Research on the butterflies of the Namjagbarwa Region, S. E. Tibet

(Lepidoptera: Rhopalocera)

by

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Synopsis

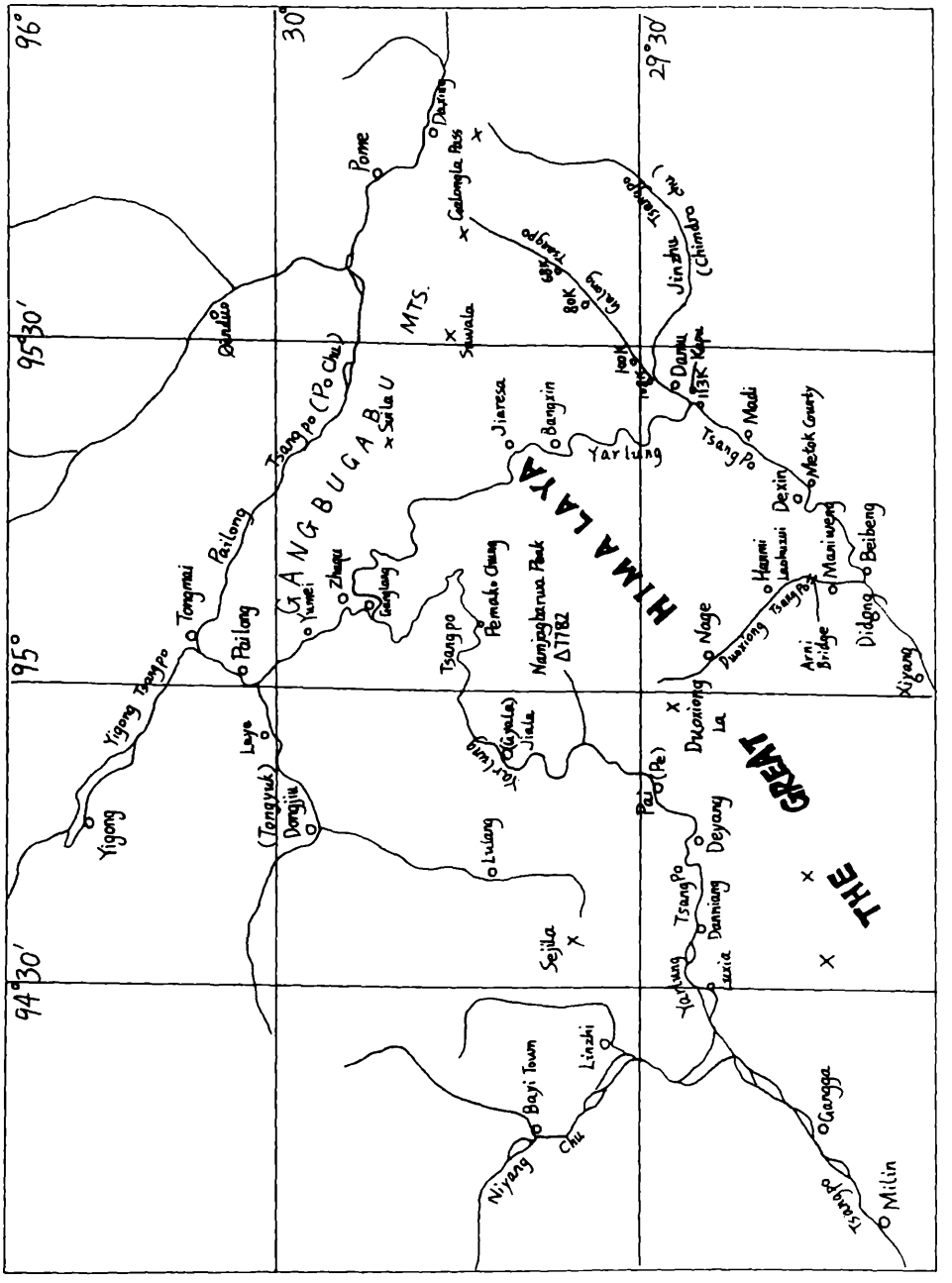
Based upon the rather complete butterfly collection, the zoogeography of the Namjagbarwa Region, S. E. Tibet is discussed. 5 new species and 12 new subspecies are described, viz. *Pedesta naumanni, Esakiozephyrus zhengi, Tongeia menpae, Tongeia menpae pseudoion, Lethe maitrya metokana, Stichophthalma neumogeni rengingduojiei, Litinga mimica xizangana, Euthalia strephon zhaxidunzhui, Kuekenthaliella baileyi, K. gemmata wui, Neptis nycteus menpae, N. themis neotibetana, N. thetis tibetothetis, N. manasa tsangae, Athyma selenophora yui, Symbrenthia dalailama, Sinopieris dubernardi wangi.* A new aberration of *Hestina nama* DOUBLEDAY, 1844 is reported. Many revisional notes on the previous works of this region are given, including 4 new status: *Halpe molta* EVANS, 1949, *H. filda* EVANS, 1949, *H. aucma perfossa* SOUTH, 1913, *Symbrenthia brabira leoparda* CHOU et LI, 1994, and 5 new synonyms: *Neope pulahoides xizangana* WANG, 1994, *Kuekenthaliella eugenia fulgens* BANG-HAAS, 1927, *K. e. rheaoides* DRAESEKE, 1925, *Athyma hirayama sichuanensis* MURAYAMA, 1982, *Sinopieris gongaensis* HUANG, 1995. A detailed map of this region is included. The type-specimens and their male genitalia are illustrated. Some suspected new taxa and the revised taxa are also illustrated.

Introduction

Up to now, our knowledge of the butterflies of Tibet is still very poor. This fact tempted me to explore South-western Tibet in 1993, North-western Tibet in 1995, and the Namjagbarwa Region, S. E. Tibet in 1995 and 1996. This paper will treat the material from S. E. Tibet. The collecting results of other Tibetan areas will be seen in the other papers.

Of all the Tibetan areas, the Namjagbarwa Region should be thought as the most interesting, fascinating one, where the largest Tibetan river, Yarlung Tsangpo (upper water of the Brahmaputra) breaks through the eastern end of the Great Himalaya and Tibetan mountains, bending abruptly towards India, producing the deepest gorge of Asia. This region contains snow mountains, the densely wooded gorges and subtropical rain-forests. Its extremely complicated geomorphology and its unique geographical position make it much more abundant in insects than all the other Tibetan areas. However,very few works have been made on this region in Rhopalocera, only two papers have ever been published: one enumerated 152 species, written by W. H. EVANS in 1915 from a collection made by F. M. BAILEY; another enumerated 84 species, written by C.-L. LEE in 1982 from a collection made by F.-S. HUANG.

However, I have brought back a valuable collection which contains 265 species of butterflies including a number of new taxa and 112 species new to this region (will be listed in another paper). To let the reader know exactly about the localities mentioned in this paper, I draw a detailed map of this region (map 1). My route in August and September, 1995 was Bayi, Linzhi, Milin, Gangga, Luxia, Deyang, Pai, Duoxiongla, Hanmi, Beibeng, Metok, back to Duoxiongla, thence to Linzhi again. My route in 1996 was quite different. I explored Linzhi, Sejila, Lulang, Dongjiu, Pailong, Tongmai and Pome from June 9th to June 18th, thence I crossed the Galongla Pass which was still being sealed by heavy snow on June 19th to enter the Metok Area. From June 20th to June 29th I was between 108K and 80K, marching up and down the route for several times. From 80K I went down the Galong Tsangpo to Damu, thence up to Bangxing along the Yarlung Tsangpo. Above Bangxing the route along the river is impassable except during the dry season (October to next May) and I went back to



Map 1: The Namjagbarwa Region.

Damu on July 3rd. I travelled down the river as far as Beibeng, thence up to the Arni Bridge along the Duoxiong Tsangpo and spent a whole month to explore the route between Nage and the Arni Bridge. In early August I crossed the Duoxiongla Pass and left Metok. During the mid August I was in Yigong, Tongmai and Pailong.

This paper will include several contents. At first I manage to give a discussion on the zoogeography of this region. The main body of the paper is for the description of new taxa, new aberrations and the revision of some known taxa. To make the scientific content more complete, I also plan to illustrate but don't name a few suspected new taxa, some of which have only single specimens known at present. Under "New Records" are all the names new to this region (to save the space, I don't give exact data). The names with asterisks refer to the taxa new to China. Under "Revisional notes" are some revisional notes chiefly on EVANS' and LEE's lists.

It should be noted here that all the known explorations to this region are confined to the wet season (June to September), so the butterflies in the dry season are mostly unknown, only very few species have their dry-season forms collected together with their wet-season forms in June. Even in the wet season, many species occur only in a certain month, not always seen during the whole season.

Zoogeography

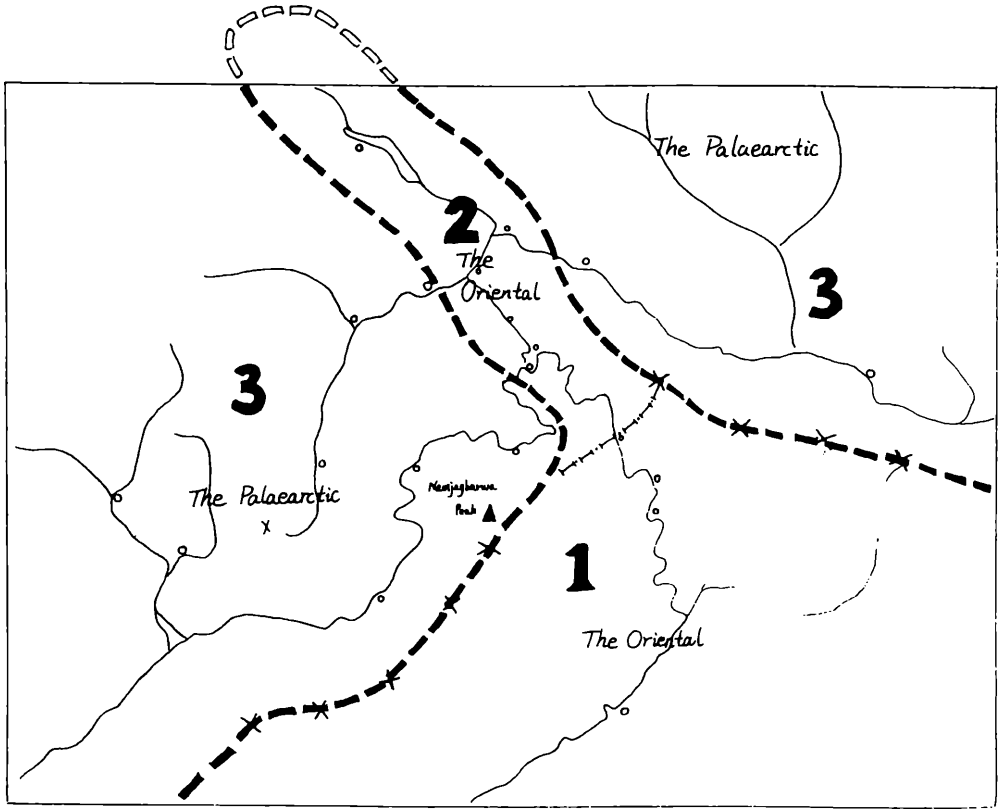
Six main distributional types of elements can be found in the Namjagbarwa Region (map 2).

1) The common species, somewhat widely distributed in either the palaearctic or the oriental region.
2) The palaearctic species, more or less widely distributed in the palaearctic region.
3) The Sino-Tibetan species, mostly being alpine or subalpine, distributed in the eastern Tibetan and western Chinese mountain ranges (Gansu, Sichuan, N. W. Yunnan etc.), all extended into the palaearctic in different degrees.
4) The oriental species, widely distributed in either the Sino-Himalayan or the S. E. Asian subregions (introduced by J. N. ELIOT, 1969: 7).
5) The Sino-Himalayan species, distributed in the Sino-Himalayan subregion, but disappeared in either the S. E. Asia subregion or the Palaearctic, including the endemic species which are only known in some narrow ranges of the Sino-Himalayan subregion.
6) The endemic species, only known in the Namjagbarwa Region.

The Namjagbarwa Region can be divided into three areas in butterfly fauna.

1) The Metok Area, on south of the Great Himalaya,elevation 800 to 4700 m, providing 222 species of butterflies: 116 Sino-Himalayan species, 79 Oriental species, 17 common species, 8 endemic species, 2 Sino-Tibetan species.
2) The Yigong-Tongmai-Pailong Area, on north of the Great Himalaya, connected with Metok by the lower gorges of the Yalung Tsangpo and its branches, elevation 1800–2700 m, providing 54 species of butterflies: 28 Sino-Himalayan species, 8 palaearctic species, 8 common species, 3 oriental species, 4 Sino-Tibetan species, 3 endemic species.
3) The Milin-Linzhi-Pome Area, on north of the Great Himalaya, elevation above 2700 m, providing 43 species of butterflies: 15 palaearctic species, 14 Sino-Tibetan species, 7 endemic species, 4 Sino-Himalayan species, 3 common species.

It is obvious that the Milin-Linzhi-Pome Area belongs to the palaearctic in butterfly fauna (some Chinese entomologists wrongly treated this area as oriental). This area closely resembles the other Sino-Tibetan areas in the Palaearctic, such as the Lhasa area, the West Sichuan Plateau, Tsinghai etc., but differs from the latters in having a number of Sino-Himalayan elements and endemics. This area may be subdivided into two weakly marked sub-areas: the Milin-Linzhi subarea and the Pome subarea. These two subareas usually have the same species, however in few occasions have different species or different subspecies.



Map 2: Zoogeographical map of the Namjagbarwa Region (1 – the Metok Area; 2 – the Yigong-Pailong-Tongmai Area; 3 – the Linzhi-Milin-Pome Area).

The Metok Area undoubtedly belongs to the Sino-Himalayan subregion of the oriental region, closely resembling the E. Himalaya (Assam, Bhutan, Sikkim): nearly all of the butterflies are identical with those of E. Himalaya in subspecific status. The clear disparity between the Metok Area and the Milin-Linzhi-Pome Area is owing to the remarkable geographic isolation of the two distributional groups of forest butterflies by the Great Himalaya that avoided encroachments. This fact is particularly striking in the presense of closely related, but specifically different taxa in the two areas, such as the allopatric occurrence of *Kuekenthaliella baileyi* spec. nov., *Esakiozephyrus bieti* OBERTHÜR, 1886 on the north slopes and *Kuekenthaliella gemmata* BUTLER, 1881 *Esakiozephyrus zhengi* spec. nov. on the south slopes.

However, the Yigong-Tongmai-Pailong Area, though on the north of the Great Himalaya, undoubtedly belongs to the Sino-Himalayan subregion of the oriental region. It also forms the transition from the Metok Area to the Milin-Linzhi-Pome Area. This is owing to the lower gorges of the Yarlung Tsangpo and its branches which form the geographic corridors between the areas. Though the Yigong-Tongmai-Pailong Area shares a number of elements with the Metok Area, the former cannot be simply included into the latter. Besides the Palaearctic elements, a number of Sino-Himalayan elements of the Yigong-Tongmai-Pailong Area can not be found in Metok and the E. Himalaya.

Historical Review

There is no doubt that the Metok Area belongs to the Oriental. However, there were arguments in regarding the zoogeographical positions of the Milin-Linzhi-Pome Area and the Yigong-Tongmai-Pailong Area.
In the earliest report on Rhopalocera of the Namjagbarwa Region, EVANS (1915) declared that all the 64 species obtained from the Pochu Valley (including Pome, Tongmai, Yigong, Pailong) were Palaearctic, meaning that the Pochu Valley belonged to the Palaearctic. However, HUANG FU-SHENG et al.(1981,1987) and WANG BAO-HAI et al. (1993) considered both the Milin-Linzhi-Pome area and the Yigong-Tongmai-Pailong area as the Oriental, based upon the analysis of the insect collection made by the Academia Sinica during 1973–1983 (the butterfly part was in LEE's list).
After a careful study of all these previous works, I found these authors made the following mistakes: 1) They did not mark off the Yigong-Pailong-Tongmai area and the Milin-Linzhi-Pome area: EVANS (1915) called both the areas as the Pochu Valley and did not distinguish the butterflies from the two areas; HUANG (1987:2) treated all the species which were actually from the Yigong-Pailong-Tongmai area as "the species in Pome" 2) Their regarding and distinguishing the distributional types of elements was rough and incorrect: EVANS regarded both the Sino-Himalayan and the Sino-Tibetan elements as the Palaearctic elements; on the contrary, HUANG et al. and WANG et al. (1993:200–205), however, treated both the Sino-Himalayan and the Sino-Tibetan elements as the Oriental elements. It should be noted that the Sino-Himalayan and the Sino-Tibetan elements occupy the greatest majority of the elements in the Namjagbarwa Region.
In my opinion, the Sino-Himalayan elements can be included into the Oriental elements in general, but cannot be regarded as the Palearctic elements in any way; the Sino-Tibetan elements can be included into the Palaearctic elements in general, but can not be merged into the Oriental elements. The Sino-Tibetan species are mostly sympatric with the Sino-Himalayan species in some areas of South China (on south of the Qinling Mts. and the Huaihe River, including Sichuan, Hubei, Jiangxi, Zhejiang, Fujian and more southern provinces of China), but the former (such as *Tatinga tibetana* OBERTHÜR, 1876, *Neptis themis* LEECH, 1890, and *Kuekenthaliella eugenia* EVERSMANN, 1847 etc.) are all extended into the north China (on north of the Qinling Mts. and the Huaihe River, including Henan, Shandong, Gansu, Shaanxi, Hebei and more northern provinces of China), while the latter (such as *Diagora ouvradi* RILEY, 1939, *phedyma aspasia* LEECH, 1890, *Neptis mahendra* MOORE, 1872 etc.) are restricted to Southern China and more or less extended to the Himalayas or Indo-China. (According to this definition, some species which were thought as Sino-Himalayan species by ELIOT (1969) are actually Sino-Tibetan, such as *Neptis themis, N. thisbe* MENETRIES, 1859, *N. antilope* LEECH, 1892 (recently found by Chinese at Beijing) etc.).
Finally, it should be noted that a high proportion of the new taxa described in this paper are Sino-Himalayan, mostly have their allies previously only known from China, however unknown in the Himalayas. This may prove that a rather high proportion of the Himalayan species including the Himalayan endemics were derived from China through the Namjagbarwa Region during Tertiary times.

Hesperiidae

New Taxa

Pedesta ***naumanni*** **spec. nov.**
(colour plate 1, figs. 1a, 1b, 2a, 2b)

Male. Eyes smooth and black in dried condition. Frons nearly twice as wide as eye, densely clad with yellow hairs mixed with some black ones. Labial palpus: the second segment stout, a little narrower than eye, porrect, and densely clad with yellow long scales mixed with some black hairs; the third segment porrect, at right angles to the second segment, and clad with black scales. Antennae: shaft

clad with black scales above and below; club black above, and yellow below with a black patch before apiculus, gradually but well marked (the thickest portion nearly 4 times as thick as shaft), obtusely angled and not constricted before apiculus; apiculus sharply pointed; nudum red, 4 in club and 9 in apiculus. Thorax densely clad with yellow hairs mixed with black ones. Abdomen densely clad with mostly black but rarely yellow scales and hairs above, and with mostly yellow hairs beneath. Legs all black or blackish brown above and yellow below; femora all clad with yellow hairs below; tibiae all without spines; tarsi all densely clad with small red spines beneath; tibial epiphysis arising from the middle of fore-tibiae, reddish in colour and nearly of half the length of tibiae; mid-tibiae with a terminal pair of spurs which is clad with yellow and black scales; hind-tibiae with two pairs of spurs, the upper pair nearly of half the length of the lower terminal pair. Ciliae pale brown, obscurely chequed with dark at vein-ends on both sides of bothwings. Wing-venation as in *Pedesta pandita* DE NICEVILLE, 1885. Length of forewing: 15.5–16 mm.

Upperside forewing. Ground colour dark brown. No male brand. Base of space 1b and the middle of space 1a clad with some ochreous long scales. Three subhyaline white spots in discal area: one in space 2, one in space 3 and one in discocellular cell. Two or three subhyaline spots in subapical area: one in space 6, one in space 7 and sometimes one in space 8. Spot in cell being the largest, runing across the cell, a little narrower in the middle. Spot in space 2 a little smaller than the cell spot but larger than all the rest spots, placed beyond the cell spot but before the spot in space 3 and not overlaped with either of them. Spot in space 3 as large as the lower two subapical spots. The upper most spot in space 8 very minute, sometimes absent.

Upperside hindwing. Ground clour dark brown. Unmarked. Basal and discal areas except for costal area densely clad with ochreous long hairs.

Underside forewing. Ground colour blackish grey, with a greenish tint. Costal area above discocellular cell densely clad with ochreous scales. Subapical area sparsely clad with ochreous scales. All the subhyaline spots as on the upperside.

Underside hindwing. All the areas densely clad with ochreous scales except for space 1b which is more greenish. A series of discal black spots distinct or obscure from space 1c to space 5. A white spot in space 6, sometimes obscure, placed just before the discal series of black spots.

Female. Unknown at present.

Diagnosis

This new species is similar to *Pedesta pandita* (colour plate 1, figs. 1c, 2c), but can be distinguished from it by the following characters:

1) Forewing discal spots in spaces 2 and 3 are not overlapped, the one in space 2 is midway between the one in space 3 and the cell spot.

2) Underside hindwing is marked with a series of discal black spots and a white spot in space 6 which are entirely absent in *P. pandita*.

3) Male genitalia (fig. 1a): uncus is nearly of half the length of tegumen, its two processes are much nearer to each other at tip than in *P. pandita* (fig. 1b); footstalk is smaller than that of *P. pandita*, without any teeth which are usually well marked in *P. pandita*; cuiller is very much different from that of *P. pandita* in shape, its inner margin without any teeth.

This new species can be distinguished easily from *P. masuriensis* MOORE, 1878 and *P. panda* EVANS, 1937 by the forewing discal spot in space 2 not overlapping the cell spot, and by the cuiller of male genitalia very much different in shape, from *P. blanchardii* MABILLE, 1876, *P. baileyi* SOUTH, 1913 and *P. serena* EVANS, 1937 by the forewing lacking male brand, and by the cuiller of male genitalia much narrower and not so broadly dentated.

Remark

P. naumanni is sympatric with *P. pandita* in Metok.

Distribution

Metok, S. E. Tibet.

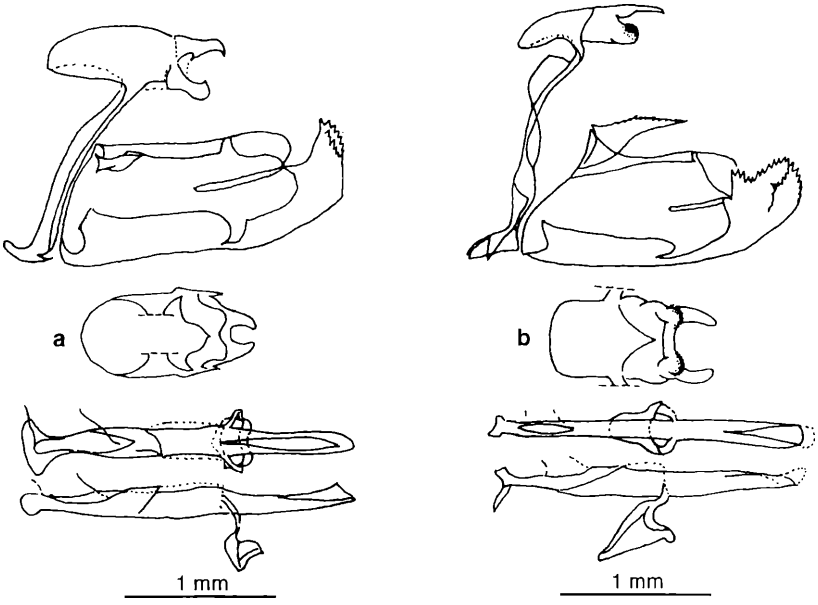


Fig. 1: Male genitalia consisting of lateral view of genital capsule with left valva, juxta and aedeagus removed; of ventral view of tegumen, uncus and gnathos; of dorsal and lateral view of aedeagus and juxta: a – *Pedesta naumanni*, b – *Pedesta pandita*.

Type data
Holotype ♂, Length of forewing (LF): 16 mm, Arni Bridge, Metok, S. E. Tibet, 1300 m, July 7th, 1996.
Paratype: 1 ♂, LF: 15.5 mm. Arni Bridge. July 23rd, 1996.
All types deposited in the Biological Laboratory of Qingdao Education College, China.

This new species is named after Dr. STEFAN NAUMANN, my good friend, a specialist in Saturniidae, in gratitude for his kind help in literatures.

Suspected New Taxa

1. *Capila pieridoides* ssp.
(colour plate 2, figs. 1a, 1b)

The single male specimen from Hanmi, Metok differs from ssp. *pieridiodes* MOORE, 1878 from Assam in having all the black markings on both sides of both wings much more developed. This is not due to the seasonal variation. Fig. 2 depicts the male genitalia.

2. *Hasora vitta* ssp.
(colour plate 2, figs. 1c, 1d)

The single male specimen from Beibeng, Metok differs from all the known subspecies in having the discal band of underside hindwing much narrower, ill defined outwardly and broken in space 1B. I have encountered this taxon several times in Metok however failed to catch more specimens. Its male genitalia (fig. 3) agrees with that of the nominate *H. vitta* BUTLER, 1870.

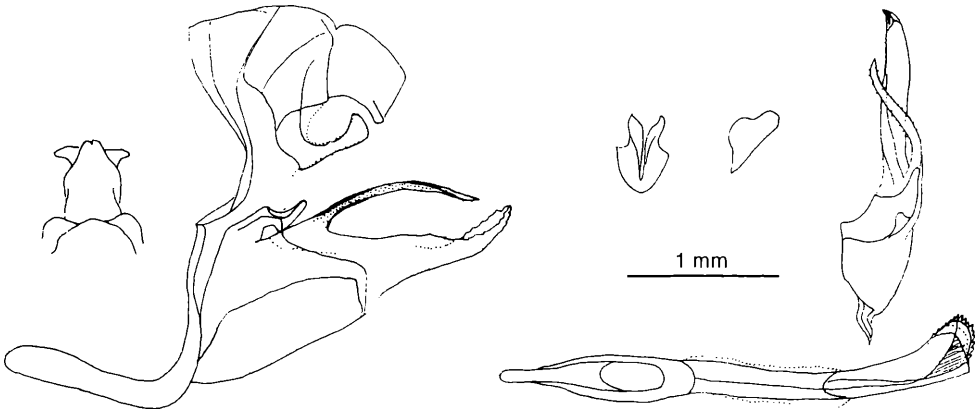


Fig. 2: Male genitalia of *Capila pieriodoides* ssp. consisting of lateral view of genial capsule with right valva, juxta and aedeagus removed; of dorsal view of uncus; of dorsal view of left valva; of lateral and posterior view of juxta; of dorsal view of aedeagus.

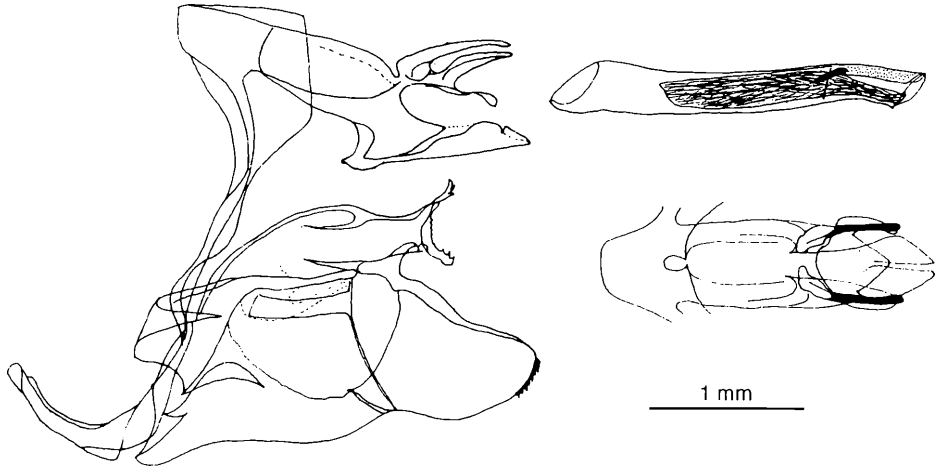


Fig. 3: Male genitalia of *Hasora vitta* ssp. consisting of lateral view of genital capsule with left valva and aedeagus removed; of dorsal view of tegumen and uncus; of lateral view of aedeagus.

Revisional Notes

1. *Halpe molta* EVANS, 1949 **stat. nov.** (colour plate 1, figs. 1h, 1i, 2h, 2i, 3i, 4i)
   = *Halpe homolea molta* EVANS, 1949: 262

Halpe filda EVANS, 1949 **stat. nov.** (colour plate 1, figs. 1d, 1e, 2d, 2e)
   = *Halpe homolea filda* EVANS, 1949: 262

Halpe aucma SWINHOE, 1893 **stat. rev.** (colour plate 1, figs. 1f, 2f)

Halpe aucma perfossa SOUTH, 1913 **stat. nov.**
   = *Halpe perfossa* SOUTH, 1913: 615
   = *H. homolea perfossa* SOUTH; EVANS, 1949: 263

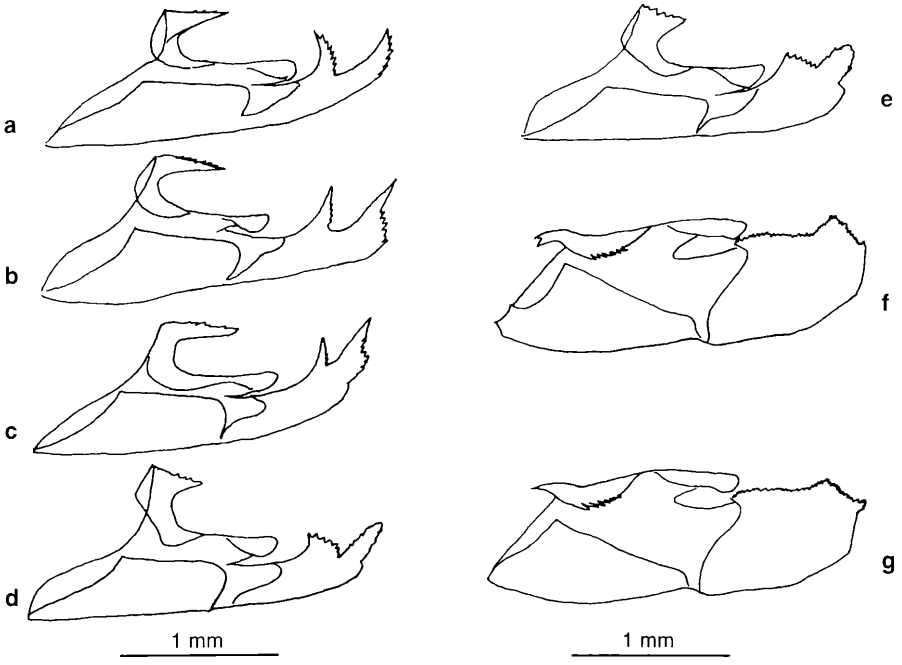


Fig. 4: Right valva of male genitalia in lateral view: a – *Halpe filda*, b – *Halpe aucma*, c – *Halpe aucma*, d – *Halpe molta*, e – *Halpe molta*, f, g – *Sebastonyma medoensis*.

EVANS treated *H. molta, H. filda, H. aucma* all as subspecies of *H. homolea* HEWITSON, 1868. However, all these three species fly together in Metok, their male genitalia are constantly different from one another as illustrated (fig. 4a–e), none of them agrees with *H. homolea* in the shape of cuiller. In external features, *H. filda* can be distinguished from *H. molta* and *H. aucma* by the cell spot usually absent, *H. molta* can be distinguished from *H. aucma* by the forewing discal spots in spaces 2 and 3 usually more overlapping.

2. *"Sebastonyma dolopia"* in EVANS' list (1915: 546) actually refers to *S. medoensis* LEE (1979, 1: 36, 38, figs. 7, 8, 11) (colour plate 1, figs. 3a–h, 4a–h). LEE described this species on two males from Metok, I also obtained 13 males from my trip. *S. dolopia* occurs in Sikkim, Assam, N. Burma and Ataran, but does not occur in S. E. Tibet at all. *S. medoensis* is very similar to *S. dolopia* HEWITSON, 1868 in external features, but can be separated from the latter by the forewing discal spot in space 2 midway between the cell spot and the spot in space 3, and by the cuiller of the male genitalia (figs. 4f, g) more curved upwards at dorsal margin (anterior margin).

3. *"Augiades bouddha"* in EVANS' list (1915: 546) actually refers to *Ochlodes siva tarsa* EVANS, 1949. *Ochlodes bouddha* MABILLE, 1876 is still unknown in S. E. Tibet.

4. *"Halpe homolea"* in EVANS' list refers to *Halpe aucma*.

5. *"Halpe aina"* in EVANS' list (1915: 546) is the misidentification of *Thoressa fusca fusca* ELWES, 1892. *Thoressa aina* DE NICEVILLE, 1890 occurs in Garhwal and Sikkim, but is still unknown in Tibet.

6. *"Parnara aurociliata"* in EVANS' list (1915: 546) actually refers to *Caltoris sirius chimdroa* EVANS, 1949. The true *C. aurociliata* ELWES & EDWARDS, 1897 is firstly reported by me in this paper. I have obtained both species from Metok.

Lycaenidae

New Taxa

Esakiozephyrus ***zhengi*** **spec. nov.**
(colour plate 2, figs. 2a, 2d, 3a, 3d)

Male. Frons hairy, black, with a few white hairs and scales centrally, lined on either side with white which encirles the eyes. Eyes brown, with yellow hairs. Palpi black above, laterally white on inner side but black on outer side, and ventrally with long chalk white hairs mixed with some black ones. Antennae: shaft black-scaled and ringed with white scales; club black-scaled above, necked and brown below. Thorax with grey and bronze-green hairs above, and with mostly chalk white but rarely yellow hairs below. Legs like in *E. bieti* OBERTHÜR, 1886: densely clad with black scales and sparsely powdered with white scales, clearly chequed with white on each segment. Abdomen black above and paler below. Ciliae on both sides of bothwings pale brown. Length of forewing: 19–20 mm. Tail of hindwing nearly 3 mm long, tipped with white.
Upperside forewing: Ground colour dark metallic green or dull purple. All veins marked with black scales. Marginal black band evenly 3 mm broad from Apex to vein 2.4 mm broad below vein 2.
Upperside hindwing. Ground colour black, paler in costal areas than in other areas. A few green scales sparsely powdered in discocellular cell and bases of spaces 2–5.
Underside forewing. Ground colour pure dark brown, not powdered with yellow scales. Discocellular bar reddish and margined with black scales. Similarly discal band reddish and margined with black scales. Submarginal dark line ill defined, broadened towards tornus. Marginal area clad with reddish scales above vein 2, more broadly at apex.
Underside hindwing. Ground colour dark brown as on forewing. Discocellular bar reddish, broader than on forewing. Discal band placed much nearer to discocellular bar than to the submarginal band, broadly redish and margined outsidely with a shining silvery blue line, remarkably shifted in below vein 2 and above vein 6. Submarginal band reddish, well conjoined, as prominent as discal band and heavily margined on either side with black lines in spaces 1 and 2. Marginal reddish band as prominent as discal and submarginal bands.
Female. Unknown at present.

Diagnosis
This new species is similar to *E. bieti* OBERTHÜR, but can be easily distinguished from the latter by the following characters:
1) Antennae are not tipped with bright orange in the last two segments on the recto surface as in *E. bieti*.
2) Almost all the hairs on palpi, thorax and legs are chalk white, not yellow as in *E. bieti*.
3) Tail of hindwing is fully developed, 3 mm long,not 1–1.5 mm long and marked as a small tooth as in *E. bieti*.
4) On the underside hindwing the discal band is nearer to discocellular bar than to submarginal band, clearly shifted-in above vein 6, whereas in *E. bieti*, it is often midway between discocellular and submarginal bands and evenly curved from costa to vein 2.
5) On the underside hindwing the submarginal band is broadly reddish brown, as prominent as the discal band, not marked as a series of reddish spots as in *E. bieti*.
6) Male genitalia (fig. 5a) (many specimens of *E. bieti* have been examined): valva is apparently broader than that of *E. bieti* (fig. 5b), its distal margin much longer than in *E. bieti*; the distal and

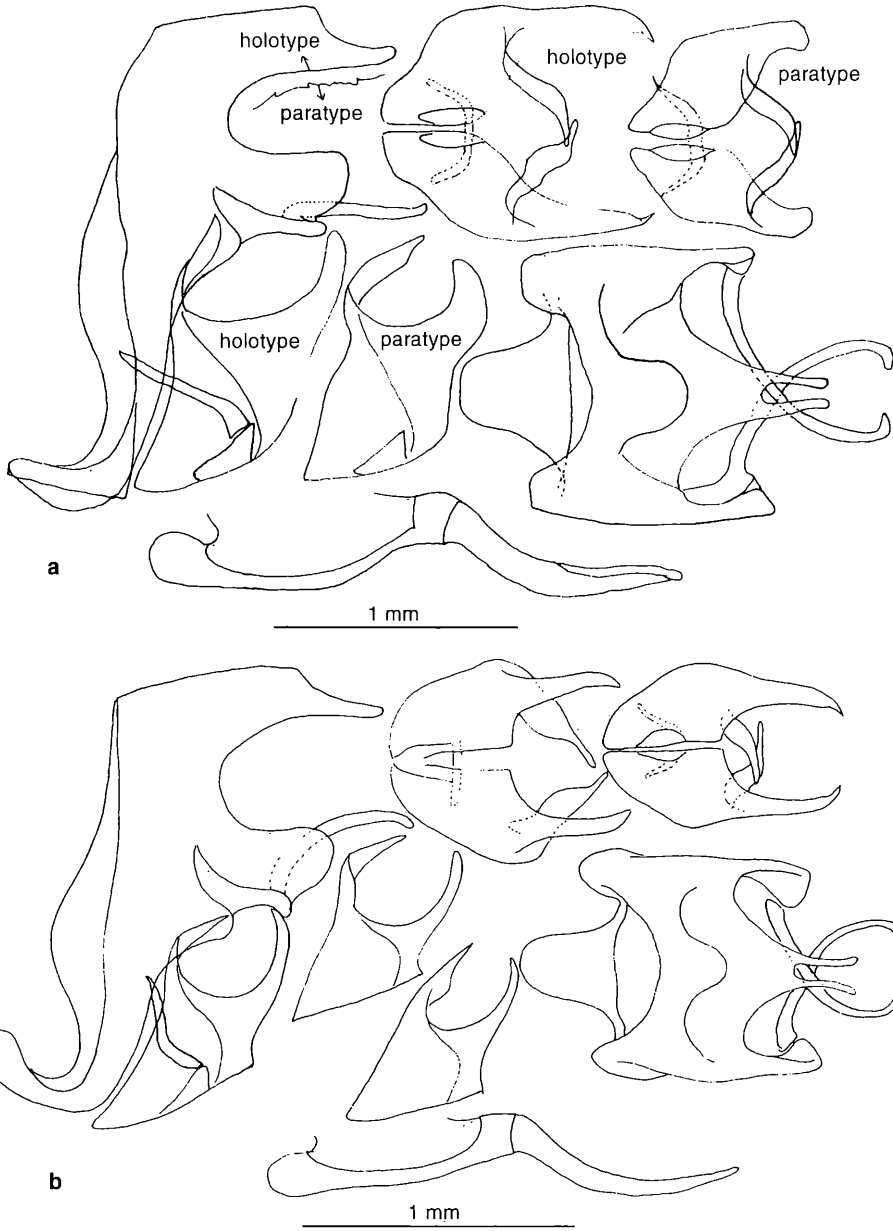


Fig. 5: Male genitalia consisting of lateral view of genial capsule with left valva and aedeagus removed; of lateral view of right valva; of ventral view of valva; of dorsal view of tegumen and vinculum; of lateral view of aedeagus;-a – *Esakiozephyrus zhengi*, b – *Esakiozephyrus bieti*.

posterior margins of valva are smoothly throughout, not marked off by an angle as in *E. bieti*; the apical process of valva is more stout and shorter than in *E. bieti*; lateral process of tegumen is not so remote from the socius as in *E. bieti*.

Distribution
No more than 100 km to the north of the locality of *E. zhengi*, there is *E. bieti* flying in good numbers on the northern slopes of the Great Himalaya. *E. bieti* can be found everywhere in the Milin-Linzhi-Pome Area whereas *E. zhengi* is restricted to the eastern Metok (on east of the Yarlung Tsangpo).

Type data
Holotype ♂, LF: 20 mm, 70K, Metok, 2200 m, June 29th 1996.
Paratype: 1 ♂. LF: 19 mm. 80K, 1800 m. June 22nd 1996. All types deposited in the Biological Laboratory of Qingdao Education College, China.

I dedicate this new species to Mr. ZHENG WEI-LIE, my good friend, a botanist in the Ecology Institute of Tibet.

Field observations
The natural habitat of *E. zhengi* is within the semi-evergreen broad-leaf forests on the southern slopes of the Great Himalaya at height of 1800–2200 m. *E. zhengi* is a very rare butterfly in nature, I have only encountered it twice during the whole ten days at its biotope. In one occasion, the butterfly flew very rapidly along the open ground in the forest, I was almost sure it was a skipper. In another occasion the butterfly stopped on the corpse of a bird, together with *Neope yama* MOORE, 1857, *Dodona* spp. and many flies.

Tongeia ***menpae*** **spec. nov.**
(colour plate 2, figs. 4a–c, 4i)

Male. Head: frons black, eyes black and smooth in dried condition. Palpi porrect, its first and second segments clad with white hairs beneath, its third segment more slender. Antennae ringed with white and black; club well marked. Thorax and abdomen black above, white below. Legs: femora white, tibiae striped with black and white lengthways, and tarsi ringed with black and white. Ciliae of forewing with inner half white and outer half brown. Ciliae of hindwing white, thinly chequed with darker at vein-ends. Forewing length: 12–13 mm.
Upperside both wings. Ground colour uniform black, sparsely clad with some scattered blue scales in submarginal areas, particularly on hindwing.
Underside forewing. Ground colour grey. Discocellular black spot elongated as a bar, edged on either side with white. Discal black spots ringed with white, the ones in spaces 3 to 6 nearly in a straight line ,and the ones in spaces 1 and 2 extremely shifted-in and midway between discocellular spot and upper discal spots. Submarginal spots similar to discal spots but more obscure and not staggered. Marginal black and white lines prominent so the narrow area in the ground oclour between marginal lines and submarginal spots suggesting a series of greyish spots.
Underside hindwing. Ground colour grey. Subbasal area traversed by a series of four white-ringed black spot. Discal spots brown and ringed with white, the ones in spaces 1 to 5 conjoined and nearly in a straight line, and the ones in spaces 6 and 7 shifted in and midway between discocellular spot and lower discal spots. Submarginal spots more blackish than discal spots, without any reddish scales. All the dark markings as prominent as on forewing, the spots of spaces 2 and 3 bearing some metallic green scales.
Female. Unknown at present.

Diagnosis
This new species is close to *T. zuthus* LEECH, 1893 (colour plate 4, fig. 4g) which is distributed in Sichuan and the Sichuan-Tibet border, but can be easily distinguished from the latter as follows:
1) *T. menpae* (LF 12–12.5 mm) is constantly smaller than *T. zuthus* (LF 13.5–14 mm for both sexes).
2) Discal spots in spaces 1, 2 and 3 of underside hindwing are almost in a straight line in *T. menpae*, but alternate in *T. zuthus*.

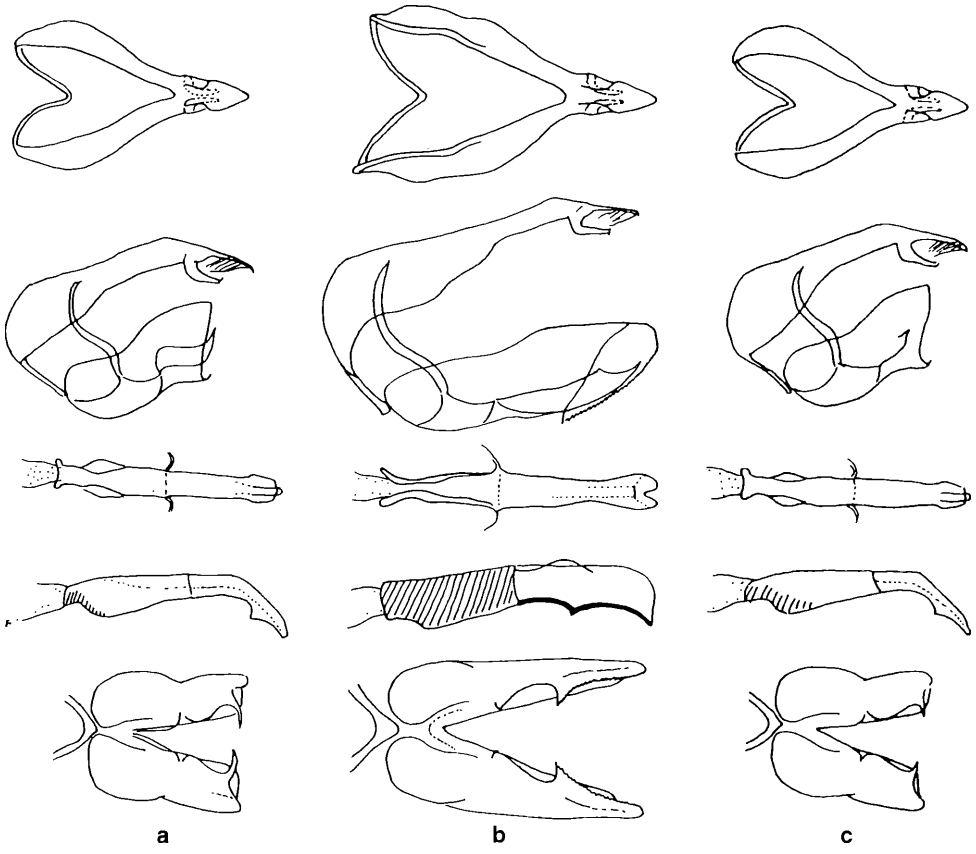


Fig. 6: Male genitalia consisting of lateral view of genital capsule with left valva and aedeagus removed; of dorsal view of tegumen and vinculum; of dorsal and lateral view of aedeagus; of venrtral view of valva: a – *Tongeia menpae*, b – *Tongeia ion*, c – *Tongeia zuthus*.

3) Marginal eyespots in spaces 3 and 4 of underside hindwing lack the reddish scales in *T. menpae*, but bear prominent red markings in *T. zuthus*.
4) Male genitalia: the inner plate of valva raised from sacculus is fully developed, extending beyond the tip of valva in *T. menpae* (fig. 6a), but is reduced and confused with the inner wall of valva in *T. zuthus* (fig. 6c).
T. menpae is also close to *T. ion* LEECH, 1891 (colour plate 4, fig. 4h) which is widely distributed in West China and the Yunnan-Sichuan-Tibet border, but can be distinguished from the latter by the following characters:
1) Discal spots in spaces 3 and 4 of underside hindwing are distinctly separated from submarginal spots in *T. menpae*, but are connected with submarginal spots in *T. ion*.
2) Male genitalia: valva of *T. menpae* (fig. 6a) is much shorter than that of *T. ion* (fig. 6b), with its tip rather plain, not produced as in *T. ion*; penis of *T. menpae* is thinner than that of *T. ion*, with its suprazonal portion downcurved in lateral view.

Remark
It is possible that *T. menpae* is a derivative of *T. zuthus* because of their similar genital structure.

Distribution (map 3)
The nominate *T. menpae* is known from the Metok Area and the Yigong-Pailong-Tongmai Area, S. E. Tibet. It is distributed to the west of the localities of *T. ion* and *T. zuthus*, and to the east of the localities of *T. menpae pseudoion*.

Phenology
Although the nominate *T. menpae* is known at present only in August, it most likely has more broods in a year. The type specimens could be regarded as the wet-season form.

Type data
Holotype ♂, LF: 12.5 mm, Laohuzui, Metok, 1500 m, August 26th 1995.
Paratypes: 1 ♂, LF: 12 mm, same data as holotype. 2 ♂♂, LF: 12 mm, Tongmai, 2000 m, August 5th 1996. All types deposited in the Biological Laboratory of Qingdao Education College, China.

The name *menpae* is a feminine noun in the genitive case, a patronym after the tribe of the Menpa in Metok.

Field observations
Its habitat is restricted to the overhanging cliffs along the rivers within the semi-evergreen broad-leaf forest at height of 1500–2000 m. The adults like to stop on the bare rocky wall. Its extreme alertness made it a difficult butterfly to catch. Its accompanying butterflies are *Argestina pomena* EVANS, 1915, *Halpe kumara* DE NICEVILLE, 1885 and various nymphalids.

Tongeia menpae ***pseudoion subspec. nov.***
(colour plate 4, figs. 4d–f)

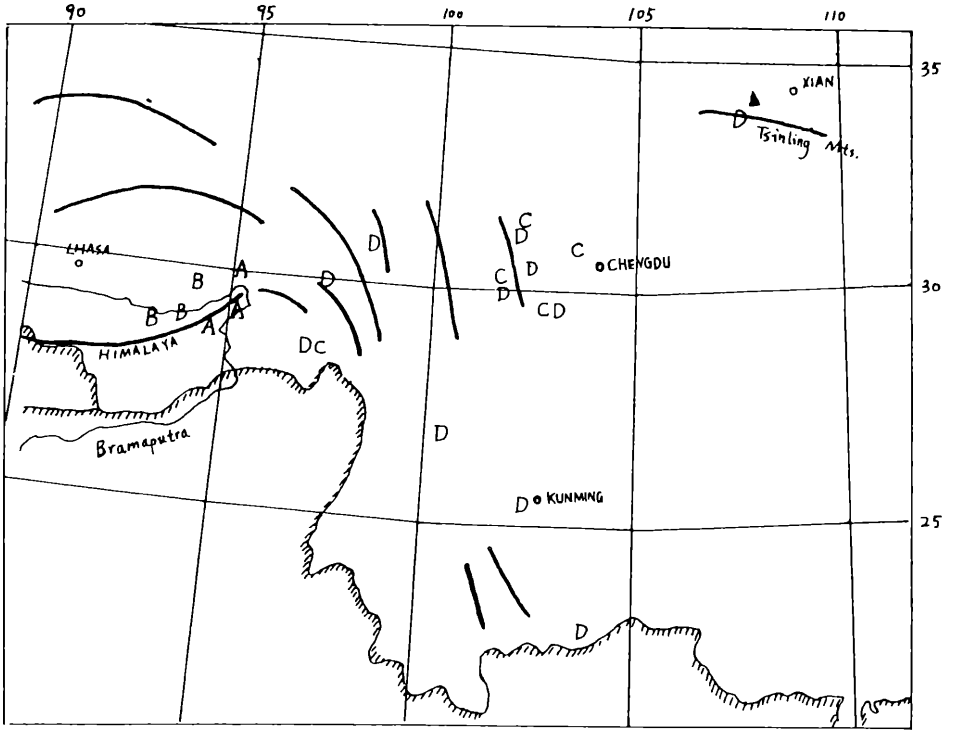
This taxon was obtained firstly by F. M. BAILEY from Milin and misidentificated by W. H. EVANS (1915: 21) as *Tongeia ion*.

Diagnosis
I examined all the type specimens, found that there is no difference in male genitalia between ssp. *menpae* and ssp. *pseudoion*. However ssp. *pseudoion* differs sharply from ssp. *menpae* in external features as follows:
1) Submarginal spots of underside forewing are more in a line in ssp. *pseudoion* than in ssp. *menpae*.
2) Postdiscal area of underside hindwing is untirely white in ssp. *pseudoion* but is in the greyish ground colour in ssp. *menpae*.

Distribution (map 3)
T. menpae pseudoion flies only in the Linzhi-Milin Area of the Namjagbarwa Region, whereas *T. menpae menpae* flies only in the Metok Area and the Yingong-Tongmai-Pailong Area of the Namjagbarwa Region. The biotopes of two subspecies are quite different from each other.

Phenology
Tongeia menpae pseudoion has two broods in a year at least: the first in the late May and June, the second in the late August and September. The brood in August is the wet-season form. The specimens collected in June which have all the underside markings somewhat obscure and broader, closely resembling *T. ion*, should be considered as the dry-season form.

Type data
Holotype ♂, LF: 12 mm, Pai, 2900 m, August 21st 1995.
Paratypes: 3 ♂♂, same data as holotype; 2 ♂♂, LF: 12–12.5 mm, Linzhi, 3000 m, June 6th 1996.
All types deposited in the Biological Laboratory of Qingdao Education College, China.



Map 3: Distributional map of (A) *Tongeia menpae*; (B) *Tongeia mmenpae pseudoion*; (C) *Tongeia zuthus*; (D) *Tongeia ion*.

Field observations

The adults of *Tongeia menpae pseudoion* can be found flying on the grassy slopes, or in the needle-leaf forest at height of 2900–3100 m. Some adults were found near streams. In June, its accompanying lycaenids are *Rapala bomiensis* LEE, 1979, *Lycaena phlaeas* LINNAEUS, 1767 etc. In September, it flies with *Esakiozephyrus bieti, Celastrina morsheadi* EVANS, 1915 and *C. dilecta* MOORE, 1879 etc.

Suspected New Taxa

Esakiozephyrus bieti ssp.
(colour plate 2, figs. 2b, 2e, 2f, 3b, 3e, 3f)

7 ♂♂ and 6 ♀♀ of this taxon were collected from the Namjagbarwa Region. They are often larger than the nominate *E. bieti* (colour plate 2, figs. 2c, 3c) from Sichuan, and their underside markings are apparently more reddish, especially the apex of forewing more broadly clad with reddish scales. They can be easily separated from ssp. *dohertyi* DE NICEVILLE, 1889 from Kulu-Garhwal, N. W. Himalayas and ssp. *mandara* DOHERTY, 1886 from Kumaon by the discal band on underside forewing evenly curved and on underside hindwing only slightly zigzagged at lower end, and can be distinguished from ssp. *irma* EVANS, 1925 from Bhutan by the underside ground colour reddish brown, and by the paler edging to the discal band prominent.

There are also some specimens of *E.bieti* from N. W. Yunnan in my collection. They are slightly different from the specimens from Sichuan and Tibet in having the discal bands on the underside bothwings nearly straight from costa to space 3, and the submarginal band of underside hindwing more broadly reddish at tornus.

Revisional Notes

1. *"Lycaena stoliczana"* in EVANS' list (1915: 544) and *"Polyommatus icarus"* and *"P.stoliczkana"* in LEE's list (1982: 150) actually refer to some other *Polyommatus* species: all the specimens from Pome belong to *P. akmeicius* BALINT, 1993 which was originally described from N. W. Yunnan, all the specimens from Milin belong to *P. venus lhasana* MURAYAMA, 1983, and all the specimens from Pai and Gangga belong to *P. erotides sichuanicus* MURAYAMA, 1983. There is no *Polyommatus* species occuring in the Metok Area and the Yigong-Pailong-Tongmai Area at all. I'll illustrate their male genitalia in another paper on a new subspecies of *Polyommatus sarta* ALPHERKY, 1881 from central Tibet.

2. "*Scolitantides orion* PALLAS" in LEE's list (1982:149) is the misidentification of *Sinia lanty* OBERTHÜR, 1886. These two species are similar in external features but very much different in male genitalia. *Scolitantides orion* PALLAS, 1771 does not occur in Tibet at all. The population named by EVANS as *S.orion tytleri* EVANS, 1923 from Gyangtse, S. Tibet actually belongs to *Sinia lanty* (I have examined its male genitalia).

3. *"Ilerda epicles"* in LEE's list (1982: 151) actually refers to *Heliophorus ila* DE NICEVILLE, 1880. LEE reported this species based on a female of *H. ila* which is difficult to be separated from *H. epicles* GODART, 1822. I collected the *Heliophorus* species very thoroughly in Metok and no *H. epicles* has been seen.

4. *Rapala bomiensis* LEE, 1979: 35, 37, figs. 3, 4 = *R. pomena* LEE; WUTIAN, 1982: 152, incorrect subsequent spelling.
LEE described it on a single female from Pome. I have collected 6 ♂♂ and 3 ♀♀ from Pome, 2 ♂♂ and 1 ♀ from the Yigong-Pailong-Tongmai Area, 1 ♂ and 1 ♀ from Linzhi, and 1 ♀ from Pai.
R. bomiensis (colour plate 3, figs. 1a–f, 2a–e, 3a–e) is a derivative of *R. nissa* KOLLAR, 1848 (colour plate 3, fig. 2f, 3f) because the two species are not sympatric and there is a specimen of *R. bomiensis* clearly showing the transition to *R. nissa*. In male genitalia, *R. bomiensis* (fig. 7a) differs from *R. nissa* (fig. 7b, c) in having the lobes of uncus bigger, the brachium longer, the vinculum hump and the end of tegumen not angled, the valva broader near the tip, the phallus longer and the cornutus claw-shaped.
R. bomiensis is also similar to *R. nemorensis* OBERTHÜR, 1914 from N. W. Yunnan, but the upperside forewing red marking is placed nearer to apex and absent in space 1.

Satyridae

New Taxa

Lethe maitrya ***metokana*** **subspec. nov.**
(colour plate 4, figs. 1a–c, 2a–c)

Diagnosis
Hitherto only two subspecies of *Lethe maitrya* have been described: ssp. *maitrya* DE NICEVILLE, 1880 from N. W. Himalayas, Nepal, Sikkim and Bhutan, and ssp. *thawgawa* TYTLER, 1939 from N. W. Yunnan.

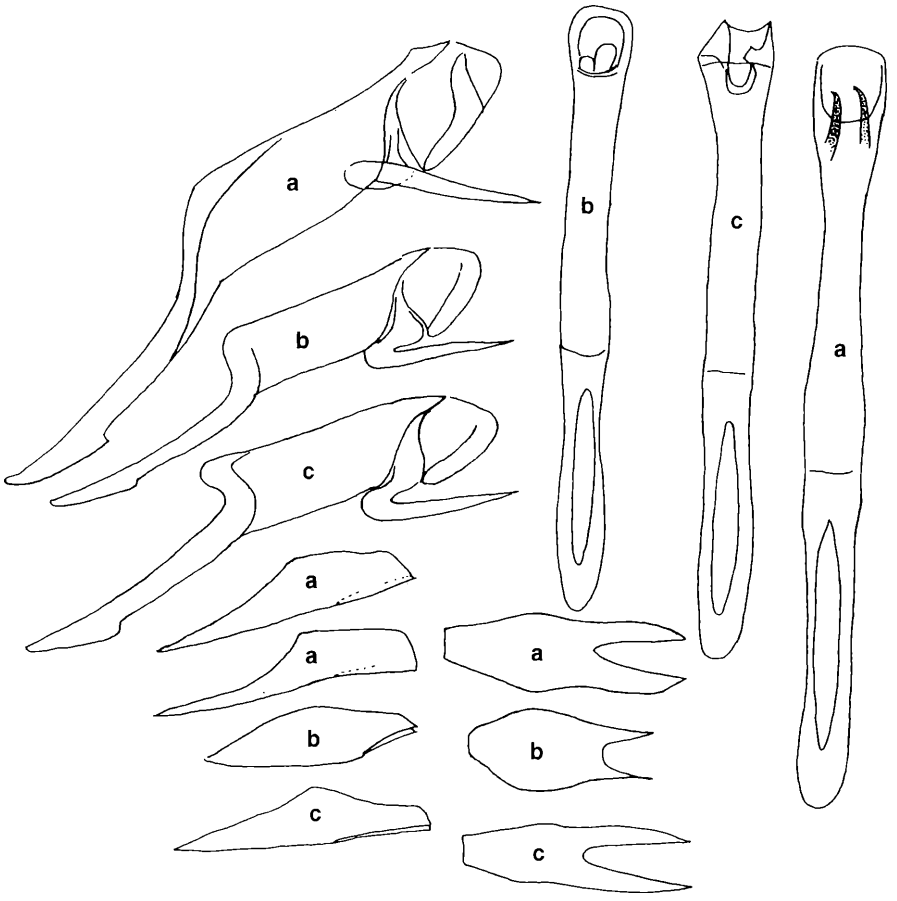


Fig. 7: Male genitalia consisting of lateral view of tegumen and vinculum; of dorsal view of aedeagus; of lateral and ventral view of valva: a – *Rapala bomiensis*, b – *Rapala nissa nissa*, c – *Rapala nissa micans*.

The new subspecies from Metok can be easily distinguished from both of the known subspecies by the following characters:
1) On the upperside, the forewing discal band is only traceable near costa, not well marked as a yellow band as in ssp. *thawgawa* (colour plate 4, figs. 1d, 2d), the hindwing submarginal spots which are traceable in ssp. *thawgawa* are untirely absent.
2) On the underside forewing, the discal band is marked with silvery lilac or white only above vein 5, whereas in ssp. *maitrya* and ssp. *thawgawa* it is marked with yellowish from vein 2 to costa.
3) On the underside forewing, the paler spot in cell which is well pronouced in ssp. *maitrya* is untirely absent.

Remarks
The difference among the three subspecies is not due to the seasonal variation. In Metok, ssp. *metokana* continued to emerge during the whole wet season (from June to September), so it is

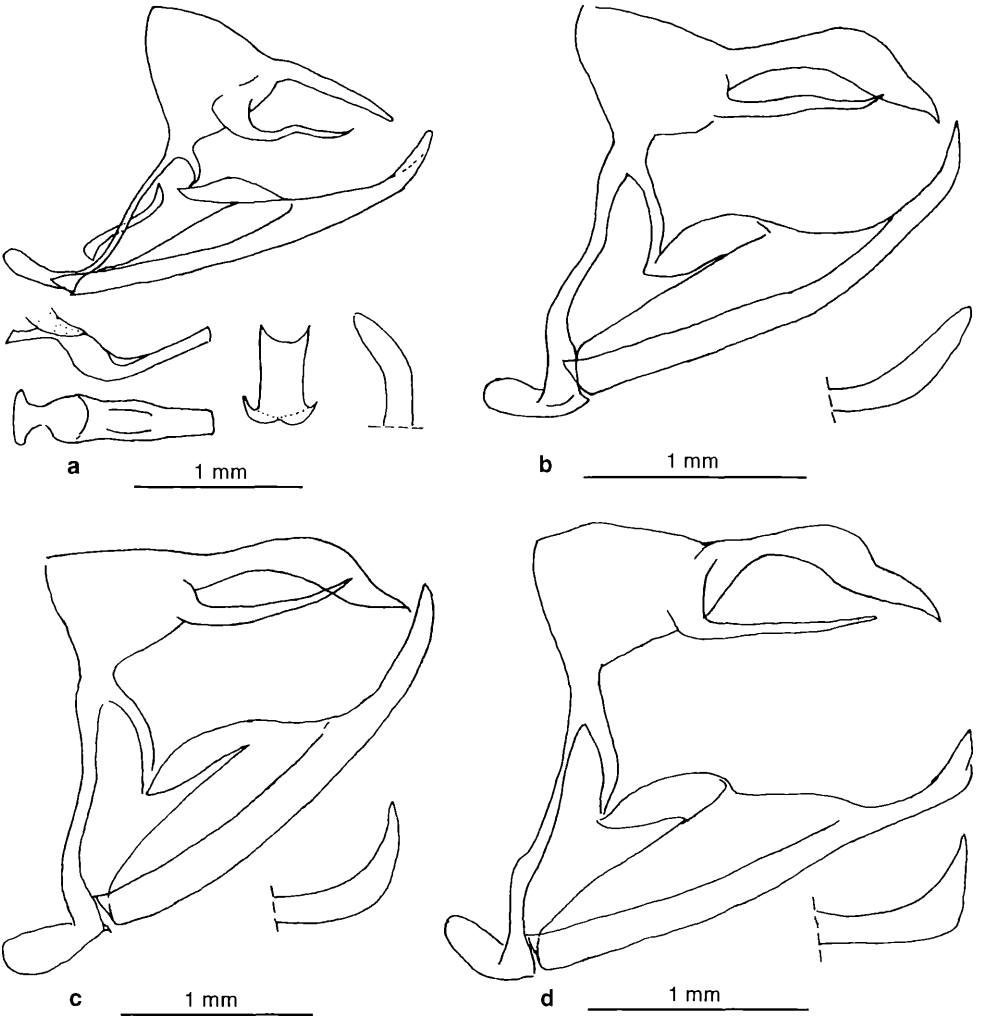


Fig. 8: a – male genitalia of *Lethe maitrya metokana* consisting of lateral view of genital capsule; of posterior view of juxta; of dorsal view of tip of left valva; of lateral and dorsal view of aedeagus. Male genitalia consisting of lateral view of genital capsule; of dorsal view of tip of left valva; b – *Lethe nigrifascia* ssp. (Metok), c – *Lethe nigrifascia nigrifascia* (Henan), d – *Lethe baileyi*.

difficult to tell how many generations ssp. *metokana* has during the wet-season. I don't know whether it still emerges in the dry-season.
There is no difference in male genitalia (fig. 8a) among the subspecies.

Distribution
Metok, S. E. Tibet.

Type data
Holotype ♂, LF: 24 mm, 80K, 2000 m, June 25th 1996.
Paratypes: 28 ♂♂, LF: 22–24 mm, 80K–100K, Nage to Hanmi, 2000–3500 m, August–September, 1995 and June to August 1996.
All types deposited in the Biological Laboratory of Qingdao Education College, China.

Field observations
Lethe maitrya metokana flies in large numbers in the needle-leaf forest and semi-evergreen broad-leaf forest. It is the most active butterfly in Metok, flying even in the rain. It likes to fly along the route or perch on the open ground within the dense forest, will fly nervously in a cyclic pattern and then onto a high tree when it is disturbed. Its flight is usually rapid but it is not a difficult butterfly to catch. Its accompanying butterflies are various *Lethe* species.

Suspected New Taxa

1. *Paroeneis* spec.
(colour plate 4, figs. 3b, 4b)

The single female specimen from Pai differs from all the known species of the genus *Paroeneis* MOORE, 1893 (*P. pumilus* FELDER, 1867, *P. palaearcticus* STAUDINGER, 1889, *P. grandis* RILEY, 1922, *P. sikkimensis* STAUDINGER, 1889) in having the black and white wing-pattern very cleary defined, closely resembling the genus *Aulocera* BUTLER, 1867
It might be a new species or an extreme form of *P. sikkimensis* which is known from the Tibetan areas to the west of the Namjagbarwa Region.

2. *Lethe nigrifascia* ssp.
(colour plate 4, figs. 3a, 4a)

The single male from Metok differs very much from the nominate *L. nigrifascia* LEECH, 1890 (colour plate 4, figs. 3c, 4c) which is previously only known from Hubei, Henan, Gansu and Sichuan in the following characters: on the upperside, the discal line is sharply defined, the male brand is interrupted; on the underside, the ground colour is yellow, the markings are clearly defined; the shape of hindwing is more pointed at vein 4; the uncus of male genitalia (figs. 8b, c) is broader near the tip.
It is also similar to *L. ocellata* POUJADE, 1885 from Sichuan and *L. tristigmata* ELWES, 1887 (= *L. lyncus* DE NICEVILLE, 1897) from the east Himalaya, but can be distinguished from both of them by the underside forewing without a marginal lilac line and the underside hindwing basal wavy lines clearly defined.
It is sympatric with *L. baileyi* SOUTH, 1913 (colour plate 4, figs. 3d, 4d – genitalia: fig. 8d) which is previously only known from the Tibet-Sichuan-Yunnan border.

Revisional Notes

1. *Neope pulahoides xizangana* WANG, 1994: 756, fig. 19 = *Neope pulaha pulaha* MOORE, 1857 wet-season form; **syn. nov.**
WANG described ssp. *xizangana* on a single male from the Namjagbarwa Region. Its collecting data given in the original description is incorrect; its type specimen was actually collected by Mr. HE TAN from Metok in September of 1984. I have collected six ♂♂ of this taxon on my trip. Its male genitalia is as illustrated (fig. 9a).

2. *"Aulocera padma"* in LEE's list (1982: 137) is the misidentification of *A. loha chumbica* MOORE, 1901, which was reported by EVANS (1915:535) and also collected in good numbers by me. *A. padma* KOLLAR, 1844 does not occur in the Namjagbarwa Region at all.

Amathusiidae

New Taxa

Stichophthalma neumogeni ***renqingduojiei*** **subspec. nov.**
(colour plate 10, fig. 5)

Diagnosis
Hitherto only two subspecies of *Stichophthalma neumogeni* have been described, all from China: ssp. *neumogeni* LEECH, 1892 from Sichuan, Shaanxi, Fujian, Jiangxi and Zhejiang, and ssp. *le* JOICEY & TALBOT, 1921 from Hainan Island.
The new subspecies from Metok, S. E. Tibet can be easily distinguished from all of the known subspecies by the following characters:
1) Ground colour of both sides is much more brownish and darker than in other subspecies.
2) Ground colour of upperside is not uniform, the outer third being much paler than the inner two third.
3) On the upperside forewing, the apical black area is much more extensive than in other subspecies, absorbing the submarginal sagittate spots in spaces 5, 6 and 7

Remarks
Stichophthalma neumogeni renqingduojiei shows the transition to *S. nourmahal* WESTWOOD, which is distributed only in Sikkim, Bhutan and Assam. It is possible that *S. nourmahal* is a derivative of *S. neumogeni*.
There is no difference in male genitalia (fig. 9b) among the subspecies of *S. neumogeni*. Ssp. *le* from Hainan is doubtfully different from ssp. *neumogeni* in external features, as the latter is widely distributed in southern China and very variable in appearance. The individual variations of the males of ssp. *neumogeni* are as follows (I have examined a very large series of specimens from the different localities in south China):
1) Size varies from 35 to 50 mm, length of forewing.
2) On the upperside, the submarginal spots are usually small, but sometimes very big.
3) On the upperside forewing, the apical black area is usually absent, at most occupying the spaces 6 and 7, but never in space 5.
Stichophthalma neumogeni has been recorded in Zhejiang from the late June to late August, in Sichuan from late June to August, in S. E. Tibet from mid-July to late August.

Distribution
Only in Metok, S. E. Tibet.

Type data
Holotype ♂, LF: 45 mm; on path between Hanmi and Arni Bridge, Metok, 1500 m, July 20th 1996.
Paratypes: 2 ♂♂, LF: 45 mm, Hanmi, Metok, 1700 m, July 25th 1996; 1 ♂, LF: 45 mm, Beibeng, 1100 m, August 28th 1995.
All types deposited in the Biological Laboratory of Qingdao Education College, China.

The subspecific name is after Mr. RENQINGDUOJIE, Metok.

Field observations
S. neumogeni renqingduojiei flies in the evergreen rain-forest at height of 1000–1700 m. It seemed not to form colonies, but was met with very sparsely in the jungle. When it perched, it liked to sit with its wings closed on the small path in the dark forest. It is a very alert butterfly, will directly rush into the roadside steeped jungle when the collector approaches it. This made it a very difficult butterfly to catch, I almost saw four times more *renqingduojiei* than I was able to catch. Its flight period proved

to be very short, lasting at most one month, from late July to mid August. Its accompanying Amathusiids are *S. camadeva* WESTWOOD, 1848 and *Thaumantis dicores* DOUBLEDAY, 1845.

Nymphalidae

New Taxa

Litinga mimica ***xizangana*** **subspec. nov.**
(colour plate 5, figs. 1a–c, 2a–c)

Diagnosis
Litinga mimica POUJADE, 1885 was originally described from Sichuan, hitherto also known from Shaanxi, Ningxia, Jilin and Henan. No further subspecies has been described.
The new subspecies from S. E. Tibet can be distinguished from ssp. *mimica* (colour plate 5, figs. 1d, 2d) by the following characters:
1) Ciliae of forewing are all black in space 7, not chequed with white spots as in ssp. *mimica*.
2) Discocellular cell of upperside forewing is more uniform in colour, not conspicuously darkened at apex as in ssp. *mimica*.
3) Ground colour of underside is reddish, not blackish as in ssp. *mimica*.

Remarks
There is no difference in male genitalia (fig. 9c) between the two subspecies.
L. mimica occurs in central and west China in July, in Tibet from June to August. It seems to be single-brooded.

Distribution
Metok, Yigong, S. E. Tibet.

Type data
Holotype ♂, LF: 33 mm, 100K, 1400 m, June 27th 1996.
Paratypes: 1 ♂, LF: 33 mm, same data as holotype. 4 ♂♂, LF: 33–35 mm, Yigong, 2000 m, July and August 1996.
All types deposited in the Biological Laboratory of Qingdao Education College, China.

Filed observations
At Yigong, *L. mimica xizangana* flies in the semi-evergreen broad-leaf forest at height of 1800–2100 m, together with *Neptis* species. It likes to perch on the road or open ground, will fly onto the high tree when the collector is two metres away. Its flight is extremely rapid and elegant, I'm unable to catch a flying one. At Metok it flies at height of 1400 m.

Euthalia strephon ***zhaxidunzhui*** **subspec. nov.**
(colour plate 5, figs. 3a, 3b, 4a, 4b)

Diagnosis
Euthalia strephon GROSE-SMITH, 1893 is one of the rarest Chinese *Euthalia* species, previously only known from Sichuan. Recently it was recorded from Zhejiang, East China by TONG (1994: 39). Only one further subspecies, viz. ssp. *brevifasciata* CHOU & GU, 1994, was added recently from Hainan Island.
The new subspecies from Metok can be easily distinguished from ssp. *strephon* as well as ssp. *brevifasciata* by the following characters:

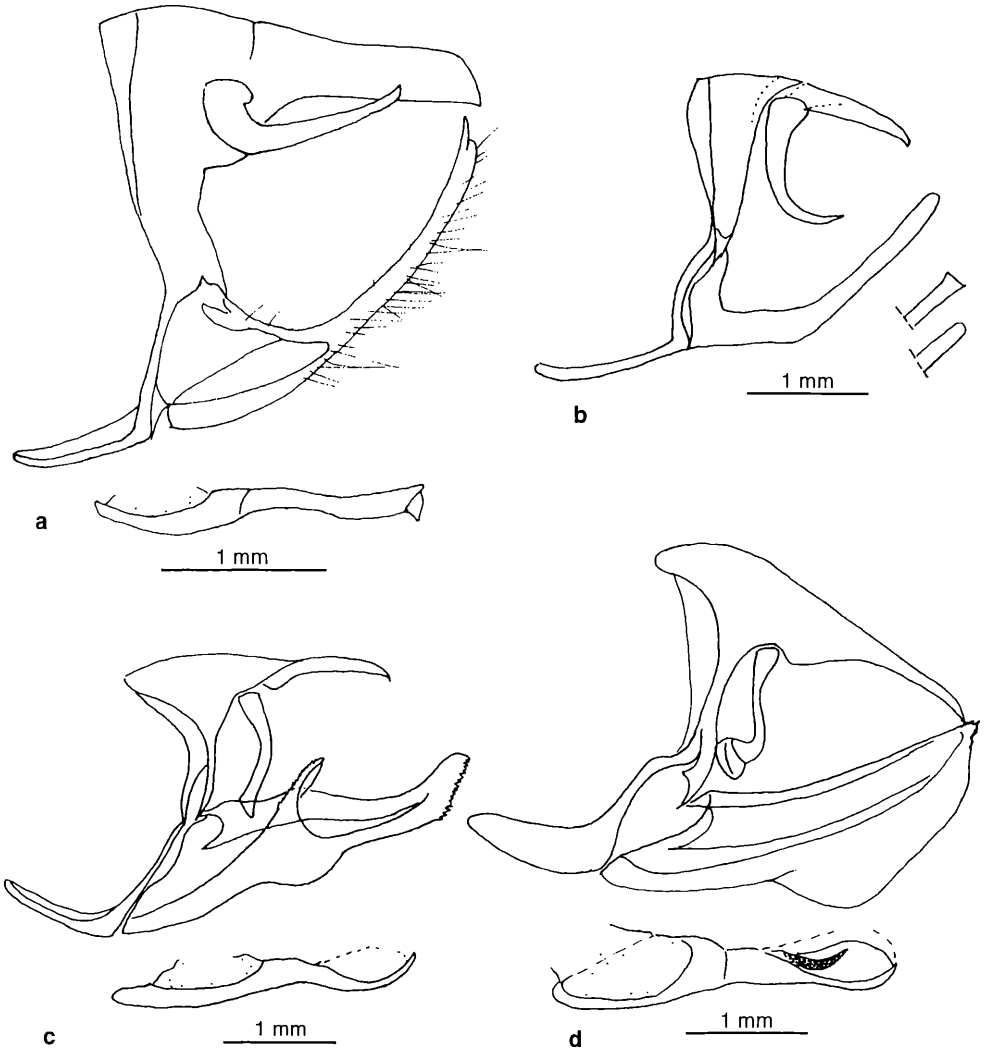


Fig. 9: a – male genitalia of *Neope pulaha pulaha* (Metok). b – male genitalia of *Stichophthalma neumogeni renqingduojiei* consisting of lateral view of genital capsule and tip of valva. c – male genitalia of *Litinga mimica xizangana*. d – male genitalia of *Euthalia strephon zhaxidunzhui*.

1) On the upperside forewing, the paler discal band and cell spot which are well developed in either ssp. *strephon* or ssp. *brevifasciata*, are reduced very much, only a round spot near the base of space 3 is prominent.
2) On the upperside hindwing, the discal band is more yellowish in colour than that of either ssp. *strephon* or ssp. *brevifasciata*.
3) On the underside hindwing, both the inner and outer areas of the discal yellow band are pure green in colour, not heavily dusted with black scales as in ssp. *strephon* and ssp. *brevifasciata*.

Remarks
There is no difference in male genitalia (fig. 9d) among all of the three subspecies.
Hitherto there is no seasonal variation nor dimorphism is found in the species. It seems to be single-brooded.
Euthalia stephon occurs in Zhejiang in July and August, in Sichuan in June, in Hainan in July, and in S. E. Tibet in mid July and early August (not seen in June and late August.)

Distribution
Metok, S. E. Tibet.

Type data
Holotype ♂, LF: 39 mm, on path between Hanmi and Arni Bridge, Metok, 1300–1600 m, July 22nd 1996.
Paratypes: 4 ♂♂, LF: 41–42 mm, July 21st–29th 1996.
All types deposited in the Biological Laboratory of Qingdao Education College, China.

This new subspecies is named after Mr. ZHAXIDUNZHU, Metok, in gratitude for his kind help in my journey.

Field observations
E. strephon zhaxidunzhui flies in evergreen rain forest at height of 1100–1300 m, together with *E. nara* MOORE, 1859, *E. iva* MOORE, 1857, *E. durga* MOORE, 1857 etc. It likes to perch on the path in the dense forest, will fly into the jungle when it is disturbed.

Neptis themis **neotibetana subspec. nov.**
(colour plate 6, figs. 1a, 1c, 2a, 2c)

The nominate *N. themis* LEECH, 1890 was described from Hubei, hitherto also known from Sichuan, Gansu and Shaanxi. Up to now, 4 further subspecies have been described: ssp. *ilos* FRUHSTORFER, 1909 from Amur, N. E. China, ssp. *theodora* OBERTHÜR, 1906 from Tsekou, N. W. Yunnan, ssp. *nirei* NOMURA, 1935 from Taiwan, ssp. *muri* ELIOT, 1979 from N. China (recently found in Beijing). However, YUAN et al. (1994: 115–119) raised ssp. *ilos* to specific rank and stated ssp. *nirei* as a subspecies of *N. ilos*, they also added a new subspecies, ssp. *sichuanensis* to *N. ilos*. I agree to their arrangement, because *N. ilos* differs from *N. themis* in having the forewing vein 10 arising from discocellular cell, not from vein 7 as in *N. themis*, and in having the male valva not bended downwards at its dorsal margin.

Diagnosis
The new subspecies of *N. themis* from Yigong, Tibet can be distinguished from ssp. *themis*, ssp. *muri* and ssp. *theodora* by the following characters:
1) All the broad bands of wings are pure white in colour, not yellow as in either ssp. *themis* or ssp. *theodora*.
2) Underside hindwing discal band is 1.5–2 times as broad as that of ssp. *themis*, ssp. *theodora* and ssp. *muri*.
3) Spot in space 5 of forewing is well separated from the spot in space 6, whereas in ssp. *muri*, the two spots are connected.
4). Postdiscal band of underside hindwing is prominent, not obsolet as in either ssp. *muri* or ssp. *themis*.

Remarks
Ssp. *theodora* is the most allied subspecies of ssp. *neotibetana*, but differs from the latter not only in external features, but also in male genitalia which has the upper distal branch of clasp less dentate than in ssp. *neotibetana* (fig. 10a).

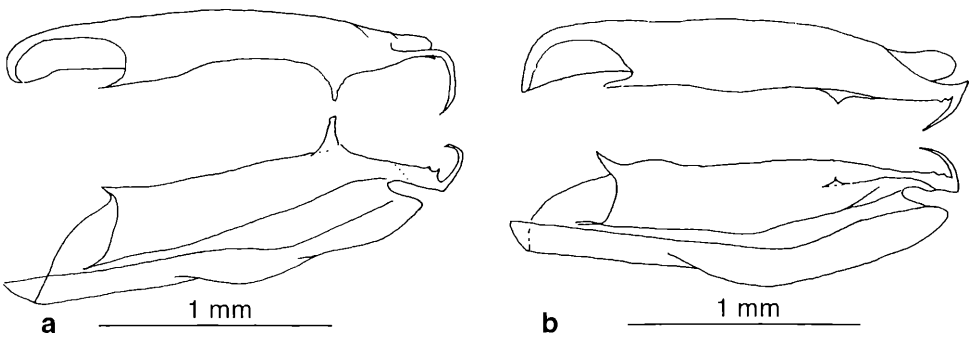


Fig. 10: a – male clasp of *Neptis themis neotibetana* in dorsal and lateral view; b – male clasp of *Neptis thetis tibetothetis* in dorsal and lateral view.

N. themis flies in N. China in June, July and August, in W. China in June and July, and in Yigong from June to August. It is single-brooded.
Colouring dimorphism is not found in single subspecies of *N. themis*. Ssp. *theodora* and ssp. *themis* have all the known specimens with yellow markings. The more material of ssp. *muri* proved that ssp. *muri* has no yellow dimorphism. All of the type specimens of ssp. *neotibetana* are all pure white in the colour of bands, without any trace of yellow colouring. Such geographical variation in colour is often existing in many *Neptis* species. As ELIOT (1969: 11) has pointed, many *Neptis* species which have yellow markings in China change to white in the Himalayas.

Distribution
Yigong, S. E. Tibet.

Type data
Holotype ♂, LF: 33 mm, Yigong.
Paratypes: 5 ♂♂, LF: 33–34 mm. Yigong, 2000 m, June–August, 1996.
All types deposited in the Biological Laboratory of Qingdao Education College, China.

Field observations
The natural habitat of *N.themis neotibetana* is within the semi-evergreen broad-leaf forest on the slopes of east Tibetan mountains at height of 1900–2200 m. *N. themis neotibetana* likes to fly on the open ground where the sunshine is abundant on sunny days. It is not difficult to catch and its flight is slow. When it is disturbed it usually flies onto a branch of tree. Its accompanying *Neptis* butterflies are *N. soma* MOORE, 1858, *N. mahendra, N. thetis* LEECH, 1890 and *Phaedyma aspasia*.

Neptis thetis ***tibetothetis*** **subspec. nov.**
(colour plate 6, figs. 3b, 3d, 4b, 4d; colour plate 7, figs. 1c, 2c)

Diagnosis
N. thetis LEECH, 1890 was originally described from Hubei, also known from Fujian, Sichuan, Yunnan and Shaanxi. No further subspecies was described.
The new subspecies from Yigong and Metok can be distinguished from ssp. *thetis* by the following characters:
1) All the bands of wings are white in colour, not yellow as in ssp. *thetis*.
2) Upperside forewing postdiscal spot in space 3 is separated from the streak beyond cell only by the dark vein, not 0.5 mm from the streak beyond cell as in ssp. *thetis*.

3) Hindwing discal band is 1.5–2 times as broad as that of ssp. *thetis*.
Male genitalia as illustrated (fig. 10b).

Remarks
N. thetis seems to be single-brooded. It flies in W. China in July, in S. E. Tibet in late June and July.

Distribution
Yigong, Metok, S. E. Tibet.

Type data
Holotype ♂, LF: 33 mm, Yigong, 2000 m, July 1996.
Paratypes: 2 ♂♂, LF: 33 mm, same data as holotype. 1 ♂, LF: 30 mm, 80K, Metok, 1800 m, June 24th 1996.
All types deposited in the Biological Laboratory of Qingdao Education College, China.

Field observations
The natural habitat of *N. thetis tibetothetis* is identical with that of *N. themis neotibetana* at Yigong and with that of *N. nycteus menpae* at Metok.

Neptis nycteus ***menpae*** **subspec. nov.**
(colour plate 6, figs. 3a, 3c, 4a, 4c)

Diagnosis
Hitherto only the nominate *N. nycteus* DE NICEVILLE, 1890 is known from Bhutan and Sikkim. The new subspecies from Metok can be distinguished from ssp. *nycteus* by the following characters.
1) On the upperside hindwing, the postdiscal band is sullied with black scales, so conspicuously darker than the discal band, whereas in ssp. *nycteus* the postdiscal and discal bands are concolourous.
2) On the underside of both wings, the yellowish colouring is more extensive than in ssp. *nycteus*, the reddish colouring is more slender than in ssp. *nycteus*, especially in marginal and apical areas.
3) Male genitalia (figs. 11a, 11b) (five paratypes have been examined): the upper distal branch of clasp is sharply pointed at tip and broadly dentate at dorsal margin (anterior margin or costal margin), whereas in ssp. *nycteus* (fig. 11c) it is even throughout in width and dentate at tip.

Remarks
N. nycteus menpae is very much similar to *N. themis neotibetana* in external features, but can be easily distinguished from the latter by the paler streak in space 7 just above the discal band on the underside hindwing and by the male clasp without a terminal hook.
N. nycteus menpae is also similar to *N. nemorum* OBERTHÜR, 1906 and *N. nemorum phesimensis* TYTLER, 1915, but can be distinguished from them by the forewing discal band nearly filling the base of space 3 and by the male clasp without a terminal hook.
The constant difference in male genitalia between ssp. *menpae* and ssp. *nycteus* maybe indicate that ssp. *menpae* merits specific rank.

Distribution
Metok, S. E. Tibet.

Type data
Holotype ♂; Paratype: 8 ♂♂· LF: 32.5–33 mm, 80K, Hanmi, Metok, 1800 m, June and July 1996.
All types deposited in the Biological Laboratory of Qingdao Education College, China.

I dedicate this new subspecies to the tribe of the Menpa in Metok.

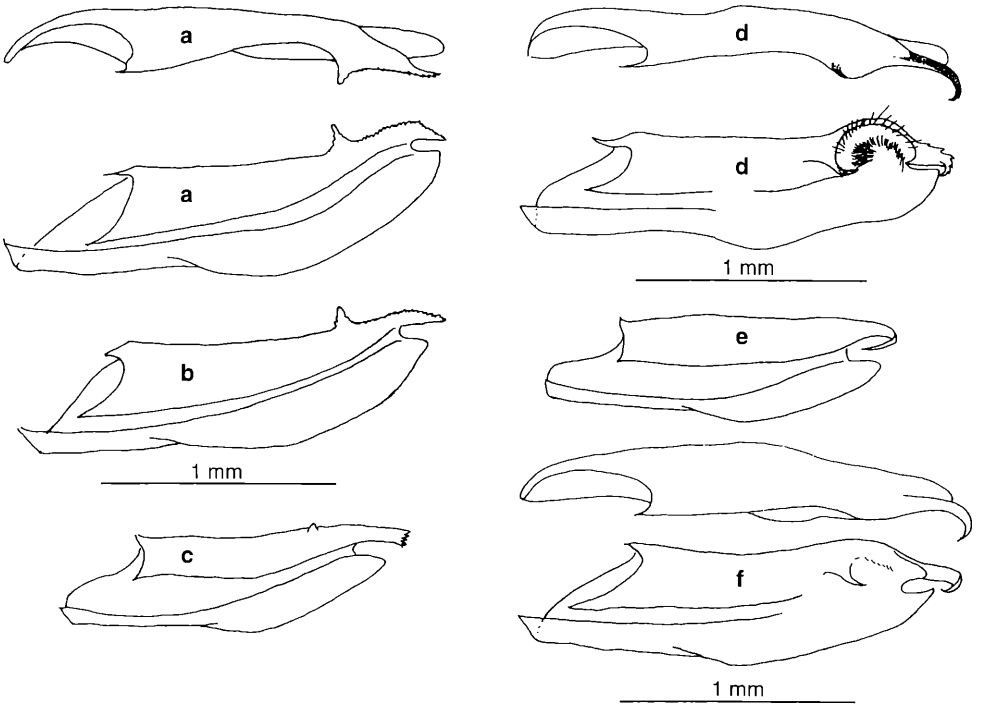


Fig. 11: Male clasp: a – *Neptis nycteus menpae*, b – *Neptis nycteus menpae*, c – *Neptis nycteus nycteus* (after ELIOT), d – *Neptis manasa tsangae*, e – *Neptis manasa manasa* (after ELIOT), f – *Neptis manasa antigone*.

Neptis manasa ***tsangae*** **subspec. nov.**
(colour plate 7, figs. 1b, 1d, 2b, 2d)

Diagnosis
Neptis manasa MOORE, 1857 was originally described from N. India, lately also recorded from Sikkim, Burma and northern Thailand. Further subspecies include ssp. *antigone* LEECH, 1890 (colour plate 7, figs. 1a, 2a) from Hubei of China, hitherto also from East China, and ssp. *narcissina* OBERTHÜR, 1906 from N. W. Yunnan.
The new subspecies from Yigong can be distinguished from all of the known subspecies by the following characters:
1) On the underside forewing, the subcostal spots are absent from spaces 4 and 5, whereas in ssp. *manasa*, ssp. *antigone* and ssp. *narcissina*, they are well marked from costa to space 4.
2) On the underside hindwing, the subbasal spots are absent from spaces 5 and 6, only visible in space 7, whereas in ssp. *manasa*, ssp. *antigone* and ssp. *narcissina*, they are prominently marked in spaces 5–7
3) On the upperside hindwing, the submarginal fascia is very conspicuous, not entirely absent as in ssp. *antigone*, ssp. *narcissina* and ssp. *manasa*.
4) On the underside forewing, the postdiscal spot in space 5 is as prominent as the spot in space 6, not very obscure or absent as in ssp. *antigone* and ssp. *narcissina*.
5) On the underside, all the markings are ill-defined, not clearly defined as in ssp. *manasa* and ssp. *antigone*.

6) Male genitalia: the male clasp of ssp. *tsangae* (fig. 11d) shows a curious resemblance to that of *N. philyroides*, however differs very much from that of ssp. *manasa*, its dorsal margin bowed upwards near the tip of clasp; the clasp of ssp. *antigone* (fig. 11f) is an intermediate form between ssp. *tsangae* and ssp. *manasa* (fig. 11e).

Remarks
In genital structure, ssp. *tsangae* is closer to ssp. *antigone* than to ssp. *manasa*, but in external features, ssp. *tsangae* is closer to ssp. *manasa* than either ssp. *antigone* or ssp. *narcissina*.
N. manasa is single-brooded. It flies in eastern China in May and June, in N.W.Yunnan in June and July, in S.E.Tibet from June to August.

Distribution
Yigong, S. E. Tibet.

Type data
Holotype ♂, LF: 34 mm, Tongmai, 1800 m, June 15th 1996.
Paratypes: 2 ♂♂, LF: 31–32 mm, on path between Yigong and Tongmai, 1900 m, August 5th 1996.
All types deposited in the Biological Latoratory of Qingdao Education College, China.

The subspecific name is after the tribe of the Tsang.

Athyma selenophora ***yui*** **subspec. nov.**
(colour plate 7, figs. 3a, 3b, 4a, 4b)

Diagnosis
The new subspecies from Metok is similar to ssp. *bahula* MOORE, 1857 from Assam and Burma, but can be distinguished from the latter as well as from ssp. *selenophora* KOLLAR, 1844 from Sikkim and Bhutan by the following characters:
1) Discal bands of bothwings are much narrower than in all the seasonal forms of ssp. *bahula* and ssp. *selenopora*.
2) On the upperside forewing the subapical spot in space 4 is very faintly marked, not clearly defined as in the wet-deason forms (the corresponding seasonal forms) of ssp. *bahula* and ssp. *selenophora*.
The new subspecies can be easily distinguished from all the other subspecies by the narrower discal bands and forewing subapical spot in space 4 inclined, not parallel to the spots in spaces 5 and 6.

Remark
The new subspecies has only the wet-season form known at present.

Distribution
Metok, S. E. Tibet.

Type data
Holotype ♂, Metok, 1000 m, July 4th 1996.
Paratypes: 3 ♂♂, same data as holotype.
All types deposited in the Biological Laboratory of Qingdao Education College, China.

The subspecific name is after Mr. YU CHENG-HE, Qingdao, who helped me to earn the border pass to Metok in my journey of 1995.

Kuekenthaliella gemmata ***wui*** **subspec. nov.**
(colour plate 8, figs. 1a–d, 2a–d, 3g, 4g)

Diagnosis
K. gemmata BUTLER, 1881 is originally described from Darjiling, Sikkim. No further subspecies has been described.
The new subspecies from Metok can be distinguished from ssp. *gemmata* by the very extensive black basal dusting on the upperside of hindwing which reaches and merges the discal spots.

Remarks
K. gemmata is single-brooded in nature.
The yellow dimorphism is very common in ssp. *wui*: all the females and nearly one third of the males in the type series belong to yellow dimorphism.

Distribution
Metok, S. E. Tibet.

Type data
Holotype ♂, LF: 24 mm. Allotype ♀, LF: 26 mm. Paratypes: 5 ♂♂ and 5 ♀♀, Nage, Metok, 3500 m, July and August 1996 and September 1995.
All types deposited in the Biological laboratory of Qingdao Education College, China.
This subspecies is named after Mr. WU FENG-XIAN, a soldier in Metok and my good friend, who helped me like a brother during my journey of 1996.

Field observations
K. gemmata wui is restricted to the meadows within the needle-leaf forest belt on the south slope of the Great Himalaya. It flies rapidly, often willingly allowing itself to be carried on the wind. Its flight is low, usually covering a few meters, only occasionally covering a long distance. It is easy to catch. Its emergence begins in the mid July, ends in the late August. Very few females can be found in early September.

Kuekenthaliella ***baileyi*** **spec. nov.**
(colour plate 8, figs. 3f, 3h, 4f, 4h)

= *Argynnis gemmata genia* FRUHSTORFER; EVANS, 1915 J. Bomb. Nat. Hist. Soc. **23**: 540, misidentification.
= *A. gemmata genia* var. *fulva* EVANS, 1915, infrasubspecific.

Diagnosis
Hitherto only four species of the genus *Kuekenthaliella* REUSS, 1921 are known: *K. gemmata* BUTLER, 1881 from Sikkim and S. Tibet (*K. gemmata wui* from Metok, S. E. Tibet), *K. eugenia* EVERSMANN, 1847 (colour plate 10, figs. 1a, 1c–e) from Siberia and Sajan Mts. (*K. eugenia montana* BANG-HAAS, 1906 (colour plate 10, fig. 1b) from Altai; *K. eugenia rhea* GRUM-GRSHIMAILO, 1891 (colour plate 8, figs. 3a–c, 3e, 4a–c, 4e) = *K. eugenia fulgens* BANG-HAAS, 1927 **syn. nov**. from Tsinghai and Gansu; *K. eugenia genia* FRUHSTORFER, 1903 = *K. eugenia rheaoides* DRAESEKE, 1925 **syn. nov**. from Sichuan and Shaanxi; an unamed taxon from S. Tibet and W. Tibet), *K. altissima* ELWES, 1882 from Sikkim, Bhutan and Yartung, S. Tibet, *K. mackinnonii* DE NICEVILLE, 1891 from Nila and Baspa Valleys, N. W. Himalayas and Central Nepal.
This new species is similar to *K. gemmata*, but can be easily distinguished from the latter by the following characters:
1) Size (LF 18–20 mm) is much smaller than that of *K. gemmata* (LF 24–25 mm).
2) Ciliae of both wings are remarkably longer than those of *K. gemmata*.

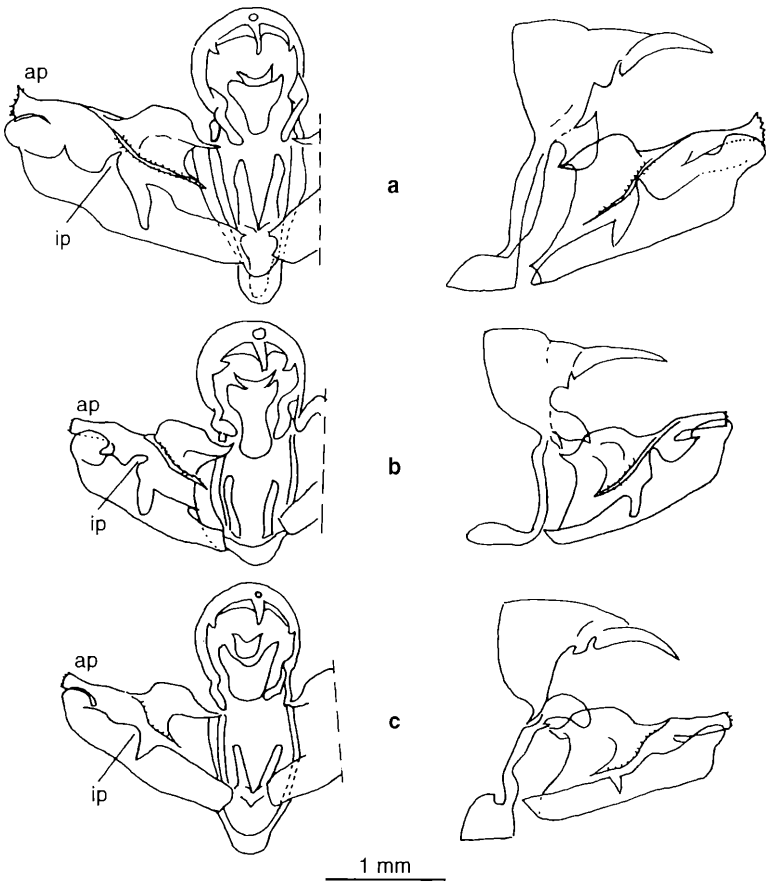


Fig. 12: Male genitalia consisting of lateral and posterior view of genital capsule with aedeagus removed (ap: apical process; ip: inner process): a – *Kuekenthaliella gemmata*, b – *Kuekenthaliella baileyi*, c – *Kuekenthaliella eugenia*.

3) Male genitalia (fig. 12b): apical process of male valva is even throughout in width, not abruptly broadened at tip as in *K. gemmata* (fig. 12a); valva is remarkably shorter than that of *K. gemmata*. This new species can be easily distinguished from *K. eugenia, K. altissima* and *K. mackinnonii* by the forewing vein 10 emitted from the discocellular cell, not emitted well beyond the cell.

Remarks

K. baileyi looks like a smaller version of *K. gemmata* in external features. They are almost sympatric in S. E. Tibet: *K. gemmata* flies on the southern slope of the Duoxiongla, while *K. bailey* flies on the northern slope of Duoxiongla. They are not conspecific because of the constant difference in male genitalia.

K. baileyi was firstly collected by the famous F. M. BAILEY, but was misidentificated by EVANS (1915) as *K. gemmata genia*. *"Genia"* is a subspecies of *K. eugenia*, not a race of *K. gemmata*. I have examined all the known subspecies of *K. eugenia*, found that all of them have the forewing vein 10 emitted beyond the cell, and have the male valva lacking an inner process, so can be constantly

separated from *K. baileyi; K. eugenia* has only four valid subspecies: ssp. *eugenia*, ssp. *montana*, ssp. *rhea* and ssp. *genia*; ssp. *eugenia* and ssp. *montana* have the hindwing more rounded than in ssp. *rhea* and ssp. *genia*, their inner margins not conspicuously shorter than anterior margins; ssp. *montana* has the size often smaller than that of ssp. *eugenia*; ssp. *genia* is very similar to ssp. *rhea*, only slightly differs from the latter in having the size often larger and the underside silvery markings broader (I suspect that more material will prove that ssp. *genia* does't merit being retained); ssp. *fulgens* from Gansu was said to have the marginal band obsolet and underside silvery markins more yellowish than in ssp. *rhea* from Tsinghai, but more material as illustrated proved that the marginal band of ssp. *fulgens* could be as prominent as that of ssp. *rhea*, and the yellowish specimens were only yellow dimorphism which was very common in the genus *Kuekenthaliella*, so *fulgens* should be regarded as a synonym of ssp. *rhea*; ssp. *rheaoides* is undoubtedly a synonym of ssp. *genia*, its author did not notice that the specimens from Tatsienlu had been described by FRUHSTORFER; *anargyron* is the yellow dimorphism of ssp. *genia*. Furtheron, there were some specimens of *K. eugenia* known from Tibet (Milin, Mt. Everest, the Xiagangjiang Mts.). They are slightly different from all the known subspecies in having the hindwing more elongated in shape and the underside hindwing costal spot more oblique, showing the transition to *K. mackinnonii*. They agree with the known subspecies of *K. eugenia* in male genitalia (fig. 12c). I don't name this taxon because the specimens in my hand are small in number. It is sympatric with *K. baileyi* in Milin.
As in other species of *Kuekenthaliella, K. baileyi* has two dimorphisms: one has the silvery markings well marked, another has all the silvery markings replaced by yellow. The yellow dimorphism was named by EVANS as var. *fulva*, but this name was infrasubspecific and unvalid.

Distribution
Pai, Milin, S. E. Tibet.

Type data
Holotype ♀, Allotype ♂, Paratypes: 4 ♂♂ and 6 ♂♂. Pai, Milin, 3700–4200 m, August 1995 and July 1996.
Holotype, Allotype and 2 Paratypes captured by the author in 1995 and deposited in the Biological Laboratory of Qingdao Education College, China. 8 Paratypes captured by Mr. LUO DA-QING in 1996 and deposited in the Tibet Ecology Institute, Bayi, Tibet.
I don't include the 24 specimens reported by EVANS (1915) as type series because I don't know where these specimens were deposited at present.
I wish to dedicate this new species to F. M. BAILEY who was the first scientist to explore the dangerous Metok Area and firstly collected this new species.
I wish to thank Mr. LUO DA-QING, Tibet for his friendship and allowance to examine his collection.

Field observations
K. baileyi occupies an altitude between 3700 and 4100 m on the north slope of the Great Himalaya. Its habitat is usually the open ground within the needle-leaf forest belt or within the scrub and meadow belt above the timber line, where the sunshine is abundant when on sunny days. It flies rapidly, often willingly allowing itself to be carried on the wind, when it stops flying it usually perchs with its wings flat on the shrubs.

Symbrenthia ***dalailama*** **spec. nov.**
(colour plate 9, figs. 1b–d, 2b–d)

Diagnosis
This new species is very similar to *S. brabira* MOORE, 1872 (colour plate 9, figs. 1a, 2a), but can be distinguished from the latter by the following characters:
1) On the upperside hindwing, the discal reddish band is absent from space 7, not extended to costa as in *S. brabira*.

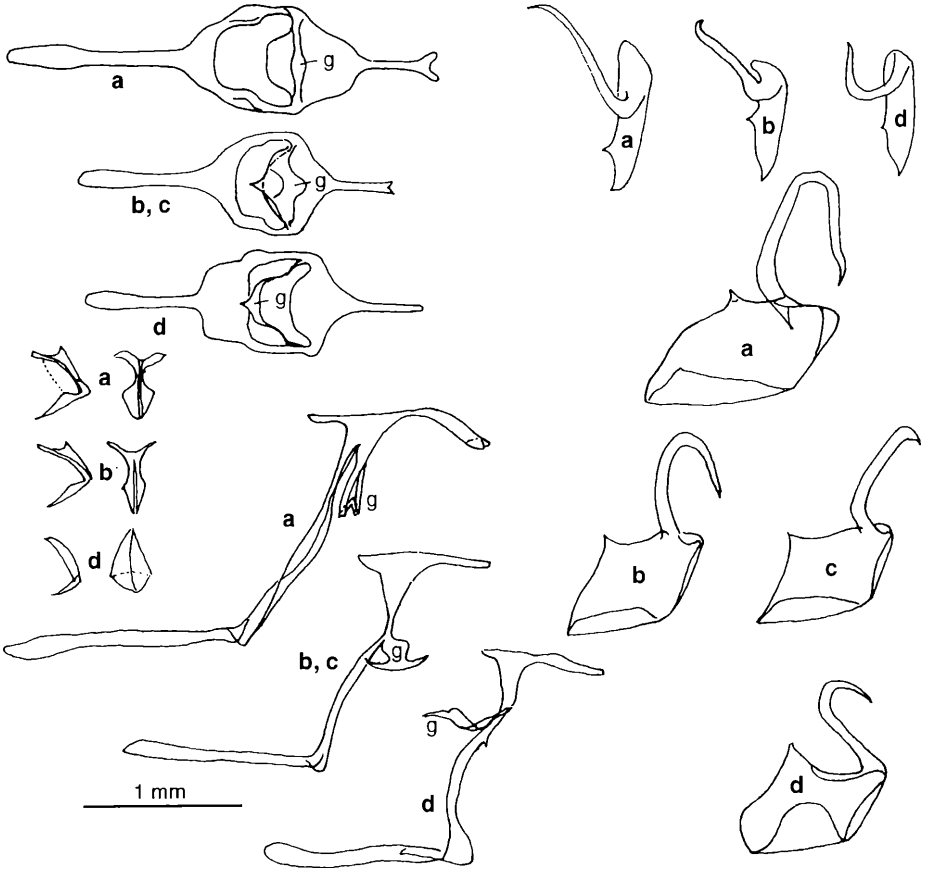


Fig. 13: Male genitalia consisting of ventral and lateral view of tegumen and vinculum; of lateral view of right valva; of dorsal view of left valva; of lateral and posterior view of juxta (g: gnathos): a – *Symbrenthia dalailama*, b – *Symbrenthia brabira brabira*, c – *Symbrenthia brabira leoparda*, d – *Symbrenthia hypselis condata*.

2) On the underside forewing, the fifth spot in space 1B is as big as the upper spot in space 2, not very minute as in *S. brabira*.
3) On the underside hindwing, the spots just inside of the postdiscal band are conspicuously nearer to postdiscal band than to the inner spots in spaces 1–3, whereas in *S. brabira* they are midway between postdiscal band and the inner spots.
4) Male genitalia (fig. 13a): vinculum is straight in lateral view, not curved as in *S. brabira*; the hooked process is emitted from the middle of dorsal margin of valva and is much longer than that of *S. brabira* (fig. 13b).

Remarks
S. leoparda Chou & Li, 1994 from S. Yunnan (I also obtained a male specimen from south Sichuan) is a subspecies of *S. brabira*, not deserving specific rank: its male genitalia (fig. 13c) agrees well with that of the nominate *S. brabira* from the Himalayas, only the hooked process of valva a little shorter.

S. dalailama can be easily distinguished from *S. brabira leoparda* (**stat. nov.**) as well as the nominate brabira by the above mentioned characters in the diagnosis.
Another subspecies of *S. brabira*, ssp. *scatinia* FRUHSTORFER 1908 from Taiwan is the same as ssp. *brabira* in male genitalia.
S. sivokana MOORE, 1899 and *S. asthala* MOORE, 1874 are synonyms of *S. brabira brabira*. DE NICEVILLE (1891) firstly noticed this in his revisional work on *Symbrenthia*.
S. dalailama is also similar to *S. hypselis* GODART, 1823 in external features, but can be distinguished from it by the absence of metallic green scales on the underside hindwing and by the very different genital structure (fig. 13d). They are sympatric in Metok.
S. sinica MOORE, 1889 is a distinct species, not a subspecies of *S. hypselis*, I have examined its male genitalia and found that it is very similar to *S. niphanda* MOORE, 1872 (examined). *S. dalailama* can be distinguished from it very easily.

Distribution
Metok, S. E. Tibet.

Type data
Holotype ♂, LF: 26 mm, Arni Bridge, Metok, 1300 m, July 5th 1996.
Paratypes: 2 ♂♂, LF: 26 mm, Metok, 1000 m, August 29th 1995.
All types deposited in Qingdao Education College, China.

The name *dalailama* is a noun in apposition with the generic name and is the name of the greatest living buddha in Tibet.

Suspected New Taxa

1. *Argyronome laodice* ssp.

Two specimens from Yigong differ a little from ssp. *rudra* MOORE, 1889 from Assam of India in having the apex of forewing not coloured with green on the verso surface.
They differ from ssp. *samana* FRUHSTORFER 1902 from W. China in having the subbasal reddish line of underside hindwing much broader.

2. *Diagora ouvradi* ssp.
(colour plate 10, fig. 6)

The single male from Yigong differs from the nominate *D. ouvradi* RILEY, 1939 from Yunnan in having all the greenish white spots and streaks apparently smaller and the discal area in the black ground colour more extensive.
This species is previously only known from Yunnan.

New Aberration

An aberration of *Hestina nama* DOUBLEDAY 1844 as illustrated (colour plate 3, fig. 4a, 4b) was obtained from Beibeng, Metok, together with several normal specimens. It has no constant difference in male genitalia from the normal specimens.

Revisional Notes

1 *Neptis mahendra xizangensis* WANG & WANG, 1994 (colour plate 6, figs. 1b, 1d, 2b, 2d) is a valid subspecies.

This recently described taxon was based upon a single male which is worn out and has no exact collecting data. Its authors only compared it with ssp. *mahendra* MOORE, 1872. However it is more allied to ssp. *ursula* ELIOT 1969 from N. W. Yunnan.
I obtained several specimens of this taxon including a female from Yigong. They differ from ssp. *ursula* in having the underside hindwing marginal fascia whitish throughout, from ssp. *extensa* LEECH, 1892 from Sichuan in having all the white markings broader and the streak beyond cell blunter and shorter, from ssp. *mahendra* from W. Himalayas in having the forewing lower postdiscal band directed to the termen just below the apex.

2. *Phaedyma aspasia falda* ELIOT, 1969 may be a synonym of *P. aspasia aspasia* LEECH, 1890.
Both of the forms of ssp. *aspasia* and ssp. *falda* have been collected from Yigong.

3. *"Neptis namba"* reported by LEE (1982: 145) on a single female from Tongmai is the misidentification of *Neptis ananta ocheroa* EVANS, 1924. I have a very large series of this taxon from Tongmai, Yigong and Metok. *Neptis namba* TYTLER, 1915 does not occur in the Namjagbarwa Region at all.

4. *Athyma orientalis* ELWES, 1882 is an independent species from *A. opalina* KOLLAR, 1844.
These two taxa are sympatric in Metok. *A. orientalis* (colour plate 9, figs. 3a, 3b, 4a, 4b) flies at heights of 800–1500 m while *A. opalina* (colour plate 9, figs. 3c, 3d, 4c, 4d) flies at heights of 1300–2000 m. Both species have their wet-season and dry-season forms flying together in the late June (the begining of the wet-season). The wet-season forms have all the whitish markings narrower and sullied whereas the dry-season forms have all the white bands clear and broad. Some individuals are intermediate between the dry-season and the wet-season forms.
A. orientalis differs very constantly from *A. opalina* in having the forewing cell streak more conjoined and the spot beyond cell elongated and the underside hindwing discal band not widen towards tornus at its lower end.
Although there is no constant difference in male genitalia between these two taxa (I have examined a lot of specimens), *A. orientalis* cannot be considered as a dimorphism of *A. opalina*, because of the following reasons:
1) In Taiwan, there is only the form of *A. opalina* flying.
2) In the Omei Mts., Sichuan, both of the forms of *A.opalina* and *A. orintalis* fly together, but the form of *A. orientalis* agrees very well with the specimens of *A. orientalis* from the E. Himalaya, whereas the form of *A. opalina* differs from the specimens of *A. opalina* from E.Himalaya in having the forewing spot in space 3 not in a line with the other discal spots, deserving a distinct subspecies (*A. opalina parajina* FRUHSTORFER 1902 = *A. hirayamai sichuanensis* MURAYAMA, 1982 **syn. nov.**) from the nominate *A.opalina*.

Pieridae

New Taxa

Sinopieris dubernardi ***wangi*** **subspec. nov.**
(colour plate 10, figs. 2c, 2d, 3a, 3b, 4b)

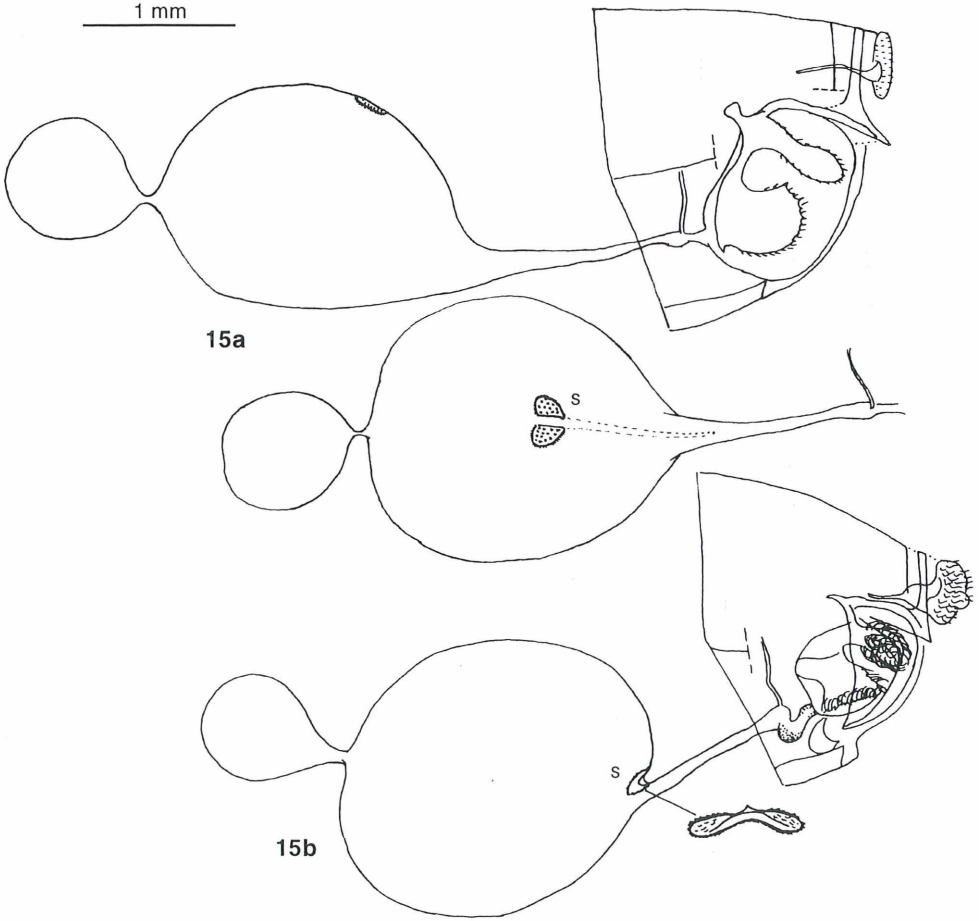
Diagnosis
Hitherto five subspecies of *Sinopieris dubernardi* have been described: ssp. *dubernardi* OBERTHÜR, 1884 (colour plate 10, figs. 2a, 2b, 4a) from Sichuan, ssp. *chumbiensis* DE NICEVILLE, 1897 from Chumbi Valley, S. Tibet, ssp. *gyantsenisis* VERITY, 1911 from Gyangtse, S. Tibet, ssp. *rothschildi* VERITY, 1911 from Shaanxi, and ssp. *bromkampi* BANG-HAAS, 1938 from Gansu.
The new subspecies from Metok can be distinguished from all the known subspecies by the following characters:

14

1 mm

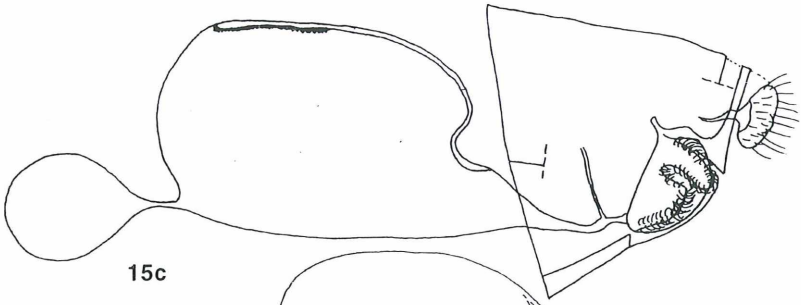
Fig. 14: Male genitalia of *Sinopieris dubernardi wangi*.

Fig. 15: Female genitalia in lateral and dorsal view (s: signum): a – *Pieris brassicae*; b – *Pontia callidice*; c – *Sinopieris dubernardi*; d – *Sinopieris davidis*; e – *Sinopieris venata*.

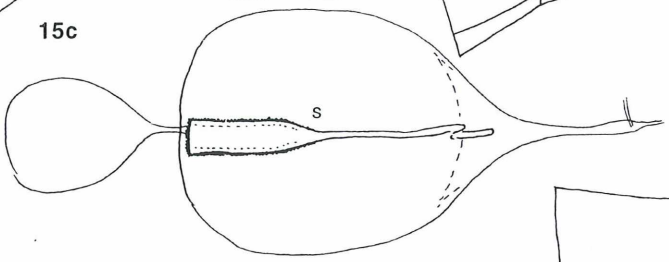


15a

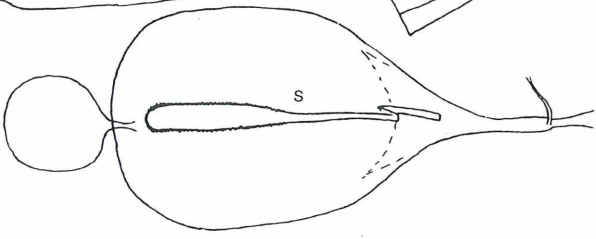
15b



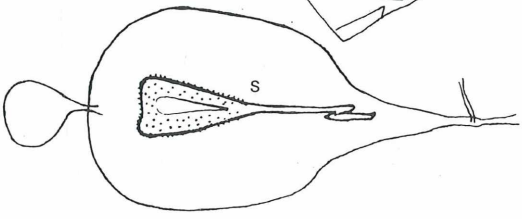
15c



15d



15e



1) Male: all the black markings on the upperside are much more extensive than in all the other subspecies, especially the hindwing discal band being contigous from vein 3 to vein 6.
2) Female: on the upperside hindwing, the outer margin of discal band in space 4 is placed much nearer to termen than to discocellular, whereas in ssp. *dubernardi* it is placed midway between termen and discocellular.
3) Female: on the upperside, all the black markings are often wider than in ssp. *dubernardi*, constantly wider than in ssp. *chumbiensis*, ssp. *gyangtsensis*, ssp. *rothschildi* and ssp. *bromkampi*.
4) Both male and female: on the underside hindwing, the wing-pattern is similar to that of ssp. *rothschildi*, not dusted with discal black smudges as in ssp. *dubernardi* and ssp. *gyangtsensis*.

Remarks
Ssp. *wangi* (fig. 14) agrees well with ssp. *dubernardi* in male genitalia.

Generic classification
The male genital structure does not give full information in the generic classification of Pierinae. However, the female genital structure (fig. 15a–e) is very important, not only for the generic but also for the specific classification of the Pierinae. The genus *Sinopieris* HUANG, 1995 was erected for *Pieris dubernardi, P. davidis* OBERTHÜR, 1876, *P. kozlovi* ALPHERAKY, 1897, *Pontia sherpae* EPSTEIN, 1979, *Pieris venata* LEECH, 1891, *Pieris stoetzneri* DRAESEKE, 1925. It differs from the genera *Pieris* (= *Artogeia*), *Aporia, Pontia* (= *Pontieuchloia, Synchloe, Parapieris*) chiefly in the signum of female genitalia which is a single long oar-shaped band extended along the dorsal margin of corpus bursae, with its slender part S-shaped in lateral view.
Sinopieris venata LEECH, 1893 (= *S. gongaensis* HUANG, 1995 **syn. nov.**) is an independent species from *S. davidis*, not a dimorphism of the latter, because their female genitalia are quite different as illustrated, though their male genitalia are in the same form.

Distribution
Metok, S. E. Tibet

Type data
Holotype ♂, LF: 33 mm; Allotype ♀, LF: 32 mm; Paratypes: 5 ♂♂ and 3 ♀♀. LF: 31.5–33 mm, Duoxiongla, Metok, 3000–3900 m, August 1995 and July–August 1996. All types deposited in Qingdao Education College, China.

The subspecific name is after Mr. WANG CHENG-GANG of Metok, my good friend.

Revisional Note

"Aporia larraldei melania" in EVANS' list (1915: 542) actually refers to *Aporia harrietae harrietae* DE NICEVILLE, 1893. I have several specimens from Metok and Yigong.

Aknowledgements

I wish to express my hearty thanks to Dr. STEFAN NAUMANN, Berlin, who kindly helped me constantly in offering literatures during my study. I'm sincerely grateful to the following for the kind help during my exploration to Metok: Mr. ZHENG WEI-LIE and Mr. LUO DA-QING of Tibet Ecology Institute; Mr. WANG CHENG-GANG, Metok; Mr. ZHAXIDUNZHU, Metok; Mr. WUI FENG-XIAN, Metok; Mr. RENQINGDUOJIE, Metok; Mr. YU CHEN-HE, Qingdao. I also wish to thank Mr. SUI XIAO-LONG and Mr. JIN YAN, who took the photographs of the butterflies treated in this paper. My hearty thanks are particularly due to Mr. LIU DONG, my close friend, who helped me very much during my typewriting.

Selected References

ALPHERAKY, S. (1897): Memoire sur differents Lepidopteres, tant nouveaux que peu connus, de la faune palearctique. – ROMANOFF, Mem. Lep. **9**: 185–226, tab. 6.

BERNARDI, G. (1947): Recherche de la Position systematique exacte de trois especes de Pierini asiatiques. – Bull. Soc. Ent. France **52** (6)156–159.

BRIDGES, C. A. (1988): Catalogue of Papilionidae and Pieridae.

BRIDGES, C. A. (1988): Catalogue of Lycaenidae and Riodinidae.

CHOU, I. et al. (1994): Monographia Rhopalocerorum Sinensium. – Henan Science and Technology.

CORBET, A. S. & H. M. PENDLEBURY (1956): The butterflies of Malay Peninsula.

D'ABRERA, B. (1982–1986): Butterflies of the Oriental Region. 1–3. – Hill House.

D'ABRERA, B. (1990–1993): Butterflies of the Holarctic Region. 1–3. – Hill House.

DE NICEVILLE (1902): On new and little known butterflies mostly from the Oriental Region. – J. Bombay nat. Hist. Soc. **14**: 236–251, 450–457, plate FF.

DRAESEKE, J. (1925): Die Schmetterlinge der STÖTZNERschen Ausbeute. 2–4. – D. ent. Zs. Iris **38**: 1–8, **39**: 48–57, 211–231.

ELIOT, J. N. (1969): An analysis of the Eurasian and Australian Neptini. – Bull. Br. Mus. Nat. Hist. (Ent.) suppl **15**: 1–155.

ELIOT, J. N. & A. KAWAZOE (1983): Blue Butterflies of *Lycaenopsis* Group. – London.

ELWES, H. J. et al. (1906): On the Lepidoptera collected by the Officers on the recent Tibet Frontier Commission. – Proc. Zool. Soc. Lond. **1906**: 479–498, pl. 36.

EPSTEIN, H. J. (1979): Interesting, Rare and New Pierids from the central Nepal Himalayas. – Ent. Gaz. **30**: 77–104, pls. 5–7

EVANS, W. H. (1913–1926): Notes on Indian butterflies. – J. Bombay nat. Hist. Soc. **22–31**.

EVANS, W. H. (1915): A List of Butterflies caught by Capt. F. M. BAILEY in S. E. Tibet during 1913. – J. Bombay nat. Hist. Soc. **23**: 532–546.

EVANS, W. H. (1921): A note on the species of the genus *Mycalesis* occurring within Indian Limits. – J. Bombay nat. Hist. Soc. **27**: 354–362, pls.1–4.

EVANS, W. H. (1932): The identicication of Indian Butterflies (2nd ed.). – Madras.

EVANS, W. H. (1949): A catalogue of the Hesperiidae from Europe, Asia and Australia in the British Museum (N. H.). – British Museum.

FRUHSTORFER, H. (1903): *Argynnis eugenia genia* nov. subspec. – Soc. ent. **18**: 124.

GRUM-GRSHIMAILIO, G. (1891): Lepidoptera Nova in Asia centrali Novissime Lecta. – Hor. Ent. Ross. **25**: 445–465, 1 pl.

HOWARTH, T. G. (1957): A revision of the genus *Neozephyrus* SIBATANI & ITO. – Bull. Br. Mus. Nat. Hist. (Ent.) **5** (6): 235–285.

HUANG, F. S. et al. (1988): Insect of Mt. Namjagbarwa Region of Xizang. – Science Press.

KOIWAYA, S. (1989–1993): Study of Chinese Buttterflies. 1, 2. – Tokyo.

LEE, C.-L. (1962): Some new species of Rhopalocera in China 2. – Acta Entomologica Sinica **11** (2): 139–148, pls. 1–6, figs. 1–68.

LEE, C.-L. (1962): Results of the Zoologico-Botanical Expedition to Southwest China, 1955–1957 – Acta Entomologica sinica **11**, Suppl.. 172–198.

LEE, C.-L. (1979): Some new species of Rhopalocera in China 5. – Acta Entomologica Sinica.

LEE, C.-L. (1982): Lepidoptera: Rhopalocera (pp. 127–155), in HUANG, F.-S.: Insect of Xizang, 2. – Beijing.

MASUI, A. & T. INOMATA (1990–1992): Apaturinae of the world. 1–4. – Yadoriga **143–151**.

MOORE, F. (1899–1900): Lepidoptera Indica. **4**. – London.

MOTONO, A. (1989): Butterflies of Laos.

MORISHITA, K. (1987–1992): A guide to species of Euthalini in the Oriental 1–9. – Yadoriga **130–151**.

MURAYAMA, S. (1979): Nymphalid Butterflies of Taiwan. – The Nature and Insects **14** (4): 6–10.

MURAYAMA, S. (1980): On some butterflies of Simingshan in Province Zhejiang, East China, with descriptions of 4 new subspecies. – New Entomol **29** (2): 23–27

MURAYAMA, S. (1982): Notes on some butterflies of North Thailand and China. – New Entmol **31** (4): 1–6.
MURAYAMA, S. (1983): Some new Rhopalocera from South West and North West China. – Entomotaxonomia **5** (4): 281–288.
MURAYAMA, S. (1989–1990): An introduction to the Eurasian and Australian Neptine Butterflies 1–7 – Nat. Insect. **24–25**.
OBERTHÜR, C. (1906): Observations sur les *Neptis* a taches jaunes de la region sino-thibetaine. – Études de Lep. comparee 1906: 8–18, pls. 8, 9.
OBERTHÜR, C. (1914): Lepidopteres de la region sino-thibetaine. Études de Lep. comparee **9** (2): 41–60.
PINRATANA, B. A. (1977–1981): Butterflies in Thailand. **1–6**.
RILEY, N. D. (1923): The Rhopalocera of the Mt. Everest 1921 Expedition. – Trans ent. Soc. Lond. **1922**: 461–483.
RILEY, N. D. (1927): The Rhopalocera of the Third Mt. Everest Expedition (1924). – Trans ent. Soc. Lond. **1927**: 119–129.
SHIROZU, T. et al. (1956): A generic revision and the Phylogeny of the tribe Theclini. – Sieboldia **1**: 329–421.
SHIROZU, T. (1960): Butterflies of Formosa in Colour. – Osaka.
SEITZ, A. et al. (1909): The Macrolepidoptera of the World. 1. The Palaearctic Butterflies. – Stuttgart.
SEITZ, A. et al. (1927): Die Gross-Schmetterlinge der Erde. 9. Die Indo-Australischen Tagfalter. – Stuttgart.
SEITZ, A. et al. (1929–1932): The Macrolepidoptera of the world. Suppl. to Vol. 1. The Palaearctic Butterflies. – Stuttgart.
TONG, X. S. et al. (1993): Butterfly fauna of Zhejiang.
TYTLER, H. C. (1911): Notes on butterflies from the Naga Hills. – J. Bombay nat. Hist. Soc. **21**: 48–65.
TYTLER, H. C. (1914): Notes on some new and interesting butterflies from Manipur and the Naga hills. – J. Bombay nat. Hist. Soc. **23**: 216–219.
TYTLER, H. C. (1926): Notes on some New butterflies from India and Burma. – J. Bombay nat. Hist. Soc. **31**: 248–260, 578–590.
VERITY, R. (1905–1911): Rhopalocera Palaearctica. – Florence
WANG, B.-H. et al. (1992): The xizang insect fauna and its evolution. – Henan.
WANG, Z. G. et al. (1990): Butterfly fauna of Henan.
WU, X.-F. (1988): Butterflies of the Ling Nan Oasis.
YUAN, F. et al. (1994): New species, new subspecies and new status of the genus *Neptis* from China. – Entomotaxonomia **16** (2): 115–119.

Colour plate 1:

Fig. 1: a – *Pedesta naumanni* holotype ♂; b – *Pedesta naumanni* paratype ♂; c – *Pedesta pandita* ♂ (Arni Bridge of Metok, August 1995); d – *Halpe filda* ♂; e – *Halpe filda* ♂; f – *Halpe aucma* ♂; g – *Halpe aucma* ♂; h – *Halpe molta* ♂; i – *H. molta* ♂.
Fig. 2: undersides of fig. 1.
Fig. 3: a–h – *Sebastonyma medoensis* ♂ (Hanmi to Arni Bridge, Metok, July to September); i – *Halpe molta* ♂.
Fig. 4: undersides of fig. 3.

2a	2b	2c	2d	2e	2f	2g	2h	2i
1a	1b	1c	1d	1e	1f	1g	1h	1i
4a	4b	4c	4d	4e	4f	4g	4h	4i
3a	3b	3c	3d	3e	3f	3g	3h	3i

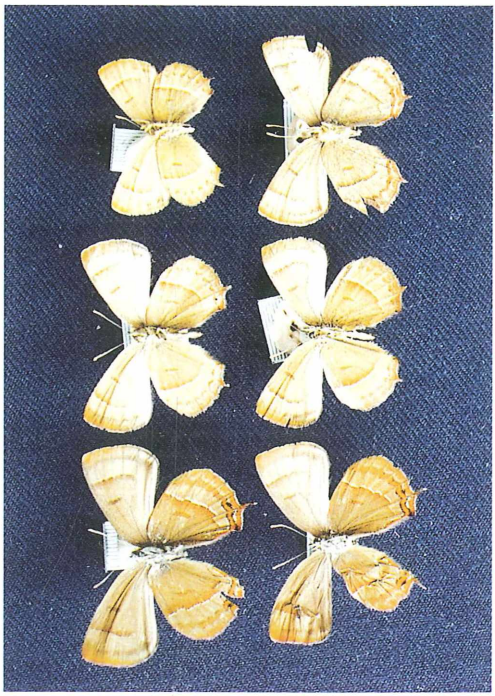
Colour plate 1

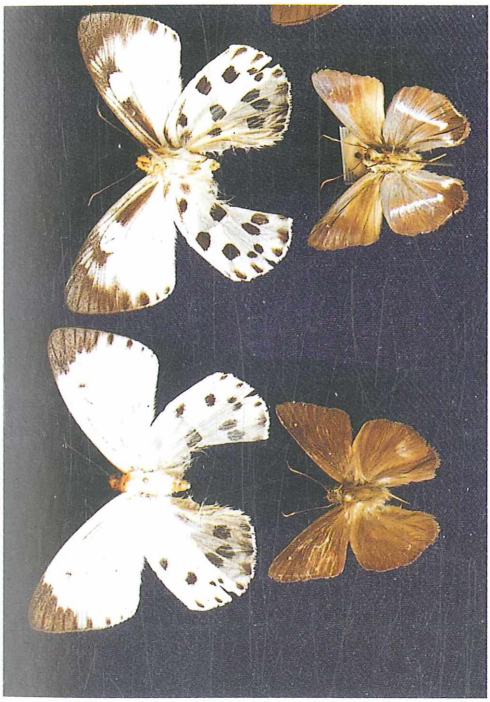
Colour plate 2

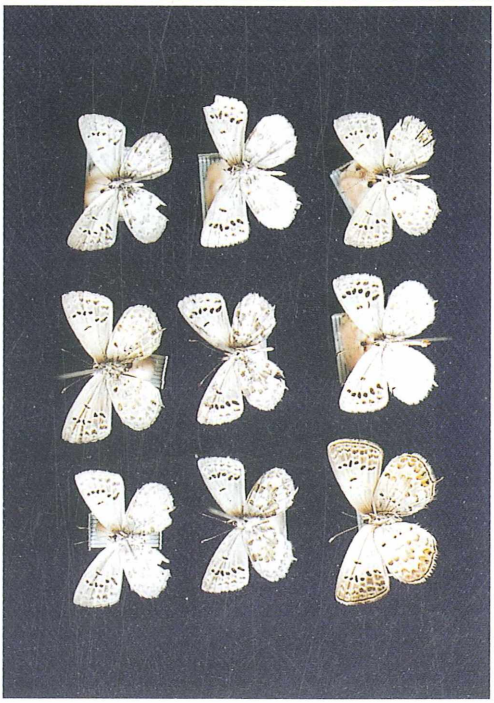
Fig. 1: a – *Capila pieridoides* ssp. ♂ (Hanmi, Metok, August 25th 1995); b – underside of a; c – *Hasora vitta* ssp. ♂ (Beibeng, Metok, September 1st 1995); d – underside of c.
Fig. 2: a – *Esakiozephyrus zhengi* holotype ♂; b – *Esakiozephyrus bieti* ssp. ♂ (Pai); c – *Esakiozephyrus bieti bieti* ♂ (Tatsienlu, Sichuan); d – *Esakiozephyrus zhengi* paratype ♂; e – *Esakiozephyrus bieti* ssp. ♂ (Pome); f – *Esakiozephyrus bieti* ssp. ♂ (N. W. Yunnan).
Fig. 3: undersides of fig. 2.
Fig. 4: a – *Tongeia menpae* paratype ♂, underside, wet season form (Tongmai); b – *Tongeia menpae* holotype ♂, undersidem wet season form (Metok); c – *Tongeia menpae* paratype ♂, underside, wet season form (Tongmai); d – *Tongeia menpae pseudoion* holotype ♂, underside, wet season form (Pai); e – *Tongeia menpae pseudoion* paratype ♂, underside, wet season form (Linzhi); f – *Tongeia menpae pseudoion* paratype ♂, underside, dry season form (Linzhi); g – *Tongeia zuthus* ♂, underside, wet season form (Sichuan); h – *Tongeia ion* ♂, underside, wet season form (Yunnan); i – *Tongeia menpae* paratype ♂, underside, wet season form (Metok).

		2c	2f			3c	3f	
		2b	2e			3b	3e	
		2a	2d			3a	3d	
	1b		1d	4c		4f		4i
1a				4b		4e		4h
		1c		4a		4d		4g

Colour plate 2

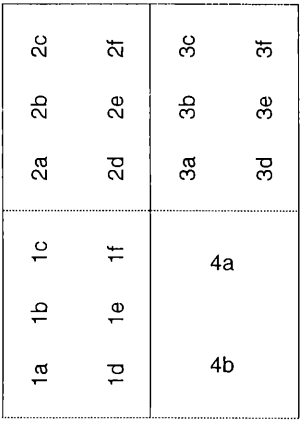




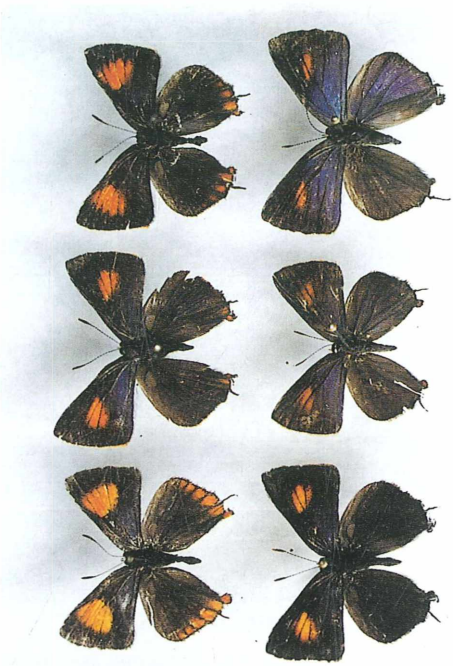


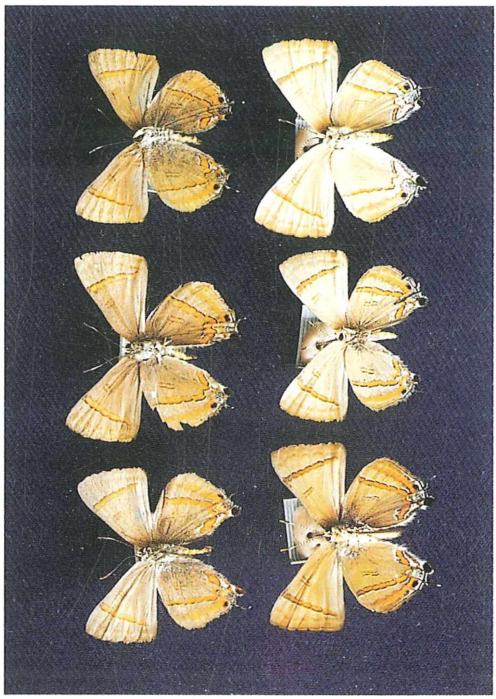
Colour plate 3

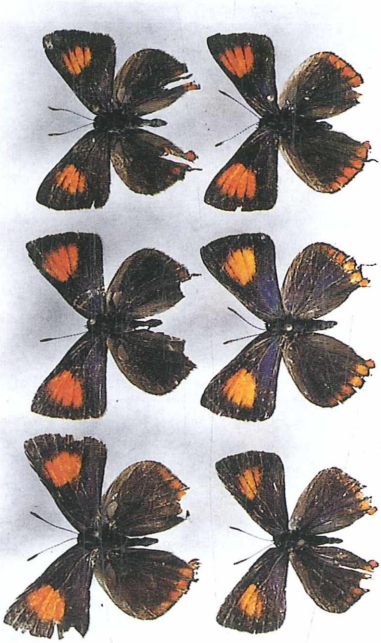
Fig. 1: a–c – *Rapala bomiensis* ♂ (Pome); d, e – *Rapala bomiensis* ♀ (Pome); f – *Rapala bomiensis* ♂ (Linzhi).
Fig. 2: a–c – *Rapala bomiensis* ♂ (Pome); d – *Rapala bomiensis* ♂ (Yigong); e – *Rapala bomiensis* ♀ (Pailong); f – *Rapala nissa nissa* ♀ (Metok).
Fig. 3: undersides of fig. 2.
Fig. 4: a – *Hestina nama* Aberration ♂; b – underside of a.

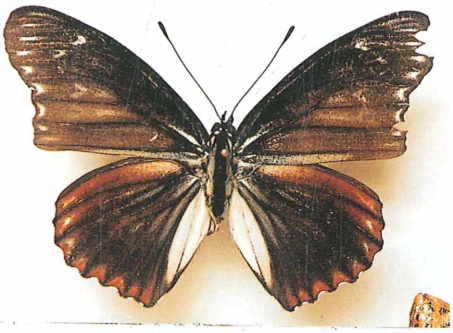


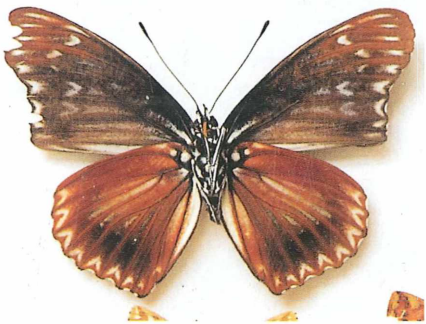
Colour plate 3





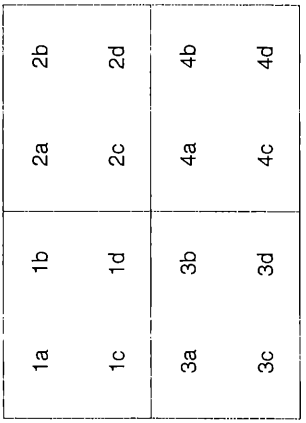






Colour plate 4

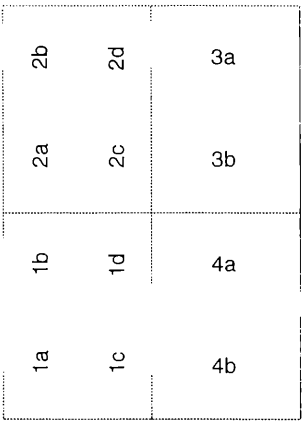
Fig. 1: a, b – *Lethe maitrya metokana* paratype ♂ (Nage); c – *Lethe maitrya metokana* holotype ♂ (80K); d – *Lethe maitrya thawgawa* ♂ (N. W. Yunnan).
Fig. 2: undersides of fig. 1.
Fig. 3: a – *Lethe nigrifascia* ssp. ♂ (Hanmi, Metok); b – *Paroeneis* spec. ♀ (Pai); c – *Lethe nigrifascia nigrifascia* ♂ (Henan, N. China); d – *Lethe baileyi* ♂ (Metok).
Fig. 4: undersides of fig. 3.



Colour plate 4

Colour plate 5

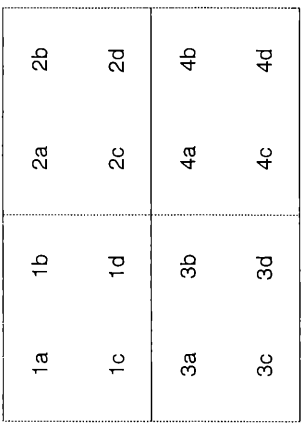
Fig. 1: a – *Litinga mimica xizangana* paratype ♂ (Yigong); b – *Litinga mimica xizangana* holotype ♂ (Metok); c – *Litinga mimica xizangana* paratype ♂ (Yigong); d – *Litinga mimica mimica* ♂ (Sichuan).
Fig. 2: undersides of fig. 1.
Fig. 3: a, b – *Euthalia strephon zhaxidunzhui* paratype ♂.
Fig. 4: undersides of fig. 3.



Colour plate 5

Colour plate 6

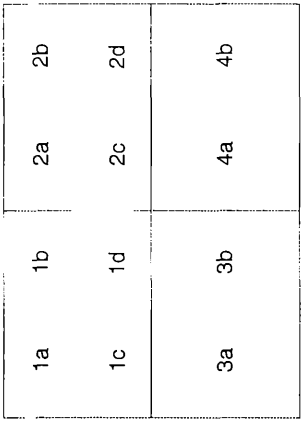
Fig. 1: a – *Neptis themis neotibetana* holotype ♂; b – *Neptis mahendra xizangensis* ♀ (Yigong); c – *Neptis themis neotibetana* paratype ♂; d – *Neptis mahendra xizangensis* ♂ (Yigong).
Fig. 2: undersides of fig. 1.
Fig. 3: a – *Neptis nycteus menpae* holotype ♂; b – *Neptis thetis tibetothetis* holotype ♂; c – *Neptis nycteus menpae* paratype ♂; d – *Neptis thetis tibetothetis* paratype ♂.
Fig. 4: undersides of fig. 3.



Colour plate 6

Colour plate 7

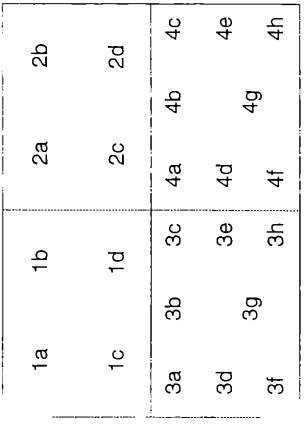
Fig. 1: a – *Neptis manasa antigone* ♂ (East China); b – *Neptis manasa tsangae* holotype ♂; c – *Neptis thetis tibetothetis* paratype ♂ (Metok); d – *Neptis manasa tsangae* paratype ♂.
Fig. 2: undersides of fig. 1.
Fig. 3: a – *Athyma selenophora yui* holotype ♂; b – *Athyma selenophora yui* paratype ♂.
Fig. 4: undersides of fig. 3.



Colour plate 7

Colour plate 8

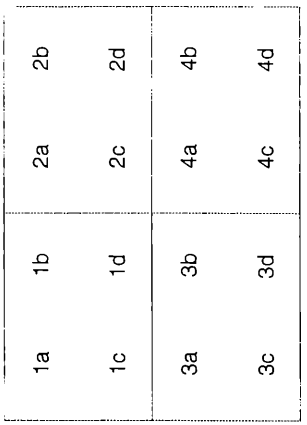
Fig. 1: a – *Kuekenthaliella gemmata wui* holotype ♂; b, c – *Kuekenthaliella gemmata wui* paratype ♂; d – *Kuekenthaliella gemmata wui* allotype ♀.
Fig. 2: undersides of fig. 1.
Fig. 3: a, b – *Kuekenthaliella eugenia rhea* ♂ (Richthofeni Mts., Gansu, LF: 19 mm); c – *Kuekenthaliella eugenia rhea* ♂ (Tsinghai, LF: 19 mm); d – *Kuekenthaliella eugenia* ssp. ♂ (Tibet); e – *Kuekenthaliella eugenia rhea* ♀ (Gansu, LF: 21 mm); f – *Kuekenthaliella baileyi* paratype ♂; g – *Kuekenthaliella gemmata wui* paratype ♂; h – *Kuekenthaliella baileyi* holotype ♀.
Fig. 4: undersides of fig. 3.



Colour plate 8

Colour plate 9

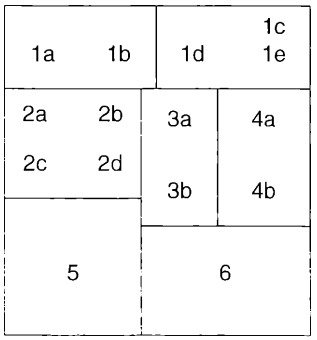
Fig. 1: a – *Symbrenthia brabira brabira* ♂; b – *Symbrenthia dalailama* holotype ♂; c – *Symbrenthia dalailama* paratype ♂; d – *Symbrenthia dalailama* paratype ♂.
Fig. 2: undersides of fig. 1.
Fig. 3: a – *Athyma orientalis* ♂ wet season form (Metok); b – *Athyma orientalis* ♂ dry season form (Metok); c – *Athyma opalina* ♂ dry season form (Metok); d – *Athyma opalina* ♂ wet season form (Metok).
Fig. 4: undersides of fig. 3.



Colour plate 9

Colour plate 10

Fig. 1: a – *Kuekenthaliella eugenia eugenia* ♀ (Kentei, East Siberia, LF: 24 mm); b – *Kuekenthaliella eugenia montana* ♂ (Sajan Mts., LF: 18 mm); c – *Kuekenthaliella eugenia eugenia* ♂ (Kentei, LF: 21 mm); d – *Kuekenthaliella eugenia eugenia* ♂ (Kentei, LF: 19 mm); e – *Kuekenthaliella eugenia eugenia* ♂ (Kentei, LF: 21 mm).
Fig. 2: a – *Sinopieris dubernardi dubernardi* ♂ (Sichuan); b – *Sinopieris ddubernardi dubernardi* ♀ (Sichuan); c – *Sinopieris dubernardi wangi* holotype ♂; d – *Sinopieris dubernardi wangi* paratype ♀.
Fig. 3: a – *Sinopieris dubernardi wangi* paratype ♂; b – *Sinopieris dubernardi wangi* allotype ♀.
Fig. 4: a – *Sinopieris dubernardi dubernardi* ♀, underside (Sichuan); b – *Sinopieris dubernardi wangi* allotype ♀, underside.
Fig. 5: *Stichophthalma neumogeni renqingduojiei* holotype ♂
Fig. 6: *Diagora ouvradi* ssp. ♂ (Yigong).



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Colour plate 10