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A revision of the subfamily Coeliadinae (Lepidoptera: Hesperiidae)*

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ABSTRACT — The subfamily Coeliadinae of the family Hesperiidae is reviewed. The group is classified into 9 genera, 78 species, and 202 subspecies, in which a new species and 4 new subspecies are described. Four of the species previously classified in the genus *Coeliades* have been transferred to the genus *Pyrrhiades*. Keys to the genera and species, general generic characters, distribution pattern, synonymic lists, type information, and geographic distribution are given. Brief description and diagnostic characters are provided for each species and subspecies. In addition, their early stages and bionomics are also shown where known. Nearly all of the species and subspecies referred to are illustrated.

KEY WORDS: Taxonomy, distribution, *Allora*, *Badamia*, *Bibasis*, *Burara*, *Choaspes*, *Coeliades*, *Hasora*, *Pyrrhiades*, *Pyrrhochalcia*

I. INTRODUCTION

This study reviews the subfamily Coeliadinae of the family Hesperiidae. Coeliadines are relatively large and colorful skippers only distributed in the Old World. An American subfamily Pyrrhopiginae geographically replaces Coeliadinae and was thought to be a sister taxon. Phylogenetic analysis using molecular data, however, has revealed that earlier assumption as incorrect and that Pyrrhopiginae is merely a part of Pyrginae (Warren et al., 2008). Asian and Australian members of the group are commonly known as awls, awlets or awlkings due to the shape of their labial palpi, while African members are referred to as policemen as they are characterized by their rapid flight and chasing behavior. Over 70 species has been described. Information regarding the early stages and bionomics of these species has been gradually gathered but there is still much more research required. With the exception of *Burara harisa* which has been recorded feeding on monocotyledonous *Zingiber*, all these larvae are dicotyledon feeders. Althogh the larvae of many species have aposematic coloration, the majority build protective shelters, which appears contradictory.

Taxonomic History

The taxonomic history of the subfamily Coeliadinae began with its description by Drury (1773) of the first taxon, *Papilio Plebeius Urubicola iphis* (now *Pyrrhochalcia iphis*). In the following years, Fabricius (1775) and Cramer (1777) added new taxa.

The number of described taxa increased rapidly from 1850 due to the works of Moore (1866, 1881), Mabille (1876a, b), Plötz (1879), and Elwes & Edwards (1897). Moore (1881) established 4 major Asiatic genera of the subfamily, *Bibasis*, *Badamia, Choaspes* and *Hasora*.

The first comprehensive classification of the family Hesperiidae was made by Watson (1893). He based his classification on a comparative morphology of antenna, third palpal segment, wing venation, male secondary sexual characters, and the resting position of the wings. He incorrectly believed the group -exclusive dicotyledon feeder- as a section of Pampilinae (now Hesperiinae) which includes nearly all the skippers that are monocotyledon feeders. Watson recognized 5 genera in the group.

Elwes & Edwards (1897) revised the Oriental Hesperiidae.

* This work represents a revised version of a part of the dissertation originally submitted in October, 1995 to the graduate division of the University of Hawaii in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Entomology. For the most part, this is a publication of the author's original dissertation, though sections relating to cladistics and biogeography are now outdated and have therefore been deleted. The section on taxonomy has been altered considerably in order to accommodate the most recent research information, though the geographic variations of *Burara* and *Hasora* require further study and review.

They emphasized the importance of the male genitalia in diagnosing species. They considered that the group was distinct from Pampilinae on the basis of porrect and filiform third segment of their palpi. They also recognized the same 5 genera as Watson, but their criteria of determining *Ismene* (now *Burara*) and *Bibasis* were somewhat different to those proposed by Watson. Mabille (1903-1904) applied the same criteria as used by Watson for classifying species and genera. He named the subfamily as Ismeninae and transferred 2 species of *Rhopalocampta* to his new genus *Pyrrhochalcia*. A further 46 taxa were added by Fruhstorfer (1911). Most of these taxa are now considered to be junior synonyms or intraspecific variations by modern authors.

Brigadier William Harry Evans, in his extensive work on world Hesperiidae, revised the African (1937) and Indo-Australian (1932, 1934, 1949) taxa of the Coeliadinae. The period in which Evans worked on hesperiid taxonomy saw the advent of the Julian Huxley's "New Synthesis" (1940).

Apparently, he was primarily concerned with constructing a better reference system and determining species boundaries morphologically, amongst the hundreds of very similar, often undescribed, skippers. He strongly relied on male genitalia in radically lumping series of geographically allopatric taxa (superspecies of Mayr, 1942) into single species all together. This lead to the criticism from Burns (1985) and others that Evans' method of classification had condemned many good species to a lower subspecific classification. It is rather fortuitous that Evans completed his catalogue of Hesperiidae as it is, had he not done so, it would now be very difficult to follow his criteria of classification without continually referring to each species's description with its specimens in Evans' synoptic collection in the Natural History Museum (BMNH). Interestingly, his work of geographically replacing taxa implies a vicariant model of biogeography.

Evans' work greatly advanced the classification of Hesperiidae, including the subfamily Coeliadinae, though there is still a great need to review their classification using new collections and the more refined methods now available to modern scientific analysis. Evans was unable to adequately examine the materials from the Philippines, then which was poorly collected in the BMNH. Further more, Evans mainly confined himself to alpha taxonomy, to the exclusion of determining the phylogenetic relationship between the genera or species to which a specimen belongs. Cladistics and numerical taxonomy developed after Evans' death in 1956. Another limitation of Evans' 6 volume work is its separation into 3 geographical regions. The relationships of taxa and their pattern of distribution across these disjunct areas are unclear.

Few studies have been published on the classification of Hesperiidae since Evans, though a few taxa have been added to the list of Coeliadinae (e. g. Eliot, 1970; de Jong, 1980, 1982; Schröder & Treadaway, 1986; and Hsu, 1988). Although there are 2 catalogues of Coeliadinae by Shepard (1933) and more recently by Bridges (1994), no revision of the subfamily Coeliadinae as a whole has been attempted since the work of Mabille (1903-1904) and Evans (1937, 1949). As recently as de Jong (2007) and Warren et al. (2008) proposed new phylogenetic relationships within the genera and species.

General Morphology

Head: Compound eyes bare, except in the genus *Choapses, Hasora mus*, and *H. anura* in which eyes covered with hairs. Labial palpus: first segment very short; second segment being largest, cubic and erect; third segment needle-like, naked and porrect (Figure 1). Antenna smooth, gradually widening from shaft to club, and tapering from club to apiculus; club long and slender; apiculus arcuate and sharply pointed. Eyelash absent. Thorax: - Prothoracic leg with a "tibial epiphysis": tibia of mesothoracic leg usually smooth with a terminal pair of spurs (except *Allora*, which has a row of spines on tibia, Fugure 2); Metathoracic leg with 2 pairs of spurs; in most genera, tibia with recumbent hair pencil outside leg, an erectile tuft often entering a pouch projecting from end of thorax, or both. Wings: The wings of most species are suited for their rapid flight. Forewing triangular with pointed apex; space between costa and discoidal cell narrow, and radial veins close to each other. Hindwing tornus often lobate and caudate; termen excavate above tornus between veins 1b and 2. For the notation of the wing veins, the numerical system (Tillyard) is used and if deemed necessary supplemented by the Comstock system in parenthesis (Figure 3). The forewing has 12 longitudinal veins: 12 (Sc), 11 (R1), 1o (R2), 9 (R3), 8 (R4), 7 (R5), 6 (M1), 5 (M2), 4 (M3), 3 (CuA1), 2 (CuA2), 1b (1A + 2A). As in other hesperiids, each vein arises separately from the discoidal cell or base of the wing, none being forked beyond the cell. Vein 5 at its origin tends to be nearer to vein 6 than vein 4. Discocellular vein very faint or thin. The hindwing has 9 longitudinal veins: 8 (Sc + R1), 7 (Rs), 6 (M1), 5 (M2), 4 (M3), 3 (CuA1), 2 (CuA2), 1b (1A + 2A), and 1a (3A). Vein 5 is absent in 3 African genera and *Choaspes*. Vein 1b is often extended as the hindwing tornus is caudate. Discocellular vein is faint or absent. Abdomen: shorter than dorsum of the hindwing. In 3 African genera, males have the intersegmental membrane between 8th tergite and genitalia clothed with a tuft of dark hair.

Distribution Pattern of *Choaspes*

Figure 5 shows the contour of species density of the genus *Choaspes* based on the distribution data available to the author before 1986. It assumes 1) a group (genus in particular) originates at a 'center of origin,' 2) speciation occurs from the center, and 3) some species 'migrate' out of the center, and 'disperse' beyond geographical barriers. Two separate regions, Northern India to West China and the Malay Peninsula to Sumatra, have the highest density 4 and 3 respectively.

These findings agree with Holloway (1969) who classified the distribution of the genus *Choaspes* as one of the ' seven genera centered broadly from Sundaland to Assam.' It could be inffered that the genus *Choaspes* evolved in the center, which was probably located in Northern India, west China, or Sundaland, and then spread widely to the surrounding areas.

Such a scenario is a typical explanation offered by evolutionary biogeographers. Chiba (1988b) criticized this perspective from a point of view of its practicality. (1) The same number of species or densities which are encircled are not equivalent. For example, density 2 in Java consists of *C. plateni extensus* and *C. subcaudatus*, while that of East China consists of *C. benjaminii japonicus* and *C. hemixanthus furcatus*. (2) An evolutionary biogeographic prespective fails to consider intraspecific diversity, consequently, intra- and interspecific relationships are unclear. (3) The approach of evolutionary biogeograpers in analyzing a genus as a separate, distinct element may obscure the true origin of the genus as it fails to take account of allied genera. Accordingly, *Coeliades* and the other African genera have to be considered in determining the true origin of *Choaspes*.

Chiba (1988b) arranged the genus *Choaspes* into 4 species groups and plotted the localities from which they were collected on a map. From this he proposed a general pattern of distribution for the genus. Modifications have been made to Chiba (1988b) to explain the distribution of the genus *Choaspes* where it disagrees with the contour of species density.

Choaspes can be divided into 2 groups: the *benjaminii*-group and the *xanthopogon*-group (Figure 6a). The main morphological difference between these 2 groups is the position of the valvae in relation to the uncus and vinculum (Figure 6b). In the *benjaminii*-group, the valva attaches to the vinculum at a right angle so that the uncus is not covered with the valva; the valva is beak-like in shape at the tip. In the *xanthopogon*-group, the valva attaches at a perpendicular angle to the vinculum so that the uncus is covered with valva; the valva has a process at the tip. Color patterns of hitherto known larvae match this grouping (Chiba, 1989; Igarashi, 1992). De Jong & Treadaway (2007) claim that the larval patterns do not agree with the group division because of the striped marking of the larvae of *hemixanthus* from Papua New Guinea. However, in *hemixanthus* larvae, the patterns of light and dark coloration are reversed. The spiracles of *hemixanthus* larvae are on dark segments of the body while those of the other striped larvae are found on the light segments. It can be interpreted as a plesiomorph.

The 2 groups, the *benjaminii*-group and the *xanthopogon*-group, can be further divided into 2 subgroups (Figure 6a).

The principal localities of *Choaspes* are discussed below. Four taxa are found in Northern India: *C. stigmatus stigmatus*, *C. benjaminii japonicus*, *C. xanthopogon xanthopogon*, and *C. hemixanthus furcatus* (Figure 7). Though they are extremely similar in appearance, these 4 taxa belong to 4 different subgroups of the genus, one and only one representative from each subgroup being found in India. In one of these taxa, *stigmatus*, the male has brand on the wing and thus can be easily recognized from its close relative *benjaminii*. In the *xanthopogon*-group, *xanthopogon* and *hemixanthus* have different color tones. Although, *benjaminii* and *xanthopogon* belong to different groups, their external appearance resembles one another the most. These 2 taxa had indeed been considered as belonging to the same species, until their 2 markedly different looking larvae were discovered.

In the Malay Peninsula, 3 taxa are found: *C. stigmatus caudatus*, *C. benjaminii flavens*, and *C. subcaudatus crawfurdi*. In these taxa, the tornus of the hindwing is yellow and lobed, but yet again, these 3 taxa are representatives of 3 different subgroups. There is no representative from the *xanthopogon*-subgroup found in the region.

In the Philippines, except Palawan and Tawitawi, 2 taxa are found: *C. adhara* and *C. xanthopogon estrella*, the latter belonging to the *xanthopogon*-subgroup. The taxonomic position of *C. adhara* is somewhat problematic. Evans (1949) considered *adhara* a subspecies of *plateni* from Sulawesi together with *stigmatus* as the males share the same characteristic brand. The male genitalia of *adhara* and *plateni*, however, have more similarities with those of *benjaminii* than of *stigmatus*. Chiba (1988b) advanced the idea that *adhara* and *plateni* are closely related to *benjaminii* and representative of both the *benjaminii*- and *stigmatus*-subgroups. This means there is only one representative of the *benjaminii*-group and not 2 in the Philippines and Sulawesi. The New Guinean species *illuensis* is a similar case. In the Philippines, the *hemixanthus*-subgroup element has yet to be discovered.

In summary, all or part of 4 taxa representing 4 different subgroups are found in each area, those subgroups are widely distributed throughout the range of the genus. In each area, skippers display an extensive yet superficial resemblance. This superficial similarity can be seen not only in *Choaspes* but also in *Halpe* and other genera of Hesperiidae. The reason for this phenomenon is uncertain as often closely relared taxa from different localities but the same subgroup are markedly different in their appearance.

A single taxon of *Choaspes*, *C. benjaminii formosana*, was know from Taiwan. Then in 1988, *C. xanthopogon* was discovered. Chiba (1988b) mentioned it briefly. Near the same time, Yu-Feng Hsu also discovered *xanthpogon* in Taiwan and described ssp. *chrysopterus* (Hsu, 1988). Using his knowledge of *Choaspes* larval foodplants in Hong Kong, Hsu found the new taxon. *C. xanthopogon* belongs to the *xanthopogon*-subgroup of the *xanthopogon*-group. The missing element of the *xanthopognon*-group and subgroup had thus been discovered in Taiwan.

C. plateni was the only *Choaspes* known from Sulawesi and as is mentioned earlier, this taxon represents both the *benjaminii*-

and *stigmatus*-subgroups. Therefore, *xanthopogon* and *hemixanthus* elements were absent. A new taxon *C. hemixanthus wallacei* was discovered (Tsukiyama & Chiba, 1991). The male genitalia of the new taxon had intermediate characteristics similar to both *hemixanthus* and *subcaudatus*, which satisfy both the geographic and morphological gaps. The missing *hemixanthus* element has not been found in Sulawesi.

Four *Choaspes* species are known in Sumatra. Evans (1949) described *cora* as a subspecies of *C. hemixanthus*; if his assignment is correct, 2 taxa of the same *hemixanthus*-subgroup, *subcaudatus* and *cora*, occupy Sumatra sympatrically. If, however, *cora* belongs to the *xanthpogon*-subgroup, then, the pattern of the genus' distribution is maintained. The *cora* holotype, the only known specimen, was examined and the genitalia showed to possess the typical characteristics of *C. xanthopogon*. It, therefore, did not belong to *hemixanthus* but to the *xanthopogon*-subgroup. If this is so, the missing *xanthopogon* element has been found for Sumarta and a taxonomic error corrected.

Recently a new taxon was discovered in Halmaheira (descrbed in this paper). It has a male brand on the dorsal side of the forewing, similar to Asiatic *plateni* rather than Oceanian *illuensis*. Again, this would seem to provide the missing element, that of the *benjaminii*-group. In this case, the biogeographic boder runs east of North Maluku beyond Weber's line. The reason that such a relatively large and conspicuous skipper remained undiscovered for so long is its crepuscular behavior and its habitat was considered to be haunted according to the local inhabitants.

Two of the same element can be found near the complicated geographic border bringing about a secondary overlap of their distribution. In Northern Thailand and North Vietnam, *subcaudatus* and *hemixanthus furcatus*, both belonging to the same element, are recorded. It is not known whether the habitats of *subcaudatus* and *hemixanthus furcatus* overlap in space and time. The situation makes the region a prime candidate for evolutionary studies of the genus.

II. MATERIALS AND METHODS

Over 5,000 specimens belonging to the subfamily were examined. In addition to the author's private collection, specimens were examined in situ or loaned from the following institutions and private collections: Academia Sinica, Beijing (AS); Allyn Museum of Entomology, Sarasota (AME); Australian National Insect Collection, CSIRO, Canberra (ANIC); B. P. Bishop Museum, Honolulu (BPBM); Carnegie Museum of Natural History, Pittsburgh (CMNH); Hideyuki Chiba, Honolulu and Fukuoka (HC); Tomoo Fujioka, Tokyo (TF); Kitakyushu Museum of Natural History, Kitakyushu (KMNH); Kyushu University, Fukuoka (KU); Los Angeles County Museum (LACM); Kiyoshi Maruyama, Kawasaki (KM); Museum of Comparative Zoology, Cambridge (MCZ); National Science Museum, Tokyo (NSM); Natural History Museum, London (BMNH); Kazuhisa Ohtsuka, Tokyo (KO); Etsuzo Tshukada, Tokyo (ET); Hiroshi Tsukiyama, Funabashi (HT); United States National Museum of Natural History, Washington, D. C. (NMNH).

External morphological characters were examined and illustrated, if necessary, using a stereo microscope. For the examination of wing vanation, wings were removed from thorax, soaked in 10% KOH, cleared in Chlorox, and rinsed with water. For the examination of male and female genitalia, the entire abdomen was removed, boiled in 10% KOH, rinsed in water, and dissected in lactic acid. Wing venation and genitalia were examined and illustrated under a stereo microscope. Morphological terminology follows Evans (1949) and Kawazoé & Wakabayashi (1976). Genital terminology follows Tuxen (1970).

III. TAXONOMY

In this section, keys to the genera and species, general generic characters, distribution pattern, synonymic lists, type information, brief description and diagnostic characters of each species or subspecies, geographic distribution, early stages and bionomics, if known, are given.

Synopsis

Species: Less strict morphological species concept is adopted, which is not anachronistic. Distinct species is determined by the following criteria. Morphological characters, especially the male genitalia, are used. The difference in wing markings is less emphasized. Geographically continuous vicariant series of taxa are treated as a single species. Vicariance is judged by one-to-one, rarely one-to-two, correspondence of morphologically similar taxa. If the correspondence is not accertain in two sympatric and an allopatric taxa, as in the case of *Choaspes benjaminii, C. stigmatus*, and *C. plateni*, they are treated as 3 distinct species. If the distribution is fairly disjunct, as in the case of *Bibasis mahintha, B. iluska*, and *B. nestor*, they are treated as separate species. Although the author tried to follow the above criteria for precise species division, some treatments remain to be arbitrary.

Subspecies: Subspecies here is merely a geographic variation especially in wing markings. Many of them are considered distinct species by current researchers.

Holotype: When examined, information on labels is copied in quotation marks.

Description and diagnosis: Subspecific difference and/ or diagnostic characters distinguishing them from resemble sympatric species are given.

Distribution: Current political divisions are used. Country names are in capital letter. Some detailed locality names are copied from labels and may be old.

Abbreviations

DFW: dorsal side of the forewing. DHW: dorsal side of the hindwing. DW: dorsal side of fore and hind whings. TL: type locality. VFW: ventral side of the forewing. VHW: ventral side of the hindwing. VW: ventral side of fore and hind wings.

Key to the genera of Coeliadinae

1. Forewing, discoidal cell shorter than dorsum 2
1'. Forewing, discoidal cell equal to or longer than dorsum 5
2. Tibia of mesothoracic leg spined. Wings are black or dark brown with metallic blue or green base. No male secondary sexual character.....*Allora*
2' Tibia of mesothoracic leg not spined. Male often with secondary sexual characters 3
3. Forewing, origin of vein 3 distad of the origin of vein 11. Hindwing, origin of vein 7 closer to vein 2 than vein 3; cilia usually red or orange at tornus. Metathoracic leg, tibial hair pencil present.....4
3'. Forewing, origin of vein 3 basad of the origin of vein 11; vein 1b acutely bisinuate near base. Hindwing, origin of vein 7 within middle 1/5 of vein 2 and 3; cilia usually brown. Metathoracic leg, tibial hair pencil absent.....*Hasora*
4. Ventral side of the hindwing with a discal band or a trace of band.....*Bibasis*
4'. Ventral side of the hindwing without a discal band .....*Burara*
5. Forewing, discoidal cell as long as dorsum 6
5'. Forewing, discoidal cell longer than dorsum 7
6. Compound eyes hairy. Metathoracic leg with tibial hair pencil. No hair tuft on the tip of abdomen. Usually, wings are green or greenish blue with tornal orange or yellow area on the hindwing. Asian .....*Choaspes*
6'. Compound eyes naked. Metathoracic leg without tibial hair pencil. Abdomen with hair tuft on the tip. Wings are various. African .....*Coeliades*
7. Hindwing, vein 5 present; discoidal cell shorter than 1/2 wing length. Hyaline spots present on the forewing .....*Badamia*
7'. Hindwing, vein 5 absent; discoidal cll equal to or longer than 1/2 wing length. Hyaline spot absent 8
8. Hindwing, origin of vein 7 within middle 1/5 between vein 2 and 3; origin of vein 3 not separated from discoidal cell.....*Pyrrhiades*
8'. Hindwing, origin of vein 7 closer to vein 3 than to vein 2; origin of vein 3 separated from discoidal cell .....*Pyrrhochalcia*

Genus *Burara* Swinhoe, 1893

Burara Swinhoe, 1893: 329. Type species: *Ismene vasutana* Moore, 1866 fixed by Swinhoe, 1912.

Ismene Swainson, 1820: pl. 16. Type species: *Ismene oedipodea* Swainson, 1820 by monotypy. Homonym by Savigny, 1816.

Pola Swinhoe, 1912: 226. Type species: *Ismene ataphus* Watson, 1893 by original designation.

Zehala Swinhoe, 1912: 229. Type species: *Ismene striata* Hewitson, 1867 by original designation.

Gecana Swinhoe, 1912: 230. Type species: *Ismene fergusoni* de Nicéville, 1893 by original designation.

Generic characters: Antenna shorter than 1/2 length of costa. Wing venation (Figure 2): Forewing: origin of vein 3 more distad than that of vein 11; vein 6 gently curved near apex; discoidal cell shorter than dorsum. Hindwing: origin of vein 3 very close to that of vein 4; vein 5 present; origin of vein 7 closer to that of vein 2 than vein 3; cell shorter than 1/2 width of wing; discal vein faint. Metathoracic leg, tibial hair pencil present. Males of many species with secondary sexual characters; androconial scales spoon-shaped (Figure 26). Hindwing, cilia usually orange or yellow. Male genitalia: Aedoeagus long.

Distribution pattern: The distribution of *Burara* shows a vicariance pattern. As in the case of *Choaspes*, a set of taxa belonging to different species or species groups are found in a locality, and each element is replaced by another element belonging to the same group in a different locality.

There are two different series of distribution in this genus, suggesting that the genus is polyphyletic. One extends from Sri Lanka through Sundalands to Sulawesi and the Philippines. The distribution is restricted within the west side of the Weber's line. No taxon had been found in Lesser Sunda Islands until a new species described in this paper was found in Sumbawa (Figure 9, 10). The other one extends from North India through China to Korea and Japan (Figure 11).

B. oedipodea is found everywhere in the range. It shows significant geographic variations. *B. gomata* also is found everywhere except for Sri Lanka. Evans (1949) considered *B. etelka* and *B. imperialis* different species, but they are treated as a single species here. Therefore, *B. etelka* is found from Burma to Sulawesi and adjacent islands. The element had been missing in the Philippines until *B. etelka* was found recently in Mindanao and the blank was filled. *B. jaina* is found from Sri Lanka to Sundalands and Taiwan. Sulawesian *B. phul*, judging from morphological characters, probably is a sister taxon of *B. jaina*. The element is missing, again, in the Philippines. *B. harisa* is found from North India through Sundalands to Sulawesi. No representative had been known from the Philippines except for Palawan until de Jong (1993) described a subspecies *grandis* from Samar. *B. tuckeri* is found only in Myanmar, West Malaysia and Borneo. It is expected, based on the pattern of distribution, that *tuckeri* itself or a related taxon will be found to fill the gap of distribution. Evans (1949) considered *purplea* as a synonym of *anadi*. Eliot (1980) described *owstoni* as a distinct species. Based on the male genitalia, wing markings and

secondary sexual characters, the author consider *purpurea* and *owstoni* subspecies of *anadi*. Their distribution is restricted from India to the Malay Peninsula.

In the other series of distribution, *striata* and *aquilina* are distributed sympatrically. Though these two species differ significantly in appearance, their male genitalia are almost identical. In North India and Thailand, they are replaced by *amara* and *vasutana*. In Fujian, China and Vietnam, *miracula* is found. It is not certain if *miracula* actually shares spatial and temporal space together with *striata*, *aquilina* or both.

Larval foodplants: including Malpighiaceae, Combretaceae, Araliaceae and some other families.

The genus consists of 14 species and 40 subspecies.

Key to the species of *Burara*

1. Ventral side of the hindwing with black dot at base 2
1'. Ventral side of the hindwing without a black dot at base. Wings ochreous. Male plain with no brand. Female with pale discal spots in space 2 to 7 and in discoidal cell ..... *B. aquilina*
2. Forewing, origin of vein 3 nearer to the origin of vein 4 than to that of vein 2 3
2'. Forewing, origin of vein 3 nearer to the origin of vein 2 than to that of vein 4 8
3. Head with black dots 4
3'. Head without black dots 6
4. Ventral side of the hindwing green with dark veins and streak 5
4'. Ventral side of the hindwing, veins paler; discoidal cell widely paler. Male white or white-brown. Female blue ..... *B. gomata*
5. Male, dorsal side of the forewing uniform, often with a hyaline spot in space 3. Female brown, pale metallic green at base, with hyaline spots in space 2 and 3 on the forewing. Cilia orange or yellow ..... *B. vasutana*
5'. Male, dorsal side of the forewing clothed with yellow hairs ..... *B. miracula*
6. Male, dorsal side of the forewing with brands ..... *B. striata*
6'. Male, dorsal side of the forewing without brand 7
7. Larger, forewing over 30 mm. Forewing, origin of vein 3 opposite that of vein 11 ..... *B. etelka*
7'. Smaller, forewing less than 30 mm. Forewing, origin of vein 3 opposite that of vein 10 ..... *B. harisa*
8. Hindwing, cilia white. Ventral side pale green with dark blue stripes ..... *B. amara*
8'. Hindwing, cilia orange or yellow 9
9. Dorsal side of the hindwing, dorsum broadly orange 10
9'. Dorsal side of the hindwing, dorsum not broadly orange 11
10. Dorsal side of the hindwing, costa white, bent over at apex; tornal orange extends along dorsum ..... *B. phul*
10'. Dorsal side of the hindwing, costa brown, not bent over at apex; tornal orange extends along termen ..... *B. nishiyamai*
11. Dorsal side of the hindwing, costa paler 12
11'. Dorsal side of the hindwing, costa not paler. Dorsal side of the forewing, brand discal ..... *B. jaina*
12. Antenna dorsally white. Ventral side of the hindwing with purple sheen ..... *B. anadi*
12'. Antenna dorsally dark 13
13. Male, dorsal side of the hindwing often with a costal pouch. Dorsal side of the forewing, brand excavate. Ventral side of the hindwing, inter-nervular streaks orange ..... *B. oedipodea*
13'. Male, dorsal side of the hindwing without costal pouch. Dorsal side of the forewing, brand circular. Ventral side of the hindwing, inter-nervular streaks purple-white ..... *B. tuckeri*

Burara oedipodea (SWAINSON, 1820), 5 subspecies

a. *B. oedipodea ataphus* (Watson, 1893)

(Plate 1-1)

Ismene ataphus Watson, 1893:126; Mabille, 1904:89; Fruhstorfer, 1911:60.
Pola ataphus: Swinhoe, 1912:226, pl. 746 figs. 1, 1a, b, c, d, e, f.
Ismene oedipodea ataphus: Seitz, 1927:1054; Evans, 1926:61; 1932:317.
Bibasis oedipodea ataphus: Evans, 1949:45; Woodhouse, 1950:190, pl. XXXVI, figs. 13, 14, LIII 9, 9a.
Bibasis oedipodea: Banks & Banks, 1985:pl. 6, figs. 10.
Holotype: "Ceylon, Pundeloya 91・150, Green Coll," BMNH H2377 (examined).
Description and diagnosis: Forewing length 23 mm. Male brand oval, 4 mm. DHW costa paler but not white, not bent over apex; vein 8 bent along costa; vein 6 bowed. Similar to *B. jaina fergusonii*, but smaller and male brand larger.
Distribution: SRI LANKA: Kandy, W. Haputale, Madugoda, Potuvil.
Early stages: Swinhoe (1912) illustrates larva.
Foodplant: Malpighiaceae: *Hiptage madablota* (Swinhoe, 1912).

b. *B. oedipodea belesis* (Mabille, 1876)

(Plate 1-2)

Ismene belesis Mabille, 1876:X, 260.
Bibasis aegina Plötz, 1884.
Ismene ataphus: Elwes & Edwards, 1897:292.
Ismene tuckeri athena Fruhstorfer, 1911:61.
Ismene oedipodea athena: Seitz, 1927:1054.

Ismene oedipodea aegina: Evans, 1926:61; 1932:317.
Bibasis oedipodea belesis: Evans, 1949:45; Pinratana, 1985:13, pl. 1, fig. 1a; Monastyrskii & Devyatkin, 2003:41.
Burara oedipodea: Osada et al., 1999:Plate 130.
Holotypes: *belesis* – " Ind. or., Ex Museo Dris Boisduval, R. Oberthür Coll, Brit. Mus. 1931-136, Ism. Belesis P. Mab.," BMNH (examined); *aegin*a – Unpublished plate No. 1150, BMNH (examined); *athena* – "Siam, Muok-Lek 1000', Januar, H. Fruhstorfer Coll, BM 1933-131, ataphus athena Fruhst.," BMNH 2378 (examined).
Description and diagnosis: Forewing length 22 mm. Male brand oval, 4 mm. DHW veins normal. Similar to *B. anadi anadi*, but male brand larger.
Distribution: INDIA: Khasi Hills; THAILAND: Chaing Mai; LAOS; VIETNAM; CHINA: Hong Kong.
Foodplant: Malpighiaceae: *Hiptage madablota* (de Rhé-Philipe, 1898), *H. bengalensis* (Johnston & Johnston, 1980).
Bionomics: The adults are flying in September and October in Nepal (Smith, 1981).

c. *B. oedipodea oedipodea* (Swainson, 1820)
(Plate 1-3, 1-4, Figure 27)

Ismene oedipodea Swainson, 1820:pl. 16; Elwes & Edwards, 1897:292; Mabille, 1904:89; Pipers & Snellen, 1910:19, pl. VI, figs. 24a, b, c, d; Fruhstorfer, 1911:59; Swinhoe, 1912:229; Seitz, 1927:1053, pl. 167.
Ismene oedipodea oedipodea: Evans, 1926:61; 1932:317.
Bibasis oedipodea oedipodea: Evans, 1949:46, pl. 12; Eliot, 1978: 350, Fig. 129, 336; Pinratana, 1985:14, Pl. 1, fig. 1b; de Jong & Treadaway, 1993b:10; 2007:7.
Holotype: could not be located, TL: Java.
Description and diagnosis: Forewing length 23 mm. Male brand kidney-shaped, 4 mm. Thorax and base of DHW metallic blue. DHW in male, costa white, apex fold over; brown with metallic blue base in female.
Distribution: MALAYSIA: Cameron highlands, Sabah; INDONESIA: Sumatra, Java, Bali, Lombok; PHILIPPINES: Palawan, Balabac.
Early stages: Larvae are described and illustrated in Piepers & Snellen (1910) and Young (1993). Final instar larva: Head black with 6 red spots; mouth parts also red. Thorax and abdomen black with a dorsal pair of longitudinal lines and yellow or white transverse stripes. The larva illustrated by Piepers & Snellen (1910) shows dorsal oblong orange spots.
Foodplant: Combretaceae: *Combretum latifolium* (Pipers & Snellen, 1910; Eliot, 1978); Malpighiaceae: *Hiptage bengalensis* (Young, 1993).

d. *B. oedipodea paltra* (Evans, 1949)
(Plate 1-5, 1-6)

Bibasis oedipodea paltra Evans, 1949: 46; de Jong & Treadaway, 1993b:10; 2007:7.
Holotype: [PHILIPPINES], " Mindanao, J. Waterstradt 1903-1904, R. Oberthür Coll., Brit. Mus. 1931-136," BMNH (examined).
Description and diagnosis: Similar to *oedipodea*, but larger. Forewing length 25 mm. Brand kidney-shaped, 5 mm. Ventral hindwing, reddish orange markings wider. Female brown with orange costa and metallic blue base.
Distribution: PHILIPPINES: Luzon, Mindoro, Marinduque, Cebu, Leyte, Sibuyan, Negros, Mindanao.

e. *B. oedipodea excellens* (Höpffer, 1874)
(Plate 1-7, 1-8)

Ismene excellens Höpffer, 1874:39; Mabille, 1904:89; Fruhstorfer, 1911:60; Swinhoe, 1912:229.
Ismene oedipus Elwes & Edwards, 1897:292; Mabille, 1904:89; Swinhoe, 1912:229.
Ismene oedipodea oedipus: Evans, 1926:62; Seitz, 1927:1054.
Ismene oedipodea excellens: Evans, 1932:318.
Bibasis oedipodea excellens: Evans, 1949:46.
Burara oedipodea excellens: Vane-Wright & de Jong, 2003:54.
Holotypes: *excellens* – could not be located, TL: Celebes; *oedipus* – could not be located, TL: Sula Is.
Description and diagnosis: larger. Forewing length 28 mm. Male brand kidney-shaped, 6 mm. DW bases more or less metallic green in female.
Distribution: INDONESIA: Sulawesi (Doluduo, Macassar, Maros & Tjamba, Makian, Palu, Bantain, Tana, "C. Sulawesi," "S. Celebes"), Babi, Peleng, Sula, Mangola.

***Burara tuckeri* (Elwes & Edwards, 1897)**
(Plate 1-9, 1-10, Figure 28)

Ismene tuckeri Elwes & Edwards, 1897:293, pl. 20, fig. 4; Fruhstorfer, 1911:61; Evans, 1932:318.
Pola tuckeri: Swinhoe, 1912:228, pl. 746, figs. 2, 2a.
Ismene oedipodea tuckeri: Evans, 1926:61; Seitz, 1927:1054.
Bibasis tuckeri: Evans, 1949;46, pl. 12; Eliot, 1978:350; Igarashi & Fukuda, 2000:625, plate 329.
Burara tuckeri: Vane-Wright & de Jong, 2003:54.
Holotype: [MYANMAR], " Tavoy, Tucker Feb 92, Ex Coll H.J. Elwes 1920, J.J. Joicey Coll, B.M. 1925-451," BMNH (examined).
Description and diagnosis: Forewing length 26 mm. Brand oval, 6 mm. DFW costa pale, but not white. VW with purple sheen. VFW with no cell spot. VHW with grayish purple stripes between veins; orange markings absent. Female brown with

strong purple sheen; bases metallic cobalt blue. Similar to *B. oedipodea,* but DFW costa with no fold. Differs from *B. jaina* in lacking cell spot on VFW.
Distribution: MYANMAR; MALAYSIA: Cameron highlands, Sabah.
Early stages: Young (1993) illustrates the larvae and pupa. Final instar larva: Head black with six yellow spots; mouth parts also yellow. Thorax and abdomen black with a dorsal pair of white longitudinal lines and rows of yellow spots.
Foodplant: Malpighiaceae: *Hiptage bengalensis* (Young, 1993).

***Burara anadi* (de Nicéville, 1884)**, 3 subspecies

a. ***B. anadi anadi* (de Nicéville, 1884)**
(Plate 1-11, Figure 29)

Choaspes anadi de Nicéville, 1884:83, pl. x., fig. 6.
Burara anadi: Swinhoe, 1912:235, pl. 748, figs. 2, 2a, b.
Ismene anadi: Evans, 1926:62; 1932:318; Seitz, 1927:1054, pl. 171.
Bibasis anadi: Evans, 1949:48, pl. 12.
Holotype: could not be located, TL: Sikkim.
Description and diagnosis: Forewing length 25 mm. Antenna dorsally white. Male androconial scales present, but not form brand. Similar to *B. harisa*, but hindwing more or less lobed.
Distribution: INDIA: Mussoorie, Sikkim, Assam, Darjiling, Pedong, Khasi Hills; BHUTAN: "Tungu"; MYANMAR: Maymyo; THAILAND: Chang Mai, Pak Djong, Muok-lek, Hin lap Mewong, Chantaburi.

b. ***B anadi purpurea* (Riley & Godfrey, 1925) new status**
(Plate 1-12)

Ismene harisa purpurea Riley & Godfrey, 1925:143, pl III, fig. 7.
Holotype: ♂, [THAILAND], "E. Siam, Pak Jong (E.J. Godfrey) Muok Lek, 1000 ft, January (Fruhstorfer), " BMNH Rh. 264 (examined).
Description and diagnosis: Forewing length 26 mm. Male brand 1 mm. DHW costa white. VW with purple sheen.
Distribution: THAILAND: Chantaburi.

c. ***B. anadi owstoni* (Eliot, 1980) new status**
(Plate 1-13)

Bibasis owstoni Eliot, 1980:150.
Holotype: " W. Malaysia, Fraser's Hill 4300', 17. vi. 1978, A. Owston, Bibasis owstoni Eliot Holotype ♂, Pres by A. Owston B.M. 1979-185," BMNH (examined).
Description and diagnosis: Forewing length 23 mm. Male brand larger, 3 mm. VW with strong purple sheen.
Distribution: MALAYSIA: Fraser's Hill.

***Burara jaina* (Moore, 1866)**, 6 subspecies

a. ***B. jaina fergusonii* (de Nicéville, 1893)**
(Plate 1-14)

Ismene fergusonii de Nicéville, 1893:345, pl. J, fig. 6; Bell, 1924:135.
Gecana fergussoni: Swinhoe, 1912:230, pl. 747, figs. 1, 1a, b, c, d.
Ismene jaina fergusonii: Evans, 1926:62; 1932:318; [*fergusoni*] Fruhstorfer, 1911:60; Seitz, 1927:1054.
Bibasis jaina fergussoni: Evans, 1949:47.
Holotype: could not be located, TL: Travancore.
Description and diagnosis: Forewing length 30 mm. Male brand compose of two black spots on veins 2 and 3. VFW with no cell spot.
Distribution: INDIA: Nilgiris, Kawar, Coorg, Kanara, Nagpore, Bombay, Mekara.
Early stages: Bell (1924) describes the complete life cycle. Head of the final instar larva " brick red with 6 black bands radiating from the center of face."
Foodplant: Combretaceae: *Combretum extensum* (Bell, 1924).

b. ***B. jaina astigmata* (Evans, 1932)**
(Plate 1-15)

Ismene jaina astigmata Evans, 1932:318.
Bibasis jaina astigmata: Evans, 1949:47.
Holotype: " S. Andamans, 16.4.30, W H Evans, Brit. Mus. 1932-274," BMNH (examined).
Description and diagnosis: Forewing length 27 mm. Similar to *fergusonii*, but smaller, and ochreous markings on VFW conspicuous.
Distribution: INDIA: Andaman.

c. ***B. jaina jaina* (Moore, 1866)**
(Plate 2-1, 2-2, Figure 30)

Ismene jaina Moore, 1866:782; Seitz, 1927:1054, pl. 167.
Ismene jaina vasundhara Fruhstorfer, 1911:59; Evans, 1926:62, pl. xxx; 1932:318, pl. xxx; Seitz, 1927:1054.
Gecana jaina: Swinhoe, 1912:231, pl. 747, figs. 2, 2a, b.
Ismene jaina jaina: Evans, 1926:62; 1932:318.
Bibasis jaina jaina: Evans, 1949:47, pl. 12; Monastyrskii & Devyatkin, 2003:41.
Burara jaina jaina: Osada et al., 1999:Plate 130..
Holotypes: *jaina* – [INDIA], "Darjiling, Schlagintœit, Ind, Mus. 79.64.," BMNH (examined); *vasundhara* – [INDIA], " Assam, Khasi Hills, ex. coll. H. Fruhstorfer, Fruhst B.M. 1938-131," BMNH H2385 (examined).
Description and diagnosis: Forewing length 27 mm. Male brand circular, 3 mm. VFW with spots in space 3 to 8 and discoidal

cell.
Distribution: INDIA: Darjiling, Dun, Bhutain, Assam, Khasi, Manipur, East Pegu; THAILAND: Chaing Dao; LAOS: Oudomxay; VIETNAM: north; CHINA: Hainan (Mt. Wuchi).

d. *B. jaina margana* (Fruhstorfer, 1911)
(Plate 2-3)

Ismene jaina margana Fruhstorfer, 1911:60; Evans, 1926:62; Seitz, 1927:1054; Evans, 1932:318.
Gecana margana: Swinhoe, 1912:232.
Bibasis jaina margana: Evans, 1949:47; Monastyrskii & Devyatkin, 2003:41.
Burara jaina margana: Osada et al., 1999:Plate 130..
Holotype: " Siam, Hinlap, Januar, H. Fruhstorfer, jaina margara Fruhst.," BMNH H2386 (examined).
Description and diagnosis: Forewing length 25 mm. Similar to *jaina*, but male brand larger, 7 mm. Differs from *velva* in lacking hairs covering brand.
Distribution: MYANMAR: Dawnas; THAILAND: Chaing Mai, N. Soidao, Mewong, Chantaburi; LAOS: Thakhek; VIETNAM: central & south.

e. *B. jaina formosana* Fruhstorfer, 1911
(Plate 2-4, 2-5)

Ismene jaina formosana Fruhstorfer, 1911:59; Seitz, 1927:1054.
Gecana formosana: Swinhoe, 1912:232.
Bibasis jaina formosana: Evans, 1949:47; Shirôzu, 1960:367, pl. 72, figs. 872, 873, 874, 875.
Bibasis jaina: Igarashi & Fukuda, 2000:627, plate 331.
Holotype: " Formosa, Kosempo, 24-30. VI. 08, jaina formosana Fruhst." BMNH H2388 (examined).
Description and diagnosis: Forewing length 25 mm. Male brand 2 mm. VFW cell spot larger; markings not clear. Female dorsally uniform brown.
Distribution: TAIWAN.
Early stages: Final instar larva: Head black with dorsal orange marking and 2 pairs of pale lateral dots. Thorax and abdomen velvet-black with dorsal white and yellow longitudinal lines (Maeda & Muroya, 1967).
Foodplants: Malpighiaceae: *Hiptage bengalensis* (Maeda & Muroya, 1967); Leguminosae: *Cassia fistula* (Uchida, 1984).

f. *B. jaina velva* (Evans, 1932)
(Plate 2-6)

Ismene velva Evans, 1932:318.
Bibasis jaina velva: Evans, 1949:47, pl. 1; Eliot, 1978:349.
Holotype: [MALAYSIA], " Kinabalu, Borneo, W.H. Evans, 1932-274," BMNH H2382 (examined).
Description and diagnosis: Forewing length 26 mm. Male brand 10 mm, covered with black hairs. Forewing apex pointed. VHW with purple sheen; orange scales scarce.
Distribution: THAILAND: Kao Pota; MALAYSIA: Fraser's Hill, Kinabalu.

Burara phul (Mabille, 1876)

(Plate 2-7, 2-8, Figure 31)

Ismene phul Mabille, 11876:219; Fruhstorfer, 1911:60; Swinhoe, 1912:229; Evans, 1926:62; Seitz, 1927:1054; Evans, 1932:317.
Ismene tolo Plötz, 1886:115.
Ismene lusca Swinhoe, 1907:434; Fruhstorfer, 1911:60; Swinhoe, 1912:229; Seitz, 1927:1054, pl. 167.
Bibasis phul: Evans, 1949:46, pl. 12.
Burara phul: Vane-Wright & de Jong, 2003:55.
Holotype: *phul* – " Philipp[ines], Ism. Phul P. Mab., Philippinen Bd, R. Oberthür Coll. Brit. Mus. 1931-136," BMNH H2380 (examined); *tolo* – could not be located, TL: Celebes; *lusca* – [INDONESIA], " Celebes, Crowley Bequest 1901-78, Ismene lusca ♀ Swinhoe Type," BMNH (examined).
Description and diagnosis: Forewing length 23 mm. Male brand 7 mm. Hindwing apex concaved. DHW costa white; dorsum widely orange. VHW dorsum orange.
Distribution: INDONESIA: Sulawesi (Bantimurung, Dongala, Tombuga, Bontain, palu, Tawaya), Buton; "India Boreal."
Remarks: The type locality on the label is erroneous.

Burara nishiyamai Chiba & Tsukiyama new species

(Plate 2-9, Figure 32)

Description:Forewing length 22.5 mm. DW brown with orange scales and hairs at base. DFW male brand 4.5 mm. DHW costa white; tornal orange 4 mm. VW dark brown with purple sheen. VFW tornal area white; with a trace of postdiscal orange spots. VHW with postmedian row of pale orange spots. Male genitalia: Uncus elongated as in *anadi*; valva similar to *oedipodea*, costa stuck out dorsally, harpe longer, beak-like at tip; aedoeagus strongly curved.
Holotype: ♂ "Sumbawa Isl., Lesser Sunda, INDONESIA, Nov. 1997," KMNH. Paratype: ♀ Same locality as the holotype, Oct. 1995, HT.
Distribution: INDONESIA: Sumbawa.
Remarks: This species is known only from a pair of type specimens. It is the sole species of *Burara* distributed in the east of Selat Lombok. The taxonomic position of *nishiyamai* is not certain. The overall characters suggest its close relationship with *oedipodea* .

Burara etelka (HEWITSON, 1867), 2 subspecies

a. *B. etelka etelka* (Hewitson, 1867)

(Plate 2-10, 2-11, Figure 33a)

Ismene etelka Hewitson, 1867:[Ismene], figs, 14, 15; Fruhstorfer, 1911:60; Evans, 1926:62; Seitz, 1927:1054, pl. 167; Evans, 1932:318.
Burara etelka: Swinhoe, 1912:239, pl. 749, figs. 2, 2a, b; Osada et al., 1999: Plate 130..
Bibasis etelka: Evans, 1949:48; Eliot, 1978:350; de Jong & Treadaway, 1993b:11; Monastyrskii & Devyatkin, 2003:41; de Jong & Treadaway, 2007:7.
Holotype: [MALAYSIA], "Sarawak, Hewitson Coll. 79-69, Ismene etelka 2," BMNH H2383 (examined).
Description and diagnosis: Forewing length 32 mm. Male brand absent. DHW costa grayish yellow. VHW covered with orange scales.
Distribution: MYANMAR: Karen Hill, Pegu, Mergui; LAOS; VIETNAM: north; MALAYSIA: Malacca, Penang, Cameron Highlands, Keningau, "Borneo"; SINGAPORE; INDONESIA: Sumatra (Lebong Tandai, "W. Sumatra"), Nias; PHILIPPINES: Palawan, Mindanao.
Remarks: Specimens from Mindanao are small and different in the shape of the tip of valva. Further research is needed to confirm its taxonomic status.

b. *B. etelka imperialis* (Plötz, 1886)

(Plate 2-12, 2-13, 3-1, Figure 33b)

Ismene imperialis Plötz, 1886:115; Seitz, 1927:1055; Evans, 1932:318.
Bibasis castinoides Van den Bergh, 1922:213.
Bibasis imperialis: Evans, 1949:48, pl. 12.
Bibasis imperialis veteratrix Detani, 1983:27, 58, pl. 4, fig. 5, 6. new synonym.
Burara imperialis: Vane-Wright & de Jong, 2003:55.
Holotypes: *imperialis* – could not be located, TL: Celebes; *castinoides* – could not be located, TL: Minahassa; *veteratrix* – female, [INDONESIA], Peleng Is., Benta, Nov. 1, 1982. In Detani Collection, Osaka, Japan.
Description and diagnosis: Larger. Forewing length 36 mm. Male: DW pale grayish brown with darker veins. DHW costa cream yellow. VW dark blue with blue-black stripes. VFW widely white from costa to dorsum. Female: DW dark blue. VW darker than male. Cilia white.
Distribution: INDONESIA: Sulawesi (Bantimulung, Palopo, Macassar, Maros & Tjamba), Bangkei, Peleng.
Remarks: The female from Peleng is smaller and greenish. It was described as a subspecies *veteratrix*. However, the marking still within the range of *imperialis*.

Burara harisa (MOORE, 1865), 7 subspecies

a. *B. harisa harisa* (Moore, 1865)

(Plate 3-2, 3-3, Figure 34b)

Ismene harisa Moore, 1865:782; Elwes & Edwards, 1897:293; Fruhstorfer, 1911:61; Seitz, 1927:1053, pl. 167.
Choaspes harisa: de Nicéville, 1883:84, pl. x, fig. 8.
Ismene harisa asambha Fruhstorfer, 1911:61; Seitz, 1927:1053.
Burara harisa: Swinhoe, 1912:238, pl. 749, figs. 1, 1a, b; Osada et al., 1999:Plate 130..
Burara asambha: Swinhoe, 1912:240.
Bibasis harisa harisa: Evans, 1949:48, pl. 12; Monastyrskii & Devyatkin, 2003:41.
Holotypes: *harisa* – could not be located, TL: Darjeeling or Bengal; *asambha* – [VIETNAM], "Tonkin, Than-Moi, Juni-Juli, H. Fruhstorfer, Fruhstorfer Coll. BM 1933-131, harisa asambha Fruhst.," BMNH H2398 (examined).
Description and diagnosis: Male genitalia: valva tapered.
Distribution: INDIA: Sikkim, Naga Hills, Khasia Hills, Assam, Shillong; MYANMAR: Shan States, Rangoon, Tenasserim, Maymyo, Tilin Yaw; CHINA: Hainan; THAILAND: Chaing Dao, Chaing Mai, Chantaburi, Fang, "W. Siam"; LAOS; VIETNAM: north & central.
Bionomics: The adults fly in November at 2300 ft in Nepal (Smith, 1981).

b. *B. harisa andamana* Chiba & Tsukiyama new subspecies

(Plate 3-4)

Description: Forewing length 29 mm. Wings paler than *harisa*. DHW costal cream yellow area extends beyond vein 7. VHW with orange streaks between veins; pale discal markings conspicuous.
Types: Holotype: ♂, South Andaman, 17. 5. 27, Tytler Coll. B.M. 1939-614, BMNH; Paratypes: ♂, Andaman Is., ex coll Hamilton Druce 1919, J.J.Joicey Coll. BM 1925-451, BMNH; ♂, Andaman, Port Villa, 26. IV. 1982, Nakamoto Coll., HT; ♀, Port Villa, 22. IV. 1982, Nakamoto Coll., HT.

c. *B. harisa consobrina* (Plötz, 1884)

(Plate 3-5, Figure 34a, e)

Ismene consobrina Plötz, 1884:116, pl. xvi.
Ismene harisa: Pipers & Snellen, 1910:20, pl. VII, figs. 25a, b, c.
Ismene harisa moncada Fruhstorfer, 1911:61; Seitz, 1927:1053.
Ismene harisa crinatha Fruhstorfer, 1911:61.
Burara moncada: Swinhoe, 1912:240.
Burara crinatha: Swinhoe, 1912:240.
Ismene harisa consobrina: Seitz, 1927:1053.
Ismene distanti Evans, 1932:319.
Bibasis harisa consobrina: Evans, 1948: 48, pl. 12; Eliot,

1978:349, pl. 26, fig. 1; de Jong & Treadaway, 1993:11.
Bibasis harisa: Igarashi & Fukuda, 2000:626, plate 330.
Types: *consobrina* – could not be located, TL: Java; *moncada* – [MALAYSIA], "Malaka, H. Fruhstorfer, Fruhstorfer Coll. BM 1933-131, harisa moncada Fruhst.," BMNH H2399 (examined); *crinatha* – [INDONESIA], "Java Occident. Mons Gede 4000', Aug. 1892, H. Fruhstorfer, Fruhstorfer Coll. 1933-131, harisa crinatha Fruhst.," BMNH H2401 (examined); *distanti* – Holotype: "Singapore, 96-10, Burara distanti Swinhoe ♂ Type" BMNH H 2400 (examined); Paratype: Female, "Singapore, H.N. Ridney 99-126," BMNH (examined).
Description and diagnosis: Forewing length 24 mm. DHW costal cream yellow not extend beyond vein 7. Male genitalia: tip of valva wider.
Distribution: MALAYSIA: Cameron Highlands, Thei Ping, "Malacca," "Borneo"; SINGAPORE; INDONESIA: Sumatra (Battak), Banka, Java (Arjou, "Occi," "Merid"), Bali.
Early stages: Pipers & Snellen (1910) describe and illustrate the larva from Java. The final instar larva is "dull bone-white, with dark dorsal stripes and spots. The head [is] red with black dots" (Eliot, 1978). Igarashi & Fukuda (2000) describe and illustrate the larva from Malaya. Final instar larva: Head orange with 10 black dots. Thorax and abdomen yellow with dorsal black markings and white longitudinal lines.
Foodplant: Zingiberaceae: *Zingiber zerumbet* (Pipers & Snellen, 1910; Eliot, 1978); Rubiaceae: *Urophyllum arboreum* (Igarashi & Fukuda, 2000).
Bionomics: The adults are "found in clearings with low-growing vegetation near the forest edge" (Eliot, 1978).
Remarks: Fruhstorfer intended to describe two subspecies from Sumatra and Borneo respectively. However, he neglected to do so. There are "types" of these undescribed taxa in BMNH: a male named *harisa sumara* Fruhst. from Sumatra and unnamed male from N. Borneo.

d. *B. harisa niasana* Swinhoe, 1912
(Plate 3-6, 3-7, Figure 34c)

Burara niasana Swinhoe, 1912:240.
Bibasis harisa niasana: Evans, 1949:49.
Types: Lectotype: [INDONESIA], "H.T., Sitoli, Nias, Swinhoe Coll. 1916, J.J. Joicey Coll. B.M. 1925-451, 579, Burara niasana ♂ Swinhoe Type'" BMNH H2397 (examined); Paralectotypes: 2 ♂♂, 2 ♀♀, same as the lectotype, BMNH (examined).
Description and diagnosis: Forewing length 26 mm. Dorsal wings paler. Ventral wings, marking broad, reaches termen. Male genitalia: tip of valva somewhat wider than *harisa*.
Distribution: INDONESIA: Nias, Simalure.
Remarks: Swinhoe (1912) described this taxon from 8 male and 3 female syntypes. In recent search in BM, 3 males and 2 females were found in the collection. One of the male had a red label with "H.T." on it. Therefore, the author designated the male as a lectotype and the rest as paralectotypes.

e. *B. harisa pala* de Jong & Treadaway, 1993
(Plate 3-8, Figure 34d)

Bibasis harisa pala de Jong & Treadaway, 1993a:450; 1993b:11; 2007:7.
Holotype: ♂ [PHILIPPINES], Palawan, Irawan, 1500 ft, 21. v. 1975. In RMNH.
Description and diagnosis: Male genitalia, valva not narrown; distal edge straight.
Distribution: PHILIPPINES: Palawan.

f. *B. harisa grandis* de Jong & Treadaway, 1993
Bibasis harisa grandis de Jong & Treadaway, 1993a:450; 1993b:11; 2007:7.
Holotype: ♂ [PHILIPPINES], C. Samar, Hinabangan, 600 ft. 30. iv. 1992. In Treadaway collection.
Description and diagnosis: Larger. Forewing length 26 – 29 mm. Antenna black. Male genitalia, tip of valva narrower than those of other subspecies.
Distribution: PHILIPPINES: Dinagat, Samar.

g. *B. harisa aphrodite* (Fruhstorfer, 1905)
(Plate 3-9, 3-10, Figure 34f)

Ismene aphrodite Fruhstorfer, 1905:141.
Ismene mangolina Evans, 1932:319.
Bibasis harisa aphrodite: Evans, 1949:49, Plate 12.
Bibasis aphrodite: de Jong & Treadaway, 1993a:451.
Burara aphrodite: Vane-Wright & de Jong, 2003:55.
Holotypes: *aphrodite* – ♀, [INDONESIA], "Nord-Celebes, Toli-Toli, Nov. – Dez. 1895, H. Fruhstorfer, Fruhstorfer Coll. BM 1933-131, aphrodite Fruhst.," BMNH H2402 (examined); *mangolina* – ♂, [INDONESIA], "Sula mangoli 10. 97, W.H. Evans, BM 1932-274," BMNH H2403 (examined).
Description and diagnosis: Forewing length 26 mm. DW pale grayish brown. Forewing costa not orange. Hindwing costa cream yellow. VW black with metallic blue stripes. VFW dorsum white. Male genitalia: tip of valva round.
Distribution: INDONESIA: Sulawesi (Bonthain, Palopo, Camba), Peleng, Buton, Sula Mangoli.

Burara gomata (Moore, 1866), 7 subspecies

a. *B. gomata lara* (Leech, 1894)
(Plate 3-11, 3-12)

Ismene gomata var. *lara* Leech, 1894:634, pl. xxxix, fig. 12.
Ismene lara: Elwes & Edwards, 1897:295, pl. xx, fig. 14.
Bibasis gomata lara: Evans, 1949:50.
Holotype: Male. [CHINA], "Moupin, Kricheldorff coll. July 1890, Leech Coll. 1901-173, Ismene gomata var lara c.," BMNH

H2402 (examined).
Description and diagnosis: Forewing length 27 mm. Darker. DHW discoidal cell greenish white; costa not paler.
Distribution: CHINA.
Early stages: There is a specimen of a pupa in BMNH.

b. *B. gomata kanara* (Evans, 1926)
(Plate 3-13)

Ismene kanara Evans, 1926:63.
Ismene gomata: Bell, 1924:138.
Bibasis gomata kanara: Evans, 1949:50.
Holotype: "S. India, N. Kanara, T.R. Bell 1921-36, Samnklao 18-11-19," BMNH H2405 (examined).
Description and diagnosis: Forewing length 23 mm. VHW dark streak at end of vein 5 short and not reaching cell end.
Distribution: INDIA: Bombay, Kanara.
Early stages: Bell (1924) describes the life cycle.

c. *B. gomata gomata* (Moore, 1866)
(Plate 4-1)

Ismene gomata Moore, 1866:783; Elwes & Edwards, 1897:295; Fruhstorfer, 1911:61.
Choaspes gomata: de Nicèville, 1883:83, pl. x, fig. 7.
Bibasis gomata gomata: Evans, 1949:50; Monastyrskii & Devyatkin, 2003:41.
Holotype: Male, [INDIA], "Darjiling 79.57," BMNH H2406 (examined).
Description and diagnosis: Forewing length 25 mm. VW greenish. VHW dark streak at vein 5 reaches cell end.
Distribution: INDIA: Darjiling, Sikkim, Assam; VIETNAM.

d. *B. gomata lalita* (Fruhstorfer, 1911)
(Plate 4-2, 4-3)

Ismene gomata lalita Fruhstorfer, 1911:61.
Ismene gomata vajra Fruhstorfer, 1911:61.
Bibasis gomata lalita: Evans, 1949:50.
Burara gomata: Osada et al., 1999:Plate 130.
Holotype: *lalita* – [INDONESIA], "W. Sumatra, H. Fruhstorfer, Fruhstorfer Coll. B.M. 1933-131, gomata lalita Fruhst., BMNH H2407 (examined); *vajra* - Java occident, Sukabumi, 2000, 1893, H. Fruhstorfer, gomata vajra Fruhst.," BMNH H2408 (examined).
Description and diagnosis: Forewing length 24 mm. VW darker, brownish than greenish. Female, dull metallic blue with trace of spots in spaces 2 and 3. DHW costa paler.
Distribution: MYANMAR; LAOS; CHINA: Hainan, Hong Kong; MALAYSIA: Cameron Highlands, Sabah (Keningau); INDONESIA: Sumatra ("N. E. Sumatra"), Java; PHILIPPINES: Palawan.
Early stages: Pipers & Snellen (1910) and Johnston & Johnston (1980) illustrate larva. Final instar larva: Head orange with 10 black spots. Thorax and abdomen greenish yellow with longitudinal white lines and black dots.
Foodplants: Araliaceae: *Schefflera lurida, S. octophylla* (Igarashi & Fukuda, 2000), *Trevesia sundaica*; Myrsinaceae: *Embelia garciniaefolia*; Myristicaceae: *Horsfieldia* (Johnston & Johnston, 1980), *H. aculeate* (Pipers & Snellen, 1910).

e. *B. gomata lorquini* (Mabille, 1876)
(Plate 4-4, 4-5, Figure 35)

Ismene lorquini Mabille, 1876a:10; 1876b:266.
Choaspes lorquini: Semper, 1886.
Ismene gomata lorquini: Fruhstorfer, 1911:62.
Ismene gomata mindorana Fruhstorfer, 1911:62.
Bibasis gomata lorquini: Evans, 1949:51; de Jong & Treadaway, 1993b:12; 2007:7.
Bibasis gomata: Igarashi & Fukuda, 2000:622, plate 328.
Holotype: ♀, [PHILIPPINES], "Manila, R. Oberthür coll. Brit. Mus. 1931-136, Ex. Musæo Dris Boisduval," BMNH H2409 (examined).
Description and diagnosis: Dorsal wings paler. Female: DFW metallic blue with conspicuous white spots in space 2 and 3.
Distribution: PHILIPPINES: Luzon, Mindoro, Marinduque, Leyte, Negros.
Early stages: Igarashi & Fukuda (2000) describe and illustrate the early stages. Final instar larva: Head orange with 10 black dots. Thorax and abdomen dorsally yellow with a row of black dots in each segment.
Foodplant: Araliaceae: *Schefflora actinophylla*.

f. *B. gomata minda* Chiba & Tsukiyama new subspecies
(Plate 4-6)

Description: Forewing length 27 mm. Similar to *lorquini*, but, in female, dorsal side of head darker, VHW bluish, and white spots on forewing reduced (in some specimens spots are almost absent).
Holotype: ♀, "Surigao, Mindanao Is., Philippines, Mar. 1982." KMNH.
Distributin: PHILIPPINES: Mindanao.

g. *B. gomata radiosa* (Plötz, 1885)
(Plate 4-7, 4-8)

Ismene radiosa Plötz, 1885:232.
Burara radiosa: Swinhoe, 1908:33, pl. iii, fig. 5, 6.
Bibasis gomata radiosa: Evans, 1949:51.
Burara gomata radiosa: Vane-Wright & de Jong, 2003:55.
Holotype: *radiosa* – The "type in coll. Erhardt" (Swinhoe, 1908).
Description and diagnosis: Forewing length 24 mm. Similar to *lorquini*, but paler. Female DFW spots absent.

Distribution: INDONESIA: Sulawesi (Macassar, Maros & Tjamba, Makian, Palu, Palolo, Bantimurung), Bangkai.

Burara vasutana (Moore, 1866)

(Plate 4-9, 4-10, Figure 36)

Ismene vasutana Moore, 1866:782; Elwes & Edwards, 1897:294; Fruhstorfer, 1911:62.
Choaspes vasutana: Watson, 1891:8.
Ismene vasutana rahita Fruhstorfer, 1911:62.
Burara vasutana burma Evans, 1934:33.
Bibasis vasutana: Evans, 1949:49, pl. 12; Monastyrskii & Devyatkin, 2003:41.
Bibasis unipuncta Lee, 1962:141, 146, pl. iii, fig. 23, 26. new synonym.
Burara vasutana: Osada et al., 1999: Plate 130.
Holotypes: *vasutana* – [INDIA], " Darjiling 79.64 Ind. Mus., vasutana Moore Type!" BMNH H2392 (examined); *rahita* – [INDIA], " Assam, Khasi Hills, ex. coll. H. Fruhstorfer, Fruhstorfer coll. BM 1933-131, vasutana rahita Fruhst.," BMNH H2393 (examined); *burma* – "Burma, Karens 4. 26, W H Evans, B.M. 1932-274," BMNH H2394 (examined); *unipuncta* – could not be located, TL: Yunnan.
Description and diagnosis: Forewing length 27 mm. Male DW brown with orange hairs at base. Hindwing cilia orange or yellow. VHW metallic green with metallic blue stripes. Female DW brown with blue sheen; base widely metallic green; with hyaline spots in space 2 and 3.
Distribution: INDIA: Sikkim, Assam, Khasi, Naga, Darjiling, Bengal; NEPAL; MYANMAR; THAILAND: Chaing Dao; " Thandaung"; LAOS; VIETNAM: north & central; CHINA: Yunnan.

Burara amara (Moore, 1866)

(Plate 4-11, Figure 37)

Ismene amara Moore, 1866:783; Elwes & Edwards, 1897:295; Fruhstorfer, 1911:62.
Choaspes amara: Watson, 1891:8.
Ismene amara pindapatra Fruhstorfer, 1911:62.
Bibasis amara: Evans, 1949:50, pl. 12; Monastyrskii & Devyatkin, 2003:41.
Burara amara: Osada et al., 1999:Plate 130.
Holotypes: *amara* – [INDIA], " Bengal, Moore Coll. 1908-208, Ismene amara [male] Moore (Type)," BMNH H2395 (examined); *pindapatra* – [INDIA], " Assam, H. Fruhstorfer, Fruhstorfer Coll. B.M. 1933-131, amara pindapatra Fruhst.," BMNH H2396 (examined).
Description and diagnosis: Forewing length 23 mm. DW brown; male brand on both sides of vein 1, 2 and 3. VW pale bluish green with blue stripes.
Distribution: INDIA: Sikkim, Darjiling, Pedong, Bengal, Assam, Khasi, Andaman (Port Villa); MYANMAR: Shan States, Maymyo; THAILAND: Chaing Rai, Chang Dao, Mewong, Fang, Chantaburi; LAOS; VIETNAM: north & central; CHINA: Hainan.

Burara miracula Evans, 1949

(Plate 4-12, Figure 38)

Bibasis miracula Evans, 1949:49, pl. 12; Monastyrskii & Devyatkin, 2003:41..
Holotype: [CHINA], " Kuatun (2500m) 27, 40n Br, 117, 406L, Klapperich, 18.6.1938 (Fukien), Brit. Mus. 1939-517," BMNH (examined).
Description and diagnosis: Forewing length 33 mm. DW brown; base clothed with dark yellow hairs. VW green with stripes. Similar to *striata*, bur larger. Male genitalia: Valva not elongate and pointed as in *striata* and *aquilina*.
Distribution: CHINA: Fukien (Kuatung); VIETNAM: Thua Thien Hue.
Remarks: Female unknown.

Burara striata (Hewitson, 1867)

(Plate 5-1, 5-2, Figure 39a)

Ismene striata Hewitson, 1867:[102], pl. [54], fig. 6, 7; Evans, 1926:62; 1932:319; Shepard, 1933:30.
Ismene septentrionis Felder & Felder, 1867:523, pl. lxxiii, fig. 3; Elwes & Edwards, 1897:294; Fruhstorfer, 1911:62.
Bibasis striata: Evans, 1949:49, pl. 12.
Holotypes: *striata* – "China, Hewitson Coll 79-69, Ismene striata 1," BMNH H2390 (examined); *septentrionis* – [CHINA], "52 Ismene n s, Shanghai, coll Felder, septentrionis n., Rothschild Bequest B.M. 1939-1," BMNH H2391 (examined).
Description and diagnosis: Forewing length 28 mm. DW yellowish brown with brands above vein 1 and on both sides of vein 2 and 3. VW green. Similar to *miracula*, but smaller. Male genitalia of *striata* and *aquilina* almost identical.
Distribution: CHINA: Kwanshien, Moupin, Omei Shan, Ta-tsien-lou, Tien Tsien, Siao-Lou, Tse Kou; S. KOREA: Kwangnung.

Burara aquilina (Speyer, 1879), 3 subspecies

a. *B. aquilina chrysaeglia* (Butler, 1881)

(Plate 5-3, 5-4, Figure 39b)

Proteides chrysaeglia Butler, 1881:856.
Bibasis aquilina chrysaeglia: Evans, 1949:51; Kawazoé & Wakabayashi, 1976:306, pl. 67, fig. 6a, b, c.
Holotype: [JAPAN], "Yesso, 80.25," BMNH H2416 (examined).
Description and diagnosis: Forewing length 22 mm. Wings uniformly yellowish brown. Male brand absent. Female with yellow spots in spaces 2 to 7 and discoidal cell on DFW.
Distribution: JAPAN: Hokkaido, Honshu, Shikoku, Kyushu.

Early stages: Final instar larva: Head reddish orange with a pair of ventro-lateral black dots. Thorax and abdomen greenish brown with white longitudinal lines.
Foodplants: Araliaceae: *Kalopanax pictus*; Hamamelidiaceae: *Hamamelis japonica* (Fukuda et al., 1984).

b. *B. aquilina aquilina* (Speyer, 1879)
(Plate 5-5)

Ismene aquilina Speyer, 1879:346; Elwes & Edwards, 1897:296; Mabille, 1906:342, pl. 86; Evans, 1926:61; 1932:317.
Ismene jankowskii Oberthür, 1880:23, pl. I, fig. 2.
Bibasis aquilina aquilina: Evans, 1949:51, pl. 12.
Description and diagnosis: Forewing length 24 mm. Darker than *chrysaeglia*. VFW spots in space 2 and 3 equal. Similar to *striata* and *miracula*, but VW uniform brown.
Holotypes: *aquilina* – could not be located, TL: Vladivostok: *jankowskii* – [RUSSIA], "Ile Askold, 42 1/2° lat N 102° long (Mantschourte), M. Jankowski 1878, R. Oberthür Coll. Brit. Mus. 1931-186," BMNH (examined).
Distribution: RUSSIA: Amur, Ile Askold; KOREA.

c. *B. aquilina siola* (Evans, 1934)
(Plate 5-6, Figure 39c)

Bibasis aquilina siola Evans, 1934:34; 1949:51.
Holotype: [CHINA], "Siao-Lou, Chasseurs Indigenes du P. Dejean 1903, R. Oberthür Coll. Brit. Mus. 1931-186," BMNH (examined).
Description and diagnosis: Forewing length 24 mm. Darker and grayish. VFW marking triangule. Male genitalia: harpe shorter than that of *chrysaeglia*; costa not beyond dorsal edge.
Distribution: CHINA: Sichuan (Kanding [Ta-tsien-Lou]), Siao Lou, Kiao-Chuy, Tien Tsuen, Moupin.
Remarks: Female unknown.

Genus *Bibasis* MOORE, 1881

Bibasis Moore, 1881:160. Type species: *Goniloba sena* Moore, 1866 by original designation.
Sartora Swinhoe, 1912:229. Type species: *Ismene ionis* de Nicéville, 1895 by original designation.
Tothrix Swinhoe, 1912:233. Type species: *Ismene mahintha* Moore, 1874 by original designation.
Generic characters: Male hind tibia with hair pencil covered with shiny scales. Forewing: discoidal cell as long as dorsum; vein 1b gently bisinuate; origin of vein 11 basad of origin of vein 3. Hindwing: origin of vein 7 closer to origin of vein 2 than vein 3; vein 5 present. Male brand, if conspicuous, composed of fine black hairs. Male genitalia: uncus + termen very short relative to vinculum; uncus bifurcated; juxta simple, V-shaped.
Distribution pattern: Two species groups have sympatric distribution (Figure 12). *B. sena* is found from Sri Lanka through Sundaland to the Philippines, Sulawesi and Lesser Sunda Islands. The other species group has disjunct distribution. *B. mahintha* is found only from Myanmar and Thailand. There is no representative in Sundaland. *B. nestor* is found in Java as well as in Lessor Sunda Islands. *B. illuska* is restricted to Sulawesi and adjacent islands. No representative is known from the Philippines. The missing elements remain to be found.
Larval foodplant: Combretaceae, Malpighiaceae, and Nyctaginaceae.

Most authors, including Evans (1949), have treated this genus as congener with *Burara*. However, the author treats *Bibasis* as a separate genus because the male genitalic characters are distinctly different from those of *Burara*. Since *Bibasis sena* and *B. iluska* lie among other *Bibasis* taxa in his phylogenetic tree, de Jong (2007) rejects the idea of spreading the genus into two. Adults of *Bibasis* are diurnal, while *Burara* are crepuscular. The genus consists of 4 species and 9 subspecies.

Key to the species of *Bibasis*

1. Forewing, brand in male black and conspicuous 2
1. Forewing, brand not conspicuous. Wings produced as in *Hasora*. Ventral side of the hindwing with discal sharp white band .....*B. sena*
2. Forewing, brand regular 3
2'. Forewing, brand irregular, divided into three lines and a small dot .....*B. mahintha*
3. Ventral side of the hindwing with a narrow discal band. Forewing, brand narrow (1 mm) .....*B. nestor*
3'. Ventral side of the hindwing with a trace of pale band. Forewing, brand wide (3 mm) .....*B. iluska*

Bibasis sena (MOORE, 1866), 6 subspecies

a. *B. sena sena* (Moore, 1866)
(Plate 5-7)

Goniloba sena Moore, 1866:778.
Hesperia sena: Butler, 1870:58.
Ismene sena: Druce, 1873:359.
Bibasis sena: Watson, 1893:128; Mabille, 1904:87; Swinhoe, 1912:244, pl. 750, figs. 2, 2a, b, c, d; Osada et al., 1999:Plate 130.
Bibasis sena sena: Seitz, 1927:1052; Evans, 1932:320; 1949:52, pl. 12; Pinratana, 1985:17, pl. 4, 10a; Monastyrskii & Devyatkin, 2003:42.
Holotype: ♂, [INDIA], "Deyra Doon [Dehra Dun], Moore Coll. 1908-208," BMNH H2423 (examined).
Description and diagnosis: VW with purple sheen; white band outwardly diffuse.
Distribution: SRI LANKA; INDIA: Bombay, Sikkim, Assam, Naga Hills, Manipur; MYANMAR: Maymyo; THAILAND: Chantaburi, "S.E. Siam"; LAOS; VIETNAM: central; CHINA:

Hainan.
Early stages: Davidson et al. (1897) describe the larval and pupal stages. Larva: Head bright red, checkered with black dots. Thorax and abdomen with lateral yellow line perpendicular to midline. Pupa with transparent-looking dirty patch in the middle of thorax.
Foodplants: Combretaceae: *Combretum extensum* (Davidson et al., 1897), *C. ovalifolium*; Malpighiaceae: *Hiptage madablota*.
Bionomics: Adults fly in the morning (8:00 – 11:00) and often found on hilltops.
Remarks: *G. sena* was first published by Moore in 1857, but it was a *nomen nudum*. Moore's publication in 1866, then, has a valid original description of this taxon (Hemming, 1967). Swinhoe (1912) mentioned that "the type male [was] marked Bengal," and so did Evans (1949). The holotype the author examined, however, was marked "Deyra Doon [Dehra Dun]" which is more than 1,500 km northwest of Bengal.

b. *B. sena uniformis* Elwes & Edwards, 1897
(Plate 5-8)

Bibasis uniformis Elwes & Edwards, 1897:305, pl. 27; Mabille, 1904:87; Swinhoe, 1912:245; Fleming, 1975:57, pl. 78, H6.
Bibasis sena uniformis: Evans, 1932:320; 1949:53; Eliot, 1978:350; Pinratana, 1985:17, pl. 4, 10b; Maruyama, 1991:3, pl. 3, H7; Monastyrskii & Devyatkin, 2003:42.
Bibasis sena: Igarashi & Fukuda, 2000:628, plate 332.
Holotype: ♂, [INDONESIA], "Java, Pipers, Ex. coll. H.J. Elwes 1920, J.J. Joicey coll. BM 1925-451," BMNH H2424 (examined).
Description and diagnosis: VHW purple sheen stronger than sena; band narrower, 1.5 mm, sharply edged on both sides, narrower toward 1c and at costa, extended upwards along 1c.
Distribution: MYANMAR: Shan st., Ataran valley; VIETNAM: south; MALAYSIA: Kedah, "Malakka," Sabah [Borneo](Kinabalu); INDONESIA: Sumatra ("W. Sumatra," labong Tandai, "N.E. Sumatra," Battak Mts., Selesseh), Babi, Java (Plaboan, Djampangs), Bali, Marapok, Bawean, Sumba, Lombok.
Foodplants: Combretaceae: *Combretum latifolium*, *Urophyllum arboreum* (Maruyama, 1991); Nyctaginaceae: *Pisonia grandis* (Igarashi & Fukuda, 2000).
Bionomics: Adults can be found in large numbers in secondary forests and around villages.

c. *B. sena palawana* (Staudinger, 1889)
(Plate 5-9, Figure 40)

Ismene sena var. *palawana* Staudinger, 1889:139.
Bibasis sena palawana: Seitz, 1927:1052, pl. 166; Evans, 1949:53; de Jong & Treadaway, 1993b:12; 2007:8.
Holotype: could not be located, TL: Palawan.
Description and diagnosis: Between *uniformis* and *vaicravana* with wider band (2.5 mm). Ventral side purple sheen not so strong.
Distribution: PHILIPPINES: Palawan.

d. *B. sena vaicravana* Fruhstorfer, 1911
(Plate 5-10)

Bibasis sena var. *palawana*: Semper, 1892:292.
Bibasis sena vaicravana Fruhstorfer, 1911:78; Seitz, 1927:1052, pl. 166.
Bibasis vicravana [sic!]: Swinhoe, 1912:245.
Bibasis sena palawana: Evans, 1949:53.
Holotype: could not be located, TL: Luzon.
Description and diagnosis: Wings paler, with no purple sheen. VHW band 2.5 mm, sharply edged; trace of white band reaches dorsum.
Distribution: PHILIPPINES.

e. *B. sena senata* Evans, 1934
(Plate 5-11)

Bibasis sena senata Evans, 1934:34; 1949:53; Vane-Wright & de Jong, 2003:56.
Holotype: ♂, [INDONESIA], "Celebes, Merid. Picde Bonthain, 1000 a 2000 meters, W. Doherty 1896, Oberthür Coll., Brit. Mus. 1931-186," BMNH H2425 (examined).
Description and diagnosis: Similar to *uniformis*, but larger (forewing length 22 mm).
Distribution: INDONESIA: Sulawesi (Ujung Pandang [Macassar], Maros & Tjamba, Bonthain, Palu [Paloe], "S. Celebes"), "Boongai," "Makian."

f. *B. sena alor* Chiba & Tsukiyama new subspecies
(Plate 5-12)

Description: Larger, forewing length 24 mm. DW dull brown. VW without purple sheen. VFW white area reaches mid discoidal cell; band white, 3 mm. Cilia yellowish brown.
Types: Holotype: ♂, "Alor Isl., INDONESIA, Lesser Sunda, 11 Mar 1980'" (will be deposited into KMNH). paratypes: ♂, "2 Mar 1980, Alor, INDONESIA, Col. Y. NISHIYAMA," ; 2 ♂♂ "Alor Is., Lesser Sunda, INDONESIA, Mar 1986," (paratypes are in HT).
Distribution: INDONESIA: Alor.

Bibasis mahintha (Moore, 1875)

(Plate 5-13, 5-14, Figure 41)

Ismene mahintha Moore, 1875:575, pl. 67; Elwes & Edwards, 1897:295; Mabille, 1904:90; Seitz, 1927:1055; Evans, 1932:317, pl. 30.
Tothrix mahintha: Swinhoe, 1912:233, pl. 747, figs. 3, 3a, b.

Bibasis iluska mahintha: Evans, 1949:52, pl. 12; Pinratana, 1985:17, pl. 3, fig. 9.
Bibasis mahintha: Osada et al. 1999:Plate 130; Monastyrskii & Devyatkin, 2003:41.
Types: Holotype: ♂, "Burma, Ismene mahintha (type) Moore, Moore coll. 1908-208," BMNH H2419 (examined). Paratype: ♀, "Allotype, Burma, Moore Coll. 1908-208," BMNH (examined).
Description and diagnosis: Male brand on DW irregular. DW brown with broad orange area. DFW with small hyaline spots in space 2 and 3, which may be absent in male. VHW unmarked.
Distribution: MYANMAR: Manipur, Kalewa, Maymyo, Shan St., Karen Hills, "Yunan," "Pauk Yaw," "Ruby Mires," "Thityabonk," "Bernardomyo," "Kalaw," "Haundraw," "Mt. Popa,"; THAILAND: Chang Dao; LAOS; VIETNAM: Dong Nai.

Bibasis nestor (MÖSCHLER, 1878)

(Plate 6-1, 6-2, Figure 42)

Ismene nestor Möschler, 1878:208; Seitz, 1927:1053, pl. 166; Evans, 1932:317.
Ismene firdusi Plötz, 1884.
Ismene atrinota Mabille, 1891:78; 1904:90.
Ismene antigone Röber, 1891:320.
Ismene ionis de Nicéville, 1895:403; Mabille, 1904:87.
Bibasis sambavana Elwes & Edwards, 1897:305, pl. 27; Mabille, 1904:87.
Bibasis firdusi: Swinhoe, 1908:32.
Ismene nestor zonaras Fruhstorfer, 1911:63.
Bibasis sena sambavana: Seitz, 1927:1052; Evans, 1932:320.
Holotypes: *nestor* – could not be located, TL: Java; *firdusi* – Plötz MS plate No. 1153, BMNH; *atronota* – could not be located, TL: Timor; *antigone* – could not be located, TL: Flores; *ionis* – could not be located, TL: Sumbawa; *sambavana* – ♂, [INDONESIA], "sambavana Elwes & Edwards, Type 765, J.J. Joicey coll BM 1925-451," BMNH H2420 (examined); *zonaras* – ♂, [INDONESIA], "Wetter, Fruhstorfer, Fruhstorfer coll. BM 1933-31, nestor zonaras Fruhst.," BMNH H2421 (examined).
Description and diagnosis: Male brand regular and narrow. DFW uniformly pale brown. VHW with narrow white band.
Distribution: INDONESIA: Java ("W. Java," "Soekaboemi," Gedeh, "Java Merid"), Lombok, Sumbawa, Sumba, Flores, Alor, Wetter, Pura, Bima.

Bibasis iluska (HEWITSON, 1867)

(Plate 6-3, 6-4, Figure 43)

Ismene iluska Hewitson, 1867; Mabille, 1904:89; Seitz, 1927:1053, pl. 168; Evans, 1932:317.
Ismene rubrocincta Mabille, 1891:lxxviii.
Bibasis iluska iluska: Evans, 1949:52, pl. 12; Vane-Wright & de Jong, 2003:56.
Bibasis iluska: Igarashi & Fukuda, 2000:622, plate 327.
Holotype: *iluska* – ♂, [INDONESIA, Sulawesi], "Makassar, Hewitson Coll 79-69, Ismene iluska Hiw. Type ♂," BMNH H2422 (examined); *rubrocincta* – could not be located, TL: Celebes.
Description and diagnosis: Male brand regular and broader (3 mm). VHW with trace of band.
Distribution: INDONESIA: Sulawesi (Ujung Pandang, Maros & Tjamba, Bonthain, Kintaboree, Palu, "Celebes Merid," "S. Celebes"), Kalao.
Early stages: Igarashi & Fukuda (2000) describe and illustrate the early stages. Final instar larva resembles *Hasora badra*-type larvae. Head orange with a pair of lateral dots, black mid line in frons, and 2 pairs of black lines along coronal suture, inner lines extend to mid frontal suture. Thorax and abdomen yellow with dorsal pale green line surrounded by white and brown pairs of lines; each segment with square or rectangle dark marking.
Foodplant: Malpighiaceae: *Hiptage lizonica*.

Genus *Allora* WATERHOUSE & LYELL, 1914

Allora Waterhouse & Lyell, 1914:215. Type species: *Ismene doleschallii* Felder, 1860 by original designation.
Generic characters: Head metallic green. Antenna longer than half length of costa. Second segment of palpi ventrally metallic. Tibia of mesothoracic leg with spines (Figure 1). hair tuft absent from metathoracic tibia. Wing venation (Figure 4c): Forewing: Origin of vein 3 opposite to origin of vein 10; origin of vein 5 at same distance from vein 4 and vein 6; discoidal cell as long as dorsum. Hindwing: Cell shorter than half width of wing. Wings dorsally dark velvet-brown with purple sheen; brilliant metallic green or blue at base; ventrally dark metallic green or brown. Male genitalia: tegumen with a pair of process. Uncus ax-shaped. Saccus very short. Valva: costa with a finger-like process; tip of harpe modified. Aedoeagus short.
Distribution pattern (Figure 13): Two species, *doleschallii* and *major*, are found together in Buru, Ceram, Ambon, Kei, Aru, New Guinea, New Britain and Northern Australia. Elsewhere in Papuan region except Solomons, either *doleschallii* or *major* is found. It is expected that both species are sympatric everywhere in their distribution range.
Larval foodplant: Malpighiaceae.
The genus consists of 2 species and 12 subspecies.

Key to the species of *Allora*

1. Ventral side of the forewing, spots in space 1b and 2 narrow, or absent, apart from the cell spot. No white streak above the cell spot. Ventral process of harpe longer than dorsal one. .....*A. doleschallii*
1'. Ventral side of the forewing, spots in space 1b and 2 wide, attach to the cell spot. Dorsal process of harpe broad and decurved, longer than ventral one .....*A. major*

Allora doleschallii (Felder, 1860), 8 subspecies

a. *A. doleschallii gazaka* (Fruhstorfer, 1911)

(Plate 6-5)

Ismene doleschalli gazaka Fruhstorfer, 1911:63.
Allora doleschallii gazaka: Evans, 1949:53.
Holotype: should have been deposited into BMNH, but could not be located, TL: Batchian.
Description and diagnosis: Basal green on DW narrow.
Distribution: INDONESIA: Batjan [Bacan].

b. *A. doleschallii viridicans* (Fruhstorfer, 1911)

(Plate 6-6)

Ismene doleschalli viridicans Fruhstorfer, 1911:63.
Allora doleschallii viridicans: Evans, 1949:53.
Holotype: ♂, [INDONESIA], "Ceram, doleschalli viridicans," BMNH H2410 (examined).
Description and diagnosis: Basal metallic blue on DW wide (6 mm). Ventral markings conspicuous; spot in space 2 attaches to spot in space 3.
Distribution: INDONESIA: Buru, Seram [Ceram], Ambon.

c. *A. doleschallii doleschallii* (Felder, 1860)

(Plate 6-7)

Ismene doleschallii Felder, 1860:460.
Hasora doleschallii: Mabille, 1904:86.
Allora doleschallii doleschallii: Evans, 1949:54, Pl. 13.
Holotype: ♀, [INDONESIA], "Molucas, Felder CollN, Rothschild Bequest BM1939-1," BMNH H2537 (examined).
Description and diagnosis: Basal metallic blue narrow. VW spot in space 2 separated from spot in space 3.
Distribution: INDONESIA: Kai.

d. *A. doleschallii albertisi* (Oberthür, 1880)

(Plate 6-8)

Ismene albertisi Oberthür, 1880:528.
Ismene strophius Miskin, 1890: 123.
Hasora raluana Ribbe, 1899:259.
Ismene doleschalli sitiva Fruhstorfer, 1911:63.
Hasora infernalis Rothschild, 1916:42.
Allora doleschallii albertisi: Evans, 1949:54.
Allora doleschalli: Lewis, 1973: pl. 184, fig. 19, 282; [*doleschallii*] Parsons, 1991: 49, pl. 1, figs. 17, 18; 1999: 145, plate II, Pl. 3, fig. 54, 55, pl. 106, fig. 2959, 2960, 2961, 2962, 2963.
Holotypes: *albertisi* – could not be located, TL: Andai, New Guinea; *strophius* – could not be located, TL: S. E. New Guinea; *raluana* – could not be located, TL: Bismarcks; *sitiva* – [INDONESIA], "Waigiu, H. Fruhstorfer, doleschalli sitiva, Fruhstorfer Coll. BM 1933-131," BMNH H2411 (examined); *infernalis* – "Snow Mts., Utakwa R., 4000-6000 ft, Jan – Febr 1913, A.F.R. Wollaston," BMNH H2412 (examined).
Description and diagnosis: Basal metallic green narrow (4 mm); VHW dark.
Distribution: INDONESIA: Biak, West Irian (Fakfak, Nabire); PAPUA NEW GUINEA: Morobe Dist. (Wau), Tapini.
Foodplant: Malpighiaceae: *Rhyssopterus timorensis* (Parsons, 1991).
Bionomics: Males are observed at salt licks and flowers of *Stachytarpheta* (Parsons, 1991).
Remarks: Wing markings on the ventral side are very variable. Examples from New Guinea often lack spots.

e. *A. doleschallii simessa* (Fruhstorfer, 1911)

(Plate 6-9)

Ismene doleschalli simessa Fruhstorfer, 1911:64.
Allora doleschalli doleschalli: Common & Waterhouse, 1972:64, pl. 2, fig. 10; 1982:17, pl. 1, fig. 10.
Allora doleschalli simessa: Barret & Burns, 1951:172.
Holotype: could not be located.
Description and diagnosis: Similar to *albertisi*, but ventral azure markings clear.
Distribution: AUSTRALIA: Banks, Thursday and Prince of Wales Is., Cape York, Magnetic Island.
Bionomics: Adults fly margins of rain forest clearings (Common & Waterhouse, 1972).

f. *A. doleschallii solon* Evans, 1949

(Plate 6-10, Figure 44)

Allora doleschallii solon Evans, 1949:54; Tennent, 2002:31, 186, Pl. 1, fig. 11, 12.
Holotype: should have been deposited into BMNH, but could not be located, TL: Aola, Guadalcanar.
Description and diagnosis: Basal metallic green wider (5 mm); wings ventrally chocolate-colored; apical spots clear; VFW costa gteen.
Distribution: PAPUA NEW GUINEA: Bougainville (Arawa, Buin, Kiete), SOLOMON ISLANDS: Guadarcanar (Aola), Choiseul, Florida Is.

g. *A. doleschallii luna* Evans, 1934

(Plate 6-11)

Allora raluana luna Evans, 1934:33.
Allora doleschallii luna: Evans, 1949:54; Tennent, 2002:31, 186, Pl. 1, fig. 13, 14.
Holotype: "Rendova, Solomins 2. 04, W.H. Evans, BM 1932-274," BMNH (examined).

Description and diagnosis: Basal metallic green narrow; ventral markings conspicuous. Spots in space 3 on VFW larger. VHW cell spot smaller.
Distribution: SOLOMON ISLANDS: Rendova.

h. *A. doleschallii cristobalensis* Tennent, 2001

Allora doleschallii cristobalensis Tennent, 2001:3, fig. 3, 13; 2002:32, 186, Pl. 1, fig. 15, 16.
Holotype: ♂, Solomon Islands, San Cristobal, above Hauta, 500 – 700 m, 3 iv 1997, W.J. Tennent, BMNH.
Description and diagnosis: Base metallic blue. VW dark grey-brown. VHW postbasal spot small; subtornal spot vestigial.
Distribution: SOLOMON ISLANDS: San Cristobal.

Allora major (ROTHSCHILD, 1916), 4 subspecies

a. *A. major zita* Evans, 1934
(Plate 6-12)

Allora major zita Evans, 1934:33; 1949:55, pl. 1.
Holotype: [INDONESIA], "Buru, 7. 21., W H Evans, BM 1932-274," BMNH H2414 (examined).
Description and diagnosis: Basal metallic blue color as in *Coeliades chalybe*, wide (10 mm); width of spots in space 1b and 2 of VFW equal.
Distribution: INDONESIA: Buru.

b. *A. major major* (Rothschild, 1916)
(Plate 7-1, Figure 45)

Hasora doleschalli major Rothschild, 1916:41.
Allora major major: Evans, 1949:55, pl. 13; Common & Waterhouse, 1982: 18, pl. 14, fig. 19; Parsons, 1999: 147, Pl II, Pl. 3, fig. 156, Pl. 106, fig. 2964, 2965, Pl. 107, fig. 2966.
Holotype: [PAPUA NEW GUINEA], "Carstenz Peak, Utakwa R., 5000-10000 ft, Febr. Mrch. 1913, A.F.R. Wollaston, Rothschild Bequest, B.M. 1939-1, B.M.(N.H.) Rhopalocera (v) No. 1263," BMNH (examined).
Description and diagnosis: Wing base metallic bluish green of between green and blue *doleschallii* in male, green in female, narrower (5 mm). VHW spot in space 2 narrower than spot in space 1b.
Distribution: PAPUA NEW GUINEA: Morobe Dist., Aroa River, Mimika R., Simbu Prov. (Kerowagi); AUSTRALIA: Claudie River.

c. *A. major lectra* Evans, 1949
(Plate 7-2)

Allora major lectra Evans, 1949:55.
Holotype: "Bosbik, Schouten Is., North N. Guinea, May & June 1914, A.C. and F. Pratt, J.J.Joicey Coll. BM 1925-451," BMNH (examined).
Description and diagnosis: Wing base bluish green; spots conspicuous. VFW costa green.
Distribution: INDONESIA: Biak.

d. *A. major talesia* Evans, 1949
(Plate 7-3)

Allora major talesia Evans, 1949:55.
Holotype: "Talesia, New Britain, January 1925, (A.F. Eichhorn), Rothschild Bequest, BM 1939-1," BMNH (examined).
Description and diagnosis: Larger (27 mm). Basal metallic blue wide (12 mm). VFW costa green; submarginal pale line not broken at vein 6.
Distribution: PAPUA NEW GUINEA: New Britain.

Genus *Hasora* MOORE, 1881

Hasora Moore, 1881:159. Type species: *Goniloba badra* Moore, 1966 by original designation.
Parata Moore, 1881:160. Type species: *Coeliades taminatus* Hübner, 1818 by original designation.
Generic characters: Antenna shorter than 1/2 length of costa. Wing venation (Figure 4b): Forewing: vein 1b acutely bisinuate near base; origin of vein 3 more basad than that of vein 11; vein 6 straight; discoidal cell shorter than dorsum.
Hindwing: origin of vein 3 very close to that of vein 4; vein 5 present; origin of vein 7 middle of origin of vein 2 and 3; cell shorter than 1/2 width of wings. Hindwing prolonged at tornus. Males often with secondary sexual characters. Females in many species with hyaline spots. Male genitalia: Uncus with two or more processes. Saccus short. Valva: costa often bifurcated and modified; tip of valva often serrate.
Distribution pattaern: Evans (1949) divided the genus into 6 groups. Here they are divided into 7 groups of 3 or 4 species. Distribution pattern of each group is considered below.

(1) The *mus*-group (Figure 14)

The members of this group are *H. mus*, *H. lizetta*, *H. salanga*, and *H. proxissima*. These 4 species have sympatric distribution in Sundaland. *H. proxissima* extends the distribution to the Philippines, New Guinea, and Solomon Islands. De Jong (1980) described *H. alta* as a distinct species from Sumatra. Judging from the photograph and the sketch of the male genitalia, the author consider *alta* a subspecies of *mus*, which fills the blank of distribution in Sumatra.

(2) The *myra*-group (Figure 15)

Four species, *H. anura, H. myra, H. wilcocksi*, and *H. zoma*, are the members. Evans (1949) described *H. danda* from Myanmar. *H. danda*, however, is a subspecies of *H. anura* from Myanmar and Indochina. Some specimens within the

range of nominotypical *anua* lack a white dot on the ventral side of the hindwing as in the key character of *danda*. However, these specimens are identical to *H. anura* in male genitalia and considered an individual variation. *H. anura* is distributed from North India to Thailand, Vietnam, China and Taiwan. It is replaced by *H. myra* and *H. zoma* in Sundaland. *H. wilcocksi* is known from a single female specimen from Tioman Island. It is a representative of this group there.

(3) The *discolor*-group (Figure 16)

Members of this group are *H. umbrina, H. buina, H. discolor* and *H. borneensis*. *H. borneensis* is found in Borneo and the Philippines. It is replaced by *H. umbrina* in Sulawesi. *H. discolor* is the representative from Moluccas to New Ireland and Australia. It is replaced by *H. buina* in Solomon Islands.

(4) The *chromus* –group (Figure 17)

The members of this group are *H. chromus, H. taminatus, H. hurama* and *H. schoenherr*. *H. chromus* is distributed throughout the range of the genus from Sri Lanka to Fiji. *H. taminatus* is found from Sri Lanka to Moluccas and Waigeo. Subspecies *dipama* known from Waigeo may be mislabelled. *H. schoenherr* is distributed from North India through Sundaland to the Philippines, but not in Sulawesi. The shape of the valva of subspecies *saida* from the Philippines differs significantly from that of *schoenherr* and other subspecies. It may be a distinct species. *H. hurama* is similar to *H. taminatus* in appearance. Male genitalia of *H. hurama* is more similar to *H. schoenherr* than that of *H. taminatus*. Geographically *H. hurama* replaces *H. schoenherr*. Distribution of *H. hurama* and that of *H. taminatus* overlap in Moluccas.

(5) The *celaenus*-group (Figure 18)

Six species, *H. mixta, H. celaenus, H. badra, H. sakit, H. quadripunctata* and *H. subcaelestis*, are the members of the group. *H. mixta* is distributed from North India to Moluccas. It is replaced by *H. celaenus* from Moluccas to New Guinea. They are overlapped in Moluccas. *H. badra* is known from Sri Lanka to Sulawesi. *H. quadripunctata* is found from Thailand to Moluccas. They are replaced by *H. subcaelestis* in New Guinea. The distribution of *H. sakit* overlaps with that of *H. badra* in S. Sulawesi.

(6) The *vitta*-group (Figure 19)

H. vitta, H. moestissima and *H. perplexa* are the members of this group. *H. vitta* is known from North India to Sulawesi. An isolated subspecies *similima* is known from New Guinea. *H. moestissima* is found only from the Philippines and Sulawesi. *H. perplexa* is the sole representative of this group in Moluccas.

(7) The *thridas*-group (Figure 20)

Three species, *H. khoda, H. leucospila* and *H. thridas*, are the members of this group. *H. khoda* is distributed from North India to Australia and New Caledonia. *H. leucospila* is known from Thailand to the Philippines and Moluccas. *H. thridas* is known from Moluccas and New Guinea. Again, in Moluccas, *H. leucospila* and H. thridas are overlapped.

In 3 cases, the distributions of closely related species overlap in Moluccas. Further investigation is necessary if they actually fly together, or the overlap is just an artifact.

All the known larvae feed on Papilionaceae (Leguminosae).

The genus consists of 29 species and 86 subspecies.

Key to species of *Hasora*

1. Female, forewing with yellow hyaline spots in space 1b, 2, 3, 4, 5, 6, 7, 8 and the cell ..... *H. wilcocksi*
1'. Female with less or no spot 2
2. Female, forewing with yellow hyaline spots in space 2, 3 and 6. ventral side of the hindwing with white band from costa to vein 1b. band narrown below discoidal cell ..... *H. mavis*
2'. Female, forewing with more or less spots. If it possesses spots in space 2, 3 and 6 , then the band on the ventral hindwing narrow and uniform 3
3. Uncus with a pair of process 4
3'. Uncus with two pairs of process 10
4. Compound eyes hairy 5
4'. Compound eyes naked 6
5. Forewing without a subapical dot. Ventral side of the hindwing without a white dot ..... *H. mus*
5'. Forewing usually with a subapical dot. Ventral side of the hindwing usually with a white dot ..... *H. anura*
6. Ventral side of the hindwing with discal white band ..... *H. proxissima*
6'. Ventral side of the hindwing without a band 7
7. Ventral side of the hindwing metallic green ..... *H. salanga*
7'. Ventral side of the hindwing brown 8
8. Ventral side of the hindwing, tornus darker than ground color 9
8'. Ventral side of the hindwing, tornus not darker than ground color ..... *H. myra*
9. Ventral side of the forewing, dorsum paler than ground color ..... *H. lizetta*
9'. Ventral side of the forewing, dorsum not significantly paler than ground color ..... *H. zoma*
10. Ventral side of the hindwing with a band or trace of band 11
10'. Ventral side of the hindwing without a band 22
11. Stigma present 12
11'. Stigma absent 21
12. Dorsal side of the hindwing with yellow markings ..... *H. schoenherr*
12'. Dorsal side of the hindwing without yellow markings

..... 13
13. Forewing with a subapical dot 14
13'. Forewing without a subapical dot 15
14. Ventral side of the hindwing metallic ..... *H. vitta*
14'. Ventral side of the hindwing brown with purple sheen ..... *H. moestissima*
15. Male stigma oblique and continuous 16
15'. Male stigma on both sides of vein 1b, 2, 3, and 4 18
16. Dorsal end of valva twisted and form an oval process. Ventral side of the hindwing metallic green or blue ..... *H. taminatus*
16'. Valva dorsally serrate 17
17. Ventral side of the hindwing brown with purple sheen; band bluish white, narrow. Process of uncus short and pressed together ..... *H. chromus*
17'. Ventral side of the hindwing chocolate; band white, wide. Process of uncus long ..... *H. hurama*
18. Ventral side of the hindwing metallic blue ..... *H. thridas*
18'. Ventral side of the hindwing brown 19
19. Ventral side of the hindwing brown without purple sheen; band clear and white 20
19'. Ventral side of the hindwing brown with strong purple sheen; band very narrow and faint ..... *H. leucospila*
20. Ventral side of the hindwing, band spindle shape. Tip of valva with a long curved process ..... *H. perplexa*
20'. Ventral side of the hindwing, band even. Tip of valva with short process ..... *H. khoda*
21. Dorsal side of the hindwing covered with yellow-brown hairs ..... *H. borneensis*
21'. Ventral side blue ..... *H. discolor*
22. Ventral side of the hindwing with a white cell spot 23
22'. Ventral side of the hindwing without a white cell spot 25
23. Ventral side pale brown. Wings produced. Hindwing more or less tailed 24
23'. Ventral side dark chocolate. Wings round. hindwing not tailed ..... *H. buina*
24. Ventral side of the hindwing, cell spot smaller tha 1/2 width of cell 25
24'. Ventral side of the hindwing, cell spot larger than 1/2 width of cell ..... *H. quadripunctata*
25. Wings pointed. Cell spot white ..... *H. badra*
25'. Wings round. Cell spot yellower ..... *H. sakit*
26. Ventral side of the hindwing with black spots ..... *H. subcaelestis*
26'. Ventral side of the hindwing with no black spot 26
27. Ventral side of the hindwing metallic blue ..... *H. celaenus*
27'. Ventral side of the hindwing brown 27
28. Head and thorax covered with green hairs ... *H. umbrina*
28'. Head and thorax brown ..... *H. mixta*

Hasora mus Elwes & Edwards, 1897, 3 subspecies

a. *H. mus pahanga* Evans, 1926

(Plate 7-4, Figure 46)

Hasora mus pahanga Evans, 1926:59; 1932:313; 1949:56; Eliot, 1978:352.
Holotype: ♂ "Gunong Tahang, Pahang, 5500, 12.21, W H Evans, Brit. Mus. 1927-82," BMNH H2426 (examined).
Description and diagnosis: Forewing length 20 mm. Wings rounded, pale brown. DHW cilia brown as wing color. VFW dorsum paler. VHW tornus darker.
Distribution: MALAYSIA: Pahang, Perak, G. Jasar, G. Ijan.
Bionomics: Males are found only near the hill top of 4000 – 7000 ft. and flies in bright sunlight (Eliot, 1978).

b. *H. mus mus* Elwes & Edwards, 1897

(Plate 7-5, 7-6)

Hasora mus Elwes & Edwards, 1897:304, Pl XX, figs. 2, 5.
Hasora mus mus: Evans, 1932:313; 1949:56, pl. 13.
Holotype: [MALAYSIA], " Kina Balu, Borneo, Stgr. sp. fig., ex coll H J Elwes 1920, J J Joicey coll BM 1925-451," BMNH H2427 (examined).
Description and diagnosis: Forewing length 19 mm. DHW cilia pale yellow. VW paler.
Distribution: MALAYSIA: Kina Balu; BRUNEI.

c. *H. mus alta* de Jong, 1982 new status

(Plate 7-7)

Hasora alta de Jong, 1982:34.
Holotype: ♂ [INDONESIA], "S. Sumatra, top Mt. Tanggamoes, 2100 m, 19. – 31. III. 1940, M.A. LIEFTINCK," RMNH.
Distribution: INDONESIA: Sumatra (Mt. Tanggamoes).
Remarks: Only the type male is known. De Jong (1982) describes this taxon as a distinct species. Judging from photographs of the type as well as the sketch of the male genitalia, the author consider *alta* a subspecies of *H. mus*. The data matrix of *Hasora* in de Jong (2007) also suggests their conspecificity.

Hasora lizetta Plötz, 1884

(Plate 7-8, 7-9, Figure 47)

Hasora lizetta Plötz, 1884:59, Pl. 1157; Evans, 1932:314; 1949:56, pl. 13.
Hasora hadria de Nicéville, 1889:172; Elwes & Edwards, 1897:298.
Hasora wortha Swinhoe, 1907:435.
Holotypes: *lizetta* – could not be located; *hadria* – could not be

located; *wortha* – ♂ [INDONESIA], "Java, Crowley Bequest, 1901-78, Hasora wortha ♂ Swinhoe Type," BMNH H2436 (examined).
Description and diagnosis: Forewing length 23 mm. DW uniformly brown. VW brown. VFW dorsum paler. VHW outer third paler; tornus darker.
Distribution: MALAYSIA: Fraser's Hill, Taiping, Gn. Ijan, Pulo Arin, Perak; INDONESIA: Sumatra (Lebon Tandai, Batan Proepoe, Battak Mts., Selesseh), Java (Soekaboemie, Plaboan, Gede).

Hasora salanga (Plötz, 1885)

(Plate 7-10, 7-11)

Ismene salanga Plötz, 1885:232.
Hasora wooletti Riley, 1923:38.
Hasora salanga: Evans, 1932:315, 1949:56, pl. 13; Pinratana, 1985:18, Pl. 4, fig. 12; Monastyrskii & Devyatkin, 2003:42.
Holotypes: *salanga* – could not be located [copy of unpublished plate in BMNH], TL: Malacca; *wooletti* – ♂ "Brit. N. Borneo, Province Clarke, Bole 4000 ft, 13. xi. 1914, G F C Woolett, BM Type No. Rh220 Hasora wooletti ♂ Riley, Brit. Mus. 1921-241," BMNH H2431 (examined).
Description and diagnosis: Forewing length 23 mm. DW dark brown. VW dull metallic green. VHW tornus black.
Distribution: MYANMAR: West Dawnas; VIETNAM: central; MALAYSIA: Perak, Kina Balu, Sarawak, Pahang; INDONESIA: Sumatra (Korinchi).

Hasora proxissima Elwes & Edwards, 1897, 5 subspecies

a. *H. proxissima siamica* Evans, 1932

(Plate 7-12, 8-1, Figure 48a)

Hasora proxissima siamica Evans, 1932:315; 1949:56; Pinratana, 1985:18, Pl. 4, fig. 11; Monastyrskii & Devyatkin, 2003:42.
Hasora proxissima: Osada et al., 1999:Plate131.
Holotype: "S.E. Siam, Nong-Yai 1300. 4.14, W H Evans, BM 1932-274, BM(NH) Rhopalocera(v) No 1265," BMNH H2445 (examined).
Description and diagnosis: Forewing length 22 mm. VFW with faint subapical band. VHW basal area dull greenish gray; white band 2mm.
Distribution: THAILAND (Nong Yai Boo, Non Thebe, Nong Thebu); LAOS; VIETNAM: central & south.

b. *H. proxissima siva* Evans, 1932

(Plate 8-2, Figure 48b)

Hasora proxissima siva Evans, 1932:315; 1949:56; de Jong & Treadaway, 1993b:12; 2007:9.
Hasora proxima [sic!] *chalybeia* Inoué & Kawazoé, 1964:36, text fig. 2, fig. 3, 4, 5, 6.
Holotype: *siva* – "Lawas, Borneo, W H Evans 1932-274," BMNH H2446 (examined); *chalybeia* – could not be located, ♂, [VIETNAM], Thu Duc, 11-Feb.-1962.
Description and diagnosis: Forewing length 22 mm. VFW with purple sheen. VHW basal area purple blue, white band 2 mm.
Distribution: MALAYSIA: "W. Borneo," Pontianak, Limbong, Sarawak; PHILIPPINES: Palawan (Langwan, Irawan).

c. *H. proxissima proxissima* Elwes & Edwards, 1897

(Plate 8-3, 8-4)

Hasora proxissima Elwes & Edwards, 1897:302, pl. XXI, fig. 10.
Hasora proxissima proxissima: Evans, 1949:57, pl. 13; de Jong & Treadaway, 1993b:12; 2007:9.
Holotype: could not be located, TL: Mindoro.
Description and diagnosis: Forewing length 23 mm. VFW subapical pale band conspicuous. VHW basal area bright green; white band wide, 4 mm.
Distribution: PHILIPPINES: Mindoro, Leyte, Mindanao.

d. *H. proxissima takwa* Evans, 1949

(Plate 8-5)

Hasora proxissima takwa Evans, 1949:57.
Hasora takwa: Parsons, 1999:149, Pl. II, Pl. 3, fig. 63, 64.
Holotype: "nr. Oetakwa R., Snow Mts., Dutch N. G. up to 3500 ft, x xii 1910 (Meek), Rothschild Bequest B.M. 1939-1, BM(NH) Rhopalocera(v)1279," BMNH (examined).
Description and diagnosis: Forewing length 23 mm. VHW shining indigo blue; band wider, 5 mm, continuous. Extremely similar to *H. discolor*, but vein 3 much nearer to vein 2 instead of center of vein 2 and 4. Differs from *H. vitta simillima* in that white band entering discoidal cell.
Distribution: INDONESIA: Irian, "Germ. N. G.,"; PAPUA NEW GUINEA: Astrolabe bay, "Babooni."

e. *H. proxissima lavella* Evans, 1926

(Plate 8-6)

Hasora proxissima lavella Evans, 1926:71; 1949:57, pl. 1.
Hasora lavella: Parsons, 1999:149, Pl II, Pl. 3, fig. 65.
Holotype: "Vella Lavella, Solomon Is, March 1908 (A.S. Meek), Rothschild Bequest B.M. 1939-1, BM(NH)R(v)1280," BMNH (examined).
Description and diagnosis: Forewing length 24 mm. VHW basal area dark green; outer margin chocolate brown; white band 3 mm.
Distribution: PAPUA NEW GUINEA: Bougainville; SOLOMON ISLANDS: Vella Lavella, Florida I.

Hasora anura de Nicéville, 1889, 4 subspecies

a. *H. anura anura* de Nicéville, 1889

(Plate 8-7, 8-8)

Hasora anura de Nicéville, 1889:170, pl. B, figs 1, 5; Watson, 1891:12; Elwes & Edwards, 1897:298; Evans, 1932:314.
Hasora anura anura: Evans, 1949:57, pl. 13; Pinratana, 1985:19, Pl. 5, fig. 14.
Holotype: could not be located, TL: Sikkim.
Description and diagnosis: Forewing length 22 mm. VW with purple sheen. Male genitalia: boundary of dorsal and ventral extension of costa poorly defined; dorsal extension pointed distally.
Distribution: INDIA: Sikkim, darjiling, Pedong, Naga Hill, Suroi, Manipur, Cherra Ponji, Mishmimaron,; MYANMAR: New Tamai V., Shan St; THAILAND.
Remarks: Some nominotypical *anura* have characters of *danda* that Evans (1949) points out. Namely, dark discal line is not indent in space 5, and the dorsal forewing dots and a cell dot on the ventral hindwing are absent.

b. *H. anura danda* Evans, 1949

(Plate 8-9, 8-10)

Hasora danda Evans, 1949:58, pl. 13; Pinratana, 1985:19, Pl. 5, fig. 15.
Holotype: "Ataran," BMNH (examined).
Description and diagnosis: VHW without white dot in discoidal cell. Male genitalia: costa with ventral extension shorter than dorsal one; dorsal extension blunt distally.
Distribution: THAILAND; VIETNAM; LAOS.

c. *H. anura china* Evans, 1949

(Plate 8-11, 8-12)

Hasora anura china Evans, 1949:57.
Holotype: "Frontiere orientale du Thibet, Chasseurs indignes du P. Djean 1905, R. Oberthür coll. Brit. Mus. 1931-196." BMNH H2435 (examined).
Description and diagnosis: Forewing length 23 mm. VW brown with purple sheen. VHW outer third paler.
Distribution: CHINA: Omei, Moupin, Ta-tsien-lou, Mo sy Mien, Tien Tsen, Siao-Lou, Ta Tong Kiao, Ya-Tcheou, Koui Tcheon, Ta Lou, Kuatun, Hoeng Shan (Hunan), North Yunnan, Kwansi (Nanning).

d. *H. anura taiwana* Hsu, Tsukiyama & Chiba, 2005

(Plate 8-13)

Hasora anura anura Shirôzu, 1960:361, pl. 71, fig. 856, 857, 858, 859.
Hasora anura taiwana Hsu, Tsukiyama & Chiba, 2005:202.
Holotype: ♂ "TAIWAN, Taizhong Co., Heping, Anmashan, 2000 m, 28 July 2003, H.C. Huang & Y.C. Hsu Coll.," BMNH.
Description and diagnosis: Forewing length 22 mm. VW with ochreous scaling. Arms of uncus close with each other at base.
Distribution: TAIWAN.
Foodplant: Fabaceae: *Ormosia formosana* (Uchida, 1991).

Hasora wilcocksi Eliot, 1970

(Plate 8-14)

Hasora wilcocksi Eliot, 1970:73; Fleming, 1975:pl. 79, H22, 58.
Holotype: ♀ "Malaya (East Coast), Pulo Tioman 1500', 17 VI 1969 – P.H.J. Wilcocks, Brit Mus 1969-556," BMNH (examined).
Description and diagnosis: Wings dark brown. DW with conspicuous yellow hyaline spots in spaces 1b to 8 and cell end. VHW with spots in space 6.
Distribution: MALAYSIA: Tioman.
Remarks: Only the type female is known. The wing marking is similar to that of *anura*.

Hasora myra (Hewitson, 1867), 2 subspecies

a. *H. myra funebris* Evans, 1932

(Plate 8-15, 8-16)

Hasora funebris Evans, 1932:314.
Hasora myra funebris: Evans, 1949:58, pl. 1.
Holotype: " Gunong Ijan, Malay, W H Evans, BM 1932-274," BMNH H2429 (examined).
Description and diagnosis: Forewing length 24 mm. DW brown; basal half covered with hairs. VFW dorsum somewhat paler.
Distribution: MALAYSIA: Perak, Fraser's Hill, Gn. Ijan.

b. *H. myra myra* (Hewitson, 1867)

(Plate 8-17, 9-1, Figure 49)

Ismene myra Hewitson, 1867:[Ismene] I, fig.
Hasora myra [*myra*]: Evans, 1932:314; 1949:58, pl. 13.
Holotype: "Java, Hewitson coll 79-69, Ismene Myra I.," BMNH H2430 (examined).
Description and diagnosis: DW pale brown. VHW tornal quarter yellow.
Distribution: INDONESIA: Sumatra (Batang Proepoe, Battak Mts.), Java (Java Occ., Gedeh).

Hasora zoma Evans, 1934

(Plate 9-2, 9-3, Figure 50)

Hasora zoma Evans, 1934:34; 1949:58, pl. 1, 13; Pinratana, 1985:18, Pl. 4, fig. 13.
Holotype: " Jelekru straits, W H Evans BM 1932-274," BMNH H2428 (examined).

Description and diagnosis: Forewing length 23 mm. VW uniformly brown. Differs from *H. lizetta* in that VFW dorsum not paler.
Distribution: MALAYSIA; INDONESIA: Sumatra, "Larit Hills."

Hasora umbrina (Mabille, 1891)

(Plate 9-4, 9-5)

Ismene umbrina Mabille, 1891:79.
Hasora hobroa Swinhoe, 1907:436.
Hasora umbrina: Evans, 1932:313; 1949:59, pl. 13; Vane-Wright & de Jong, 2003:57.
Holotype: *umbrina* – could not be located, TL: Celebes; *hobroa* – "Celebes, 1900-14, Hasora habroa ♂ Swinhoe Type," BMNH H2434 (examined).
Description and diagnosis: Forewing length 23 mm. Head, thorax, abdomen and basal area of wings dorsally covered with metallic green hairs. VW grayish brown. VFW dorsum more or less paler.
Distribution: INDONESIA: Sulawesi (Bontain, Merid, Samanga, "S. Celebes").

Hasora buina Evans, 1928

(Plate 9-6, Figure 51)

Hasora buina Evans, 1928:71; 1949:59, pl. 1, 13; Parsons, 1999:148, pl. 3, fig. 57, 58, 59; Tennent, 2002:32, 186, Pl. 1, fig. 21, 22.
Holotype: "Buin, Bougainville, January 1908 (A.S. Meek), Rothschild Bequest BM 1939-1," BMNH (examined).
Description and diagnosis: Forewing length 24 mm. DW dark brown with metallic green hairs at base. VW dark brown. VFW with tornal white spot. VHW with white cell dot and two discal white spots in space 2.
Distribution: PAPUA NEW GUINEA: Bougainville; SOLOMON ISLANDS: Vella Lavella [erroneous, Tennent (2002)], Choiseul.

Hasora discolor (Felder & Felder, 1859), 4 subspecies

a. *H. discolor splendida* (Mabille, 1876)

(Plate 9-7)

Ismene splendida Mabille, 1876:264.
Hasora discolor splendida: Evans, 1949:59, pl. 1.
Holotype: "Type, Philipp, Ex Musæo Dris Boisduval, R. Oberthür coll, Brit. Mus. 1931-136," BMNH (examined) [probably Batchan].
Description and diagnosis: Forewing length 23 mm. VFW with no white marking under the cell. VHW discal band yellowish, spindle-shaped, 6 mm, contracted at vein 2.
Distribution: INDONESIA: Batchan, Obi.
Remarks: The type specimen is mislabelled. It is probably from Batchan (Evans, 1949).

b. *H. discolor discolor* (Felder & Felder, 1859)

(Plate 9-8, Figure 52)

Goniloba discolor Felder & Felder, 1859:405.
Hasora discolor discolor: Evans, 1949:59, pl. 13.
Holotype: could not be located, TL: "Brazil" [probably Amboina].
Diagnosis: Forewing length 24 mm. VHW basal area metallic indigo blue; outer area purple black; band bluish.
Distribution: INDONESIA: Ceram, Buru.

c. *H. discolor mastusia* Fruhstorfer, 1911

(Plare 9-9)

Hasora discolor mastusia Fruhstorfer, 1911:64; Evans, 1949:59; Common & Waterhouse, 1971:64, pl. 2, fig. 11, pl. 3, fig. 1, 2; Wilson, 1987:24, pl. 1; Parsons, 1999:148, Pl. 3, fig. 60, 61, pl. 107, fig. 2967, 2968, 2969.
Holotype: "Type, Australia, Queensland, ex coll. Fruhstorfer, Fruhstorfer Coll. B.M. 1933-131, discolor masttusia Fruhst.," BMNH H2448 (examined).
Description and diagnosis: VHW discal band not contracted.
Distribution: INDONESIA: Kei, Aru, Waigeo, Biak, Roon, Irian (Ninay vall., Manokwari, Snow Mts., Menoo Riv., Wandammen Mts., Bulolo R.); PAPUA NEW GUINEA: Mambare, Rawlinson Mts., Aroa R., Hydrographer Mts.), Goodenough I., Tugela, Milne bay; AUSTRALIA: Queensland, Thursday Island, Cape York, Clarence River.
Early stages: Final instar larva: Head orange brown. Thorax and abdomen yellowish white with dorso-lateral darker spots and longitudinal stripes; clothed with short hairs. As in other larvae of the group, it hides inside a curled leaf shelter.
Foodplant: Papilionaceae: *Mucuna gigantea*.
Bionomics: Parsons (1999) suspects that *discolor* is a part of dayflying moth, *Alcidi agathrysas* (Uraniidae), mimicry complex along with *takwa* and *simillima*.

d. *H. discolor eira* Evans, 1949

(Plate 9-10)

Hasora discolor eira Evans, 1949:60; Parsons, 1999:148, Pl. 3, fig. 62.
Holotype: "New Ireland, February 1924 (A.F. Eichhorn), Rothschild Beq. BM 1939-1," BMNH (examined).
Description and diagnosis: VHW band wider, 7 mm, bluish rather than yellowish.
Distribution: PAPUA NEW GUINEA: New Ireland.
Remarks: Only the type is known.

Hasora borneensis Elwes & Edwards, 1897, 2 subspecies

a. *H. borneensis borneensis* Elwes & Edwards, 1897
(Plate 9-11)

Hasora borneensis Elwes & Edwards, 1897:302, pl. xx, fig. 8, 11; Evans, 1932:315; [*borneensis borneensis*] Evans, 1949:60, pl. 13.
Holotype: "Kina Balu, Borneo, Stgr. sp. fig., Ex. Coll. H J Elwes 1920, J J Joicey Coll, BM 1925-451," BMNH H2444 (examined).
Description and diagnosis: Forewing length 27 mm. DW base paler, but not straw-colored.
Distribution: MALAYSIA: Kinabalu; INDONESIA: " Batjan" [mislabel].

b. *H. borneensis luza* Evans, 1949
(Plate 9-12, 9-13, Figure 53, 94)

Hasora borneensis luza Evans, 1949:60; de Jong & Treadaway, 1993b:13; 2007:9.
Holotype: "Lepanto, N. Luzon, J. Whitehead, Rothschild Bequest BM 1939-1," BMNH (examined).
Description and diagnosis: Forewing length 25 mm. DW base broadly straw-colored. VHW band wide, 5 mm at vein 8, contracted at vein 2, not reaches costa.
Distribution: PHILIPPINES: Luzon (St. Thomas), Mindoro, Leyte, Masbate, Negros, Panay, Samar, Mindanao.

Hasora chromus (Cramer, 1782), 2 subspecies

a. *H. chromus chromus* (Cramer, 1782)
(Plate 10-1, 10-2)

Papilio chromus Cramer, 1782:pl. cclxxxiv, fig. E.
Papilio alexis Fabricius, 1775 [Homonym by Poda (1761)]
Ismene contempta Plötz, 1884:56.
Hasora inermis Elwes & Edwards, 1897:301, pl. xx, fig. 16, pl. xxvii, fig. 94, 94a.
Ismene lucescens Lucas, 1900:138.
Hasora attenuata Mabille, 1904:86.
Hasora ganapata Fruhstorfer, 1911:72.
Hasora chromus chromus: Evans, 1949:60, Pl. 13; Common & Waterhouse, 1971:65, pl. 2, fig. 14; de Jong & Treadaway, 1993b:13; Parsons, 1999:149, pl. 3, fig. 66, 67; Monastyrskii & Devyatkin, 2003:42; Vane-Wright & de Jong, 2003:57; de Jong & Treadaway, 2007:10.
Hasora chromus inermis: Evans, 1949:60.
Hasora chromus: Osada et al., 1999:Pl. 131; Igarashi & Fukuda, 2003:629, plate 334.
Hasora chromus bilunata: Tennent, 2002:32, 186, pl. 1, fig. 25, 26, 27.
Holotype: *chromus* – could not be located, TL: Coromandel; *alexis* – could not be located, TL: India; *contempta* – could not be located, TL: Cape York; *inermis* – " Type, 622 Ryukyu Juni-Aug 1888, 65, Ex Coll H J Elwes 1920, J J Joicey Coll BM 1925-451," BMNH H2493 (examined); *lucescens* – could not be located, TL: S. Queensland; *attenuata* – "Nouv guinee," BMNH H2496 (examined); *gonapata* – "D New Guinea, Fruhstorfer Coll BM 1933-131," BMNH H2495 (examined).
Description and diagnosis: Very variable. Forewing length 22 -25 mm. VW purple sheen faint or intense. VHW width of bluish white band variable.
Distribution: JAPAN: Okinawa, Yaeyama; SRI LANKA; INDIA: " South India," Balucistan, Kanara, Kumaon, Manipur; MYANMAR: Karen, Maymyo; THAILAND; LAOS; VIETNAM: central & south; MALAYSIA: Perak, " Borneo"; INDONESIA: Moluccas, Tenimber; CHINA: Hong Kong; TAIWAN; PHILIPPINES: Leyte, Marinduque, Negros, Tawitawi, Ticao; PAPUA NEW GUINEA: New Ireland; Australia: Northern Territory, Torres Strait, Cape York, Queensland.
Early stages: Shirôzu & Hara (1960) and Fukuda et al. (1984) describe and illustrate the early stages. Final instar larva: Head light brown; oceli black. Thorax and abdomen grayish brown with 4 dorsal longitudinal white lines and dorso-lateral black dots.
Bionomics: The adult can be as small as 14 mm. It is probably due to the food source shortage.
Foodplants: Papilionaceae: *Pongamia pinnata* (Fukuda et al., 1984), *P. glabra* (Common & Waterhouse, 1971).
Remarks: Population in southern Japan, and sometimes in Taiwan also, has been treated as a distinct subspecies *inermis*. However, the type of *inermis* is identical to the nominotypical *chromus*. Instead, the northern most population in Amami island, Japan, is larger and the band is wider.

b. *H. chromus bilunata* (Butler, 1882)
(Plare 10-3, Figure 54)

Ismene bilunata Butler, 1883:391.
Hasora chromus bilunata: Evans, 1949:61.
Holotype: ♀ "Fidji, 87-38," BMNH H2494 (examined).
Description and diagnosis: Smaller. Forewing length 21 mm. VW without purple sheen. VHW band faint.
Distribution: VANUATU, FIJI.

Hasora taminatus (Hübner, 1818), 10 subspecies

a. *H. taminatus taminatus* (Hübner, 1818)
(Plate 10-4, 10-5)

Coeliades taminatus Hübner, 1818:31.
Hesperia butleri Aurivillius, 1898:150.
Hasora taminatus taminatus: Evans, 1932:316; 1949:61, pl. 13.
Holotype: could not be located, TL: "Surinam."
Description and diagnosis: Forewing length 19 mm. VHW base dull indigo blue; band 1.5 mm, sharply edged.

Distribution: SRI LANKA; INDIA: "South India," Kanara, Nilgiri.
Foodplant: Papolionaceae: *Derris scandes*.

b. *H. taminatus bhavara* Fruhstorfer, 1911
(Plate 10-6)

Hasora taminatus bhavara Hasora malayana bhavara Fruhs forfer, 1911:72.: Evans, 1932:316; 1949:61; Pinratana, 1985:19, Pl. 5, fig. 17; Osada et al., 1999:Pl. 131; Monastyrskii & Devyatkin, 2003:42..
Holotype: "Type, Assam, Khasi Hills, ex coll H. Fruhstorfer," BMNH H2480.
Description and diagnosis: Similar to *taminatus*, but band narrower.
Distribution: INDIA: Sikkim, Manipur, Khasia, Kujiar, Naga; MYANMAR: Tilin Yau, Maymyo; THAILAND: Doi Sutep; LAOS: Thakhek, Nam Tha; VIETNAM: north & central; CHINA: Omei-Shan, Teng-yuen-Ting.

c. *H. taminatus vairacana* Fruhstorfer, 1911
(Plate 10-7)

Hasora taminatus vairacana Hasora alexis vairacana Fruhstorfer, 1911:70.: Evans, 1949:62; Shirôzu, 1960:365, pl. 71, fig. 868, 869, 870, 871.
Hasora taminatus: Igarashi & Fukuda, 2000:628, Pl. 333.
Holotype: "Type, Formosa, Fruhstorfer, VI 08 Chip Chip, Fruhstorfer Coll BM 1933-131," BMNH H2481 (examined).
Description and diagnosis: Forewing length 20 mm. Wings round. VHW grayish brown; band 1 mm.
Distribution: TAIWAN: Suishako, Kosempo, Arisan.
Early stages: Head light brown. Thorax and abdomen greenish brown with four dorsal yellow lines and dorso-lateral black spots (Uchida, 1991).
Foodplant: Papilionaceae*: Millettia taiwaniana* (Uchida, 1991)*, M. pachycarpa* (Igarashi & Fukuda, 2000), *Dalbergia benthamii.*

d. *H. taminatus malayana* (Felder, 1860)
(Plate 10-8)

Ismene malayana Felder, 1860:401.
Hasora almea Swinhoe, 1909:90.
Parata canostigma Joicey & Talbot, 1921:174.
Hasora taminatus almea: Evans, 1932:316.
Hasora malayana salemana Kalis, 1933:64.
Hasora taminatus malayana: Evans, 1932:316, pl. xxx, figs. 1, 15; 1949:62; Pinratana, 1985:20, Pl. 6, fig. 17; Osada et al., 1999:Plate 131; de Jong & Treadaway, 1993b:13; 2007:10.
Hasora malayana: Monastyrskii & Devyatkin, 2003:42.
Holotypes: *malayana* – could not be located, TL: Malacca; *almea* – ♀ "N. Borneo, Brunei, 1909-281," BMNH H2484 (examined); *constigma* – "55.20 Hainan Interior, May 1920, C.T. Bowring, J J Joicey coll BM 1925-451," BMNH H2483; *salemana* – could not be located, TL: Kangean.
Description and diagnosis: VHW base metallic blue; band very narrow.
Distribution: MYANMAR; THAILAND; LAOS: Oudomxay; VIETNAM; CHINA: Hainan, Hong Kong; MALAYSIA: Sabah: INDONESIA: Sumatra, Nias, Java; PHILIPPINES: Balabac, South Palawan.
Foodplant: Papilionaceae: *Millettia racemosa*.

e. *H. taminatus andama* Evans, 1949
(Plate 10-9)

Hasora taminatus andama Evans, 1949:62.
Holotype: "Type, Andaman Is, VIII 1923, G G Field BM 1924-351," BMNH (examined).
Description and diagnosis: Forewing length 27 mm. VHW outer area as well as base brilliant green; band 1.5 mm.
Distribution: INDIA: Andaman (Port Blair, "South Andaman"); Nicobar: (Kar Nicobar).

f. *H. taminatus milona* Evans, 1934
(Plate 10-10)

Hasora taminatus milona Evans, 1934:35; 1949:62.
Holotype: "Type, Camorta, Doherty, J J Joicey Coll BM 1925-451," BMNH H2482 (examined).
Diagnosis: Smaller than *andama*. Forewing length 24 mm. VHW base metallic green; outer area metallic purple; band 1.5 mm.
Distribution: INDIA: Nicobar (Central Nicobar, Great Nicobar).

g. *H. taminatus padma* Fruhstorfer, 1911
(Plate 10-11, 10-12, Figure 55)

Hasora malayana padma Fruhstorfer, 1911:73.
Hasora malayana galaca Fruhstorfer, 1911:73.
Hasora taminatus padma: Evans, 1949:62; de Jong & Treadaway, 1993b:13; 2007:10.
Holotype: *padma* – "Philippinen, Bazilan, II – III 98, Doherty ex coll H. Fruhstorfer, Fruhstorfer Coll. BM 1933-131," BMNH H2486 (examined) [As indicated by de Jong & Treadaway, 2007, this specimen should be the type of *galaca*. The type locality of *padma*, according to the original description, is Palawan]; *galaca* – could not be located, TL: Bazilan.
Description and diagnosis: Forewing length 22 mm. VHW base metallic green; band 1.5 mm.
Distribution: PHILIPPINES: Palawan, Luzon, Marinduque, Mindoro, Cebu, Leyte, Negros, Panay, Sibuyan, Mindanao; INDONESIA: Sumba, Timor, "Malay Archipelago."

h. *H. taminatus attenuata* (Staudinger, 1889)
(Plate 10-13)

Ismene malayana attenuata Staudinger, 1889:137.
Hasora meala Swinhoe, 1907:437.
Hasora malayana acakra Fruhstorfer, 1911:73.
Hasora taminatus attenuata: Evans, 1932:316; 1949: 63; Vane-Wright & de Jong, 2003:57.
Holotypes: *attenuata* – could not be located, TL: Minahassa; *meala* – "Celebes, 88-142," BMNH H2487 (examined); *acakra* – "Sula Besi, Doherty, ex coll H. Fruhstorfer, Fruhstorfer Coll BM 1933-131," BMNH H2488 (examined).
Description and diagnosis: Forewing length 21 mm. VHW base metallic blue; band very narrow and irregular.
Distribution: INDONESIA: Sulawesi (Macassar, Maros & Tjamba, Tawaya, Goroatolo, Makian, Dongala), Buton I., Besi I., Sula Besi.

i. *H. taminatus amboinensis* Swinhoe, 1909
(Plate 10-14)

Hasora amboinensis Swinhoe, 1909:91.
Hasora malayana pramidha Fruhstorfer, 1911:73.
Hasora taminatus junta Evans, 1934:35.
Hasora taminatus amboinensis: Evans, 1949:63.
Holotypes: *amboinensis* – " Type, Amboina, 1909-286," BMNH H2491 (examined); *pramidha* – " Obi, H. Fruhstorfer, Fruhstorfer Coll. BM 1933-131," BMNH H2490 (examined); *junta* – "Batchian, J J Joicey Coll BM 1925-451," BMNH H2489 (examined).
Description and diagnosis: Very variable. VHW base varying between *padma* and *attenuata*.
Distribution: INDONESIA: Larat, Halmahera, Bachan, Obi, Buru, Ambon, Ceram, Kei.

j. *H. taminatus dipama* Fruhstorfer, 1911
(Plate 10-15)

Hasora malayana dipama Fruhstorfer, 1911:73.
Hasora taminatus dipama: Evans, 1949:63.
Holotype: " Waigiu, H. Fruhstorfer, Fruhstorfer Coll. BM 1933-131," BMNH H2492 (examined).
Description and diagnosis: Forewing length 21 mm. VHW bluish green; band obsolete.
Distribution: INDONESIA: Waigeo.
Remarks: Only the type is known.

Hasora hurama (BUTLER, 1870), 5 subspecies

a. *H. hurama mola* Evans, 1949
(Plate 10-16, 10-7, Figure 56)

Hasora hurama mola Evans, 1949:63.
Holotype: "Batjan, ex J. Waterstradt 1904, R. Oberthür Coll. Brit. Mus. 1921-136 (examined).
Description and diagnosis: Forewing length 21 mm. VW brown with slight purple sheen; band 2 mm, continuous, tapering to 0.5 mm at costa.
Distribution: INDONESIA: Batchan, Ternate, Obi, Halmaheira.

b. *H. hurama hurama* (Butler, 1870)
(Plate 10-18, 11-1)

Hesperia hurama Butler, 1870:498.
Hasora vivapama Fruhstorfer, 1911:74.
Hasora postfasciata Rothschild, 1916:43.
Hasora hurama hurama: Evans, 1949:63, pl. 13; Common & Waterhouse, 1971:66, pl. 2, fig. 13; Parsons, 1999:150, Pl. 3, fig. 68, 69.
Holotypes: *hurama* – "Type H. T. , Cape York, N Australia ♂, Hasora hurama Butl. Godman-Salvin Coll 1914-5," BMNH H2479 (examined); *vivapama* – " Saparoea, Fruhstorfer, Fruhstorfer Coll. BM 1933-131," BMNH H2476 (examined); *postfasciata* – "Base Camp, Utakwa R. sea level, Dutch N. Guin, Nov. Dec. 1913, A.F.R. Wollaston, Rothschild Bequest BM 1939-1," BMNH H2478 (examined).
Description and diagnosis: Forewing length 23 mm. VW with slight purple sheen; band 2 mm, not tapered at costa.
Distribution: INDONESIA: Ambon, West Irian; AUSTRALIA: Northern territory, Banks I., Cape York, Mackay, Watts I.
Foodplant: Papilionaceae: *Derris trifoliata.*

c. *H. hurama arua* Evans, 1934
(Plate 11-2, 11-3)

Hasora hurama arua Evans, 1934:35; 1949:64.
Holotype: " Aru (Dobbo), W Doherty 1897, R. Oberthür Coll, Brit. Mus. 1931-186," BMNH H2477 (examined).
Description and diagnosis: Larger than *hurama*. Forewing length 25 mm. VW shining violet blue.
Distribution: INDONESIA: Aru.

d. *H. hurama kieta* Strand, 1921
(Plate 11-4, 11-5)

Hasora kieta Strand, 1921:152.
Hasora hurama kieta: Evans, 1949:64; Parsons, 1999:149; Tennent, 2002:33, 186, Pl. 1, fig. 28, 29.
Holotype: could not be located, TL: Solomons.

Description and diagnosis: Forewing length 21 mm. VHW band 3 mm.
Distribution: PAPUA NEW GUINEA: New Britain, Admiralty, Bougainville; SOLOMON ISLANDS: New Georgia, Vella Lavella, Guadalcanar, Choiseul, Treasury, Kulanbangra, Malaita, Guizo, Florida, Rendova, San Cristobal.
Remarks: Two females from Admiralty Islands in BMNH have band as wide as *diana*, but the white markings on the ventral forewing are absent. A female from San Cristobal in AME has a trace of white markings on VFW.

e. *H. hurama diana* Evans, 1958
(Plate 11-6)

Hasora hurama diana Evans, 1958:113; Tennent, 2002:33, 186, Pl. 1, 30, 31, 32.
Holotype: " Solomon Is., Rennell Is., Hutuna, 12-18 Nov 1958, J.D. Bradley BM 1954-222, Rennell I Expedn. BM 1954-222," BMNH (examined).
Description and diagnosis: Forewing length 22 mm. VW brown with no purple sheen. VFW with subapical row of white spots. VHW band shining white, 4 mm.
Distribution: SOLOMON ISLANDS: Rennell I., Bellona I.

Hasora schoenherr (Latreille, 1823), 6 subspecies

a. *H. schoenherr gaspa* Evans, 1949
(Plate 11-7)

Hasora schoenherr gaspa Evans, 1949:64; Pinratana, 1985:20, pl. 6, fig. 18a; Monastyrskii & Devyatkin, 2003:42
Hasora schoenherr: Osada et al., 1999:Plate 130..
Holotype: " Gaspani, Naga Hills, 10.13, Tytler Coll B.M. 1939-614," BMNH (examined).
Description and diagnosis: Forewing length 22 mm. Antenna, club yellow. DHW band reaches costa.
Distribution: INDIA: Naga, Manipur, Ataran, Karen H.; LAOS: Tatan; VIETNAM: central, Annam.

b. *H. schoenherr chuza* (Hewitson, 1867)
(Plate 11-8, 11-9, Figure 57)

Ismene chuza Hewitson, 1867:[Ismene], pl. i, fig. 4.
Choaspes chuza: Distant, 1866:373, pl. xxxiv, fig. 27.
Hasora chuza: Elwes & Edwards, 1897:304.
Hasora schoenherr sumatranus Kalis, 1933:74.
Hasora schenherr chuza: Evans, 1949:64; Pinratana, 1985:20, pl. 6, fig. 18b; de Jong & Treadaway, 1993b:14; 2007:11.
Hasora schoenherr hondai Hayashi, 1976:96.
Hasora schoenherr: Igarashi & Fukuda, 2000:632, Pl. 336.
Holotypes: *chuza* – "Sarawaku, Hewitson, Hewitson coll 79-69, Ismene chuza I," BMNH H2497 (examined); *sumatranus* – could not be located, TL: S. W. Sumatra; *hondai* – ♂ " Alibobogan, Palawan, 6 December 1969, Y. Honda leg," OMNH.
Description and diagnosis: forewing length 25 mm. Antenna, shaft also yellow. FW spots hyaline. DHW band not reach costa.
Distribution: MALAYSIA: Fraser's Hill, Telon R., Selangore, Perak, Kinabalu; INDONESIA: Sumatra (Lebong Tandai, Battak Mts, Bila), Sulu Arch., Sibiga, Marapok; PHILIPPINES: Palawan.
Early stages: Final instar larva: Similar to the *badra*-type larvae except that tip of abdomen not white. Head orange with 5 large and 2 tiny black dots. Thorax and abdomen greenish yellow with dorsal longitudinal and lateral transverse yellow lines; some segments with a pair of dorso-lateral black dots.
Foodplants: Papilionoceae: *Forrdia ngii, Spatholobus palawanensis.*
Remarks: Larval character suggests that the taxonomic position of this species should be reconsidered.

c. *H. schoenherr schoenherr* (Latreille, 1823)
(Plare 11-10)

Hesperia schoenherr Latreille, 1823:742.
Goniloba derma Riley, 1926:234 [*Nomen nudum*].
Hasora schoenherri schoenherri [sic!]: Evans, 1932:316, pl. xxx, fig. 1.16.
Hasora schoenherr schoenherr: Evans, 1949:64, pl.13.
Holotypes: *schoenherr* – could not be located, TL: Java; *derma* – could not be located [probably no type specimen].
Description and diagnosis: Forewing length 25 mm. VHW band wider, 5 mm,
Distribution: INDONESIA: Java.

d. *H. schoenherr cridatta* Fruhstorfer, 1911
(Plate 11-11)

Hasora schoenherr cridatta Fruhstorfer, 1911:75; Evans, 1949:64.
Holotype: " Nias, ex coll. Fruhstorfer, Fruhstorfer coll BM 1933-131," BMNH H2498 (examined).
Description and diagnosis: VHW paler than *chuza*.
Distribution: INDONESIA: Nias.

e. *H. schoenherr saida* (Hewitson, 1867)
(Plate 11-12, 11-13, Figure 58)

Ismene saida Hewitson, 1867:[Ismene], Pl. I, Fig. 5.
Ismene gentiana Felder & Felder, 1867:527, pl. 72, fig. 18, 19.
Hasora saida: Elwes & Edwards, 1897: 304.
Hasora schoenherr gentiana: Evans, 1932:316.
Hasora schoenherr saida: Evans, 1949:65, pl. 13; de Jong & Treadaway, 1993b:15; 2007:11.
Holotypes: *saida* – " Philippines, Hewitson Coll 79-69, Ismene saida 3," BMNH H2500 (examined); *gentiana* – " S. Luzon, Rothschild Bequest, BM 1939-1," BMNH (examined).

Description and diagnosis: Antenna yellow. Forewing, spots in spaces 2, 3 and discoidal cell not hyaline; subapical spots in spaces 6, 7 and 8 white. DHW base not brown. VHW band 5 mm.
Distribution: PHILIPPINES: Luzon, Marinduque, Mindoro, Leyte, Negros, Sibuyan, Mindanao.

f. *H. schoenherr babuyana* Treadaway & Nuyda, 1996

Hasora schoenherr babuyana Treadaway & Nuyda, 1996:12; de Jong & Treadaway, 2007:11.
Holotype: ♀ could not be located. TL: Babuyan.
Description and diagnosis: Wings orange deeper. VHW dark border broader.
Distribution: PHILIPPINES: Babuyan.

Hasora mixta MABILLE, 1876, 5 subspecies

a. *H. mixta limata* Hsu & Huang, 2008
(Plate 11-4, 12-1)

Hasora mixta limata Hsu & Huang, 2008:223, fig. 1, 2, 5, 6.
Holotype: ♂, [TAIWAN], Taidong Co, Lanyu, Sidougou, 18-20 Mar. 2006, Coll. Y.F.Hsu & H.C.Huang, reared from *Paraderris* ? *piscatorial*, emgd. 12 Apr. 2006, HSU06C16, BMNH.
Description and diagnosis: VW covered with metallic green scalings.
Distribution: TAIWAN: Lanyu.
Early stages: Final instar larva: Head read with 3 dark spots; thorax and abdomen white, tinged with gray with dorsal cream-yellow longitudinal lines and lateral lines; caudal part white; dorsal pairs of rectangular patches reddish brown.
Foodplant: Papilionoceae: a woody legume vine with an uncertain taxonomic identity (Hsu & Huang, 2006).
Bionomics: Hsu & Huang (2006) describe and discuss an unusual oviposition behavior.

b. *H. mixta prabha* Fruhstorfer, 1911
(Plate 12-2, 12-3)

Hasora mixta prabha Fruhstorfer, 1911:68; Evans, 1949:65; de Jong & Treadaway, 1991:16.
Hasora mixta lioneli Fruhstorfer, 1911:68.
Hasora mixta tyrius Fruhstorfer, 1911:68.
Hasora mixta yanuna Fruhstorfer, 1911:68.
Hasora simplicissima lioneli: Evans, 1932:314.
Hasora mixta prabha: Evans, 1949:65; de Jong & Treadaway, 1993b:16; 2007:11.
Holotypes: *prabha* – "Palawan 1898 Doherty, ex coll. H. Fruhstorfer," BMNH H2471 (examined); *lioneli* – could not be located, TL: Sumatra; *tyrius* – could not be located, TL: W. Java; *yanuna* – "Nias, ex coll. Fruhstorfer, Fruhstorfer Coll BM 1933-131," BMNH H2470 (examined).
Description and diagnosis: Forewing length 22 mm. Female, apical and discal spots conspicuous. Similar to *H. badra*, but VHW cell spot faint or absent.
Distribution: MYANMAR: Ataran; MALAYSIA: [Borneo]; INDONESIA: Shabat, Sumatra (Battak Mts.), Nias, Java, Sulu; PHILIPPINES: Palawan.

c. *H. mixta mixta* (Mabille, 1876)
(Plate 12-4, 12-5, Figure 59)

Ismene mixta Mabille, 1876:6.
Ismene philetas Plötz, 1884:56.
Hasora simplicissima: Elwes & Edwards, 1897:299.
Hasora mixta cirta Fruhstorfer, 1911:68.
Hasora simplicissima mixta: Evans, 1932:314.
Hasora mixta mixta: Evans, 1949:65, pl. 14; de Jong & Treadaway, 1993b:16; 2007:11.
Holotype: *mixta* – ♀ "Manila, ex musæo Dris Boisduval, R. Oberthür Coll Brit. Mus. 1931-186," BMNH H2472 (examined); *philetas* – could not be located, TL: Philippines; *cirta* – "Philippinen, Bazilan II – III 98 Doherty, ex coll H. Fruhstorfer," BMNH H2473 (examined).
Description and diagnosis: Similar to *prabha*, but VW with purple sheen. Female, apical spot absent.
Distribution: PHILIPPINES: "Palawan" [mislabel?], Luzon, Marinduque, Mindoro, Leyte, Negros, Cebu, Samar, Sibuyan, Mindanao, Bazilan.

d. *H. mixta fenestrata* Fruhstorfer, 1911
(Plate 12-6, 12-7)

Hasora fenestrata Frunstorfer, 1911:77.
Hasora simplicissima fenestrata Evans, 1932: 314.
Hasora mixta fenestrata: Evans, 1949:65; Vane-Wright & de Jong, 2003:57.
Holotype: could not be located, TL: Minahassa.
Description and diagnosis: Female with only a spot in space 2.
Distribution: INDONESIA: Sulawesi (Makian, Tondano, Palu, Sino), Sula Besi, Mangola, Xulu.

e. *H. mixta simplicissima* (Mabille, 1876)
(Plate 12-8, 12-9)

Ismene simplicissima Mabille, 1876:25.
Hasora mixta simplicissima: Evans, 1949:66.
Holotype: "Moluccas, ex Musæo Dris Boisduval, R. Oberthür Coll. Brit. Mus. 1931-136," BMNH H2474 (examined).
Description and diagnosis: Wings rounded. VW purple sheen intense; markings faint. VHW with a white spot in space 1b. Female with no spot.
Distribution: INDONESIA: Batjan, Obi, Halmaheira, Amboina.

Hasora celaenus (Stoll, 1782)

(Plate 12-10, 12-11, Figure 60)

Papilio celaenus Stoll, 1782:215, pl. 393, fig. A, B.
Thymele lugubris Boisduval, 1832:161.
Hasora violacea Elwes & Edwards, 1897:299.
Hasora akshita Fruhstorfer, 1911:64.
Hasora celaenus: Evans, 1949:66; Parsons, 1999:152, Pl. 3, fig. 78, 79, 80; Tennent, 2002:33, 186, Pl. 2, fig. 3, 4, 5.
Holotypes: *celaenus* – could not be located, TL: Amboina; *lugubris* – could not be located, TL: Dorey; *violacea* – could not be located, TL: Amboina; *aksita* – ♀ "Waigui H. Fruhstorfer, Fruhstorfer Coll. BM 1933-131," BMNH H2475 (examined).
Description and diagnosis: Forewing length 22 mm. DW brown. VW shining indigo blue in male, light green in female.
Distribution: INDONESIA: Bawean, Tawaya, Obi, Amboina, Saparua, Ceram, Buru, Aru, Waigeo, Biak, West Irian.

Hasora badra (Moore, 1857), 2 subspecies

a. *H. badra lanka* Evans, 1926

(Plate 12-12, 12-13)

Hasora badra lanka Evans, 1926:59; 1932:314; 1949:66.
Holotype: "Ceylon 11.12 W H Evans BM 1932-274," BMNH H2437 (examined).
Description and diagnosis: DW yellowish brown. VHW cell spot yellow.
Distribution: SRI LANKA.

b. *H. badra badra* (Moore, 1858)

(Plate 12-14, 12-15, Figure 61)

Goniloba badra Moore, 1858:245, pl. 7, fig. 3, 3a; 1866:778.
Hasora badra: Moore, 1881:159, pl. lxv, figs. 4, 4a; Watson, 1891:12; Elwes & Edwards, 1897:298; Bell, 1924:144; Osada et al., 1999:Pl. 131; Igarashi & Fukuda, 2000:631, Pl. 335.
Ismene certhia Plötz, 1884:59.
Hasora badra godana Fruhstorfer, 1911:65.
Hasora badra sankarya Fruhstorfer, 1911:66.
Hasora badra badra: Evans, 1932:314, pl. xxx, fig. 1.6; 1949:66, pl. 14; Shirôzu, 1960:368, pl. 71, figs. 860, 861, 862, 863: Pinratana, 1985:20, pl. 6, fig. 19; de Jong & Treadaway, 1993:16; Monastyrskii & Devoyatkin, 2003:42; Vane-Wright & de Jong, 2003:57.
Holotypes: *badra* – "60.15 F.I.C., Java Horsf. 60.15 F.I.C., 062," BMNH H2439 (examined); *certhia* – could not be located [copy of MS plate in BMNH], TL: Philippines; *godana* – "Formosa Fruhstorfer, Fruhstorfer Coll BM 1933-131," BMNH H2438 (examined); *sankarya* – "Engano April-Juli Fruhstorfer, Fruhstorfer Coll. BM 1933-131," BMNH H2440 (examined).
Description and diagnosis: Forewing length 23 mm. VW brown with purple sheen; cell spot white, 1 mm.
Distribution: INDIA: "S. India," N. Kanara, Sikkim, Naga Hill, Khasia Hill, Mergui, Tavoy, S. Andaman; THAILAND: Chantaburi, N. Soidao; ; LAOS; VIETNAM: Tonkin, Hanoi; TAIWAN; CHINA: Hainan, Macao; MALAYSIA: Mt. Tahan; SINGAPORE; INDONESIA: Sumatra, Nias, Java, Sulawesi (south); PHILIPPINES: Palawan, Balabac.
Early stages: Bell (1924) and Fukuda et al. (1984) describe the larvae. Final instar larva: Head red with 5 black dots. Thorax and abdomen green with dorsal yellow longitudinal lines and transverse stripes; dorso-lateral black spots conspicuous.
Foodplants: Papilionoceae: *Derris uliginosa* (Bell, 1924), *D. elliptica* (Fukuda et al., 1984), *Millettia taiwaniana* (Uchida, 1991), *M. pachycarpa*, *Pongamia pinnata* (Igarashi & Fukuda, 2000).

Hasora sakit Maruyama & Uehara, 1992

(Plate 12-16)

Hasora sakit Maruyama & Uehara, 1992:43, fig. 1, 2, 3, 4, 5, 6, 7, 8.
Holotype: ♂, Popayato, N. Sulawesi, April 1985, K. Maruyama collection.
Description and diagnosis:Wings round. VW purple sheen faint. VHW cell spot cream white.
Distribution: INDONESIA: Sulawesi.
Remarks: There exist some specimens of *sakit* in BMNH. It seems that Evans examined them but considered them a form of *quadripunctata*. *H. sakit* could have been treated as a north and central population of *badra* until a specimen of *sakit* was found in S. Sulawesi.

Hasora quadripunctata (Mabille, 1876), 3 subspecies

a. *H. quadripunctata gnaeus* (Plötz, 1884)

(Plate 13-1, 13-2)

Ismene gnaeus Plötz, 1884:58.
Hasora gnaeus: Elwes & Edwards, 1897:298.
Hasora madatta Fruhstorfer, 1911:65.
Hasora quadripunctata gnaeus: Evans, 1949:67; de Jong & Treadaway, 1993b:16; 2007:12.
Holotypes: *gnaeus* – could not be located, TL: Philippines; *madatta* – "Java occident. Sukabumi 2000 1893, H. Fruhstorfer," BMNH H2441 (examined).
Description and diagnosis: Wings wider. Forewing length 23 mm. VHW white cell spot 2 mm.
Distribution: MALAYSIA: Kina Balu; INDONESIA: Sumatra (Bila, Selesseh), Java; BRUNEI; PHILIPPINES: Mindoro, Leyte, Samar, Mindanao.

b. *H. quadripunctata celebica* (Staudinger, 1889)
(Plate 13-3, 13-4)

Ismene badra var. *celebica* Staudinger, 1889:138.
Hasora quadripunctata celebica: Evans, 1949:67; Vane-Wright & de Jong, 2003:57.
Holotype: could not be located, TL: Celebes.
Description and diagnosis: Wings narrower. Forewing length 22 mm. VHW cell spot 1.5 mm. Female with small spots in space 2, 3 and discoidal cell on forewing.
Distribution: INDONESIA: Sulawesi (Macassar, Samanga).

c. *H. quadripunctata quadripunctata* (Mabille, 1876)
(Plate 13-5)

Ismene quadripunctata Mabille, 1876:265.
Hasora badra quadripunctata: Evans, 1932:314.
Hasora quadripunctata quadripunctata: Evans, 1949:67, pl. 14.
Holotype: ♀ "Moluccas, R. Oberthür Coll. Brit. Mus. 1931-186," BMNH H2442 (examined).
Description and diagnosis: Wings still narrower. Forewing length 21 mm. VW purple sheen intense. VHW spot 2 mm. Female with no spot.
Distribution: INDONESIA: Moluccas.

Hasora subcaelestis ROTHSCHILD, 1916

(Plate 13-6, 13-7)

Hasora subcaelestis Rothschild, 1916:43; [*subcoelestis*] Evans, 1949:67, pl. 2, 14; Parsons, 1999:152, Pl. 3, fig. 81, 82.
Holotype: "Base Camp, Utakwa R., sea level, Dutch N. Guin. Novemb 1912, A R F Wollaston, Rothschild Bequest BM 1939-1," BMNH (examined).
Description and diagnosis: Forewing length 25 mm. DW uniformly dark brown. VW black with blue veins, streaks and bands.
Distribution: PAPUA NEW GUINEA: Hydrographer Mts., S. Geelvink Bay, Babooni, Kapaur, Oetakwa R., Aroa R., Humboldt Bay, Mefor Is.
Early stages: Parsons (1999) describes a pupa.

Hasora vitta (BUTLER, 1870), 7 subspecies

a. *H. vitta indica* Evans, 1932
(Plate 13-8, 13-9, Figure 63a)

Hasora vitta indica Evans, 1932:315; 1949:68; Pinratana, 1985:21, pl. 6, fig. 20a.
Holotype: "Karen Hills, 6000, 4.20, W H Evans BM 1932-274," BMNH H2461 (examined).
Description and diagnosis: Forewing length 22 mm. VHW dark indigo blue; band 2.5 mm, outer edge diffused.
Distribution: INDIA: Nilgiri, Kanara, Manipur, Karwar, Sikkim, Darjiling, Mt. Abu, E. Pegu, Assam; MYANMAR: Yenwetung; THAILAND: Chang Mai; CHINA: Pa Tse Fang, Ta-tsien-lou, Kouy-Tcheou, Nanning, Chaotung, Konangsi, Hong Kong.
Early stages: Bell (1924) describes the life cycle in detail. Young (1993) illustrates 2 types of larvae. One with reddish orange head, and the other with black head. The former type may match Bell's description.
Foodplants: Papilionaceae: *Millettia racomosa, M. auriculata* (Bell, 1924).

b. *H. vitta manda* Evans, 1949
(Plate 13-10)

Hasora vitta manda Evans, 1949:68.
Holotype: "Andaman Islands, J J Joicey Coll, BM 1925-451," BMNH (examined).
Description and diagnosis: VHW base greenish blue; band sharply defined.
Distribution: INDIA: South Andaman (Fort Blair).

c. *H. vitta vitta* (Butler, 1870)
(Plate 13-11, 13-12, Figure 63b)

Hesperia vitta Butler, 1870:498.
Ismene chabrona Plötz, 1884:56.
Hasora vitta: Elwes & Edwards, 1897:300; Osada et al., 1993:Pl. 131; [*vitta vitta*]: Evans, 1932:315; 1949:68, pl. 14; Pinratana, 1985:21, pl. 6, fig. 20b; Monastyrskii & Devyatkin, 2003:42..
Hasora chabrona: Elwes & Edwards, 1897:300; Bell, 1924:285.
Holotypes: *vitta* – "Type H. T., Labuan Borneo (Low), Ex Druce Coll., Hasora vitta Butl., Godman-Salvin Coll 1914-5, BM(NH) Rh.(v)No.1266," BMNH H2462 (examined); *chabrona* – could not be located, TL: Malacca.
Description and diagnosis: Forewing length 21 mm. Forewing with yellow hyaline spot in space 6. VHW band 1.5 mm. Differs from *H. taminatus malayana* and *H. chromus* in wider band, and from *H. proxissima* in having forewing spot.
Distribution: MYANMAR: "Burma," Tavoy; THAILAND; LAOS; VIETNAM; MALAYSIA: Perak, Mt. Taban, Fraser's Hill, Kina Balu; INDONESIA: Sumatra (Bukit Kutu, Bila, P. Panding, Kilim Bungo, Batang Proepoe), Banka, Java, Nias.

d. *H. vitta proximata* (Staudinger, 1889)
(Plate 13-13, 13-14, Figure 63c)

Ismene proximata Staudinger, 1889:137.
Hasora proxisimata [sic!]: Elwes & Edwards, 1897:301.
Hasora vitta proximata: Evans, 1932:315; 1949:68; de Jong & Treadaway, 1993b:16; 2007:12.
Holotype: could not be located, TL: Palawan.
Description and diagnosis: Forewing length 23 mm. VFW discocellular bar conspicuous. VHW base metallic blue; band 2

mm.
Distribution: PHILIPPINES: Palawan.

e. *H. vitta pathana* Fruhstorfer, 1911
(Plate 13-15, 13-16, Figure 63d)

Hasora moestissima pathana Fruhstorfer, 1911:70.
Holotype: could not be located, TL: Luzon.
Description and diagnosis: Forewing length 22 mm. VHW not only base but also outer area metallic green.
Distribution: PHILIPPINES: Luzon, Mindoro, Mindanao.

f. *H. vitta sula* Evans, 1932
(Plate 13-17, 14-1)

Hasora vitta sula Evans, 1932:315; 1949:68; Vane-Wright & de Jong, 2003:58.
Holotype: "Sula Besi, 10.97, W H Evans BM 1932-274," BMNH H2464 (examined).
Description and diagnosis: VHW band narrow, 1 mm, sharply defined.
Distribution: INDONESIA: Sulawesi, Sula Besi.

g. *H. vitta simillima* Rothschild, 1916
(Plate 14-2)

Hasora simillima Rothschild, 1916:42.
Hasora latifascia Joicey & Talbot, 1917:222.
Hasora vitta similima [sic!]: Evans, 1949:69.
Holotype: *simillima* – "Base Camp, Utakwa R., sea level, Dutch N. Guin., Decemb 1912, A.F.R. Wollaston, Rothschild Bequest BM 1939-1, BM(NH)R(v)1267," BMNH H2450 (examined); *latifascia* – " Biak, Schouten Is., North N Guinea, June 1914, A C and F Pratt, J J Joicey Coll BM 1925-451," BMNH H2451 (examined).
Description and diagnosis: Forewing length 24 mm. Forewing without subapical dot in space 6. VHW base indigo blue, outer area purple-blue; band wider, 3 mm.
Distribution: INDONESIA: Waigeu, Mefor I., Biak, Irian (Kapaur).

Hasora moestissima (Mabille, 1876), 2 subspecies

a. *H. moestissima moestissima* (Mabille, 1876)
(Plate 14-3, 14-4, Figure 62)

Ismene moestissima Mabille, 1876:25.
Hasora moestissima: Elwes & Edwards, 1897:300; [*moestissima moestissima*] Evans, 1949:69, pl. 14; de Jong & Treadaway, 1993b:16; Vane-Wright & de Jong, 2003:58; de Jong & Treadaway, 2007:12.
Holotype: "Celebes, Ex Musæo Dris Boisduval, R. Oberthür Coll Brit. Mus. 1931-136," BMNH H2463 (examined).
Description and diagnosis: Forewing length 22 mm. DW grayish brown with yellow hyaline spot in space 6. VW without purple sheen. VHW band 1 mm, not reach costa.
Distribution: PHILIPPINES: Luzon, Mondoro, Leyte, Negros, Samar, Mindanao (Davao), "Benguet" ; INDONESIA: Sulawesi (Macassar, Palu).

b. *H. moestissima unica* Evans, 1934
(Plate 14-5)

Hasora khoda unica Evans, 1934:34.
Hasora moestissima caeruleostriata de Jong & Treadaway, 1982:39.
Hasora caeruleostriata: de Jong & Treadaway, 1993b:17; 2007:12.
Holotypes: *unica* – " Sretta [?] pp. 1157, R. Oberthür Coll, Brit Mus 1931-136, BMNH H2456 (examined); *caeruleostriata* – " Luzon, Quezon Park, Atimonan Rd, 30 V. 1956, leg. C. G. TREADAWAY," RMNH.
Description and diagnosis: Forewing length 24 mm. VFW pale discocellular bar absent. VHW band bluish white, 1 mm.
Distribution: PHILIPPINES: Palawan, Luzon, Marinduque, Mindanao.
Remarks: The collecting locality of the type specimen is not clear. Evans (1949) decided that it was Aru. The author believe that the type was mislabelled. Indeed, the type locality of *Ismene* mislabelled *splendida* (now *Hasora discolor splendida* from Bacan) described by Mabille is the Philippines, and such confusion could have happened in Mabille's types. All the later specimens identical to *unica* but described as *caeruleostriata* were collected in the Philippines, and not in Aru. This taxon may be just a form of *moestissima*.

Hasora perplexa (Mabille, 1876)

(Plate 14-6, 14-7, Figure 64)

Ismene perplexa Mabille, 1876:25.
Hasora perplexa: Evans, 1949:69, pl. 14.
Holotype: " Ism purplexa P Mab, Ex Musæo Dris Boisduval, R. Oberthür Coll, Brit. Mus. 1931-136," BMNH H2457 (examined).
Description and diagnosis: Wings broad, dark brown with purple sheen. VFW dorsum more or less paler. VHW white band 3 mm, narrown at costa and vein 2.
Distribution: INDONESIA: Moluccas.
Remarks: Only the type is known.

Hasora leucospila (Mabille, 1891), 2 subspecies

a. *H. leucospila leucospila* (Mabille, 1891)
(Plate 14-8)

Ismene leucospila Mabille, 1891:79.
Hasora palinda Swinhoe, 1905:618.

Hasora leucospila matisca Fruhstorfer, 1911:76.
Hasora leucospila parnia Fruhstorfer, 1911:76; Evans, 1932:315.
Hasora leucospila leucospila: Evans, 1949:71, pl. 14; Pinratana, 1985:21, pl. 7, fig. 21; de Jong & Treadaway, 1993b:18; Vane-Wright & de Jong, 2003:58; de Jong & Treadaway, 2007:13.
Holotype: *leucospila* – could not be located; *palinda* – "Java purfrom E. Swinhoe 1906-118, Hasora palinda Swinhoe ♂ type," BMNH H2465 (examined); *matisca* – "Philippinen, Bazilan II – III 98, Doherty, ex coll Fruhstorfer," BMNH H2467 (examined); *parnia* – "Nord-Borneo, ex coll Fruhstorfer," BMNH H2466 (examined).
Description and diagnosis: Forewing length 25 mm. DFW brown with black brand on both sides of veins 1b, 2, 3 and 4. VHW brown with purple sheen; trace of white band faintly seen above dark tornus. One female from Sulawesi: Forewing with yellow hyaline spots in space 2 and 3. VHW pale brown with trace of purple discal band and white dot in space 1b; tornus darker.
Distribution: MYANMAR: Tenasserim, Vietonia Point; MALAYSIA: Perak (Maxwell Hill), "Borneo"; INDONESIA: Sumatra (Lebong Tandai), Java, Sulawesi (Toil-Toli); PHILIPPINES: Luzon, Mindoro, Leyte, Negros, Samar, Mindanao.

b. *H. leucospila spila* Evans, 1949
(Plate 14-9)

Hasora leucospila spila Evans, 1949:71.
Holotype: "Amboina, Hewitson Coll 79-69, Ismene 2," BMNH (examined).
Description and diagnosis: VW purple sheen intense; band absent.
Distribution: INDONESIA: Amboina.

Hasora mavis EVANS, 1934

(Plate 14-10, Figure 93)

Hasora borneensis mavis Evans, 1934:34.
Hasora khoda mavis: Evans, 1949:70; Eliot, 1967:146.
Hasora mavis: Maruyama, 1991:6, Pl. 6, H 20, 7; de Jong & Treadaway, 2007:10.
Holotype: ♀ "Perak, Lakatt & Pamboo, Juillet – Aout 1895, R. Oberthür Coll, Brit Mus 1931-136," BMNH H2443 (examined).
Description and diagnosis: Extremely similar to *H. borneensis*, but wings with purple sheen. Genitalia are also different (Figure 93, 94).
Distribution: MALAYSIA; PHILIPPINES: Mindanao.
Remarks: Wing shape, markings and the distribution suggest that this taxon may be a female of *leucospila* whose female is extremely rare.

Hasora khoda MABILLE, 1876, 10 subspecies

a. *H. khoda coulteri* Wood Mason & de Nicéville, 1887
(Plate 14-11)

Hasora coulteri Wood Mason & de Nicéville, 1887:378, pl. xviii, figs. 8, 8a, 8b; Elwes & Edwards, 1897:300.
Hasora khoda coulteri: Evans, 1932:315; 1949:70; Pinratana, 1985:21, pl. 7, fig. 22.
Holotype: could not be located, TL: Cachar.
Description and diagnosis: Forewing length 22 mm. VHW band 2 mm.
Distribution: INDIA: Ataran, Cachar, Andaman; THAILAND: Chantaburi.

b. *H. khoda tantra* Fruhstorfer, 1911

Hasora anura tantra Fruhstorfer, 1911:66.
Hasora anura avajra Fruhstorfer, 1911:66.
Hasora khoda tantra: Evans, 1949:70.
Holotype: *tantra* – "Nias, ex coll Fruhstorfer, Fruhstorfer Coll BM 1933-131," BMNH H2452 (examined); *avajra* – "Sumbawa, ex coll Fruhstorfer, Fruhstorfer Coll BM 1933-131," BMNH H2453 (examined).
Description and diagnosis: VHW band only faintly indicated.
Distribution: INDONESIA: Nias, Java.

c. *H. khoda latalba* de Jong, 1982
(Plate 14-12)

Hasora khoda latalba de Jong, 1982:39.
Holotype: Simaloer, Coll. P. J. v. d. Bergh Lzn," RMNH.
Description and diagnosis: Forewing length 22 mm. VHW band 1mm in male and 2 mm in feale.
Distribution: INDONESIA: Sumatra, Simalue.

d. *H. khoda minsona* Swinhoe, 1907
(Plate 14-13, 15-1)

Hasora minsona Swinhoe, 1907:435.
Hasora mimosa [misspelling] Swinhoe, 1908:34, pl. III, fig. 2.
Hasora khoda venesta Evans, 1934:34.
Hasora khoda minsona: Evans, 1949:70.
Holotypes: *minsona* – "Borneo, Crowley Bequest 1901-78," BMNH H2454 (examined); *venesta* – "Philipp, R. Oberthür coll Brit. Mus. 1931-136," BMNH H2455 (examined).
Description and diagnosis: Forewing length 21 mm. VHW band 1 mm. Similar to *H. moestissima*, but purple sheen and forewing spot in space 6 absent.
Distribution: MALAYSIA: "Borneo," Kina Balu; BRUNEI; PHILIPPINES: Palawan, Luzon, Marinduque, Leyte, Samar, Negros; "Labuan," "Mt. Marapok."

e. *H. khoda burgeri* Ribbe, 1889
(Plate 15-2, 15-3)

Hasora burgeri Ribbe, 1889:73.
Hasora khoda burgeri: Evans, 1949:70; Vane-Wright & de Jong, 2003:58.
Holotype: could not be located, TL: Celebes.
Description and diagnosis: Larger than *minsona*. Forewing length 27 mm.
Distribution: INDONESIA: Sulawesi (Bonthain, Palu), Toekan Bessi, Siao, Talaut.

f. *H. khoda plexa* Evans, 1949
(Plate 15-4, 15-5)

Hasora khoda plexa Evans, 1949:70.
Holotype: "Buru, Watawa, 23.9.21, W H Evans BM 1932-274," BMNH (examined).
Description and diagnosis: VHW band wider, 5 mm.
Distribution: INDONESIA: Batchan, Ceram, Amboina.

g. *H. khoda dampierensis* Rothschild, 1915
(Plate 15-6)

Hasora dampierensis Rothschild, 1915:399.
Hasora khoda dampierensis: Evans, 1949:70; Parsons, 1999:151, pl. 3, fig. 70, 71, 72.
Holotype: "Dampier Isl, Feb & March 1914 [Meek's Expedition], Rothschild Bequest BM 1939-1, BM(NH)R(v)1269," BMNH (examined).
Description and diagnosis: Forewing length 26 mm. VHW chocolate brown; band 3 mm at widest, not reach costa, continuous at space 1b.
Distribution: PAPUA NEW GUINEA: Sattelberg, Bambooni, Welsch R., Angabunga R., St. Joseph R., Aroa R., Owagarra, Bumtibasa, Dampier Isl.

h. *H. khoda linda* Evans, 1934

Hasora khoda linda Evans, 1934:35; 1949:70; Parsons, 1999:151, pl. 3, fig. 73, 74; Tenennt, 2002:33, 186, Pl. 2, fig. 1, 2.
Holotype: "haslia ♂, Bougainville, Solomons 4.04, W H Evans BM 1932-274, BM(NH)R(v)1270," BMNH H2459 (examined).
Description and diagnosis: Forewing length 24 mm in male, 26 mm in female. Male: VHW band faint. Female: DW brown; base covered with paler hairs. Forewing with yellow hyaline spots in space 2, 3, 6 and 7. VHW band faint.
Distribution: PAPUA NEW GUINEA: Bougainville; SOLOMON ISLANDS: Guadalcanal, Florida I.

i. *H. khoda haslia* Swinhoe, 1899
(Plate 15-7)

Hasora haslia Swinhoe, 1899:107.
Hasora khoda haslia: Evans, 1949:71; Common & Waterhouse, 1971:66, pl. 2, fig. 12.
Holotype: ♂ "Brisbane pur from E. Swinhoe 1900-250," BMNH H2460 (examined).
Description and diagnosis: Larger. Forewing length 26 mm. VHW band 1 mm.
Distribution: AUSTRALIA: Brisbane, Cooktown, Noosa, Queensland, Sydney, New South Wales.
Early stages: Common & Waterhouse (1981) describe the early stages.
Foodplant: Papilionaceae: *Millettia megasperma, Wisteria*.

j. *H. khoda khoda* (Mabille, 1876)

Ismene khoda Mabille, 1876:25.
Hasora khoda khoda: Evans, 1949:71, pl. 14.
Holotype: " khoda Bd, Patria?, R. Oberthür Coll, Brit. Mus. 1931-136, Ex Museo Dris Boisduval," BMNH (examined).
Description and diagnosis: Forewing length 22 mm. VHW band narrow and suffused.
Distribution: Lifu, Ile Sandvich.

Hasora thridas (Boisduval, 1932), 2 subspecies

a. *H. thridas thridas* (Boisduval, 1832)
(Plate 15-8)

Thymele thridas Boisduval, 1832:161.
Ismene ribbei Plötz, 1886:115.
Hasora apara Fruhstorfer, 1911:74.
Hasora thridas thridas: Evans, 1949:71, pl. 14.
Holotypes: *thridas* – could not be located, TL: Buru; *ribbei* – could not be located, TL: Buru; *apara* – " Obi, H. Fruhstorfer, Fruhstorfer Coll BM 1933-131," BMNH H2468 (examined).
Description and diagnosis: Forewing length 25 mm. VW metallic greenish blue. VHW with trace of band, 1 mm; tornus indigo blue.
Distribution: INDONESIA: Amboina, Ceram, Halmahera, Obi, Gisser.

b. *H. thridas chalybeata* Joicey & Talbot, 1917
(Plate 15-9, Figure 65)

Hasora chalybeata Joicey & Talbot, 1917:222.
Hasora thridas chalybeata: Evans, 1949:72; Parsons, 1999:151, pl. 3, fig. 75, 76, 77.
Holotype: "Waigeu, Feb-March 1915, A.C. & F. Pratt, J J Joicey coll BM 1925-451," BMNH H2469 (examined).
Description and diagnosis: VHW band faint.
Distribution: INDONESIA: Aru, Waigeo, Salwatty, New

Hannover, New Britain, New Ireland.

Genus *Coeliades* HÜBNER, 1818

Coeliades Hübner, 1818:31. Type species: *Papilio forestan* Stoll, [1782]; by selection by Hemming, 1935.
Rhopalocampta Wallengren, 1857: 47. Type species: *Papilio forestan* Stoll, [1782]; by selection by Scudder, 1875.
Generic characters: Sexes alike. Antenna half as long as costa; apiculus one-fifith length of shaft. Wing venation (Figure 4e): Forewing: vein 1b curved downwards; vein 6 slightly curved near origin; vein 5 arising nearer to vein 6 than to vein 4; vein 3 arising more or less distad to vein 10; discocellular vein faint; cell two-thirds length of costa. Hindwing: vein 7 arising mid vein 3 and vein 2; vein 5 faint or absent; discocellular vein faint; cell less than half wing length. Wings with no hyaline spot or secondary sexual character. Abdomen shorter than hindwing, with dark hair tuft on intersegmental membrane between 8th tergite and tegumen.
Distribution pattern: *C. bixana* and *C. chalybe* are distributed sympatrically in West Africa between Nimba Mountains and Ghana'sVolta Region to western D. R. Congo. *C. chalybe* extends its distribution to East Africa, with a distinct subspecies in Ethiopia. They are replaced by *C. fervida* in Madagascar (Figure 21).

C. forestan is known in both the African Continent and Madagascar. *C. rama*, which belongs to this group, is also found in Madagascar. *C. ramanatek* probably replaces *C. libeon* in Madagascar (Figure 22).

C. pisistratus is distributed in most of tropical Africa and replaced by *C. fidia* in Madagascar. *C. hanno, C. sejuncta, C. menelik* and *C. keithloa* belong to the same group. *C. menelik* and *C. keithloa* have allopatric distribution. *C. hanno* is mainly found in West Africa but also in East Africa where it meets *C. menelik*. *C. sejuncta* is also found in East Africa, but restricted to the coastal area where *C. hanno* is not found (Figure 23).
Larval food plants: Larvae have wide range of foodplants including Asclepidaceae, Barringtoniaceae, Combretaceae, Euphorbiaceae, Malpighiaceae, Papilionioideae and other families.

The genus consists of 13 species and 19 subspecies.

Key to the species of *Coeliades*

1. Wings metallic blue or greenish blue, usually with a white spot on the ventral side of the hindwing 2
1'. Wings not so 3
2. Ventral side of the hindwing, white spot crosses space 3 ..... *C. bixana*
2'. Ventral side of the hindwing, white spot, if present, not beyond space 3, the white marking may absent ..... *C. chalybe*
3. Hindwing, cilia white 4
3'. Hindwing, cilia tornally yellow, orange or red 5
4. Ventral side of the hindwing with white band ..... *C. ramanatek*
4'. Ventral side of the hindwing with no band ..... *C. libeon*
5. Ventral side of the hindwing plain with no marking ..... *C. rama*
5'. Ventral side of the hindwing with a discal band or subtornal markings 6
6. Ventral side of the hindwing with white or yellow band 7
6'. Ventral side of the hindwing with subtornal red markings. If the band is present, narrower than 3 mm 12
7. Ventral side of the hindwing, band encloses black spots 8
7'. Ventral side of the hindwing, band not enclose black spots 10
8. Ventral side of the hindwing with a black spot in space 4; band not narrower at costa ..... *C. hanno*
8'. Ventral side of the hindwing without a black spot in space 4; band narrower at costa 9
9. Ventral side of the hindwing, band white, tornus black ..... *C. pisistratus*
9'. Ventral side of the hindwing, band yellow, tornus orange ..... *C. sejuncta*
10. Ventral side of the hindwing, band wider, 10 mm, not sharply edged ..... *C. fervida*
10'. Ventral side of the hindwing, band 5 mm, sharply edged 11
11. Ventral side of the hindwing without a white spot in space 1b ..... *C. fidia*
11'. Ventral side of the hindwing with an isolated white spot in space 1b ..... *C. forestan*
12. Ventral side of the hindwing, space 1b brown ..... *C. keithloa*
12'. Ventral side of the hindwing, space 1b red or yellow ..... *C. menelik*

Coeliades bixana EVANS, 1940

(Plate 15-10, Figure 66)

Ismene bixae: Kirby, 1871:582.
Hesperia bixae: Butler, 1887:573.
Rhopalocampta bixae: Mabille, 1904:88; Aurivillius, 1925:508, pl. 75; Strand, 1933:44.
Coeliades bixae: Evans, 1937:11, pl. 8.
Coeliades bixana Evans, 1940:410; 1947:641; Lindsey & Miller, 1965:49; Larsen, 2005:466, pl. 110, fig. 1204a, b, c.
Holotype: ♂, [Ghana], "Odumase Swamp, Coomassie 1913 Slleed [?], J J Joicey Coll, B.M. 1925-451," BMNH H2535 (examined).

Description and diagnosis: Forewing length 27 mm. Wings dorsally dark velvet blue. Thorax dorsally blue, ventrally orange. Hindwing lobed. VHW white spot separated from costa.
Distribution: GUINEA; CÔTE D'IVOIRE: Nimba Mountains; GHANA: Kumasi, Gold Coast; NIGERIA; CAMEROON; CENTRAL AFRICAN REPUBLIC; D. R. CONGO [ZAÏRE]: Kasai, "Banterberri" ; ANGOLA; "Lake Asebbe," "Bopoto."
Remarks: The name of this species has been confused with an American taxon, *Phyrrhopige bixae*.
Early stages: Fontaine (1988) describes the early stages.
Foodplant: Malpighiaceae: *Triaspis odorata* (Vuattoux, 1999).

Coeliades chalybe (Westwood, 1852), 2 subspecies

a. *C. chalybe chalybe* (Westwood, 1852)

(Plate 15-11, 15-12, Figure 67)

Ismene chalybe Westwood, 1852:515; Doubleday & Hewitson, 1852:pl. 77, fig. 2; Aurivillius, 1891:226.
Rhopalocampta chalybe: Mabille, 1904:88; Aurivillius, 1896:291; 1925:508, pl. 75.
Coeliades chalybe: Evans, 1937:11, pl. 8; Lindsey & Miller, 1965:50, fig. 10; Boorman, 1970:40, fig. 106, 55; Carcasson, 1981:97; Kielland, 1990:227, pl. 56; Larsen, 1991:388, pl. 57, fig. 720i; 2005:466, pl. 110, fig. 1203a, b, c.
Holotype: ♀, "67. Guinee, Ismene chalybe, Westwood, (genera of diurnal Lepidoptera II vol. pl. IXXIX fig2 type specimen, R. Oberthür Col), Brit. Mus. 1931-136, Ex Musæo Dris Boisduval," BMNH H2517 (examined).
Description and diagnosis: Forewing length 21 mm. Wings bright metallic blue in male, darker and greenish in female. VHW white spot reaches costa.
Distribution: SENEGAL: Basse Casamance; GAMBIA; GUINEA; SIERRA LEONE; LIBERIA; CÔTE D'IVOIRE; GHANA; TOGO; BENIN; NIGERIA; CAMEROON; EQUATORIAL GUINEA; GABON; R. CONGO; D. R. CONGO; ANGOLA; UGANDA; KENYA: west; TANZANIA: Usambara Mountains.
Foodplants: Asclepiadaceae: *Cynanchum* sp. (Kielland, 1990), *Marsdenia* sp.; Malpighiaceae: *Acridocarpus smeathmannii*; Sterculiaceae: *Theobroma cacao* (Larsen, 2005).
Bionomics: The skipper flies so rapidly and is only seen as a blue streak (Larsen, pers. comm.).
Remarks: The presence of a population of *chalybe* in the Usambara Mountains is very unusual. It seems to be identical to the nominotypical *chalybe* (Larsen, pers. comm.).

b. *C. chalybe immaculatus* (Carpenter, 1935)

Rhopalocampta chalybe immaculata Carpenter, 1935:404.
Holotype: Hope Entomological Collection, Oxford University, TL: Ethiopia.
Description and diagnosis: White marking on the ventral side of the hindwing absent.
Distribution: ETHIOPIA.

Coeliades fervida (Butler, 1880)

(Plate 15-13, Figure 68)

Hesperia fervida Butler, 1880:339.
Rhopalocampta fervida: Mabille, 1904:88.
Coeliades fervida: Evans, 1937:13, pl. 8; Viette, 1956:10, fig. 8, 14.
Holotype: "Madagascar 80.23," BMNH H2525 (examined).
Diagnosis: Forewing length 25 mm. DW dark brown with orange tornal area. VHW dark brown; white band wide, 10 mm at costa; tornus with triangular orange area.
Distribution: MALAGASY REPUBLIC: Madagascar.

Coeliades forestan (Stoll, 1784), 2 subspecies

a. *C. forestan forestan* (Stoll, 1784)

(Plate 15-14, Figure 75)

Papilio Plebeius Urbicola forestan Stoll, 1784:210, pl. 391, figs. E, F.
Ismene forestan: Kirby, 1871:581; Mathew, 1889:428; Aurivillius, 1891:226.
Hesperia forestan,: Butler, 1887:573.
Rhopalocampta forestan: Aurivillius, 1896:290; 1925:508, pl. 75; de Fleury, 1926:154.
Coeliades forestan: Carpenter, 1935:404; Evans, 1937:13, pl. 8; Lindsey & Miller, 1965:51, fig. 12; Pinhey, 1965:198, pl. 41, fig. 7; Gifford, 1965: 1; Williams, 1971:224; Kielland, 1990:227, pl. 56; Larsen, 1991:389, Pl. 57, fig. 723i; 2005:467, pl. 110, fig. 1207a, b.
Holotype: could not be located, TL: "Bengal Coast."
Description and diagnosis: Forewing length 22 mm. VHW dark brown; band white, 4 mm, not contracted at costa, no black tornal spot in band; with a separate white dot in space 1b.
Distribution: Wide spread throughout Africa.
Early stages: Mathew (1889) describes the larva and pupa.
Foodplants: Papilionioideae: *Indigofera, Sesbania, Crotalaria, Canavalia, Millettia, Phaseolus, Robinia, Cassia, Pterocarpus santalinoides*; Solanaceae: *Solanum*; Asclepidaceae: *Marsdenia, Dregea*; Geraniaceae: *Geranium; Combretaceae: Combretum, Quisqualis, Terminalia*; Malpighiaceae: *Sphedamnocarpus, Triaspis odorata*; Malvaceae: *Gossypium; Sterculiaceae: Theobroma cacao*; Rutaceae: *Conchocarpus*; Rhizophoraceae: *Cassipourea congoensis*.
Bionomics: Larsen (1991) lists *forestan* as a species of occasional well-documented migration events.

b. *C. forestan arbogastes* (Guenée, 1862)

(Plate 15-15)

Thymele arbogastes Guenée, 1862:19.

Hesperia margarita Butler, 1879:392.
Rhopalocampta arbogastes: Mabille, 1904:88.
Coeliades forestan arbogastes: Evans, 1937:13.
Holotypes: *arbogastes* – ♀, "Madag. Ex Musæo Ach. Guenee, R. Oberthür Coll. Brit. Mus. 1931-136," BMNH H2526 (examined); *margarita* – ♀, "Madagascar 78.64," BMNH H2527 (examined).
Description and diagnosis: DW greenish rather than yellowish as in *forestan*.
Distribution: MALAGASY REPUBLIC: Madagascar, Seychelles.

Coeliades rama Evans, 1937

(Plate 16-1, Figure 76)

Ismene ratek: Kirby, 1871:581
Coeliades rama Evans, 1937:13, pl. 8; Viette, 1956:9, fig. 7, 12.
Holotype: " Nord Madagascar (Antakares), Isokitraa Diego Suarez, Mai a Octobre 1891, E. & B. Perrot, R. Oberthür Coll, Brit. Mus. 1931-136," BMNH H2523 (examined).
Description and diagnosis: Forewing length 21 mm. DW dark brown, VW dark grayish brown with no marking; hindwing cilia orange.
Distribution: MALAGASY REPUBLIC: Madagascar.

Coeliades libeon (Druce, 1875)

(Plate 16-2, Figure 73)

Ismene libeon Druce, 1875:416.
Ismene unicolor Mabille, 1877:39.
Ismene andonginis Plötz, 1884:60.
Ismene brussauxi Mabille, 1890:221.
Rhopalocampta unicolor: Mabille, 1904:88.
Rhopalocampta libeon: Mabille, 1904:88; Aurivillius, 1925:508.
Rhopalocampta brussauxi: Mabille, 1904:88.
Rhopalocampta libeon unicolor: Aurivillius, 1925:508.
Rhopalocampta libeon brussauxi: Aurivillius, 1925:508.
Coeliades libeon form *libeon*: Evans, 1937:12.
C*oeliades libeon* form *brussauxi*: Evans, 1937:12.
Coeliades libeon: Lindsey & Miller, 1965:51; Gifford, 1965:1; Pinhey, 1965:199; Kielland, 1990:228, pl. 56; Larsen, 1991:389, Pl. 57, fig. 721i; 2005:467, pl. 110, fig. 1206a, b.
Holotypes: *libeon* – " Angola, Monteiro Ex Druce Coll., P. L. S. 1895, Ismene libeon Druce, Godman-Salvin Coll 1914-5," BMNH H2521 (examined); *unicolor* – " Congo, Type Mabille, unicolor P. Mab. Bull u [?] 1877, Ex Musæo P Mabille 1923, R. Oberthür Coll. Brit. Mus. 1931-136," BMNH H2522 (examined); *brussauxi* – " Cebomghi, Congo, Ex Musæo P. Mabille 4923, Type Mabille, R. Oberthür Coll. Brit. Mus. 1931-136," BMNH H2520 (examined).
Description and diagnosis: Forewing length 22 mm. Wings uniformly dark brown with no marking; hindwing cilia white.
Distribution: SIERRA LEONE; LIBERIA: " Harbel" ; CAMEROON; GABON; R. CONGO; UGANDA; KENYA; MALAWI; "RHODESIA [ZIMBABWE/ ZAMBIA]" ; SOUTH AFRICA.
Foodplants: Euphorbiaceae: *Drypetes*; Papilionioideae: *Cassia, Millettia* (Larsen, 1991), *Craibia* (Larsen, 2005); Celastraceae: *Salacia stuhlmanianna*; Erythroxylaceae: *Erythroxylum emarginatum* (Vuattoux, 1999).
Bionomics: Larsen (1991) listed *libeon* as a regular migrant.

Coeliades ramanatek (Biosduval, 1833), 2 subspecies

a. *C. ramanatek ramanatek* (Biosduval, 1833)

(Plate 16-3, Figure 74)

Thymele ramanatek Biosduval, 1833:210, pl. 9, fig. 3.
Ismene ramenetek [sic!]: Kirby, 1871:581.
Rhopalocampta ramanatek: Mabille, 1904:88; Aurivillius, 1925:508, pl. 75; [*ramenetek*] Strand, 1933:40.
Coeliades ramanatek ramanatek: Evans, 1937:12, pl. 8; Viette, 1956:7, fig. 2, 4.
Holotype: " Ex Musæo Dris Boisduval, Thymele Ramanatek, Bois (faune-madagascar page 62 pl. 9 fig. 2), ex typicalibus specimenibus!, R. Oberthür coll. Brit. Mus. 1931-136," BMNH H2518 (examined).
Description and diagnosis: Forewing length 21 mm. DW dark grayish brown. DHW tornus and cilia white. VFW with a discal bar and white tornal area. VHW with a white discal dot and submarginal white band.
Distribution: MALAGASY REPIBLIC: Madagascar.

b. *C. ramanatek comorana* Evans, 1937

Coeliades ramanatek comorana Evans, 1937:12; Viette, 1956:9.
Holotype: "Grande-Comore, L. Humbolt 1884, R. Oberthür Coll. Brit. Mus. 1931-136," BMNH H2519 (examined).
Diagnosis: VW white discal bar and dot smaller.
Distribution: COMORO: Grande Comoro, Mayotte, Anjouan.

Coeliades keithloa (Wallengren, 1857), 2 subspecies

a. *C. keithloa keithloa* (Wallengren, 1857)

(Plate 16-4, Figure 69a)

Rhopalocampta keithloa Wallengren, 1857:48; Mabille, 1904:88; Aurivillius, 1925:509, pl. 75.
Ismene stella Trimen, 1862:287.
Ismene keithloa: Kirby, 1871:581.
Ismene tancred Plötz, 1884:62.
Coeliades keithloa: Evans, 1937:14, pl. 18; 1947: 641; Pinhey, 1965: 199.
Holotypes: *keithloa* – could not be located, TL: Kaffraia; *stella* – ♂, [SOUTH AFRICA], "Natal D' Urban, Ex Trimen Coll., Cat p467 No,. 1, J.J. Joicey Coll. BM 1923-451," BMNH H2530 (examined); *tancred* – ♀, [SOUTH AFRICA], "Natal, MS. Plate No. 1182 (examined);

Description and diagnosis: Forewing length 24 mm. Wings brown. VHW orange marking in space 2 not reaches tornus; with two black dots in space 1b.
Distribution: SOUTH AFRICA: Natal; ZIMBABWE.
Foodplant: Barringtoniaceae: *Barringtonia* (Larsen, 1991).

b. *C. keithloa lorenzo* Evans, 1947
(Plate 16-5, Figure 69b)

Coeliades keithloa lorenzo Evans, 1947:641.
Holotype: [MOZAMBIQUE], "Afrique Orientale, Rikatla (24 kilom. Nord) de Lourenco Marques, Pasteur Henri A. Junod, Reçu Mars 1922, R. Oberthür Coll. Brit. Mus. 1931-136," BMNH (examined).
Description and diagnosis: Forewing length 25 mm. DHW orange area narrower than that of *keithloa*. VHW orange marking reaches tornus, with a black bar rather than a dot.
Distribution: MOZAMBIQUE: Maputo [Lourenço Marques]; SWAZILAND; SOUTH AFRICA: Limpopo Province, Mpumalanga, KwaZulu-Natal.

Coeliades menelik (Ungemach, 1932), 3 subspecies

a. *C. menelik kenya* Evans, 1937 new status
(Plate 16-6, Figure 70b)

Coeliades kenya Evans, 1937:14, pl. 1, fig. 3, pl. 8.
Coeliades keithloa kenya: Evans, 1947:642; Kieland, 1990:228, pl. 56; Larsen, 1991: 390, pl. 57, fig. 727i.
Holotype: [KENYA], "Brit. E. Africa, Mombasa 12-13 Feb 1912, S.A. Neave, 14 Feb 1912, 1912:193," BMNH H2529 (examined).
Description and diagnosis: Forewing length 28 mm. VHW pale grayish brown; tornus orange with two black dots in space 1b and two oblonged marginal black spots.
Distribution: KENYA: Mombasa, Sabaki Valley, Melindi, Takaunga, Tarna, Lamn, Nasim, Kilimanjaro; TANZANIA.
Foodplants: Malpighiaceae: *Acridocarpus*; Asclepiadaceae: *Marsdenia*; Combretaceae: *Combretum*; Connaraceae: *Brysocarpus* (Larsen, 1991).
Remarks: M. J. W. Cock found that larvae of *kenya* different and specifically distinct from that of *keithloa* which was believed to be conspecific (Larsen, 1991), which agree with the taxonomic treatment based on male genitalia in this study.

b. *C. menelik merua* Evans, 1947 new status
(Plate 16-7, Figure 70a)

Coeliades merua Evans, 1947:643.
Holotype: "Meru, Kenya, 5. 1946, T.H.E. Jackson, BM 1947-49, T H E Jackson, " (examined).
Diagnosis: Forewing length 24 mm. VHW markings paler than that of *kenya*, with a black bar instead of two dots; space 1b faintly yellow; in one male specimen, discal yellow band (1 mm) from orange marking almost reaches costa.
Distribution: KENYA: Meru.

c. *C. menelik menelik* (Ungemach, 1932)
(Plate 16-8)

Rhopalocampta menelik Ungemach, 1932:99.
Coeliades menelik: Evans, 1937:15, pl. 8; Carpenter, 1935:404.
Coeliades keithloa menelik: Evans, 1947:643.
Holotype: in Ungemach collection, TL: Abyssinia.
Description and diagnosis: VHW tornal orange wider, reaches discoidal cell, with a black bar in space 2 and a dot in space 3.
Distribution: ETHIOPIA: "Giho River," Sayo (Lilmo); UGANDA.

Coeliades hanno (Plötz, 1879)

(Plate 16-9, Figure 71)

Ismene hanno Plötz, 1879:363.
Ismene necho Plötz, 1884:63.
Rhopalocampta hauno: Mabille & Vuillot, 1891:pl. 3, fig. 1.
Rhopalocampta hanno: Mabille, 1904:88.
Rhopalocampta necho: Mabille, 1904:88; Aurivillius, 1925:509.
Rhopalocampta necho ab. *tripunctata* Aurivillius, 1925:509, pl. 75.
Coeliades hanno: Carpenter, 1935:404; Evans, 1937:14, pl. 8; Lindsey & Miller, 1965:52, fig. 13; Kielland, 1990: 227, pl. 56; Larsen, 1991:390, pl. 53, fig. 725i; 2005:468, pl. 110, fig. 1209a, b.
Holotypes: *hanno* – could not be located [MS plate No. 1179], TL: Accra; *necho* – could not be located [MS plate No. 1180], TL: Guinea; *tripunctata* – could not be located.
Description and diagnosis: Forewing length 22 mm. VHW band 5 mm, not contracted at costa; cream yellow in male, white in female. Similar to *C. pisistratus*, but has black spots in space 4.
Distribution: SENEGAL; GUINEA; SIERRA LEONE; LIBERIA; CÔTE D'IVOIRE; GHANA; TOGO; NIGERIA; CAMEROON; SAŌ THOME; GABON; R. CONGO; D. R. CONGO; ANGOLA; UGANDA; KENYA: western; TANZANIA; ETHIOPIA.
Foodplants: Malpighiaceae: *Acridocarpus* sp. (Kielland, 1990), *Flabellaria panicalata* (Vuattoux, 1999).

Coeliades sejuncta (Mabille & Vuillot, 1891)

(Plate 16-10)

Ismene sejuncta Mabille & Vuillot, 1891:19, pl. 3, fig. 2.
Rhopalocampta sejuncta: Mabille, 1904:88; Aurivillius, 1925:509, pl. 75.
Coeliades sejuncta: Evans, 1937:14, pl. 8; Kielland, 1990:228, pl. 56; Larsen, 1991:390, pl. 57, fig. 726i.
Holotype: ♀, in Zoological Museum der Humboldt Universität,

Berlin, TL: Ussagara.
Description and diagnosis: Forewing length 26 mm. VHW band yellow, 5 mm, 2.5 mm at costa; tornus orange with four black markings.
Distribution: KENYA: coastal area; TANZANIA; MALAWI.
Foodplant: Malpighiaceae: *Acridocarpus zanzibarium* (Kielland, 1990).

Coeliades pisistratus (FABRICIUS, 1793)

(Plate 16-11, Figure 72)

Hesperia pisistratus Fabricius, 1793:345.
Rhopalocampta valmaran Wallengren, 1857:48.
Ismene pisistratus: Kirby, 1871:581.
Ismene valmaran,: Kirby, 1871:581.
Rhopalocampta pisistratus: Mabille, 1904:88; Aurivillius, 1925:508, pl. 75; Strand, 1933:42.
Coeliades pisistratus: Carpenter, 1935:404; Evans, 1937:14, pl. 8; Lindsey & Miller, 1965:52; Pinhey, 1965:199, pl. 41, fig. 8; Kielland, 1990:228, pl. 56; Larsen, 1991:390, pl. 57, fig. 724i; 2005:467, pl. 110, fig. 1208a,b.
Holotype: in Zoological Museum of Copenhagen, TL: "America."
Description and diagnosis: Forewing length 22 mm. VHW band white, 5 mm, contracted at costa. Similar to *hanno*, but has no spot in space 4.
Distribution: GUINEA-BISSAU; GUINEA; SIERRA LEONE; LIBERIA; CÔTE D'IVOIRE; BURKINA FASO; GHANA; TOGO; BÉNIN; NIGERIA; CAMEROON; EQUATORIAL GUINEA; GABON; R. CONGO; CENTRAL AFRICAN REP.; ANGOLA; D. R. CONGO; SUDAN; UGANDA; RWANDA; BRUNDI; ETHIOPIA; SOMALIA; TANZANIA; KENYA; MALAWI; ZAMBIA; MOZAMBIQUE; ZIMBABWE; "RHODESIA"; BOTSWANA; NAMIBIA; SOUTH AFRICA: Transvaal, Natal; SWAZILAND; LESOTHO.
Foodplants: Malpighiaceae: *Acridocarpus zanzibaricum*, *A. longifolium*, *Triaspis odorata*; Asclepiadaceae: *Marsdenia*; Papilionioideae: *Indigofera* (Kielland, 1990); Combretaceae: *Combretum* (Larsen, 1999).
Remarks: The skipper is less tolerant of extreme dry zones than *forestan* (Larsen, pers. comm.).

Coeliades fidia EVANS, 1937

(Plate 16-12)

Coeliades fidia Evans, 1937:13, pl. 1, fig. 2, pl. 8; Viette, 1956: 15, fig. 10, 13, 15.
Holotype: "Madagascar Macoa nana 1917, R. Oberthür coll, Brit. Mus. 1931-136," BMNH H2524 (examined).
Description and diagnosis: Forewing length 21 mm. Wings dorsally brown. VHW brown; white band 6 mm at costa; cilia orange. Similar to *forestan* but with no white dot in space 1a of ventral hindwing.
Distribution: MALAGASY REPUBLIC: Madagascar.

Genus *Choaspes* MOORE, 1881

Choaspes Moore, 1881:158. Type species: *Thymele benjaminii* Guérin-Méneville, 1843 by original designation.
Generic characters: Compound eyes hairy. Antenna longer than 1/2 length of forewing costa. Wing venation (Figure 4d): Forewing, base of vein 3 more basad than that of vein 11. Hindwing, discoidal vein and vein 5 absent. Wings usually indigo blue or greenish blue with yellow or orange tornal area on hindwing. Hindwing tornus normal, lobed or tailed. Hyaline spot absent. Tibia of metathoracic leg in male with erectile hair tuft fitting into thoracic pouch and recumbent hair pencil associated with abdominal groove filled with shining scales. Male genitalia: uncus single, long; saccus short.
Larval foodplant: mainly Sabiaceae, but other families are also utilized.

The genus consists of 8 species and 22 subspecies.

Key to species of *Choaspes*

1. Brand present on the dorsal side of the wings in the male 2
1'. Brand absent 4
2. Dorsal wings ground color dark greenish brown. Brand dense ..... *C. stigmatus*
2'. Dorsal wings ground color indigo blue. Brand sparse 3
3. Smaller. Forewing length 26 mm or less. Dorsal side of the hindwing, tornal orange area wider ..... *C. plateni*
3'. Larger. Forewing length nearly 30 mm. Tornal orange area narrower ..... *C. adhara*
4. Palpi reddish orange ventrally. Ventral hindwing, tornal yellow area reaches vein 4, inwardly tirned reddish orange ..... *C. illuensis*
4'. Palpi yellow or pale orange 5
5. Valva with beak-like process (Figure 6b) ..... *C. benjaminii*
5'. Valva without beak-like process 6
6. Valva with projection extended from the tip 7
6'. Valva with projection along the discal edge (Figure 82). Wings dark greenish brown ..... *C. xanthopogon*
7. Valval projection disk-like (Figure 84). Veins not darker than pale green ground color. Wings produced ..... *C. subcaudatus*
7'. Valval projection finger-like (Figure 83). Veins darker than ground color, wing color varies ..... *C. hemixanthus*

Choaspes stigmatus Evans, 1932, 3 subspecies

a. *C. stigmatus stigmatus* Evans, 1932

(Plate 17-1, 17-2, Figure 78a)

Choaspes stigmata stigmata Evans, 1932:320; Monastyrskii & Devyatkin, 2003:42.
Choaspes plateni stigmata: Evans, 1949:73, pl. 2.
Holotype: ♂, [INDIA], "Assam, Khasi H., W.H.Evans, BM 1932-274," BMNH H2504 (examined).
Description and diagnosis: Hindwing tornus normal; tornal markings reddish orange. Similar to three sympatric species: *C. benjaminii japonicus, C. xanthopogon xanthopogon*, and *C. hemixanthus furcatus*, but larger and easily recognizable in having male brand. Tornal tongue is separated from the spot in space 1b (merged in other three species).
Distribution: INDIA: Delhi, Sikkim (Darjeeling), Assam, "N. India"; CHINA: Kwangtung (Hainan Is.); THAILAND: Nan; VIETNAM: north & central to Lam Dong, "Central-Tonkin."
Foodplant: Sabiaceae: *Meliosma pungens.*

b. *C. stigmatus caudatus* Evans, 1932

(Plate 17-3, 17-4, Figure 78b)

Choaspes stigmata caudata Evans, 1932:320.
Choaspes plateni caudata: Evans, 1949:74, pl. 2; Maruyama, 1991:8, pl. 6, H23; de Jong & Treadaway, 1993:19; 2007:14.
Choaspes stigmatus: Igarashi & Fukuda, 1997:515, plate 272.
Holotype: ♂, [MYANMAR], "King Is., Mergui, 2.22, W H Evans, BM 1932-274," BMNH H2505 (examined).
Description and diagnosis: Hindwing, tornus lobed; tornal markings yellow; tornal tongue present. Similar to *C. benjaminii flavens, C. benjaminii pallidus, C. xanthopogon cora* and *C. subcaudatus crawfurdi*, but male brand present (absent in the other species), tornal tongue present (faint in *pallidus*), tornal tongue not extend spots (extends in *crawfurdi*), and tongue attaches to spot in space 1b (separated in *cora* and *flavens*).
Distribution: MYANMAR: Tenasserim (Mergui); THAILAND: Chaing Mai, Fang, Muang Chone, Ranong; MALAYSIA; SINGAPORE; INDONESIA: Sumatra (Battak, Medan, Setinjak, Selesseh, Loeboe Rajak, Batan Proepoe, Padang), Nias, Bangka, Borneo.
Early stages: Igarashi (1992) and Igarashi & Fukuda (1997) illustrate the final instar larva and pupa from Borneo. Final instar larva: Head orange with 6 small dots. Thorax and abdomen velvet-black with a pair of azure dots and 4 cream-white bands.
Foodplant: Sabiaceae: *Meliosma sarawakensis* (Igarashi, 1992).

c. *C. stigmatus extensus* Evans, 1932

(Plate 17-5, 17-6)

Choaspes stigmatus extensa Evans, 1932:320.
Choaspes plateni extensa:Evans, 1949:74, pl. 2.
Holotype: ♂, "W. Java, W H Evans, BM 1932-274," BMNH H2506 (examined).
Description and diagnosis: Hindwing, tornus lobed; markings yellow; tornal tongue absent. Similar to *C. subcaudatus*, but tornus tailed in *subcaudatus*.
Distribution: INDONESIA: Java, Bali, Lombok.
Early stages: Pipers& Snellen (1910) reported two larval color "forms" of *subcaudata*. Evans (1949) considered the larva with yellow spots (Pipers & Snellen, 1910, fig. 23) to be the larva of this taxon without any explanation. If the larval form recapitulates the phylogenetic relationship, then the other form with stripes must be the larva of this taxon (Chiba, 1989).
Final instar larva: Head orange with 6 spots. Thrax and abdomen velvet-black with a pair of azure dots and grayish green bands.
Foodplants: Sabiaceae: *Meliosma lanceolata, M. ferruginea* (Pipers & Snellen, 1910).

Choaspes benjaminii (Guérin-Méneville, 1843), 4 subspecies

a. *C. benjaminii benjaminii* (Guérin-Méneville, 1843)

(Plate 17-7, Figure 77a)

Thymele benjaminii Guérin-Méneville, 1843:79, pl. xxii, figs. 2, 2a.
Choaspes benjamini: Moore, 1881:159, pl. lxiv, figs. 1, a, b.
Rhopalocampta benjamini: Elwes & Edwards, 1897:307.
Choaspes benjaminii benjaminii: Evans, 1949:74, pl. 2, 14.
Holotype: could not be located, TL: Nilgiris.
Description and diagnosis: darker than *japonicus*. VHW, tornal black tongue smaller. Male genitalia, outer margin of harpe smoothly round.
Distribution: SRI LANKA; INDIA: South India.

b. *C. benjaminii japonicus* (Murray, 1875)

(Plate 17-8, 17-9, Figure 77b)

Ismene benjaminii var. *japonica* Murray, 1875:4.
Rhopalocampta benjaminii formosana Fruhstorfer, 1911:78.
Rhopalocampta benjamini: Bell, 1925:304.
Choaspes benjaminii japonica: Evans, 1949:75.
Choaspes benjaminii formosana: Evans, 1949:75; Shirôzu, 1960:368, pl. 72, 876, 877, 878, 879; Monastyrskii & Devyatkin, 2003:42.
Choaspes benjaminii: Igarashi & Fukuda, 1997:513, plate 274; Osada et al., 1999: Pl. 132.
Holotypes: *japonicus* – ♂, "ex coll. Murray, Sale Nov 12th 1885, Intzoo Japan, Pryer, Ismene benjaminii affinis," BMNH H2510 (examined); *formosanus* – ♂, "Formosa Fruhstorfer, Chip Chip 16-31, Fruhstorfer Coll. BM 1933-131, VII 08," BMNH H2511 (examined).
Description and diagnosis: VHW, tornus normal, markings reddish orange, tornal tongue larger, tends to be separated from

black spot in space 1b. Male genitalia, outer margin of harpe flat. Extremely similar to *C. xanthopogon xanthopogon* and *C. hemixanthus furcatus*. DW bluish green in *japonicus*, dark green in *xanthopogon*, and pale green in *furcatus*. Examination of male genitalia is necessary to insure the identification.

Distribution: NEPAL; INDIA: North West Himalayas, Mussoorie, Kumaon, Sikkim (Darjiling), Assam, Manipur; MYANMAR: Maymyo, Karens, Shan States; CHINA: Szechwan (Omei-shan, K'ang-ting [Tatsienlu]), Yunnan (K'un-ming), Chekiang (Takeng Tou, Ningpo), Hupeh (I-chang), Kwangtung (Hainan Is.), "Kuatung," "Lou-tse-kian," Moupin; HONG KONG; TAIWAN; JAPAN; THAILAND: Chaing Dao, Fang, Melanoung; VIETNAM: Tuyen Quang [Cochin], "Tonkin"; PHILIPPINES: "Palawan" [doubtful].

Early stages: All the stages are studied in detail in Japan (Shirôzu & Hara, 1960; Fukuda et. al., 1984) and in Taiwan. Final instar larva: Head reddish orange with 6 black spots; thorax and abdomen black with a pair of blue dots, striped with yellow transverse bands.

Foodplants: Sabiaceae: *Sabia campanulata, Meliosma ungens* (Bell, 1924), *M. fordii* (Jonston & Johnston, 1980), *M.* sp. (Shiraki, 1954), *M. rhoifolia* (Igarashi, 1992), *M. myriantha, M. tenus, M. rigida, M. hachijoensis, M. lepidota* (Igarashi & Fukuda, 1997)..

Remarks: Taiwanese form has been known as a distinct subspecies *formosana*. However, the second brood individual (summer form) in Japan shows the same dark bluish color. Therefore, here *formosanus* is sunk as a synonym.

c. *C. benjaminii flavens* Eliot, 1992

(Plate 17-10, 17-11, Figure 77c)

Choaspes benjaminii flavens Eliot, 1992:437, genitalia figure 340, plate 52, fig. 31.

Holotype: ♂, [MALAYSIA], "Cameron Highlands, Pahang, 9.8.1955, G.C.Stubbs, Brit. Mus. 1956-646" (examined).

Description and diagnosis: Hindwing, tornus lobed; marking yellow; tornal tongue separated from black spot in space 1b.

Distribution: MALAYSIA: Gunung Jasar.

Remarks: This taxon has been confused with Sumatran *pallidus* (Eliot, 1978). The author pointed out that Malayan *benjaminii* was distinct from Sumatran *pallidus*. Then, Eliot (1992) described it as a new subspecies.

d. *Choaspes benjaminii pallidus* Evans, 1932

(Plate 17-12, 18-1, Figure 77d)

Choaspes benjaminii pallida Evans, 1932:321; 1949:75.

Holotype: [INDONESIA], Sumatra. Evans (1932) claims that the type is in "Indian Museum, Calcutta" which is now Zoological Survey of India. According to de Jong & Treadaway (2007), however, the type is not in the institution. The collection was moved to Darjiling during the WWII, where some specimens were damaged in the flood. The types are mixed with general collection and should be dug out by the experts' eyes (Uemura, pers. comm.).

Description and diagnosis: Hindwing, tornal yellow marking wider; tornal tongue faint; black spots smaller and clearly separated.

Distribution: INDONESIA: Sumatra.

Remarks: This subspecies replaces *benjaminii* in Sumatra. Though it does not posess the male brand, male genitalia is rather similar to *stigmatus* than *benjaminii*. Specimens from West Malaysia reported as *C. benjaminii pallida* were misidentified *C. benjaminii flavens*. This taxon is known only from Sumatra.

Choaspes adhara FRUHSTORFER, 1911, 2 subspecies

a. *C. adhara adhara* Fruhstorfer, 1911

(Plate 18-2, 18-3, Figure 79)

Choaspes renidens: Semper, 1892:289.

Rhopalocampta renidens: Elwes & Edwards, 1897:307.

Rhopalocampta plateni adhara Fruhstorfer, 1911:79; Swinhoe, 1912:243.

Choaspes plateni adhara: Evans, 1934:35; 1949:74; de Jong & Treadaway, 1993a:453; 1993b:19.

Choaspes plateni negrosa de Jong & Treadaway, 1993a:453.

Choaspes plateni boreus de Jong & Treadaway, 1993a:455.

Choaspes adhara adhara: de Jong & Treadaway, 2007:14.

Choaspes adhara negrosa: de Jong & Treadaway, 2007:15.

Choaspes adhara boreus: de Jong & Treadaway, 2007:15.

Holotypes: *adhara* – could not be located, TL: Mindanao; *negrosa* – ♂ [PHILIPPINES], Negros, Mambucal, 10. v. 1990. In Treadaway collection; *boreus* – ♂ [PHILIPPINES], Luzon, Ifugao Prov., Banaue, 5-6000 ft, Aug. 1989, leg. J. Nuyda. In Treadaway collection.

Description and diagnosis: Large. DHW, tornus lobed, yellow area 4 mm. Similar to *plateni*, but black tongue present.

Distribution: PHILIPPINES: Luzon, Marinduque, Negros, Mindanao.

Remarks: Two subspecies were described from Luzon and Negros. The characters in tornal orange and spots on VHW of those two subspecies are also found in some specimens from Mindanao.

b. *C. adhara visaya* de Jong, 1980

(Plate 18-4, 18-5)

Choaspes plateni visaya de Jong, 1980:266, Abb. 6, 7; de Jong & Treadaway, 1993a:453; 1993b:19.

Choaspes adhara visaya: de Jong & Treadaway, 2007:14.

Holotype: ♂, [Philippines], "S. Leyte, Catmon, St. Bernard, 11 Februrar 1979, leg. M. Medicielo" in Treadaway collection.

Description and diagnosis: DHW orange area darker and

restricted.
Distribution: PHILIPPINES: Leyte.

Choaspes plateni (Staudinger, 1888), 2 subspecies

a. *C. plateni plateni* (Staudinger, 1888)
(Plate 18-6, 18-7, Figure 80a)

Ismene plateni Staudinger, 1888:293.
Ismene renidens Mabille, 1891:78.
Choaspes plateni plateni: Evans, 1949:74, pl. 2, 14; Vane-Wright & de Jong, 2003:59.
Choaspes plateni: Igarashi & Fukuda, 1997:514, plate 275.
Holotypes: *plateni* – could not be located, TL: Minahassa; *renidens* – could not be located, TL: Minahassa.
Description and diagnosis: DHW tornal orange with 2 small black spots.
Distribution: INDONESIA: Sulawesi.
Early stages: Igarashi & Fukuda (1997) collected and reared the larva. The marking of the final instar larva is similar to that of *C. benjaminii japonicus* but darker and the yellow bands are narrower.
Foodplant: Sapindaceae: *Pometia pinnata*.

b. *C. plateni matsudai* Chiba & Tsukiyama new subspecies
(Plate 18-8, 18-9, Figure 80b)

Description and diagnosis: Forewing length 23 mm. DW dark brown, greenish blue at base. DHW tornal orange area spotless. VW bluer than greener. VFW veins not darken. VHW trnal orange spotless except for a trace of small black dots along the border and a dot in space 2. Male genitalia: Valva resembles *stigmatus* than *plateni*, elongated, serrate dorsally, and more or less asymmetric.
Types: Holotype: ♂ "N. Halmahera, N. Maluku, INDONESIA, Sept., 2000," KMNH; Paratype: ♀ "Mt. Sembilan, Near Ibu, N. Halmahera, N. Maluku, INDONESIA Jan. 2003," HT.
Distribution: INDONESIA: Halmahera.
Remarks: The taxonomic position of the new taxon is tentative. Respectable taxonomists must treat it either as a subspecies of *stigmatus* based on the genitalia or a distinct species. As discussed in the biogeography part, however, it is not possible to tell whether *matsudai* has one-to-one correspondence with *stigmatus* or *benjaminii* from the given evidences. Treating all the morphologically different but geographically allopatric taxa as distinct species is so easy and needs more thought.

Choaspes illuensis (Ribbe, 1900), 2 subspecies

a. *C. illuensis illuensis* (Ribbe, 1900)
(Plate 18-10)

Rhopalocampta illuensis Ribbe, 1900:334, pl. 6.
Choaspes illuensis illuensis: Evans, 1949:75, pl. 14.
Holotype: could not be located, TL: Ceram.
Description and diagnosis: Wings greener than *ornatus*. VHW, tornal tongue reaches the black spot.
Distribution: INDONESIA: Ceram.

b. *C. illuensis ornatus* Rothschild & Jordan, 1903
(Plate 18-11, 18-12, Figure 81)

Choaspes illuensis ornatus Rothschild & Jordan, 1903:481, pl. XI, Fig. 2; Evans, 1949:75; Parsons, 1999:145, pl. 2, fig. 51, 52, 53, pl. 106, fig. 2958.
Holotype: ♂, [PAPUA NEW GUINEA], "Kapaur, Low c. II 97 Doherty, Nov. Zool. 1903 PL XI Fig 2, Choaspes illuensis ornatus Type 1903 Nov. Zool., Rothschild Bequest BM 1939-1," BMNH H2507 (examined).
Description and diagnosis: Wings bluer than *illuensis*. VHW, tornal tongue not reach the black spot.
Distribution: New Guinea (Kapaur, Hydrographer Mts., Up Aroa R., Rawlinson Mts., Milne Bay).
Early stages: Parsons (1999) illustrates a photograph of the final instar larva, which likely to be of *illuensis*. It is almost identical to the larva of *C. benjaminii japonicus*.

Choaspes xanthopogon (Kollar, 1844), 3 subspecies

a. *C. xanthopogon xanthopogon* (Kollar, 1844)
(Plate 19-1, 19-2, Figure 82a)

Hesperia xanthopogon Kollar, 1844:453, pl. 18.
Choaspes similis Evans, 1932:321.
Choaspes xanthopogon: Evans, 1932:321; 1949:76, pl. 2, 14; Igarashi & Fukuda, 1997:518, plate 280; Osada et al., 1999: Pl. 132.
Choaspes xanthopogon crysopterus Hsu, 1988:237, figs. 3, 4, 5, 6.
Choaspes xanthopogon xanthopogon: Monastyrskii & Devyatkin, 2003:42.
Holotypes: *xanthopogon* – could not be located, TL: Himalaya; *similis* – ♂, [INDIA], "Assam, 8.20., W.H.Evans BM 1932-274," BMNH H2509 (examined); *crysopterus* – ♂, "TAIWAN, Taoyuan, Mt. Lala 1500-1700m, emerged on 12 October 1986, Yu-Feng Hsu leg., stock no. NTUIM-2003. Insect Museum, Department of Plant pathology & Entomology, National Taiwan University."
Description and diagnosis: Hindwing tornus normal, marking reddish orange. Extremely similar to *C. benjaminii japonicus* and *C. hemixanthus furcatus*. For identification, see *C. benjaminii japonicus.*
Distribution: NEPAL; INDIA: Kashmir, Kumaon, Sikkim (Darjiling), Assam, Manipur; MYANMAR; THAILAND: Chiang Dao, Fang; LAOS: Phong Saly, La Sao; VIETNAM: Khanh Hoa; CHINA: Szechwan (K'ang-ting), Hopei (Tientsin), "Moupin," "Siao-lou," "Tay-tou-ho"; TAIWAN; JAPAN [possible, but not

confirmed].
Early stages: Hsu (1988) illustrated and described all the stages in detail. Final instar larva: Head yellow with 6 large black spots. Thorax and abdomen velvet-black with a pair of white spots, dorsal row of spots and lateral irregular yellow markings on each segment.
Foodplant: Sabiaceae: *Sabia transarisanens* (Hsu, 1988)

b. *C. xanthopogon cora* Evans, 1934 new status
(Plate 19-3, Figure 82c)

Choaspes hemixanthus cora Evans, 1934:36; 1949:77.
Holotype: ♂, [INDONESIA], " Sumatra, W.H. Evans, BM 1932-274" (examined).
Description and diagnosis: Hindwing lobed; marking yellow; tornal tongue short, not reach black spot.
Distribution: INDONESIA: Sumatra.
Remarks: Only the type male is known. It is described as a subspecies of *hemixanthus*, but the shape of valva as well as the greenish brown wing color indicates characteristics of *xanthopogon*.

c. *C. xanthopogon estrella* de Jong, 1980
(Plate 19-4, 19-5, Figure 82b)

Choaspes estrella de Jong, 1980:263, Fig. 1-5; de Jong & Treadaway, 1993b:20; 2007:15.
Choaspes estrella pallens Schröder & Treadaway, 1986:350.
Choaspes xanthopogon estrella: Hsu, 1988:238.
Holotypes: *estrella* – ♂, [PHILIPPINES], " N-Luzon, Baguio 6000', März 1978, leg R. LUMAWIG" in Treadaway collection; *pallens* – " Male, Philippinen, Negros, Valencia, Malabo, R. LUMAWIG leg. 3. VIII. 1984," in Treadaway collection.
Description and diagnosis: Hindwing tailed, marking yellowish orange.
Distribution: PHILIPPINES: Luzon, Negros (Mumbacal), Mindanao.

Choaspes subcaudatus (C. & R. FELDER, 1867), 2 subspecies

a. *C. subcaudatus crawfurdi* (Distant, 1886)
(Plate 19-6, 19-7, Figure 84)

Ismene crawfurdi Distant, 1882:247.
Choaspes crawfurdi: Distant, 1886:372, Tab. XXXIV, fig. 26.
Rhopalocampta crawfurdi: de Nicéville & Martin, 1896:554; Elwes & Edwards, 1897:307.
Choaspes subcaudata crawfurdi: Evans, 1949:76; de Jong & Treadaway, 1993b:20; Monastyrskii & Devyatkin, 2003:42; de Jong & Treadaway, 2007:15.
Choaspes subcaudatus: Igarashi & Fukuda, 1999:515, Pl. 276; Osada et al., 1999: Pl. 132.
Holotype: ♂, [MALAYSIA], " Province Wellesley, Crawfurdi Dist., Ex coll. H.J.Elwes 1920, J.J.Joicey Coll. BM 1925-451" (examined).
Description and diagnosis: Similar to *C. stigmatus caudatus*, but the male brand absent and the ground color is pale green (dark bluish green in *caudatus*).
Distribution: MYANMAR: Taungoo, Mergui, Kadan [King] Is.; THAILAND; LAOS: Thakhek, Oudomaxay; VIETNAM: north and central to Lam Dong; MALAYSIA: Province Wellesley, N. Borneo; INDONESIA: Borneo (Kretam), W. Sumatra, Nias.
Early stages: Igarashi (1992) and Igarashi & Fukuda (1997) illustrate the final instar larva and pupa from Borneo. Final instar larva: Head pale orange with 8 black spots. Thorax and abdomen velvet-black with a pair of azure spots on each segment, 4 dorsal yellow spots and lateral rectangular markings; spiracles black.
Foodplant: Sabiaceae: *Sabia limonicea* (Igarashi, 1992).

b. *C. subcaudatus subcaudatus* (C. & R. Felder, 1867)
(Plate 19-8, 19-9)

Ismene subcaudatus C. & R. Felder, 1867:526, pl. 72.
Rhopalocampta subcaudata: Elwes & Edwards, 1897:307; Pipers & Snellen, 1910:18, Pl. VI, fig. 23.
Choaspes subcaudata subcaudata: Evans, 1949:76, Pl. 14.
Holotype: ♂, "subcaudata n. coll Felder, Rothschild Bequest BM 1939-1," BMNH H2508 (examined).
Description and diagnosis: Hindwing tornus more produced than in *crawfurdi*; tornal tongue faint.
Distribution: INDONESIA: West Java.
Early stages: Final instar larva: Head faint orange with 8 spots. Thorax and abdomen velvet-black with a pair of azure spots on each segment, dorsal row of deep yellow spots and lateral yellow markings. See also *C. stigmatus extensus*.
Foodplant: Combretaceae: *Combretum latifolium* (Pipers & Snellen, 1910).

Choaspes hemixanthus ROTHSCHILD & JORDAN, 1903, 4 subspecies

a. *C. hemixanthus furcatus* Evans, 1932
(Plate 19-10, 19-11, Figure 83a)

Choaspes plateni furcata Evans, 1932:321.
Choaspes hemixanthus furcata: Evans, 1949:77, Pl. 2.
Rhopalocampta smilacis Mell, 1950:87, Abb. 1, Fig. 2.
Choaspes furcatus: Igarashi & Fukuda, 1997:517, plate 279; Osada et al., 1999:Plate 132.
Holotypes: *furcatus* – ♂, [INDIA], " Sikkim, Teesta V, 4.27, W.H.Evans 1932-274," BMNH H2512 (examined); *smilacis* – could not be located.
Description and diagnosis: In spite of the difference in appearance, male genitalia is almost identical to other subspecies especially to that of the nominotypical *hemixanthus*. Extremely similar to *C. benjaminii japonicus* and *C. xanthopogon*

xanthopogon. For identification, see *C. benjaminii japonicus*.
Distribution: NEPAL: Godavari; INDIA: Sikkim, Assam; MYANMAR: Karen; LAOS; VIETNAM: north and central; CHINA: Fukien (Kuatung), Kiang-si, Kwangtung (Hainan Is.), "Siao-lou," "Lou-tse-kiang," "Pa-Tse-fang"; HONG KONG; THAILAND: Chantaburi, Chiang Dao; MALAYSIA: Perak; PHILIPPINES: "Palawan" [doubtful].
Early stages: Mell (1950) described in detail. His identification of foodplant is doubtful. Igarashi (1992) and Igarashi & Fukuda (1997) illustrate the final instar larva and pupa from Hong Kong. Final instar larva: Head reddish orange with 6 black spots. Thorax and abdomen velvet-black with a pair row of azure spots, dorsal yellow spots and lateral rectangular spots. Spiracles black.
Foodplants: Sabiaceae: *Sabia limoniacea*; Liliaceae: *Smilax heterophylla*, *S. riparia* (Mell, 1950); Menispermaceae: *Pycnarrhena fasciculate* (Igarashi, 1992).

b. *C. hemixanthus wallacei* Tsukiyama & Chiba, 1991
(Plate 19-12, 20-1, Figure 83b)

Choaspes *hemixanthus wallacei* Tsukiyama & Chiba, 1991:256, Figs. 3, 4; Vane-Wright & de Jong, 2003:60.
Holotype: ♀, "Indonesia, Central Sulawesi, Palopo, September 1989," in McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History (examined).
Description and diagnosis: VHW, tornal yellow marking reached costa, with three large black dots. Male genitalia of between *hemixanthus* and *subcaudatus*.
Distribution: INDONESIA: Central Sulawesi (Palopo).

c. *C. hemixanthus mona* Evans, 1934
(Plate 20-2, 20-3, Figure 83c)

Choaspes hemixanthus mona Evans, 1934:36
Holotype: ♂, [INDONESIA], "Halmaheira, W.H.Evans, BM 1932-274," BMNH (examined).
Description and diagnosis: Hindwing, tornal yellow narrower than *hemixanthus*, black dots absent.
Distribution: INDONESIA: Halmahera.
Remarks: Only the type male had been known until some additional specimens were collected recently.

d. *C. hemixanthus hemixanthus* Rothschild & Jordan, 1903
(Plate 20-4, Figure 83d)

Choaspes hemixanthus Rothschild & Jordan, 1903:482, Pl. XI, f. 3; Igarashi & Fukuda, 1997:516, plate 278; Parsons, 1999:144, pl. 2, fig. 48, 49, 50, pl. 105, fig. 2952, 2953, pl. 106, fig. 2954, 2955, 2956, 2957.
Choaspes hemixanthus hemixanthus: Evans, 1949:77, Pl. 14.
Holotype: ♂, [PAPUA NEW GUINEA], "Upp. Aroa R., Brit. N. G., April 03 (Meek), Nov. Zool. 1903, PL XI. FIG 3, *Choaspes hemixanthus* Type 1903 Nov. Zool., Rothschild Bequest B.M. 1939-1," BMNH H2515 (examined).
Description and diagnosis: Wings cream yellow with darker veins. Hindwing tornal area widely yellow.
Distribution: New Guinea (Geelvink Bay, Bootoomi, Angi Lakes, Biagi, Kumusi R., Aroa R., Hydrographer Mts., Ditschi).
Early stages: Igarashi (1992) and Igarashi & Fukuda (1997) illustrate the final instar larva and pupa. Final instar larva: Head orange with 7 black spots (dorsal spots separated. They are merged in the other taxa). Thorax and abdomen yellow with dark purple bands; spiracles black. Similar to the larva of *Pyrrhiades*.
Foodplant: Icacinaceae: *Rhytiaryum longifolium* (Igarashi & Fukuda, 1997).

Genus *Pyrrhochalcia* Mabille, 1904

Pyrrhochalcia Mabille, 1904:89. Type species: *Papilio iphis* Drury, 1773 by selection by Lindsey (1925).
Generic characters: Antenna shorter than 1/2 length of forewing costa. Wing venation (Figure 4f): Forewing, discoidal cell as long as 2/3 length of costa; origin of vein 3 distad of that of vein 11; vein 6 waved and closer to vein 7. Hindwing, origin of vein 7 opposite of vein 3; vein 5 absent. Metathoracic tibial hair tuft present. Hair tuft on tip of abdomen present.
Larval foodplant: Anacardiceae.
The genus consists of single species and 2 subspecies.

Pyrrhochalcia iphis (Drury, 1773), 2 subspecies

a. *P. iphis iphis* (Drury, 1773)
(Plate 20-5, 20-6, Figure 85)

Papilio Plebeius Urbicola iphis Drury, 1773:26, pl. 15, figs. 3, 4.
Papilio Prebeius Urbicola phidias Cramer, 1780:85, pl. 244, fig. A, B.
Papilio Plebeius Urbicola jupiter Fabricius, 1787:87.
Rhopalocampta iphis: Aurivillius, 1896:291.
Pyrrhochalcia iphis: Mabille, 1904:89; Shepard, 1933:46; Evans, 1937:15, pl. 8; Boorman, 1970:40, fig. 107, 55; Lewis, 1973:130, fig. 26, 266; Smart, 1976:112, fig. 1, 2; Carcasson, 1981:96; Larsen, 2005:468, pl. 110, fig. 1211a, b, c.
Holotypes: *iphis* – could not be located, TL: Senegal; *phidias* – could not be located, TL "China"; *jupiter* – in Zoological Museum of Copenhagen, TL: Sierra Leone.
Description and diagnosis: Forewing length 40 mm. Head and palpi red. DW velvet-dark blue in male, pale green with black basal area and veins in female. VFW metallic greenish blue. VHW metallic green with bluish margin and veins. Similar to *Pyrrhiades lucagus*, but *lucagus* is smaller and VW are uniform velvet-dark blue as in dorsal side.
Distribution: GAMBIA [erroneous, Larsen (2005)]; SIERRA LEONE; LIBERIA; CÔTE D'IVOIRE; GHANA: Gold Coast,

Acca; TOGO: "Agoue" [Mt. Agou ?]; NIGER: Bosso; NIGERIA: Lagos, Ibadan, Apapa, Warri, Bonny, Old Calabar, Lokoja; CAMEROON; GABON; D. R. CONGO; ANGOLA: Canhoca; "Port Victoria," "Lake Asebbe," "Banterberri," "Abanga R."
Early stages: Carcasson (1981) and Sourakov & Emmel (1997) illustrate the larva and pupa in color. Final instar larva: Head red. Thorax and abdomen black with lumps of triangular yellow spots. Prolegs red.
Foodplant: Anacardiaceae: *Anacardium* sp. (Carcasson, 1981).
Bionomics: "The flight is quite slow and buzzing" (Larsen, 2005). Carcasson (1981) mentions that the skippers mimic day-flying moths. According to Larsen (pers. comm.), however, the moth is much rarer than *iphis* and *lucagus* and cannot be their model. Instead, they might be aposematic themselves and are probably parts of mimicry complex including large wasps and moths. *C. chalybe* and *C. bixana* also have bright blue wings, but their flights are usual rapid ones as in regular brown species.

b. *P. iphis dejongi* Collins & Larsen, 2008

Pyrrhichalcia iphis dejngi Collins & Larsen, 2008: 86
Holotype: ♂, DRC, Equateur, Kuluboku, 60km from Mbandaka, 1996 (Ph. Oreans leg., coll. ABRI).
Description and diagnosis: DW with metallic sheen.
Distribution: D. R. CONGO: extreme west.

Genus *Pyrrhiades* LINDSEY & MILLER, 1965

Pyrrhiades Lindsey & Miller, 1965:53. Type species: *Papilio lucagus* Cramer, 1777 by original designation.
Generic characters: Antenna less than half length of costa. Abdomen nearly as long as inner margin of hindwing. Hindwing: Discocellular vein vestigial; cell half length of hindwing; vein 7 arises basad of origin of vein 3 (Figure 4g). Sexes similar. Male genitalia: Anterior portion of tegumen bulged out. Saccus short. Uncus bifurcated deeply and widely, tip pointed latero-distally. Gnathos elongated distally, fused together ventrally. Juxta simple. Valva: costa developed to spiny process, expanded into anellifer; ampulla serrated. Aedoeagus short, revolved anticlockwise posteriad, pointed, with small dorso-lateral spines at posterior tip.
Distribution pattern (Figure 24): *Pyrrhiades* consists of a series of completely allopatric taxa. *P. lucagus* and *C. aeschylus* have been collected from Sierra Leone. Sierra Leone is the northern limit of the distribution of *P. lucagus* as well as the southern limit of that of *P. aeschylus*. Larsen (2005) omits Sierra Leone from the distribution record of *P. lucagus*. *P. lucagus* are found between Gambia/ Senegal and northern Sierra Leone, while *P. lucagus* between eastern Liberia and Ghana. *P. anchises* extends its distribution far north to Socotra and Oman and south to South Africa. There are two insular elements: *bocagii* in Saō Tomé and *pansa* in Malagasy. There is a big geographic blank in the center of Africa.
Larval foodplant: Asclepiadaceae and Malpighiaceae.
The genus consists of 5 species and 6 subspecies.

Key to the species of *Pyrrhiades*

1. Ventral side of the hindwing without marking 2
1'. Ventral side of the hindwing with a median band enclosing a black spot in space 2 3
2. Cilia dark ..... *P. lucagus*
2'. Cilia white except orange tornus on the hindwing ..... *P. aeschylus*
3. Wings dorsally blue 4
3'. Wings dorsally slate-colored ..... *P. anchises*
4. Wings dorsally matallic royal blue. Ventral side of the hindwing band orange ..... *P. bocagii*
4'. Wings dorsally light cobalt blue. Ventral side of the hindwing band white ..... *P. pansa*

Pyrrhiades lucagus (CRAMER, 1777)

(Plate 20-7, Figure 86)

Papilio lucagus Cramer, [1777]:123, pl. 176, fig. G.
Ismene juno Plötz, 1879:364.
Rhopalocampta juno: Holland, 1896:101.
Pyrrhochalcia juno: Aurivillius, [1925]:506.
Coeliades juno: Evans, 1937:10, pl. 1, fig. 1, pl. 8.
Coeliades lucagus: Evans, 1946:641.
Pyrrhiades lucagus: Lindsey & Miller, 1965:53, figs. 14, 15; Larsen, 2005:468, pl. 110, fig. 1210a, b.
Holotypes: *lucagus* – could not be located; *juno* – ♂, "Aburi," MS plate No. 1193, BMNH (examined).
Description and diagnosis: Head red. DW metallic blue, VW metallic greenish blue; cilia black.
Distribution: SIERRA LEONE [erroneous, Larsen (pers. comm.)]; LIBERIA; CÔTE D'IVOIRE; GHANA: Gold Coast, gambaga, Kumasi [Coomassie], Nolpanduri, Walelvoa, Yondi, Anfoega, Acca.
Early stages: Larsen (2005) describes the early stages. Final instar larva: Head red with a few tiny black dots. Thorax and abdomen black with transversal white band between segments; with a pair of white dorsal dots. Spiracles white.
Foodplant: Malpighiaceae: *Acridocarpus smeathmanni*.
Bionomics: Slow flyer as in *P. iphis*.
Remarks: Many authors have considered that *lucagus* is very closely related to [*Pyrrhiades*] *iphis*. However, judging from the wing markings of other *Pyrrhiades* species, their similarity in appearance may be due to parallel evolution. Whether this is a case of mimicry or not remains to be unsolved. *P. iphis* is believed to mimic day-flying Agaristid moths (Carcasson, 1981) or large blue wasps with red heads and abdominal markings (Larsen, 2005).

Pyrrhiades aeschylus (Plötz, 1884) new combination

(Plate 20-8, Figure 87)

Ismene aeschylus Plötz, 1884:65.
Rhopalocampta aeschylus: Holland, 1896:98.
Rhopalocampta axhylus [sic!]: Fleury, 1926:153.
Coeliades aeschylus: Evans, 1937:10, pl. 8; Lindsey & Miller, 1965:52; Larsen, 2005:466, pl. 110, fig. 1205a.
Holotype: "Senegal," MS plate No. 1192, BMNH (examined).
Description and diagnosis: Head red. Wings dark metallic blue; cilia cream white except for orange at hindwing tornus.
Distribution: SENEGAL, Casamance; GAMBIA; GUINEA-BISSAU; GUINEA; MALI; SIERRA LEONE: north; BURKINA FASO.
Foodplant: Malpighiaceae: *Acridocarpus smeathmanni* (de Fleury, 1926).
Bionomics: Slow flyer.
Remarks: The distribution is rather unusual. Very few other butterflies have this type of endemism in westernmost West Africa (Larsen, pers. comm.).

Pyrrhiades bocagii (Sharpe, 1893) new combination

(Plate 20-9, Figure 88)

Ismene bocagii Sharpe, 1893:557.
Rhopalocampta bocagii: Holland, 1896:100; Riley, 1928:64.
Coeliades bocagii:Evans, 1937:11, pl. 8.
Holotype: could not be located, TL: Saō Thomé.
Description and diagnosis: Wings dorsally bright metallic blue, ventrally purple-brown; cilia dark.
Disyribution: REPUBLIC OF SAŌ TOMÉ AND PRINCIPE: Saō Tomé, Principe.

Pyrrhiades anchises (Gerstaecker, 1871) new combination, 2 subspecies

a. *P. anchises anchises* (Gerstaecker, 1871) new combination

(Plate 20-10, Figure 89)

Ismene anchises Gerstaecker, 1871:359; Yerbury, 1892:217.
Ismene taranis Hewitson, 1876:347.
Hesperia anchises: Butler, 1885:775.
Rhopalocampta anchises: Holland, 1896:98.
Coeliades anchises: Carpenter, 1935:404; Evans, 1937:11, pl. 8; Gifford, 1965:1.
Holotypes: *anchises* – could not be located, TL: Zanzibar; *taranis* – could not be located, TL: Zanzibar.
Description and diagnosis: Wings slate-colored; cilia white on hindwing except for yellow at tornus; VHW with a black spot in space 2 completely enclosed by white median band; submarginal spot yellowish orange.
Distribution: DEM. REP. YEMEN: Aden; ETHIOPIA: Diredawa; SOMALI REPUBLIC; KENYA: Serewa, Kibwezi, Samburu; UGANDA; TANZANIA: Tanganyika, Dar es Salaam; SOUTH AFRICA: Natal; "Zambesi [river from MOZAMBIQUE through ZAMBIA/ ZIMBABWE border]," "Sidimum," "Manboia," "Campi-ya-Simba," "Ukamba."
Early stages: Final instar larva: Head orange-red. Thorax and abdomen orange red to dark reddish brown with bright white stripes (Henning & Henning, 1989).
Foodplants: Asclepiadaceae: *Marsdenia* sp. (Sevastopulo, 1974), *Mardenia angolensis* (Henning & Henning, 1989); Malpighiaceae: *Triaspis glaucophylla* (Henning & Henning, 1989), *Acridocarpus*, *Tristellateia*; Moraceae: *Ficus* (Larsen, 1991).
Bionomics: The adult flies swiftly as in *Coeliades* and is an avid visitor of flowers, damp patches, and urine. Larsen (1991) listed *anchises* as a regular migrant.

b. *P. anchises jucunda* (Butler, 1881) new combination

(Plate 20-11)

Hesperia jucunda Butler, 1881:179.
Rhopalocampta jucunda: Holland, 1896:98.
Coeliades jucunda: Evans, 1937:11, pl. 8.
Coeliades anchises jucunda: Larsen, 1984:53, pl. 22, figs. 414-418.
Holotype: ♂, [D. R. YEMEN], "Socotra 81.90, 751," BMNH H2528 (examined).
Description and diagnosis: Differs from subspecies *anchises* in following characters. Head, 1st and 2nd segments of palpi, and coxae darker orange. Abdomen ventrally orange, no lateral spots. Cilia white except for orange tornus on hindwing. VHW median black spot larger, fused with a small black spot; median band orange, variably reduced; submarginal spot in space 2 orange and larger.
Distribution: D. R. YEMEN: Socotra; OMAN: Muscat.
Early stages: Larsen (1980:71; 1984:23) illustrates the larva. Final instar larva: Head reddish orange with 7 small black spots. Thorax and abdomen reddish orange with yellowish white stripes; spiracles black.
Foodplant: Malpighiaceae: *Acridocarpus orientalis* (Larsen, 1977).

Pyrrhiades pansa (Hewitson, 1867) new combination

(Plate 20-12, Figure 90)

Ismene pansa Hewitson, 1867 [January]:54.
Hesperia ernesti Grandidier, 1867 [August]:274.
Rhopalocampta pansa: Holland, 1896:98.
Coeliades ernesti: Evans, 1937:11, pl.8; Viette, 1956:5, figs. 1, 3; Williams, 1989:23, pl. VI.
Holotypes: *pansa* – ♀, "Madagascar, Hewitson Coll 79-69, Ismene pansa 3.," BMNH H2516; *ernesti* – could not be located,

TL: Madagascar.
Description and diagnosis: Wings dorsally metallic light blue with wide black margin; cilia black; tornus more or less yellow; VW dull brownish gray; VHW with a black spot in space 2 enclosed by cream white band extends from costa to vein 1b.
Distribution: MALAGASY REPUBLIC: Madagascar; MAURITIUS; Reunion.
Foodplant: Malpighiaceae: *Hiptage bengalensis* (Williams, 1989).

Genus *Badamia* MOORE, 1881

Badamia Moore, 1881:156. Type species: *Papilio exclamationis* Fabricius, 1775 by original designation.
Generic characters: Antenna shorter than 1/2 length of forewing costa. Forewing elongated. Wings grayish brown with hyaline spots on forewing. Metathoracic tibia with an erectile hair tuft fitting into a thoracic pouch. Male genitalia: Uncus single, long and curved. Valva simple; no modification or process as in *Choaspes*. Saccus short.
Distribution (Figure 25): One of two species, *B. exclamationis*, is distributed widely from Sri Lanka through Southeast Asian Islands to Fiji, Samoa and New Hebrides. It is replaced by *B. atrox* in the South Pacific islands. Two taxa are found together in Fiji and New Hebrides. It is not certain if this sympatry occurred secondarily or not. Except this minor overlap, the same pattern of distribution is seen also in this genus.
Larval foodplant: Combretaceae and Malpighiaceae.

The genus consists of 2 species and 5 subspecies.

Key to the species of *Badamia*

1. Larger, forewing length 29 mm. Forewing of the male, spot in space 2 narrow and elongate. Cilia fuscous ..... *B. exclamationis*
1'. Smaller, forewing length 24 mm, and yellower. Forewing of the male, spotin space 2 not narrow nor elongate. Cilia gray in the male, ochreous in the female ..... *B. atrox*

Badamia exclamationis (FABRICIUS, 1775)

(Plate 21-1, 21-2, Figure 91)

Papilio exclamationis Fabricius, 1775:530.
Papilio ladon Cramer, 1780:163 or 164, pl. 284, fig. C or G.
Hesperia ericus Fabricius, 1798:432.
Calpodes forulus Hübner, 1819:17, n. 1147.
Ismene thymbron Felder, 1860:461.
Badamia exclamationis: Evans, 1932:321; 1949:72; Shirôzu, 1960:370, Pl. 72, figs. 880, 881, 882, 883; Kawazoé & Wakabayashi, 1975:309; Pinratana, 1985:22, Pl. 7, fig. 23; Eliot, 1992:336, pl. 52, fig. 25, 26; de Jong & Treadaway, 1993b:18; Igarashi & Fukuda, 1997:519, plate 281; Parsons, 1999:142, pl. 2, fig. 46, 47; Osada et al., 1999:Plate 132; Tennent, 2002:31, 185, pl. 1, fig. 9, 10; Monastyrskii & Devyatkin, 2003:42; Vane-Wright & de Jong, 2003:59; de Jong & Treadaway, 2007:13.
Holotypes: *exclamationis* – ♂, in Zoological Museum of Copenhagen, TL: S. India; *ladon* – ♀, could not be located, TL: Coromander; *ericus* – ♂, in Zoological Museum of Copenhagen [?], TL: S. India; *forulus* – could not be located; *thymbron* – "Amboina, Dalwball [?], Felder Colln, Rothschild Bequest, B.M. 1939-1," BMNH H2536 (examined).
Description and diagnosis: Forewing length 28 mm. Wings grayish brown. DFW with hyaline spots in spaces 2, 3 and discoidal cell. Cilia fuscous. Spots larger in female.
Distribution: SRI LANKA; INDIA: Chitral, Sikkim, Assam, Andamans; MYANMAR; THAILAND; LAOS; VIETNAM; CHINA; TAIWAN; JAPAN; MALAYSIA; PHILIPPINES; INDINESIA: "Borneo," Java, Bali, Sumatra, Sulawesi, Timor, Adonara, Halmahera, Ceram, Aru; PAPUA NEW GUINEA: New Britain; SOLOMON ISLANDS; AUSTRALIA: Queensland, New South Wales; TONGA; SAMOA; FIJI; NEW HEBRIDES; NEW CALEDONIA.
Early stages: Final instar larva: Head yellowish red with 9 black markings. Thrax and abdomen yellow with dorsal longitudinal line and broad and narrow dark transverse stripes.
Foodplants: Combretacea: *Terminalia belerica* (Davidson et al., 1879), *T. catappa* (Comstock, 1966), *T. brassi, T. complanata, T. oblongata, T. calamansanai* (Tennent, 2002), *Linociera purpurea, Combretum ovalifolium* (Woodhouse, 1949), *Ryssopterys timorensis*; Malpighiaceae: *Hiptage bengalensis* (Maeda & Muroya, 1967), *Tristellateia australiasiae* (Fukuda et. al., 1984).

Badamia atrox (BUTLER, 1877), 4 subspecies

a. *B. atrox atrox* (Butler, 1877)

(Plate 21-3, 21-4, Figure 92)

Hesperia atrox Butler, 1877:357.
Badamia atrox atrox: Evans, 1949:73, pl. 2, 14.
Holotype: ♀, "Lifu 77.85," BMNH H2502 (examined).
Description and diagnosis: Wings darker than other *atrox* subspecies; base paler than ground color. Female spot in space 1b small.
Distribution: Loyalty Is.

b. *B. atrox flava* Evans, 1934

(Plate 21-5)

Badamia atrox flava Evans, 1934:35; 1949:73.
Holotype: ♂, "New Hebrides Is, G. F. Mathew, Godman-Salvin Coll, 1914-5," BMNH H2501 (examined).
Description and diagnosis: Wings paler than *atrox*. Female spots in space 1b larger.

Distribution: VANUATU: New Hebrides, "Roumea."

c. *B. atrox subflava* Waterhouse, 1920

Badamia atrox subflava Waterhouse, 1920:471; Evans, 1949:73.
Holotype: could not be located, TL: Fiji.
Description and diagnosis: Larger than the other *atrox* subspecies. Wing color uniform. Spots larger. Male ventral hindwing paler.
Distribution: FIJI.

d. *B. atrox collenettei* Evans, 1934
(Plate 21-6)

Badamia atrox collenettei Evans, 1934:35; 1949:73.
Holotype: "Atouova, Hiwa Oa, Marquesas, Flying around flowering tree, 4. 2. 25, St. George Expedn, C. L. Collenette," BMNH H2503 (examined).
Description and diagnosis: Spot in space 2 more like that of *exclamationis*.
Remarks: Known from a single specimen.
Distribution: Marquesas Is.

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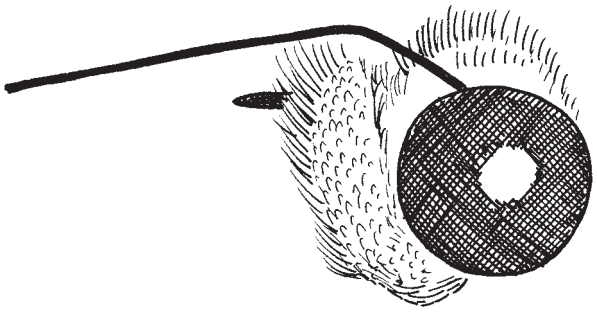


Fig. 1. Head of *Hasora*.

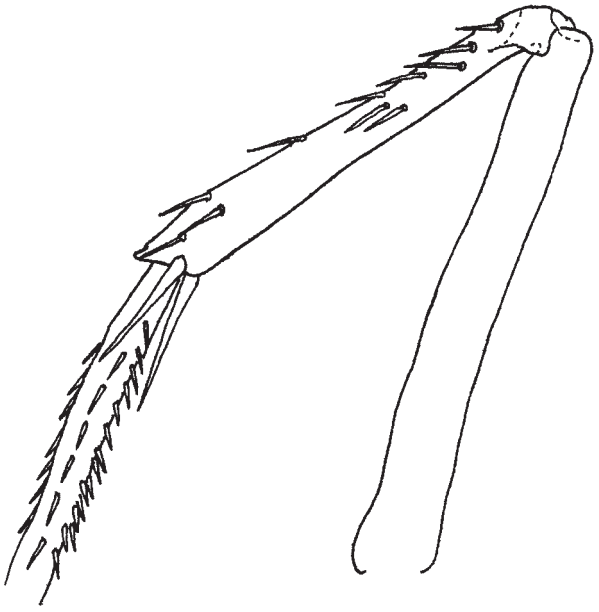


Fig. 2. Tibia of the mesothoracic leg of *Allora*.

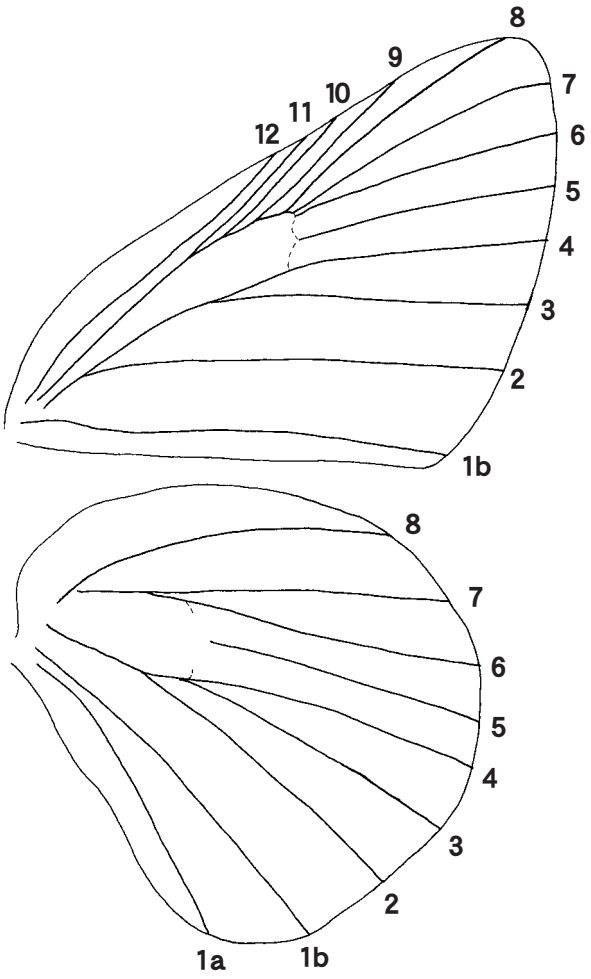


Fig. 3. Wing venation of *Burara*. Veins are numbered by numerical system.

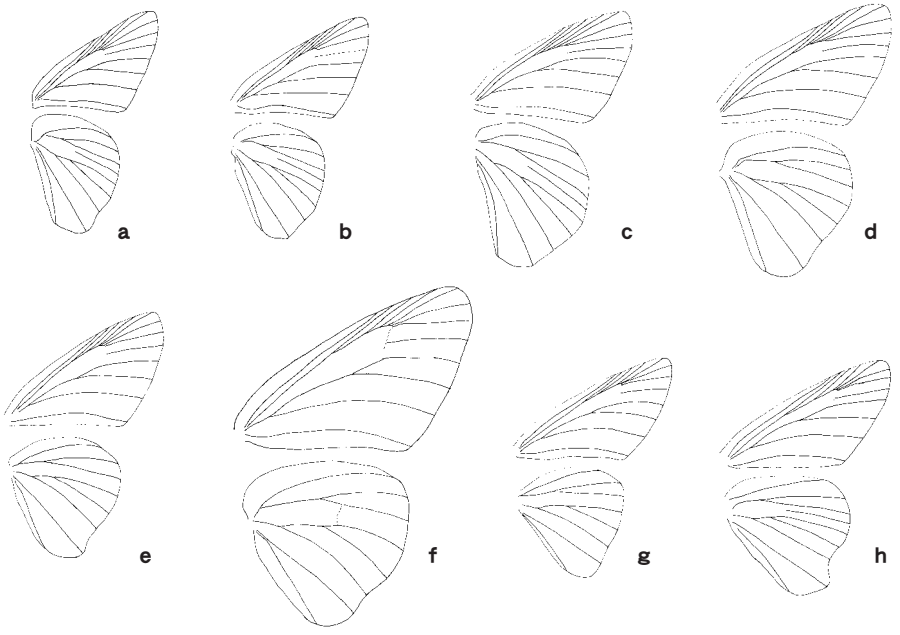


Fig. 4. Wing venations of Coeliadine genera. a. *Bibasis*, b. *Hasora*、c. *Allora*, d. *Choaspes*, e. *Coeliades*, f. *Pyrrhochalcia*, g. *Pyrrhiades*, h. *Badamia*.

Fig. 5. Contours of species density of *Choaspes*.

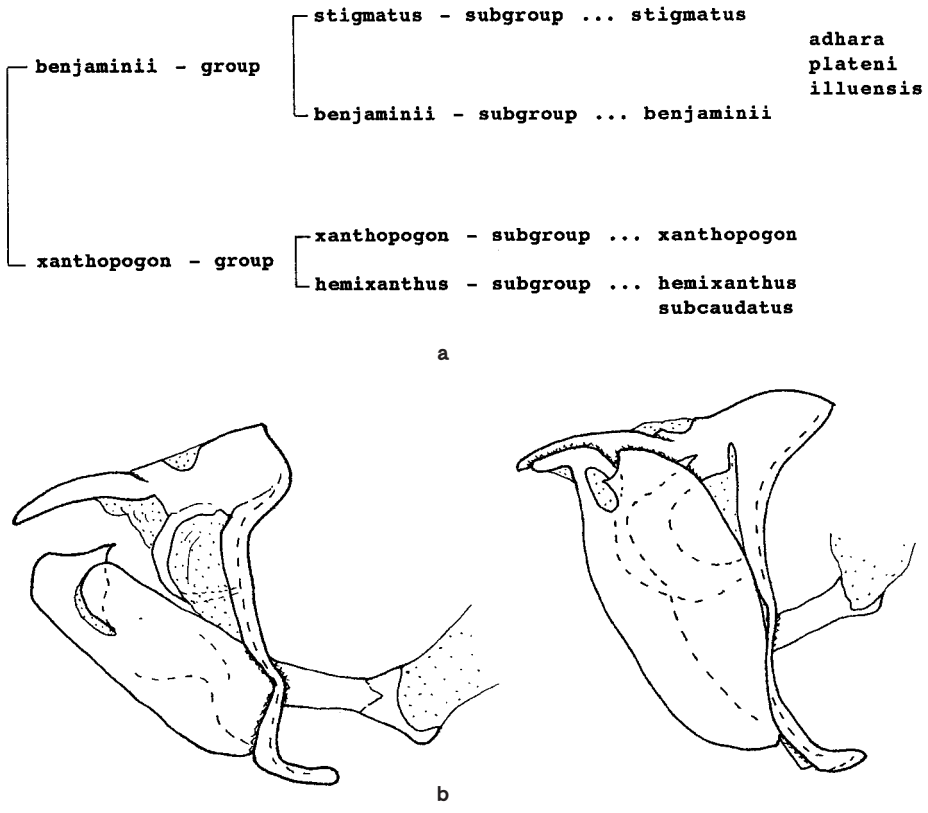


Fig. 6. Groups of the genus *Choaspes*. a. Groups and subgroups. b. Position of valva in relation to the uncus in two *Choaspes* groups. Left: The *benjaminii*-group. Right: The *xanthopogon*-group.

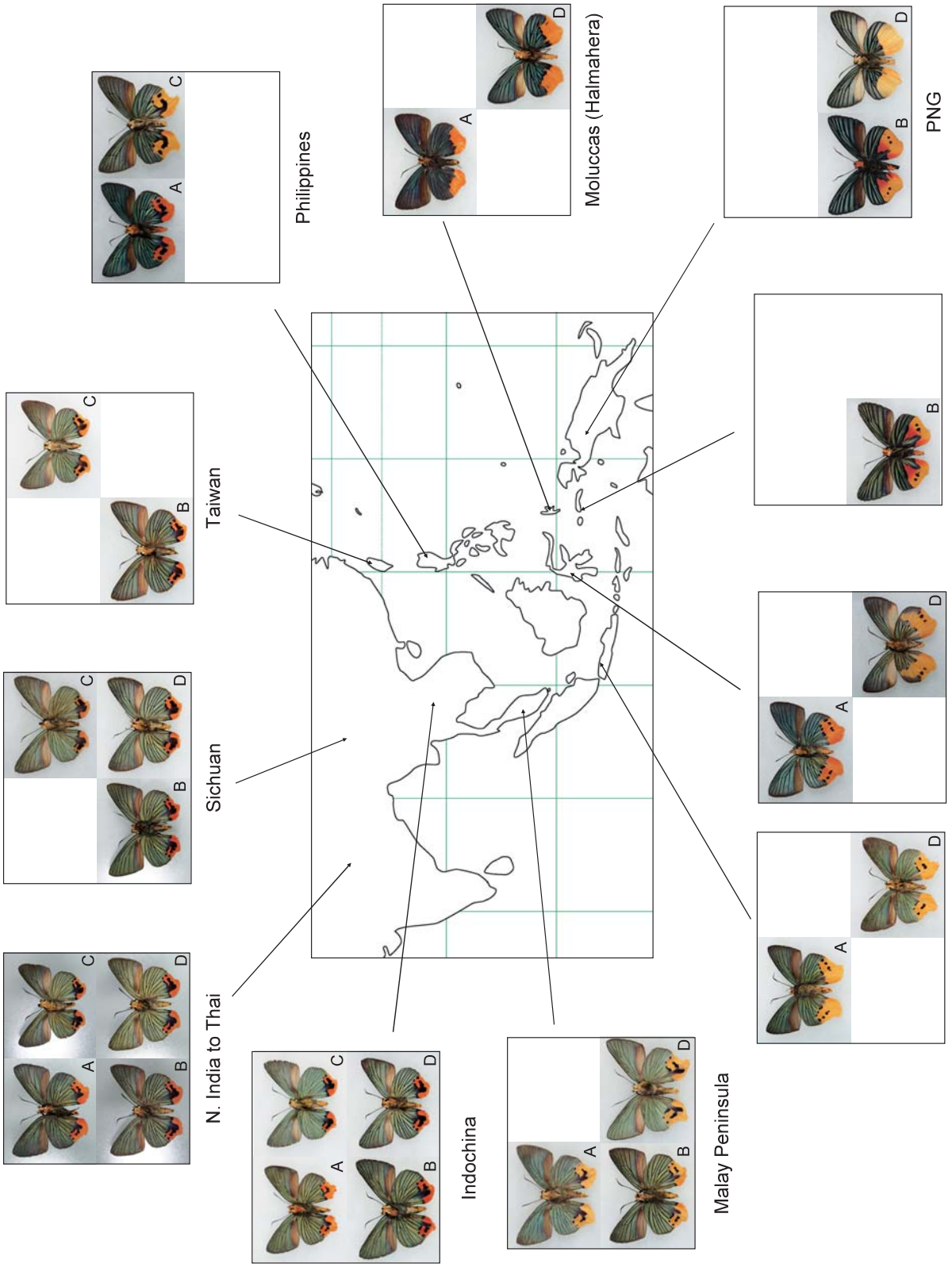


Fig. 7. Distribution pattern of four subgroups of *Choaspes*. A. *stigmatus*-subgroup, B. *benjaminii*-subgroup, C. *xanthopogon*-subgroup, D. *hemixanthus*-subgroup.

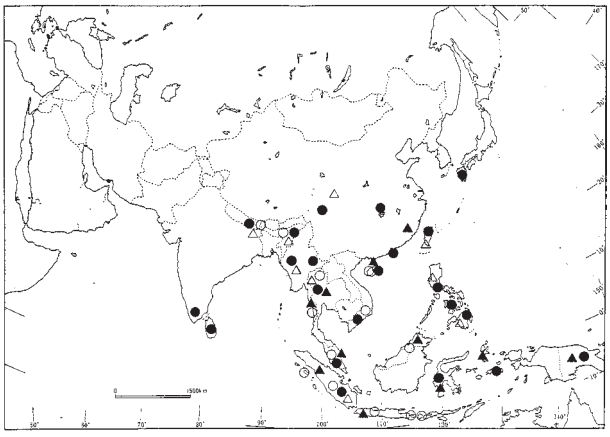


Fig. 8. Distribution of *Choaspes*. ○ *stigmatus*, ● *benjaminii, adhara, plateni and illuensis*, △ *xanthopogon*, ▲ *hemixanthus and subcaudatus.*

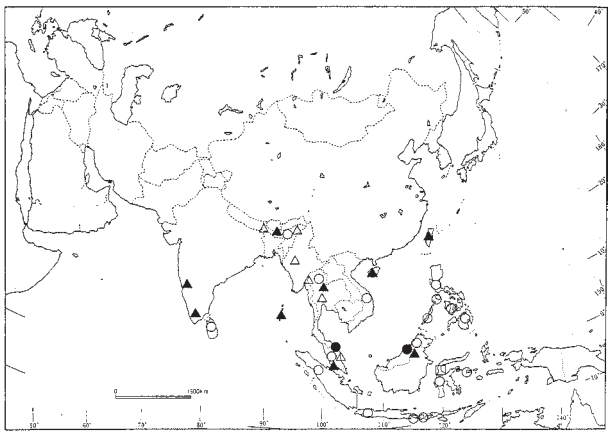


Fig. 9. Distribution of *Burara* (1). ○ *oedipodea,* ● *tuckeri,* △ *anadi,* ▲ *jaina,* □ *phul.*

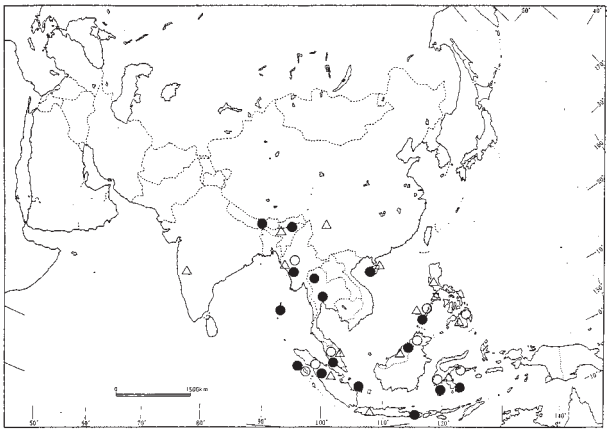


Fig. 10. Distribution of *Burara* (2). ○ e*telka,* ● *harisa,* △ *gomata.*

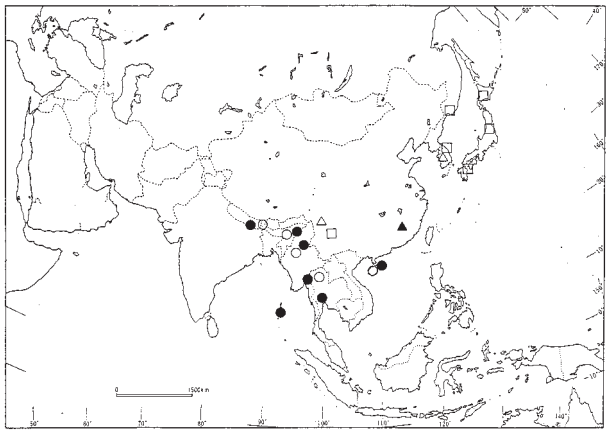


Fig. 11. Distribution of Burara (3). ○ *vasutana,* ● *amara,* △ *striata,* ▲ *miracula,* □ *aquilina.*

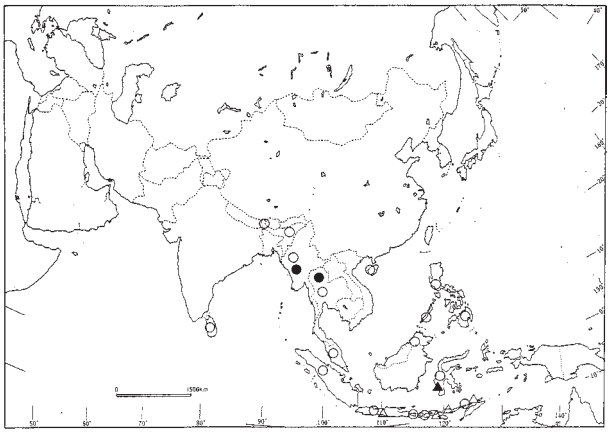


Fig. 12. Distribution of *Bibasis*. ○ *sena,* ● *mahintha,* △ *nestor,* ▲ *illuska.*

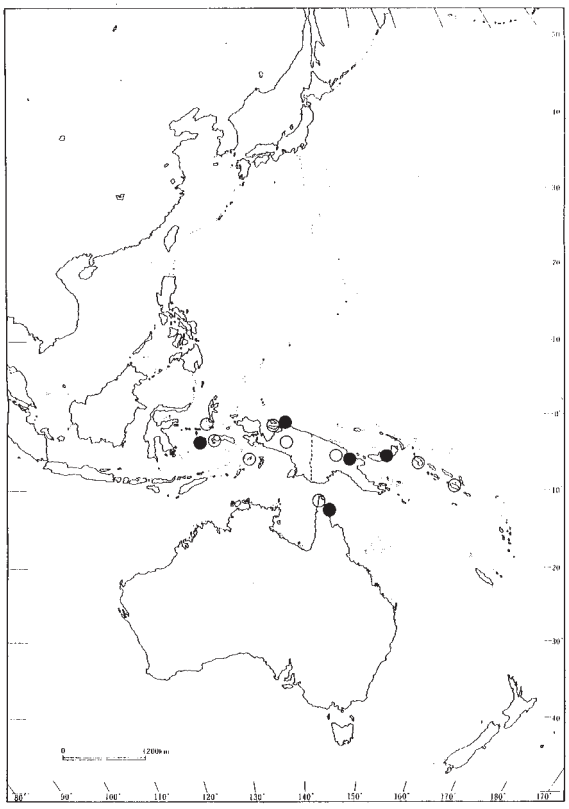


Fig. 13. Distribution of *Allora*. ○ *doleschalii,* ● *major.*

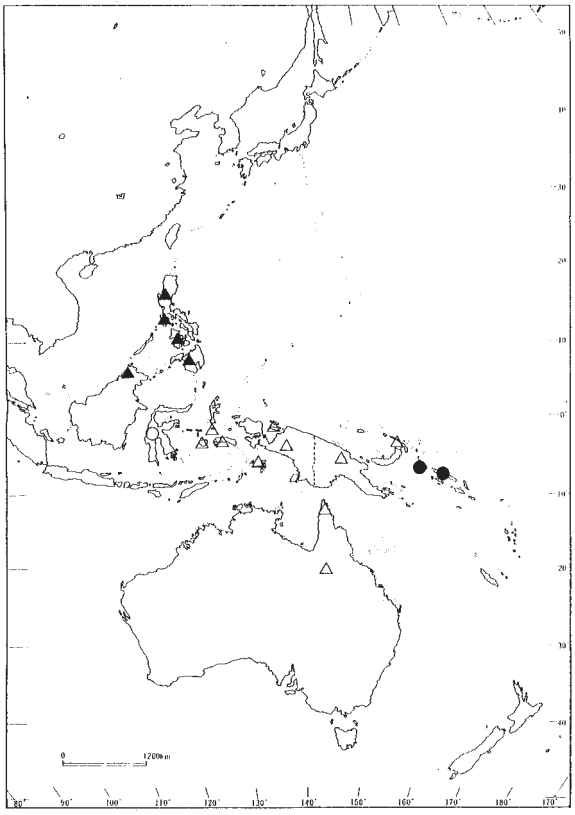


Fig. 16. Distribution of *Hasora* (3) *discolor*-group. ○ *umbrina,* ● *buina,* △ *discolor,* ▲ *borneensis.*

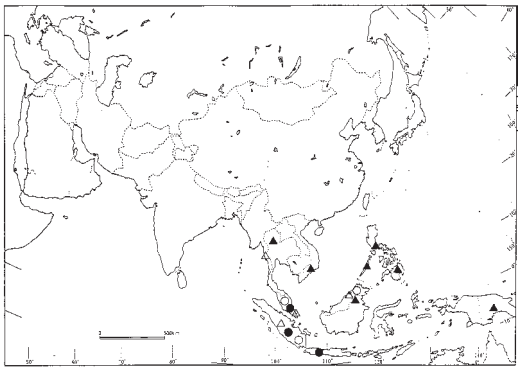


Fig. 14: Distribution of *Hasora* (1) *mus- group.* ○ *mus,* ● *lizetta,* △ *salanga,* ▲ *proxissima.*

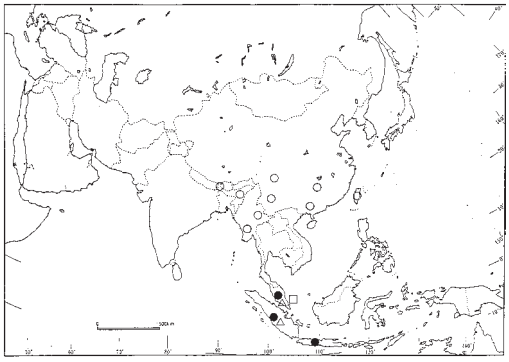


Fig. 15. Distribution of *Hasora* (2) *myra-group.* ○ *anura,* ● *myra,* △ *zoma,* □ *wilcocksi.*

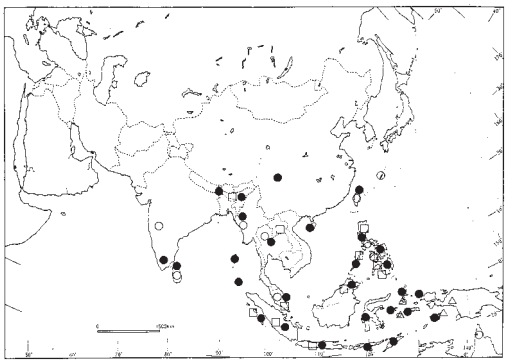


Fig. 17. Distribution of *Hasora* (4) *chromus*-group. ○ *chromus,* ● *taminatus,* △ *hurama,* □ *schoenherr.*

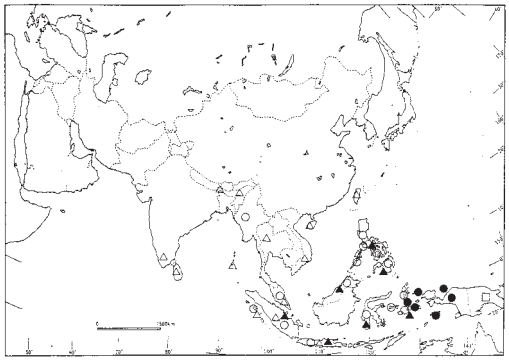


Fig. 18. Distribution of *Hasora* (5) *celaenus*-group. ○ *mixta,* ● *celaenus,* △ *badra,* ▲ *quadripunctata,* □ *subcaelestis.*

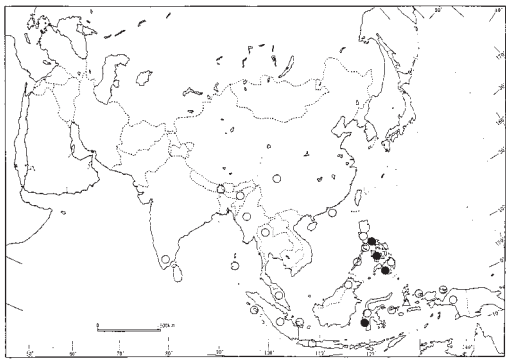


Fig. 19. Distribution of *Hasora* (6) *vitta-group*. ○ *vitta*, ● *moestissima*, △ *perplexa*.

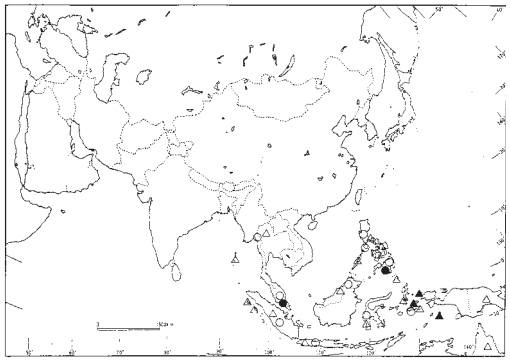


Fig. 20. Distribution of Hasora (7) *thridas*-group. ○ *leucospila*, ● *mavis*, △ *khoda*, ▲ *thridas*.

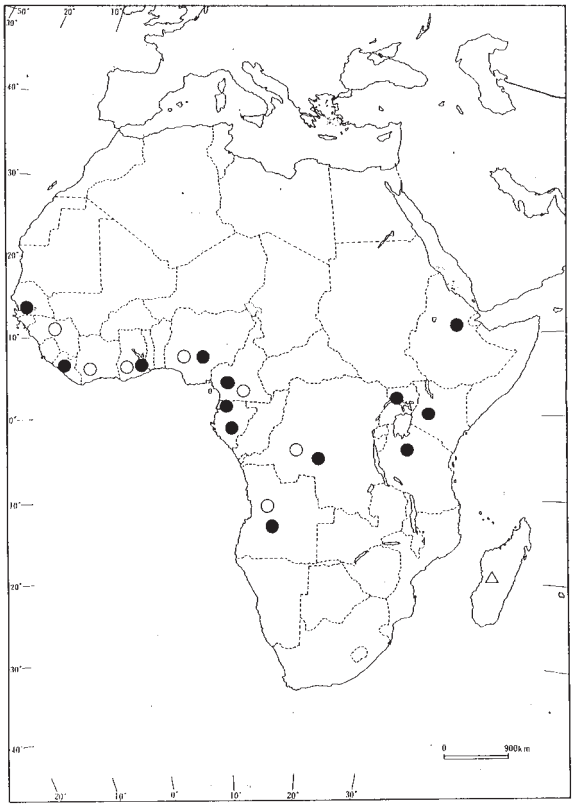


Fig. 21. Distribution of *Coeliades* (1). ○ *bixana*, ● *chalybe*, △ *fervida*.

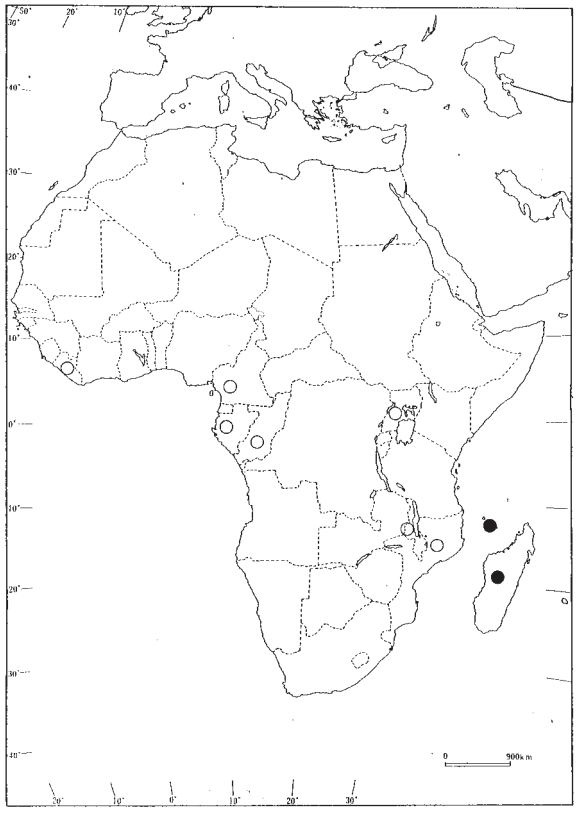


Fig. 22. Distribution of *Coeliades* (2). ○ *libeon*, ● *ramanatek*.

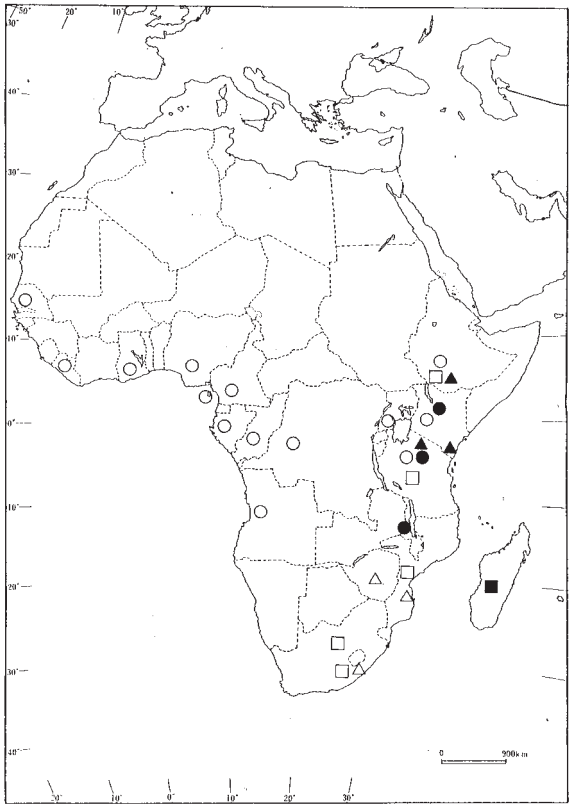


Fig. 23. Distribution of *Coeliades* (3). ○ *hanno*, ● *sejuncta*, △ *keithloa*, ▲ *menelik*, □ *pisistratus*, ■ *fidia*.

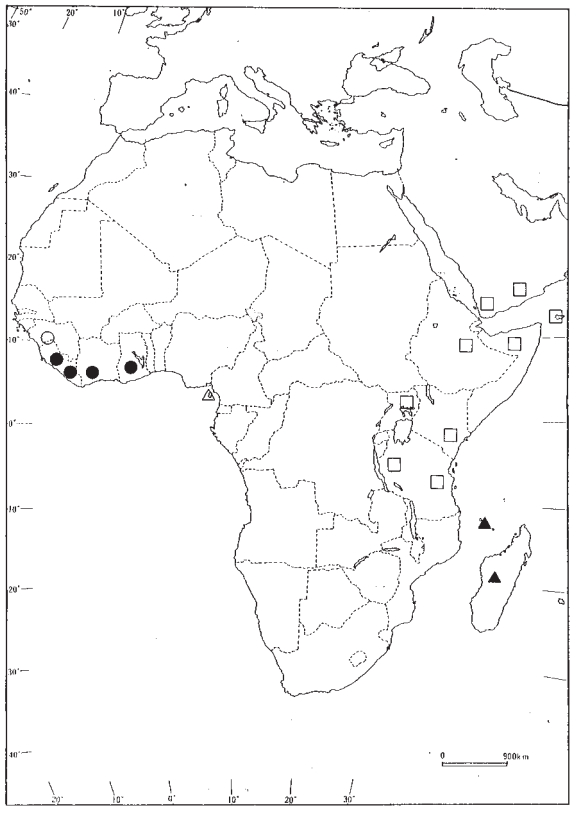


Fig. 24. Distribution of *Pyrrhiades*. ○ *aeschylus*, ● *lucagus*, △ *bocagii*, ▲ *pansa*, □ *anchises*.

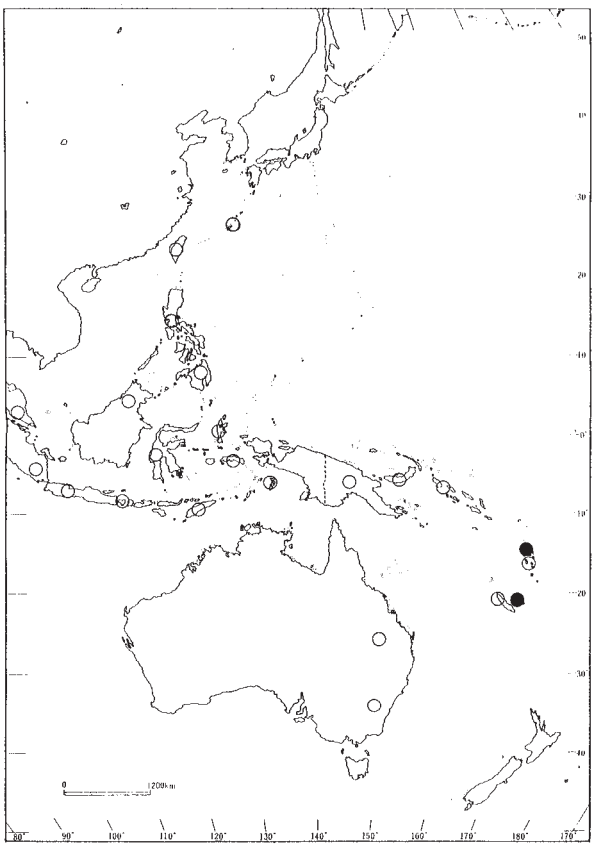


Fig. 25. Distribution of *Badamia*. ○ *exclamationis*, ● *atrox*.

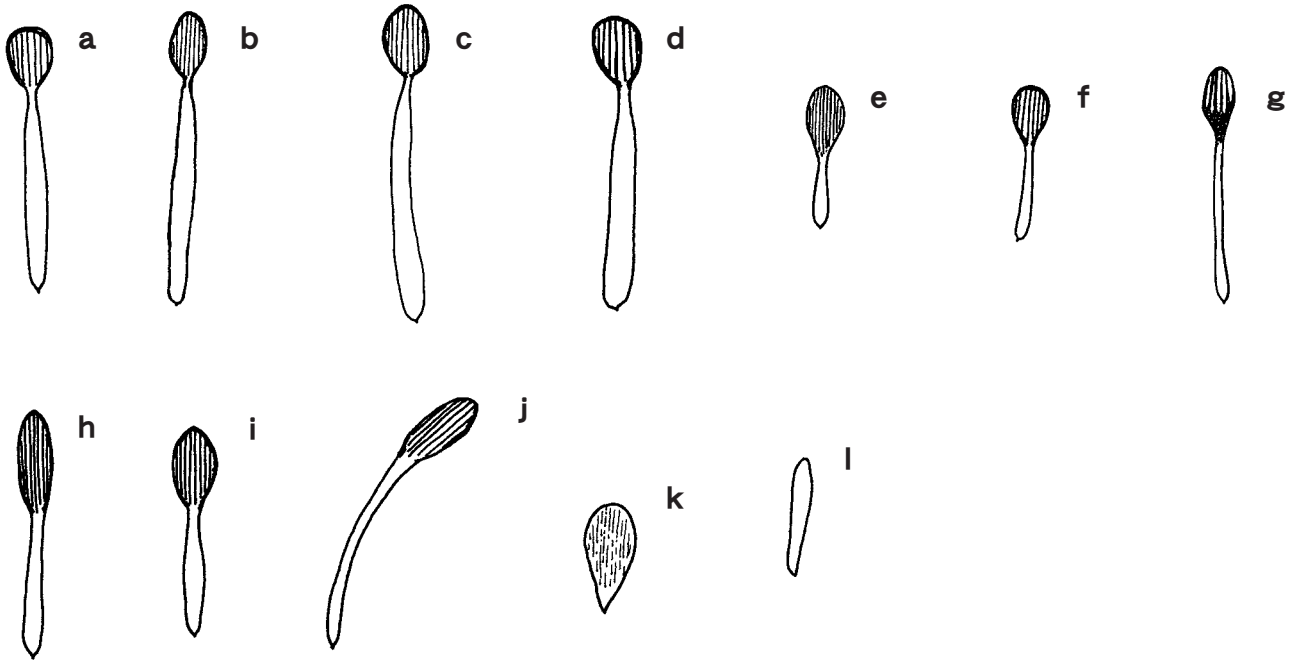


Fig. 26. Androconial scales of *Burara*. a. *B. oedipodea belesis*, b. *B. oedipodea oedipodea*, c. *B. oedipodea excellens*, d. *B. tuckeri*, e. *B. anadi anadi*, f. *B. anadi purprea*, g. *B. anadi owstoni*, h. *B. jaina jaina*, i. *B. jaina margana*, j. *B. jaina velva*, k. *B. phul*, l. *B. striata*.

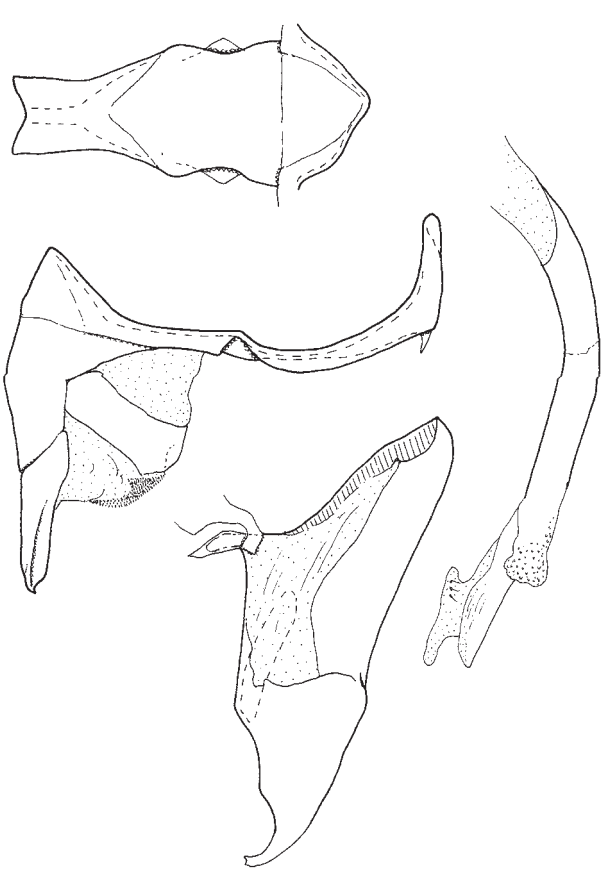


Fig. 28. Male genitalia of *Burara tuckeri*.

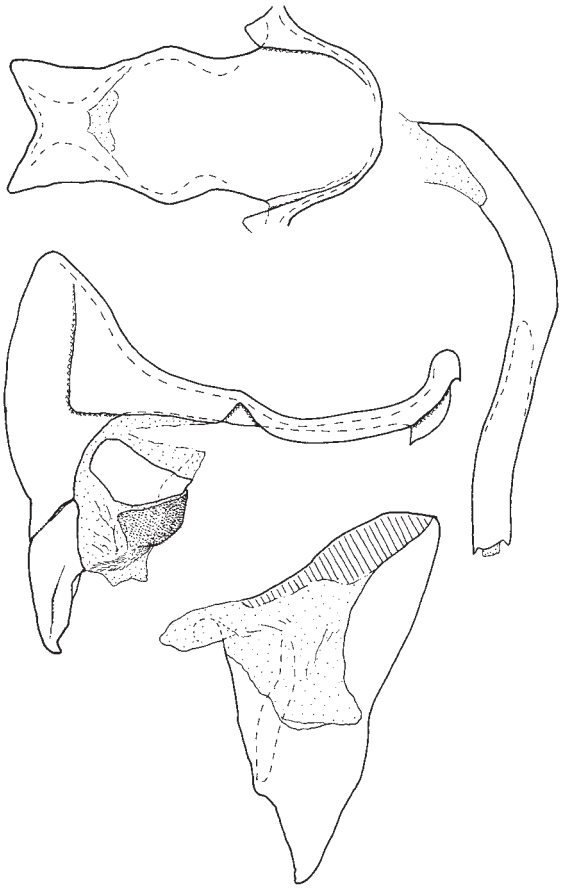


Fig. 30. Male genitalia of *Burara jaina jaina*.

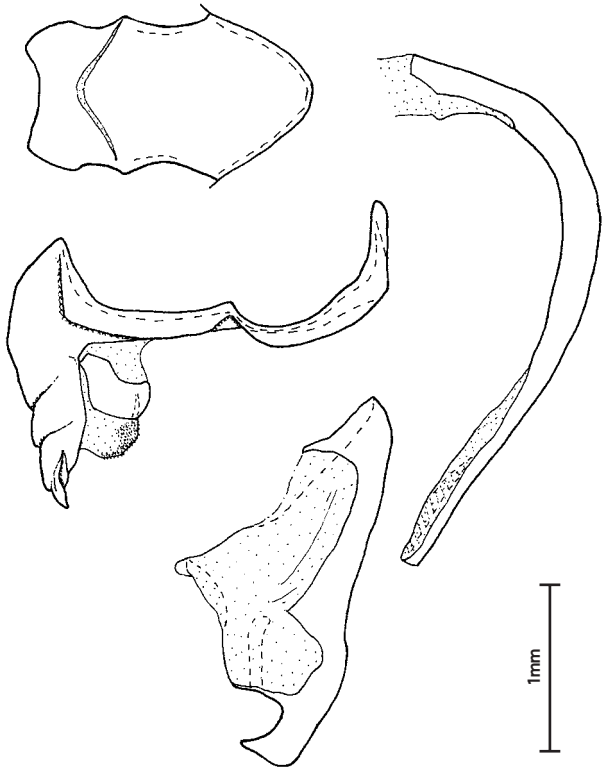


Fig. 27. Male genitalia of *Burara oedipodea oedipodea*.

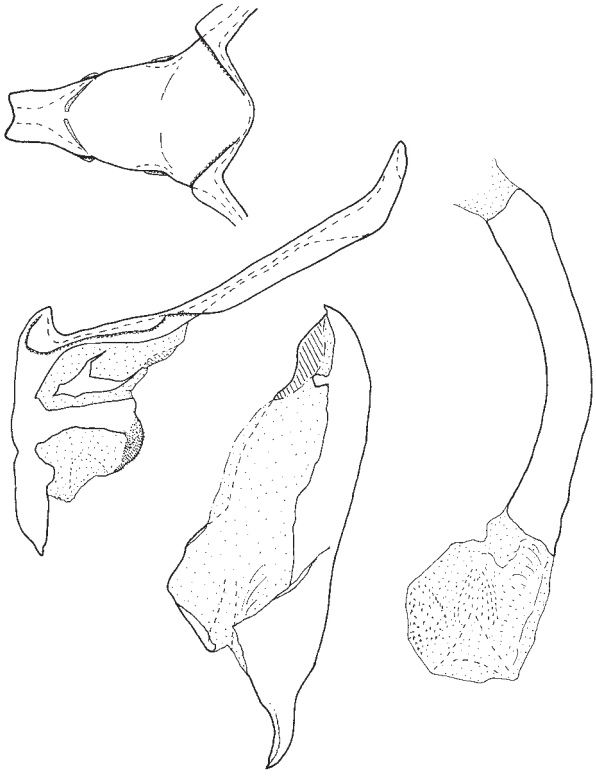


Fig. 29. Male genitalia of *Burara anadi anadi*.

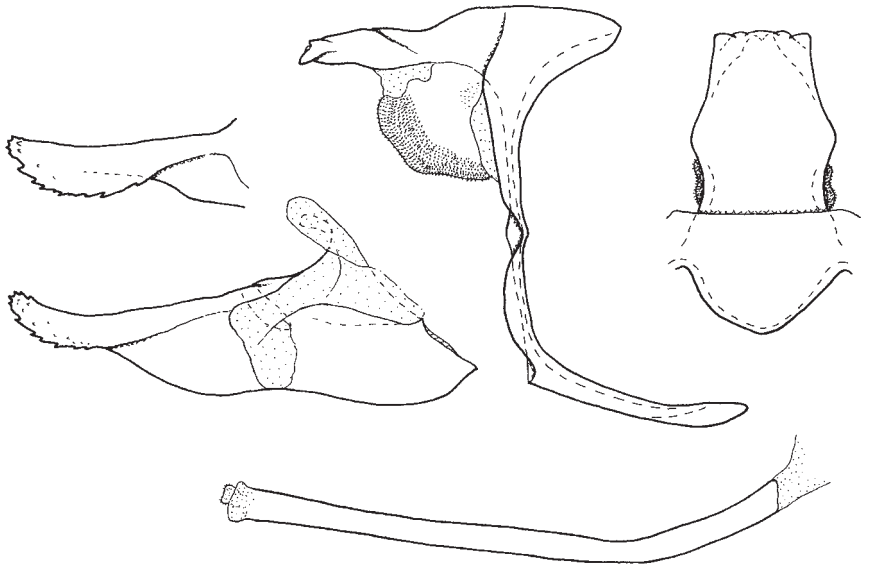


Fig. 31. Male genitalia of *Burara phul*.

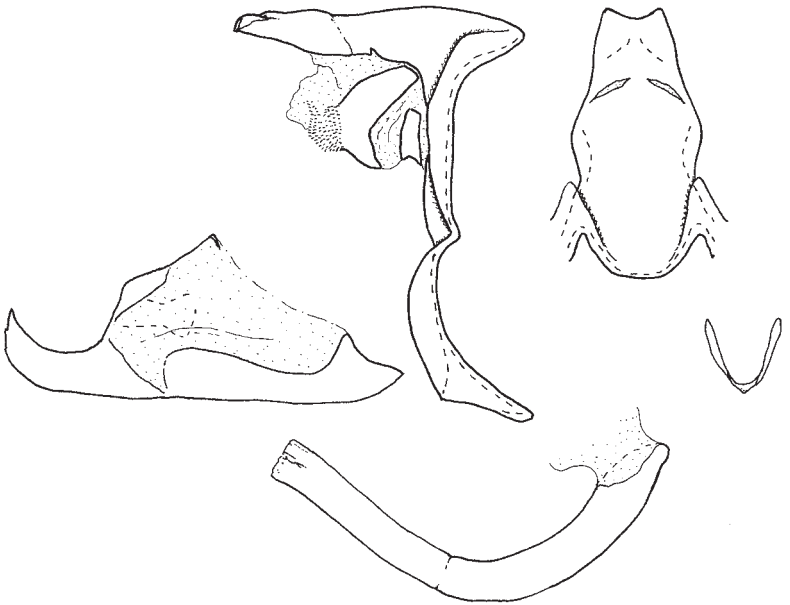


Fig. 32. Male genitalia of *Burara nishiyamai*.

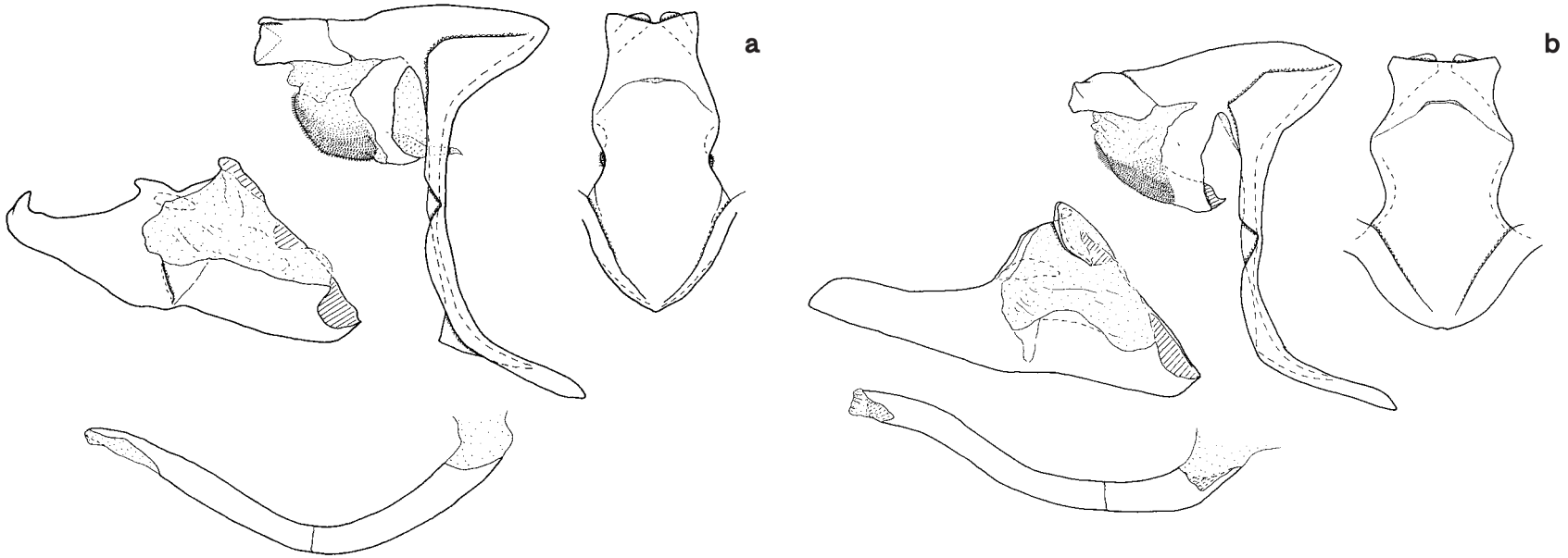


Fig. 33. Male genitalia of *Burara etelka*, a. ssp. *etelka*, b. ssp. *imperialis*.

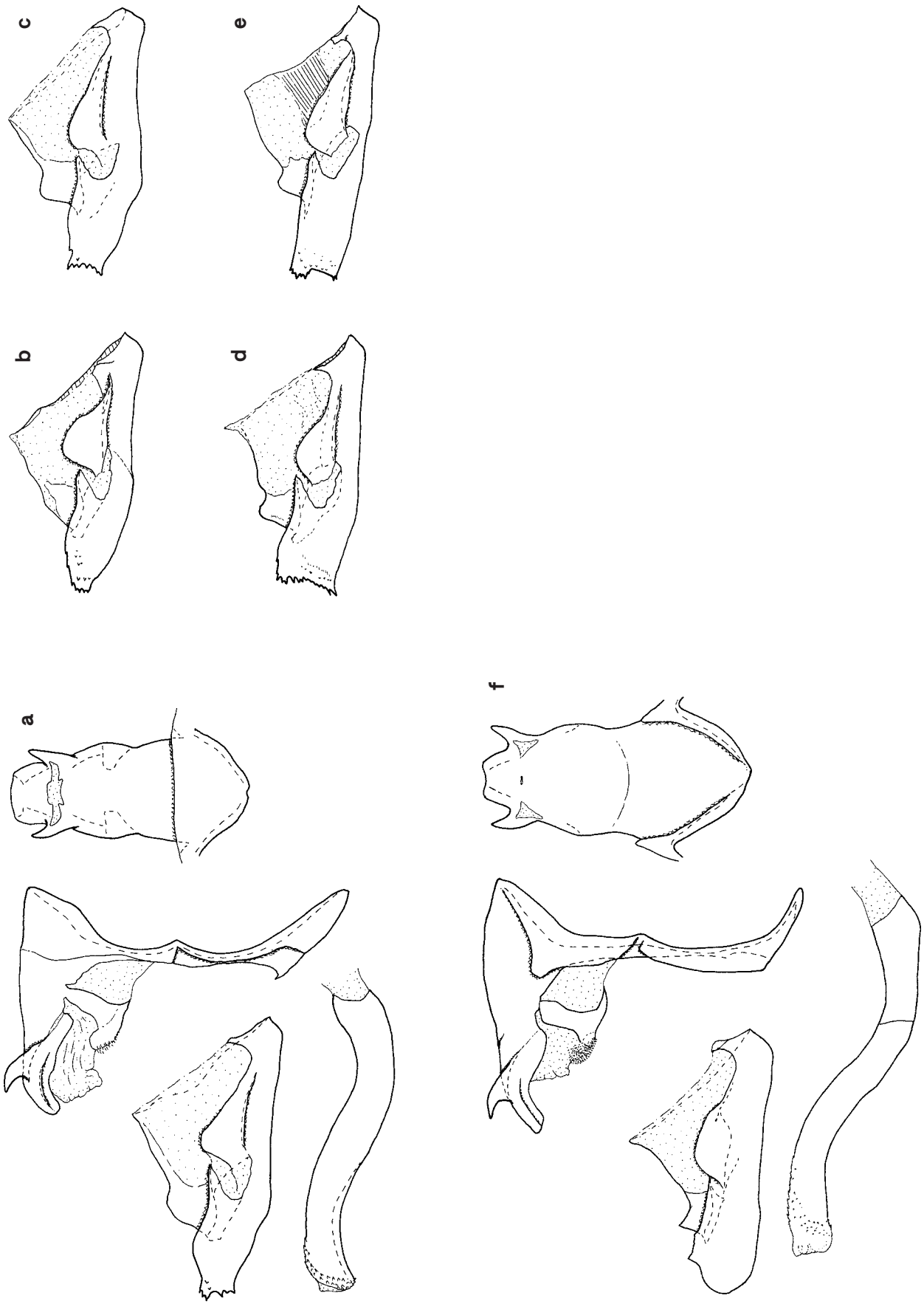


Fig. 34. Male genitalia of *Burara harisa*, a. ssp. *consobrina* (Java), b. ssp. *harisa*, c. ssp. *niasana*, d. ssp. *pala*, e. ssp. *consobrina* (Singapore), f. ssp. *aphrodite*.

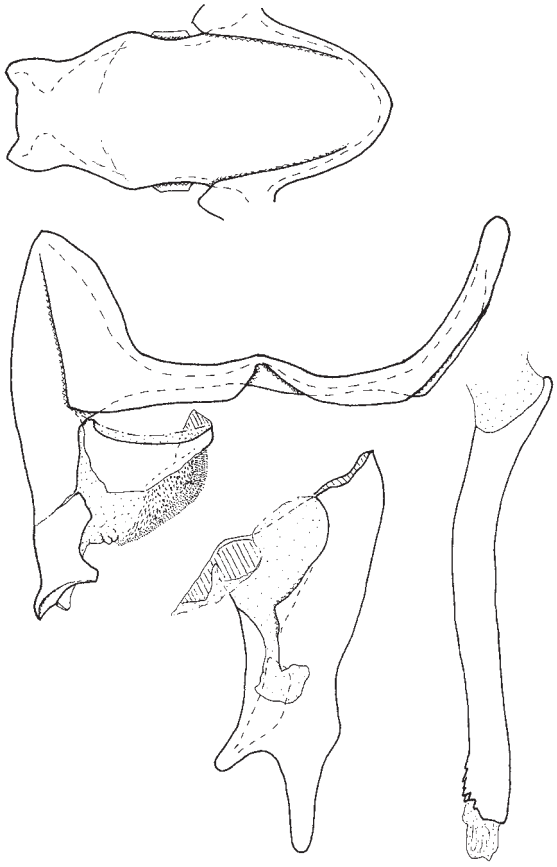


Fig. 36. Male genitalia of *Burara vasutana*.

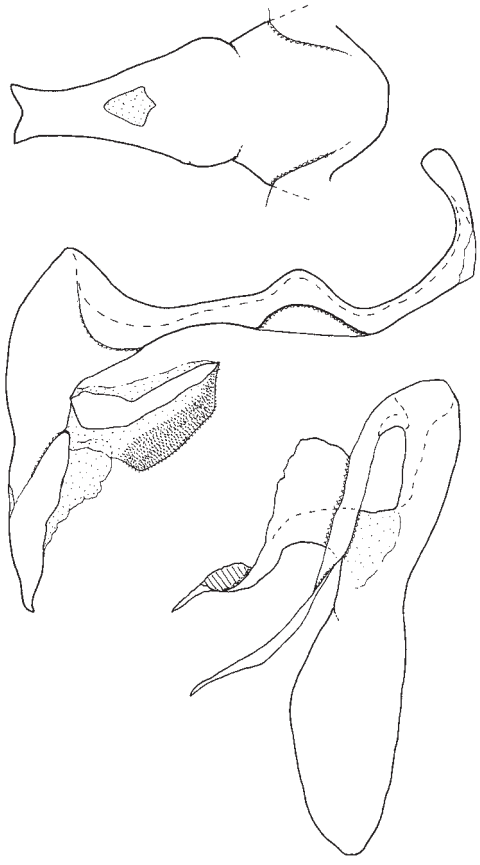


Fig. 35. Male genitalia of *Burara gomata lorquini*.

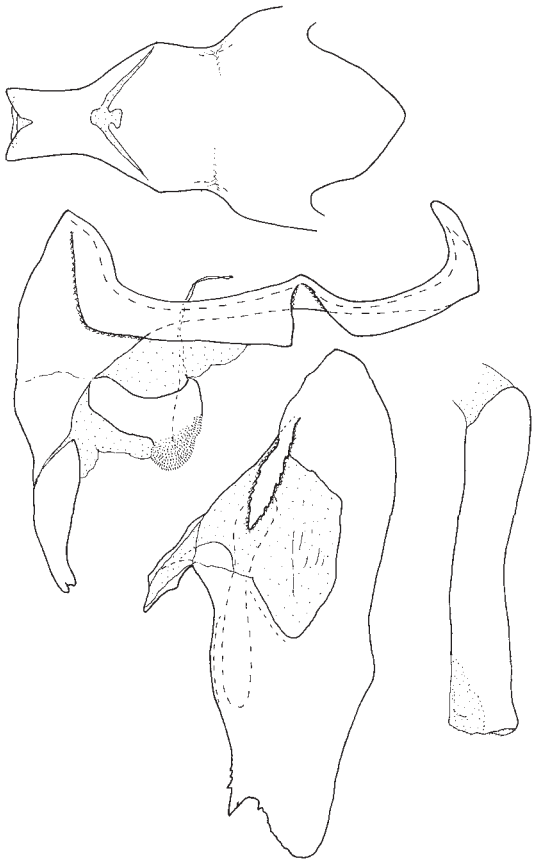


Fig. 38. Male genitalia of *Burara miracula*.

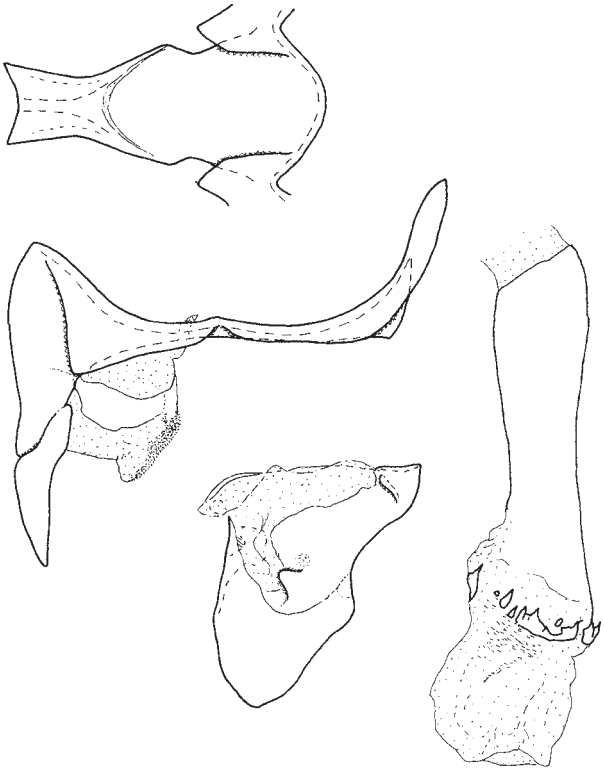


Fig. 37. Male genitalia of *Burara amara*.

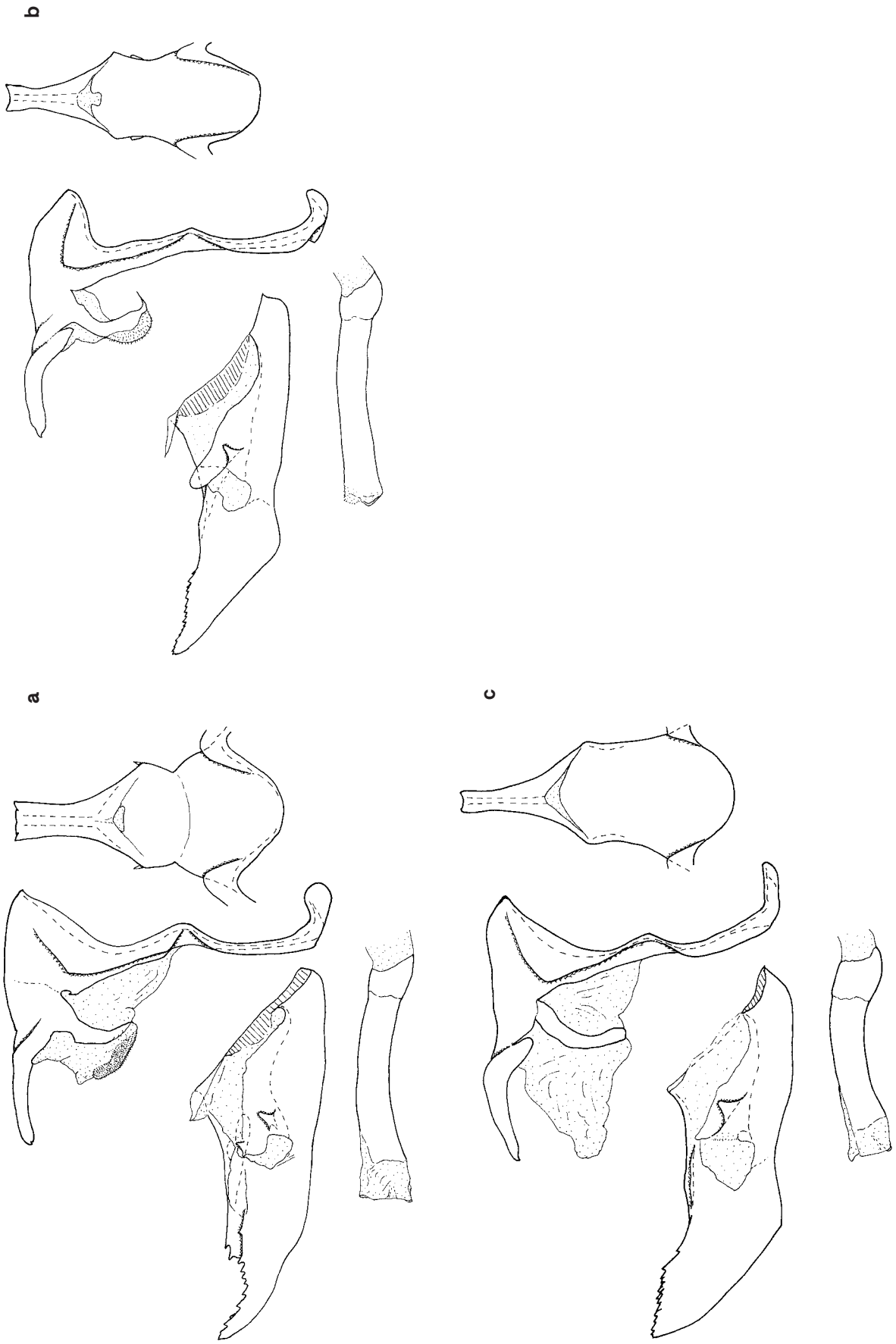


Fig. 39. Male genitalia of *Burara* sp, a. *B. striata*, b. *B. aquilina chrysaeglia*, c. *B. aquilina siola.*

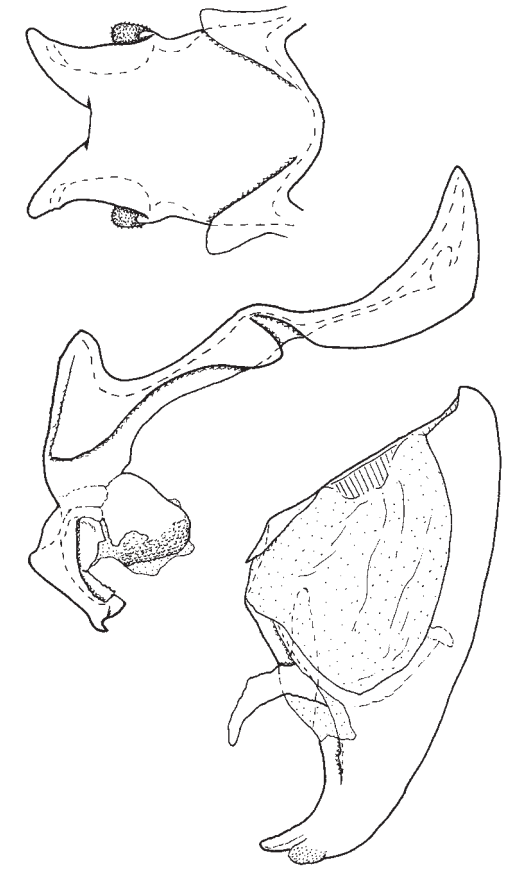


Fig. 41. Male genitalia of *Bibasis mahintha*.

Fig. 40. Male genitalia of *Bibasis sena palawana*.

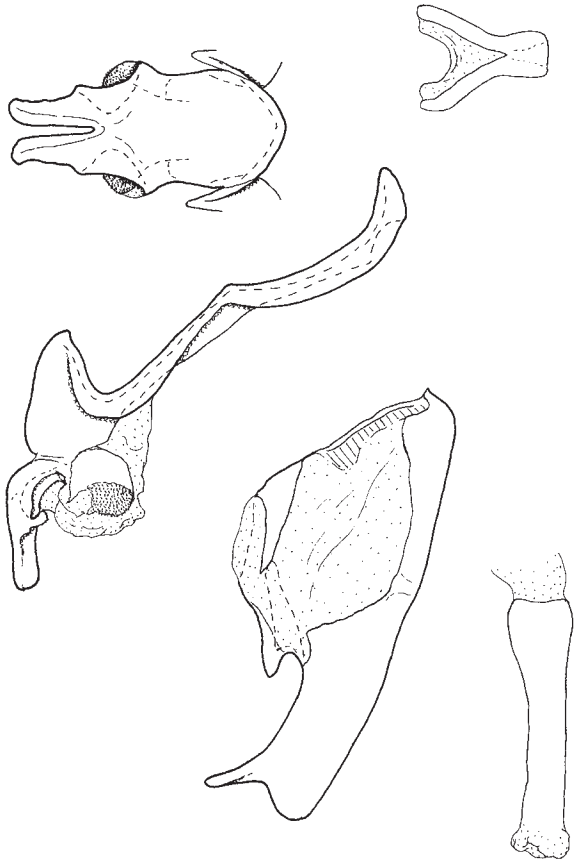


Fig. 43. Male genitalia of *Bibasis iluska*.

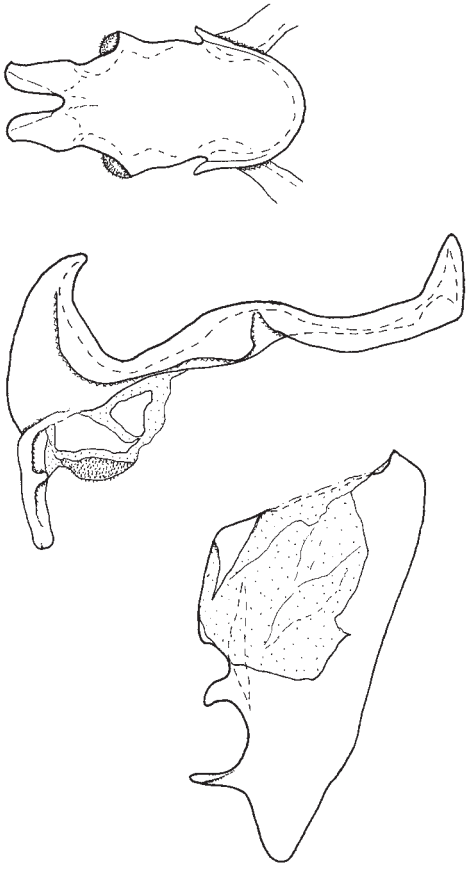


Fig. 42. Male genitalia of *Bibasis nestor*.

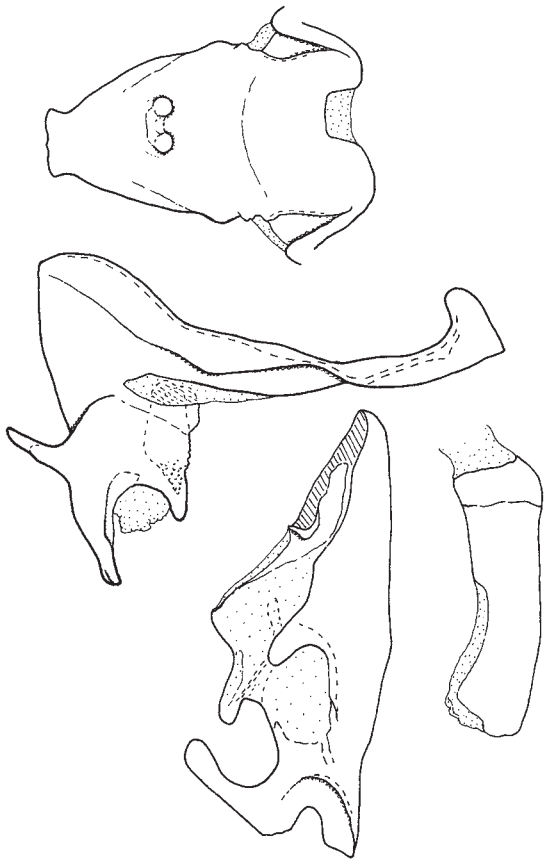


Fig. 45. Male genitalia of *Allora major major.*

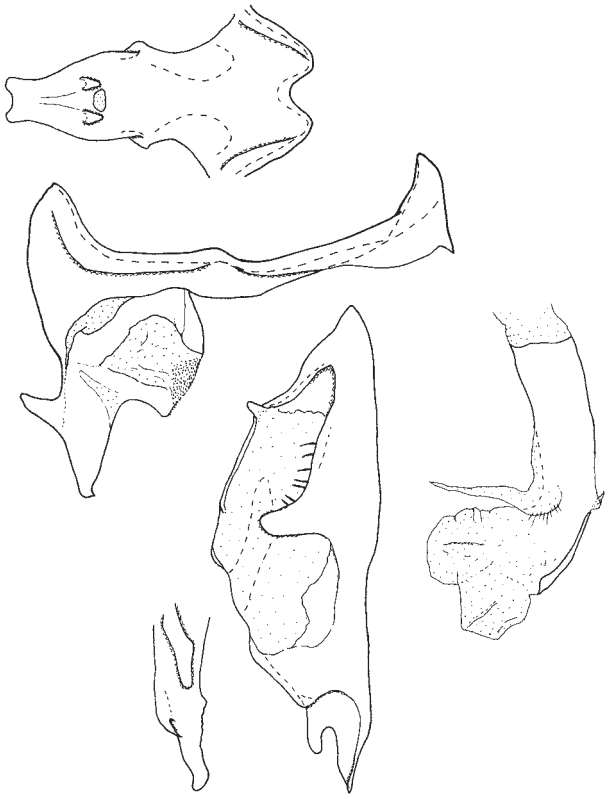


Fig. 44. Male genitalia of *Allora doleschallii solon.*

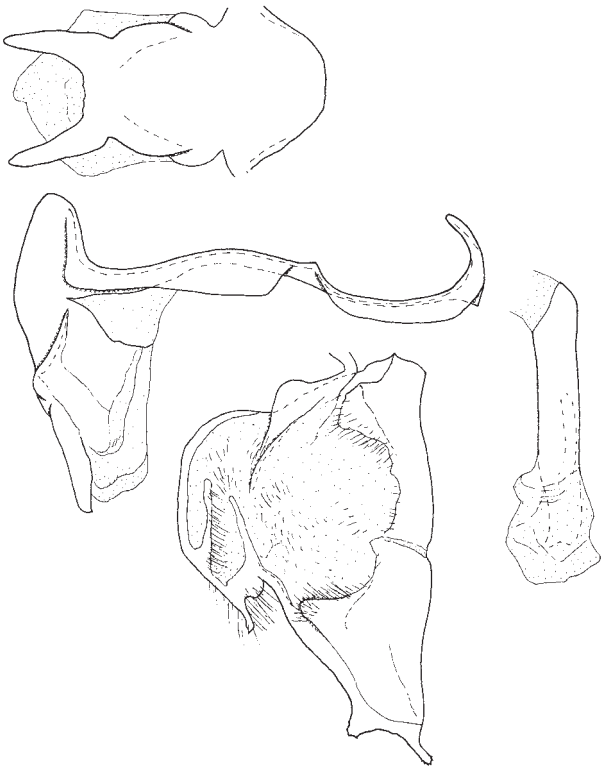


Fig. 47. Male genitalia of *Hasora lizetta.*

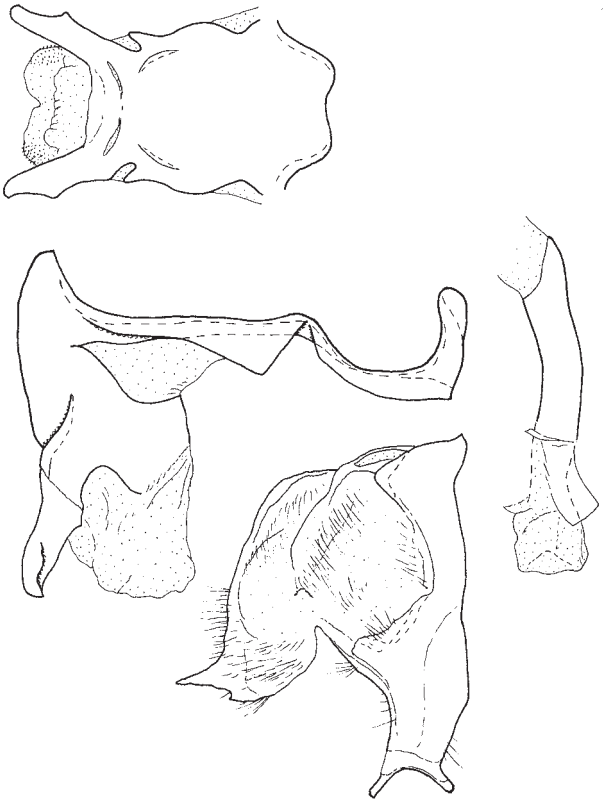
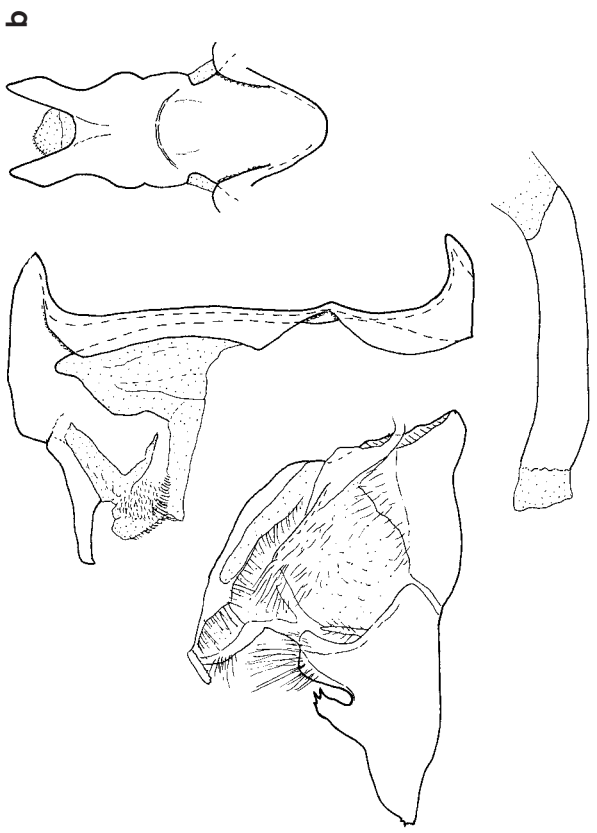


Fig. 46. Male genitalia of *Hasora mus pahanga.*



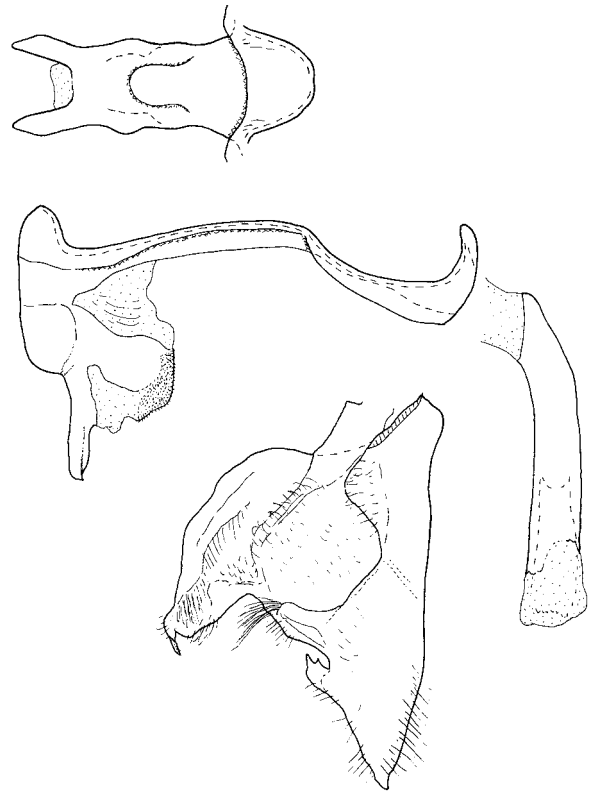


Fig. 48. Male genitalia of *Hasora proxissima*, a. ssp. *siamica*, b. ssp. *siva*.

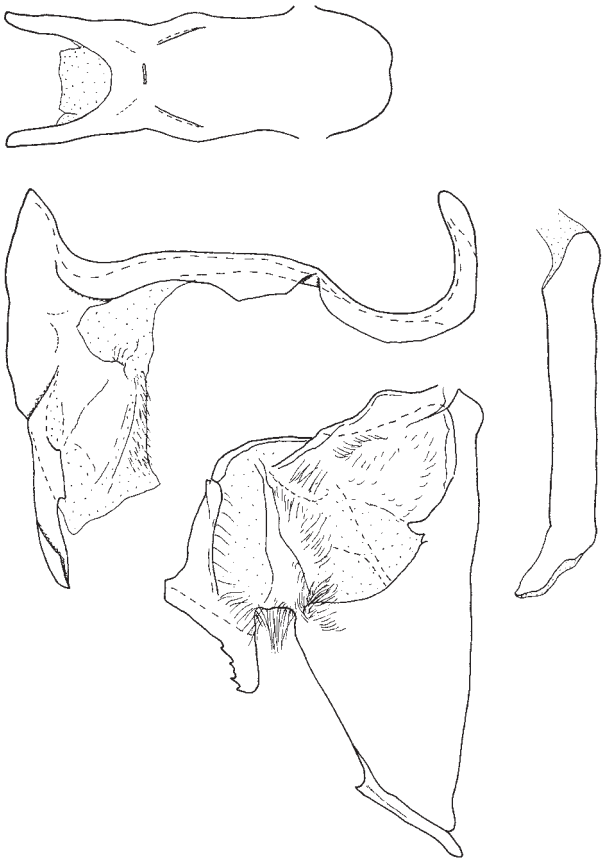


Fig. 50. Male genitalia of *Hasora zoma*.

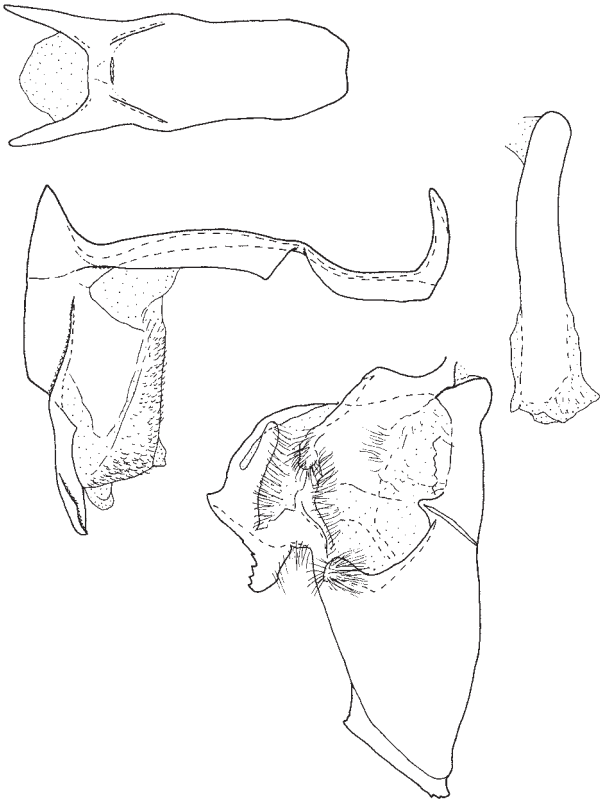


Fig. 49. Male genitalia of *Hasora myra myra*.

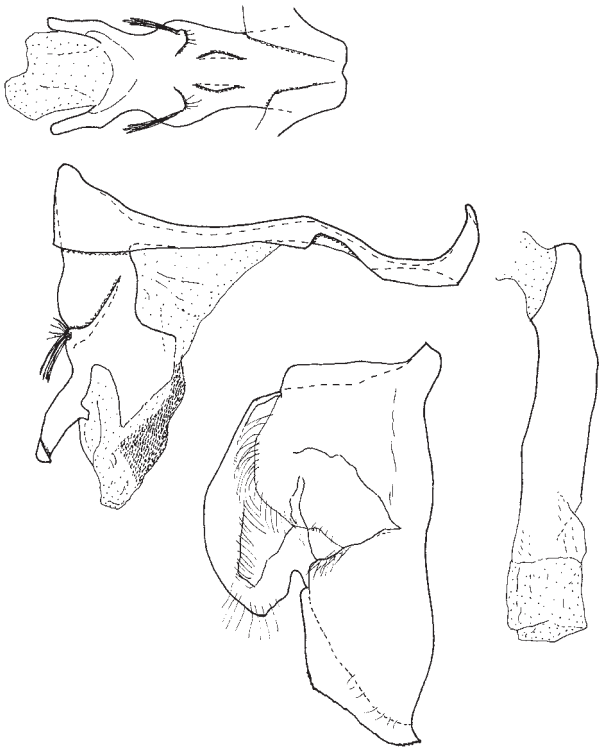


Fig. 52. Male genitalia of *Hasora discolor discolor.*

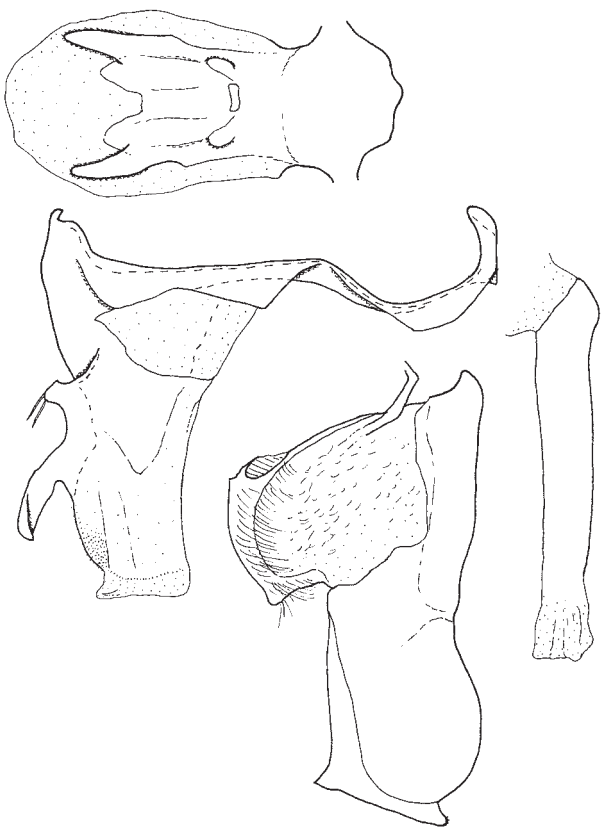


Fig. 51. Male genitalia of *Hasora buina.*

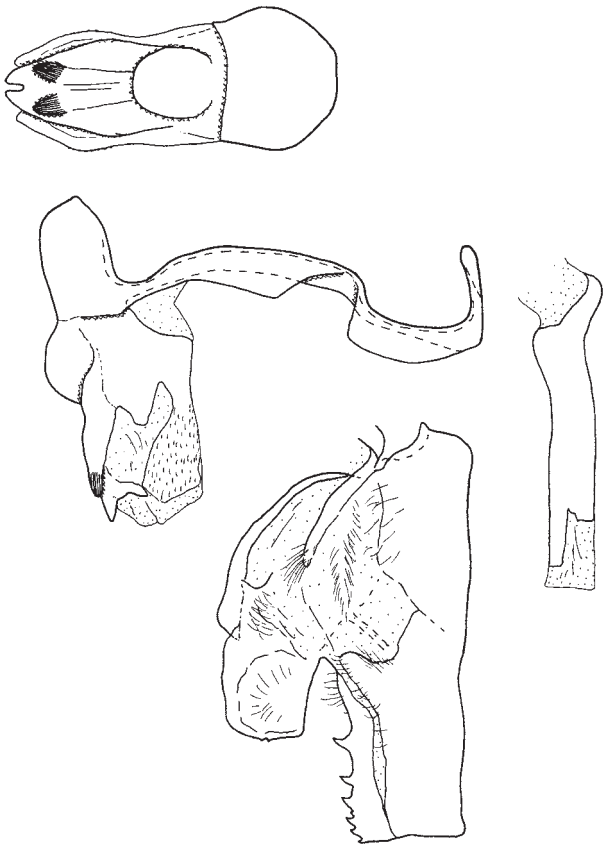


Fig. 54. Male genitalia of *Hasora chromus bilunata.*

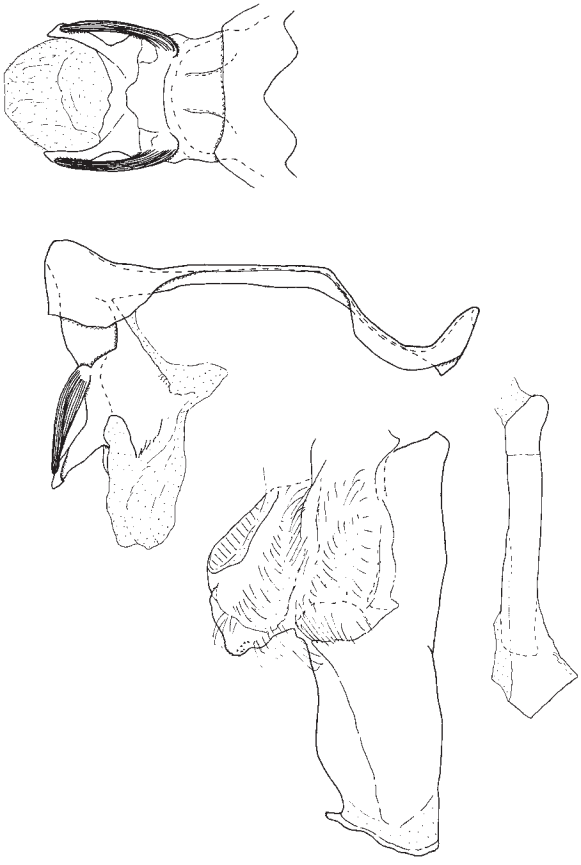


Fig. 53. Male genitalia of *Hasora borneensis luza.*

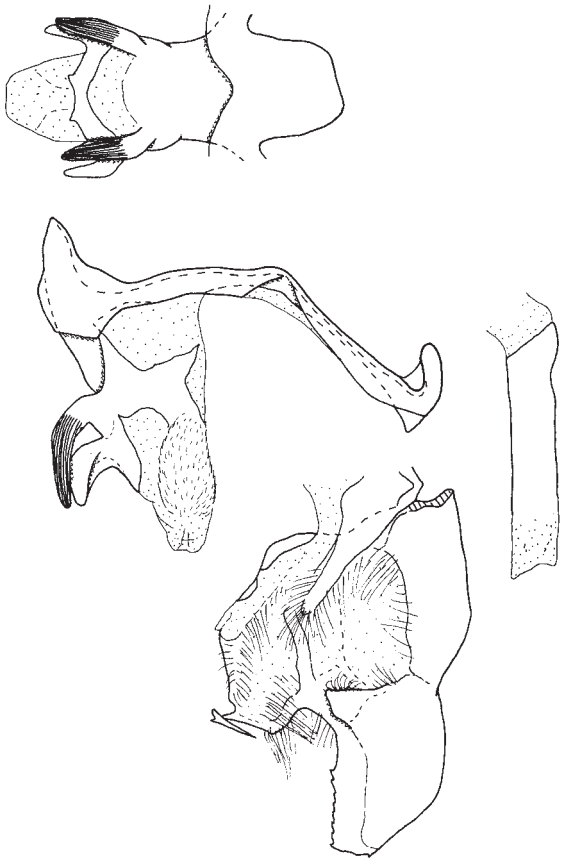


Fig. 56. Male genitalia of *Hasora hurama mola*.

Fig. 55. Male genitalia of *Hasora taminatus padma*.

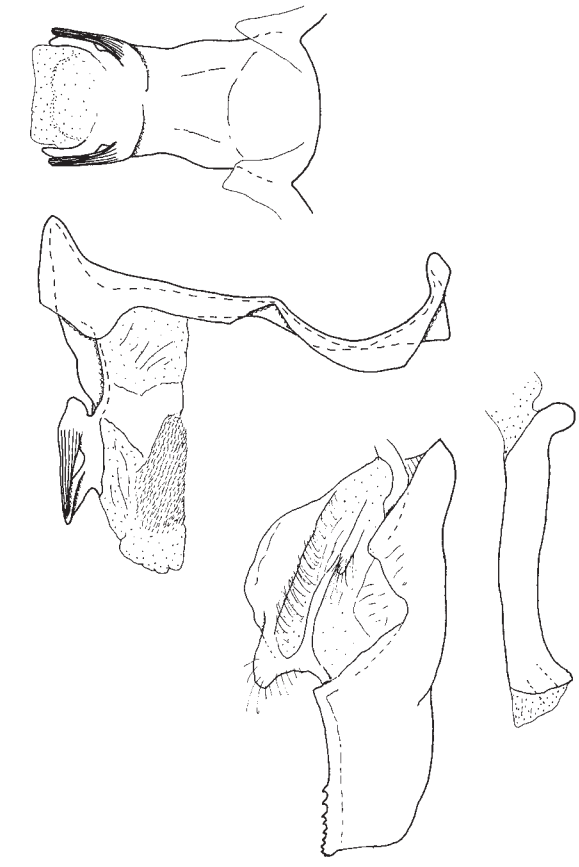


Fig. 58. Male genitalia of *Hasora schoenherr saida*.

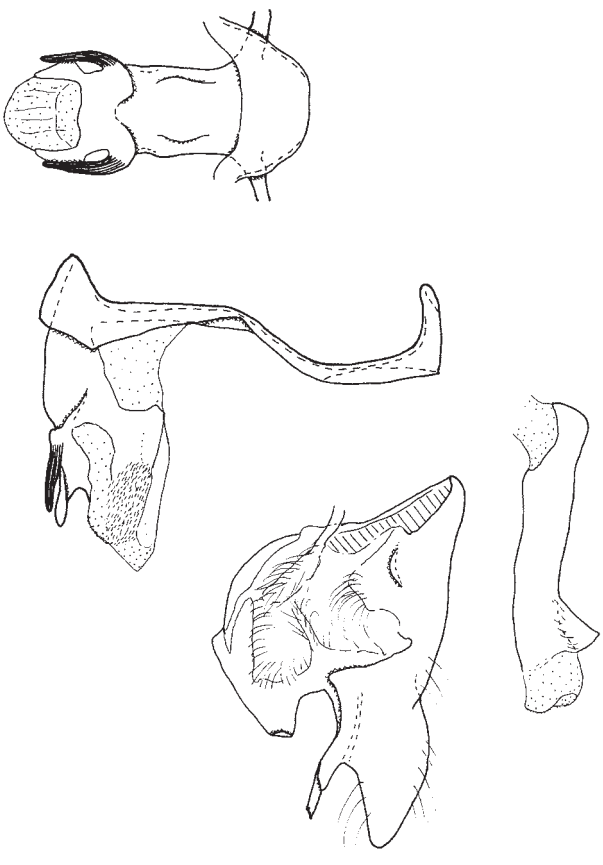


Fig. 57. Male genitalia of *Hasora schoenherr chuza*.

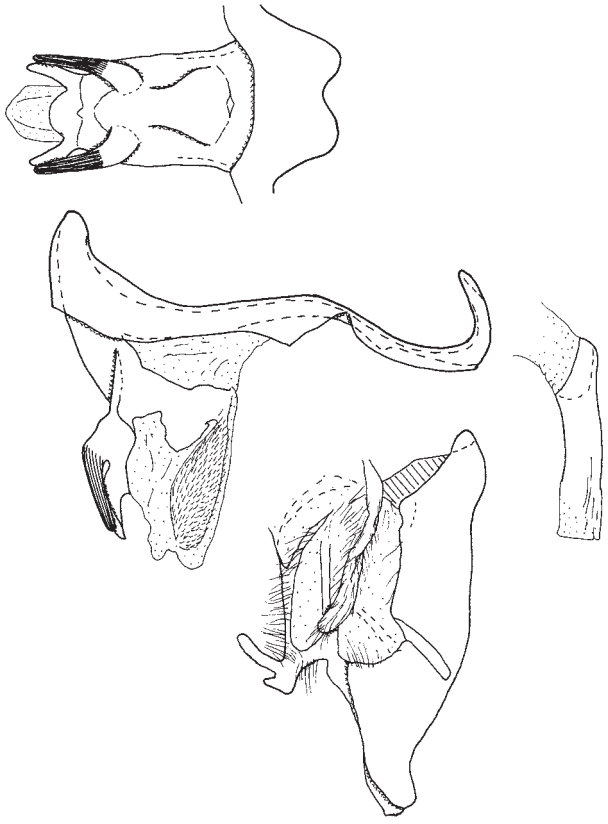


Fig. 60. Male genitalia of *Hasora celaenus*.

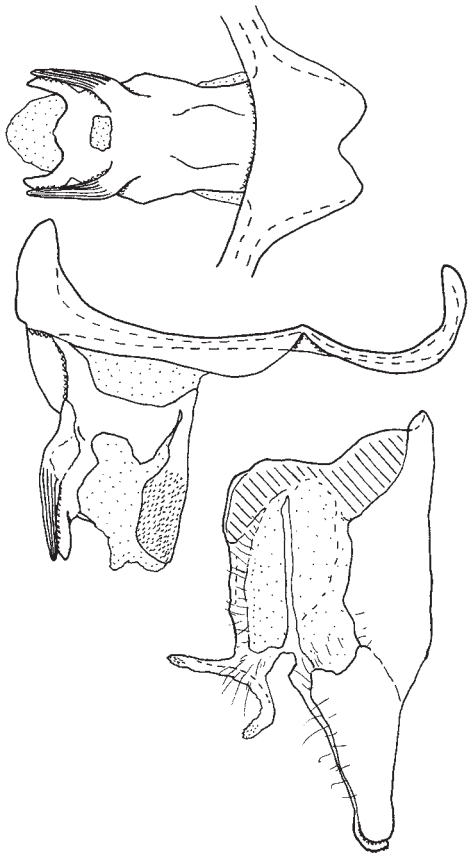


Fig. 59. Male genitalia of *Hasora mixta mixta*.

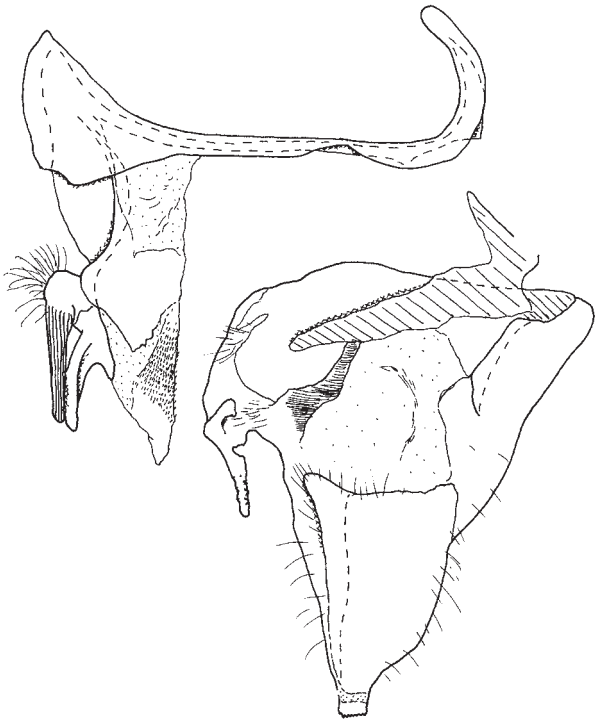


Fig. 62. Male genitalia of *Hasora moestissima moestissima*.

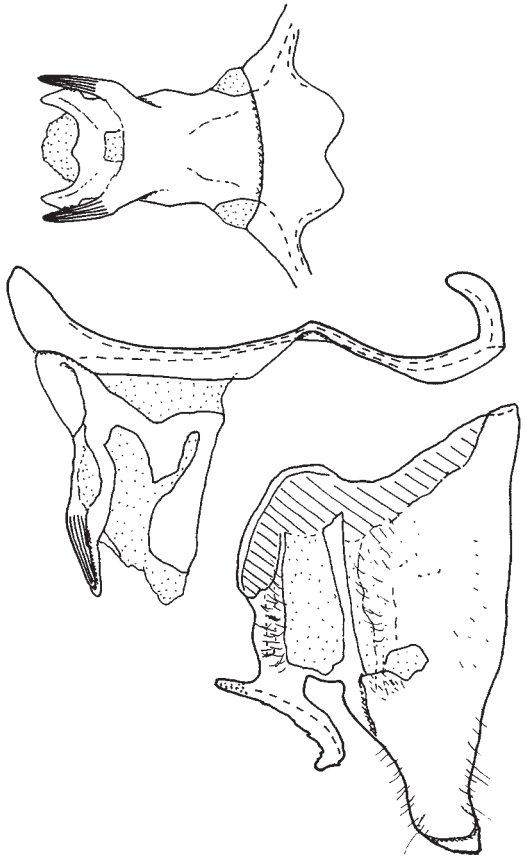


Fig. 61. Male genitalia of *Hasora badra badra*.

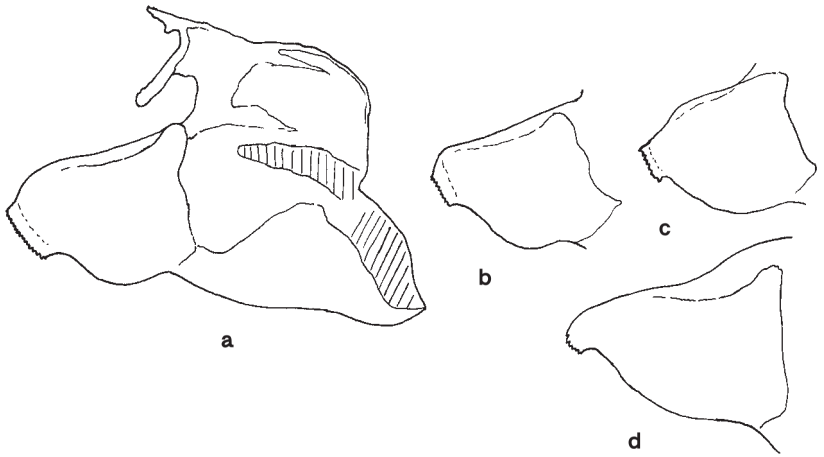


Fig. 63. Male genitalia of *Hasora vitta*, a. ssp. *indica*, b. ssp. *vitta*, c. ssp. *proximata,* d. ssp. *pathana.*

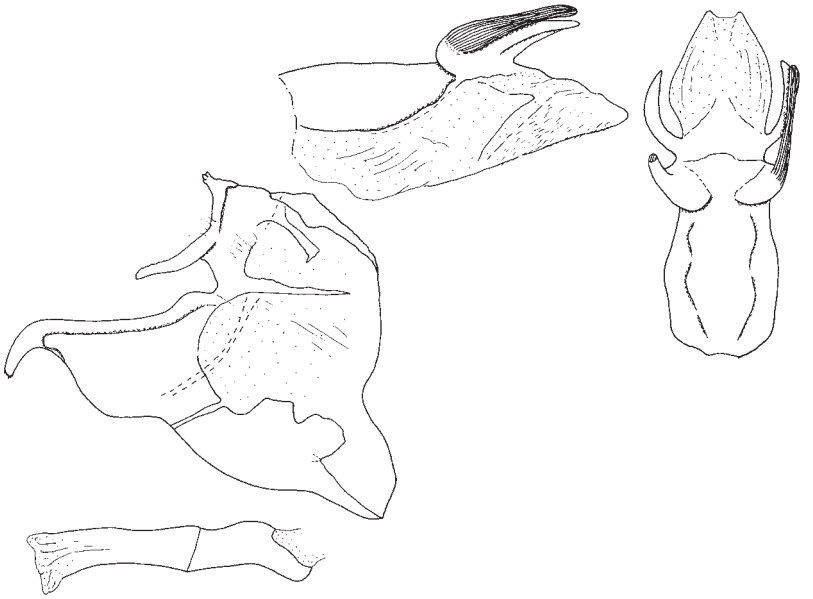


Fig. 64. Male genitalia of *Hasora perplexa*.

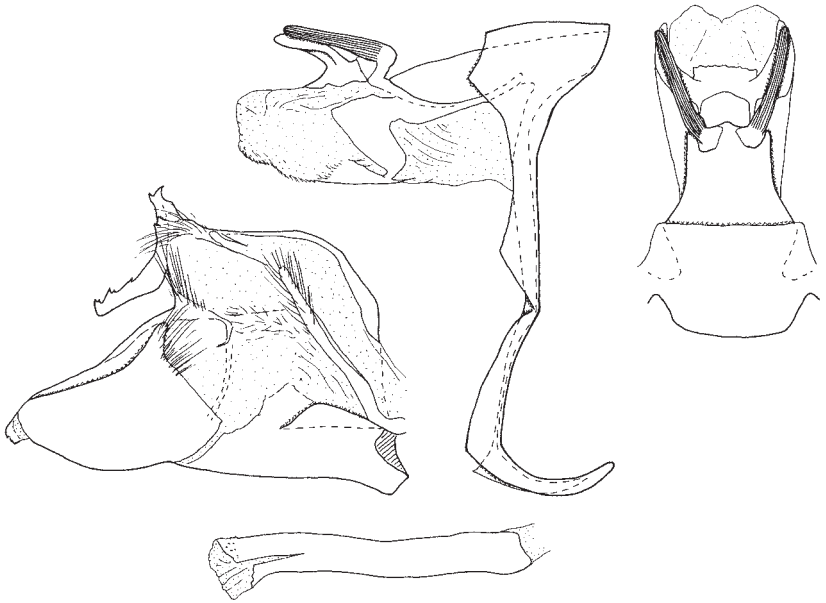


Fig. 65. Male genitalia of *Hasora thridas*.

Fig. 66. Male genitalia of *Coeliades bixana*.

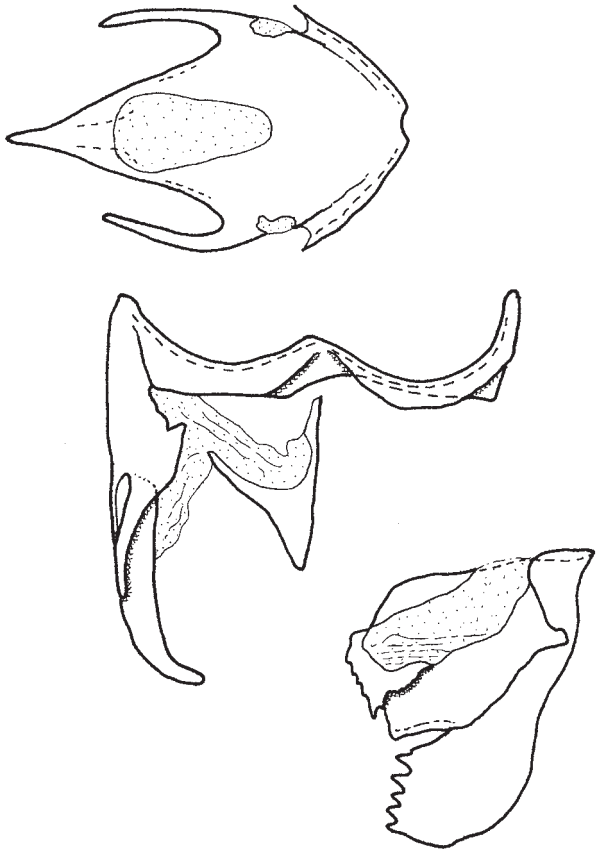


Fig. 67. Male genitalia of *Coeliades chalybe*.

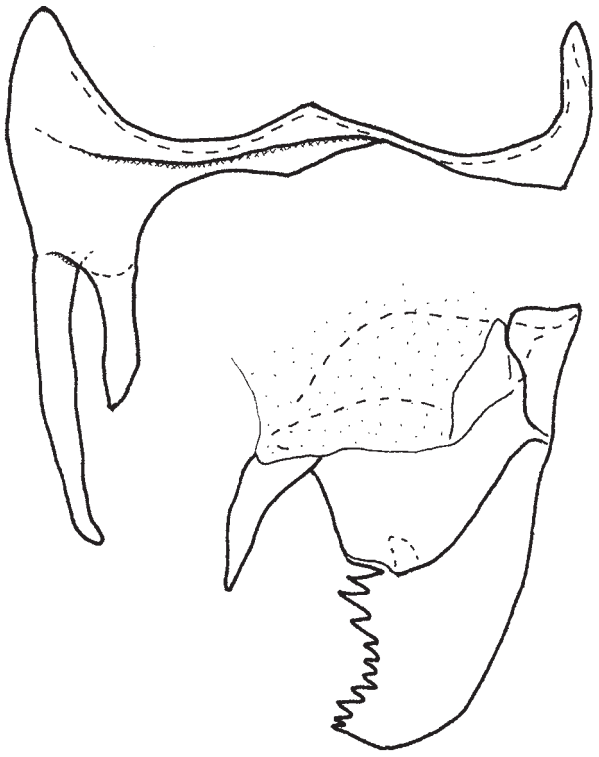


Fig. 68. Male genitalia of *Coeliades fervida*.

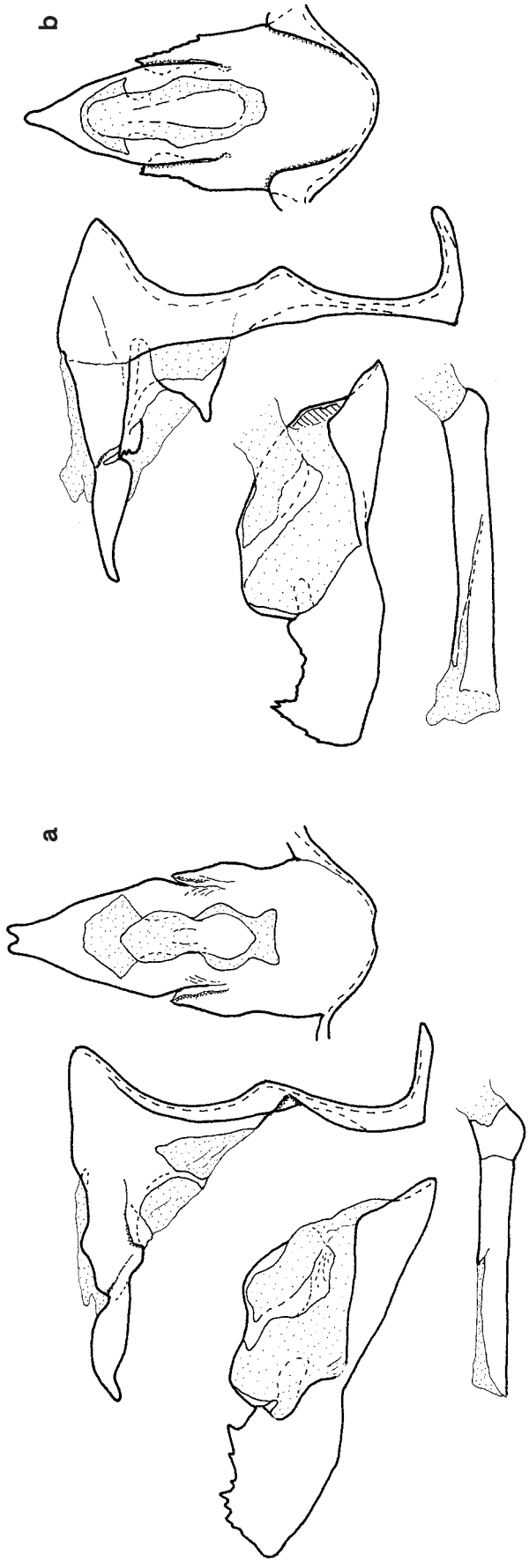


Fig. 69. Male genitalia of *Coeliades keithloa*, a. ssp. *keithloa*, b. ssp. *lorenzo*.

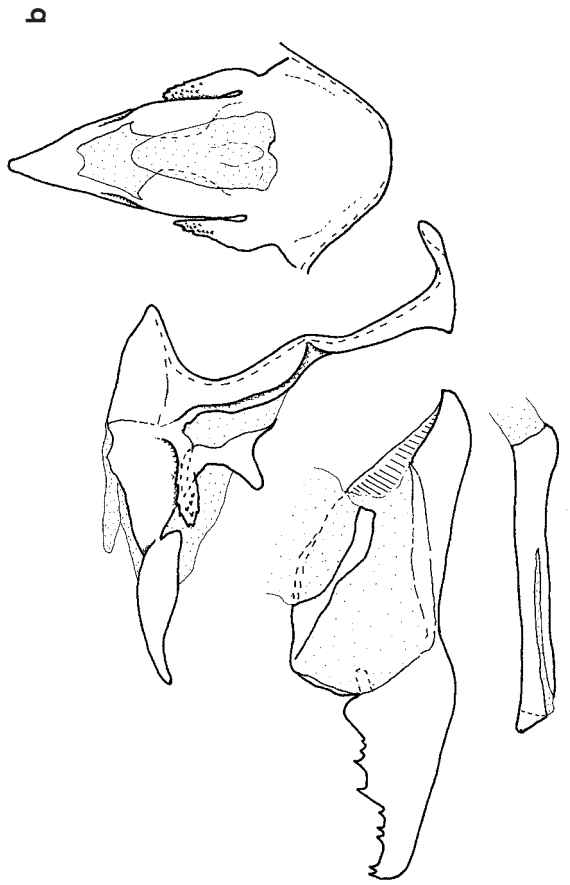


Fig. 70. Male genitalia of *Coeliades menelik*, a. ssp. *merua*, b. ssp. *kenya*.

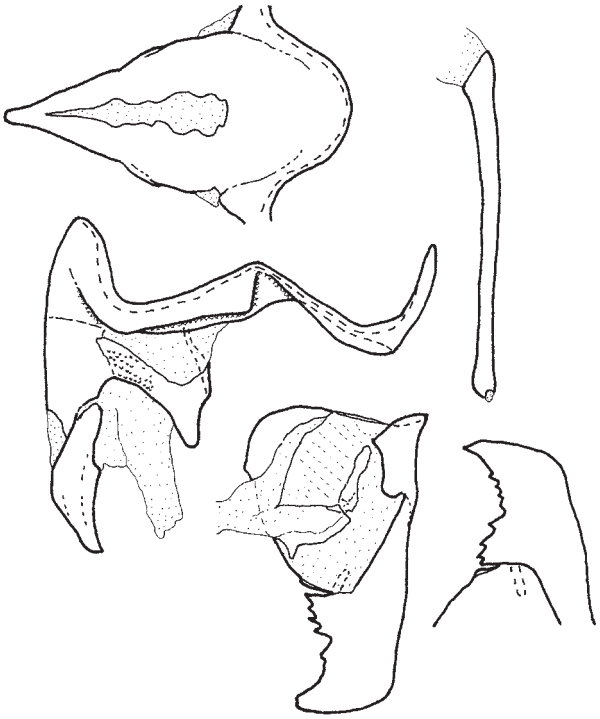


Fig. 72. Male genitalia of *Coeliades pisistratus*.

Fig. 71. Male genitalia of *Coeliades hanno*.

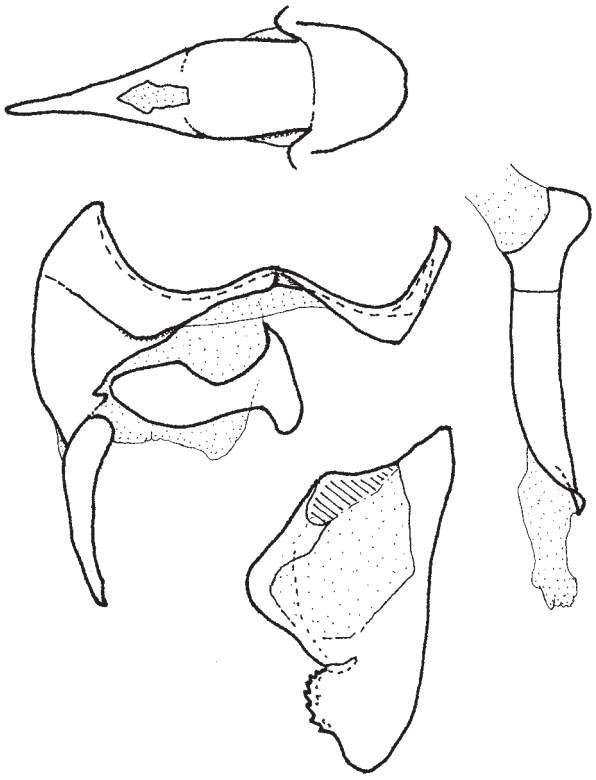


Fig. 74. Male genitalia of *Coeliades ramanatek*.

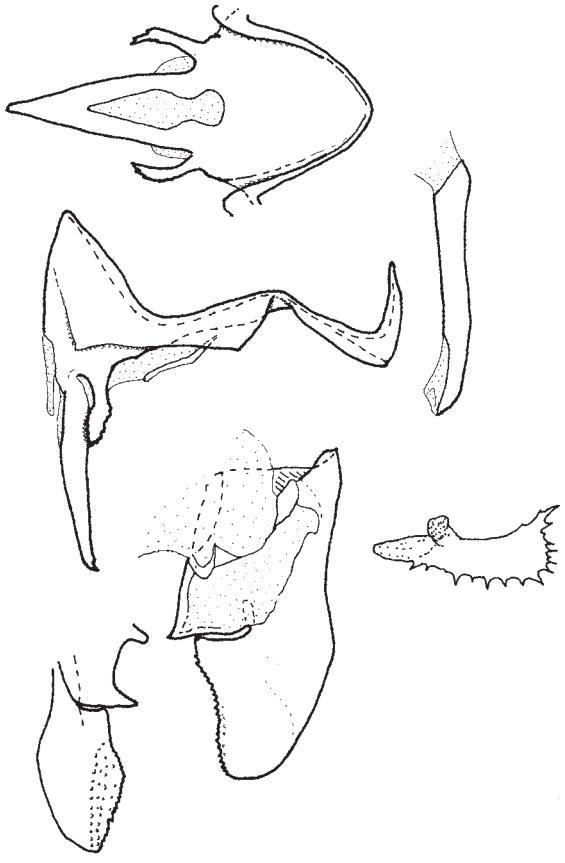


Fig. 73. Male genitalia of *Coeliades libeon*.

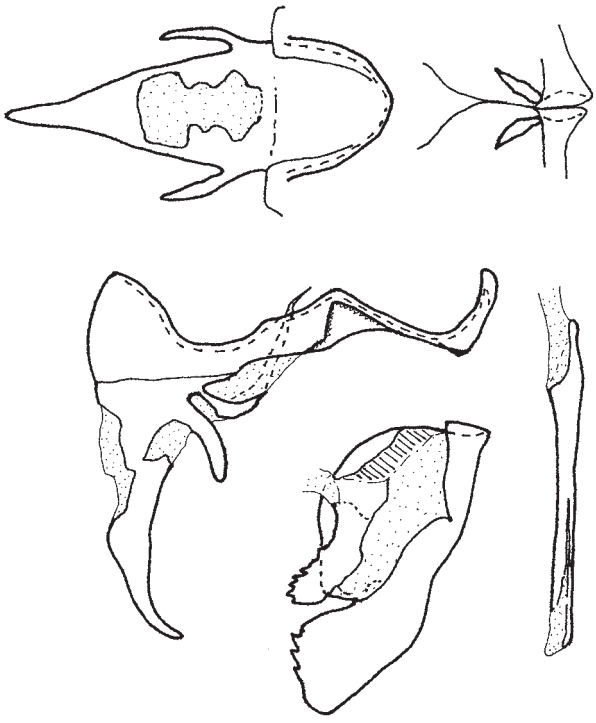


Fig. 76. Male genitalia of *Coeliades rama*.

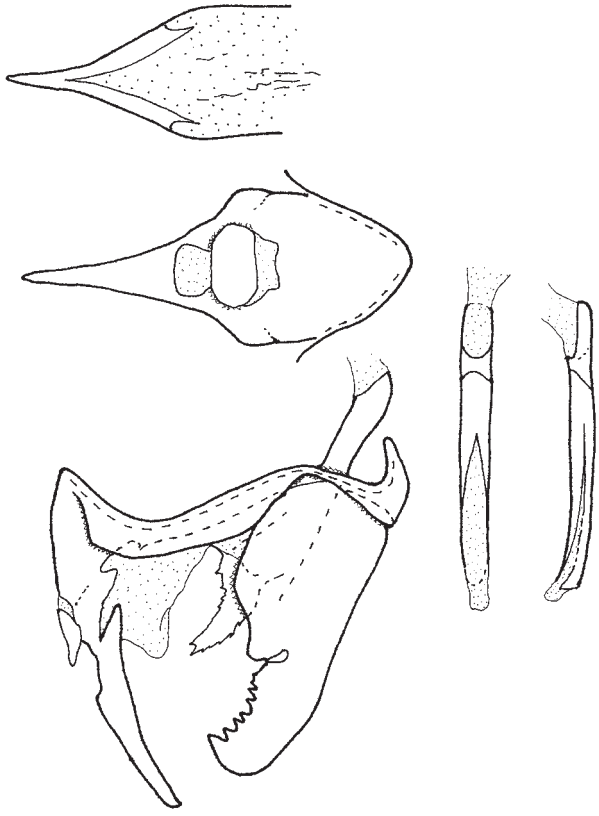


Fig. 75. Male genitalia of *Coeliades forestan forestan*.

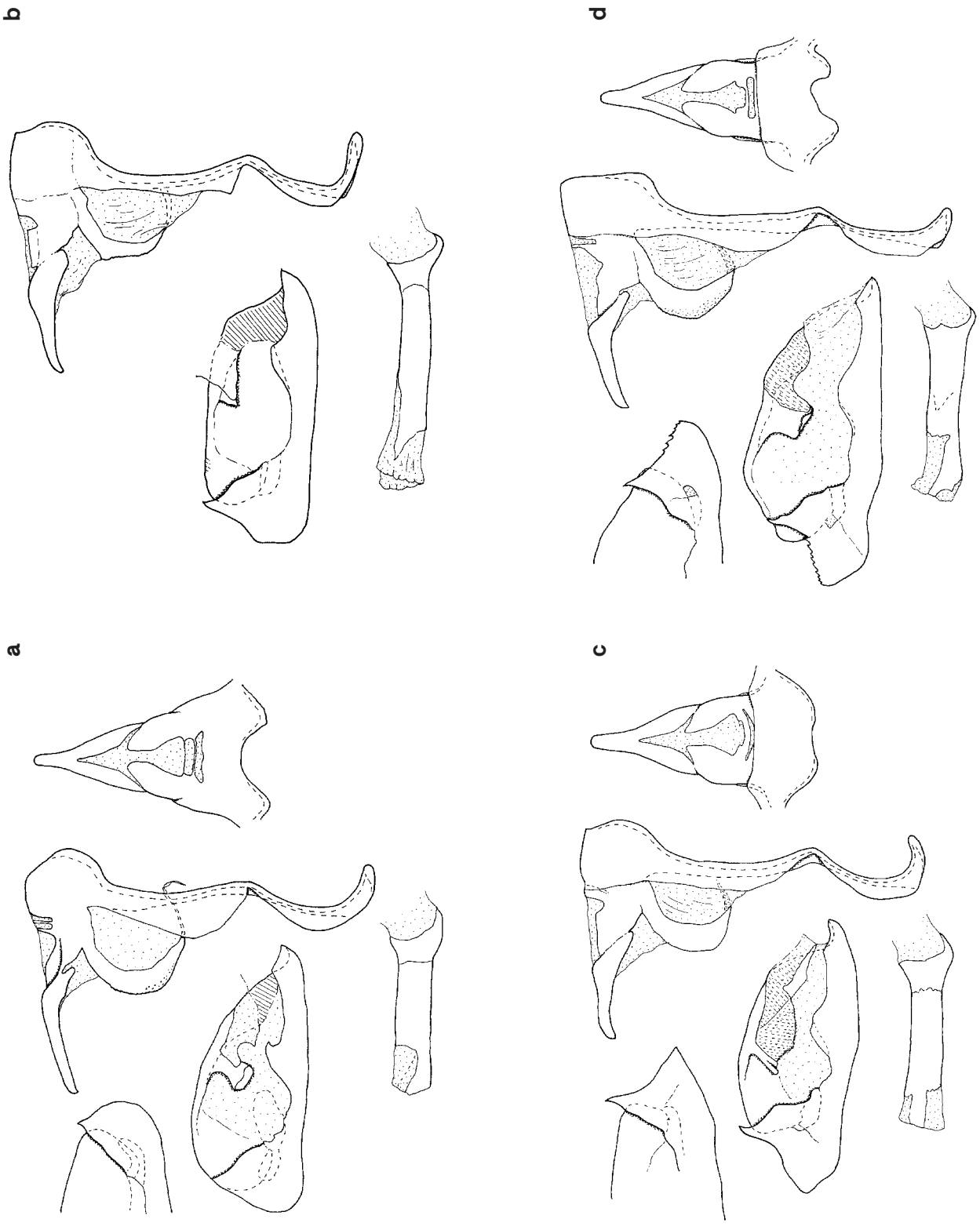


Fig. 77. Male genitalia of *Choaspes benjaminii*, a. ssp. *benjaminii*, b. ssp. *japonica*, c. ssp. *flavens*, d. ssp. *pallidus*.

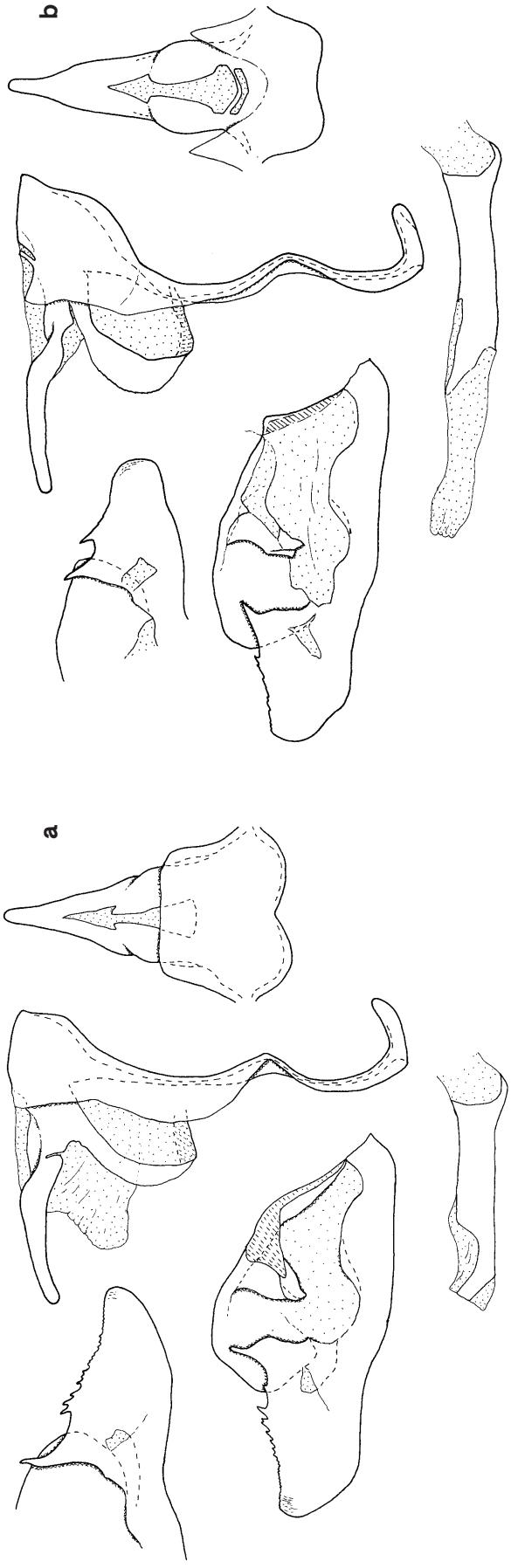


Fig. 78. Male genitalia of *Choaspes stigmatus*, a. ssp. *stigmatus*, b. ssp. *caudatus*.

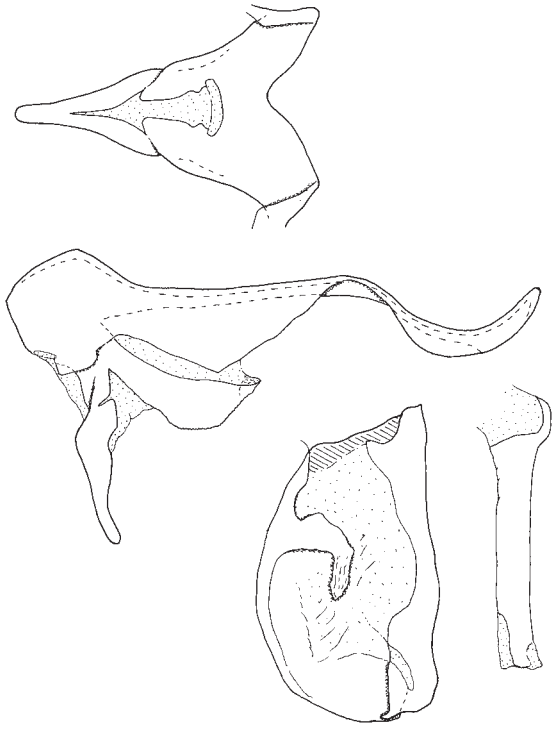


Fig. 79. Male genitalia of *Choaspes adhara*.

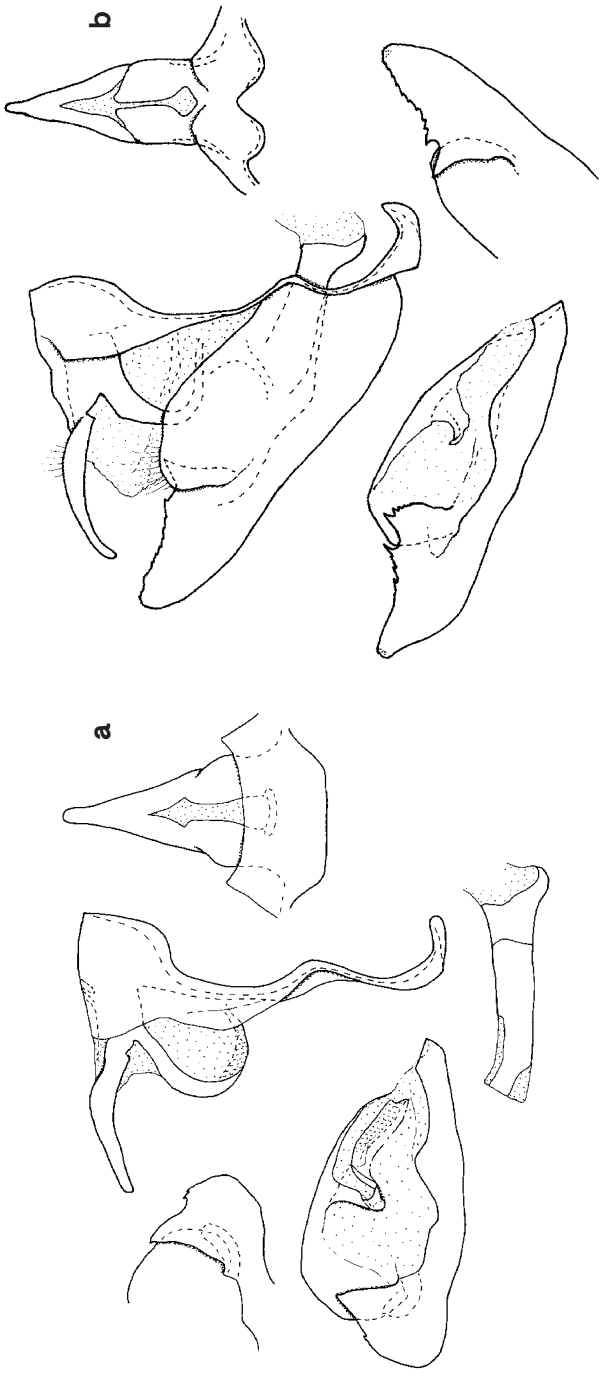


Fig. 80. Male genitalia of *Choaspes plateni*, a. ssp. *plateni*, b. ssp. *matsudai*.

Fig. 81. Male genitalia of *Choaspes illuensis ornatus*.

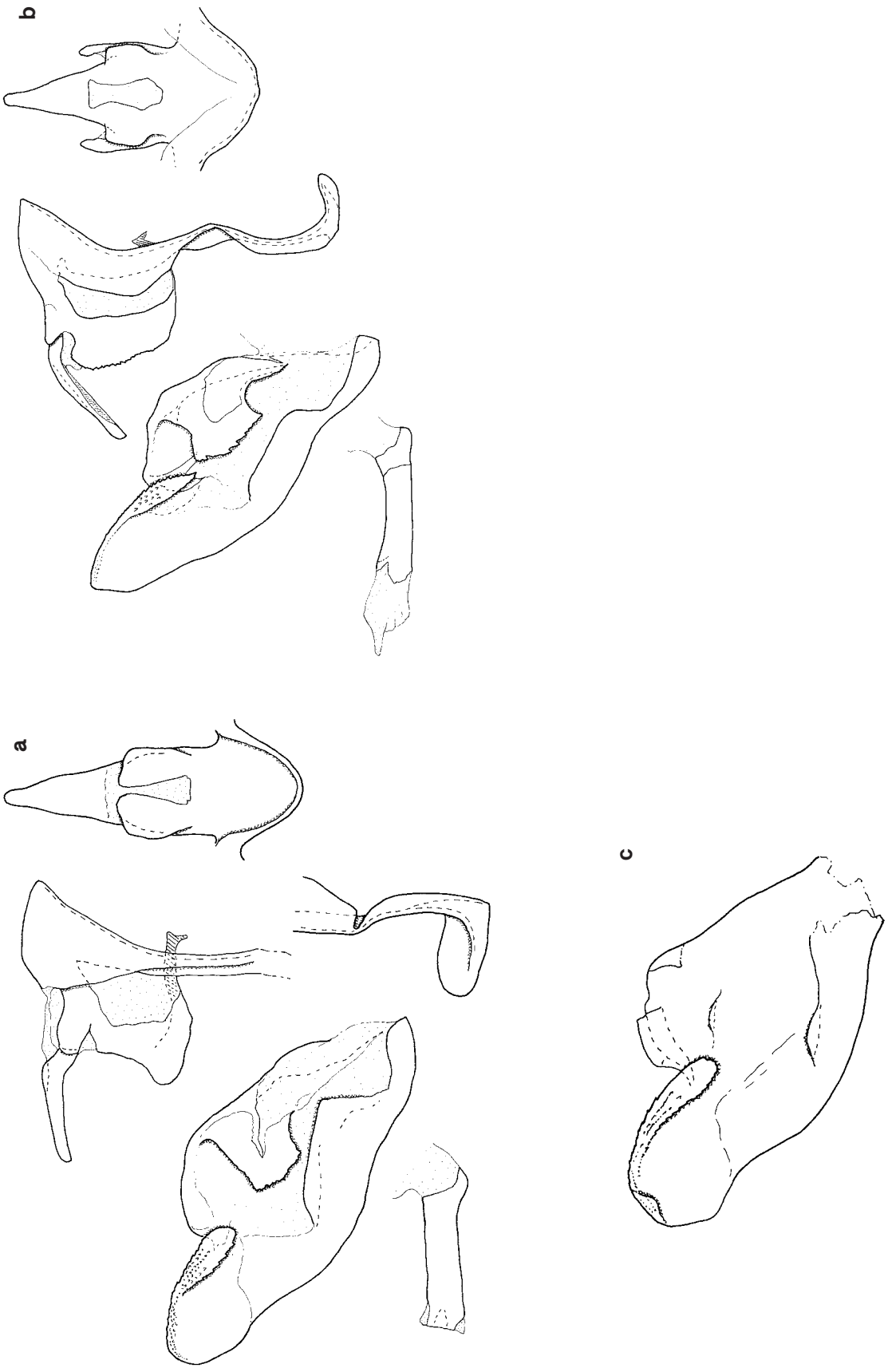


Fig. 82. Male genitalia of *Choaspes xanthopogon*, a. ssp. *xanthopogon*, b. ssp. *estrella*, c. ssp. *cora*.

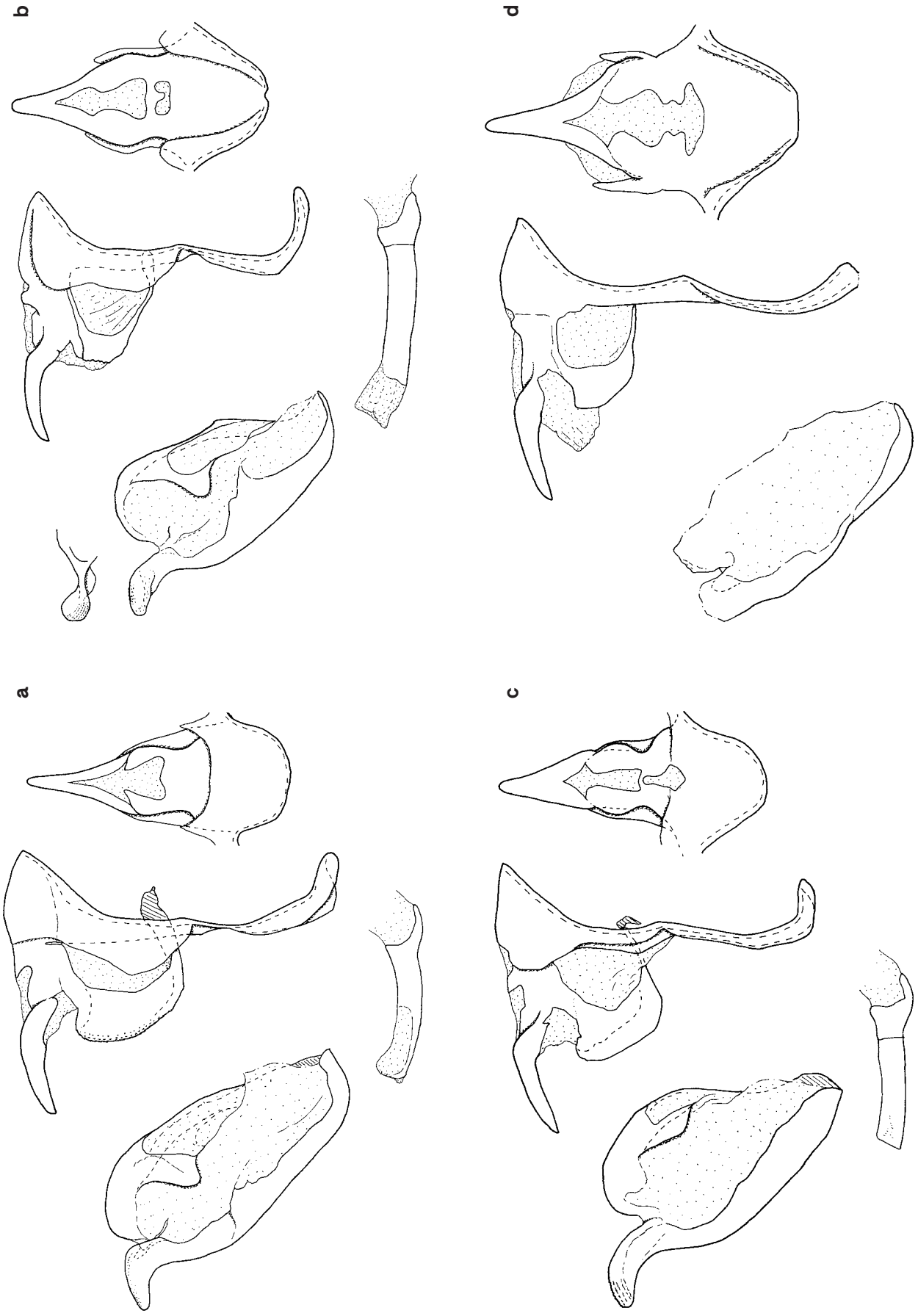


Fig. 83. Male genitalia of *Choaspes hemixanthus*, a. ssp. *furcatus*, b. ssp. *wallacei*, c. ssp. *hemixanthus*, d. ssp. *mona*.

Fig. 85. Male genitalia of *Pyrrhochalcia iphis*.

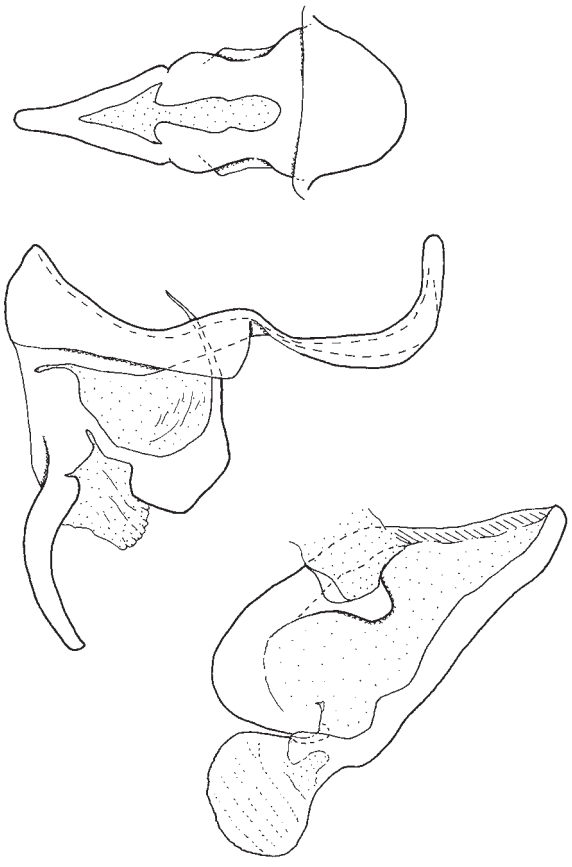


Fig. 84. Male genitalia of *Choaspes subcaudatus crawfurdi*.

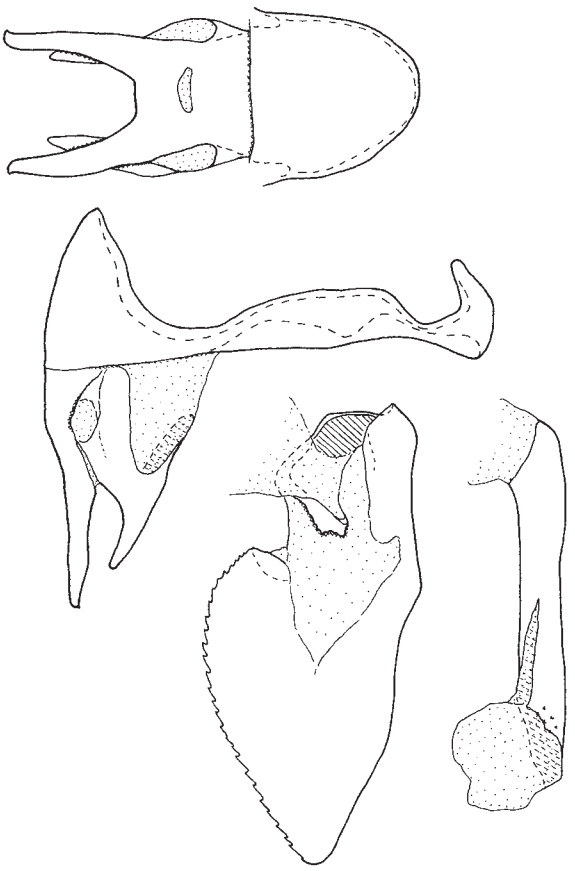


Fig. 87. Male genitalia of *Pyrrhiades aeschylus*.

Fig. 86. Male genitalia of *Pyrrhiades lucagus*.

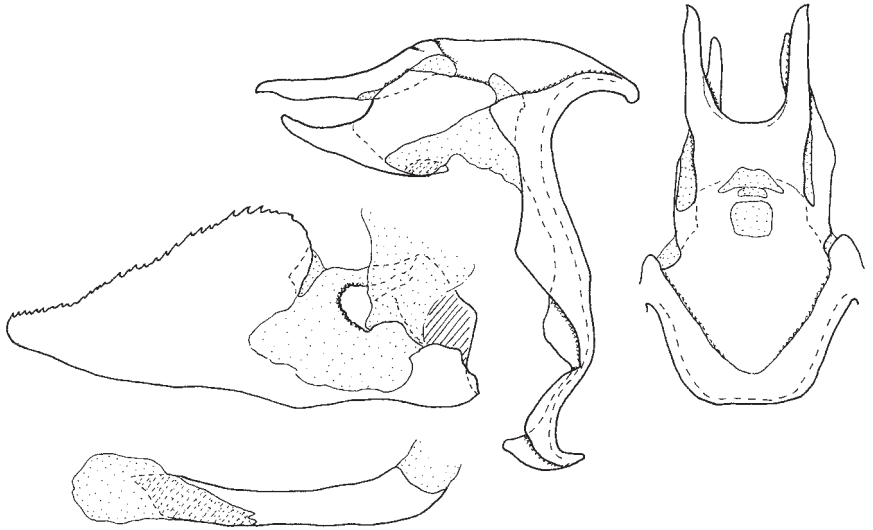


Fig. 88. Male genitalia of *Pyrrhiades bocagii.*

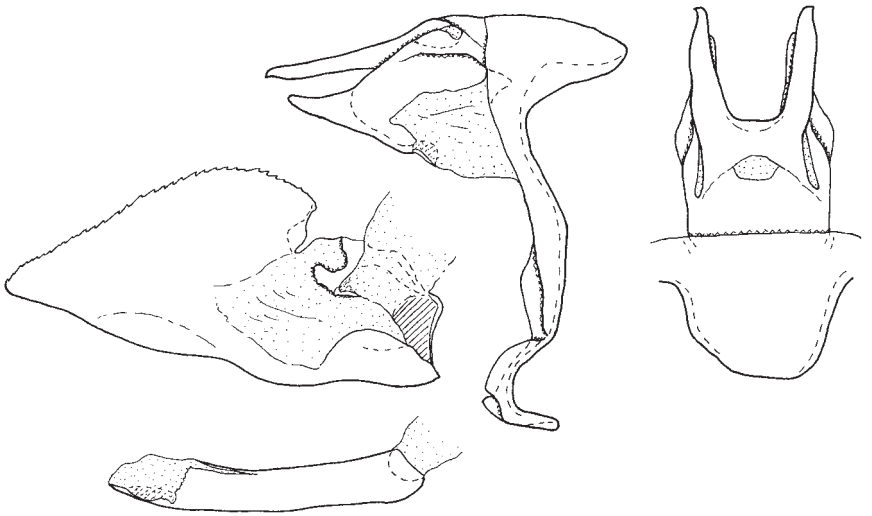


Fig. 89. Male genitalia of *Pyrrhiades anchises anchises.*

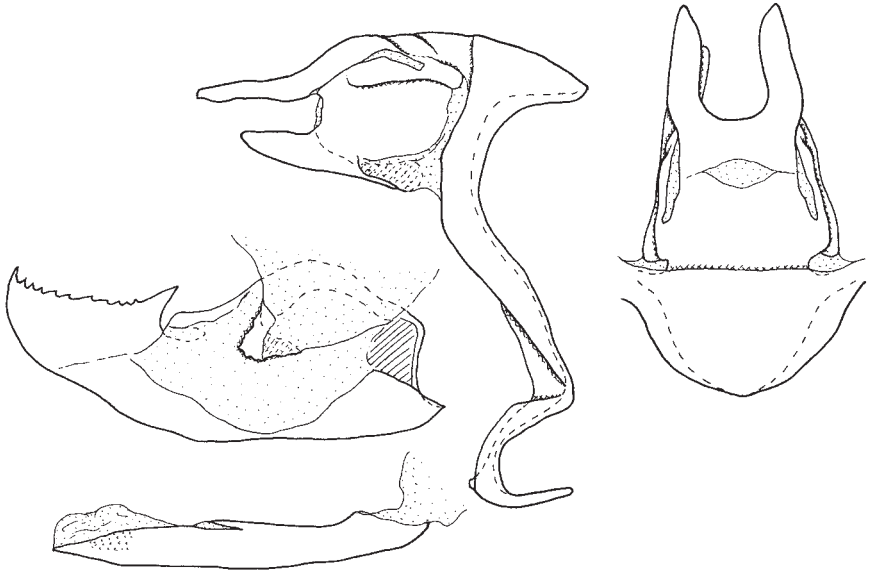


Fig. 90. Male genitalia of *Pyrrhiades pansa.*

Fig. 91. Male genitalia of *Badamia exclamationis.*

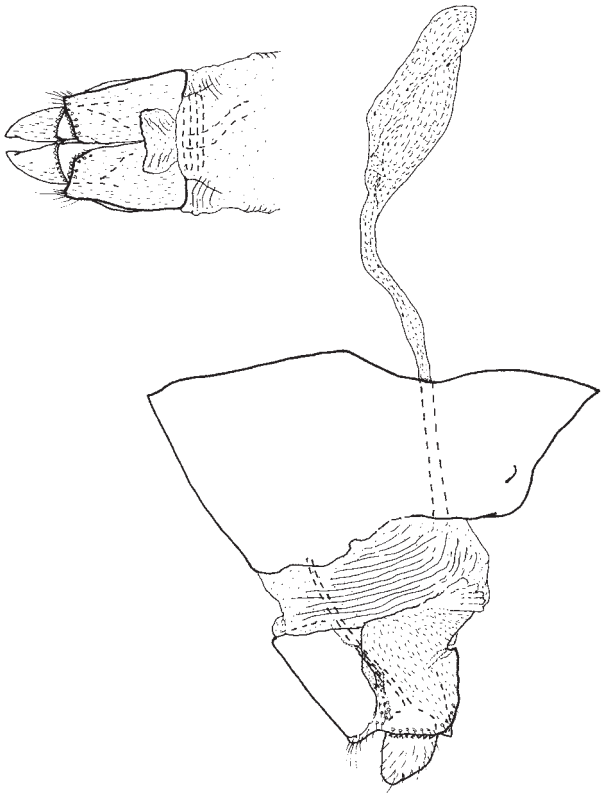


Fig. 93. Female genitalia of *Hasora mavis*.

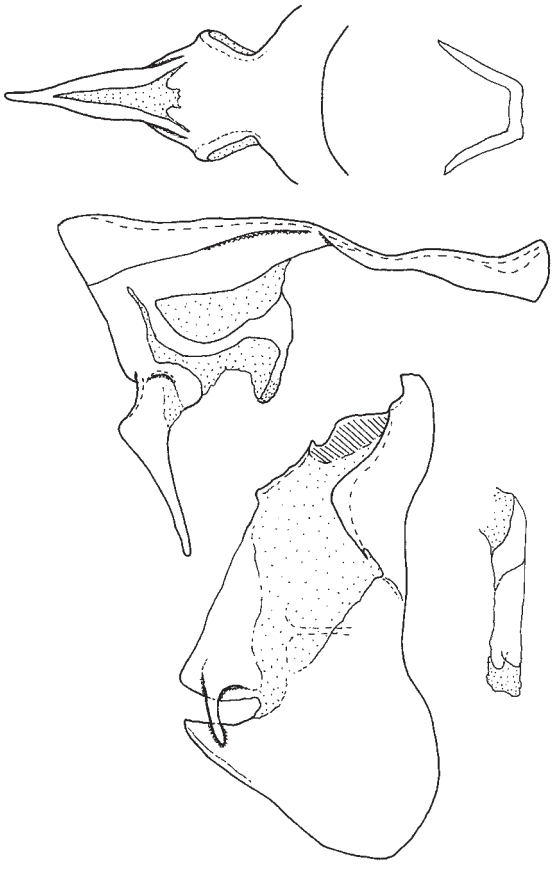


Fig. 92. Male genitalia of *Badamia atrox atrox*.

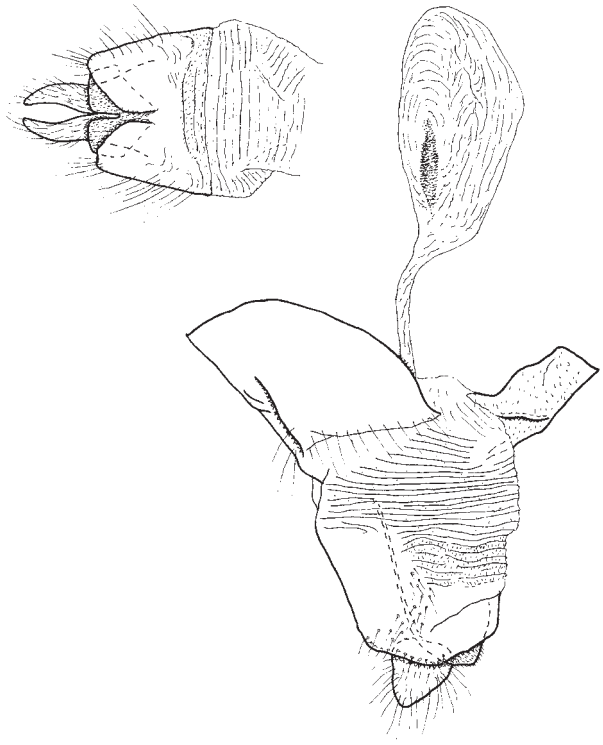


Fig. 94. Female genitalia of *Hasora borneensis luza*.

Burara

Plate 1 (Dorsal side of the wings on the left of the body, and ventral side on the right)

Burara 1 *B. oedipodea ataphus* ♂ 2 *B. oedipodea belesis* ♂ 3 *B. oedipodea oedipodea* ♂ 4 ♀ 5 *B. oedipodea paltra* ♂ 6 ♀
7 *B. oedipodea excellens* ♂ 8 ♀ 9 *B. tuckeri* ♂ 10 ♀ 11 *B. anadi anadi* ♂ 12 *B. anadi purpurea* ♂
13 *B. anadi owstoni* ♂ 14 *B. jaina fergusonii* ♂ 15 *B. jaina astigmata* ♂

Burara

Plate 2

Burara 1 *B. jaina jaina* ♂ 2 ♀ 3 *B. jaina margana* ♂ 4 *B. jaina formosana* ♂ 5 ♀ 6 *B. jaina velva* ♂ 7 *B. phul* ♂ 8 ♀
9 *B. nishiyamai* ♂ 10 *B. etelka etelka* ♂ 11 ♀ 12 *B. etelka imperialis* ♂ 13 ♀

Burara

Plate 3

Burara 1 *B. etelka imperialis* ♀ (Peleng) 2 *B. harisa harisa* ♂ 3 ♀ 4 *B. harisa andamana* ♂ 5 *B. harisa consobrina* ♂
6 *B. harisa niasana* ♂ 7 ♀ 8 *B. harisa pala* ♂ 9 *B. harisa aphrodite* ♂ 10 ♀ 11 *B. gomata lara* ♂ 12 ♀ 13 *B. gomata kanara* ♂

Burara

Plate 4

Burara 1 *B. gomata gomata* ♂ 2 *B. gomata lalita* ♂ 3 ♀ 4 *B. gomata lorquini* ♂ 5 ♀ 6 *B. gomata minda* ♀ 7 *B. gomata radiosa* ♂ 8 ♀ 9 *B. vasutana* ♂ 10 ♀ 11 *B. amara* ♂ 12 *B. miracula* ♂

Burara

1 2 3

4 5 6

Bibasis

7 8 9 10 11

12 13 14

Plate 5

Burara 1 *B. striata* ♂ 2 ♀ 3 *B. aquilina chrysaeglia* ♂ 4 ♀ 5 *B. aquilina aquilina* ♂ 6 *B. aquilina siola* ♂
Bibasis 7 *B. sena sena* ♂ 8 *B. sena uniformis* ♂ 9 *B. sena palawana* ♂ 10 *B. sena vaicravana* ♂ 11 *B. sena senata* ♂
12 *B. sena alor* ♂ 13 *B. mahintha* ♂ 14 ♀

Bibasis

1

2

3

Allora

4

5

6

7

8

9

10

11

12

Plate 6

Bibasis 1 *B. nestor* ♂ 2 ♀ 3 *B. iluska* ♂ 4 ♀
Allora 5 *A. doleschallii gazaka* ♂ 6 *A. doleschallii viridicans* ♂ 7 *A. doleschallii doleschallii* ♂
8 *A. doleschallii albertisi* ♂ 9 *A. doleschallii simessa* ♂ 10 *A. doleschallii solon* ♂ 11 *A. doleschallii luna* ♂ 12 *A. major zita* ♂

Allora

1 2 3

Hasora

4 5 6

7 8 9

10 11 12

Plate 7

Allora 1 *A. major major* ♂ 2 *A. major lectra* ♂ 3 *A. major talesia* ♂
Hasora 4 *H. mus pahanga* ♂ 5 *H. mus mus* ♂ 6 ♀ 7 *H. mus alta* ♂ 8 *H. lizetta* ♂ 9 ♀ 10 *H. salanga* ♂ 11 ♀ 12 *H. proxissima siamica* ♂

Plate 8

Hasora 1 *H. proxissima siamica* ♀ 2 *H. proxissima siva* ♂ 3 *H. proxissima proxissima* ♂ 4 ♀ 5 *H. proxissima takwa* ♂ 6 *H. proxissima lavella* ♂ 7 *H. anura anura* ♂ 8 ♀ 9 *H. anura danda* ♂ 10 ♀ 11 *H. anura china* ♂ 12 ♀ 13 *H. anura taiwana* ♀ 14 *H. wilcocksi* ♀ 15 *H. myra funebris* ♂ 16 ♀ 17 *H. myra myra* ♂

Hasora

Plate 9

Hasora 1 *H. myra myra* ♀ 2 *H. zoma* ♂ 3 ♀ 4 *H. umbrina* ♂ 5 ♀ 6 *H. buina* ♂ 7 *H. discolor splendida* ♂ 8 *H. discolor discolor* ♂ 9 *H. discolor mastusia* ♂ 10 *H. discolor eira* ♂ 11 *H. borneensis borneensis* ♂ 12 *H. borneensis luza* ♂ 13 ♀

Plate 10

Hasora 1 *H. chromus chromus* ♂ 2 ♀ 3 *H. chromus bilunata* ♀ 4 *H. taminatus taminatus* ♂ 5 ♀ 6 *H. taminatus bhavara* ♂ 7 *H. taminatus viracana* ♂ 8 *H. taminatus malayana* ♂ 9 *H. taminatus andama* ♂ 10 *H. taminatus milona* ♂ 11 *H. taminatus padma* ♂ (Timor) 12 ♂ (Mindoro) 13 *H. taminatus attenuata* ♂ 14 *H. taminatus amboinensis* ♂ 15 *H. taminatus dipama* ♂ 16, *H. hurama mola* ♂ 17 ♀ 18 *H. hurama hurama* ♂

Plate 11

Hasora 1 *H. hurama hurama* ♀ 2 *H. hurama arua* ♂ 3 ♀ 4 *H. hurama kieta* ♂ 5 ♀ 6 *H. hurama diana* ♂ 7 *H. schoenherr gaspa* ♂
8 *H. schoenherr chuza* ♂ 9 ♀ 10 *H. schoenherr schoenherr* ♂ 11 *H. schoenherr cridatta* ♀ 12 *H. schoenherr saida* ♂ 13 ♀ 14 *H. mixta limata* ♂

Plate 12

Hasora 1 *H. mixta limata* ♀ 2 *H. mixta prabha* ♂ 3 ♀ 4 *H. mixta mixta* ♂ 5 ♀ 6 *H. mixta fenestrata* ♂ 7 ♀ 8 *H. mixta simplicissima* ♂ 9 ♀ 10 *H. celaenus* ♂ 11 ♀ 12 *H. badra lanka* ♂ 13 ♀ 14 *H. badra badra* ♂ 15 ♀ 16 *H. sakit* ♂

Plate 13

Hasora 1 *H. quadripunctata gnaeus* ♂ 2 ♀ 3 *H. quadripunctata celebica* ♂ 4 ♀ 5 *H. quadripunctata quadripunctata* ♂ 6 *H. subcaelestis* ♂ 7 ♀ 8 *H. vitta indica* ♂ 9 ♀ 10 *H. vitta manda* ♂ 11 *H. vitta vitta* ♂ 12 ♀ 13 *H. vitta proximata* ♂ 14 ♀ 15 *H. vitta pathana* ♂ 16 ♀ 17 *H. vitta sula* ♂

Hasora

Plate 14

Hasora 1 *H. vitta sula* ♀ 2 *H. vitta simillim a* ♂ 3 *H. moestissima moestissima* ♂ 4 ♀ 5 *H. moestissima unica* ♂ 6 *H. perplexa* ♂ 7 ♀
8 *H. leucospila leucospila* ♂ 9 *H. leucospila spila* ♂ 10 *H. mavis* ♀ 11 *H. khoda coulteri* ♂ 12 *H. khoda latalba* ♂ 13 *H. khoda minsona* ♂

Hasora

1 2 3 4 5

6 7 8 9

Coeliades

10 11 12

13 14 15

Plate 15

Hasora 1 *H. khoda minsona* ♀ 2 *H. khoda burgeri* ♂ 3 ♀ 4 *H. khoda plexa* ♂ 5 ♀ 6 *H. khoda dampierensis* ♂
7 *H. khoda haslia* ♂ 8 *H. thridas thridas* ♂ 9 *H. thridas chalybeata* ♂
Coeliades 10 *C. bixana* ♂ 11 *C. chalybe chalybe* ♂ 12 ♀ 13 *C. fervida* ♂ 14 *C. forestan forestan* ♂ 15 *C. forestan arbogastes* ♂

Coeliades

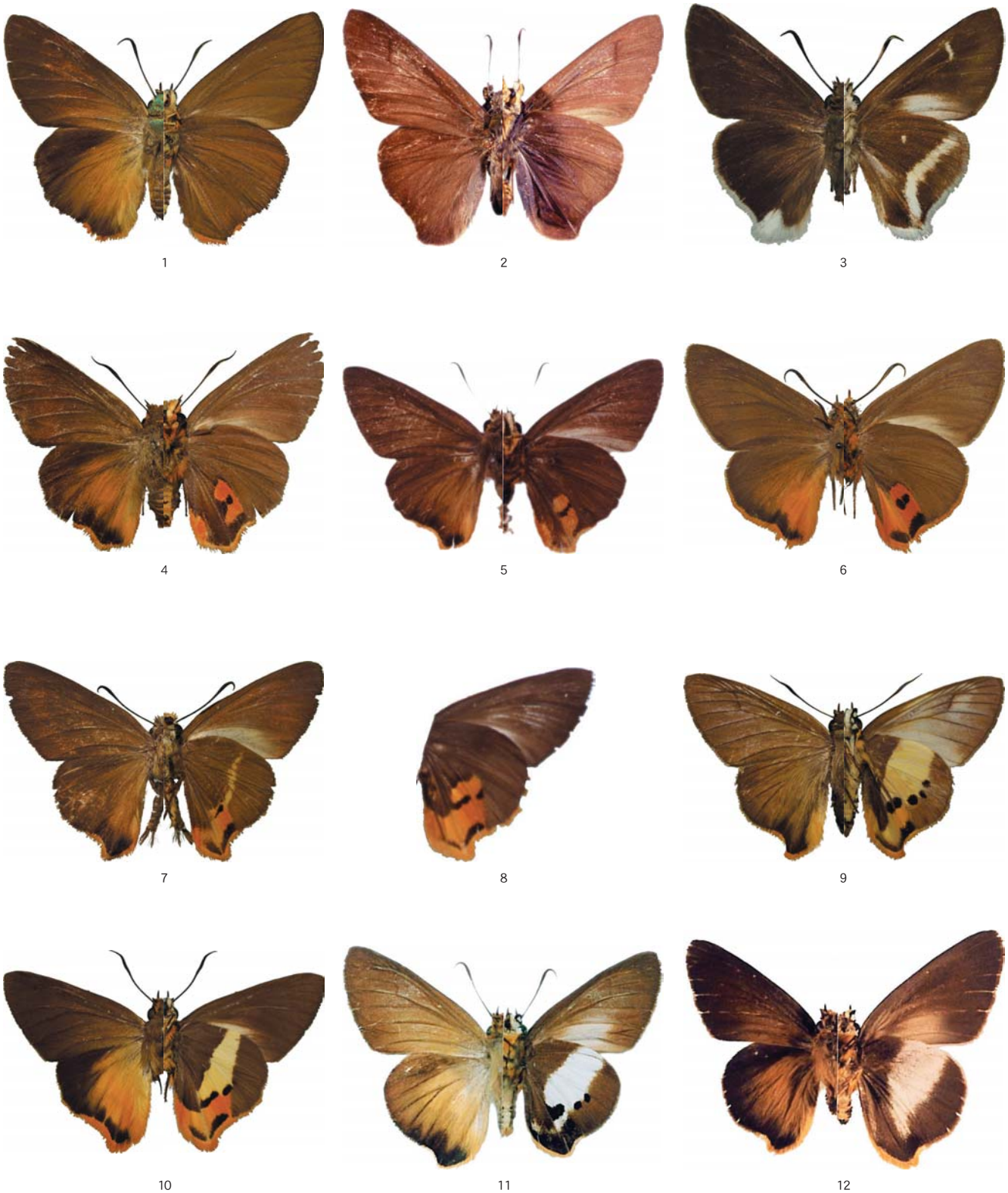


Plate 16

Coeliades 1 *C. rama* ♂ 2 *C. libeon* ♂ 3 *C. ramanatek ramanatek* ♂ 4 *C. keithloa keithloa* ♂ 5 *C. keithloa lorenzo* ♂ 6 *C. menelik kenya* ♂ 7 *C. menelik merua* ♂ 8 *C. menelik menelik* ♂ 9 *C. hanno* ♂ 10 *C. sejuncta* ♀ 11 *C. pisistratus* ♂ 12 *C. fidia* ♂

Choaspes

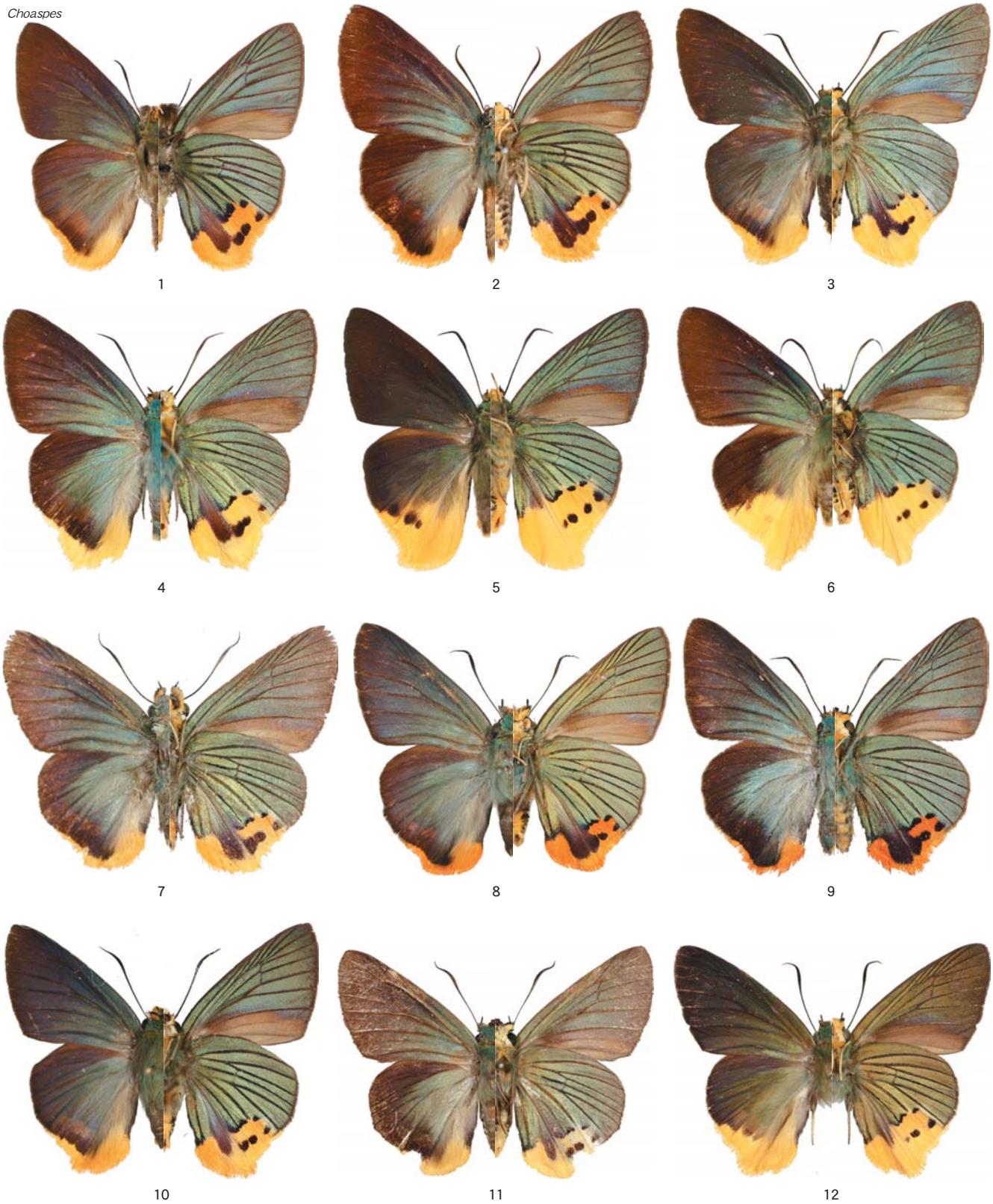


Plate 17

Choaspes 1 *C. stigmatus stigmatus* ♂ 2 ♀ 3 *C. stigmatus caudatus* ♂ 4 ♀ 5 *C. stigmatus extensus* ♂ 6 ♀ 7 *C. benjaminii benjaminii* ♀ 8 *C. benjaminii japonicus* ♂ 9 ♀ 10 *C. benjaminii flavens* ♂ 11 ♀ 12 *C. benjaminii pallidus* ♂

Choaspes

Plate 18

Choaspes 1 *C. benjaminii pallidus* ♀ 2 *C. adhara adhara* ♂ 3 ♀ 4 *C. adhara visaya* ♂ 5 ♀ 6 *C. plateni plateni* ♂ 7 ♀ 8 *C. plateni matsudai* ♂ 9 ♀ 10 *C. illuensis illuensis* ♂ 11 *C. illuensis ornatus* ♂ 12 ♀

Choaspes

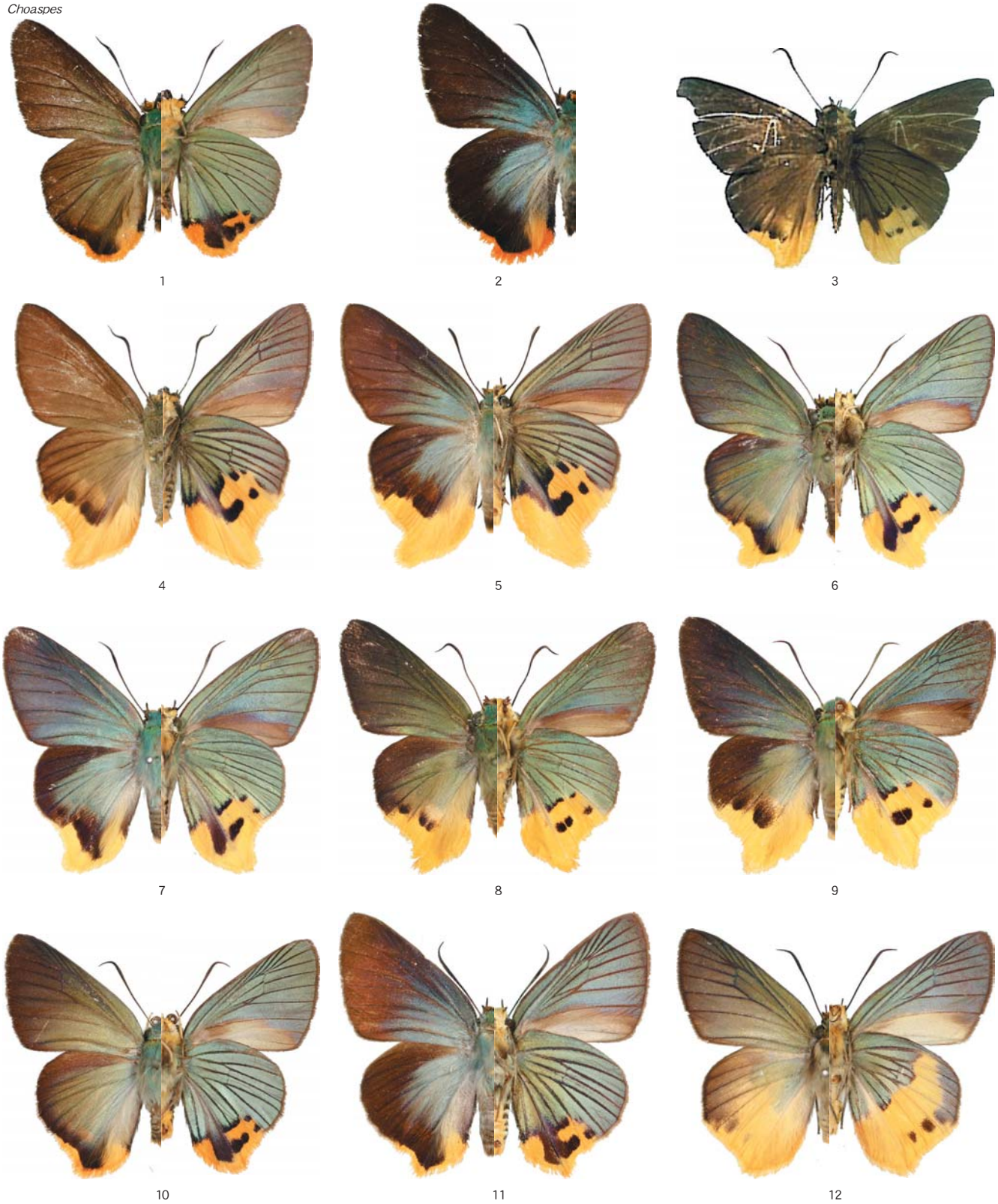


Plate 19

Choaspes 1 *C. xanthopogon xanthopogon* ♂ 2 ♀ 3 *C. xanthopogon cora* ♂ 4 *C. xanthopogon estrella* ♂ 5 ♀ 6 *C. subcaudatus crawfurdi* ♂ 7 ♀ 8 *C. subcaudatus subcaudatus* ♂ 9 ♀ 10 *C. hemixanthus furcatus* ♂ 11 ♀ 12 *C. hemixanthus wallacei* ♂

Choaspes

1

2

3

Pyrrhochalia

4

5

6

Pyrrhiades

7

8

9

10

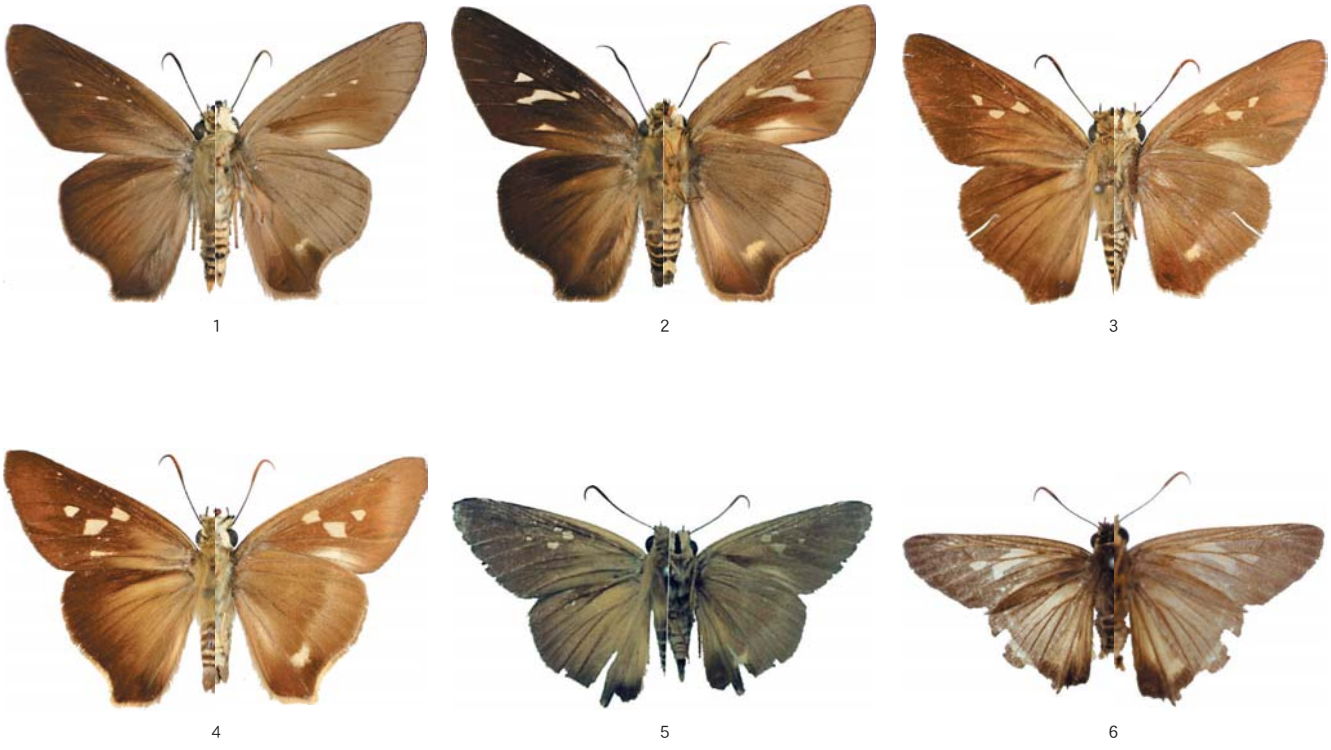
11

12

Plate 20

Choaspes 1 *C. hemixanthus wallacei* ♀ 2 *C. hemixanthus mona* ♂ 3 ♀ 4 *C. hemixanthus hemixanthus* ♂
Pyrrhochalcia 5 *P. iphis iphis* ♂ 6 ♀
Pyrrhiades 7 *P. lucagus* ♂ 8 *P. aeschylus* ♂ 9 *P. bocagii* ♂ 10 *P. anchises anchises* ♂ 11 *P. anchises jucunda* ♂ 12 *P. pansa* ♂

Badamia



1 2 3

4 5 6

Plate 21

Badamia 1 *B. exclamationis* ♂ 2 ♀ 3 *B. atrox atrox* ♂ 4 ♀ 5 *B. atrox flava* ♂ 6 *B. atrox collenettei* ♂