that in ♂ the outer band on underside of hindwings generally consists of well separated, medium large single spots, whilst in the ♀ of 7 or 8 generally coherent large spots. The lower spots are somewhat smaller in both sexes. The ♀♀ have a well developed basal band. — **subtus-reducta** are ♂♂ and ♀♀ in which the outer band on underside of hindwings is reduced, either the number of the spots of the band is considerably

reducta.

reductissima.

diffusa.

post-macularis.

pluri-macula.

postreducta.

subtus-benesignata.

subtus-minus-signata.

sublus-completa.

subtus-reducta.

reduced or the spots much smaller although not shortened, so that widely separated streaks are created. Otherwise the spots are reduced and shortened so that small roundish spots occur, similar to those of *E. pharte*. The reduction always begins near hindmargin and can extend to the complete extinction of the outer band. — ab. **subtus-fasciata** are ♂♂ having spots of outer band on underside of hindwings larger than normal, which is especially striking in the lower half. Frequently the spots in cellules 2—4 are pupilled. Sometimes the spots are contiguous forming a band, always wider at costa than at hindmargin. — **subtus-privata** are ♀♀ without basal spots on underside of hindwings. In transition forms the basal spots are much reduced or dusted over with brown. — The number of spots varies and this has been denominated: **de-puncta** denoting specimens entirely without spots on upperside of hindwings, **bipunctata** such with only 2 apical spots on upperside of forewings. — **tripunctata** have a spot in each of cellules 2, 4 and 5 of upperside of forewings and **quadripunctata** have 4 spots on forewings, one each in cellules 2, 3, 4 and 5. — **parvipuncta** have all spots on upperside of forewings much reduced, especially also the apical spots. These last forms occur in both sexes. — *petrosus de Prun.* and *morio Giornia* are probably the same as *caecilia Hbn.* — subsp. **carpathica** *L. Müll.* from Rarow on the southern frontier of the Bukowina is a very large race of 38 to 42 mm expanse. Apart from the size, the frequent occurrence of the modern *impunctata* form is characteristic and the considerable reduction on underside of hindwings in both sexes. The bands are intensively fuscous, often reduced to minute spots and only faintly indicated on hindwings, occasionally however they are wide and coherent. Eyespots often quite absent, otherwise 2 to 4 present, on hindwings up to 3 dots. The transverse band of underside of hindwings is sometimes normal, generally however in ♂ there are only small, partly extinct fulvous or fuscous spots. In the ♀ the band is extinct and basal band quite absent. — In mid-July to mid-August on the mountains around Retyezat at altitudes of 1100—2100 m, a separate race: **retyezatica** *Diösz.* occurs, whilst the name type form was not found in these regions. It is of goodly size, ♂♂ 34—37 mm, ♀♀ 35—39 mm expanse. The ♂ is black-brown with yellow-grey fringes, the ♀ grey-brown with pale yellowish grey fringes. Band of forewings fuscous or pale fulvous, in the ♀ pale fuscous. In both sexes same is wide and coherent, generally being narrower towards hindmargin, though not extending as far as same. There are always 4 eyespots in this band. On hindwings the band subdivides into longish spots of darker colour than band of forewings and in which there are usually 3, rarely 2 dots. Underside of forewings fuscous, the band coherent, diffusing slightly towards base. Ocelli as on upperside. Underside of hindwings unicoloured and rather darker. The band consists of an upper larger rusty yellow spot and two lower smaller ones, in which there are usually 3, more rarely 2 clear-cut black dots. Underside of forewings of ♀ pale fuscous, costa grey-brown; band coherent, spots in same smaller. Underside of hindwings greenish grey as in *trajanus Hormuz.* (Vol. 1, p. 99), rarely brownish. Basal spots absent or only indicated by minute traces. The pale yellow band disintegrates into a larger upper and two smaller lower, almost contiguous spots containing generally 3, but occasionally also 2 or 4 minute but very distinct black dots.

subtus-fasciata. *subtus-privata.* *depuncta.* *bipunctata.* *tripunctata.* *quadri-punctata.* *parvi-puncta.* *carpathica.* *retyezatica.*

E. medusa F. (Suppl. 1, p. 138). — ab. **luxurians** and **latefasciata** *Osth.* resemble ab. **psodea** *Hbn.* (Vol. 1, p. 100) and occur everywhere in profusion among the ♀, whilst **reducta** *Osth.* with reduced bands and eyespot markings occurs frequently in both sexes. To the latter form also *pherusa Schltz.* (p. 139) belongs which has 2 eyespots on forewings and 1 on hindwings.

luxurians. *latefasciata.* *psodea.* *reducta.*

E. stygne O. (p. 139). — subsp. **paradisi** *Dhl.* from Monte Paradiso and the southern Abruzzi mountains is somewhat larger than name type form and deep black-brown. The band, that never extends beyond the 3rd eyespot, is a dull deep red, often suffused with blackish. Sometimes the band is reduced to a few scarcely perceptible traces of red-black patches. On underside a small 4th eyespot is as rare as a costal eyespot on hindwings. The ♀♀ have an inclination to increase number and size of ocelli in the wide, dull pale red band. Underside of ♂ almost unicoloured black, band scarcely indicated by black-red interspersions. In ♀ underside is more grey-brown with sharply outlined band. Outer area often grey, dusted with whitish towards outer margin.

paradisi.

E. glacialis Esp. (Suppl. 1, p. 142). — To the form *nicholli Calb.* (p. 142) a ♀ captured in the Brenta belongs. It is named **homogena** *Wagn.*, it has no red markings on upperside and thereby resembles the ♂ in appearance. On underside traces of the red band are retained. — According to the researches of Warren *glacialis Esp.* nec. *Moll* must be re-named and he proposes **glaciale** *Warr.* Further for reasons of priority he proposes the new name **plutonius** *Warr.* for *pluto Esp.* (Vol. 1, p. 102) nec *de Prun.* On p. 143 line 4 from top, the name should read *entaenia Schaw.* instead of *entaenia.*

homogena. *glaciale.* *plutonius.*

E. pronoë Esp. (Suppl. 1, p. 143). ab. *exannulata Osth.* described by Osthelder is synonymous with *subalpina Gmpbg.* (p. 143).

E. gorge Esp. (Suppl. 1, p. 144). Osthelder's ab. *depupillata* is identical with *impunctata Hoffm.* (p. 144), his ab. **caeca** is the same as *erynnis Esp.* (Vol. 1, pl. 37 d) and *luxurians Osth.* exactly as *triopes Splr.* (Vol. 1, p. 104).

caeca.

E. neoridas Bsd. (Suppl. 1, p. 144). — In the mountains around South Dahtung in the Richtofen
veldmanni. range in Kansu the new subsp. **veldmanni** *Kotzsch.* occurs in July at an altitude of 3600 m. So far only the ♂♂ are known, they have an expanse of 37—44 mm. Upperside somewhat resembles *E. ligea L.*, but underside is more like *neoridas Bsd.* Ground colour of upperside is darker, pale brown band of forewings somewhat narrower and bent outwards in the middle. Eyespot markings differ. The outline of the band of forewings is very clear-cut. Underside is darker than *neoridas* and bands more sharply marked, as same are edged with dark brown. Fringes are striking, being black and white checked. In general the race is smaller built than the european *neoridas.*

punctifera. *E. zapateri Oberth.* (Suppl. 1, p. 145). — ab. **punctifera** *Schaw.* from Albarracin in Aragon is a ♀-form with only two minute black dots in the wide fulvous band of forewings, instead of the two large ocelli with white pupils.

E. sedakovii Ev. (Suppl. 1, p. 145). The following 5 varieties belong to the japanese race *niphonica*
assamana. *Jans.* (Vol. 1, p. 105). — **assamana** *Mats.* described from ♂♂ from the Assama (Honsho). They have a much narrower red-brown band on hindwings, which is almost extinct between median and upper median nervures.
yatsugadakeana. — ab. **yatsugadakeana** *Mats.* is also a ♂ form, characteristed by the very small brown ocelli of hindwings, which have no pupils. The reddish brown band of hindwings is narrower than in *assamana* and in place of the
komagadakeana. eyespot in cellule 2 there is a small whitish spot. — ab. **komagadakeana** *Mats.* is a ♂ with 3 reddish brown spots in the postdiscal area, of which the one in cellule 4 is larger than the other two which have whitish
shiroumana. pupils. From Mount Komagadake (Honsho). — The ♂ ab. **shiroumana** *Mats.* differs from *assamana Mats.* only by the darker red-brown of the eyespots in cellules 2 and 3, they are brown in the middle and have a whitish blue pupil. Mount Shiroumana in the province Shinan (Honsho). — From the above the ♂-ab.
yazawai. **yazawai** *Mats.* from the same locality differs, as the hindwings have only one reddish brown spot in cellule 4
chosensis. in which is situate a brown eyespot. — subsp. **chosensis** *Mats.* from Mount Hakuto in Corea has only been described from ♂♂. Upperside closely resembles *niphonica Jans.* but there is no eyespot in cellule 2 in the reddish brown band of forewings. Band on hindwings is narrower and the two lower ocelli are situate at the extreme edge of same, instead of being in the middle as in *niphonica.* Grey band of underside of hindwings is much narrower and the whitish blue spots appear therefore to be situate further away from same.

E. aethiops Esp. (p. 145). — *nigra Mousl.* and *reducta Osth.* are both identical with *obsoleta Tutt* (p. 146)
paradoxa. and *luxurians Osth.* is the same as *croesus Schaw.* (p. 146). — ab. **paradoxa** *Schaw.* is a ♀ variety from Veldes in northern Jugoslavia. It has no eyespots on upperside and on forewings the band is rudimentary, being only 3 mm wide and orange-brown and subdivided into 4 parts by intersection of the black veins. On hindwings there is a similar remnant of a band, which is divided into 3 cubes by the veins. Underside without eyespots, but there is the whitish band that is characteristic for *aethiops*, although same is only 4 mm wide. Forewings with the remnants of a pale orange-brown band corresponding to that of upperside.

E. euryale Esp. (p. 146—148). — ab. *caeca Osth.* is identical with *philomela Er.* (p. 147) and *eurya-*
albofasciata. *loides Tengstr.* (Vol. 1, p. 108) and *reducta Osth.* with *ocellaris Stgr.* (Vol. 1, p. 107). — ab. **albofasciata** *Diösz.* is a form representing abt. 30% of the *euryale* occurring in the mountains around Retyczat at altitudes of 550—1600 m. Upperside deep black-brown with wide fuscous band on forewings in which 4—6 large ocelli are situate, in hindwings 3—4 smaller ocelli, these may be with or without pupils. In fresh specimens the fringes have bright white and black-brown checks. Both sexes of medium size. Underside of hindwings very
nana. variable in ♀. — subsp. **nana** *Diösz.* occurs on the S.W. slopes of the Borescu in the Retyczat at an altitude of 1900—2100 m, i. e. above the altitude at which trees flourish. It is a remarkably small race, ♂♂ of 27 to 29 mm, ♀♀ of 30—32 mm expanse, otherwise varying little from *euryale* occurring around Retyczat. The spots in the reddish yellow band are smaller, often scarcely visible on upperside. Underside of wings paler with more uniform markings, but spots clearer than on upperside.

E. ligea L. (p. 148—149). — ab. *luxurians Osth.* is the same as *quadripunctata Hoffm.* (p. 149) and
junsaiensis. *depupillata Osth.* as *caeca Kol.* (p. 149). — ab. **junsaiensis** *Mats.* belongs to subsp. *takanonis Mats.* This is a ♂ from Junsai near Hakodate in Hokkaido, which differs from the race by the larger ocellus in cellule 3 on upperside, whilst on underside it is much smaller and in *takanonis* it is quite absent. The whitish band on underside of hindwings extends straight to cellule 1, in *takanonis* it appears to be interrupted. — subsp.
koreana. **koreana** *Mats.* from Mount Daitoku in the province of Kwankyonando in Corea closely resembles *takanonis*, but differs as follows: the reddish brown band of both wings is narrower and darker in the ♂ so that it approaches *sachalinensis Mats.* (p. 149). The eyespot in cellule 3 is smaller and not pupilled. Ocelli of hindwings are without pupils. Bands and ocelli of underside are the same as those of upperside, but the ocellus in cellule 3 is minute. On hindwings the red band is almost completely absent and can only be faintly discerned in the region of the ocelli. The white band is narrower, interrupted and without white spots above the middle.

In the ♀ the bands are further reduced, the white band of hindwings interrupted and chain-like. On underside the ocellus in cellule 3 is absent on forewings. — Of ab. **hakutozana** *Mats.* so far only a single ♂ from Mount Hakuto in Corea has been captured. It differs from *coreana* by the much smaller ocelli, bi-pupilled white, with the exception of eyespot in cellule 2 of forewings and cellule 3 of hindwings. Basal area on underside of forewings is reddish brown to the cell with a whitish spot in the middle, the whitish band is wider and not interrupted. All ocelli of underside are pupilled, except the one in cellule 4 of hindwings. — subsp. **rishirizana** *Mats.* from Rishiri in the Kurile Islands is close to *sachalinensis Mats.* (p. 149). The reddish ocelli on all wings of ♂ are smaller and without pupils. On underside of forewings the ocellus in cellule 2 is larger than the corresponding spot on upperside. Hindwings have a wider whitish band and eyespot in cellule 4 is smaller and without pupil. In the ♀ the ocelli in cellules 2 and 3 are minute and almost extinct. No ocelli in red-brown band of hindwings, only in cellule 4 a minute dot. — ♂-ab. **daisetsuzana** *Mats.* captured in large numbers on Mount Daisetsu in the province Ishikari (Hokkaido). It is characterised by 3 ocelli and a wider fuscous band on upperside of hindwings. — ab. **murasei** *Mats.* is a ♂ and belongs to the race of *sachalinensis Mats.* (p. 149); it varies from same by the smaller ocelli of hindwings and the eyespot in cellule 5 is strikingly smaller than the one in cellule 4. The fuscous band of hindwings is dissolved into spots.

hakutozana. *rishirizana.* *daisetsuzana.* *murasei.*

E. edda Mén. (Vol. 1, pl. 35 c). Among the name type form Kardakoff captured in July in the Imperator harbour of the Ussuri region 2 varieties of which the one, **ménétriési** *Kard.* has one or two additional small fuscous eyespots with black pupils under the large apical eyespot on forewings. The other **semicaeca** *Kard.* occurring at the same time and in the same locality has the apical ocellus of forewings without pupil or with 2 quite faintly indicated white dots.

ménétriési. *semicaeca.*

E. lappona Esp. (Suppl. 1, p. 151). *caeca Osth.* and *caeca Favre* are synonymous with *caeca Strd.* (p. 151). — The re-naming of *caeca Oberth.* in 1911 as **anniviersa** *Strd.* seems superfluous.

anniviersa.

E. tyndarus Esp. (Suppl. 1, p. 131). — ab. **bulgarica** *Dren.* from the Alibotus Mountains at an altitude of 1400—2100 m is a variety of *ottomana H.-Schäff.*, it has a distinctly yellowish coloured underside of forewings, instead of the blue-grey of *ottomana*, the underside of hindwings is more sepia-brown and the exceedingly sharply dentate band is prominent. — The race **retyezatica** *Diösz.* from the Retyezat Mountains at an altitude of 1500—2100 m from mid-July to mid-August, replaces the name type. The ♂ expands 28—32 mm, the ♀ 30—35 mm. The ♂ has a fuscous band on forewings extending to lower median nervure. Both apical eyespots are conjoined, fairly large and with distinct white pupils. Bands of hindwings complete and not separated, the 3 eyespots always with white centres. Underside of hindwings pale violet-grey with band and outer margin fairly heavily dusted with brown. The ♀♀ are distinctly paler with impure yellow to fulvous band on forewings, which extends almost to hindmargin. Forewings always with 2 large apical eyespots which merge together. The band projects inwards between lower and upper median nervures in 3 rays extending to the disc, it always has 3 ocelli with distinct white pupils. Often there are 2 eyespots with fine white pupils on outer edge of band of forewings in both sexes. Hindwings are angular in ♀, rarely so in ♂. Underside of forewings pale yellow with reddish hue from base to marginal band. The band itself outlined delicately with fuscous inwards and outwards. Costa and outer margin dusted with brown.

bulgarica. *retyezatica.*

E. afer Esp. (p. 152). — The race **krymaea** *Shelj.* originates from the mountain chain Jajla near Jalta in Crimea. It is closest to the name type form, but differs by heavier and more extensive greyish white scaling. On upperside of forewings this covers the costa to base of wings, the apical area to the disc and the entire outer area of the wing to hindmargin, it extends from outer margin to well over the row of ocelli. This scaling is dense and covers over the dark ground colour, so that the wings appear almost whitish grey. On hindwings this grey-white scaling is much sparser and is observed between margin and row of ocelli. On underside we find the same grey-white scaling, especially on forewings, whilst there are only traces of same in the outer area of hindwings.

krymaea.

11. Genus: **Melanargia** *Meig.*

M. galathea L. Forms devoid of eyespots on underside have already been named *galene O.* and *galenides Preiss.* — Transition forms have now been named **semigalene** *Std.*, where eyespots are not quite extinct and the relative form in *procida* is **semigalenides** *Std.* Both occur in S. Tyrol and S. Italy and are very rare according to the author. — Also among *galinthias Fruhst.* from the Sorrent very rarely specimens are taken not having plain yellowish white undersides, but with faint traces of eyespots. This is described as a pretty form and named **pseudoulbrichi** *Std.* Along similar lines there is plenty of scope for the creation of innumerable new names. Even if specimens with indications of eyespots are very rare, they may now and then be found among many of the other races. — **sylvia** *Rocci* is the race from the plains around Genoa and differs from *akis Fruhst.* occuring in the Maritime Alps, by its smallness and reduction of black in discal area. Ground

semigalene. *semigalenides.* *pseudoulbrichi.* *sylvia.*

colour of ♀ is lemon-yellow, not white or yellowish as in *akis*. The author then compares his form with *florentina Vrty.* from Tuscany. As against this the black markings are more extensive. In marginal area the white spots on forewings are quite absent, almost so on hindwings especially in ♂. In comparison to the ♂,
emma. the ♀ is very large. — **emma** *Rocci* from the ligurian Apennines corresponds by it smallness to *monticola Vrty.* of the high altitude form of *florentina*; in consequence it appears blacker than *sylvia*, the form of which
sibyllina. it is in high altitudes, being the most melanic race of Italy. — **sibyllina** *Rocci* is the reverse and is the palest form of Italy. The margins of both wings, in ♂♂ and ♀♀ have large white spots, like in *sciritis Fruhst.* from Rome. Owing to its smallness it looks like *pygmaea Fruhst.* which however has small marginal
planorum. spots. Mti Sibillini. 1200 m. — **planorum** *Rocci* from the plains of Lombardy is a fine and large form (46—56 mm) with rounded wing contour. Markings black, never brownish or with diffuse borders. Besides differing in size from *akis* and *sylvia*, there is further the black marginal band. This is scarcely wider than type with irregular border inwards. In same on hindwings 6 large white spots with clear outlines, rarely only 4 and on forewings 2 smaller spots with diffuse edges. On underside, especially of forewings markings are pure black, rarely somewhat grey. There is little difference in size between ♂ and ♀. — *arogna Fruhst.*
arogna-pedemontii. in the S. Tessin goes over into **arogna-pedemontii** *Rocci* on the Lago Maggiore; it approaches *pedemontii Trti.* from Turin in size and the dimorphism of ♂ and ♀. The name therefore seems superfluous, as *pedemontii* itself does not vary so very much from *arogna*.

gaillardi. *M. lachesis Hbn.* **gaillardi** *Rev.* is a specimen that reminds one somewhat of *olaria Rbb.* The light patches of the dark marginal band are much reduced on upperside of forewings. The wide black band on hindwings is somewhat paler in the middle near anal angle and outwardly at apex, the white bulge behind the
geresiana. cell is quite absent. Underside fairly normal. — In **geresiana** *Ferreira* the black basal spot on forewing is longer in comparison to typical *lachesis* and it is conjoined on inner margin with the spot at anal angle. Caldelas (Spain).

M. japygia Cyrillo. subflavescens Wnuk. is also synonymous with *flava Sok.*

M. halimede Mén. This species, respectively *menetriesi* and *mandjuriana Houlb.* have already been exhaustively dealt with on p. 157 of this volume. As Houlbert had plenty of specimens and reference books at his disposal, the following forms that he did not deal with, cannot be accepted without some
coreana. reserve: *halimede var.* **coreana** *Shelj.* a large race without further characteristics. From Corea. — **nigro-cellularis**
nigro-cellularis. *Shelj.* specimens with dark cell on forewings and in **melanotica** *Shelj.* the dark markings are deeper black
melanotica. and the normally white patches besides dusted with black. — **subflava** *Shelj.* denotes *meridionalis Fldr.* ♀
subflava. with yellow underside.

12. Genus: **Oeneis** *Hbn.*

O. norna Thunbg. Besides the specimens already enumerated with reduced number of eyespots, there
obsoleta. are also some without eyespots, otherwise ground colour normal. They are named **obsoleta** *Sheld.*

13. Genus: **Satyrus** *Latr.*

S. autonoë Esp. As far as can be discerned from the insufficient description and with help of the illustration accompanying same, *sergii Ugrj.* is identical with this species. Described from the Province of Wiatka.

14. Genus: **Pararge** *Hbn.*

minima. *P. aegeria L.* — The name **minima** *Pionneau* denotes dwarf forms of *egerides Stgr.*; — **eutaeniata** *De-*
eutaeniata. *bauche* is an *egerides* in which the pale band on upperside in front of the outer margin is complete, as the middle spot is conjoined with the two other parts of this band. On hindwings there is a pale grey-white patch at anal angle.

hieralica. *P. maera L.* — **hieratica** *Trti.* is a strikingly dark race. The ♂ often without yellow patches, reminding one of *monotonia Schilde.* On the other hand the sharply defined rows of spots more resemble *hiera F.* From
tristicolor. Borno and Valsassina. — The cast Prussian form **tristicolor** *Treichel* is a contrast to *adrasta.* It is very melanic with scarcely a trace of fuscous or fulvous on upperside. Specimens occurring in autumn more closely resemble normal type.

P. achine. Osthelder mentions here the bavarian form *marmorata*. As no description seems to exist, we can pass same over.

15. Genus: **Aphantopus** *Wallgr.*

A. hyperantus L. — **cabeaui** *Pionn.* like the following 2 forms, will probably prove to be almost identical with one of the forms described by Strand. Underside of forewings without eyespots. Hindwings with 3 very small ocelli at anal angle. Thereby the form differs from *obsoleta Tutt*; it varies from *arcte* owing to its small but white spots. — In **languescens** *Cab.* all ocelli are absent on upperside of all wings. — **sublanguescens** *Pionn.* differs from the former by the presence of a single ocellus on upperside of hindwings. *cabeaui.* *languescens.* *sub-languescens.*

16. Genus: **Epinephele** *Hbn.*

E. naubidensis Ersch. — The typical form occurs in the southern regions of Turkestan, the new **decorata** *Shelj.* is from Tuptshak (Peter the Great Mountains). It is larger, the ♂ has a striking red spot in disc of forewings, in the ♀ the forewing is uniformly ochreous from base to the dark marginal markings without any dark dusting at base. *decorata.*

E. jurtina L. — **fulvopicta** ♂ *Heinrich* has 3 pale yellow spots below the apical eyespot on upperside of forewings. In *hispulla* ♂ these pale patches are similar, only they are much more intensive. — **herta** ♂ *Heinrich* is similar to *fulvopicta*, but it has only one large (round?) yellow-red spot below apical eyespot. The latter form is more frequent in Heligoland. — **ocellata** *Tutt* is an aberrative ♂ with 6 eyespots on underside of hindwings, of which the 2nd and 5th are larger. — **pauper** ♀ *Vrty.* for deformed specimens. Apical eyespot on forewings very small, the fuscous patch reduced. The brown marginal band is wide and sometimes subdivided. Hindwings quite without yellow-red colouration. — **megala** *Oberth.* from Akbès is compared by the author with *fortunata Alph.* (Vol. 1, pl. 47 c). It is still larger than the latter and hindwings more markedly dentate; underside grey or buff. The ♀ especially has little yellow colouration on upperside. The black subapical ocellus on forewings is especially well developed. It is difficult to say whether the form belongs to *jurtina* or *telmessia.* *fulvopicta.* *herta.* *ocellata.* *pauper.* *megala.*

E. lycaon *Rott.* We have to correct what was stated on p. 173, *lusca Schtz.* is identical with *schlosseri Voelsch.* and not with *demaculata Schtz.* On the other hand *caeca Maslow.* is synonymous with *demaculata.* *lycaon.*

17. Genus: **Coenonympha** *Hbn.*

C. oedippus F. — **obscurior** *Pionn.* denotes a specimen with uniform brown underside, similar to a normally coloured upperside. *obscurior.*

Coen. arcania L. — **decolorata** *Galv.* designates specimens with grey ochreous ground colour on upper and undersides, only base of underside is somewhat darker. The normal ochreous marking does not vary and also eyespots are normal. — The form *bipupillata Cab.* is the same as *bipupillata Tutt.* — **dubia** *Vorbr.* is a sub-form of *satyrion.* Similar to *insubrica* but larger and darker on upperside. On underside of hindwings the band is pure white with 6 very large ocelli, therefore probably similar to *triumphans Fruhst.* From Switzerland. *decolorata.* *dubia.*

Coen. corinna Hbn. — The form **ocellata** *Pionn.* differs from type owing to several distinct ocelli dots on hindwings. It is not stated whether on upper or underside, so that the form is possibly identical with *macrophthalmica Bub.* *ocellata.*

Coen. pamphilus L. — **major** *Pionn.* is a large specimen (35 mm expanse) of the group of *pamphilus* races, corresponding to *lyllus-gigas Vrty.* *major.*

C. tiphon Rott. — **posterogrisea** *Tutt* is uniform silvery grey on underside of hindwings, as otherwise occasionally is the margin. — **schmidtii** *Diösz.* is half-way between *isis Thunbg.* and *occupata Rbl.* and is found at high altitudes in Transylvania (1400—2100 m). It is smaller than type. The ♂ reddish ochreous on upperside, veins, apex and hindwings faintly suffused with grey, sometimes an apical eyespot is present. Underside of forewings of same colour as upperside; costa and outermargin grey-green, apex more widely so. A yellow-white streak of 2 mm width extends from eyespot towards base. Underside of hindwings greenish grey, somewhat darker in front of the almost complete light band and with 2 small ocelli, which can also be absent. In the ♀ the ground colour of upperside is pale ochreous, faintly dusted with grey on hindwings. *posterogrisea.* *schmidtii.*

Addenda to the Family of Nymphalidae.

A. Sub-family: **Nymphalinae.**

Group *Apaturidi.*

Genus: **Apatura** *F.*

A. ilia Schiff. (Suppl. Vol. 1, p. 192—194). ♂-ab. **subiliades** *Cab.* has upperside unicoloured black with whitish spots at apex of forewings and small whitish antemarginal spots on hindwings. It forms a *subiliades.*

interfracta. transition to *iliades Mitis* (Vol. 1, p. 162). Vallée de Rabais near Virton. — Also the ab. **interfracta** *Cab.* has a black upperside with small almost extinct white markings on forewings. The white band on hindwings is very reduced and is intersected by the black veins, forming separate spots. The anal ocellus is very distinct.

kamonis. — ♂-ab. **kamonis** *Mats.* described from a ♂ from Kamo near Kyoto. Upperside of all wings is dark brown with mauve sheen, like *substituta Btlr.* (Vol. 1, 50 d), which it also resembles in the colouration of its yellowish underside. Forewings show an obsolete orange-yellow postmedian line from upper median nervure nearly to hindmargin. On hindwings the disc is somewhat yellowish with a submarginal row of yellow spots and a marginal row of similarly coloured dots. A black ocellus with orange-yellow surround is situate in

deficiens. cellule 2, the anal ocellus is orange-yellow. — ab. **deficiens** *Cab.* is a melanic ♂-form of *clytie Schiff.* from the Vallée de Rabais near Virton in Belgium with white ante-apical spots, whilst all other *clytie* markings are absent or scarcely perceptible.

B. Sub-family: **Limenitinae.**

2. Genus: **Neptis** *F.*

melior. *N. philyra Mén.* (Vol. 1, pl. 53 c). — A form surpassing *excellens Btlr.* is **melior** *Hall.* On forewings the radial streak is combined with the corresponding spot of outer band and all these spots are whiter and larger. The inner band of hindwings is also slightly wider. There is a whitish stripe on underside of hindwings between the two white bands in the red-brown area, which in *philyra* is quite indistinct, but more distinct in this case. Besides this the small submarginal lunules are a purer white. Tzeku.

3. Genus: **Limenitis** *F.*

angustefasciata. *L. camilla L.* (= sibilla *L.*). — **angustefasciata** *Streckf.* does not, according to Rocci, only occur chiefly in Carniola, but in the entire middle and eastern Vorarlberg region. Further south near Monferrate,

transpadana. near Turin, the species only occurs in isolated localities and in 2 generations: — the 1st **transpadana** *Rocci* is smaller (42—48 mm) than typical german specimens and the sexual dimorphism is less distinct. The ground colour is brownish, spots and bands reduced. On underside the fulvous patches are pale and diffuse and

misera. besides the inner area of hindwings is pure grey and not bluish. — The 2nd generation **misera** *Rocci* is still smaller (32—34 mm), the light bands narrow, the subapical spots are often absent, others small. A similar reduction is also shown in a small specimen in the Püngeler Collection from the Mendel Pass, S. Tyrol. Underside of hindwings has the light basal patch of small dimensions, an impure white and not bluish as

taccanii. usual. Probably specimens from Pisa, Leghorn and Rome also belong to this form. — **taccanii** *Rocci* is the very large race (50—54 mm) from the upper Italian lakes. Ground colour is deep black on upperside, like *rivularis Scop.* and white markings are extensive. Base of both wings is bluish white on underside, whilst the reddish ground colour is brighter and more intensive. One could therefore say, the form is larger than typical, otherwise normal. From Laveno. Only a single specimen is known of the 2nd generation. It is smaller and

secunda. with duller colouration: **secunda** *Rocci.*

sengei. *L. sinensium Oberth.* (Vol. 1, p. 183, pl. 56 e). — **sengei** *Kotzsch* has spots of upperside larger and

minor. lighter yellow than type. The ochreous ground colour of underside is very diffuse. Kansu. — **minor** *Hall* from Tzeku appears only to differ from *sengei* by the smallness of its size.

berchmansi. *L. cottini Oberth.* (Vol. 1, p. 183, pl. 57 d). — The new form **berchmansi** *Kotzsch* has more sharply outlined and shorter white patches on upperside. On hindwings the white triangle in the cell is quite absent. On underside of the hindwings this is only represented by a pale patch. Also from Kansu.

chinensis. *L. amphyssa Mén.* (Vol. 1, p. 182). — **chinensis** *Hall* differs from type form chiefly by the absence of the white streak in cell and spot of forewings. The spots of outer band are narrower and similarly of middle band of hindwings. On underside also both bands are narrower. Besides the black postdiscal spots on underside of hindwings are larger and more diffuse. Ta-tsien-lu; transition forms occur in Corea.

meridionalis. *L. homeyeri Tancré* (Vol. 1, pl. 57 c). — **meridionalis** *Hall* differs from *homeyeri* and *venata Leech* by the very pronounced white spots and bands of upperside, which are approximately like those of *hellmanni-duplicata*. Underside paler, more buff as in *venata*, the white spots also large. Tzeku.

albidior. *L. albomaculata Leech* (Vol. 1, pl. 57 c). — **albidior** *Hall.* The ♂ has a somewhat wider and slightly longer white band on forewings extending to lower median nervure instead of to just below median nervure. Besides this generally 2 separated apical spots are present. In the ♀ the band of forewings is also slightly wider than typical, the two spots above and below median nervure are not widely intersected by same. Band of hindwings is also somewhat wider and does not decrease in size towards costa. Tzeku.

C. Sub-family: **Euthaliinae.**

6. Genus: **Euthalia** *Hbn.*

E. patala Koll. (Vol. 1, p. 191). — A subform **occidentalis** *Hall* is established belonging to *pratti Leech* (Vol. 1, pl. 58 e) which has already been dealt with. It occurs at Ta-tsien-lu and is smaller. In the ♂ the spots of the oblique band are smaller and more widely separated and almost round. On hindwings the 2 white spots near costa are more or less extinct. The ♀ resembles the ♂ more than is the case in the type form. On forewings the white spots of oblique band are scarcely larger than in ♂, ⅓rd as large as in *pratti* ♀. There are only 2 subapical spots present. Discal spot is absent on hindwings, costal spot can also be absent. *occidentalis.*

E. undosa Fruhst. — The form **rickettsi** *Hall* (♂) has a darker green ground colour on upperside and whiter bands than ♂ and ♀ of *undosa*. The bands are also wider, those of hindwings bluer outwardly. Bands of underside are wide, pure white. East China, N.W. Fukien. — According to the same author *themistocles Oberth.* is synonymous with *undosa*. *rickettsi.*

D. Sub-family: **Vanessinae.**

9. Genus: **Pyrameis** *Hbn.*

P. atalanta L. — We have to add a few synonyms in this species: *testacea Pionn.* is already described as *flavescens Fritsch* and *pallida Fritsch* has later been named *millieri Cab.*

P. cardui L. — In the subspecies **rogeri** *Meilh.* the black spots at base of forewings are almost entirely absent. Of the normal 5 apical spots, the largest with 3 divisions lying furthest inwards has disappeared, the other 4 are conjoined almost forming a band. Marginal area of hindwings differs. The marginal row of black dots is retained, the following row is extinct and the 3rd row is white instead of being black. — **varini** *Meilh.* is a transition to same. The innermost row of spots on hindwings is still black. — In **browni** *Meilh.* the irregular and more or less traverse black band of forewings is absent from ⅓rd of costa in the direction of anal angle. Hindwings also paler owing to reduction of black markings. Only the ocelli stand out prominently. *rogeri.* *varini.* *browni.*

10. Genus: **Vanessa** *F.*

V. io L. — **transparens** *Beuret* is the name given to a deformed specimen in which the red-brown scales are missing on forewings, whilst the black, yellow and blue patches are normal. On hindwings the patch that is normally red-brown, is black-grey. — **askysia** *Haanshus* has a grey-brown ground colour, the blue of eyespot is only poorly developed. *transparens.* *askysia.*

V. urticae L. — Besides the forms already mentioned due to varying temperatures we still have **amploides** *Reuss* which is said to vary from normal type by relatively wider forewings. The lower corner of outer margin is poorly developed and also the curve above same. *amploides* is said to be obtained if the larvae bred in a slightly amplified temperature. The counterpart is: — **falcoides** *Reuss* with relatively narrow forewings and sharply pronounced corners, formed somewhat like *c-album*. This form is obtained if larvae are bred in slightly lower temperature (viz. in cool summers). The treatment of the pupae is said to be without influence. — The race **septentrionalis** *Poulton* from N. Norway is said to differ from specimens from more southerly regions by deeper red ground colour of hindwings. The blue marginal spots of hindwings are smaller and the red main band narrower. Underside also is more blackish. Differences as compared with *polaris Stgr.* (which is said to be only an aberration and no race) are not stated. Presumably there are none. — **eximia** *Shelj.* from Mandchuria is distinguished by its large size and the fiery red ground colour. Black markings are heavy; the two discoidal spots on forewings and the spot on inner margin are larger. Often black scales extend from the latter to close of cell. This form differs by its normal yellow spots from *chinensis Leech.* From this short description it is impossible to say whether the form described on p. 228 as *mandschurensis Kleinschm.* is identical with same. — In ab. **flavofasciata** *Debauche* the yellow apical spot on hindwings is extended forming a band, which stretches to anal angle. — *fasciata Masl.* is an older name for *pseudoconnexa Cab.* dealt with in Suppl. 1, p. 204. *amploides.* *falcoides.* *septentrionalis.* *eximia.* *flavofasciata.*

V. polychloros L. The form described on p. 201 as *circumpunctata Cab.* should have the older name of *quinquepunctata Reynolds.* — Similar specimens occur frequently in E. Prussia and are named **punctata** *du Bois-Reym.* There are 4—5 black dots within the marginal band of hindwings and besides the wing contour varies and approximates that of *Van. urticae*. The black spot near base of hindwings often has a fairly straight edge; frequently these specimens are smaller. The yellow ringlets round the spots (as in *quinquepunctata*) are absent here or only rarely present in the shape of slight yellow dusting. In Königsberg, E. *punctata.*

orichatcea. Prussia such specimens are frequently captured. — **orichalcea** *du Bois-Reym.* is the race from the narrow tongue of land separating the Haff bay from the Baltic sea. It has a dull yellow brassy ground colour and transition forms are found at Königsberg. The specimens are smaller than normal and the markings are not so intensive and dark. Slevogt mentioned in 1910 having captured similar specimens in the Baltic Provinces.

nigroflava. — **nigroflava** *Biezanko* has a row of large black spots immediately before the outermargin of forewings and next to same on inner side a row of yellow lunules. The yellow spots on costa of forewings are larger than normal and lighter. On costa of hindwings the yellow spot is almost as large as the black one. On outer margin next to the blue spots there is also a row of large black spots.

flavo-maculata. *V. antiopa L.* — **flavomaculata** *Masl.* has a yellow spot on upperside of hindwings in the same position as in *polychloros*, it is smaller than the uppermost blue spot and is situate about equally high.

11. Genus: **Polygonia** *Hbn.*

P. c-album L. In this species in Vol. 1, p. 207 we described a form *reichenstettensis Rühl.* According

reich-stettensis. clongana. to v. d. Goltz it should actually be named **reichstettensis** *Fettig.* — **elongana** *Cab.* is a deformed specimen with long, narrow forewings of pale colour. The normally shaped hindwings are brownish red, the black spots are more indistinct than normal. The yellow marginal spots of forewings are less distinct, on hindwings small but distinct.

crebina. *P. gigantea Oberth.* In this species a very dusky specimen is named: **erebina** *Oberth.* Upperside of hindwings is also blackish and with scarcely any markings. On middle of forewings there are 2 yellow-red spots retained in the ground colour and a few semi-extinct light patches at apex.

12. Genus: **Araschnia** *Hbn.*

alba. *A. levana L.* — In **alba** *Zobel* the yellow-red patches of upperside are pure white, the black markings

gerardii. bold, not diffuse. On underside the light markings are more yellowish, the violet paler. — **gerardii** *Oberth.* is almost uni-coloured black-brown on forewings. Only 3 white submarginal spots and above same 2 white dots close to costa are left of the markings. Hindwing is also black-brown from base to close of cell and at costa and abt. 2 mm wide at outer margin, the remainder milky white. A quite similar specimen is illustrated in the Berlin Entomological Paper, Vol. 54, pl. 1, Fig. 13.

13. Genus: **Melitaea** *F.*

M. maturna L. The species is rare in E. Prussia and only periodically more frequent at certain localities. These specimens were previously held to be *wolfensbergeri Frey* (from the High Alps) or *urbani Hirsch*

aestia. (from the Salzach Valley). On account of the entirely different locality the name **aestia** *du Bois-Reym.* seems justified. The specimens are duller than type, more unicoloured and heavily adumbrated. The ♀ is generally smaller. The form has been found hitherto in the famous Frischings Moor, in Moosbruch and a few other localities.

umbrata. *M. cynthia Hbn.* — **umbrata** *Calv.* denotes specimens with grey-brown uppersides of forewings without any white spots. In the middle cell there are 2 red-brown spots and also remnants of a red-brown band.

alpicola. Base of hindwings is grey with a few white patches. — **alpicola** *Galv.* is the race from the higher Alps in Salzburg, Tyrol and Switzerland. The white markings vary in extent in ♂, the bands of spots incline to be impoverished. The red-brown spots of middle cell are not striking, the marginal spots are white, grey or brown. The ♀ is paler, rarely with white discal band. The ground colour of underside of wings is less brilliant red with narrow yellow bands. The normal form from lower altitudes is larger and more brightly marked.

semigriseis. *M. aurinia Rott.* — **semigriseis** *Cab.* has normal forewings. Hindwings are blue on upperside, the black markings are grey and the fuscous submarginal band is yellow.

jubilaris. *M. cinxia L.* — To the aberrations of underside we have to add **jubilaris** *Cab.* On hindwings the normal black spots in the yellow discal band here form a striking almost completely transverse band.

M. phoebe Knoch. Here it must be stated that Verity no longer considers, as stated on p. 208, that *bethune-bakeri* is synonymous with *guevara Fruhst.* It occurs in Andalusia and Cuenca. I had no description of same and Verity also does not mention the distinctive features of the two forms. *bethune-bakeri* is

rubro-fasciata. often wrongly classified as *occitanica Stgr.*, but here again no differences are mentioned. — ab. **rubrofasciata** *Gussich* has no black discal bands on upperside of both wings. Base of hindwings is black with a fairly long rust-coloured spot. Outer margin is widely black. On underside only the black marking in discal area of hindwings is absent.

M. didyma O. On p. 210 it was stated according to Verity that the 2nd generation of *romana Calb.*

romula. was identical with *caldaria Vrty.* Later the name of **romula** *Vrty.* was given to same and this also was

applied to the 2nd generation of *subpatycosana*. It is smaller than the 1st generation and fuscous in ♂ and somewhat whitish or with rosy admixture in ♀ but not ochreous as the summer forms usually are. The black dusting at base is reduced and can also be absent. The same author has created an almost incalculable number of new forms. — **rectealpina** *Vrty.* as the author himself declares completely resembles typical *didyma* in the ♂; the ♀ is like *alpestris Stgr.*, at least it has the whitish ground colour of the latter. — **superalpina** *Vrty.* from somewhat higher altitude, 2000 m, above Bormio, is somewhat deeper and duller in the ground colour of ♂ whilst the ♀ is suffused with a pale grey nebula, only costa of hindwings is still yellow-red. Otherwise the pale marking is darker, the black is more grey. — **garumna** *Vrty.* typical from Vernet-les-Bains in S.W. France is a race resembling *oreithyia Fruhst.* from Trieste. It is also large, but forewings narrower, fringes longer and whiter, markings contrast sharply. On the other hand the ♀ is paler with duller colouration and more yellowish especially on forewings. — **postgarumna** *Vrty.* typical of Garzac (Gironde) is the 2nd generation which is almost identical with typical *didyma* from Bohemia and only differs from same by the more yellow and paler yellow-red ground colour. It is less black on inner margin of hindwings. — **pyrenealpina** *Vrty.* occurs not far from there in Gèdre (High Pyrenees). The ♂ almost always is like *subalpina Vrty.* (Suppl. 1, p. 210) or also like *armoricana Oberth.*, or even *meridionalis Stgr.*, as all the black spots are small and all the wings suffused with grey except the costa of hindwings. It differs from *ravalpina Vrty.* (vide below) and *meridionalis* by the much deeper tone of grey. The ♀ resembles *alpina* and is very dusky. — **subseilemis** *Vrty.* from Mt. Aigoual in the Cevennes in accordance with its geographic occurrence is a mixture of *seilemis Fruhst.* (from the Maritime Alps) with *subalpina Vrty.* (from Susa). The ♂ resembles *subalpina*, but is larger and more brightly marked, the ♀ resembles a small *seilemis* (from the Maritime Alps) by its wide forewings and bright markings but the black spots are smaller. This minute difference is said to justify the creation of the name. — **praemarsilia** *Vrty.* serves to separate late specimens of the 1st generation of the race *protea Vrty.* (p. 210) from Tuscany because they resemble or are identical with *marsilia Fruhst.* through the reduction of the black spots and the paler more yellow tone of ground colour. The ♀ belonging hereto is a transition between *subalpina* and *marsilia*. The spots are medium large and numerous. The inner submarginal row is grey, sometimes the spots in the basal area have grey edges. Ground colour as in a *marsilia* ♀, varying completely from the more ochreous *caldaria*. This race is said to be distributed also in S. France, on the lower Piave and as far as Sofia. Later on it is to be presumed that new names will be created for these other localities. — The double name **caldaria-marsilia** *Vrty.* has been introduced for specimens from the locality of Nîmes, Nice, Monferrato, Ponzone forming a mixture of *caldaria* and *marsilia*. To compensate for this the territory of *marsilia* is limited to St. Zacharie (600 m) and

rectealpina. *superalpina.* *garumna.* *postgarumna.* *pyrenealpina.* *subseilemis.* *praemarsilia.* *caldaria-marsilia.*

refers only to specimens having the individual spots of different sizes and with fuscous ground colour a richer and warmer shade. In the ♀ it is inclined to yellow-brown. — **microleopardata** *Vrty.* is now therefore utilised for specimens from Dep. Lot in which the spots are fairly uniformly large. They are of the 2nd generation. The spots are usually large and round on a dull ochreous ground. The race differs from *leopardata Vrty.* by its smallness and duller colour. The 1st generation from this locality belongs to *rubida Vrty.* and *subrubida Vrty.*, typical of Saxony and Berlin. — **magnaestiva** *Vrty.* is a mixture race from the coast south of Montpellier. The 1st generation quite resembles *patycosana Vrty.* from the coastal regions of Tuscany and Liguria. The 2nd generation varies. It is very large like *protea* and *romana* (1st generation), the wings are almost as wide as in *subpatycosana Vrty.* The ♀♀ are generally identical with *romana* only the yellow-red ground colour is duller and more whitish. Some specimens are more like *subpatycosana* in ground colour and marking. Nothing is said about the ♂. — Specimens from the southern side of the Simplon are already known as *tarlonia Fruhst.* **subtarlonia** *Vrty.* denotes similar specimens which however are somewhat smaller and which occur above Lago Maggiore. Specimens of the 3rd generation from Tessin are named *georgi Fruhst.* According to Verity these are late emergences of the 2nd generation. The first consists generally of brilliantly coloured specimens on upper and undersides. On underside the black streaks are on pure white ground, they are quite typical of *didyma*. In 25% of the specimens the black spots are less developed, yellow-red colour less deep. Some ♀♀ are exactly as in Mid-Germany, others are like *ala* (Vol. 1, pl. 66 f). Probably the name ab. **ignea** *Vrty.* denotes these specimens, because no name would be necessary for specimens that are "quite like *didyma*". It is not at all clear which specimens the name denotes. The typical locality for same is Intra, so that *ignea* is much more likely to belong to *subtarlonia* than to *georgi* which occurs so far away. — **atralpina** *Vrty.* denotes the form from high altitudes in the Valais. Wings with heavy black scaling, the spots in submarginal area merge somewhat. The illustration of *alpina* in Vol. 1, pl. 66 f. is said to represent this form. — Similarly a high altitude form of the southern Tyrol *naina Fruhst.* (p. 209) must be subdivided. These are named **ravalpina** *Vrty.*, typical from the upper Schnalsertal (no particulars are given of altitude). It is smaller than *naina* but nevertheless larger than *rectealpina*, otherwise the ♂♂ are exactly like *naina*. The ♀♀ all more or less uniformly suffused with pale green-grey, exceptionally they are as dark as *atralpina* but not with such dark spot marking as *alpina* and also not only dark along the veins as *atralpina*. — The race occurring in Trieste and Istria was wrongly designated by Stauder as *persea Stgr.* In the 2nd generation it is almost identical with *marsilia*, exceptionally somewhat like *caldaria* but differing through the larger size and the pale dull yellow tone like in the 1st generation of *oreithyia Fruhst.* from Dalmatia. In

microleopardata. *magnaestiva.* *subtarlonia.* *ignea.* *atralpina.* *ravalpina.*

postorcithyia. the ♀ the colour is occasionally impure white. It is not identical with *subalbida Schtz.**). It is named **postoreithyia** *Vrty.* — In the East the race *caucasica Stgr.* is once again erroneously described by Verity as *trivia* var. *caucasi*. The former does not originate from the Caucasus as the name indicates but from the marshy surroundings near Elizabetpol. According to the description and the locality, Latpari Pass, one would not think that both were identical. The description reads: "*caucasi* represents *didyma-alpina*. In the ♂♂ and ♀♀ the black markings are less extensive. In the ♀ ground colour yellowish white at margins of wings, greenish grey at base. Only costa of hindwings widely yellowish red otherwise normal." — On the other hand the *araratica.* name **araratica** *Vrty.* is new. This is a 2nd generation from Ararat and very close to *caldaria Vrty.* from Tuscany, only the black markings on upperside of ♂ are so much reduced, which is rare in Italy. The ♀ does not differ on upperside from *caldaria*. On underside however the yellow colouration of apex is more extensive. The fuscous bands might more correctly be described as yellow and they are more subdivided. The black streaks are thicker and longer. According to Verity the other eastern names can be withdrawn. For all small races the name *dalmatina Stgr.* should be utilised whilst *bosphorana Cul.* (p. 208), *roccii Trti.* (p. 210) and *lilliputana Oberth.* (p. 212) can be eliminated. — From N. Africa we have the newly created *protea-occidentis.* **proteaoccidentis** *Vrty.* which occurs in the regions of *mauretanica* but at places of different natural formation. In the ♂♂ and ♀♀ it is similar to *occidentalis* but with more prominent black spots and duller yellow-red ground colour on upperside, similar to *protea* on underside. Typical from Fum Khency and Mekney (Morocco). — Opposite in Catalonia there is also a race similar to *protea* but varying by its somewhat more elongated forewings and more extensive black markings. It differs from the other spanish races by its smallness and deeper fuscous upperside, whilst on underside it is less red. The rows of spots on upperside are almost complete, only the characteristic angular row and the inner submarginal row are absent. The underside has the fiery markings of *protea*. The ♀ is smaller than *protea* and scarcely varies. The yellow-red ground colour is suffused with white like all the other spanish races. The markings are more sharp and more uniform than in *protea*. *cataprotea.* The 1st generation is named **cataprotea** *Vrty.*, typical of Barcelona. The late emergences of the 1st generation are smaller, paler yellow-red in the ♂, whitish in the ♀ with reduced black markings. The specimens resemble *occasus Vrty.* which occurs at the same time in Algiers, but the spanish specimens are often larger. The ♂ is a more vivid yellow-red, the ♀ more whitish than *occasus*, the rows of spots varyingly developed, similar *cataoccasus.* to the illustration of *occidentalis* in Vol. 1, pl. 66 d. It is named: **cataoccasus** *Vrty.* — The 2nd generation in autumn is more similar to *dalmatina* by its smallness and dull ochreous colour, but the black spot marking is more extensive especially in the ♀; besides this it resembles a small form of *cataprotea* so that a further *cataminuta.* description is superfluous; it is named **cataminuta** *Vrty.*, typical from Valvidrera. Only exceptionally this generation has specimens of *cataoccasus.* — According to Verity it may be presumed that there is only a *super-caldaria.* single generation of *aabaca Fruhst.* — The same applies to **supercaldaria** *Sag.* from Sta. Fé (Portugal). This differs from *caldaria* by more elongated forewings and the more yellowish tone of the fuscous ground colour. Of the rows of spots the angulated one is very distinct, similarly the outer submarginal row, whilst the inner row is quite extinct and the marginal row consists of minute dots. The black dusting is considerably reduced and quite absent in a few of the ♀♀. The underside reminds one somewhat of *deserticola* by the black spots and streaks. — According to Staudinger the race *meridionalis* differs considerably from *occiden-hiberava.* *talis* from W. Europe by the greenish grey forewings of the ♀. A single ♀ from Orihuela is named **hiberava** *Vrty.*, in spite of the unusual locality it resembles *meridionalis*. — Now to the new asiatic forms. *casta* described in Vol. 1, p. 220 is said to be identical with *didyma-persea Stgr.*, whilst Kollar's form is correctly named *trivia* var. *persica*. It seems doubtful whether this opinion of Verity can be proved. In Persia 2 forms of *didyma* occur of which it is not yet ascertained whether these are 2 races or the two generations of one race. The smaller one is similar to *araratica* from which it differs by the more complete and bolder black marking on upper and undersides in the ♂ and ♀. The ♀ is duller and paler yellow-red, in some places impure white between the veins and in the cell. On underside the black streaks are so heavy that they *casta.* remind one of *deserticola*. For these Verity designates the name **casta** *Vrty.* (*casta Koll.* should therefore *magnacasta.* be withdrawn). — The second, larger form **magnacasta** *Vrty.* is the one illustrated as *persica Koll.* in Vol. 1, pl. 66 d. Verity has this form from S. Persia, Askabad and Sharud. It is very similar to *ala*, the angulated row of spots and basal spots are more or less extinct, whilst the marginal and submarginal spots are bold. This is therefore the reverse of *deserticola* and *casta*. Further differences from *ala* are not mentioned. — **chitrali-***chitra-* **pluvia** *Vrty.* is said to be the 2nd generation of *chitralensis Moore* dealt with in Vol. 1, p. 219, pl. 66 f. A pair *lipluvia.* from Utzen-nullah and Shishi-kuh very much resembles *palustris Vrty.*, which is the race from Tuscany, it differs from same however in that the submarginal row of black spots are changed to a transverse thin arcuate line, the extremities of which merge in the marginal band. Perhaps this is only a form of *ala* as Verity does not consider same to be a separate species.

M. ala Stgr. mentioned in Vol. 1, p. 219, pl. 66 f. as a form of *didyma* but subsequently recognised as a species on the basis of an examination of the genitals by Suschkin. Staudinger had already suspected this as *didyma-turanica* occurs in the same territory. According to Sheljushko *didyma* and *ala* are always

*) On p. 210 erroneously stated to be *subalbida Vrty.*

differentiable by underside, the black markings in *ala* being much finer and distincter. — Specimens from Tuptschek (Peter the Great Mountains) form the race of **kotshubeji** *Shelj.* differing as follows from *ala* and *bicolor Seitz.* ♂ and ♀ with narrower forewings. On these the submarginal band consists of sharply pointed triangles. On hindwings these small spots are closer together and form crescents. In *ala* these are generally absent on hindwings or only very faint and interrupted. The ♀ besides has a more reddish ground colour than *ala*-♀. On underside the hindwings and apex of forewings are a purer white; on hindwings on the other hand base and inner margin are more heavily dusted with black. — ab. **immodulata**-♀ *Shelj.* varies from *ala* in that the forewings are just as yellowish red as the hindwings, whilst otherwise they are more yellowish grey. — ab. **latemarginata** *Shelj.* has, as the name indicates, a wide black margin on both wings. The other spots are large and partially diffusedly conjoined. *kotshubeji.* *immodulata.* *late-marginata.*

M. trivia Schiff. There are 2 further aberrations of the underside. — **nigrofasciata** *Guss.* has black lunule lines that enclose the rusty red markings of hindwings considerably increased forming a band. — ab. **striata** *Guss.* has the black streaks forming the inner edge of the rusty red band radially elongated towards the base. On underside of forewings the black markings are considerably reduced. On upperside of hindwings there the same radial streaks. — At Konia and in the Erdschias territory the race of **pseudodidyma** *Rbl.* occurs. It is somewhat similar to *catapelia Stgr.* from Central Asia but differs on underside of hindwings from same by the yellow ground colour. Markings on upperside are faint and especially in the ♀ similar to *didyma.* Fringes wide and pure white. In Beirut and Haifa the species is also faintly marked, still paler buff, small and therefore up to now classified under *nana Stgr.* which however is only a dwarf form of typical *trivia.* — According to Verity *robertsi Btlr.* mentioned in Vol. 1, p. 219 does not belong to *didyma* but to *trivia* and with *catapelia Stgr.* is synonymous with *persea Koll.* Whether this change is the result of an examination of the genitals is not indicated. *nigro-fasciata.* *striata.* *pseudo-didyma.*

M. aurelia Nick. — The subsp. **cinerea** *Mellaerts* has upperside of forewings suffused with yellow. *cinerea.*

M. athalia Rott. — The form **mirabilis** *Fernand.* from Spain is not allotted to any special race. On the dark forewings there is only a submarginal row of light spots and a very faint spot both below and behind cell. On hindwings besides the relative row a further inner one is discernible. On underside forewings are heavily marked with black, hindwings fairly normal. — **fallax** *Horm.* denotes the race from Ischl (Salzburg) which is very similar in size and markings to *aurelia*, but palpi and genitals indicate it to be a form of *athalia.* — **parthenopsis** *Hormuz.* occurs in the same locality and is not rare; it appears a little earlier than otherwise do the *athalia* forms. Ground colour is pale reddish yellow as in *parthenie* and the black-brown bands are reduced. Also on hindwings the pale ground colour is more extensive in discal area. The palpi *mirabilis.* *fallax.* *parthenop-sis.*

correspond to those of *athalia*, the genitals vary slightly. The ♀ resembles *parthenie* on upperside and can only be differentiated by the palpi. Underside of hindwings is also like *parthenie.* — **retyezatica** *Diösz.* from Transylvania is similar to *mehadiensis Gerh.* but smaller. Ground colour a bright reddish yellow. Forewings with heavier and deeper black markings. Also markings of hindwings are deeper black. Base is black to the band of discal cell, with or without a yellow spot in the middle. Underside of hindwings varies considerably in marking but is generally brightly marked. The ♀ has a paler ground colour, the middle lines are then still paler. — **pygmaea** *Hormuz.* from S.W. Rumania is a small race. Ground colour of upperside very pale, markings like *dejone.* On the other hand hindwings on underside correspond more to *aurelia.* — Whilst hitherto *athalia* was deemed to be single-brooded in Spain, Querci has discovered a double-brooded race in the Serra de Estrella. The specimens of the 1st generation are precisely like large *iberica Stgr.* The 2nd is much smaller (30 mm as against 35—38 mm) the yellow-red ground colour is generally paler, the darker markings finer, black dusting at base not so extensive and so dark; it is named **iberanana** *Vrty.* — Verity introduces the new name **septentriorientis** *Vrty.* for *orientalis Mén.* which was dealt with in Vol. 1, p. 222 as being an *athalia* form. It is a genuine species similar to *asteria Frr.* according to the genitals. An important characteristic is that in most specimens the palpi have brilliant red hairs on upper and undersides. In the same treatise a few pages later, it is referred to as an *asteria* race and at the conclusion as a race of *britomartis (aurelia)* = *orientalis* auct. — *latefascia Fixs.* according to Verity occurs as a type only in the Amur. Our illustration (Vol. 1, pl. 66 i) is said to represent a larger and finer specimen of the race from Corea. In this the middle band of hindwings on underside is always white, not occasionally yellow. It is named: **coreae** *Vrty.* — Under *athalia* Verity mentions a race **imitans** *Vrty.* from Chita. This is a form which Reverdin has illustrated as *kenteana.* No description of the illustration seems to exist. It is similar to *aureliaeformis Vrty.* but differs from same by much thicker black markings and for this reason the name *imitans Vrty.* is given. This illustration does not belong to *kenteana Stgr.*, but on forewings it resembles closely to *dictynna* in Vol. 1, pl. 67 b, only on hindwings, according to Reverdin, it has many more yellow-red spots, about as many as in the forewings of our illustration of *dictynna.* Also underside closely resembles same. Verity possesses ♂♂ and ♀♀ from East Sajan of which the ♂♂ have just been discussed. The ♀ belonging thereto is much blacker and corresponds entirely to the illustration of *aurelia-seminigra* (Vol. 1, pl. 66 h). According to the dark palpi this cannot be an *aurelia*, but must be very close to *aureliaeformis.* Whether there are any differences between *imitans* and *seminigra* and what they are, cannot be decided from Verity's description because according to the illustrations *seminigra*-♂ is not more melanic than *imitans*-♂ (*kenteana Rev.*-♂). The correct *aurelia* occurs in the same territory as the race *mongolica Stgr.*, a name which Verity unnecessarily *retyezatica.* *pygmaea.* *iberanana.* *septen-triorientis.* *coreae.* *imitans.*

leucophryne. alters into *mongolicola*. Schawerda mentions in the description of his form *tricolor* also an ab. **leucophryne** *Mazzola* (i. l. ?). According to the particulars this is a ♂ with heavy white marginal spots on fore and hindwings and was captured by him in the uppermost Oetz Valley.

M. pseudathalia Rev. It was already mentioned on p. 215 that Verity only considers this a race or racial group. Besides this *helvetica Rühl* (Vol. 1, p. 222) is an older name. Apart from the result of an examination of the genitals Reverdin's chief reason for separating *pseudathalia (helvetica)* as a species was the circumstance that *athalia-aureliaeformis* and *pseudathalia* occur concurrently in Turin. According to Verity and Suschkin the reverse is the case and *aureliaeformis* is a separate species! — As in *didyma* so also in *athalia* the influences of the northern and central races meet in the Gironde; here the northern *athalia* and *pseudathalia (helvetica)*. In consequence we have the race *vividior Lhomme* a description of which is not known to me. Nevertheless the name **postvividior** *Vrty.* is created here because the 2nd generation is somewhat smaller and duller in colouration. — Reverdin had already ascertained that specimens from Solothurn and Iscnfluh (in the Bernese Oberland) are a transition between *athalia* and *pseudathalia* in the genitals and they were therefore held to be hybrids. Now they are denoted as a mixture race **synexergica** *Vrty.*, without further description. — The 2nd generation in the Dep. Var is considerably smaller than the 1st (30—32 mm against 34—36 mm). There do not appear to be any other differenees; it is named **dejonella** *Vrty.* — In a preliminary note Rocci mentions without giving any particular descriptions that there are 2 races, *melathalia* and *divergens* in the frontier territory between Lombardy and Piedmont. These have 2 generations and will require 10 new names, which also are already being subdivided although they are not yet definitely established, and for this reason no purpose would be served in enumerating them here.

postvividior. *synexergica.* *dejonella.*

M. dejone Hbn. — In the race **rafaela** *Fruhst.* from N. Italy, without further particulars, the distribution of the black rows of spots is more regular on upperside than in typical *dejone* from S. France. The ♀ has a wider and paler yellow middle band on both wings. The pale bands on underside of hindwings are more whitish, cell spot there larger. The spots and bands are more sharply outlined with black. — **philomena** *Fruhst.* has a darker ground colour in both sexes. The bands of black spots on forewings almost double as wide as in *rondoui Oberth.* from the Pyrenees and thereby it resembles *athalia*. On underside it more inclines to resemble typical *dejone*, but differs by the more extensive ochreous middle band on hindwings. Basal and cell spots are still heavier than in *nevadensis Oberth.* The ♀ occurs in 2 forms, the one is very similar to *nevadensis*, the second is more brightly coloured. Red-brown, deep black, ochreous and buff tones of colour occur and form a combination resembling *phoebe-alternans Seitz*. The form emanates from Portugal. — On p. 216 it was indicated that it was still uncertain whether *nevadensis* belongs to *dejone* or *athalia*. According to information from Mr. Ribbe, the genitals have been examined by Dampf who ascertained that it belongs to *dejone*. Verity holds an opposite opinion as was indicated under *athalia* (p. 214).

rafaela. *philomena.*

M. parthenie Bkh. — In the race *nevadensis Spl.* the subsp. **corythalina** *Schaw.* is newly established. On forewings the black middle and premarginal bands are absent; only the line between the two is retained. Otherwise the middle and outer areas are brown. The veins there, base of wings and ringlets in the cell are black. On hindwings base is black and the outer area pure brown with black submarginal and marginal lines. As the form corresponds to *athalia* ab. *corythalia Hbn.* it is named *corythalina Schaw.* — A subform of *varia M.-Dür*, which according to many authors is a genuine species, is named **piana** *Higgins*. It is larger than typical *varia*, especially the ♂. The light bands on underside of hindwings are yellowish and not brilliant white (viz: like *parthenie*). On underside of forewings the pale yellow marginal band is inclined to be wider and more compact than typical; especially apex is widely yellow. From the Col-di-Tenda.

corythalina. *piana.*

M. dictynna Esp. According to Warren, *briantea Trti.* dealt with by us on p. 217 as well as *aurelita Fruhst.* are synonymous with *wheeleri Chapm.* According to Verity it is a definite *dictynna* race, whilst elsewhere it has been also placed to *britomartis (aurelia)*. Characteristic for classifying same to *dictynna* is the apex and the rhomboid mark. Wheeler has captured in Reazzina large *wheeleri* in June, *dictynna* in July and small *athalia*-like *wheeleri* in August and therefore eonsiders *wheeleri* to be a separate species. According to Verity the position is as follows: these 3 generations belong to 2 groups. Each of these is single-brooded in the first year *(dictynna)*, double-brooded in the following year *(wheeleri)*. — The smaller 2nd generation which otherwise scarcely differs is named **postwheeleri** *Vrty.* Warren considers *wheeleri* a separate species from *dictynna*. — In the aberration **confluens** *Masl.* the middle row of spots on upperside of both wings is extended to form a light band. On underside of hindwings on the other hand the light middle spots are replaced by a dark band.

postwheeleri. confluens.

M. plotina Brem. According to Verity the description of the species in Vol. 1, p. 223 was insufficient. In his opinion the specimens resemble *dictynnoides Hormuz.* so much that they can only be classified if one knows the locality. As the genitals will very probably differ the name is retained.

The number of unnecessarily altered names is large, we group them together with a few synonyms. The first name given is in each case the new name p r e s u m a b l y the better one:

asteria-rebeli Wnuk. = *altaica Stgr.*
athalia-fruhstorferi Wnuk. = *alatauica Fruhst.*
athalia-hispanica Wnuk. = *iberica Stgr.*
athalia iberagigas Vrty. = *iberica Stgr.*
aurelia-centralasiae Wnuk. = *mongolica Stgr.*
auretia-menetriesi Carad. = *orientalis Mén.*
cinxia-carpelana Vrty. = *castiliana Trti.*
maturna-staudingeri Wnuk. = *uralensis Stgr.*
maturna-allajana Wnuk. = *altaica O. Bang-Haas.*
phoebe-wagneri Wnuk. = *alalauica Wgn.*

According to Verity *kenteana Seitz* (Vol. 1, pl. 57 a) and *tinica Fruhst.* are synonymous. Further in his opinion *niphonica Btlr.*, *bathilda Fruhst.* and *sutschana Rey.* are the same.

13. Genus: **Timelaea** *Luc.*

T. maculata Brem & Grey (Vol. 1, p. 226, pl. 71 e). — **stoetzneri** *Draes.* is a melanic form. The spots *stoetzneri.*
of forewings merge forming heavy black streaks and the yellow ground colour is only slightly retained at base and between the veins near the outer margin. The two dark basal spots in the light patch are not enlarged. Base of hindwings completely dark. A yellow area retained before the margin that extends towards the anal angle and along the inner margin to base. The spots therein are not enlarged. Peking.

14. Genus: **Argynnis** *F.*

A. aphirape Hbn. In Vol. 1, p. 227 the form *tomyris Hbst.* was dealt with as being a synonym. According to information kindly supplied by Dr. v. Dubois-Reymond there are actually differences on underside. **tomyris** *Hbst.* from E. Prussia is much smaller, darker on upper and undersides and the pattern of upperside *tomyris.*
very clear. *ossianus Hbst.* is still smaller and markings diffuse. On the other hand the small asiatic forms are paler and with delicate marking. *helmina Fruhst.* is probably synonymous with *tomyris.* — The race **cere-** *ceretanensis.*
tanensis *Deslandes* occurs in the East Pyrenees, i. e. very far south for this species, but certainly only in higher altitudes. The ♂ is a warmer russet on upperside than type and the black markings around the cell slightly increased. The fulvous middle band on upperside of hindwings is edged outwardly along its whole length by black. The ocelli between lower and upper median nervures and also between discoidal and subcostal nervures have a yellow-red nebula. Underside is also more lively in colour. The ♀ differs less from ♂ than customary. Ground colour is not darker, markings therefore more distinct than in type. Marginal lunules at times still paler than ground colour. — In ab. **sublatefasciata** *Desl.* the fulvous band behind the base is *sublatefasciata.*
quite extinct and the area up to the discal band is greenish fulvous, the pattern there only being indicated by a few black scales. — Among *haverkampfi* one comes across specimens dusted with blackish, that are named **melanira** *Cab.* *melanira.*

A. selene Schiff. — **futura** *Reuss* denotes a few specimens bred from the same region, in which under- *futura.*
side of forewings is marked in just the same way as hindwings. — **medionigrans** *Cab.* has the black spots *medionigrans.*
on upperside of forewings combined forming a middle band of irregular outline. — **vanescens** *Lamb.* has paler *vanescens.*
ground colour. Besides all black spots of forewings are extinct excepting those at disco-cellular and a single cell spot. The black submarginal spots merge with the submarginal lunules. On hindwings the marginal spots are normal, the others are absent. — **halflantsi** *Cab.* is a less extreme *thalia Hbn.*, which was already dealt *halflantsi.*
with in Vol. 1. Outer margin of forewings is radially black with light submarginal spots therein. The rest of the black pattern is extinct except for a large black spot at disco-cellular and in middle of cell. Hindwing is black except for a few light submarginal dots. — **semipallida** *Nessling* is a less pronounced form like the *semipallida.*
previous one. Forewings with very pale ground colour, spots fairly normal. Hindwing is darker than normal owing to an extension of the black pattern. — ab. **hoffmanni-♂** *Kiefer* has uppersides of all wings with heavy *hoffmanni.*
black pattern that partially merges.

A. euphrosyne L. — **zehlae** *Dubois-Reymond* is an isolated form occurring in the Masurian Lake di- *zehlae.*
strict. It is small and dark, like extreme northern and asiatic forms. Pattern of upperside precise and not diffuse as in *answina Fruhst.* Underside is duller and ground colour not so clear as in specimens from Berlin. Zehlau-Bruch, E. Prussia.

A. pales Schiff. — **primula** *Rowl.-Br.* is the only aberration of paler hue, all the others incline to *primula.*
adumbration. But here also the creamy white ground colour only extends over the forewings, hindwing is normal. — **zehlae** *Dubois-Reymond* is a small *arsilache.* Undersides of hindwing more unicoloured and duller. *zehlae.*
On the whole the form resembles the still smaller *lapponica Stgr.* Zehlau-Bruch. — Higgins holds the opinion that the genitals of *graeca Stgr.* (Vol. 1, pl. 68 b), which has hitherto been deemed to be a race of *pales*, differ sufficiently, to classify same as a species. — Belonging as forms to same we have *balcanica Rbl.* and the new **tendensis** *Higg.* In the latter the spots of upperside appear even heavier than in *balcanica* especially *tendensis.*
at margin, but they remain separated. On underside of hindwings somewhat greenish with very distinct submarginal ocelli. Upperside of ♀ somewhat paler than ♂, hindwings somewhat deeper greenish on under-

side. The author himself points out that according to the description his form does not differ from *palesbrogotarus Frnhst.* As however *tendensis* belongs to the species *graeca*, the two must in his opinion nevertheless be different. — An *arsiloche* with normal large black spots but almost pure white ground colour is named

alba. **alba** *Cab.*

posteronubilala. *A. ala L.* — In **posteronubilata** *Cab.* the black spots of upperside of hindwings are normal and distinct, but the ground colour is suffused with black.

bipuncta. avernensis. semieadmeis. eadmeis. *A. ino Rott.* — **bipuncta** *Hoffm.* has only 2 ocelli in marginal area on underside of hindwings. — In **avernensis** *Guill.* a bluish sheen is said to indicate a first stage of melanism. — In **semicadmeis** *Cab.* each spot of the submarginal row on upperside of hindwings is extended to the corresponding spot of the outer row, so that a pattern of "8" shaped marks is created. — **cadmeis** *Cab.* shows a similar development also on

basinigrans. lambinii. forewings. — In **basinigrans** *Cab.* the forewings are black from base almost to the middle, except along costa, on hindwings also costa is dark. — **lambinii** *Rev.* is very heavily blackened on upperside of both wings.

pupillata. *A. lathonia L.* — **pupillata** *Mell.* is a sub-form to *interligata Cab.* having a white dot in the middle of the black spot that is characteristic of the latter and which is formed by the merging of 2 spots. — In

margarela. **margareta** *Steph.* all black spots on upperside of forewings are considerably increased and those of inner margin are confluent forming a wide bar. On the other hand the delicate light marginal line on hindwings is wider and forms yellow-brown arcuate spots anteriorly.

ovalis. *A. aglaia L.* — In **ovalis** *Cab.* there is a 6 mm long oval black spot in the middle of inner margin of forewings, with an oval patch of the ground colour in the centre. Also the spot above same is double as large as normal and quadrate.

A. niobe L. Here Verity has discovered that the name *adippe L.* belongs to a *niobe*-♀ having 7 marginal spots and 6 dots in the middle of wings with mother-of-pearl on underside of hindwings. Therefore besides the species *adippe*, there is still a *niobe* ab. *adippe L.* — The typical northern race from Sweden and Ger-

austriaea. many is relatively small and pale on upper and undersides. — The form from Vienna **austriaca** *Vrty.* is also small, but the ground colour of upper and undersides is warmer. Base of wings blackened on uppersides, often extensively so in ♀. On underside the russet spots are bright and form a pretty contrast. This race is

alpiumlala. not identical with *sisenna Frnhst.* — The race **alpiumlata** *Vrty.* without any further description is said to be a transition between *sisenna* and *laranda Frnhst.* Its typical locality is the Anzasca Valley on Mte. Rosa at

alpiumlaranda. 800 m altitude. — **alpiumlaranda** *Vrty.* occurs on the dry, warm mountains above Lago Maggiore. It is large with fiery pattern on upperside and paler underside. It is not indicated in which way it differs from *laranda.*

alpiumsisenna. — For regularity's sake we also have an **alpiumsisenna** *Vrty.* It is somewhat smaller and has darker fulvous ground colour which is slightly duller. On underside the russet and black patches are more extensive. The typical locality, the Cadore Valley belongs to the territory of *sisenna* and the name is of little importance.

alpiumstricta. — In the W. Alps there is a small and very pale form of the fiery race *pinguis Vrty.*: **alpiumstricta** *Vrty.* typical of the Col de Sestrières. — On the other hand the race of the Cevennes is still brighter than *pinguis* on upperside, but the black pattern varies. Underside more diffuse, more yellow and always without

cebenniea. intermedia. silvery spots; it is named **cebennica** *Vrty.*; typical of Concoules (1400 m). — **intermedia** *Gillm.* is a specimen which has only traces of the silvery spots left on underside. According to Verity this is also the case with Linné's type, so that the name could be dropped if there are no other differences. Besides this we already have a form *intermedia Reuss* in the race *subornatissima.*

A. adippe L. It was already mentioned on p. 225 that the species is also called *cydippe L.* and Verity would like to replace this name by *esperi.* Later on he has reconsidered matters and gives preference to the name *phryxo Bgstr.* Scarcely was this published when he finds that the name of *adippe L.* as a species must under all circumstances be dropped, for as already mentioned this was a *niobe* form; but the name *adippe*

pseudocleodoxa. is nevertheless retained (until further notice), but one should call it *adippe Rott.* — The name **pseudocleodoxa** *Vrty.* is introduced for the form without silvery markings corresponding to *niobe-eris*, because in *cleodoxa* there are minute silvery dots retained in the ocelli. — No race had hitherto been created for North and Mid-

vulgoadippe. Europe but the position has been retrieved by **vulgoadippe** *Vrty.* typical of the New Forest, England. It comes between specimens from Sweden and *bajuvarica Spl.* The green and russet patches of underside are

bajuvariea. about equally extensive. — **bajuvarica** *Spl.* is very fiery in colouration and undersides of hindwings are

parvavireseens. strikingly marked with extensive russet spots contrasting with heavy silvery markings. — **parvavirescens** *Vrty.* from the Serra de Estrella (Portugal) is compared with *virescens Sag.* from Catalonia, a description of which was not available to me. It is smaller than same and the colours are paler. On underside the green is duller and interspersed with black scales.

fontainei. *A. paphia L.* — **fontainei** *Cab.* has normal markings, but ground colour of hindwings is entirely

kerkirana. whitish. Forewings similarly so but only at apex. — *minor Der.* is the same as *nana Steph.* — **kerkirana** *Buresch* from Corfu is a very large race, larger even than *pandora*. The ♂ is somewhat more brightly coloured on upperside than typical *paphia*. Underside a dull green, like *pandora* but with heavier silvery gloss on bands. The ♀ is also like a large *pandora*.

A. laodice Pall. — **conspersa** *Speis.* has a few irregular black spots besides the normal black pattern especially on forewings. Since its discovery this form has not been observed again (according to information from Mr. Dubois-Reymond). — In **melanthauma** *Speis.* the black spots are completely merged in the black-brown ground colour. — **parasagana** *Speis.* has a lemon-yellow spot on forewings, somewhat like *sagana Dbl.* Sometimes also a further spot at apex and in middle of hindwings. All forms from E. Prussia. *conspersa. melanthauma. parasagana.*

A. pandora Schiff. — **dellabaffae** *Rocci* is smaller in comparison to specimens from the italian peninsular. Ground colour is somewhat greenish on forewings and inclining towards yellow; costa and apex paler yellow, both in ♂ und ♀. The black spots are small, in the ♂ the antemarginal spots of hindwings punctiform. On underside the centre of forewings is reddish with a slight inclination to brown, not such a bright red as typical or as in *violacea Trti.* Apex of forewings is light green, turning to pale yellow inwardly and all the spots are small, especially at costa. There are only 2—3 antemarginal spots and no mother-of-pearl markings. Hindwings are green on underside not brownish or olive and with little mother-of-pearl. The silvery middle band is only coherent in its anterior part. The outer row of silvery spots is scarcely indicated as also the submarginal line. Typical from the Val d'Aosta and Susa. *dellabaffae.*

Addenda to Erycinidae.

Sub-family: **Nemeobiinae.**

Genus: **Nemeobius** *Stph.*

N. lucina L. — **albofasciata** *Kaucki* is paler than normal on upper and undersides and has a white middle band on upper and undersides of hindwing. A similar specimen, illustrated in the Act. Soc. Linn. Bordeaux Vol. 55 has 2 light bands on underside of hindwings. Marginal spots of both wings are very pale on upper and undersides. The black dots in same are absent. *albofasciata.*

Addenda to Lycaenidae.

A. Group of **Theclini.**

1. Genus: **Rapala** *Moore.*

R. sylvana Oberth. This species is enumerated on p. 239 as *deudorix* and it was mentioned there that it did not seem to be classified correctly in this Genus. Meanwhile through the kind intervention of Mr. O. Bang-Haas I have had specimens from East Kansu submitted to me and I find that the species should be placed here.

R. nissa Koll. A specimen of this species is before me from the same sources. According to same the outer white lines on underside are straight and sharply marked, only narrowly edged darkly on the inward side.

13. Genus: **Thecla** *F.*

Th. ilicis Esp. — **ilicioides** *Gerh.* closely resembles *aesculi Hbn.* It is deep brown on upperside, only slightly paler in outer area of ♀. In the ♂ there is a tawny patch only at anal angle on upperside of hindwings, in the ♀ 3 further such marks in front of margin. On underside of hindwings there are pronounced tawny spots along the entire outer margin. Andalusia. — **maculatus** *Gerh.* resembles *cerri Hbn.* There is a diffuse light patch on forewings near the margin which is much more distinct than in *ilicioides* and on hindwings there is a diffuse band instead of spots on upperside. Andalusia. *ilicioides. maculatus.*

14. Genus: **Zephyrus** *Dalm.*

Z. fujisanus *Mats.* This species reminds one somewhat of *brillantina Stgr.* in marking and colouration. The ♂ is pale greenish blue on upperside, the margin more widely black than in *brillantina.* Underside impure white. Both wings with 3 fairly equally wide dark bands. On forewings the 1st is short extending over the disco-cellular, the 3rd curved extending along the outer margin. The submarginal band is narrow but distinct. On hindwings the 3 bands are equally long, rather narrower posteriorly and not edged with white. The white spot in subcostal area is absent. From Fujiyama. *fujisanus.*

Z. signata *Btlr.* Two specimens sent to me by Mr. O. Bang-Haas correspond to the form *quercivora Stgr.* (Vol. 1, pl. 74 c) and the illustration by Leech but the 2 central lines on underside of hindwings are *signata.*

not so irregularly formed. The inner one is straight, the outer one slightly curved approximating posteriorly. Both submarginal lines extremely dentate. East Kansu. As these differences may be due to a bad execution of the illustration on the part of Leech, I am not denominating the form.

B. Group of **Polyommatini.**

18. Genus: **Ilerda** *Dbl.*

I. epicles Godt. The primary form is frequent in Java. Whilst *indicus Fruhst.* has a narrow red discal band on hindwings and the reddish subapical spots are absent on forewings of typical ♂, the subapical trans-
chinensis. verse band of forewings is much narrower in **chinensis** *Fruhst.* from W. China and even more reduced than in *indicus*. (This description does not seem very comprehensible.)

21. Genus: **Thestor** *Hbn.*

cyrenaica. *Th. ballus F.* — **cyrenaica** *Trti.* is much smaller than specimens from S. Europe and also smaller than those from Algeria. The dark ground colour of the ♂ corresponds to the latter race. Marginal streaks on hindwings are small but distinct, they are larger and more diffuse in european specimens. The dark margin on forewings of ♀ are said to be narrower and ground colour with brighter golden gloss. On hindwings the golden red marginal band is generally much narrower and more sharply outlined. Cyrenaica. —
illuminata. **illuminata** *Trti.* is the name given to a single ♂ having a row of fuscous spots on forewings beyond the cell, similar but smaller than in *nogelii*. On hindwings the yellow-red marginal spots are large, somewhat like in *Lyc. astrarche*. — In Ronda (Spain) the species varies from typical coastal form already at an alti-
phychro-koilios. tude of 800 m: **phychrokoilios** *Forbes*, it is smaller and paler in colouration. In the ♂ the orange-yellow dusting is absent on underside of the dull grey forewing. Underside of hindwing is blue or greenish blue instead of yellow-green.

22. Genus: **Chrysophanus** *L.*

bergeri. *Ch. virgaurea L.* — **bergeri** ♂ *Schindler* is an aberrative specimen with pale golden upperside forming
delicata. a transition to the whitish yellow *pallida Rbl.* — **delicata** *Higgins* is a small race from the Col de Sestrières (Cottian Alps). Ground colour of upperside of ♂ somewhat pale and black margin narrow, especially on hindwings. Marginal spots of the latter occasionally very small, discal spot being absent on forewings. Underside of hindwings and margin of forewings pale, often almost yellow. Spots of forewings distinct, sometimes large. White band on hindwings very reduced. As Verity considered these specimens to be *zermattensis* one can assume that inspite of the full description, the variations are minute.

gabori. *Ch. dispar Haw.* — The subspecies **gabori** *Diösz.* has a black spot in cell on upperside of forewings
bimaculatus. and heavier marginal lunules. — ab. **bimaculatus** *Diösz.* actually has 2 black spots in cell of forewing and margin of hindwings is somewhat yellowish. Eyespots of underside are larger. — *minor Diösz.* is naturally smaller. As is found among all races, specimens are found among *batavus* having the hindwings black except
posticeatrata. for the typical submarginal band and these are named **posticeoatrata** *Metzger*. Specimens without this band are not yet known. — An albinotic ♀ form among *rutilus* is pale yellow on upperside of forewings, grey to grey-brown on hindwings. Underside of forewings is not orange-yellow, but pale yellow. The grey ground colour of hindwings is retained but the yellow marginal band is very pale and poorly developed. The name
hyalina. **hyalina** *Metzger* scarcely corresponds to the description. — Among the spring and summer generations of *rutilus* one finds specimens having a black streak on underside of forewings from base to middle of wing
fulgurata. below the cell: **fulgurata** *Metzger*.

dido. *Ch. hippothoë L.* — **dido-**♀ *Gerh.* probably belongs here. The form is similar to *candens* discussed already in Vol. 1, but the hindwings are not so darkly suffused. The black dots on underside of forewings are not circumscribed by white. As the form is described from Turkey it may refer to a variety of *thersamon*. The name is omitted from the Staudinger-Rebel Catalogue.

Ch. alciphron Rott. Among the race *gordius Sulz.* one sometimes finds ♀♀ which are quite suffused
flavescens. with yellow on forewings, whilst only the costa is yellow on hindwings. They are named **flavescens** *Tutt.* —
columbanus. **columbanus** *Prunn.* is described in a very old and inaccessible work. Higgins states they occur frequently in Limone and Crissolo (Piedmont), but unfortunately only gives a very brief description. The violet hue in a fresh ♂ is very striking but very variable in degree. ♀♀ occur with pure golden ground colour and again such with heavy black dusting in basal half of forewings and the entire hindwing except at its outer margin. — The name *diniensis Oberth.* refers both to typical *alciphron* as well as to *gordius*, when the spots are absent on underside of same. — Similarly Verity has declared the name *gordius* ab. *violacea Pionn.* to be valid, although we already have *alciphron* ab. *violacea Ksinsch.* for specimens that are suffused with violet.

Ch. phlaeas L. The race *baralacha Mr.* from Kashmir (Vol. 9, p. 931) has large black spots, especially on underside, with a diffuse submarginal stripe on underside of hindwings. The latter is more distinct than in European specimens, but not so pronounced as in specimens from the Far East.

Ch. amphidamas Esp. According to Courvoisier's systematic arrangement specimens with large or small spots are denominated **crassipuncta** *Hannem.* and *parvipuncta Hannem.* — In the race **pyrenaica** *Deslandes* the ♂ is slightly less violet on upperside than the type. On hindwings the spots are larger and incline to be cuneiform. The red submarginal line on hindwings is fainter. Underside of forewings is orange-yellow, being less reddish than typical, also here the spots are larger. Hindwings are greenish brown and less brightly marked than type. The ♀ is duller fuscous on upperside of forewings but the colour often extends right up to the black outer margin. The outer violet band is diffuse and can even be absent. The spots of underside correspond to those of the ♂. East Pyrenees. *crassipuncta. pyrenaica.*

Ch. li Oberth. The name **lilacina** *Oberth.* denotes ♂♂ that on upperside have rather more suffusion of pale violet, only the margin of hindwings being blacker than type. The underside is a brighter red, especially on hindwings. Thibet. *lilacina.*

C. Group of the **Lycaenini.**

Gattung: **Lycaena** *F.*

L. optilete Knoch (Suppl. Vol. 1, p. 264) subsp. **cosana** *Higgins* occurs at Sestrières in Piedmont and differs from alpine *optilete* by the considerably darker and purer blue of upperside. Underside of both sexes shows a pale slate-grey without the reddish or brownish hue of specimens from the Alps. *cosana.*

L. astrarche Brgstr. (Suppl. Vol. 1, p. 270) ab. **czekelii** *Diösz.* occurs at an altitude of 900 m in the Rytyezat mountains. The ♂ is deep grey-black and not black-brown like the name type form, with black cell end spot and straw coloured marginal spots. In a certain angle of light these are somewhat lustrous orange-yellow. Underside is dove-grey, marginal spots straw-yellow without lustre. On hindwings the 5th and 6th marginal spots project towards the base. *czeketii*

L. icarus Rott. (Suppl. Vol. 1, p. 273—275). **postclara** *Graves* from the coast north of Dublin in Ireland belongs to the 2nd generation. It has more acutely pointed forewings than *clara Tutt* (Vol. 1, p. 312). The ♂♂ have paler uppersides with less violet-blue than english specimens and somewhat wider margins. Underside is paler and a purer ashy grey than in the 1st generation and also than in the 2nd generation of *tutti Oberth.* (p. 274). Ocelli also have more pronounced white edges. On upperside of all wings of ♀ there is a bluish shaded tinge and the orange spots on forewings are very pronounced and brilliant. Underside reminds one somewhat of *clara* but it has slightly less metallic blue-green dusting at base of hindwings. *postclara.*

L. coridon Poda. Here we have to add **scheffeli** *Lütk.* from the Staffelberg in the upper franconian Jura. The ♂♂ have grey-brown uppersides to forewings with discal lunule encircled in white. Ocelli of underside are visible on upperside and extending from same there are 2 to 6 white dusted streaks to the discal lunule. On hindwings the ocelli are edged on the inner sides with distinct white lunules which continue in faint streaks right up to costal margin. Underside of forewings shows considerably paler ground colour than in normal *coridon.* *scheffeli.*

L. alcon Schiff. (Suppl. Vol. 1, p. 291) subsp. **nestae** *Higg.* (16 b) from Limone and Sestrières in Piedmont. The ♂ expands 32—36 mm, the ♀ 32—38 mm. Upperside fairly dark violet-blue, black margin somewhat wider than in *alcon* and further the nervules edged about 3 mm inwards. The dark discal lunule of forewings small but distinct. Fringes interrupted by black at extremities of nervules on all wings. Underside shows only faint green basal dusting. The ♀ shows the usual blue dusting but it is more reduced in extent and of deeper violet tone than in typical *alcon.* Fringes are checked. Basal green dust practically absent. *nestae.*

Addenda to the Hesperidae.

13. Gattung: **Carcharodus** *Hbn.*

C. orientalis Rev. (Suppl. Vol. 1, p. 310). The form *centralanatolica Pfeiff.* was erroneously classified on p. 308 with *alceae.* It should be placed under *orientalis* and an examination of the genitalia has proved this classification to be correct.

14. Gattung: **Pamphila** *F.*

P. palaemon: In **ederi** *Schaw.* the forewings are adumbrated blackish excepting the yellow discal cell. Markings of hindwings normal, ground colour more inclined to be black than brown. *ederi.*

Alphabetical List
of new species, varieties and names in Supplementary Volume 1.

Index.

The number immediately behind the name indicates the page of the text. The names with a capital initial represent the Genera, those in italics indicate synonyms or such that are incidentally mentioned.

B.

C.

E.

F.

G.

H.

I.

J.

K.

L.

M.

N.

P.

Q.

R.

S.

T.

W.

Errata and Additions to Supplementary Volume 1.

P. 3 line 20 from top, read: *Epinephele* instead of *Epinephela*.
P. 8 line 5 from bottom, read: *Mezg.* instead of *Metzg.*
P. 12 line 31 from bottom, add the reference (2 b) to **dialis** *Leech.*
P. 14 line 5 from bottom, add the reference (3 b) to **tamerlanus** *Oberth.*
P. 15 line 4 from top, add the reference (3 b) to **taliensis** *O. Bang.-H.*
P. 15 line 8 from top, add reference (3 b) to **timur** *Ney.*
P. 18 line 5 from top, read: **tkatschukovi** instead of **katshukovi.**
P. 19 line 15 from bottom, read: *honnoratii* instead of *honoratii.*
P. 21 line 23 from top, add the reference (3 d) to *athene Stichel.*
P. 29 line 24 from top, add the reference (3 d) to **turatii.**
P. 32 line 16 from bottom, read: *Hirschke* instead of *Hirchke.*
P. 34 line 23 from bottom, read: *crataegi* instead of *Craetaegi.*
P. 34 line 15 from bottom, add the reference (4 d) to **melanophia** *Honr.*
P. 34 line 15 from bottom, delete the words: "as *nigricans*".
P. 36 line 26 from top, read: (4 c) instead of (4 b).
P. 41 line 9 from bottom, add reference (4 e) to **rueckbeili** *Deckert.*
P. 43 line 11 from bottom, read: **aichelei** instead of **aicheli.**
P. 44 line 2 from bottom, read: *Boll.* instead of *Shelj.*
P. 48 line 10 from bottom, read: Arasagun-Gol. instead of Arasun-Gol.
P. 49 line 7 from bottom, add reference (5 d) to **suaneticus** *Arnold.*
P. 59 line 28 from bottom, add reference (6 e) to **rubidus** *Fruhst.*
P. 70 line 7 from bottom, read: (5 d) instead of (5 e).
P. 71 line 7 from bottom, add reference (4 e) to **apollonius** *Eversm.*
P. 71 line 5 from bottom, following "centres" add: We are illustrating here (4 e) *apollonius flavimaculata Aust.* with yellow instead of red macula, which was dealt with in Vol. 1, p. 27.
P. 73 line 15 from top, add reference (4 d) to **sinensis** *O. B.-H.*
P. 73 line 20 from top, add reference (4 d) to **richthofeni** *O. B.-H.*
P. 73 line 25 from bottom, add reference (4 g) to **flavomaculata** *O. B.-H.*
P. 73 line 20 from bottom, read: **grumgrshimailoi** instead of **grumbrshimailoi.**
P. 75 line 6 from top, read: apolloformis instead of apolliformis.
P. 75 line 6 from top, read: Karaigatau instead of Karaigatan.
P. 76 line 1 from top, read: **bashahricus** instead of **bashahrecus.**
P. 77 line 28 from bottom, add behind *simo*: We are illustrating here (5 a) *cephalus elwesi*, which was dealt with in Vol. 1, p. 32, but could not be illustrated at that time as only one single specimen was then known.
P. 78 line 26 from bottom, read: **arcadicus** instead of **arcadisus.**
P. 80 line 22 from top, add behind **patricius** *Niep.* (= cretatus *Shelj.*).
P. 81 line 21 from top, add behind *gemmifer Fruhst.*: We are illustrating *gemmifer Fruhst.* (5 c).
P. 87 2nd Column line 37 from bottom, read: **koreae** instead of **korea.**
P. 88 1st Column line 3 from bottom, read: **maxima** instead of **maxinia.**
P. 88 2nd Column line 37 from bottom, read: **moldebaldensis** instead of **monteboldensis.**
P. 89 1st Column line 20 from top, read: **norvegicus** instead of **norwegicus.**
P. 89 1st Column line 21 from bottom, read: **ornata** instead of **ornaca.**

P. 89 2nd Column line 20 from bottom, read: **pseudoromanovi** instead of **pseudoremanowi.**
P. 90 1st Column line 31 from bottom, read: **rufomaculata** instead of **rubromaculata.**
P. 90 2nd Column line 39 from top, read: **simoides** instead of **simonides.**
P. 90 2nd Column line 32 from bottom, read: Armand instead of Luehd.
P. 91 1st Column lines 7 and 8 from top, read: **symplecta** instead of **sympleta.**
P. 103 line 15 from bottom, delete reference 7 e.
P. 108 line 27 from bottom, add reference (7 e) to **tibetana** *Ril.*
P. 112 line 25 from top, add behind "band": We are illustrating here (7 c, f, g) *C. felderi Gr.-Grsh.* from Amdo, dealt with in Vol. 1, p. 66 but not illustrated there.
P. 117 line 22 from bottom, add to **stenotaenia**: *Std.*
P. 119 line 13 from top, add to **brunneomaculata**: *Std.*
P. 119 line 5 from bottom, read: subsp. **seitzi** *Boll.*, instead of subsp. **seitzi.**
P. 130 line 1 from top, read: (8 a, b) instead of (8 b).
P. 131 line 24 from bottom, make the addition to **annada** as stated on p. 180, line 4—9.
P. 131 line 10 from bottom, read: (10 b) instead of (10 a).
P. 131 line 3 from bottom, delete the reference (10 a).
P. 134 line 27 from bottom, read: *valesiana* instead of *valesina.*
P. 143 line 4 from top, read: **eutaenia** instead of **entaenia.**
P. 144 line 9 from top, delete the reference (10 a).
P. 148 line 27 from top, read: **tetrastigma** instead of **tetarstigma.**
P. 150 line 1 from top, read: (9 f) instead of (9 f, 10 a). The reference (10 a) refers to *succulenta* (Vol. 1, p. 108).
P. 150 line 23 from bottom, add after "upperside": We are illustrating here (8 g) *E. ruricola Leech* (Vol. 1, p. 110).
P. 150 line 13 from bottom read: (8 g) instead of (8 . . .).
P. 152 line 27 from top, read: **graucasica** instead of **grancasica.**
P. 155 line 23 from top, read: *lucasi Rbl.* instead of *lucasi Rbr.*
P. 155 line 25 from bottom, add reference (8 c) to **syntelia** *Fruhst.*
P. 155 line 19 from bottom, delete reference (8 c) of **scolis.**
P. 156 line 12 from bottom, read: **aragonensis** instead of **arragonensis.**
P. 157 line 6 from top, make the addition to **larissa** as stated on p. 180, line 27 from top.
P. 157 line 25 from bottom, add after "illustration" the reference (8 b) from line 23.
P. 157 line 21 from bottom, after **fuscissima** *Houlb.* add: On plate 8 b also the ♂ of *montana* is illustrated.
P. 157 line 8 from bottom, read: **huebneri** instead of **hübneri.**
P. 158 line 25 from top, read: **huebneri** instead of **hübneri.**
P. 158 line 16 from bottom, add reference (8 e) to *magna Graes.*
P. 158 line 8 from bottom, add reference (10 e) to *rudolphii Bryk.*
P. 158 line 6 from bottom, read: **tammuola** (11 d) instead of **tammuola** (10 e).
P. 158 line 3 from bottom, read: (8 f) instead of (8 e).
P. 159 line 6 from top, read: (10 f) instead of (10 e).
P. 159 line 20 from top, add referenee 8 e to **germana** *Aust.*
P. 159 line 27 from bottom, add after "narrower": In Hokkaido.
P. 159 line 26 from bottom, add reference (8 e as *avasacina*) after **arasaguna.**
P. 159 line 18 from bottom, read: (10 f) instead of (10 e).
P. 159 line 15 from bottom, read: (Vol. 1, pl. 40 g) instead of (pl. 40 g).
P. 159 line 7 from bottom, read: (11 b, c) instead of (10 e).
P. 159 line 4 from bottom, before **nanna** add the **O. dzhugdhuri** *Shelj.* of p. 180, line 20—15 from bottom.
P. 160 line 2 from top, read: (11 b) instead of (10 f).
P. 160 line 7 from top, read: (11 b) instead of (10 f).
P. 160 line 11 from top, delete reference (10 e) behind **velleda** *Aust.*
P. 160 line 25 from top, add reference (8 e) to **grandis** *Riley.*
P. 160 line 27 from top, add reference (10 e) to **divnogorski** *Bang-H.*
P. 160 line 7 from bottom, read **italica** instead of **itala.**
P. 161 line 7 from top, add to **hermione:** see Note p. 180 at foot.
P. 161 line 16 from top, read: (11 a) instead of (10 f).
P. 161 line 12 from bottom, delete reference (10 g) behind **maroccana** *Oberth.*
P. 161 line 9 from bottom, read: (11 a) instead of (10 g).
P. 162 line 21 from bottom, read: (10 c) instead of (10 e).
P. 163 line 14 from bottom, add to *alcyone:* see Note p. 180 line 8 from bottom.
P. 163 line 12 from bottom, read: (10 d) instead of (10 e).
P. 164 line 18 from top, read: (10 d) instead of (10 c).

P. 164 line 11 from bottom, read: **alpherakyi** *Avin* (11 e) instead of **alpherakii.**
P. 164 line 9 from bottom, add referenee (11 e) to **püngeleri** *B.-H.*
P. 164 line 7 from bottom, add referenee (11 e) to **erschovi** *Avin.*
P. 164 line 3 from bottom, add reference (11 b) to **dublitzkyi** *Bang-H.*
P. 165 line 8 from top, add referenee (11 b) to **talastauana** *Bang-H.*
P. 165 line 23 from top, add referenee (10 b) to **schawerdae** *Fruhst.*
P. 165 line 7 from bottom, after **microsandrus** *Vrty.* add: from Susa (Turin).
P. 166 line 22 from top, read: *crassemaculosa* instead of *crassimaculosa.*
P. 166 line 30 from top, before **sylvicola** add the Note: see p. 181.
P. 166 line 27 from bottom, after **hoili** *Oberth.* read: (11 d) instead of (10 d).
P. 166 line 25 from bottom, add referenee (11 d) after **powelli** *Oberth.*
P. 166 line 22 from bottom, add reference (11 d) after **colombati** *Oberth.*
P. 166 line 17 from bottom, add reference (11 a) after **belouini** *Oberth.*
P. 166 line 3 from bottom, read: *Rühl-Heyne* instead of *Rühl-Heine.*
P. 167 line 6 from top, read: (11 a) instead of (10 e).
P. 167 line 10 from top, after **caeca** add: **mevula** *Schtz.* with small eyespots on forewings is a transition to *caeca.* — **ornata** *Schtz.* has 4 white-pupilled eyespots on forewings.
P. 167 line 14 from bottom, add the Note on p. 181 lines 13—10 from bottom.
P. 168 line 28 from bottom, add the refercnee (11 g) to **diluta** *Bub.*
P. 168 line 2 from bottom, add the referenee (11 a) to **alticola** *Le Cerf.*
P. 170 line 14 from top, after "underside" add: *obscura Tutt* is also brownish on upperside, less fuscous.
P. 171 line 24 from top, add the Note on p. 181, line 6 from bottom.
P. 171 line 9 from bottom, add: Specimens of *neapolitana Oberth.* with 3 supernumerary eyespots on hindwing are named *tripuncta Std.*
P. 172 linc 30 from top, add: *uhryki Aign.* is also a pale form.
P. 172 line 31 from top, add: *fulvopicta* ♂ *Heinrich* denotes specimens with paler yellowish forewings.
P. 172 line 27 from bottom, add after "named": In *suffusa Tutt,* the yellow-red outer band is quite obsolescent.
P. 173 line 27 from top, read: (11 e) instead of (11 g).
P. 174 linc 6 from top, add the Note on p. 182, line 4 from top.
P. 174 line 17 from bottom, add the Note from p. 182, line 9 from top.
P. 175 line 20 from top, add the Note on p. 182, line 11 from top.
P. 177 line 16 from top, add the Note on p. 182, line 13 from top.
P. 178 line 5 from top, add the Note on p. 182, line 15 from top.
P. 179 line 13 from top, add the Note on p. 182, line 18 from top.
P. 179 line 19 from top, add the Note on p. 182, line 24 from top.
P. 197 line 21 from top, add the referencc (12 d) to *chinensis Leech.*
P. 197 line 3 from bottom, add the reference (13 a) to **nigerrima** *Oberth.*
P. 198 line 13 from bottom, at end of *Limenitis* add: We are now giving illustrations of a few interesting aberration forms of *Limenitis: L. pop. monochroma Mit.* (12 d), *cam. pythonissa Mill.* (12 e), *melanitia* (13 a). Compare Vol. 1, p. 182, 183 ete.
P. 204 line 19 from top, add the referenee (13 e) to *pallida Spul.*
P. 223 linc 11 from bottom, add the refercnee (14 c) to *bessa Fruhst.*
P. 224 line 6 from bottom, add the reference (14 d as **changarta**) to **changaica** *Reuss.*
P. 238 line 12 from top, read: *sinica* instead of *sinina.*
P. 242 line 9 from top, after "Amur territory" add: We are now giving the illustration (15 c) of *smaragdina Leech* (Vol. 1, p. 270).
P. 242 linc 17 from top, add: Of *Z. saphirina Stgr.* (Vol. 1, p. 271) we are now giving the illustration (15 c).
P. 242 line 5 from bottom, after "Japan" add: We arc giving here an illustration (15 a) of *Z. butleri Fent.* dealt with in the text in Vol. 1.
P. 243 line 12 from top, read: *pallida-spinosae* instead of *pallida-spinosa.*
P. 245 line 25 from top, add the reference (15 f) to **apicipunctata** *Huene.*
P. 247 line 27 from top, add the reference (15 g) to **violacea** *Oberth.*
P. 247 line 29 from bottom, add the reference (15 h) to **radiata.**
P. 248 line 13 from top, add the referenee (15 g) to **chairemon** *Fruhst.*
P. 248 line 20 from top, add the referenee (15 g) to **naryna** *Oberth.*
P. 248 line 18 from bottom, add the referenee (15 f) to **midas** *Wheel.*
P. 248 line 16 from bottom, add the reference (15 f) to **diniensis** *Oberth.*
P. 248 line 15 from bottom, add the reference (15 f) to **rondoui** *Oberth.*
P. 248 line 12 from bottom, add the referenee (15 g) to **nevadensis** *Oberth.*
P. 248 linc 10 from bottom, add the referenee (15 g) to **heracleana** *Blach.*
P. 249 linc 2 from top, add the reference (15 h) to **polaris** *Courv.*

P. 249 line 17 from top, add the referenee (15 h) to **pseudophlaeas** *Luc.*
P. 249 line 20 from top, add the referenee (16 a) to **coccineus** *Ford.*
P. 249 line 27 from bottom, add the referenee (15 h) to **hermation** *Oberth.*
P. 249 line 14 from bottom, add the refcrenee (15 h) to *melanophlaeas de Vill.*
P. 250 linc 22 from top, at end of **dorilis** add: We are now giving an illustration of *Ch. iliensis Stgr.* (15 e), and also of *Ch. phoenicurus Led.* (16 a) dealt with in the text in Vol. 1, p. 288/89.
P. 258 line 6 from top, read: **lydiades** instead of **lydides.**
P. 260 line 30 from top, add the refercnce (16 e, f) to **armoricana.**
P. 262 line 5 from top, add the refercnce (16 e) to **transcaucasica.**
P. 262 line 10 from bottom, read: *asamensis* instead of *asamanis.*
P. 264 line 15 from top, add the refercnce (16 a) to **christophi** *Stgr.*
P. 266 line 10 from bottom, add the refcrenee (16 f) to **schmidti** *Kard.*
P. 269 line 8 from bottom, add the referenee (16 e as *chitralensis*) to **chitralica** *Evans.*
P. 270 line 1 from top, add the referenee (16 d) to **dis** *Ev.*
P. 272 line 19 from bottom, read: **costajuncta** instead of **costapuncta.**
P. 276 line 11 from top, add referenee (16 f, g) to **thersites.**
P. 283 line 4 from top, add the refcrcnee (16 c) to **oberthüri** *Gélin.*
P. 283 line 19 from bottom, read: *Gillm.* instead of *Gilm.*
P. 285 line 17 from top, read: *constanti* instead of *constantini.*
P. 285 line 11 from bottom, add the reference (16 b) to **antidolus** *Rbl.*
P. 287 line 21 from bottom, read: *(O. B.-H. i. l.)* instead of *(O. B. i. l.).*
P. 288 line 22 from top, rcad: *Sheld.* instead of *Shelj.*
P. 289 line 4 from top, **cimon** *Lewin* is a subspeeific form, spaeing of paragraph should be deleted.
P. 290 linc 11 from bottom, **martinalpium** *Vrty.* is a racial form, spaeing of paragraph should be deleted.
P. 291 line 6 from top, **melanoposmater** *Vrty.* is a racial form, spacing of paragraph should be deleted.
P. 291 line 6 from top, read: *subpauper* instead of *subpauperella.*
P. 291 line 7 from bottom, **turatiana** *Vrty.* is a racial form, spaeing of paragraph should be deleted.
P. 292 line 18 from bottom, **coreana** *Mats.* is a raeial form, spacing of paragraph should bc deleted.
P. 293 line 26 from top, subsp. **kijevensis** *Shelj.* is a subspeeific form, spacing of paragraph should be deletcd.
P. 293 line 9 from bottom, **paucipuncta** *Courv.* is a subspecific form, spaeing of paragraph should bc deleted.
P. 294 line 25 from top, **laranda** *Fruhst.* is a subspecific form, spaeing of paragraph should be deleted.
P. 295 line 5 from top, **punctifera** *Grund* is a subspecifie form, spacing of paragraph should be deleted.
P. 295 line 24 from top, subsp. **tatsienluica** *Oberth.* is a subspeeifie form, spacing of paragraph should be deleted.
P. 296 line 24 from top, **calidogenita** *Vrty.* is a raeial form, spacing of paragraph should be deleted.
P. 296 linc 12 from bottom, **heringi** *Kard.* is a subspeeifie form, spacing of paragraph should be deleted. After **heringi** *Kard.* add the refcrencc (16 g, h).
P. 338 line 22 from bottom, read: *philomela Esp.* instead of *philomela Er.*
P. 350 linc 3 from top, read: *arsilache* instead of *arsiloche.*
P. 358 line 16 from top, read: "**Genus**" instead of "Gattung".
P. 358 line 6 from bottom, read: "**Genus**" instead of "Gattung".
P. 358 line 3 from bottom, read: "**Genus**" instead of "Gattung".

THE MACROLEPIDOPTERA OF THE WORLD

A SYSTEMATIC DESCRIPTION OF THE
HITHERTO KNOWN MACROLEPIDOPTERA

IN COLLABORATION WITH WELL-KNOWN SPECIALISTS

EDITED BY

DR. ADALBERT SEITZ, PROFESSOR

▽

DIVISION I: FAUNA PALAEARCTICA VOL. 1—4
WITH SUPPLEMENT — VOL. 1—4

DIVISION II: FAUNA EXOTICA VOL. 5—16
PALAEONTOLOGY, MORPHOLOGY, BIOLOGY AND GEOGRAPHY
OF THE MACROLEPIDOPTERA — VOL. 17

▽

SUPPLEMENT TO VOL. 1.

ALFRED KERNEN, PUBLISHER, STUTTGART
1932

1. Supplement.

Index of Plates.

The numbers indicate the plates.

Corrections of the Plates of Supplementary Volume 1.

Plate		
3 c	read:	tkatschukovi instead of katshukovi.
3 c	,,	**neurolocha** instead of polyxena ab.
4 b	,,	mamaievi instead of mamajevi.
4 b	,,	white**i** instead of whiteei.
6 d	,,	**merzbacheri** instead of hesebolus.
8 d	,,	pseudoj**a**pygia instead of pseudojopygia.
8 d	,,	jahandiez**i** instead of jahandieza.
8 e	,,	**arasaguna** instead of avasacina.
9 d	,,	hercegovinensis instead of herzegovinensis.
10 f	,,	**tsingtaua** instead of tsingtauana.
11 a	,,	alcyoneformis instead of alcyoniformis.
11 c	read:	erschovi instead of ershovi.
12 c	,,	**b**hutanica instead of chutanica.
13 e	,,	guevara instead of quevara.
13 h	,,	dinara instead of dinada.
14 d	,,	changa**i**ca instead of changarta.
15 b	,,	sidemina instead of sidenina.
15 f	,,	apicipunctata instead of apicepunctata.
16 a	,,	albomaculat**a** instead of albomacula.
16 b	,,	nestae instead of nesta.
16 e	,,	chitral**i**ca instead of chitralensis.

Printed by Hauser Presse Werner & Winter, G. m. b. H., Frankfurt a. M.

a

mencius ♂

♀ mencius

philoxenides

lama ♂

b

genestieri

♂ daemonius

♂ tsinlingshani

♀ tsinlingshani

c

plutonius ♀

plutonius ♂

rhadinus ♂

♀ mansonensis

d

impediens ♂

semifasciatus ab.

adaeus ♀

agestorides ♂

Hauserpresse / Werner u. Winter G. m. b. H., Frankfurt a. M.

PAPILIONIDAE

a

hausithous ♂

scaevola ♂

nigricans ♀

nigricans ♂ a

b

lucifer ♂

dialis ♂

mela ♀

c

charlesi ♂

♂ parcesquamata

aureus ♂

semifasciatus ♂

d

yessoensis ♂

yessoensis ♀

chinensis ♂

chinensis ♀

leechi ♂

Hausenpresse / Werner u. Winter G. m. b. H., Frankfurt a. M.

Pars I. Exotica Palaearctica Suppl. I.

EREBIA

a

orientalis ♂ | radnaënsis ♂ | gorgophone ♂ U | eupompa ♀ | tristis ♂ U | reducta ♂ | manto ♂ U | maccabaeus ♂ U

b

bubastis ♀ U | guttata ♂ | palarica ♀ | palarica ♀ U | palarica ♂ | bejarensis ♀ U

c

bejarensis ♀ | ligata ♀ U | eurykleia ♂ | victorialis ♂ | morula ♂ U | erinna ♂ U

d

melas ♂ U | herzegovinensis ♀ U | hersephone ♂ U | erinnys ♂ | etrusca ♂ | alcmene ♂ U | alcmene ♀ U | leucotaenia ♂ U

e

fletcheri ♀ U | fletcheri ♂ | melancholica ♂ | dabanensis ♂ | isarica ♂ U | helvetica ♂ U | pyrenaicola ♂ | minima ♂

f

ligea ♂ | meridionalis ♂ | alticola ♂ | 2:3 ♂ euryaloïdes | 2:3 euryaloïdes ♂ U | embla ♂ U

g

dovrensis ♂ | jenisseiensis ♂ | ocnus ♂ U | atramentaria ♂ | disa ♂ U | rossii ♂ | lappona ♂ | sthennyo ♂

h

lena ♂ | ero ♀ | ero ♂ U | polyopis ♂ | styx | pyrenaea ♂ | ornatus

Hauserpresse / Werner u. Winter G. m. b. H., Frankfurt a. M.

a

manto vogesiaca lederi succulenta rubria sibo ocnus

b

elwesi polyphemus schawerdae

c

stu[illegible]na larnacana aëlloides siziliana

d

strumata carsicus minuscula ♀ minuscula ♂ euxina

e

rudolphii illustris ♂ illustris ♀ divnogorski ♂ divnogorski ♀

f

tundra ♂ tundra ♀ saga ♂ saga ♀ tsingtauana ♂ tsingtauana ♀

Hauserpresse Werner u. Winter, G. m. b. H., Frankfurt a. M.

a

latevittata

alcyoniformis

belouini

nelvai

alticola

b

okamotonis

shonis

brunhilda ♀

talastauana

dublitzkyi

c

püngeleri ♂

püngeleri ♀

alpherakyi ♂

alpherakyi ♀

ershovi

brunhilda ♂

d

holli

powelli

colombati

tannuola ♂

tannuola ♀

e

caticterа

analampra

oreas

neapolitana

nivellei

taurina

f

gelini

fett. holli

arcan. holli

lefebvrei

occupata

marginata

g

ominata

diluta

decolorata

iernes

cassiterridum

splendida

mangeri

mangeri ♀

Hauserpresse Werner u. Winter, G. m. b. H., Frankfurt a. M.

a

alpherakyi

duda

themistocles

b

aristides

houiberti

imitans

dubernardi

c

moltrechti

shaljapini

genulfa

chutanica

armandia U

d

chinensis

tristis

punctata

monochroma U

dubernardi ♂

e

pythonissa U

divisa U

genulfa U

dubernardi ♀

dubernardi U

laura

Hauser-Presse Werner u. Winter, G. m. b. H., Frankfurt a. M.

NEPTIS-ARGYNNIS

a


divisa


venata=nigerrima


melanitis


ersbina

b


hemi= elymi


separata


leechi


borgesi


elaeica

c


leonhardi


pallida


scotica


gibrati


chinensis

d


balcanica


comacina


narenta ♂


narenta ♀


malvida


sylleion


oulgaris

e


terracina


narbonnensis


virgilia


praxilla

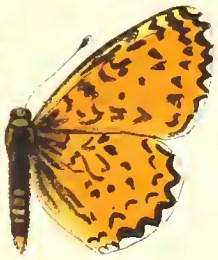

quevara


robiginosa


oreithyia ♂

f


oreythyia ♀


iabaca


lathon ♂


lathon ♀


marsilia ♂


marsilia ♀

g

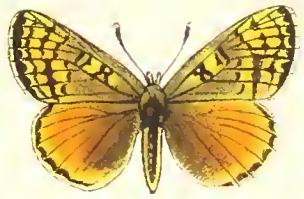

delminia


scardona


limera


boris


uitasica ♀


uitasica ♂


elysabethae

h


mevania ♀


mevania ♂


improbula ♂


improbula ♀


maritima ♀


meridionalis ♂


dinada ♀


dinada ♂

Hauser-Presse Werner ...

a

karafutonis U

altissima U

tatsienluana U

aquilonaris

scopelus U

U
semititanica

U
rheaoides

palin
oides

b

palina U

tramelana

uralensis U

altaica U

U
triburniana

U
ornatissimoides

valesinoides

c

valesinoides

siciliensis

xanthodippe

extincta

d

U
changarta

alaiensis U

bischoffi U

taigetana U

nivaea

e

lilicina U

elwesi U

bessa U

taliana U

voraxides U

U
subornatissima

f

binghami U

marillae U

fasciata

ocellata

U
obliterata

Hauserpresse Werner u. Winter, G. m. b. H., Frankfurt a. M.

juliae ♀ | sylvana | avis U | graslini U | latefasciata U | fountainei | saphirina ♂ | saphirina ♀

sidenina U | neis ♂ | bellus ♂ | vallonia ♀ | sulgeri ♀ | zotelistis ♀

zotelistis ♂ | armena | smaragdina ♀ | courvoisieri ♀ | atabyrius ♂

atilia ♀ | picguenardi ♂ | butleri ♂ | U butleri | enthea

zohra | epargyros | iliensis U | cyprius | turbata

[illegible]doui | diniensis | bellieri | midas | midas U | apicepunktata | phoebus

nevadensis | heracleana | naryna | chairemon | violacea

[illegible]a | hermation | pseudophlaeas | melanophlaeas | polaris | hyperborea

Hauserpresse Werner u. Winter, G. m. b. H., Frankfurt a. M.

NEMEOBIUS-ADOPAEA

a
albomacula
helcha
hyperborea
coccineus
phoenicurus
hypophlaeas
alaina
alaina U

b
lamasem
buddhista
buddhista U
gisela ♂
gisela ♀
nestal
antidolus ♂
antidolus

c
dama ♀
amphirrhoë
dux ♂
aviator
dux ♀
oberthueri

d
janigena
dis ♂
dis U
everesti ♂
♀ everesti
diana ♂

e
diana ♀ U
gilgitica
chitralensis
transcaucasica
U transcaucasica
cyane ♀
cyane ♂
cyane U

f
armoricana ♀
armoricana ♂
japonica ♂
japonica ♀ U
schmidti
florentia

g
thersites ♀
asterida ♂
radiata ♂ U
U plouharnelensis
rupala ♂
rupala ♀

h
heringi U
baroghila
♂ gigantea
gigantea ♀
♂ gilgitica

i
U frater
occidentalis
U occidentalis
joan
uralensis
U uralensis

k
U freija
struvei
contractus
therapnoides
U therapnoides
reverdini
U reverdini
tarasoides
flavostigma

l
pygmaeus
U pygmaeus
struvei U
albiguttata
U phantasos
phoenix
apennina
semicolon ♂

Hauserpresse Werner u. Winter, Graz, k. u. k.

ENTOMOLOGISCHES INSTITUT

Hermann Wernicke

Inh. H. Kotzsch **Dresden-Blasewitz**

Established 1898

Large stock

of Lepidoptera from all quarters of the globe

(about 40000 specimens of first class quality to chose from)

Through regular Collectors and my own collecting-expeditions in unexplored countries I am always in a position to offer something new, or some missing specimen to the owner of even the largest collection, museums and specialists. Specialists will find in stock the greatest rarities, never advertised before.
Assortments sent on approval without any obligation to buy.

Part-payments monthly payments monthly subscriptions

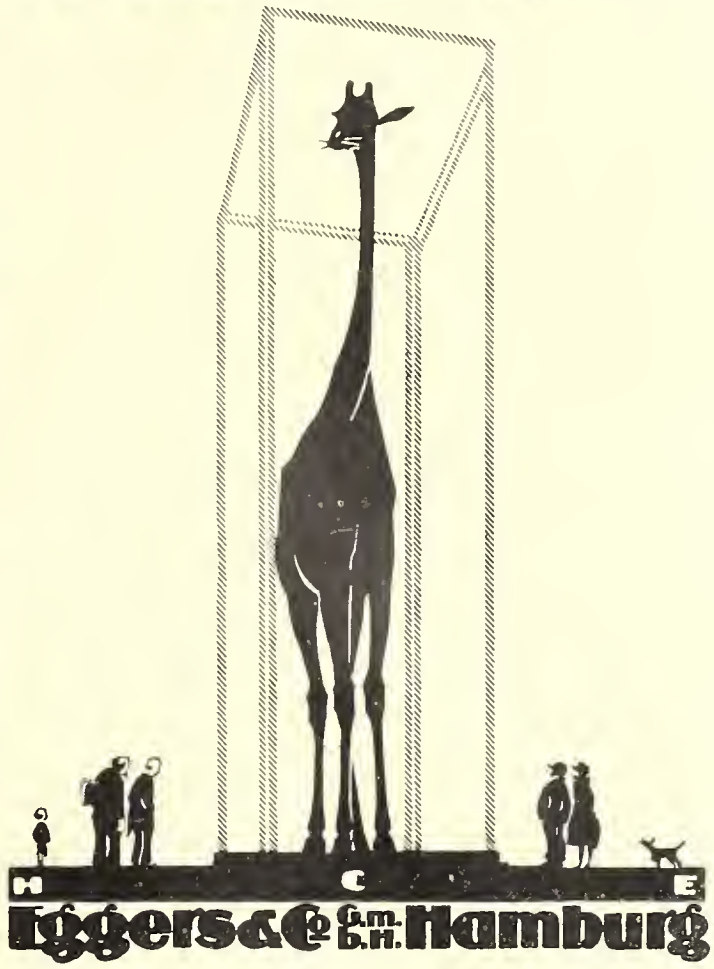
Entomological-material

Department for preparation of Lepidopter
(Macro and Micro)

I take over the largest catches for the purpose of first class and expedient preparation and repairs, for specialists, museums and dealers.

References from the greatest authorities. Well known for over 30 years for best preparation.

Museums-Cases



The Caterpillars of Europe

and their Foodplants

A complete calendar with lepidopterol. botany by *Paul Blaschke*. 6 multicoloured plates with illustrations of the caterpillars and 28 plates of the foodplants. Bound RM. 7.—, unbound RM. 5.—.

Graser's Natural Scientific Plates

No. 3. **Native Butterflies.** About 140 Illustrations true to nature (75 × 48 cm) RM. 1.80.

No. 4. **Native Coleoptera.** About 230 multicoloured Illustrations (78 × 48 cm) RM. 1.80

In German language

Prospectus on application.

Graser's Verlag Nachf., München 27

No other work is in existence dealing with butterflies, which is able to compete with the splendid work by

Lampert, Prof. Dr. K., **Die Großschmetterlinge und Raupen Mitteleuropas.** 95 multicoloured plates with more than 2000 illustrations, 350 pages of text. 2. edition. Bound in half-linen RM. 27.—.

Lampert's little Butterfly-Book. 212 pages of text and 28 coloured plates with 420 illustrations. 2. edition. Bound RM. 5.40.

In German language

Prospectus on application.

J. F. Schreiber, Verlag, Eßlingen am Neckar (and München 27)

Anyone desiring a connection with collectors in all parts of the world should subscribe to the weekly Journal

Insektenboerse

(appearing since 50 years)

Subscription RM. 16.50 per annum. Many advertisements for the sale, purchase and exchange of Lepidoptera, Coleoptera and other insects in every issue.

Specimen copy gratis

Alfred Kernen, Publisher, 7 Poststraße, Stuttgart (Germany).

List of Labels for Seitz' Work

(Palaearctic Fauna)

Issued up to date 49 sheets containing Rhopalocera, Bombyces and Sphinges. Further sheets with the Noctuae and Geometrae will appear in near future.
Price for one sheet covering 156 names RM. —.25.

Labels in blank

Price for one sheet (156 oblongs) RM. —.20, 20 sheets RM. 4.50.
Orders will be accepted in Great Britain by

Messrs. Watkins & Doncaster,
36 Strand, **London W. C. 2.**

Stuttgart, Alfred Kernen, Publisher

The Macrolepidoptera of the World

by **Dr. A. Seitz,** Professor

The following Volumes are already complete:

Double-Vol. 1 The Palaearctic **Rhopalocera,** 384 Pages of Text and 89 multicoloured Plates
„ 2 „ **Bombycides and Sphingides** 480 Pages of Text and 56 Plates
„ 3 „ **Noctuides** 520 „ „ „ „ 75 „
„ 4 „ **Geometrides** 480 „ „ „ „ 25 „

Supplement to Double-Vol. 1 **(Palaearctic Rhopalocera)** with 400 Pages of Text and 10 Plates.
This important Supplement is indispensable to every owner of the chief-section.

Double-Vol. 5 **The American Rhopalocera,** 1141 Pages of Text and 203 Plates.
„ 9 **The Indo-Australian Rhopalocera,** 1200 Pages of Text and 177 Plates.
„ 13 **The African Rhopalocera,** 613 Pages of Text and 80 Plates.
„ 14 **The African Bombycides and Sphingides,** 600 Pages of Text and 80 Plates.

Single volumes are also to be had, according to stock.

The next volumes to be completed are:

Vol. 10 **The Indo-Australian Bombyces and Sphinges**
Vol. 6 **The American Bombyces and Sphinges**

As the elaboration of the work is only yet confined to several parts of the volumes of Moths, we reckon to proceed rapidly with their completion.

Division of the Work:

Part I: Palaearctic Fauna — Vol. 1—4.
Supplement to Vols 1—4 (4 single Vols).
Part II: Exotic Fauna — Vol. 5—16.
Supplementary Volume 17 (Morphology, Biology, and Geography).

Fauna:	Palaearctic	American	Indo-Australian	African
Rhopalocera	Vol. 1 with Supplement	Vol. 5	Vol. 9	Vol. 13
Bombyces and Sphinges . . .	„ 2 with Supplement	„ 6	„ 10	„ 14
Noctuae	„ 3 with Supplement	„ 7	„ 11	„ 15
Geometrae	„ 4 with Supplement	„ 8	„ 12	„ 16

The **American Fauna** will contain about 2850 pages of text — 430 plates
„ **Indo-Australian Fauna** „ „ „ 2700 „ „ „ — 350 „
„ **African** „ „ „ 1900 „ „ „ — 220 „

Orders for the English and German editions will also be accepted by:

Mrssrs. Watkins & Doncaster, 36 Strand, London W. C. 2
„ **G. E. Stechert & Co, 31—33 East 10th Street, New York**

Prospectus free of charge.

ALFRED KERNEN, PUBLISHER, STUTTGART.