

**THE SOUTH ASIATIC POLYORTHINI  
WITH NOTES ON SPECIES OF *POLYORTHA* DOGNIN  
(LEPIDOPTERA, TORTRICIDAE)**

by

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With 86 text-figures

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### INTRODUCTION

In 1955, for the first time, Clarke characterized a small group of genera of tortricine relationship as follows (p. 25):

"A unique group of the TORTRICIDAE consisting of the four closely related genera *Ardeutica*, *Atteria*, *Polyortha* and *Pseudatteria* is peculiar in that the harpe of the male is split longitudinally along the ventral edge, forming a longitudinal pocket for the reception of an abdominal hair-pencil. The four genera are South American".

The genera of this characteristic group, although closely allied as to the genital structures, show remarkable dissimilarity in their superficial appearances: whereas *Polyortha* Dognin resembles narrow-winged and coarsely tufted species of *Acleris* Hübner, *Ardeutica* Meyrick has a general archipine facies and *Pseudatteria* Walsingham comprises large, orange and black coloured, apparently diurnal species. Species of "*Atteria* Walsingham", alluded to in the citation from Clarke above, are now proven to belong to *Pseudatteria*, while *Atteria* actually does not belong to the present group.

We owe the name for the group to Obraztsov, who in 1966 assigned to it the rank of tribe, Polyorthini, in a revision of the genus *Pseudatteria*; on this occasion he also referred *Atteria* to its proper place within the tribe Archipini.

Razowski (1966) omitted from his extensive monograph of the tribe Tortricini all the species of so-called "*Acleris*" which I now attribute to the Polyorthini, without giving a reason, however. Apparently he also doubted their Tortricine character.

So far, the new tribe has been considered to have a characteristically South and Central American distribution, and apparently nobody looked for it elsewhere, until the material collected by the Netherlands Stars Range Expedition 1956 was studied. The expedition, sponsored by this Museum and led by its director, Dr. L. D. Brongersma, operated in the previously unexplored Stars Range, in the central southeast region of the former

Netherlands New Guinea, and the material brought back included valuable examples of Tortricidae.

Among these there were two males of a species, formerly described after a single female, under the name *Polyortha ornithopora* Diakonoff, 1953. At the date of that description the generic name *Polyortha* was generally regarded as a synonym of *Acleris* Hübner. Although I was averse to this view, I did not realize the actual peculiarities and position of that genus, not being acquainted with the Neotropical species at that time, while that first female did not reveal any striking features.

Now that the males of "*Polyortha*" *ornithopora* have become available, it is evident that they are true Polyorthini indeed, and so represent the first record of the tribe from the Indo-Australian region. I soon made further discoveries of the Polyorthini among previously described species from that region, which were usually assigned to the tribe Tortricini because of their superficial resemblance to *Acleris* species, or were, in a few cases, not further indicated than being "of obscure relationship". In this way, thirty years ago, a genus and three species were described from Java (Diakonoff, 1941).

Earlier, starting in 1908, Meyrick described some ten species in the genera "*Oxygrapha*" and "*Peronea*" from India. Razowski (1965) drew attention to some of these species as not belonging to "*Peronea*". He listed eight species and described a new genus, *Cnephasitis*, for a ninth: "*Peronea*" *dryadarcha* Meyrick. But he referred them to the Archipini and Cnephasiini, not always indicating which species was referred to what tribe. A noteworthy point is that the debatable Australian genus *Polylopha* Lower, also considered a synonym of *Acleris* Hübner, proved to me to be a true polyorthine as well, being closely allied to, but distinct from, *Polyortha*.

The Australian species have been revised by Common in 1963, in the tribe Cnephasiini. There are three species, belonging to two genera, the already mentioned genus *Polylopha* Lower and *Apura* Turner, recognizable as true Polyorthini by the neuration, the shape of the fore wing and the genitalia.

The Indo-Australian Polyorthini have a rather uniform appearance of an *Acleris*, with the fore wings pointed and usually adorned with raised scale tufts, and with vein 7 always running to costa. In the hind wing, however, the vein 5 ( $m_3$ ) is invariably parallel to and remote from 4 (actually often even slightly diverging at the extreme base!), instead of being approximated at the base, as in the last-mentioned genus, while the male genitalia display most remarkable and unusual features.

In the following pages a survey of the representatives of the Polyorthini from the Indo-Australian region is presented.

The author is indebted to his colleagues, Dr. J. F. Gates Clarke, National Museum of Natural History, Washington (NMNH), for the loan of the type of *Polyortha niveipunctata* Dognin, and for submitting to him for description a species from the Marianas Islands; to Dr. Jerome A. Powell, University of California, Berkeley, for his advice and comments; to Dr. K. Sattler, Messrs. M. Shaffer and C. Moreby, and to the Trustees of the British Museum (Natural History), London (BM), for the loan of valuable material and the opportunity to make drawings of the genitalia of certain types; to Mr. I. F. B. Common, Department of Entomology, Commonwealth Scientific and Industrial Research Organization, Canberra, Australia, for his kindness of putting at my disposal certain figures from his 1963 paper, for reproduction in the present article, and for his comments; and last but not least, to the leader and the members of the Netherlands Stars Range Expedition, for paying special attention to collecting of the Tortricidae, now in the Leiden Museum (LM), at the author's request; and finally, to the Uyttenboogaart-Eliassen Stichting, for a grant, partly covering the costs of the drawings. The drawings have been made by Messrs. A. C. M. van Dijk, J. J. A. M. Wessendorp and the author.

### **Polyorthini** Obraztsov, 1966

*Polyorthini* Obraztsov, 1966: 578, 579.

*Acleris* group D; Meyrick, 1913: 66.

Head with appressed scales, sometimes rather smooth. Antenna simple, short-pubescent or biciliate. Proboscis short. Ocellus posterior. Labial palpus moderate to very long, moderately sinuate, porrected, median segment either dilated or narrowed towards apex, terminal segment short or moderate, exposed, subtruncate. Thorax often with a posterior crest.

Fore wing diversely shaped, sometimes broadly oval, brightly coloured and smooth, but usually of tortricoid shape and colouring, often rather narrow and pointed and with numerous tufts of raised scales on surface; without a costal fold in male. Usually vein 2 from  $1/2-2/3$ , vein 7 mostly free, seldom stalked with 8, invariably to costa, chorda sometimes present from between 11 and 10 to base of 7, median branch, if present, from towards base, to base or below base of 5.

Hind wing without cubital pecten, tortricoid or rather narrowly pointed-subtrapezoidal, vein 2 from beyond middle to  $5/6$ , 3 and 4 connate or stalked, 5 invariably parallel and remote, submedian, 6 and 7 diversely situated: closely approximated towards base, connate, or stalked, seldom separate and distant.

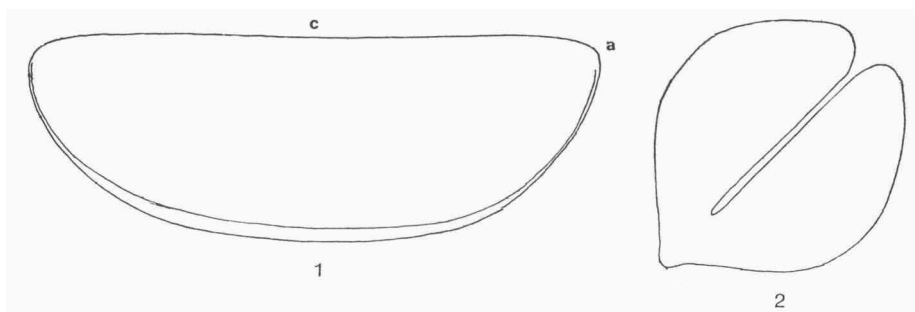


Male genitalia. In all genera but one, eighth abdominal sternite with one or two pairs of lateral, subapical round sclerites, serving as bases of a pair of very long, pencil-like coremata; each pencil in repose fitting inside a longitudinal split of the outer side of the valva. Only in one genus the coremata and the modifications of the eighth segment entirely lacking; nevertheless, the valva here with a longitudinal split along the edge or its basal  $2/3$ , the vinculum as strongly extended and complicated, as in the genera with coremata. Tegumen, uncus, and aedeagus small, as compared with the valvae. Uncus usually slender and hooked or clavate or rarely with an apical thorn ventrad; socius usually large or very large, pending, sometimes with central patches of long, modified spines. Gnathos well-developed and usually tortricid, arms and terminal hook not markedly dilated; in one genus a huge rising spike. Transtilla usually developed and bow-shaped or paired. Juxta, an oval plate or indefinite. Anellus often developed, sometimes extended and dentate on top. Anellus lobes sometimes present, aciculate and voluminous, paired, seldom single and asymmetrical, spike-like. Valva very large, submembranous, long and semioval, usually concave and also deeply folded lengthwise on the outer side or along costa; sacculus usually distinct, often with thorns and harpe-like processes, not quite symmetrical in right and left valva. Transtilla well-developed. Vinculum mostly large and complicated, V-shaped, with lateral thickenings, bearing pointed processes, directed ventrad. Aedeagus diversely shaped, usually long and straight, mostly with apical or subapical thorn-like processes or sculptures. Cornuti, one or more, diversely shaped, sometimes absent.

Female genitalia. Lobi anales of the usual tortricid shape. Eighth abdominal segment depressed, often sclerotized. Seldom a retractile three-segmented ovipositor present. Sterigma single, usually a band or a diversely shaped, broad plate; lamella antevaginalis usually developed; lamella postvaginalis mostly indefinite. Colliculum often wide and short, moderately sclerotized or tortricid-like and diversely shaped, mostly a pair of lateral semiannular sclerites, showing as a pair of small dark erect crescents. Corpus bursae diversely shaped, in Neotropical genera usually banana-like, without ductus, in Palaeotropical genera elongate-pear-shaped, with a ductus bursae. Ductus seminalis originating from proximal end of corpus bursae, near end of colliculum. Sometimes a large diverticle (blind sack) originating close to ductus seminalis. Signum diversely shaped, in Neotropical genera, a long lamina dentata; in Palaeotropical, a patch of long slender spines, a single, deeply W-curved sclerite or a concave scobinate plate; seldom signum entirely absent.

The genitalia are delicate and not simple to mount. In the male it is hard

to remove the scale cover without immediately deforming the thin-walled, membranous valvae, which have the shape of a quarter of a more or less elongate and flattened egg (ellipsoid), cut longitudinally in four (figs. 1-2), the convex side turned ventro-laterad, the flat sides dorsad and inwardly (mesad), and besides, with an oblique, longitudinal split, open dorso-laterally (fig. 2). In the mount, however, the elegant three-dimensional structure becomes flattened, may open along the central split and then appear much wider than normal, or may remain double-folded. The long coremata of the eighth segment, fitting into the split and projecting beyond the top of the valva (figs. 71, 72), usually become loose and obscure the picture. The complicated, sinuous vinculum and the sclerotizations of the eighth segment (menses) become flattened.



Figs. 1-2. A polyorthine valva, schematically. 1, dorsal aspect, c = costa, a = apex; 2, do., transverse section (actually more flattened in vertical direction).

The female genitalia are similarly delicate, especially the ductus bursae; the latter easily tears during preparation and even with the most careful dissecting it is not always possible to mount these structures entirely intact.

The characteristic *Acleris*-like facies of *Polyortha* species with raised scale-tufts on the surface, together with the termination of vein 7 to costa in most genera, except in some oval-winged *Pseudatteria* without a well-defined apex, strongly suggest a relationship with the Tortricini, but this is not supported by the male genitalia; the Archipini-like tegumen and uncus argue strongly against this connection. They do have some resemblance to those in the Cnephasiini, as do the "lamina dentata"-like signum and the sclerotized sacculus in some genera; but these characters are not at all generally distributed throughout the Polyorthini, while the neurational pattern (i.e., vein 7 in the fore, vein 5, in the hind wings), is a constant and not at all cnephasiine character. In combination with the male genital features, the peculiarities of neuration assign to this very natural tribe an isolated position within the subfamily Tortricinae.

Since no type-genus for the tribe Polyorthini Obraztsov, 1966, has been formally designated, I propose herewith *Polyortha* Dognin, 1905.

A remarkable fact is that this characteristic and highly specialized group contains a genus of two species (*Cnephasitis* Razowski) which has in common with other genera all the peculiarities of external structure and the basic features of the male genitalia, except the most remarkable one: the pencil-like coremata fitting into the folds of the valvae. *Cnephasitis* obviously represents an initial stage of the polyorthine development: males possessing an unusually large and weak, extended valva, with the costa already split along the edge partially or entirely, but without coremata, to fit in the splits!

The group in South Asia consists of moderate species, modestly coloured and marked, rather similar superficially and differing chiefly by the genitalia. It seemed pointless to re-describe Meyrick's accurate descriptions or to cite them. Instead, I concentrated on elaborately figuring the genitalia and adding full descriptions of essential peculiarities of their structure.

The subdivision of the South Asiatic Polyorthini is not easy because of considerable variation of the position and origin of certain veins in both fore and hind wings, viz., veins 11 and 2 in the fore, veins 2, 3 + 4, and 6 + 7 in the hind wing. Only vein 7 in the fore wing, terminating in the costa, and vein 5 in the hind wing, which is straight and parallel and not in the least approximated to 4 at base, are absolutely constant and invariable features.

After easily separating the genera *Apura* Turner and *Scytalognatha* Diakonoff (with veins 7 and 8 in the fore wing stalked), and *Cnephasitis* Razowski (male without coremata), one retains two groups;

(1) Six larger species with more rounded fore wing and less prominent apex, greyish, more darkly marbled and with pronounced raised scale tufts all over. The females have a unique, W-shaped large signum. These species are now attributed to the genus *Polylopha* Lower; two of these occur in Australia.

(2) Smaller species with the characteristic shape of the fore wing: a produced apex, sinuate termen, and prominent tornus, and the terminal markings not less characteristic: a dark, pale-edged tornal spot and three oblique striae, ending on termen.

Five species of these two groups have been separated by Meyrick as long ago as 1913 under "Group D" of the genus "*Peronea*", however, without any explanation.

This second group comprises 14 species of very similar facies, with the shape and markings of the wing as described, with a produced and pointed apex and prominent tornus, due to a notched dorsum. Some have narrower

and more pointed, others slightly broader wings. The origin of veins varies specifically, as is indicated below under every species. The greater differences seem to lie in the shape of the signum. In 12 species the signum is represented by one or two bundles of dense, slender, and diverging spines; one species has no signum, and the remaining four have a single, more or less concave and scobinate signum, rather resembling that in *Apura* and *Cnephasitis*. However, the neuration in *Apura* and the entire facies, the size, and the markings in *Cnephasitis* are so different, that it is not possible to include these three species in either of these two genera. It is more likely that the scobinate signum is a precursor of the spined signum, emphasizing the connection of the typical South Asiatic Polyorthini with *Cnephasitis*-like, primitive ancestors.

Therefore, all of the 17 species alluded to above, are being assigned to the genus *Lopharcha* Diakonoff, the type of which, *L. quinquestrata* Diakonoff, 1941, from Java, has a single bundle of spines for signum and the veins 6 and 7 in the hind wing rather distant and only slightly converging towards the base. By the shape of the signum two groups of species within *Lopharcha* are separated: the first with a spined, the second with a scobinate signum.

A final speculation as to the relationship of the group presses itself upon us. It may be ventured that the Polyorthini represent a link between the Tortricinae and the enigmatic Chlidanotinae: the very characteristic brushy signum, formed by diverging slender spines and the long, clavate diverticle of the ductus bursae are very similar and suggest a connection. At the same time the male genitalia of the two groups are completely different, as is the neuration. Apparently each group has followed in this respect its own long and specialized development.

However, as already elaborated elsewhere ("Revision of the South Asiatic Olethreutini", 1973), where the male genitalia often bewilder the student by their complexity and polymorphy — the female signa show the virtual affinities. So is the situation in the Olethreutini; and perhaps also in the Polyorthini the female genitalia are much less subject to polymorphy and variation than are those of the males.

#### Key to the genera of the Polyorthini

1. Seventh abdominal segment in male without coremata. Signum, a sub-spherical or concave scobinate sclerite . . . . . *Cnephasitis*
- Seventh abdominal segment in male, a pair of long coremata, in rest fitting in folded valva . . . . . 2

2. Fore wing with veins 7 and 8 stalked. Gnathos strong . . . . . 3
- Fore wing with vein 7 separate . . . . . 4
3. Fore wing with veins 3 and 4 stalked. Gnathos without a median rising process . . . . . *Apura*
- Fore wing with veins 3 and 4 separate. Gnathos with a dentate median process . . . . . *Scytalognatha*
4. Fore wing broadly oval, usually red, dotted and striped with black; labial palpus very long, not dilated; apparently diurnal species . . . *Pseudatteria*
- Fore wing of the usual tortricine shape, rather narrow, with a produced apex, not so conspicuously coloured . . . . . 5
5. Species with archipine appearance and smooth fore wing; with veins 3 and 4 short-stalked or connate . . . . . *Ardeutica*
- Species with tortricine appearance, fore wing narrower, mostly with tufts of raised scales on surface; with veins 3 and 4 separate . . . 6
6. Palpus long, porrect, narrowed towards apex . . . . . 7
- Palpus moderate, subascending, median segment strongly dilated towards apex . . . . . 8
7. Hind wing narrow, much under 1, with modified neuration . *Lophoprora*
- Hind wing with normal neuration, not under 1; New World species . . . *Polyortha*
8. Signum, one or two bundles of spines or a scobinate sclerite, or signum absent . . . . . *Lopharcha*
- Signum, a W-shaped large sclerite, or seldom absent . . . . *Polylopha*

**Polyortha** Dognin, 1905

*Polyortha* Dognin, 1905: 85 (type-species, *P. niveipunctata* Dognin, by original designation). — Fernald, 1908: 48, 63. — Walsingham, 1914: 271 (redescr.). — Clarke, 1955: 25. — Obraztsov, 1966: 578, 581.

Head with closely appressed scales. Ocellus posterior. Proboscis short. Antenna in female simple. (Palpi broken). Thorax with traces of a crest.

Fore wing long and rather narrow, narrowed posteriorly, with small tufts of raised scales on upper surface, costa broadly rounded at base, straight posteriorly, apex pointed, termen sinuate, oblique. Vein 2 from beyond middle, 3 from before angle, remote from 4, 4 from angle, 5 well separate and parallel to 6, 7 free, to costa, 8 rather close to 7 at base, 9 from beyond middle distance 8-10, 10 from 2/3 distance 9-11, 11 from beyond 2/5, chorda from 1/3 distance 10-11, to base of 7, median branch from towards base to base of 5.

Hind wing slightly over 1, without a cubital pecten. Veins 1a and 1b unusually distinct, 2 from just beyond 3/4, 3 and 4 short-stalked from

angle, 5 straight, parallel and remote, its origin rather submedian, 6 and 7 stalked.

Female genitalia. Sterigma moderate, oblong-crescentic, upper edge simple, lower with a mammiform lobe on each side. Colliculum broad and long, with a proximal annular sclerite and an irregular distal subspheroid sclerite. Ductus bursae ill-defined, corpus bursae being strongly elongate and seemingly commencing below colliculum. Signum absent.

The above description is made after the unique type-specimen of the type-species, *Polyortha niveipunctata* Dognin, from Ecuador. The type-specimen has been kindly entrusted to me for study by Dr. J. F. Gates Clarke. It is well preserved, except the head which is partly denuded, with the palpi missing, while the antennae are partly broken. The specimen bears the following labels: "Environs de Loja, Equateur, 1893" (print), "Dognin coll" (print), "6545, Wlsm 1911" (print and ink), "Durrant 12.6.12" (black ink), "gen. nov., sp. nov. ♀ Warren X.04" (black ink), "(Polyortha) gen. nov. (niveopunctata) spec. nov.", (black ink), "Polyortha niveipunctata Dogn. type ♀" (ink), "type no. 32351, U.S.N.M." (red label, print and ink), "♀ genitalia on slide A.B. Jan. 20. 1929" (ink, Busck's hand). The genitalia slide, made by August Busck in 1929, is in good condition, but the used dye has turned blackish and the corpus bursae is slightly mutilated. Apparently there was no signum.

The following additional features are from Walsingham's redescription (1914): "*Antennae* 1/2, simple. *Palpi* projecting at least twice the length of the head beyond it; hirsute, with long hair-like scales projecting beyond the base of the somewhat hirsute, porrected terminal joint. ... *Thorax* with moderate posterior crest ... *neurulation* ... 4-5 approximate, connate or stalked ... *Hind wings* ... 3-4 stalked (or connate), ... 6-4 closely approximated towards base, or short-stalked ...".

Further additional features are recorded in the following short notes on the 13 *Polyortha* species in the collection of the British Museum (Natural History).

Structurally it seems difficult to separate the genera *Polylopha* Lower, 1901, and *Polyortha* Dognin, 1905. However, they have a quite different aspect, the former comprising slender species of moderate size and modest colouring, while those of the latter are large, robust, often with deep brown, fulvous or purple tinges. Besides, the first genus is Australian and South Asiatic, while the second is from Central and South America. The two genera have similar male genitalia, but *Polyortha* has a specifically strongly variable shape of the signum. In order to facilitate the separation of the two genera the following table of features is presented.

*Polylopha*

Moderate species with fore wing narrowed, point often produced, termen being sinuate and little oblique. Vein 3 always from angle.

Palpus moderate, median segment dilated towards apex, terminal segment moderate. Signum, a concave scobinate W-shaped sclerite.

In South Asia, Australia and the Pacific.

*Polyortha*

Large species with fore wing not dilated, oblong, oval or pointed-oval, costa gradually curved at extremities, termen convex. Vein 3 often from before angle.

Palpus long, median segment narrowed, terminal segment short. Signum, a lamina dentata, or a branched rod.

In Central and South America.

NOTES ON SPECIES OF *POLYORTHA* DOGNIN IN THE COLLECTION OF THE BRITISH MUSEUM (NATURAL HISTORY)

***Polyortha niveipunctata* Dognin (figs. 4-5)**

*Polyortha niveipunctata* Dognin, 1905: 85 (Equador). — Walsingham, 1914: 273 (Panama, Colombia).

For neurulation and other features cf. above.

***Polyortha bryometalla* Meyrick**

*Polyortha bryometalla* Meyrick, 1932: 343.

Orosi, Costa Rica, 5000', 1930 (Meyrick coll.). Fore wing with vein 3 from before angle.

***Polyortha dryocremma* Meyrick**

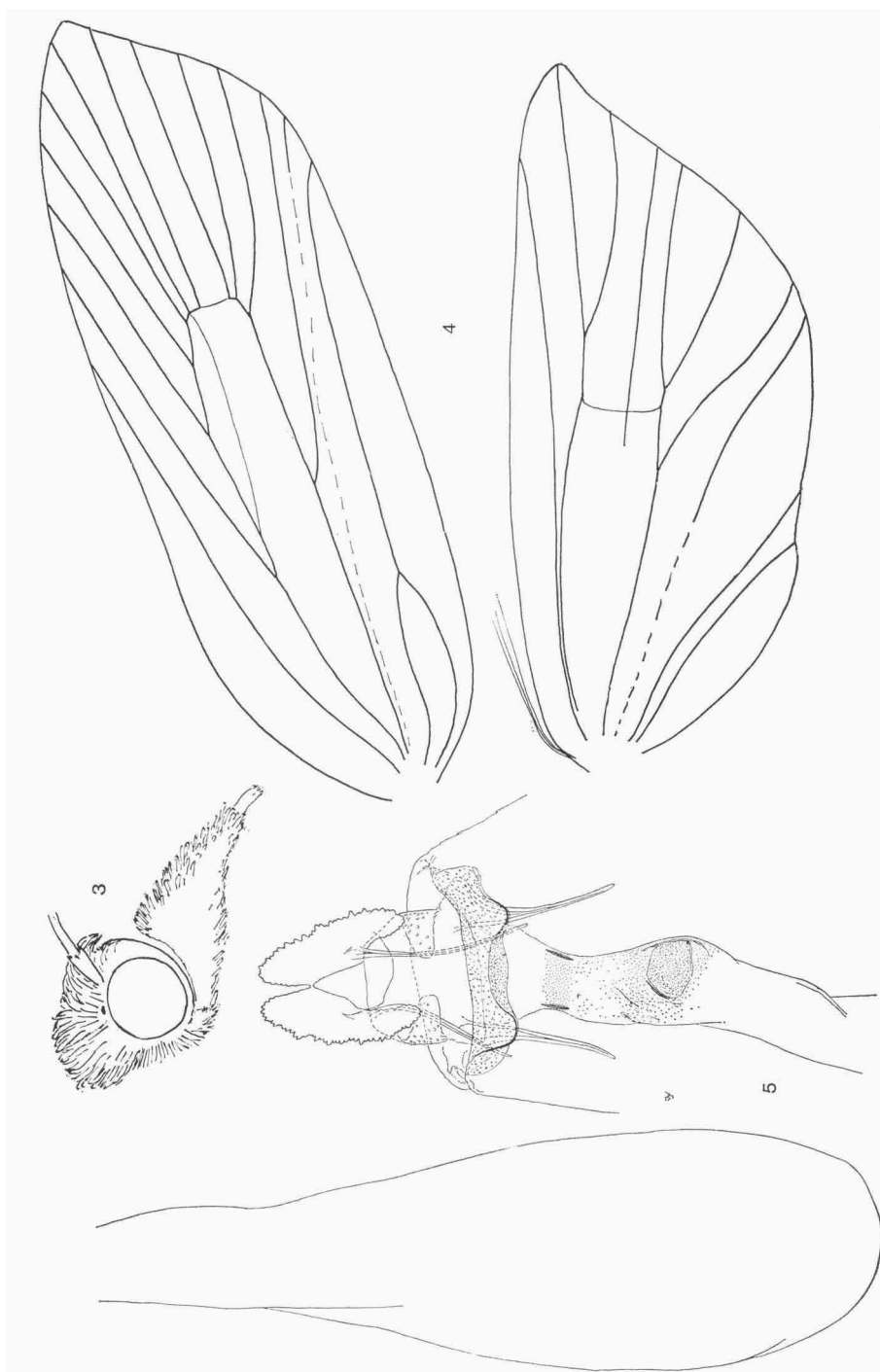
*Polyortha dryocremma* Meyrick, 1932: 343.

Volcán Sta Maria, Guatemala, A.B., 1930 (Meyrick Coll.). Palpus long, narrowed, projecting over twice width of head. Fore wing with vein 3 from far before angle.

***Polyortha gradatulana* (Zeller)**

*Teras gradatulana* Zeller, 1866: 138, pl. 1 fig. 1 (Colombia).  
*Peronea purpurascens* Meyrick, 1912: 686.

Aqualana, Peru, 9000', xi.1905, O. (Meyrick Coll.) Genitalia slide 6251 ♀. Fore wing, vein 3 from before angle, 4 and 5 almost connate, 11 from



Figs. 3-5. *Polyortha* Dogn. 3, head of *P. viridescens* (Meyr.); 4, wing venation of *P. viridescens* Dogn., ♀ holotype; 5, do, female genitalia.



middle of cell. Palpus very long, over twice width of head projecting beyond face.

**Polyortha viridescens** (Meyrick) (figs. 3, 6-7)

*Peronea viridescens* Meyrick, 1912c: 686.

*Polyortha mollinediella* Busck, 1932: 43.

Rio Grande do Sul, Brazil, 1930 (Meyrick Coll.). Fore wing in female with vein 3 from angle, but 4 much closer to 5, all veins strong, chorda very strong, to just above base of 7, median branch to 5. In male vein 3 more remote from 4, almost before angle, 4 and 5 more approximated.

Male genitalia (fig. 6). Tegumen moderate. Uncus with a strong and broad point, dilated above base, narrowed towards spear-shaped apex. Socius moderate, pending, not reaching hook of gnathos. Gnathos rather slender. Transtilla, a strong, transverse band, subtrapezoidal, with aciculate top and front. Vinculum with a moderate saccus. Valva oblong-oval, split throughout. Aedeagus cylindrical, rather short. Cornutus, a single subapical spine at the right side.

Female genitalia (fig. 7). Ninth segment sclerotized. Sterigma, a single transverse rod, becoming double and forming oval sclerites at the sides. Colliculum, a wide, sclerotized cylindre with somewhat irregularly deformed surface and a fold at the right, below. Ductus bursae absent. Corpus bursae long-tubular, much wider than colliculum, with a wreath of irregular scobinations, covered with small thorns and a larger, continuous sclerite in dorsal wall, with irregularly fragmented edge. Signum single, an irregular sclerite, concave on the inside and double-folded, fold and especially its prominent ends stronger sclerotized.

South East Brazil, Castro, Paraná (E. D. Jones), BM 1912-534, 1 ♂, genit. slide 8705. "Rio Grande do Sul, Brazil, .34 (in Meyrick's hand, Meyrick Coll., BM), 1 ♀, genit. slide 8706.

**Polyortha eupeplana** Walsingham

*Polyortha eupeplana* Walsingham, 1914: 272, pl. 8 fig. 12 (Guatemala).

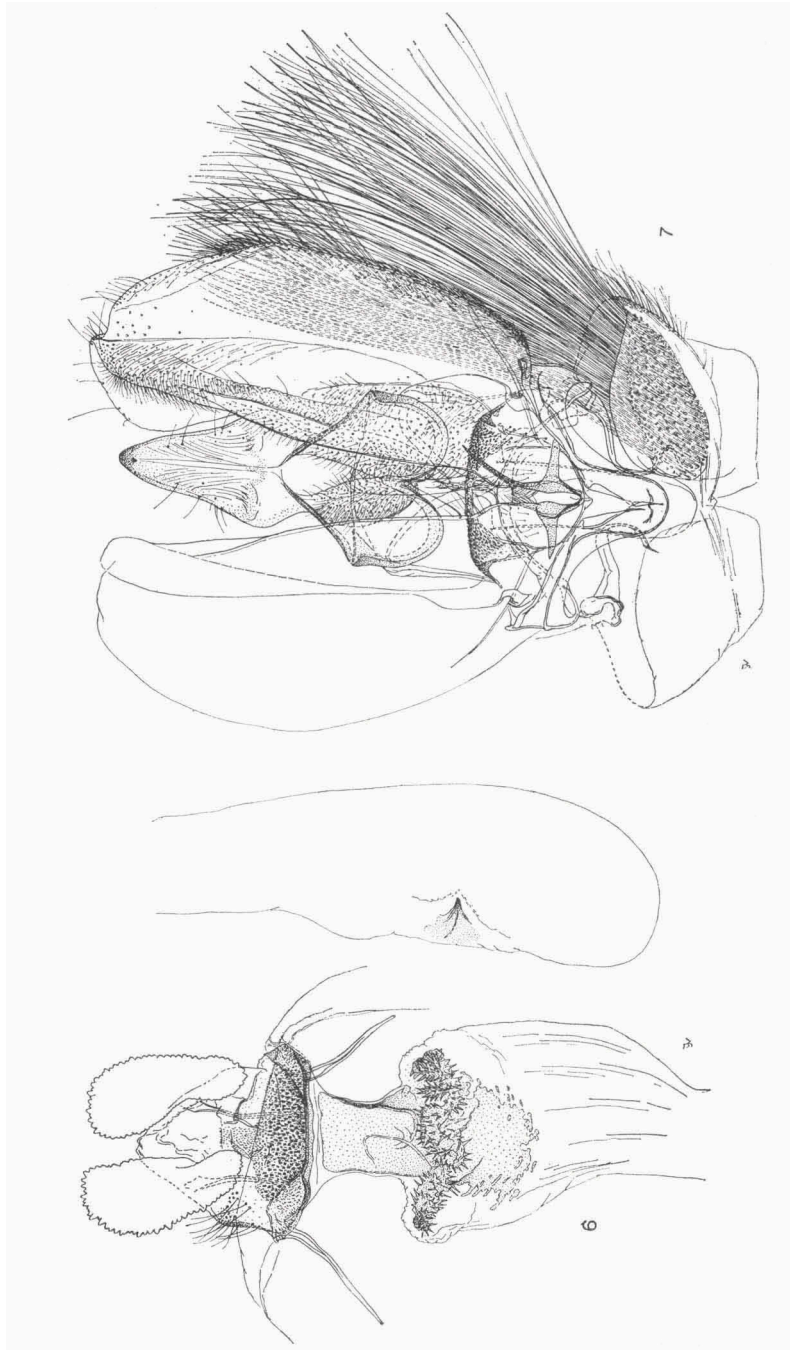
*Polyortha fluminana* Walsingham, 1914: 273, pl. 8 fig. 13 (Guatemala).

Fore wing, 2 beyond 1/2, 3 from before angle, 4 remote, 4-5 approximated.

**Polyortha hirsuta** Walsingham

*Polyortha hirsuta* Walsingham, 1914: 273 (Guatemala, Panama).

Fore wing, 2 from 2/3, 3 from angle, 3-5 equidistant, 11 from 1/3 of cell.



Figs. 6-7. *Polyortha viridescens* (Meyr.) 6, ♀ genitalia, slide 8706; 7, ♂ genitalia, slide 8705.

**Polyortha glaucotes** Walsingham

*Polyortha glaucotes* Walsingham, 1914: 272 (Panama).

Fore wing, vein 2 from beyond middle, 3 from before angle, 4 and 5 approximated, 11 from before middle.

**Polyortha suffalcata** Walsingham

*Polyortha suffalcata* Walsingham, 1914: 275, pl. 8 fig. 15 (Panama).

Palpus very long, terminal segment long, straight, subascending. Fore wing, 2 from middle, 3 from angle, 3-5 equidistant and rather remote, 11 from 1/3.

**Polyortha euchlorana** Walsingham

*Polyortha euchlorana* Walsingham, 1914: 274 (Mexico).

Fore wing, vein 2 from beyond middle, 3 from angle, 3-5 equidistant. Palpus rather short, median segment dilated towards apex, terminal moderate, slender, subascending.

**Polyortha bryographa** (Meyrick)

*Peronea bryographa* Meyrick, 1909: 16 (Peru).

Aqualani, Peru, 9000', D.xiii.1905 (Meyrick Coll.).

Fore wing, vein 3 from before angle, 4 and 5 closely approximated, 11 from middle of cell.

Hind wing, vein 5 curved and parallel to 4, but diverging at base and horizontal. Lectotype, male, genit. slide 6250.

**Polyortha marmarodes** (Meyrick)

*Peronea marmarodes* Meyrick, 1912c: 687.

Lectotype: San Antonio, West Colombia, 5800', xi.1907 (Meyrick Coll.).

Fore wing, vein 3 from before angle, 4 and 5 almost connate. Genit. slide 6254 ♀.

**Polyortha sphenobathra** (Meyrick)

*Peronea sphenobathra* Meyrick, 1917: 13.

Bartica, Brit. Guiana, ii.1913 (Parish leg.), genit. slide 6257 ♂.

Fore wing, 11 from before middle.

**Polyortha trochilodes** (Meyrick)

*Peronea trochilodes* Meyrick, 1912c: 687.

Fore wing, 11 from before middle, 4 and 5 almost connate.

**Polyortha chiriquitana** (Zeller)

*Teras chiriquitana* Zeller, 1877: 80.

Castro, Paraná, S. Brazil, 1898 (Jones leg.), Walsingham Coll., 67357, genit. slide 8916.

Fore wing with 11 from 2/5.

Diaphragma moderately sclerotized in centre and denticulate in upper part, lower part forming a more sclerotized plate with a crescentic lower edge, very much showing in pictures. Transtilla strong, free of diaphragma and aciculate.

**Lophoprora** Meyrick

*Lophoprora* Meyrick, 1930: 611 (type-species, *L. cyanostacta* Meyrick, 1930, by original designation). — Diakonoff, 1939: 196, figs. 19K-L.

The original description reads as follows: "Palpi very long, porrected, with dense rough projecting scales diminishing to apex, terminal joint short, nearly concealed. Antennae simple. Thorax with double posterior crest. Forewings with tufts of scales; 2 from near 2/3, 3 and 4 approximated from angle, 7 to costa. Hind wings without cubital pecten; cell 1/3, 2-4 separate and approximated towards base, 5 parallel, 6 and 7 approximated at base.

"Allied to *Spatalistis*".

The type-specimen has been redescribed in 1939 (Diakonoff). The head was missing. The following is a summary of additional characters. Fore wings with tufts of raised scales on upper surface; costa rounded at base, concave in middle, apex produced and pointed, termen deeply sinuate, oblique. Vein 1 furcate almost to middle, 2 from 3/4, 3 and 4 little approximated, 3 from angle, 5 and 6 distant and parallel, 7 separate, to costa, 8 from angle, 9 from middle distance 8-10, 10 from middle distance 9-11, 11 from middle of cell, chorda from halfway 10-11 to well below base of 7, median branch from towards base to just below base of 5.

Hind wing 3/4, oblong-subtrapezoidal, without cubital pecten; vein 2 from 3/4 in male, from 5/6 in female, 3 from about 2/3 in male, 4 from angle; in female 3 and 4 short-stalked, from angle; 5 remote and parallel,

6 and 7 moderately approximated towards base of wing. A trace of a median branch, terminating in base of 5.

The female neuration of the fore wing is similar to that in the male, except for the veins 3 and 4 being slightly more remote, while the broader hind wing presents more differences: the three anal veins are distinct, vein 1c originating from base, veins 3 and 4 are short-stalked from angle; 5 straight and parallel, 6 and 7 moderately converging towards the upper angle of cell, but these veins remain separate and are traceable to the base of the wing, a peculiar situation.

In 1939, I figured the neuration of the male from the dry specimen, in situ; as the hind wing was slightly shrivelled, my sketch of the neuration came out not quite correctly.

The generic features of the female are as follows. Head with appressed scales, roughly spreading on crown. Ocellus posterior. Proboscis short. Antenna simple, less than  $1/2$  of fore wing. Palpus very long, broad at base, gradually narrowed towards apex, over  $3\frac{1}{2}$  diameter of eye, with appressed, rather glossy scales, terminal segment very short, obtusely pointed. Thorax without a crest.

Fore wing with slight tufts of raised scales on surface; broad, subtruncate, dilated, costa curved at apex, apex produced and pointed, termen deeply sinuate, little oblique. Vein 2 from beyond  $3/4$ , 3 from angle, 4 separate, 5 and 6 remote and parallel, straight, 7 from below angle of cell, to costa, 8 from angle, 9 from halfway 8-10, 10 from  $2/3$  distance 9-11, 11 from middle.

Hind wing  $3/4$ , oblong-subtriangular, apex produced and pointed, vein 2 from before angle, 3 and 4 short-stalked from angle, 5 straight and parallel, 6 and 7 closely approximated towards base.

While the neuration of the fore wing is very similar to that in the male, the hind wing shows somewhat stronger discrepancies, chiefly the short-stalked veins 3 and 4.

Meyrick thought that the genus was related to *Spatalistis* (Tortricini) but the polyorthine characters of the male genitalia, not known to that author, were rather distinct (Diakonoff, 1939). Now that these of the female become also known, my presumption gets further support: the signum is small, and rod-like, which also points towards the tribe Polyorthini.

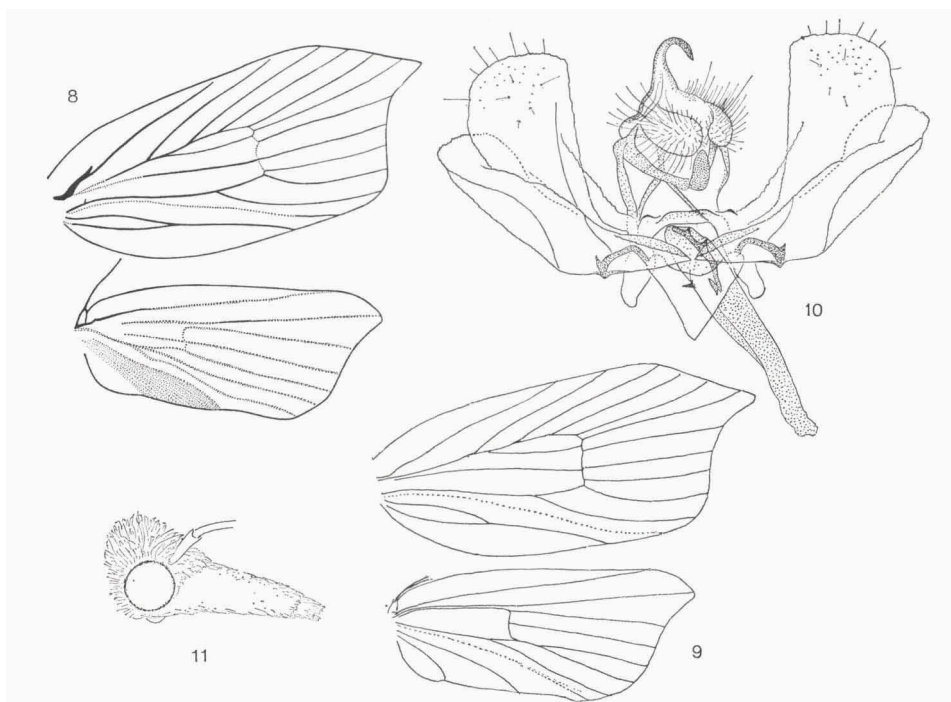
### ***Lophoprora cyanostacta* Meyrick (figs. 8-12)**

*Lophoprora cyanostacta* Meyrick, 1930: 611 (♂). — Diakonoff, 1939: 196, figs. 19K-L (genitalia holotype figured). — Clarke, 1955: 108. — 1958: 152, pl. 76 figs. 1-1b (holotype wings, neuration and genitalia figured).

Distribution. New Guinea.

The good fortune of discovering a single, slightly mouldy, but otherwise completely intact female specimen of this fascinating species in the vast collection of unidentified specimens in the British Museum (Natural History), enables of a closer study. Luckily also, the female bears identical labels with the male holotype and so is a topotype.

♀ 15 mm, apallotype. Head, palpus and thorax deep brownish-purple with a glassy bright gloss. Abdomen light orange-yellow.



Figs. 8-11. *Lophoprora cyanostacta* Meyr. 8, wing neuration of holotype, ♂; 9, do., of apallotype; 10, genitalia ♂; 11, head, ♀, apallotype (fig. 9, after Clarke, 1958; fig. 10, after Diakonoff, 1939).

Fore wing broad, subtruncate, dilated, with groups of small, raised tufts of scales, costa curved at base, almost straight in middle, curved again before apex, apex abruptly produced and acute, termen deeply sinuate above, rounded below. Brownish-grey-purple, with an ill-defined, coarse network of slightly darker grey suffusion and with numerous rounded, grey-metallic spots, with a strong, glassy gloss; raised scale-tufts in four incomplete,

oblique, transverse series. Costa from beyond base to well before apex with a light yellow streak, broader along its posterior  $2/3$ ; a gently outwards-convex subterminal fascia of less raised scales, deep purple, from before apex to tornus, followed by a glassy-shining light yellow marginal band. Cilia light yellow, on dorsum dark purple; tips of cilia distinctly dilated and pencil-like.

Hind wing  $4/5$ , oblong-subtrapezoidal, apex rather produced and pointed, termen sinuate, tornus concave on the under side. Light yellow, costa anteriorly white, posterior third purple, edge of this part suffused, slightly extended along veins, extended to  $1/3$  along dorsum. Cilia grey-fuscous, with a narrow yellowish basal line.

Female genitalia. Lobus analis with a strongly curved lower half. Ninth segment moderately sclerotized, ring-like and minutely aciculate. Lamella postvaginalis with a small v-shaped structure. Sterigma otherwise indefinite. Ostium and colliculum rather small, sclerotized and cup-shaped, with lower half funicular. Ductus bursae long and simple. Corpus bursae small, ovoid. Signum, a small, slender and slightly undulate transverse rod, reaching hardly  $1/5$  circumference of corpus bursae.

"Kumusi River, N.E. Brit. New Guinea, low elev., v-ix.1907 (A. S. Meek)", "Paravicini Coll. BM 137-383" (print, cadre), 1 ♀, apallotype, genit. slide 8696.

The male holotype is very similar to the above described female, and is identically labelled, besides also with a small label "M 593" (in Meyrick's hand).

Male genitalia. Tegumen moderate. Uncus with a slender, hooked point. Socius rather large, rounded and pending. Gnathos sclerotized, with slender arms and a rather narrow point. Valva voluminous, distinctly split longitudinally along its whole length; sacculus with a moderate, transverse and clavate harpe, with two short points at top. Aedeagus moderate, subclavate, straight, with a short lateral subapical thorn at the left side and two cornuti, one short, another rather long, with two short lateral thorns.

### **Lopharcha** Diakonoff, 1941

*Lopharcha* Diakonoff, 1941: 424, fig. 3 (type-species *L. quinquestriata* Diakonoff, 1941, Java, by original designation).

Head with dense, closely appressed hairs, rough at sides of vertex. Ocellus posterior. Proboscis short. Antenna ciliated in male, ciliations  $2/3$ , scape moderate. Labial palpus moderate, ascending, median segment triangularly dilated by dense scales projecting around apex, the segment flattened

above and at the sides and appearing cubical, terminal segment moderate, slender, subacute and porrected. Thorax with a posterior crest. Abdomen in male with a very large anal tuft.

Fore wing with raised scale-tufts on surface; broadly lanceolate, costa gently curved, more so at extremities, apex pointed, termen hardly sinuate, strongly oblique. Vein 2 from middle, 3 from angle, 4 well-separate but closer to 3, 5 and 6 distant and subparallel, 7 separate, to costa, 8 from upper angle of cell, 9 from about  $3/4$ , 10 from  $1/2$  distance between 8-11, 11 from before middle, chorda and median branch absent.

Hind wing oblong-sublanceolate,  $2/3$ , without a cubital pecten, veins 2-4



Fig. 12. *Lophoprora cyanostacta* Meyr., apallotype ♀, genitalia.



shortened, 2 from before 2/3, 3 and 4 stalked from angle, 5 parallel, remote and submedian, 6 and 7 distant, subparallel, 7 to costa, a median branch in cell present, terminating above base of 5.

The genus has already been discussed in the general remarks on the tribe Polyorthini, above.

#### SPECIES GROUP I

Signum, one or two groups of thin spines, or absent. Colliculum not forming a sclerotized tube.

#### **Lopharcha quinquestriata** Diakonoff (figs. 13-18)

*Lopharcha quinquestriata* Diakonoff, 1941: 424, fig. 3, pl. 20 fig. 3 (♂ ♀).

Distribution. East Java.

A small species with narrow and pointed wings and a very oblique termen. The ground colour is golden-yellowish, with sparse purple marbling, tending to form transverse fasciae.

The holo- and allotype are from East Java, Nongkodjadjar, on the western slope of the Tengger Range, at 1300 m, at light, 2.v and 25.iii.1940, respectively (A. M. R. Wegner). The genitalia are on slide 242, the female genitalia were lost. Additional material is as follows.

West Java, Mts. Gede-Panggrango, Tjisaroea Zuid Estate, 1000 m, 21.v.1950 (Liem Swie Liong), 1 ♂, genit. slide 8617.

Southeast Java, Mt. Smeroe, Tengger Range, Ranoe Daroengan, 820 m, 6-13.vi.1941 (M. A. Lieftinck), 1 ♀, genit. slide 8619.

South Celebes, Mt. Lompobatang, Borong Rapoa, 800 m, at light, 19-24.viii.1949 (A. Diakonoff), 1 ♀, genit. slide 8618.

Male genitalia. Tegumen slender, higher than broad. Uncus with flat base and a very slender, long, curved hook. Socius large, flat, semioval. Gnathos with very slender, long arms and a straight, narrow hook. Transstilla slender, paired. Valva extremely large, oblong and pointed, with prostrate-y-shaped folds anteriorly. Anellus, a transverse trapezoidal plate, strongly conically extended and narrowed, supporting aedeagus from below, top with series of crochets on each side, locked in each other like fingers of two hands. Aedeagus cylindrical, little curved, conical.

Female genitalia. Sterigma transversely semioval, little sclerotized, with upper edge straight, slightly bristled, lower edge rounded, with a slight prominence in middle. Ductus bursae simple, corpus bursae and lateral sack (diverticle) thin-walled, oblong. Signa, a single bunch of thin spines.

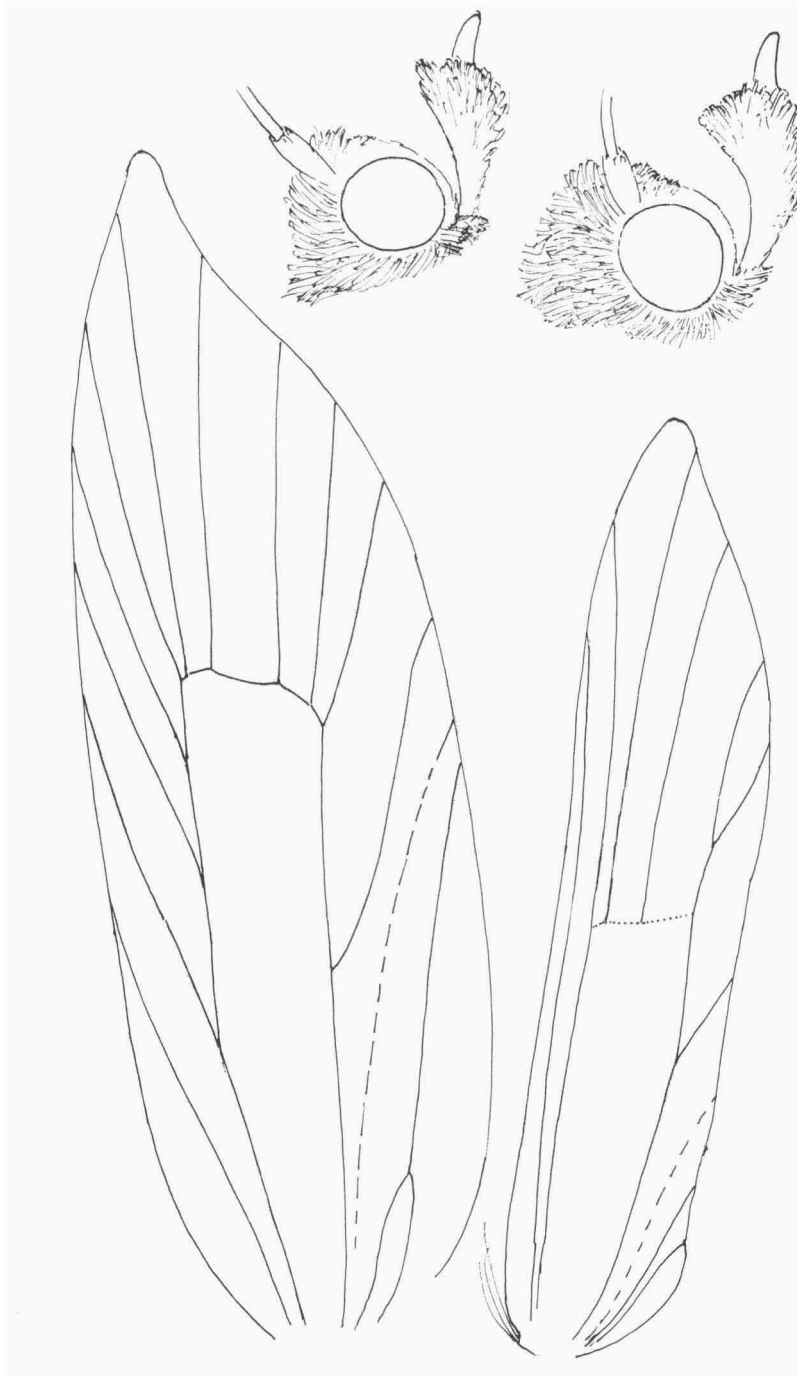


Fig. 13. *Lopharcha quinquestriata* Diak., wing venation, ♀ allotype, heads: above, ♂, below, ♀ (after Diakonoff, 1941, slightly modified).



Fig. 14. *Lopharcha quinquestriata* Diak., ♂ genitalia, holotype.

The species is closely related with *L. chalcophanes* Meyrick, from India, but has a differently shaped sterigma.

***Lopharcha chalcophanes* (Meyrick) comb. nov. (fig. 19)**

*Peronea chalcophanes* Meyrick, 1931: 156 (♀). — Clarke, 1955: 81. — Razowski, 1965: 213.

*Acleris chalcophanes*; Clarke, 1958: 4, pl. 2 figs. 1-1c (lectotype designated, wings, genitalia ♀ figured).

Distribution. India.

A small, narrow-winged species with brassy-yellow ground colour and grey-fuscon markings. The original description records a male and a female, but the male is missing.

The lectotype, female, is labelled thus: "Dehra Dun, New Forest, India, .7.29", with the genitalia on slide 6897.

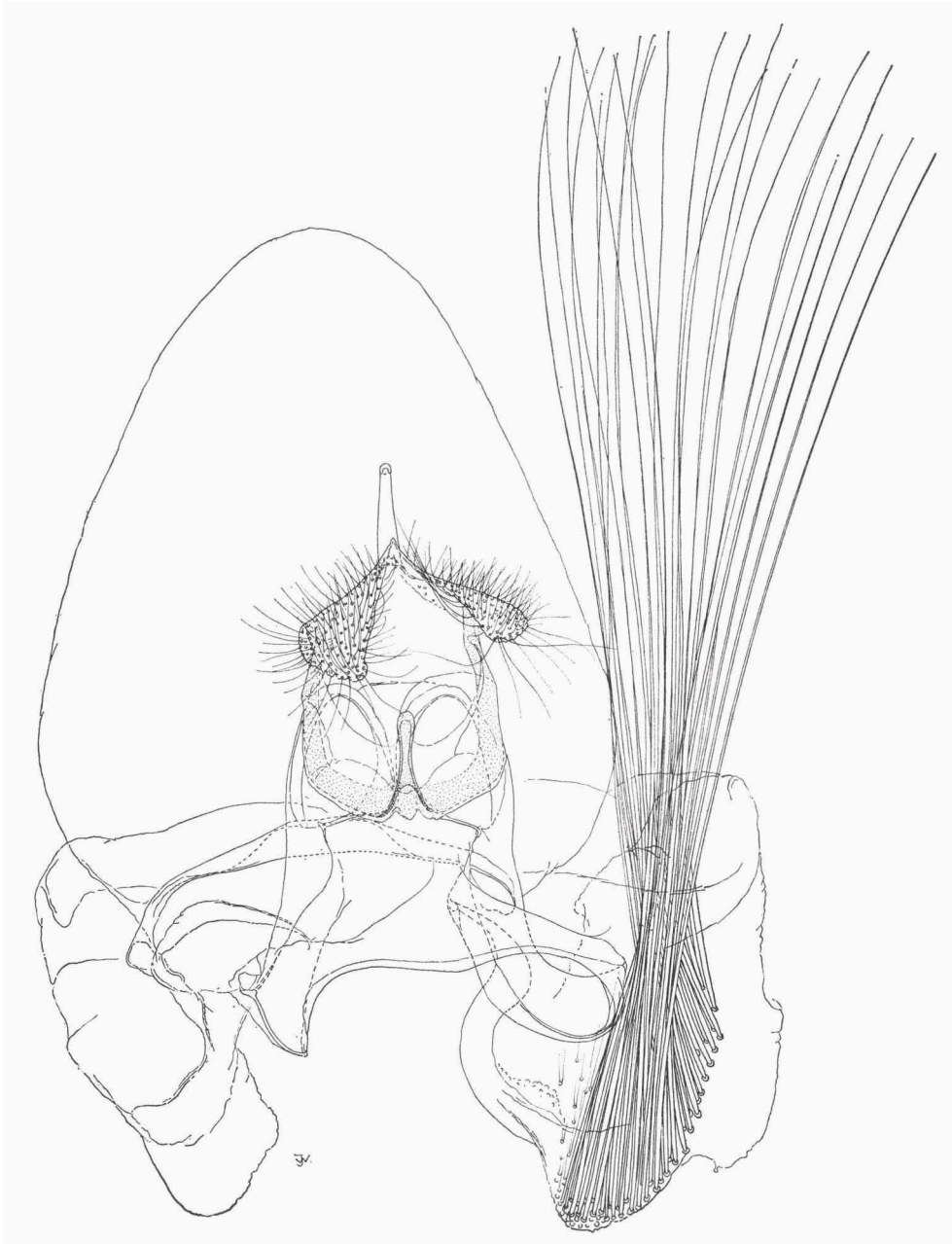


Fig. 15. *Lopharcha quinquestriata* Diak., ♂ genitalia, slide 8617, with part of the seventh abdominal segment and eighth tergite.

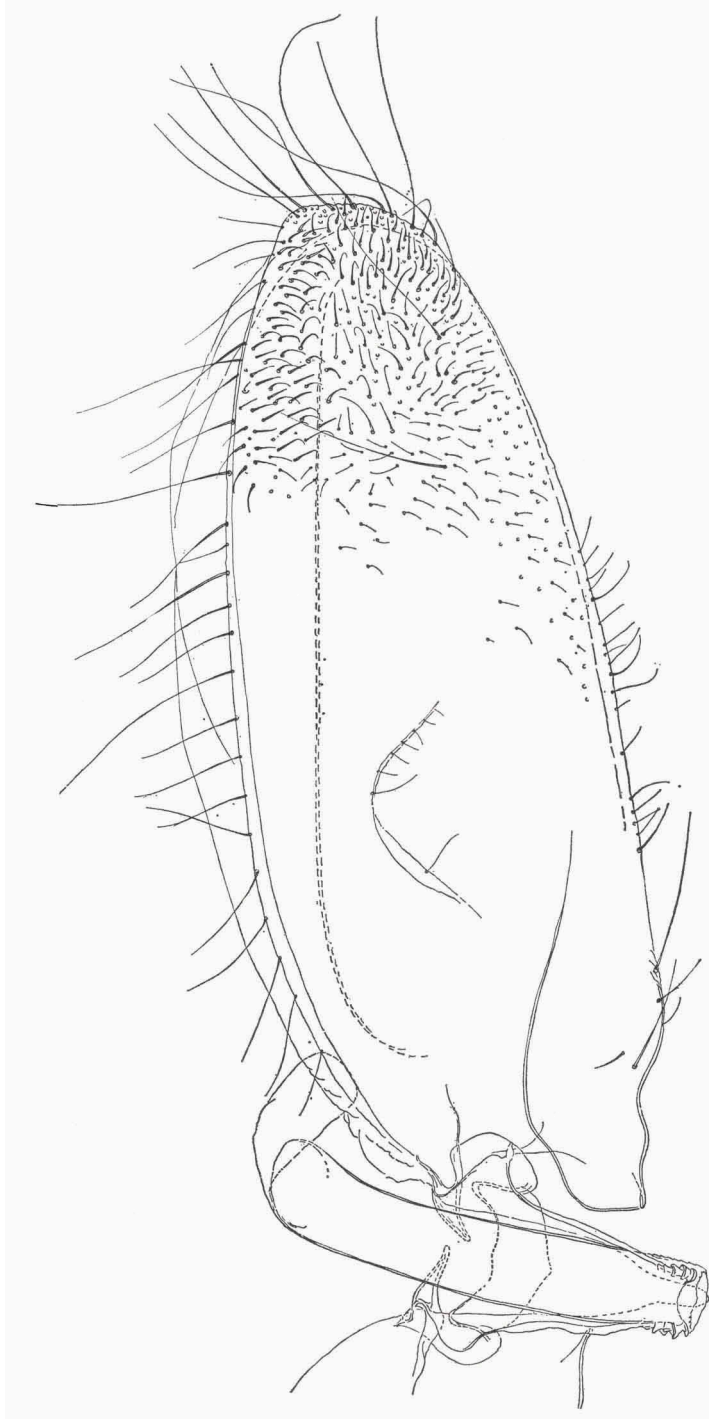
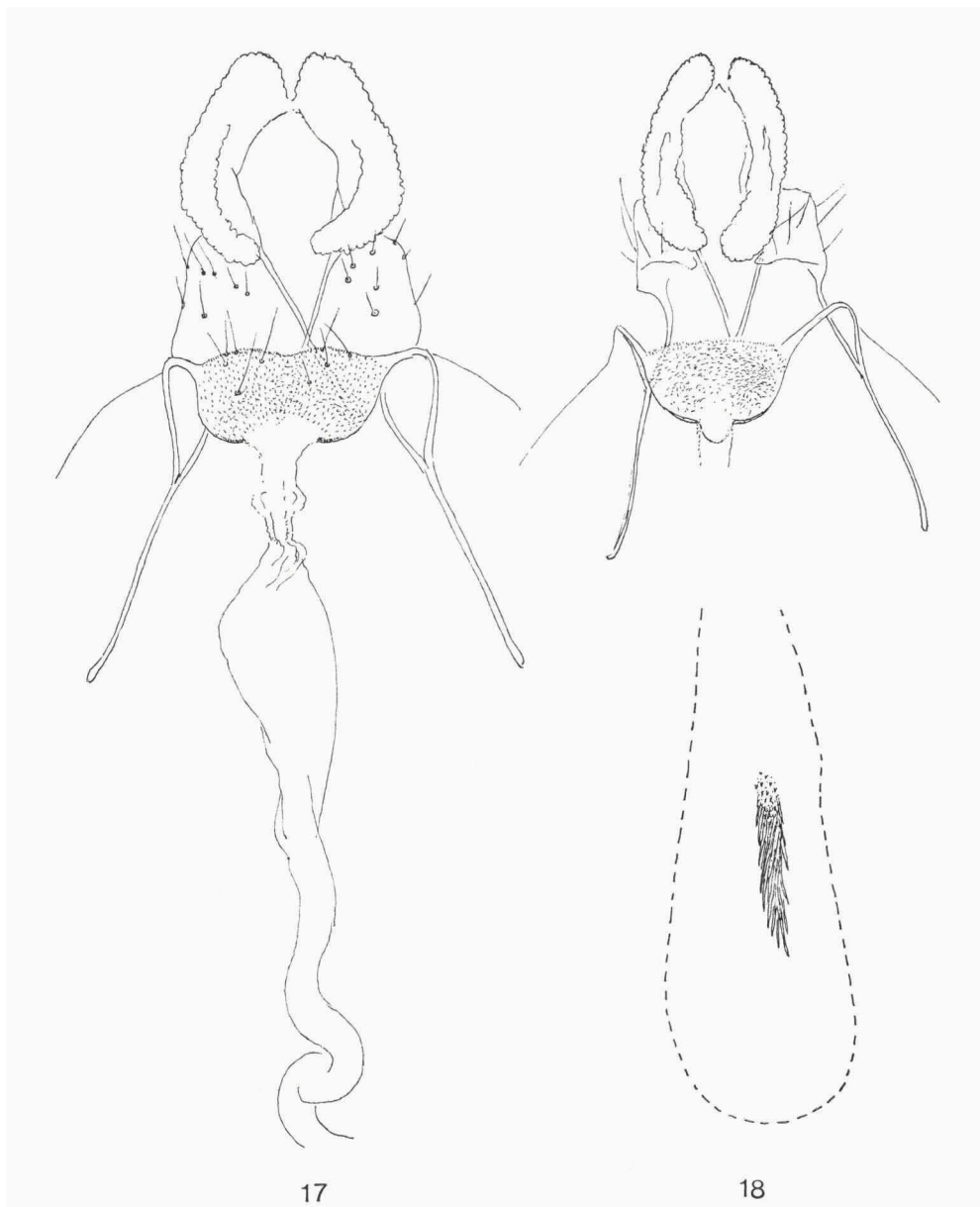
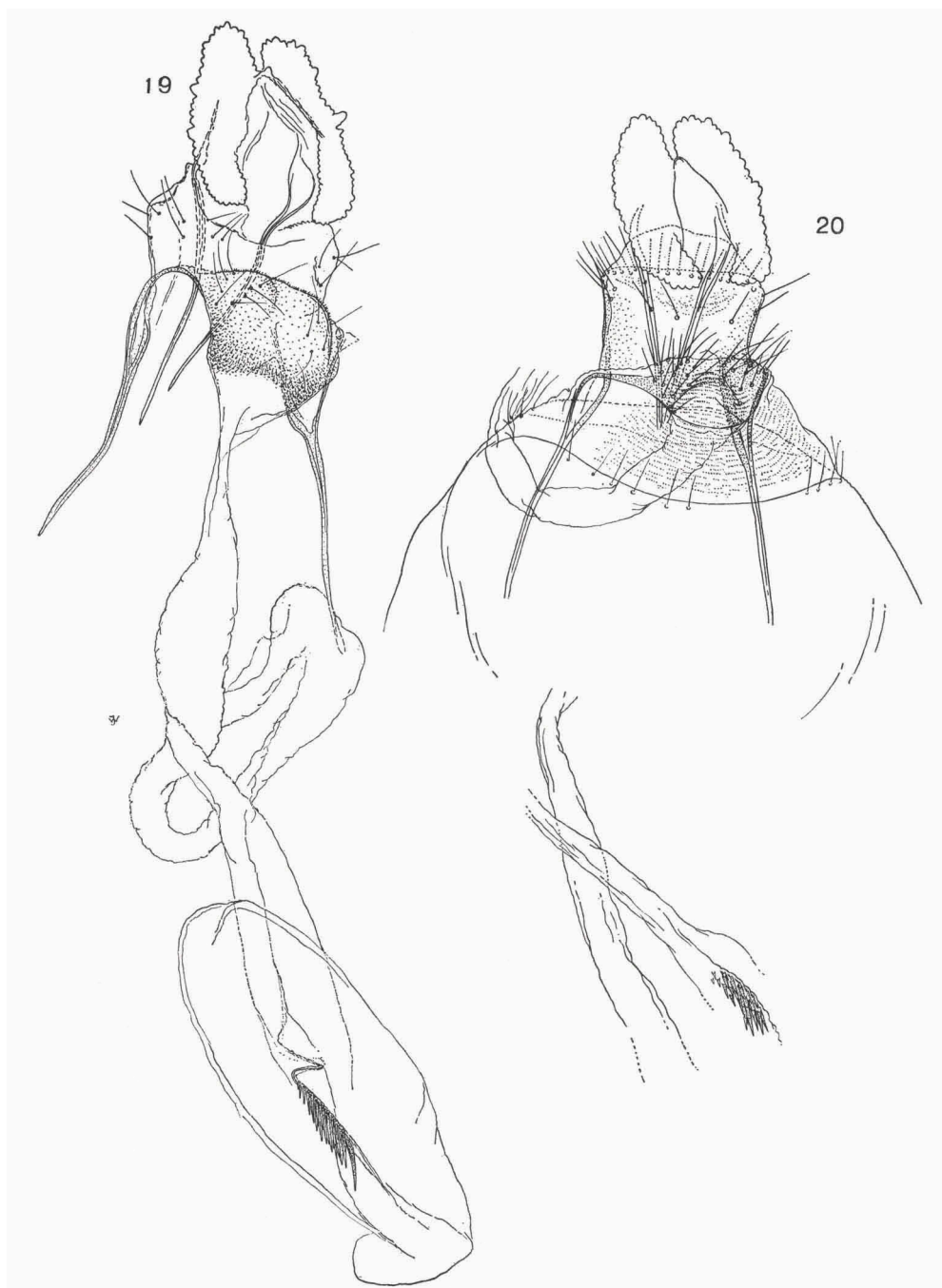


Fig. 16. *Lopharcha quinquestriata* Diak., ♂ genitalia, slide 8617, valva and aedeagus.



Figs. 17-18. *Lopharcha quinquestriata* Diak., ♀ genitalia. 17, slide 8619, with left, signum; 18, slide 8618.



Figs. 19-20. *Lopharcha* Diak., ♀, genitalia. 19, *L. chalcophanes* (Meyr.), lectotype; 20, *L. chionea* sp. n., holotype.

The specimen shows the following peculiarities of structure: fore wing with vein 2 from middle of cell, 3 from angle, 4 remote, 3-5 equidistant, 11 from about  $1/3$ .

Hind wing with vein 2 from beyond middle of cell, 3 and 4 connate from angle, 6 and 7 connate.

Female genitalia. Lamella antevaginalis almost quadrate, strongly convex and finely aciculate. Ductus bursae membranous and weak, with a large lateral sack, longer than bursa. Corpus bursae oblong-ovoid, rather small. Signum, an elongate bunch of slender spines, becoming longer posteriorly.

Bismarck Is., New Ireland, xii.1923-i.1924 (A. F. Eichhorn), 1 ♀ (abdomen missing).

***Lopharcha chionea* spec. nov. (fig. 20)**

♀ 12 mm. Head purplish, densely dusted with whitish, face whitish. Antenna purplish, scape light grey. Palpus curved and ascending, terminal segment short and slender, truncate; deep purple, along upper edge and apex strewn with pale grey, terminal segment grey. Thorax light grey-purplish densely strewn with deep purple, apical tuft large, deep purple strewn with lilac-grey. Abdomen glossy bronze-fuscos.

Fore wing oblong-sublanceolate, rather narrow, costa little curved at base, slightly prominent at  $1/4$ , apex curved and produced, broadly sickle-shaped and obtusely pointed, termen sinuate, very oblique and long; small, regularly spaced tufts of raised scales on surface. Grey, densely dusted with purplish, with irregular, undulate and slender, transverse lines originating from darker and thicker costal purple marks: two beyond base and five along posterior half of costa. A broad snow-white, glossy transverse band at  $2/3$ , touched with yellowish, well-defined, dilated from middle by an obtuse posterior projection, along dorsum also projecting anteriorly, on costa somewhat narrowed and obscured by very faint greyish; this band preceded and followed on upper third of wing by paler and denser whitish dusting; this dusting narrowly edged and on both sides parted by dark purple; a faint light ochreous small triangular spot on costa before middle, indistinctly continued to middle of disc by an ochreous line; a minute bluish-white point in centre of wing on end of cell. Cilia dark purple with a paler grey-purple basal and a submedian line.

Hind wing moderately glossy, rather dark grey-fuscos, finely transversely striated (darker tips of scales), basal half paler, grey. Cilia long, grey, with a paler basal third.

Female genitalia. Ninth segment forming a simple high collar with a truncate edge. Sterigma simple, an inverted-triangular small plate, with a



concave, transversely striated central part and a triangular group of bristles on each side of this. Ductus and corpus bursae membranous, united and gradually dilated. Signum, a patch of strong spines becoming longer downwards and very dense.

West Java, Mt. Gede, Tjibodas, 1400 m, 21.i.1952 (A. M. R. Wegner), 1 ♀, holotype, genit. slide 8620.

A very distinct species with strikingly different colour and markings, except the transverse striation of the costa.

**Lopharcha halidora** (Meyrick) comb. nov. (figs. 21-22, 25-26)

*Oxygrapha halidora* Meyrick, 1908: 624. — Clarke, 1955: 152.

*Peronea halidora*; Meyrick, 1912b: 70. — 1913: 66, no. 106. — Diakonoff, 1951: 144 (biology, differences from *orthioterma*; food plant).

*Acleris halidora*; Clarke, 1958: 11 (referred to Hyponomeutidae).

*Hyponomeuta halidora*; Clarke, 1965: 328, pl. 163 figs. 1-1h (lectotype designated, wings, genitalia ♂ figured).

Distribution. Ceylon and Assam.

Food plant. *Cinnamomum*.

The lectotype, a male, is labelled thus: "Maskeliya, Ceylon, .6.06 (Green)" (print, Meyrick Coll.), genitalia on slide 6895.

Fore wing with vein 2 from middle of cell, 3 from angle, closely approximated to 4 towards base, vein 11 from before middle of upper edge of cell.

Hind wing with vein 2 from middle, 3 and 4 connate from angle, 5 straight, remote and parallel, not approximated, 6 and 7 closely approximated towards base.

In the Tortricidae volume of Clarke's revision of Meyrick's types (vol. III, 1958: 11), the species is referred to the Hyponomeutidae and in that volume (vol. V, 1965: 328) it is recorded and illustrated under the name "*Hyponomeuta halidora* (Meyrick), new combination". The very long and thin aedeagus indeed resembles that of the *Hyponomeuta* species illustrated on the same plate, but other characters are truly polyorthine.

Material studied: lectotype, genitalia No. 6895, furthermore the following syntypes: "Maskeliya, Ceylon, .6.06 (de Mowbray), *Peronea halidora* Meyr., 1¼, E. Meyrick det., in Meyrick Coll." 2 ♀, genit. slide 8700; the same locality, 1906 (Pole), 3 ♀, genit. slide 8708 (one specimen without abdomen); "Ceylon, Patipola, .5.06 (CCA)" (abdomen partly broken); all in Meyrick Coll.

The specimen from: "Golaghat, Naga Hills, Assam, Doherty 1890, no. 274, slide nr. (6746 ♂) 18634, *Peronea erioptila* Meyr., prep. (made by



Figs. 21-24. *Lopharcha* Diak., ♂ genitalia. 21, *L. halidora* (Meyr.), slide 6895; 22, do., aedeagus; 23, *L. maurognoma* sp. n., holotype; 24, do., aedeagus.

Razowski, identified as "*Peronea erioptila* Meyr." is a female of *halidora*. Assam, Khasi Hills, .8.06 (no abdomen, identity uncertain).

The material from New Ireland proves to belong to a distinct species, described below (*deliqua* spec. nov.).

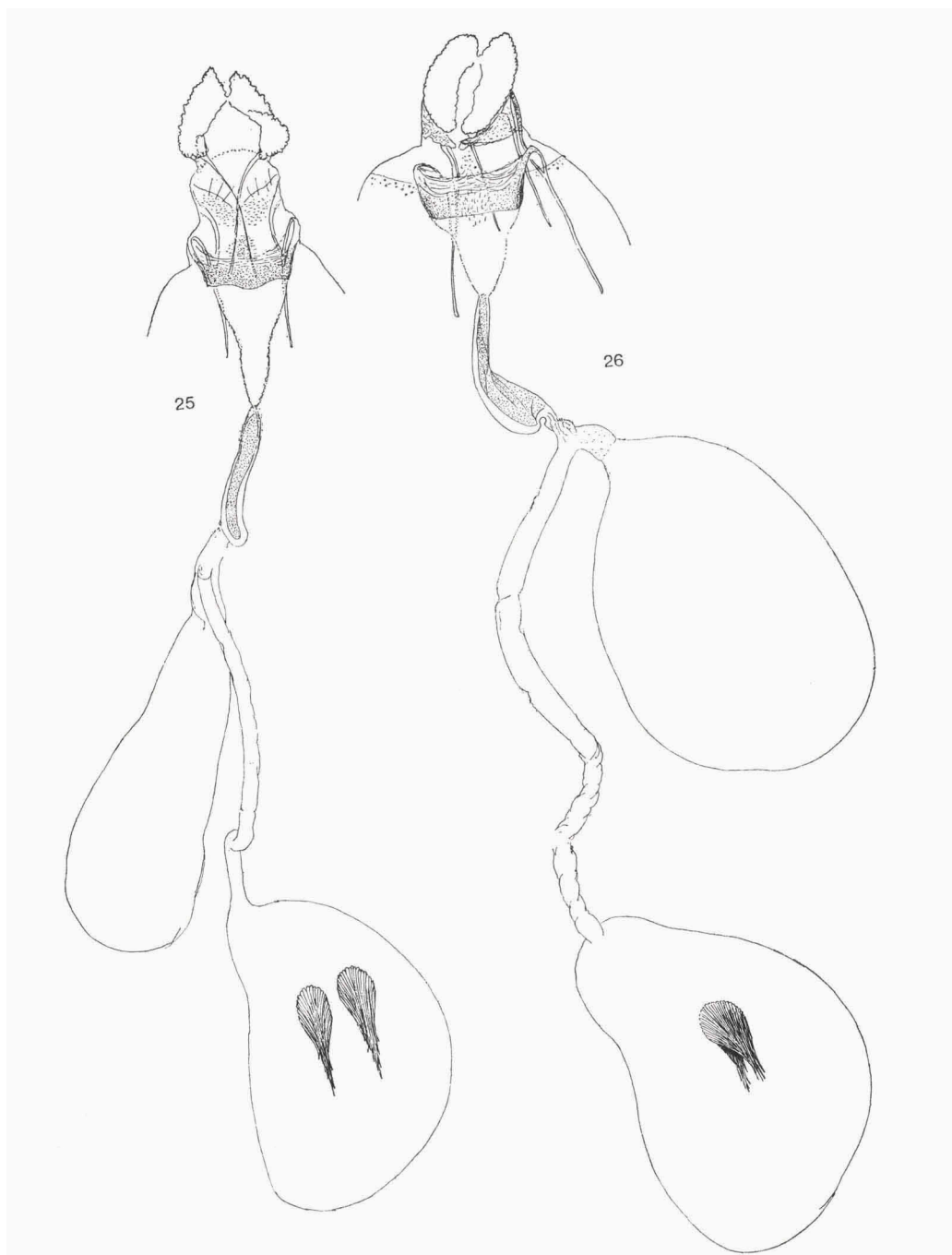
Male genitalia. Tegumen rather small, moderately broad. Uncus hooked, top clavate and truncate. Socius moderate, rather rigid, oval. Gnathos strong, with thick and dark arms, hook long and acutely narrowed. Transtilla distinctly separated from anellus lobes and paired, halves with long and pointed tops touching, bases gradually dilated, with a ventro-median angulation. Anellus lobes membranous, thick, aciculate, semioval. Valva relatively large, broadly oval (when compressed, almost circular; cf. right valva in figure). Vinculum rather long, suboval. Aedeagus extremely long, more than twice the length of valva, narrow, straight, simple.

Female genitalia. Sterigma rather simple, lamella antevaginalis being an inverted-trapezoidal transverse band, upper half with numerous longitudinal wrinkles, lower edge straight. Colliculum absent. Ductus bursae narrowing downwards along upper half, lower half narrow and tubular, with an oblong and slender cestum, hyaline and slightly curved below, and moderately dilated downwards; close below this, ductus forming a large erected-pear-shaped sack, beyond that ductus long and narrow, corpus bursae ovoid. Signa, two round bundles of long, very dense, slender spines.

***Lopharcha deliqua* spec. nov. (figs. 27-28)**

♀ 14 mm. Head light tawny. Palpus purple-black, laterally with a couple of irregular whitish spots. Thorax grey-fuscos, closely clouded with purple-black. Abdomen fuscous.

Fore wing suboval, moderately broad and dilated, costa curved throughout, apex obtusely pointed and produced, termen sinuate above, little rounded below, moderately oblique, tornus rounded and prominent, dorsum being strongly sinuate. Creamy, with irregular rows of minute greyish marks along veins and a few scattered, dark grey dots, costa narrowly touched with tawny. Basal patch blackish-purple, from before 1/5 of costa, edge straight and well-defined to lower edge of cell, oblique, thence curving down to 2/5 of dorsum; this edge with two supramedian raised tufts, strong and longitudinal, just above middle of disc and above fold, respectively; a dark grey-purple suffusion along dorsum, reaching to fold, interrupted in middle of upper edge; this edge throughout suffused with ferruginous, terminal part of wing from before apex to 3/4 of dorsum pale leaden-grey, becoming silvery-white downwards, edged anteriorly throughout with faint ferruginous suffusion; this submetallic area traversed by narrow, almost vertical

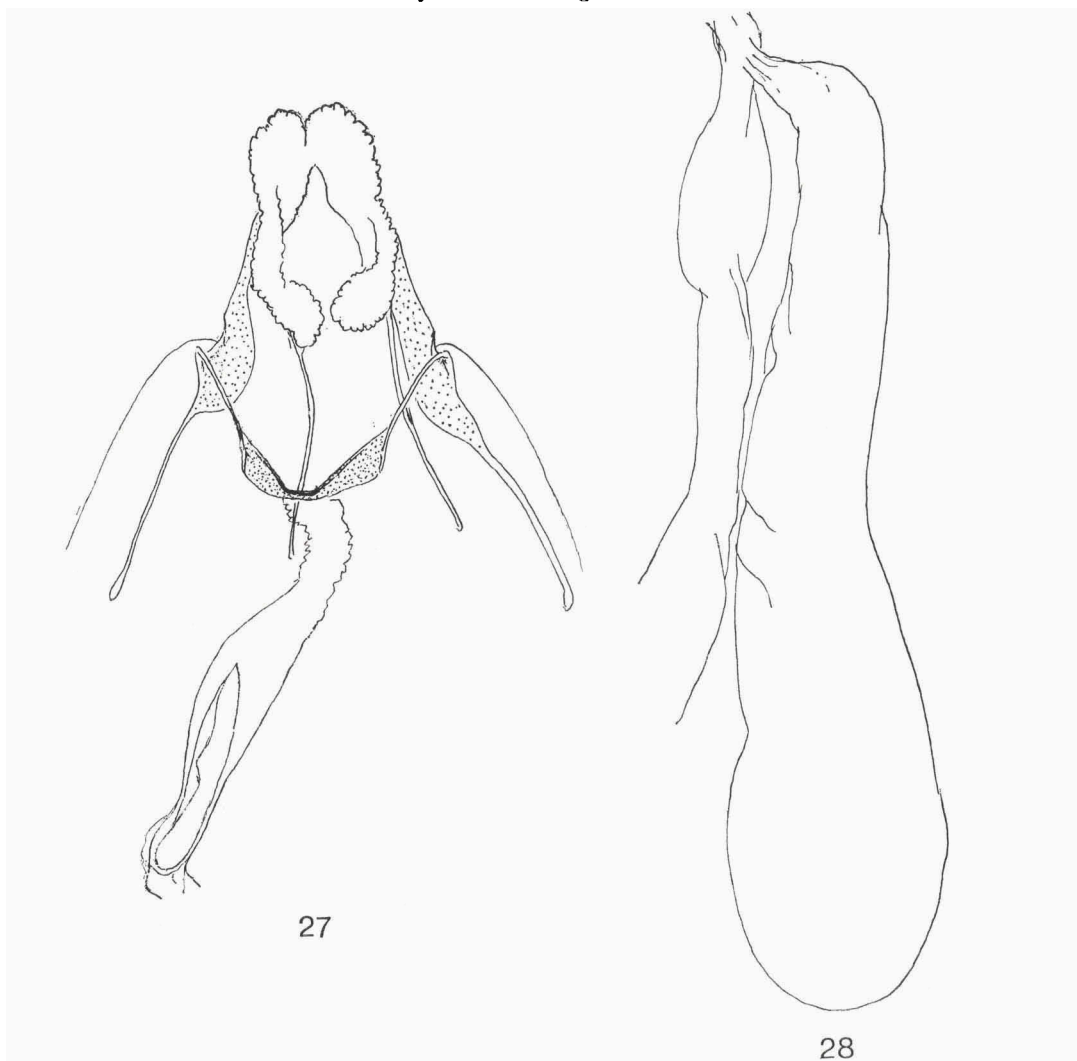


Figs. 25-26. *Lopharcha halidora* (Meyr.), ♀ genitalia. 25, slide 8700; 26, slide 8708.

strigulae, one on middle of termen thickest, spindle-shaped, rather suffused above, followed by a short, thick preapical streak, tornal spot semioval, purple-black, encircled by silvery. Cilia dark grey-purple, with a basal, a submedian and a subapical pale line.

Hind wing fuscous-tawny-bronze, finely transversely striated (dark tips of scales). Cilia fuscous, with a darker subbasal band and a paler basal line.

Female genitalia. Sterigma band-like, lamella antevaginalis being a slender transverse rod, moderately dilated along its middle third. Lamella post-



Figs. 27-28. *Lopharcha deliqua* sp. n., holotype, ♀ genitalia.

vaginalis indefinite. Anapophyses slender, postapophyses slender and long, sides of eighth tergite sclerotized. Ovipositor rather compressed laterally. Ostium membranous, thin and not modified. Ductus bursae membranous. Cestum, a slender, hyaline sclerite, moderately narrowed and rounded below, end slightly bent. Diverticle of ductus present. Corpus bursae long and slender. Signum absent.

New Ireland, xii.23-i.24 (A. F. Eichhorn) (print), "*Peronea halidora* Meyr., 11/11, E. Meyrick det., in Meyrick Coll." 1 ♀, holotype, slide 8699 (BM).

A larger and darker species than *L. halidora*, with broader fore wings. The genitalia are also distinct.

***Lopharcha herbaecolor* (Diakonoff) comb. nov. (figs. 29, 32-33)**

*Peronea herbaecolor* Diakonoff, 1941: 435, pl. 21 fig. 7, pl. 22 fig. 2 (♂ ♀). — Diakonoff, 1968: 137 (lectotype, ♂, designated).

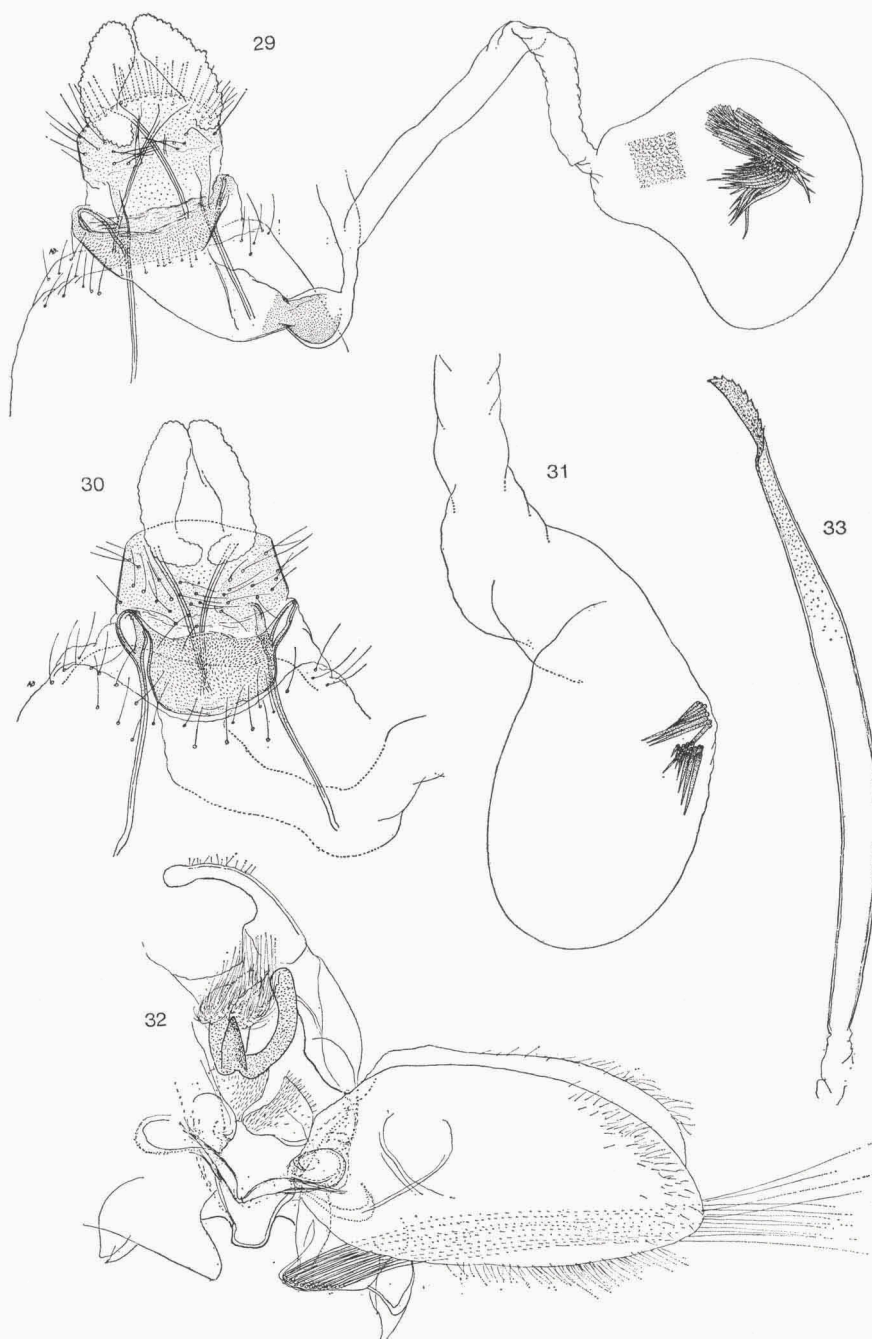
Distribution. East Java.

The lectotype, male, is labelled: "East Java, Nongkodjadjar, 1300 m, 24.ii.1940, at light, (A. M. R. Wegner)", genit. slide 267. 2 ♀, paratypes, the same, genit. slide 271; 1 ♂, paratype, 1.xi.1940.

The larger species has long and narrow fore wings, with long pointed apex. The sexes are similar and have the characteristic fuscous-greenish colour. The neurulation is as follows: in the fore wing vein 2 from beyond 3/5, 3 from angle, 11 from middle; in the hind wing, 2 from 2/3, 3 and 4 connate in male, short-stalked in female, 6 and 7 closely approximated towards base.

Male genitalia. Tegumen robust. Uncus broad at base, hook thick, rather short and clavate. Socius elongate-oval, pending, with long hairs. Gnathos very strong, arms smooth and sclerotized, hook triangular, concave frontally. Anellus slightly sclerotized, an oval, broad plate, hairy medially, upper edge with a median split (artefact?). Vinculum small, trapezoidal. Valva slightly sclerotized, broadly oval, top of costa slightly oblique. Aedeagus long, narrow and straight, top inside a membranous outer wall becoming sclerotized and gradually narrowing into a slightly tortuous blade with a serrate edge and rounded end.

Female genitalia. Sterigma, a moderately sclerotized wide cup. Colliculum ill-defined, wide and membranous, only at the end moderately sclerotized and forming a spherical cestum (dilatation), below which the diverticle of the ductus originates. Corpus bursae pear-shaped. Signa, two large bundles of thin spines.



Figs. 29-33. *Lopharcha* Diak., genitalia. 29, *L. herbaecolor* (Diak.), allotype ♀; 30, *L. angustior* (Diak.), allotype ♀; 31, do., bursa; 32, *L. herbaecolor* (Diak.), holotype, ♂; 33, do., aedeagus.

**Lopharcha angustior** (Diakonoff) comb. nov. (figs. 30-31)

*Peronea angustior* Diakonoff, 1941: 434, pl. 21 fig. 8 (♀). — Diakonoff, 1968: 136 (lectotype, ♀, designated).

Distribution. East Java.

The lectotype, female, is labelled: East Java, Nongkodjadjar, 1300 m, 29.iv.1940 (A. M. R. Wegner), genit. slide 266. The same, 1 ♀, paratype.

The neuration of the fore wing is: 2 from 2/3, 3 from angle, 11 from before middle; in the hind wing: 2 from 5/6, 3 and 4 connate from angle, 6 and 7 stalked.

The fore wing is very narrow and long, closely resembling that in *L. rapax*, also of the same colour: glossy pale ochreous, evenly dusted with deeper tawny-ochreous-fuscous, with the basal patch dark fuscous. However, while in that species the edge of basal patch is darker, convex, reaches 1/3 of dorsum and is followed by a dark fuscous transverse line from costa, in the present species the basal patch is evenly dark fuscous, with a concave edge, which is very oblique, does not reach the dorsum, so that the patch seems to be narrowly continued along dorsum, to merge into the dark terminal streak; furthermore the dark line from costa is absent and the fore wing is narrower than in *L. rapax*.

Female genitalia. Resembling those of *L. herbaecolor*, but with a larger, oval lamella antevaginalis, with convex upper and lower edges. Colliculum simple, without a sclerotized dilatation. Corpus bursae much larger, signa smaller.

**Lopharcha rapax** (Meyrick) comb. nov. (figs. 34-37)

*Oxygrapha rapax* Meyrick, 1908: 624. — Clarke, 1955: 268. — Razowski, 1965: 213 (referred to Archipini and Cnephosiini).

*Peronea rapax*; Meyrick, 1912b: 70. — 1913: 66, no. 108.

*Acleris rapax*; Clarke, 1958: 15, pl. 7 figs. 1-1b (lectotype designated, wings, genitalia ♀ figured).

Distribution. Ceylon.

The lectotype, a female, is labelled: "Maskeliya, Ceylon, .10.04 (de Mowbray)", from Meyrick Coll., genitalia on slide 6894.

Fore wing with vein 2 from middle of cell, 3 from angle, 3-5 equidistant and well separate, 11 from middle of cell. Hind wing with vein 2 from before angle (6/7) of lower edge of cell, 3 and 4 short-stalked from angle, 5 remote and parallel, 6 and 7 closely approximated towards base.

The series of this narrow-winged species in the British Museum collection proves to be heterogenous. The following specimens are conspecific with



the lectotype: "Ohiya, Ceylon, .11.07 (CEC)", 1 ♀; "Maskeliya, Ceylon, .6.04 (Pole)", 1 ♀; "Kandy, Ceylon, F.M. .6.11, 6745 ♀ 9739, *Polyortha rapax* Meyr., Prep. et det. 1963 Józef Razowski, Kraków", 1 ♀. The material from Mahableshwar is distinct and is described below. The male from Sikkim I regard to be conspecific and describe as follows.

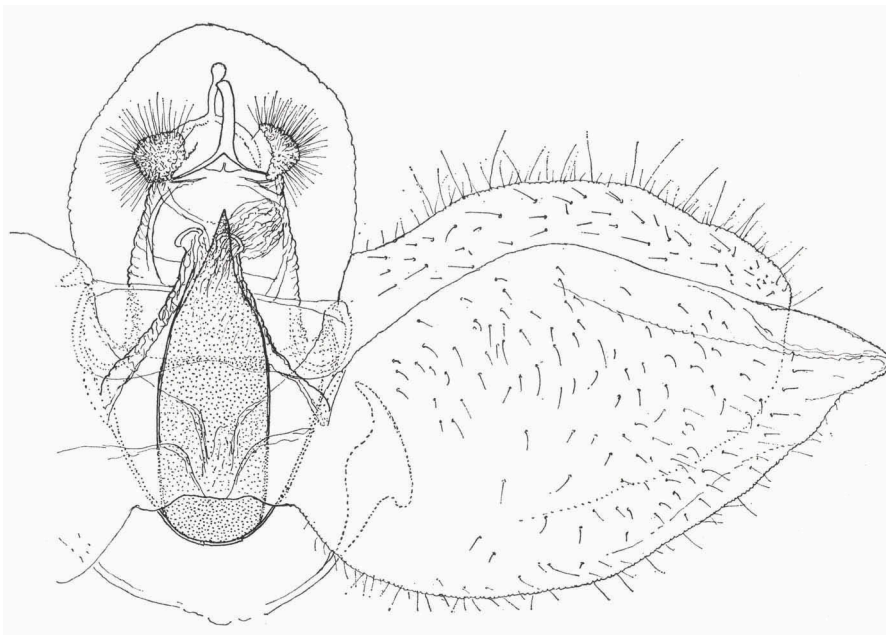


Fig. 34. *Lopharcha rapax* (Meyr.). ♂ genitalia, apallotype.

♂ 18 mm, apallotype. Head pale fuscous, vertex brushy. Palpus pale grey-fuscous, becoming almost whitish towards tip. Thorax pale whitish-grey-fuscous, in centre rather suffused with darker grey. Abdomen pale fuscous-brownish, dorsum darker.

Fore wing narrow, dilated, costa curved at base and shortly, before apex, straight in middle, apex long-produced, obtusely pointed, termen deeply sinuate above, little rounded below, oblique. Silvery-whitish, but this colour showing only at base and towards termen, elsewhere suffused with light bronze-brownish, this suffusion posteriorly tending to form transverse bands. Basal patch indicated by a dark fuscous-bronze streak along basal 1/4 of costa and a transverse narrowed fascia of raised dark fuscous scales, from end of preceding to dorsum, slightly convex, upper third below costa forming a large, raised semioval tuft; a smaller tuft below fold; extreme base of wing white; a submedian transverse fascia of not continuous, dark fuscous,

smaller raised tufts, edged posteriorly with whitish; this fascia running from  $2/5$  of costa to  $2/3$  of dorsum; space between this and basal patch paler, with a pair of small dark costal marks; terminal fifth of wing silvery-whitish, its edge indefinite; some four transverse ill-defined bands across this pale field, first two interrupted in middle, light tawny on costa, becoming dark bronze-fuscous on termen, first forming a white-edged tornal spot, second irregularly linear, third straight and dilated on termen, fourth thick, dark fuscous throughout, narrowly produced downwards along termen; apex with a dark fuscous spot. Cilia glossy bronze-fuscous, with a basal and a faint submedian pale band.

Hind wing narrowly subtrapezoidal, apex produced and obtusely pointed. Pale ochreous-fuscous with a silky gloss. Cilia concolorous, partially paler.

Male genitalia. Tegumen rather higher than broad, with sides dilated downwards, little sclerotized. Uncus with a slender and rather long hook with an abruptly clavate top. Socius moderate, strongly tumescent. Gnathos with narrow arms and point, which is rod-like. Transtilla simple, high-triangular, sides sclerotized, top bilobed, lobes dilated and rounded. Valva broadly oval, almost circular, ventral (inner) half slightly longer than dorsal half and pointed. Aedeagus large, thick, subcylindrical, top narrow, with a single triangular ventral spine, vesica finely granulate. Vinculum broadly rounded.

Female genitalia. Sterigma strongly sclerotized, forming a transverse band with a semioval opening, strongly denticulate inside, lower part of sterigma with larger, short thorns. Colliculum darkly sclerotized, wide and short, lower edge on the right, darker, below in middle with a triangular darker point. Ductus bursae wide, but ill-defined, divided below colliculum and forming a pear-shaped diverticle. Corpus bursae erected-pear-shaped. Signa absent.

"Sikkim, 5000 ft, Kurseong, 19 June '22 (Fletcher Coll.)" (print), "4547", "Peronea rapax m., Meyrick det. 1924" (ink and print), "Presented by R. L. E. Ford, BM 1949-487" (print), 1 ♂, apallotype, genit. slide 8710.

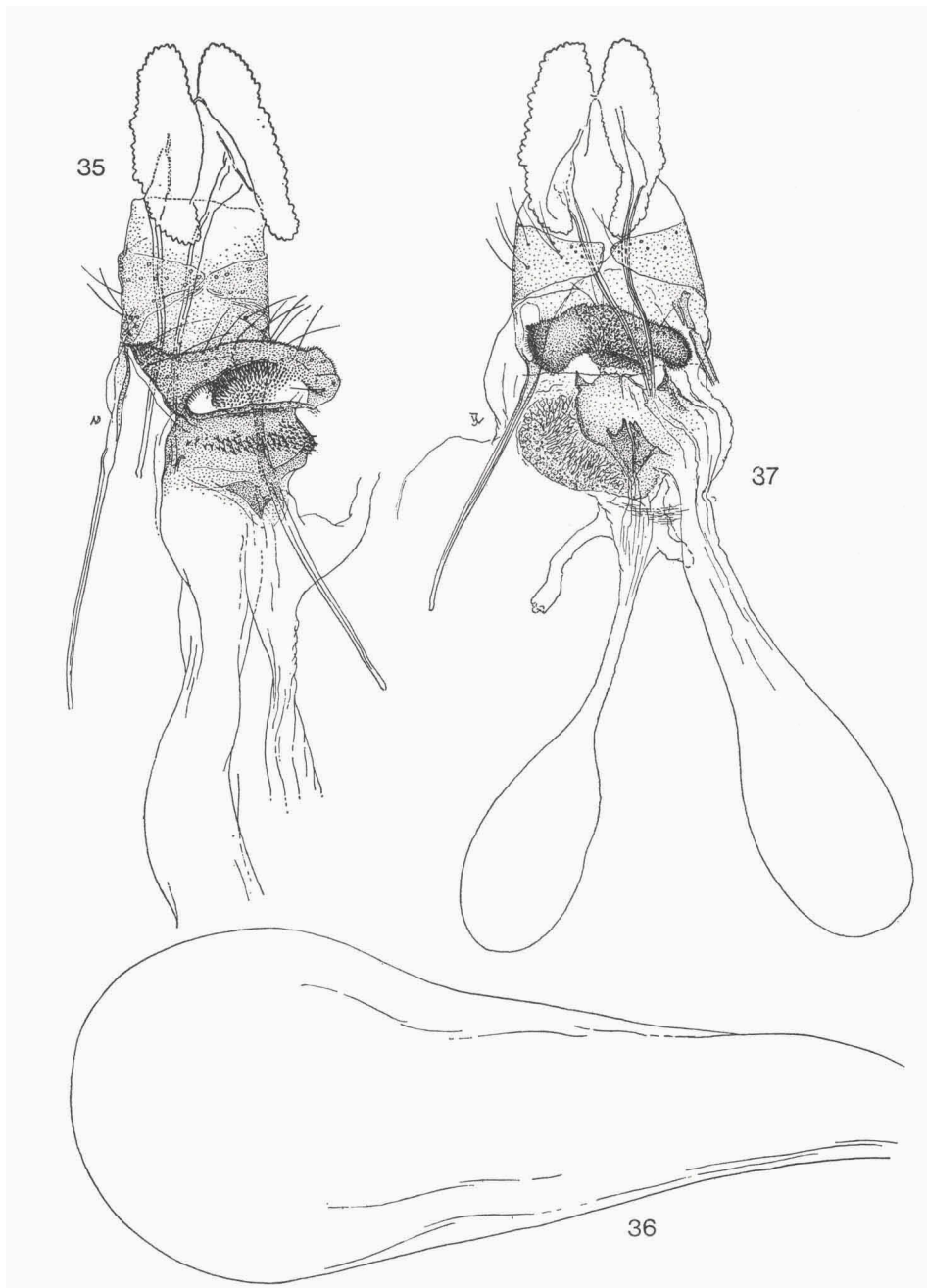
### **Lopharcha orthioterma** (Diakonoff) comb. nov. (fig. 38)

*Peronea orthioterma* Diakonoff, 1941: 436, pl. 22 fig. 1 (♂). — 1951: 144 (differences from *halidora*).

Distribution. East Java.

The holotype is labelled thus: "East Java, Tengger Mts., Nongkodjadar, 1300 m, 27.ii.1941 (A. M. R. Wegner)", "Gen. n. 270", "Type, *Peronea orthioterma* ♂, A. Diakonoff, 1941".

The neuration of the fore wing is as follows: vein 2 from beyond  $2/3$ ,



Figs. 35-37. *Lopharcha rapax* (Meyr.), ♀ genitalia. 35, lectotype; 36, do., bursa; 37, slide 9739.

3 from angle, 11 from middle. In the hind wing: 2 from 2/3, 3 and 4 connate, 6 and 7 short-stalked.

The species has moderately broad fore wings, with a deep purple basal patch, extending along lower third of dorsum to before tornus; the remainder of the wing whitish, touched with ochreous, with three raised grey scale-tufts; a short deep purple, oblique mark before apex, followed by two parallel, longer streaks, ending on termen; a prostrate-oval black spot in tornus; all these marks finely encircled with white.

Hind wing rather pale fuscous, with darker veins.

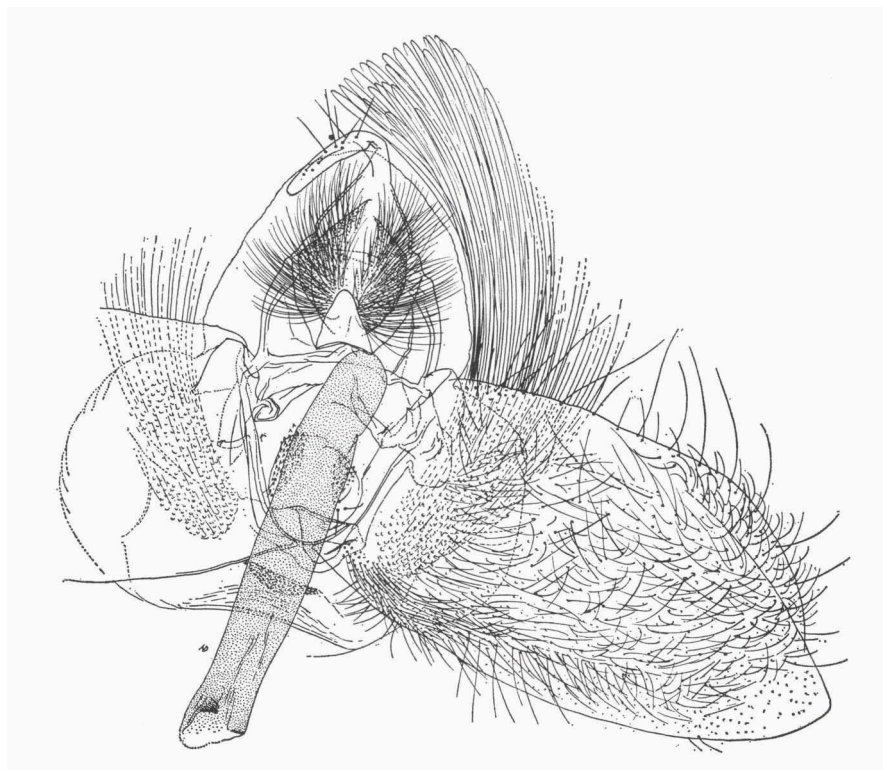


Fig. 38. *Lopharcha orthioterma* (Diak.), ♂ genitalia, holotype.

Male genitalia. Tegumen slightly broader than high. Uncus triangular at base, sides notched just above base, top long and slender, hooked, hook hardly broader at base. Socius large, pending. Gnathos sclerotized, arms strong, point triangular and broad, rising half the length of the arm. Transtilla, a slender membraneous band. Anellus incompletely sclerotized. Valva oval, rather broad, dorsal top pointed, ventral top rounded; a couple of

appressed folds on basal third of disc. Vinculum trapezoidal, subquadrate. Aedeagus long and large, simple and straight.

The species resembles *L. deliqua* spec. nov. most, but is more suffused with grey; as there is only a single female of that New Ireland species, its comparison with the present male is not decisive.

***Lopharcha erioptila*** (Meyrick) comb. nov. (figs. 39, 43)

*Peronea erioptila* Meyrick, 1912a: 16 (♀). — 1912b: 70. — 1913: 66, no. 107. — Clarke, 1955: 132. — Razowski, 1965: 213 (referred to Archipini and Cnephasiini).

*Acleris erioptila*; Clarke, 1958: 8, pl. 4 figs. 3-3b (lectotype designated, wings, genitalia figured).

Distribution. Ceylon.

The lectotype is a female and is labelled thus: "Ceylon, Maskeliya, in June (Pole)", genitalia on slide 6876.

Fore wing with vein 2 from  $3/4$  of cell, 3 from angle, 4 very close to 3, 5 remote, straight, 11 from  $1/3$ .

Hind wing with vein 2 from before angle ( $6/7$  of cell), 3 and 4 stalked, 5 remote and parallel, 6 and 7 closely approximated towards base.

The species has comparatively broad fore wings, much broader than in *L. rapax*, but narrower than in *L. deliqua* spec. nov., gradually dilated, costa curved at extremities, apex pointed, termen slightly sinuate and little oblique, tornus projecting downwards. Evenly fuscous-grey, hardly with any markings, except those along termen.

The series in BM contains a specimen from Naga Hills which is being referred to *L. halidora*. The second specimen, from Goodenough Island, is distinct and is described below. The third specimen, finally, a male, is conspecific; it may be described thus:

♂ 11.5 mm, apallotype. Head pale ochreous, densely strewn with purple, face whitish. Palpus with median segment strongly dilated posteriorly; pale tawny, densely dusted with purple. Thorax pale tawny-grey, strewn with purple. Abdomen glossy pale grey-fuscous.

Fore wing oblong-subtruncate, costa curved along its posterior fourth, straight in middle, apex pointed and produced, termen strongly sinuate above, rounded beneath, tornus slightly prominent. Pale tawny-ochreous, densely strewn with irregular, leaden-grey spots, little glossy: markings chestnut-brown, dusted with purple. Basal patch indicated by a very oblique, narrowed, blackish stria from  $1/5$ , reaching middle of wing, preceded by a smaller similar subbasal strigula and two dots on costa; a slender and interrupted central fascia from  $2/5$  of costa to beyond middle of dorsum, irregularly convex, on costa preceded and followed by a curved, brown, finely dark-

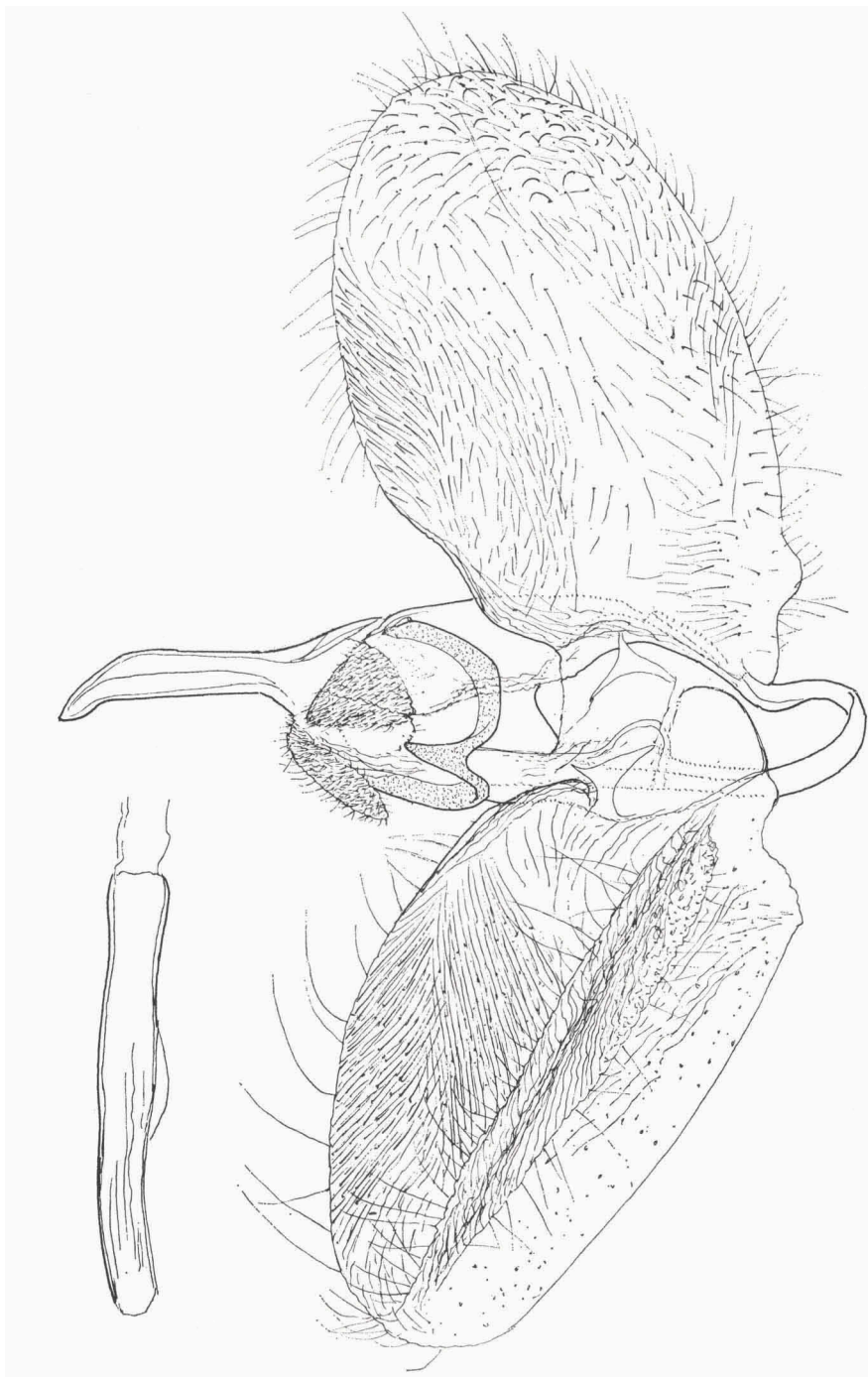


Fig. 39. *Lopharcha erioptila* (Meyr.), ♂ genitalia, apallotype.

edged spot; four transverse fasciae posteriorly, slightly inwards-oblique on costa, thence moderately oblique, first from  $2/3$  of costa to tornus, dilated into a darker tornal spot, edged anteriorly with pale grey; second fascia parallel to first, not dilated, to  $3/4$  of tornus; its lower half distinctly edged on both sides with white; third fascia short, to vein 7, fourth preapical, dilated below. Cilia fuscous-purplish with pale ochreous basal, submedian and subapical lines.

Hind wing evenly fuscous-tawny, with a silky gloss. Cilia light fuscous with a whitish basal line.

Male genitalia. Tegumen rather large, higher than broad. Uncus with a relatively small base and a long and broad hook, only before the top slightly curved and narrowed. Socius moderate, rounded-triangular. Gnathos with long but slender, not dilated and arched arms and a moderate point, dilated towards base. Transtilla, a hyaline transverse band, narrowed in middle, with a downwards-directed acute process at each side. Vinculum rather long, curved. Valva oblong-oval, less broad than in *L. halidora*. Aedeagus straight, moderate and slender, vesica granulose; no cornuti.

Female genitalia. Sterigma strongly sclerotized and transversely rhomboidal, with a broad median split, with thickened and slightly bristled edges and upper angles rounded; lower edge of the lozenge strongly thickened, split narrower, flanked by an acuminate and rounded prominence on each side. Lamella postvaginalis indefinite. Colliculum cylindrical, thick, with converging structures of inner wall. Ductus bursae simple, a diverticle present (both imperfect).

"Peradeniya, Ceylon, 20.iv.1914 (A. Rutherford), 1914-556" (print); "M299", "Peronea erioptila Meyr., teste Meyr. 299", 1 ♂, apallotype, genit. slide 8701 (BM).

***Lopharcha cryptacantha* spec. nov. (figs. 40-42)**

♂ 16 mm. Head missing. Thorax slightly opalescent, whitish, infuscated.

Fore wing narrow and pointed, broadest at  $1/3$ , costa rather curved along anterior  $2/3$ , distinctly convex at  $1/3$ , thence gradually, but much less strongly curved to apex, apex acute, long-produced, termen sinuate above, gently rounded below, very oblique, dorsum straight, except at base. Whitish, densely suffused with light yellowish-tawny, with ill-defined, transverse bands of light grey suffusion; markings blackish-fuscous. Basal patch about  $2/5$ , suffused with rather darker grey, with some three undulating dark fuscous transverse lines, edge broader, dark, almost straight, hardly convex, median third with two raised scale-tufts; costa beyond patch with 7-8 irregular,





Figs. 40-42. *Lopharcha cryptacantha* sp. n. 40, allotype, ♂; 41, holotype, ♀; 42, do., aedeagus.



slender transverse marks; an irregular, larger such mark below middle of wing beyond basal patch; a slender straight and little oblique transverse streak at  $2/3$  of wing, its upper part forming a large raised dark tuft; a similar fainter streak in middle of wing, without tufts, greyish, somewhat extended longitudinally above fold; three blackish, rather irregular wedge-shaped marks in tornus at  $2/3$  and  $1/3$  of termen, respectively, and a smaller spot in apex. Cilia grey, dusted with blackish, a creamy basal line.

Hind wing whitish, dusted with light fuscous-grey, more densely dusted along veins.

Male genitalia. Tegumen higher than broad. Uncus flattened, with a long and slender, curved but not clavate hook. Socius rather small, subtriangular, moderately bristled. Transtilla single, a dark slender bow, gradually dilated towards bases. Anellus, a simple erect-oval plate, crowned by a complicated anellus, shaped as two broad (in mount, pending) arms, sclerotized and dilated at bases, tops dentate and locking as interlocked fingers of two hands; upper half of anellus, a thin plate around aedeagus, left anellus lobe short and irregular, right, long, a large, spindle-shaped and rising cusp, formed of a bunch of spines of diverse sizes. Valva broadly oval, with a deep split throughout. Aedeagus very thick, short, cylindrical, slightly constricted beyond base. Cornuti, two sheafs of small spines and one huge spike.

♀ 16 mm. Head fuscous-grey. Palpus rather long, straight, little ascending, median segment gradually dilated posteriorly, terminal segment moderately long, subobtusate, exposed; pale ochreous, dusted with fuscous. Abdomen fuscous.

Otherwise similar to the male, but rather suffused entirely with ashy-grey; basal patch as in male, but only a narrow, dark fuscous edge visible; dark posterior transverse markings reduced, except along costa where they are thicker and triangular; central fascia slender, indicated by a couple of irregular dark lines; a whitish, strongly suffused spot just beyond basal patch below costa; dark terminal markings ill-defined. Termen slightly less oblique than in male.

Hind wing darker suffused with fuscous-grey. Cilia whitish-fuscous.

Female genitalia. Lamella antevaginalis, a thick oval roll, darkly and densely reticulated and punctulate. Lamella postvaginalis above inverted-trapezoidal, narrow, punctulate, downwards forming coarse reticulation, at the sides of ostium hyaline. Colliculum plicate and membranous, with a large asymmetrical, dark, transverse sclerite. (Ductus bursae imperfect).

India, Bombay, "Mahableshwar, 23.iv.1930" (print), "Pres. by Sir R. Maxwell, BM 1951-22" (print), "G. S. 57440, ? *Polyortha rapax* Meyr., det. J. Razowski" (ink and print), "BM Genitalia slide No. 18446" (print)

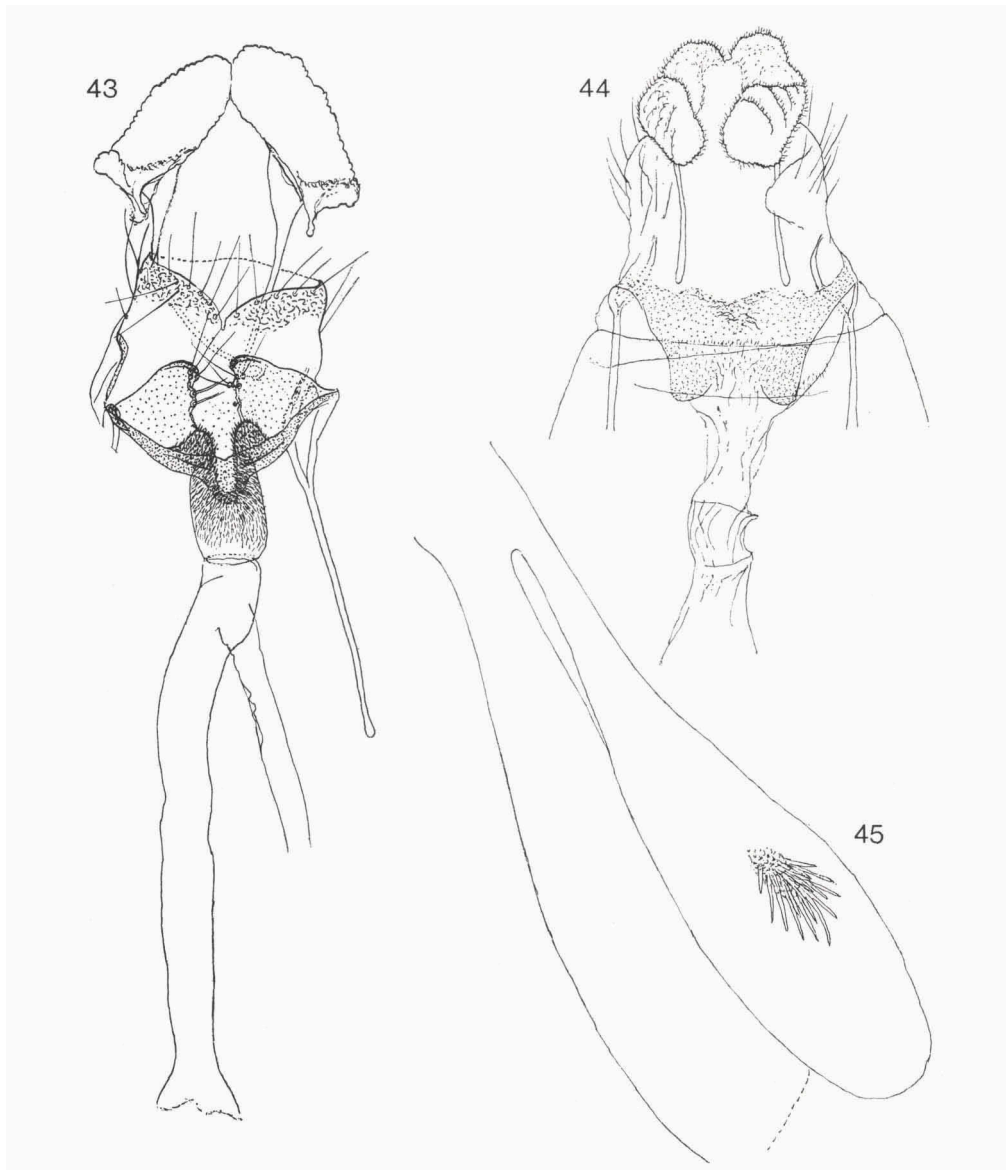


Fig. 43. *Lopharcha erioptila* (Meyr.), ♀ genitalia, lectotype.  
Figs. 44-45. *Scytalognatha abluta* Diak., apallotype, ♀; 44, genitalia; 45, do., bursa.

and ink), 1 ♂, holotype. The same first two labels, but date: 17.v.1930, 1 ♀, allotype, genit. slide 8698.

**Lopharcha maurognoma** spec. nov. (figs. 23-24)

♂ 12 mm. Head whitish, crown pale ochreous. Palpus light ochreous mixed with grey. Thorax whitish-ochreous. Abdomen glossy pale grey-fuscous.

Fore wing moderately broad, costa obliquely curved at base and apex, apex obtusely pointed, little prominent, termen sinuate above, rounded beneath, tornus slightly prominent below. Silvery-white, with prismatic reflections in certain lights, strongly marbled and spotted with light fuscous-grey; with numerous, raised round scale-tufts scattered all over wing. Basal patch not reaching 1/4 of costa, deep fuscous dotted with blackish, its well defined edge straight and little oblique along upper third, below this convex and prominent, to beyond 1/3 of dorsum, with two large raised round tufts, one above, another below fold; a third, small tuft before and between these, basal patch dark fuscous-grey, mixed with paler grey, transversely strigulated with brownish along costa; a median, spotted triangular field, light tawny on costa, turning pale grey below, not reaching dorsum, with two outwards-oblique rows of raised whitish-grey and light tawny tufts, posterior not crossing fold; a rather small quadrate, dark purple tornal spot, preceded by a dark strigula and connected above by a greyish suffusion with central triangular field; two parallel and oblique fuscous fasciae on termen, of similar length, upper reaching costa before apex; a fuscous apical dot. Cilia fuscous, with three distinct creamy lines, lower basal. Cilia around tornus deep purple.

Hind wing glossy pale golden-fuscous, entire margin suffused with darker brownish-fuscous. Cilia grey-fuscous.

Male genitalia. Tegumen robust, legs (pedunculi) thick along their lower half. Uncus with a short base and a long, moderately curved, pointed hook. Socius rather large, clavate. Gnathos with long, moderately broad arms, dilated only at top, hook dark, short and slender, top subclavate. Transtilla slender. Vinculum large and strong. Valva oval, split, little modified, membranous, lower edge scalloped, projecting beyond base. Aedeagus moderately long, weakly pistol-shaped, with sclerotizations along central part (manica), formed by a number of simple folds with some ribbled structure.

New Guinea, "Goodenough Id., d'Entrecasteaux Is., E. Papuan Is., 1897 (Meek)", (print), "18172 Wlsm." (ink), "Walsingham Collection 1910-127" (print), 1 ♂, holotype, genit. slide 8702 (BM).

**Lopharcha siderota** (Meyrick) comb. nov.

*Peronea siderota* Meyrick, 1918: 171 (♀). — Clarke, 1955: 286.

*Acleris siderota*; Clarke, 1958: 16, pl. 8 fig. 1 (type, fore wing illustrated).

Distribution. Ceylon.

The unique type-specimen is missing both hind wings and abdomen; it is a female. Judging from the description, it is a close relative of other recorded species, so that presumably it is a *Lopharcha* species as well, but there is too little left of the type to make sure.

## SPECIES GROUP 2

Colliculum, a sclerotized tube. Signum, a scobinate plate, or absent.

**Lopharcha curiosa** (Meyrick) comb. nov. (fig. 47)

*Oxygrapha curiosa* Meyrick, 1908: 625. — Clarke, 1955: 107. — Razowski, 1965: 213.

*Peronea curiosa*; Meyrick, 1912b: 70. — 1913: 66, no. 104.

*Acleris curiosa*; Clarke, 1958: 7, pl. 3 figs. 2-2b (type, wings, genitalia figured).

Distribution. Ceylon.

The unique holotype specimen, a female, is labelled: "Khasi Hills, Assam, .10.06" (in Meyrick Coll.). The genitalia are on slide 6896.

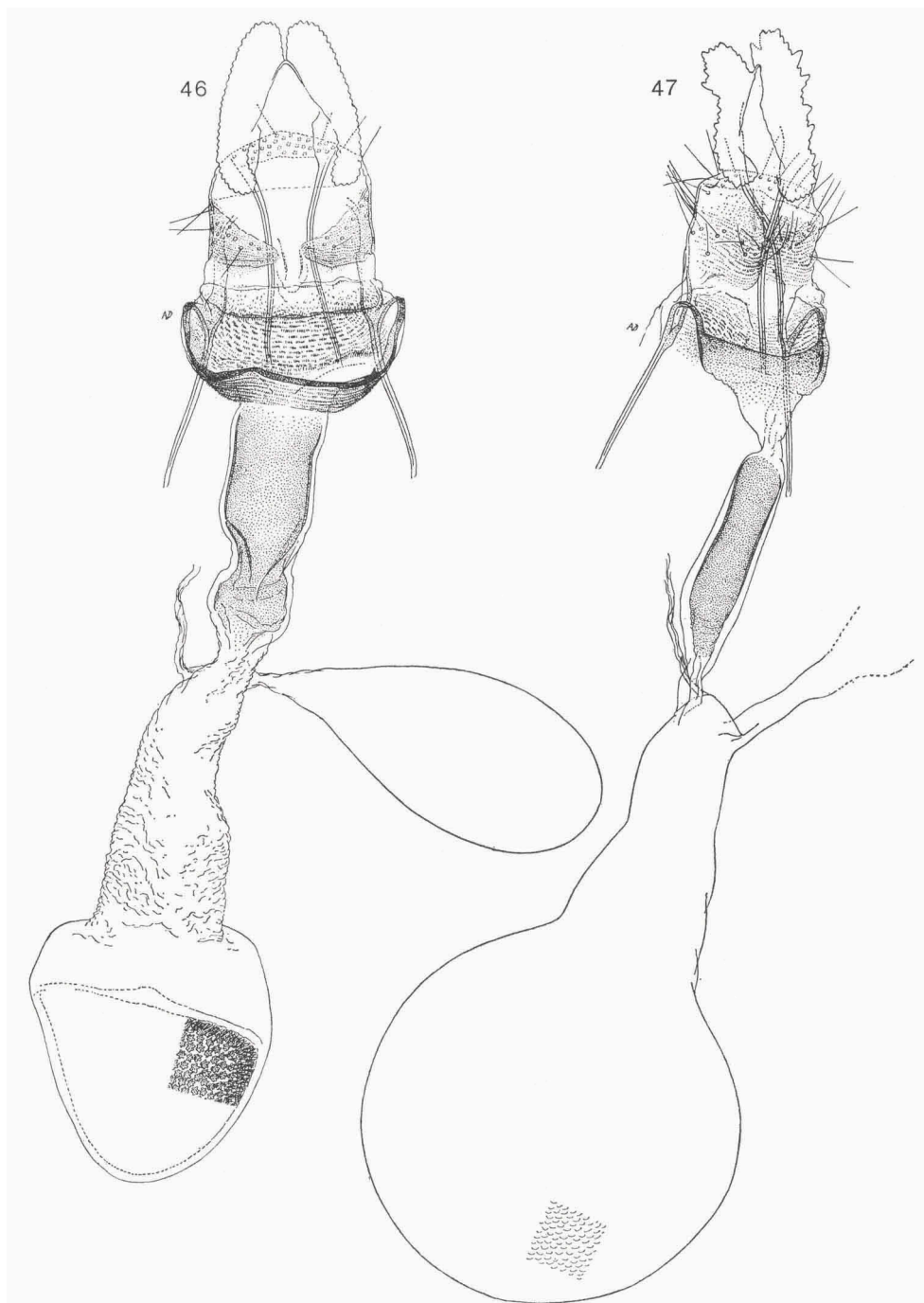
The fore wing has the characteristic shape: with the curved end of costa, subacute apex, sinuate termen and projecting tornus. The markings are exaggerated, with a large circular tornal spot and an oblique band from costa to termen.

The neurulation is as follows: fore wing, vein 2 from 2/3 of cell, 3 from angle, unusually curved, 4 close and parallel to 3, 5 straight and remote, 11 from 2/5 of cell. Hind wing with vein 2 from 2/3, 3 and 4 connate, 5 parallel, 6 and 7 closely approximated towards base.

Female genitalia. Resembling those of *L. amethystas* rather closely, but lamella antevaginalis weaker, with upper edge less thickened and sclerotized, top of ductus bursae above cestum hyaline; cestum similar but more slender; diverticle of ductus present (only partly traceable), corpus bursae large, pear-shaped. Signum absent.

**Lopharcha ditissima** spec. nov. (figs. 48-53)

*Peronea halidora* Meyrick, 1934, nec 1908: 527 (bred from leaves of *Cinnamomum iners*, Java).



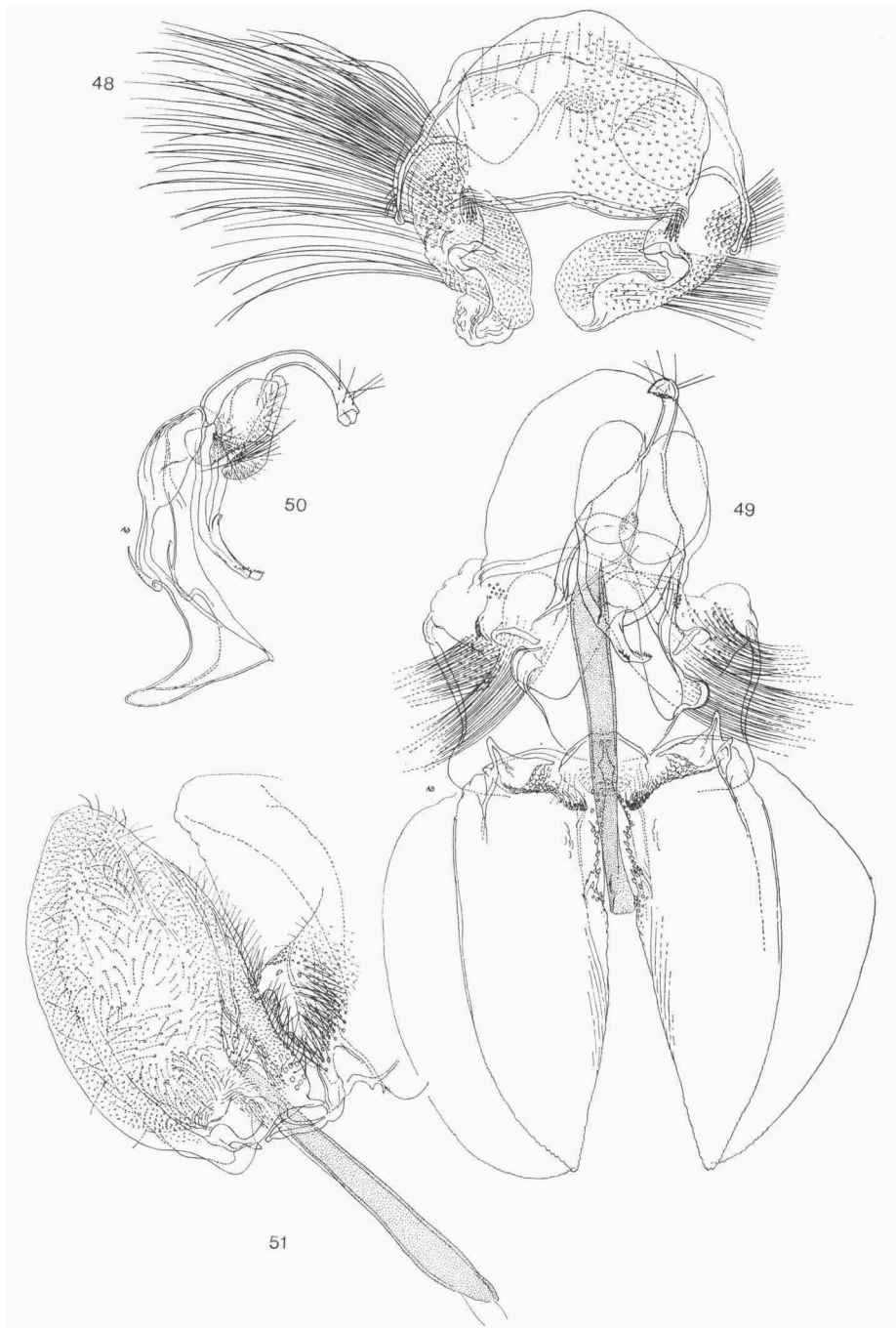
Figs. 46-47. *Lopharcha* Diak., ♀ genitalia. 46, *L. amethystas* (Meyr.), holotype; 47, *L. curiosa* (Meyr.), holotype.

♂ ♀ 10-11 mm. Head pale ashy-grey, on vertex mixed with some darker grey. Antenna with scape whitish-grey, flagellum pale ochreous ringed with tawny, suffused with purplish towards base. Palpus moderately long, projecting beyond face; pale ashy-grey mixed with darker, a jet-black round dot at apex below; terminal segment slender, subobtusate. Thorax ashy-grey mixed with darker grey, opalescent lilac-purplish in certain lights, tegulae and tuft appearing light purplish. Abdomen fuscous, touched with yellowish.

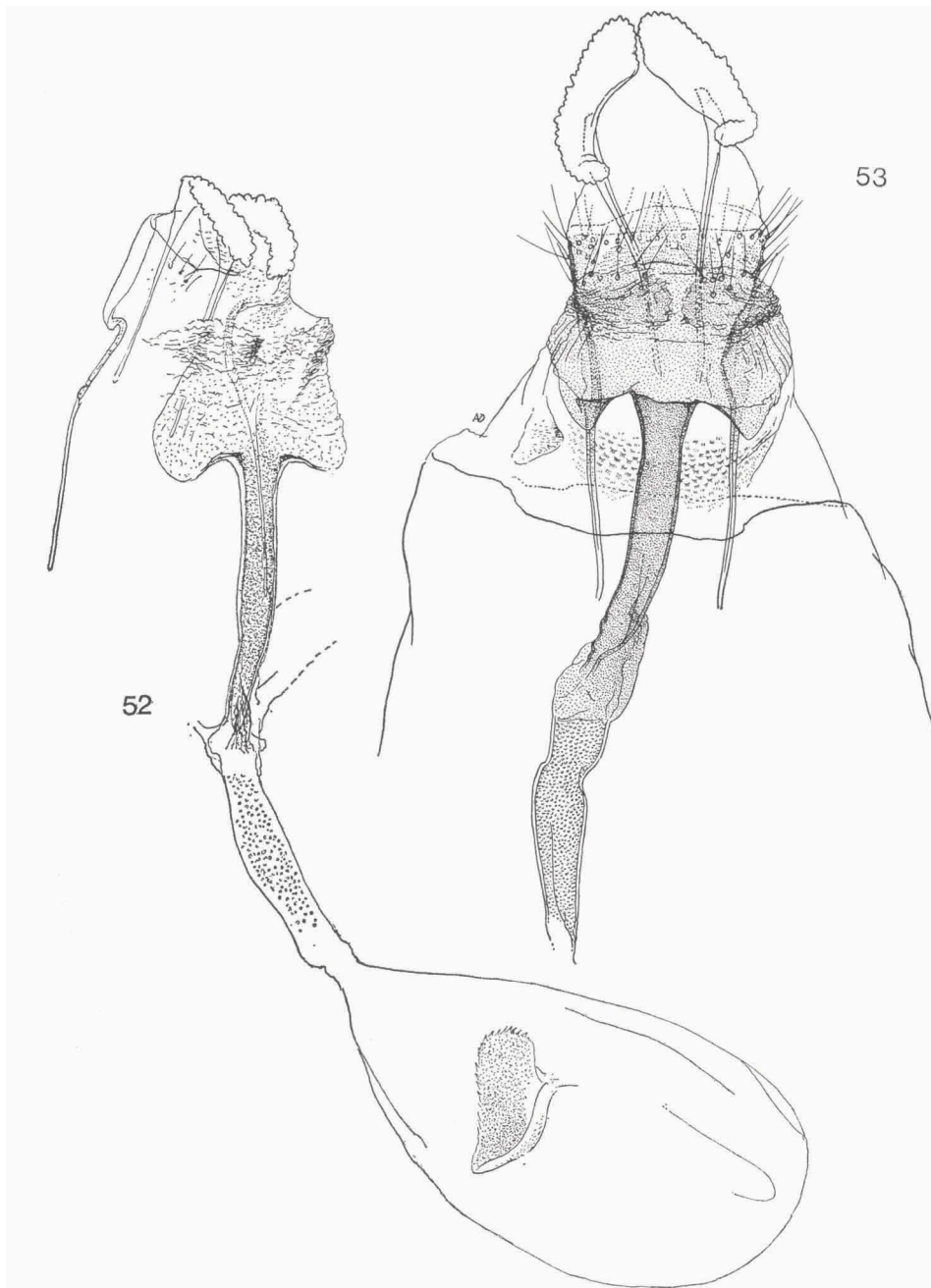
Fore wing oblong-truncate, rather broad, dilated, with tufts of raised scales; costa straight, angulate at  $1/3$  and less distinctly so, before apex, extremities oblique. Pale pinkish-yellowish, glossy, suffused and dusted with brownish. Basal patch to  $1/3$ , edge straight, little outwards-oblique; costa along patch oblique and smooth, slightly suffused with anthracite colour, glossy, with some five slender blackish-brown transverse lines, second and fourth longest; glossy dark bluish-grey leaden marks; a streak parallel and above basal fifth of dorsum, dilated and rounded at ends; a roundish dot beyond centre above fold; two large, round black raised tufts on edge of patch, just above and below fold, respectively; basal patch followed by an oblique glossy snow-white spot from costa to fold, below fold becoming leaden; two vertical series of raised tufts: just before middle and at  $2/3$ ; first series ending with two smaller roundish raised tufts, above and below fold, lower largest, oval; second series of two moderate tufts in disc; glossy silvery-white oblique striae on termen, upper subapical; a tawny spot above tornus, edged below by blackish-brown; apex and upper half of termen dark glossy anthracite colour; costa between basal patch and apex with a row of seven faint dark brown dots. Cilia anthracite, with a pale ochreous basal and a pale grey submedian line.

Hind wing glossy tawny-fuscous. Cilia light tawny-grey with a pale ochreous basal line and a darker grey submedian band.

Male genitalia. Tegumen slender, with strongly dilated bases of pedunculi. Uncus slender, hooked top clavate, obliquely truncate, with a small tooth on each side of lower edge. Socius very large, pending, triangularly dilated, surface wrinkled, a group of long spiny not deciduous bristles above end of inner edge, central bristle longest; edges appearing smooth, membranous. Gnathos with long and strong arms, hook shorter, subfurcate, serrate laterally. Vinculum with a broad saccus. Valva about  $1\frac{1}{2}$  times length of tegumen, oblong-oval, basal part sclerotized, with a rounded vertical lobe and a pointed processus basalis. Sacculus about  $1/2$ , well-defined, with parallel edges, lower edge strongly, irregularly serrate, with a serrate proximally directed, apical process, straight, very long, slender, with a short subapical and a longer apical tooth.



Figs. 48-51. *Lopharcha ditissima* sp. n., ♂ genitalia. 48, pregenital segment with coremata, slide 8622; 49, holotype; 50, paratype, slide 8622; 51, do., left valva.



Figs. 52-53. *Lopharcha ditissima* sp. n., ♀ genitalia. 52, slide 8709; 53, allotype.



Female genitalia. The eighth segment sclerotized throughout, with strongly plicate caudal half. Sterigma proper large, upper half strongly plicate, laterally below with moderate subtriangular lobes. Colliculum, a long dark tube. Ductus bursae finely granulate. Corpus bursae simple, no signum.

West Java, Buitenzorg, 250 m, bred from leaves of *Cinnamomum iners* Reinw. ex Blume, 5.ix.1951, 1 ♂, holotype; 23.vii.1950, 1 ♀, allotype, genit. slide 8625; 8.vii.1950 and 1.x.1951, 2 ♂, paratypes, genit. slides 8621, 8622 (G. W. Ankersmit).

Central Java, Seneng near Semarang, teak forest, 40 m, 9-12.ix.1933, bred from the same plant (L. G. E. Kalshoven), 4 ♂, genit. slide 8626, paratypes (LM).

The present species has been identified by E. Meyrick as "*Peronea halidora* Meyr." I studied the specimen of this series from his collection, labelled thus: "Seneng, Java, K. bred 8.32" (in Meyrick's hand, ink), "*Peronea halidora* Meyr. 11/10, E. Meyrick det., in Meyrick Coll.", 1 ♀, paratype, genit. slide 8709 (BM).

***Lopharcha amethystas* (Meyrick) comb. nov. (fig. 46)**

*Peronea amethystas* Meyrick, 1912a: 16. — 1912b: 70. — 1913: 66, 105. — Clarke, 1955: 42. — Razowski, 1965: 213 (referred to Archipini and Cnephasiini).

*Acleris amethystas*; Clarke, 1958: 3, pl. 1 figs. 3-3c.

Distribution. Assam.

The holotype, a female, is labelled: "Khasi Hills, Assam, .6.06", in Meyrick Collection. The genitalia are on slide 6875.

The structural peculiarities are: fore wing with vein 2 from 2/3 of lower edge of cell, 3 from angle, 4 almost connected with 3. Hind wing with veins 3 and 4 connate from angle, 5 straight and parallel, 6 and 7 short-stalked.

Female genitalia. Lamella antevaginalis, a simple strong band, forming a shallow cup, lamella postvaginalis finely punctulate. Colliculum wide and rather long, tubular, occupying the whole upper half of ductus bursae, darkly sclerotized and with a hyaline, thickened wall, its lower part irregularly compressed, below this, an ovoid blind sack (diverticle) and ductus seminalis originate at the same level. Lower part of ductus bursae membranous, gradually dilated. Corpus bursae moderate, subovoid, its entire lower half occupied by a complicated signum, being a concave sclerite, on the inner side covered with star-shaped small groups of spines, distinctly visible only along the edge of the signum (where they are not foreshortened). (In figure signum drawn only partly).

### Polylopha Lower

*Polylopha* Lower, 1901: 71 (type-species, *P. epidesma* Lower, Australia, by monotypy). — Fernald, 1908: 48, 62. — Meyrick, 1910: 291 (syn. of *Peronea* Curtis). — Fletcher, 1929: 182 (syn. of *Peronea* Curtis). — Common, 1963: 145 (*Colocyttara* Turner syn.; Australian spp.; in Cnephasiini).

*Colocyttara* Turner, 1925: 54 (type-species, *epidesma* Lower, by original designation). — Fletcher, 1929: 52 (syn. of *Peronea* Curtis). — Common, 1963: 145 (syn. of *Polylopha*).

Head with closely appressed scales. Proboscis moderately long. Ocellus posterior. Antenna minutely ciliated in male. Palpus rather long, subascending, median segment strongly dilated posteriorly by roughish scales, longer in female, terminal segment obtuse, exposed. Thorax without a crest. Abdomen normally scaled, sometimes with very long, fine hair-scales on pleurae of first segments; valvae long and conical, projecting far beyond last segment (in one species almost as long as the remainder of the abdomen).

Fore wing oblong-oval, with several transverse series of raised scale-tufts, costa curved throughout, more curved at base, apex obtusely pointed, termen sinuate, rounded beneath, moderately oblique, tornus not prominent, but dorsum gently concave before end. Vein 2 from well beyond  $3/4$  to  $1/3$ , 3 from angle, 4 closer to 3, 7 separate, to costa, 8 from upper angle of cell, 9 from  $2/3$  distance 10-8, 10 from  $2/3$  distance 11-9, 11 from  $1/3$ , chorda not traceable, median branch to base of vein 5.

Hind wing subtrapezoidal, slightly over 1, apex rather produced and pointed; without a cubital pecten. Vein 2 from beyond  $2/3$ , 3 and 4 short-stalked from angle, 5 straight, supramedian, 6 and 7 closely approximated towards base.

Male genitalia. Tegumen moderate, higher than broad. Uncus with a slender clavate hook. Sacculus rather long, pending, long-bristled. Gnathos moderate, arms slender, dilated, hook rather flat and furcate. Transtilla large, a transverse rod with a trapezoidal median appendix. Anellus, a large erect plate with deeply emarginate upper edge. Vinculum rather small. Valva extremely large, oblong, narrowed and moderately pointed, sometimes with a sheaf of spines before and below centre, base of sacculus with diverse numbers of large spines, sometimes also submarginal spines posteriorly on cucullus; with a split along costal edge from base to apex, in which fits the long, pencil-like corema of the seventh segment. That segment often with a single or double pair of oval sclerites (cerata) on each side, upon which the coremata are implanted.

Female genitalia. Sterigma simple, a sclerotized transverse band, sometimes lower edge with prominences. Ductus bursae simple, without colliculum.

A blind sack apparently absent. Corpus bursae oblong. Signum huge, a single W-shaped sclerite, or signa absent.

A compact and natural group of closely allied species, similar in appearance and distinguished only by the genital characters with certainty. All species have an elongate-oval fore wing, grey or grey-olive, with a series of transverse elevated bands of raised scale-tufts; the apex is pointed but not produced and the tornus is not prominent; this, the spined sacculus and the large signum of a unique shape, separate the genus from *Lopharcha*.

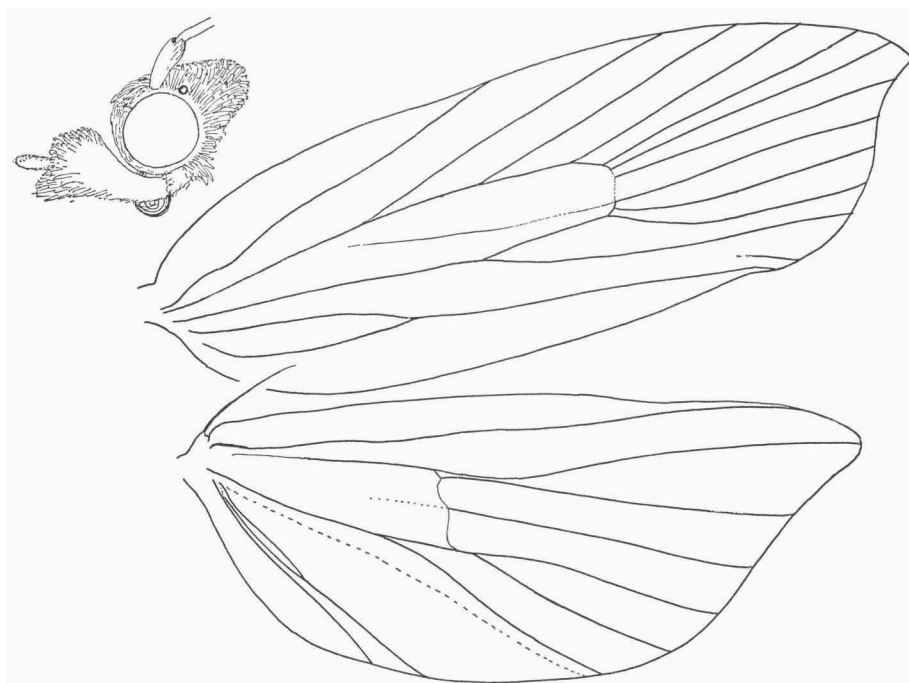


Fig. 54. *Polylopha epidesma* Low., head and wing neuration, ♂.

Turner described the new genus *Colocyttara* and selected "*C. epibactra* Low." as type, overlooking the fact that this was already the type of *Polylopha* Lower, by monotypy. Furthermore, he described the neuration of the hind wing thus (pp. 54-55): "5 usually straight, from middle or before middle of cell, sometimes slightly curved towards 4 at origin". This is incorrect, for vein 5 in the hind wing of *Polylopha* is never approximated to 4 at base; his error undoubtedly is due to the fact that Turner included in his new genus *Colocyttara* also *Phricanthes asperana* Meyrick, 1881, which species does not belong to the tribe at all.

But also Lower himself did not recognize the true identity of his *Polylopha*, for in 1908 he included in it the same species as Turner, but under the name "*Polylopha elaphris* spec. nov.", which is a synonym of *asperana*!

***Polylopha hypophaea* spec. nov. (figs. 67-68, 73)**

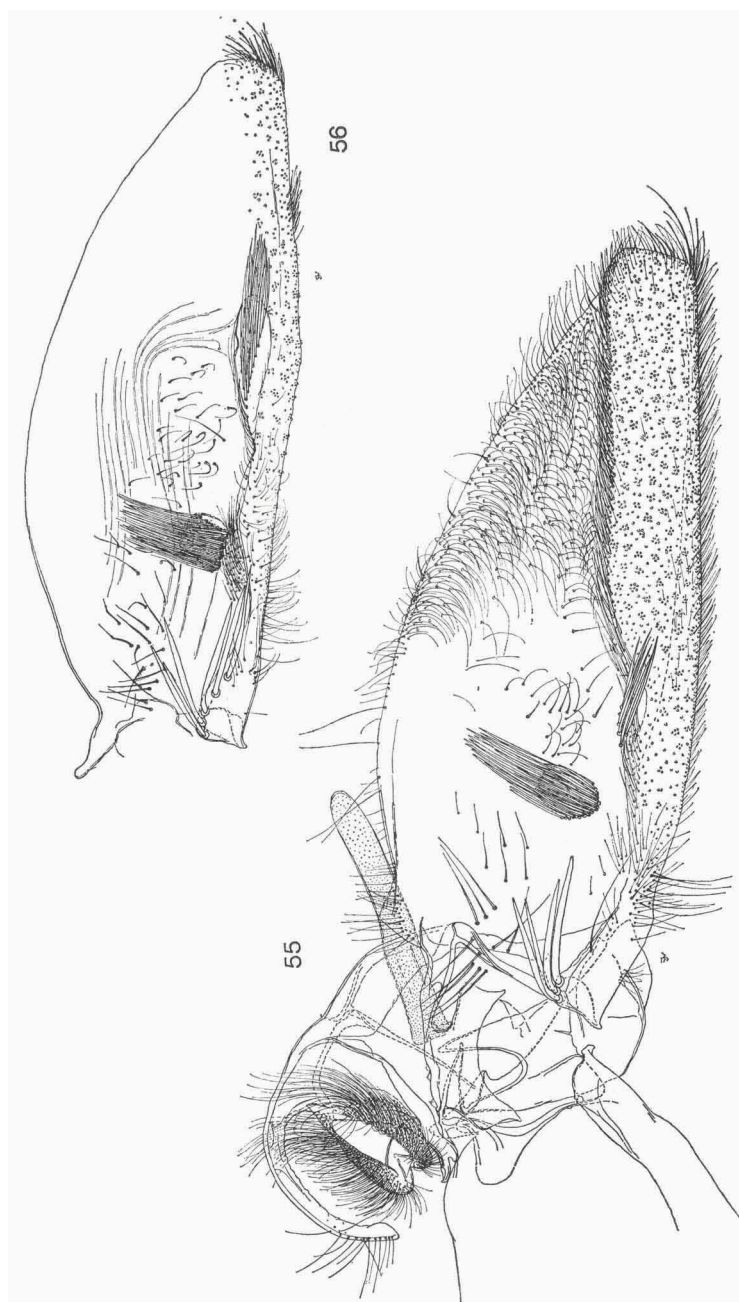
♂ 19 mm. Head whitish, mixed with light grey. Palpus white, median segment mixed with light grey towards apex, with a pale ochreous-grey median transverse band and a black point. Thorax black, patagia and tegulae whitish mixed with pale grey. Abdomen pale ochreous.

Fore wing oblong-oval, costa equally curved at base and apex, rather straight in middle, apex rather acutely pointed, not produced, termen sinuate oblique, tornus not prominent, white, with rather regular and fine transverse strigulation of slender undulate, lighter and darker grey and pale tawny lines. Costa with some nine blackish marks, anteriorly strongly suffused and surrounded by grey clouding, posteriorly becoming smaller; a faint, pale ochreous spot beyond and below base of costa, edged laterally with a grey line from costa at each side; a faint, darker grey longitudinal streak from beyond base to  $1/4$ , above middle of wing, with some five black points above its upper edge; basal patch to  $1/4$ , indicated only by slender interrupted and raised black edge from costa to fold, outwards-oblique and straight, but emarginate below costa; a raised white tuft beyond upper angle of cell, edged with blackish posteriorly; an oblong-oval black blotch along dorsum from just beyond base and above wing margin; a group of four irregular black spots in a quadrate on middle of dorsum, reaching  $1/3$  across wing, followed by two horizontal black marks in and before tornus; light cloudy spots of darker grey suffusion, indicating upper part of central fascia and costal patch at  $3/4$ ; slender and interrupted blackish strigulation before termen. Cilia white (imperfect).

♀ 19 mm. Head, palpus, thorax and fore wing evenly light grey, lower half of palpus obliquely white. Fore wing with more distant and less numerous but well-defined transverse strigulae all over; costal dark marks less suffused, anterior obliquely reaching horizontal subbasal grey streak; second costal mark suffused with fuscous and well-defined, continued almost to  $3/4$  of dorsum by a straight fuscous suffused streak; dorsal black markings absent, tornal marks: three black spots, anterior small, other wedge-shaped, posterior obliquely continued over cilia.

Hind wing tawny-grey, transversely striated (dark tips of scales), with ferruginous veins, giving the wing a warm buff tinge. Cilia pale fuscous with a darker subbasal band. Abdomen light tawny-ochreous.

Male genitalia. Tegumen rather large, higher than broad. Uncus base



Figs. 55-56. *Polylopha epidesma* Low., ♂ genitalia. 55, slide 8652; 56, slide 8741.

triangular, equilateral, hook curved, top arrowhead-shaped. Socius rather large, very densely haired. Gnathos with strong arms and a flat, inverted-trapezoidal broad end, with serrulate edge. Transtilla (broken) with a downward directed hollow horn at each side. Vinculum band-like. Valva very long, pointed-oval, split throughout, disc of valva with a second split (of left valva in figure). Sacculus long, at extreme base with a single huge dark acute spine and a stalked sheaf of long hair-like bristles; a small prominence in middle of sacculus edge (left valva) with spiny edge; end of distal split filled with long hairs. Aedeagus thick, dilated towards top. Cornuti, several irregular sclerites and spines.

Female genitalia. Sterigma very large, being a trapezoidal strong sclerite, with corrugated and deeply emarginate upper edge, its sides rising like acute horns; sides of sterigma spiny, middle with a series of vertical ribs, surface granulate. Anapophyses very long consequently and undulate. Ostium extremely spacious. Colliculum large, an arrowhead-like sclerotization, with several irregular dark folds. Ductus bursae very broad, but shorter than in any other species. Signum, a moderate U-shaped sclerite.

C e n t r a l J a v a , Kedoengdjati, teak forest, rolling leaves of "Kalak" (Anonaceae), 13.vii.1922, 1 ♂, holotype, genit. slide 8623; the same locality and food plant, 1.xi.1922, 1 ♀, allotype, genit. slide 8624; 1 ♀, paratype (abdomen and right pair of wings missing) (L. G. E. Kalshoven).

Judging from the male genitalia, nearly allied with *P. porpacias* (Meyrick), from India, with the female genitalia less remote from that than from all other species. Superficially discernible by the buff hind wings, contrasting with the dull pale ashy-grey fore wings.

### **Polylopha porpacias** (Meyrick) (figs. 60-61, 64-66)

*Oxygrapha porpacias* Meyrick, 1908: 625 (♂ ♀). — Clarke, 1955: 255.

*Peronea epidesma*; Meyrick, 1910 (nec Lower, 1901): 292 (*P. porpacias* Meyr. syn.).

*Peronea porpacias*; Meyrick, 1912b: 71 (syn. of *epidesma* Lower). — 1913: 66, sub no. 111 (idem).

*Polylopha porpacias*; Common, 1963: 146 (distinct species).

Distribution. Ceylon; ?Siam.

The species has been recorded from "Puttalam, Maskeliya, Peradeniya, and Gampola, Ceylon (Pole, Green, Alston) and from Muoklek, Siam, in June and from October to February, nine specimens"; however, in Meyrick's Collection no material of this species has been found. But I have three specimens (2 ♂, 1 ♀) from the British Museum (Natural History) before me, labelled as follows: "Puttalam, 2" (print and ink), "Puttalam, Ceylon, 189..., Pole" (print), "Walsingham Collection, BM 1910-427" (print). Be-

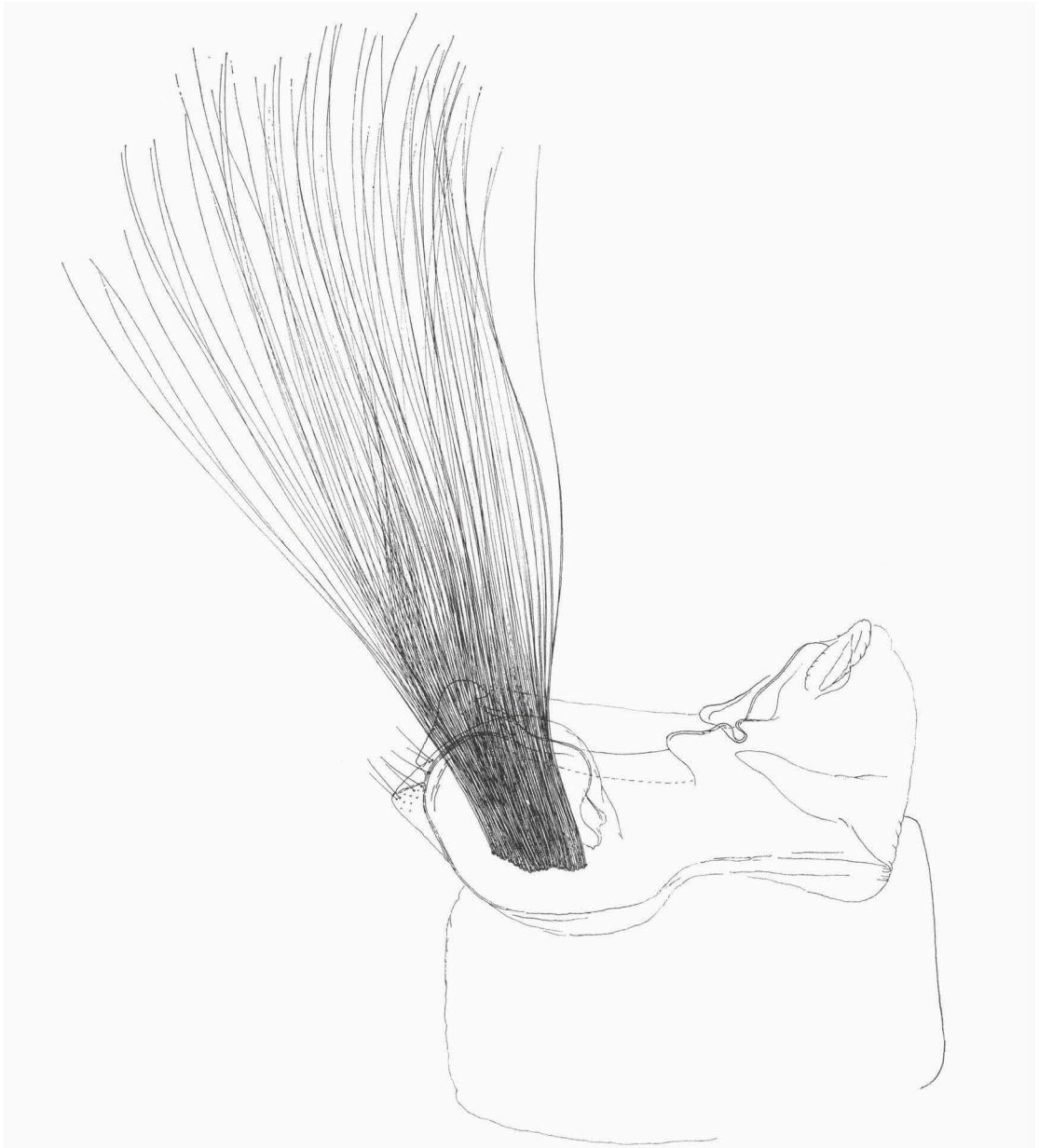


Fig. 57. *Polylopha epidesma* Low., pregenital segment with left corema.

cause in Meyrick's description no reference is made as to the year and the collection, from which his syntypes originated, in my opinion it is very well probable that they were from the Walsingham Collection. Therefore the three specimens mentioned above may be considered to originate from one and the same series and to be syntypes and available for designation of a lectotype.

Lectotype, male, hereby designated, one of the above males from Puttalam, collected by Pole, in February, genit. slide 8715. The female specimen with identical labels has genit. slide 8717. The lectotype may be briefly redescribed thus.

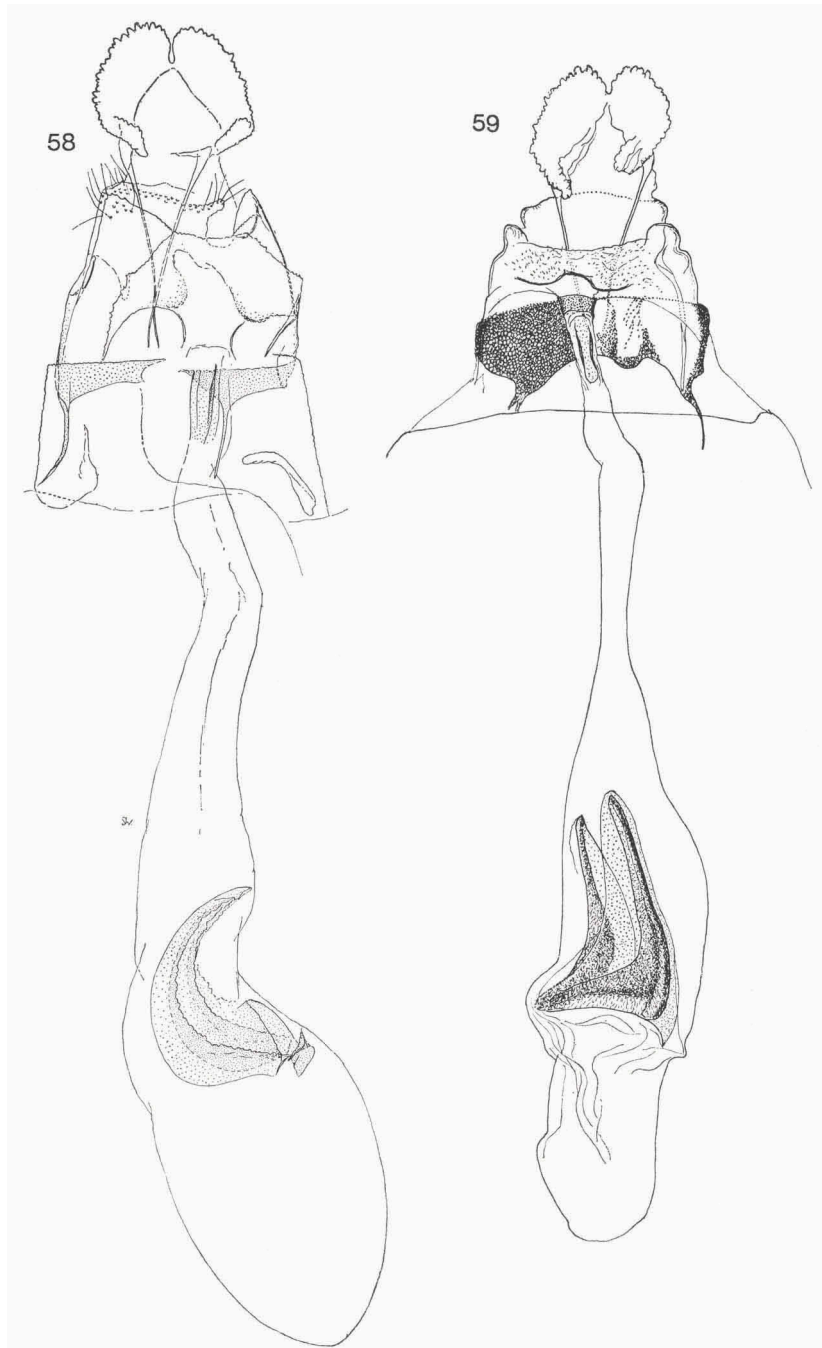
♂ 17 mm. Head and palpus creamy, partly suffused and dusted with fuscous-grey. Fore wing rather pale grey or almost white, clouded with light ashy-grey, transverse crests of raised scales darker grey; the grey suffusion forming a curved transverse band beyond base and another at  $1/4$ ; central fascia antemedian, broadly interrupted by an oblique streak of ground colour at  $1/3$  of fascia; costal patch, an ill-defined, inverted-trapezoidal shade at  $3/4$ , connected by a thin suffusion with dorsum before its end; other costal markings reduced, termen whitish, finely dusted with black. In other specimens the basal markings are more distinct and arranged as follows. Costa with fuscous marks throughout, rather irregular, not quadrate, posteriorly becoming wedge-shaped; termen with a blackish marginal streak, regularly interrupted on veins.

Hind wing rather pale glossy fuscous with darker veins, faintly transversely striated (dark tips of scales), and more or less densely suffused with darker grey-fuscous around margin. Cilia fuscous-grey, with a slender subbasal band and creamy basal line.

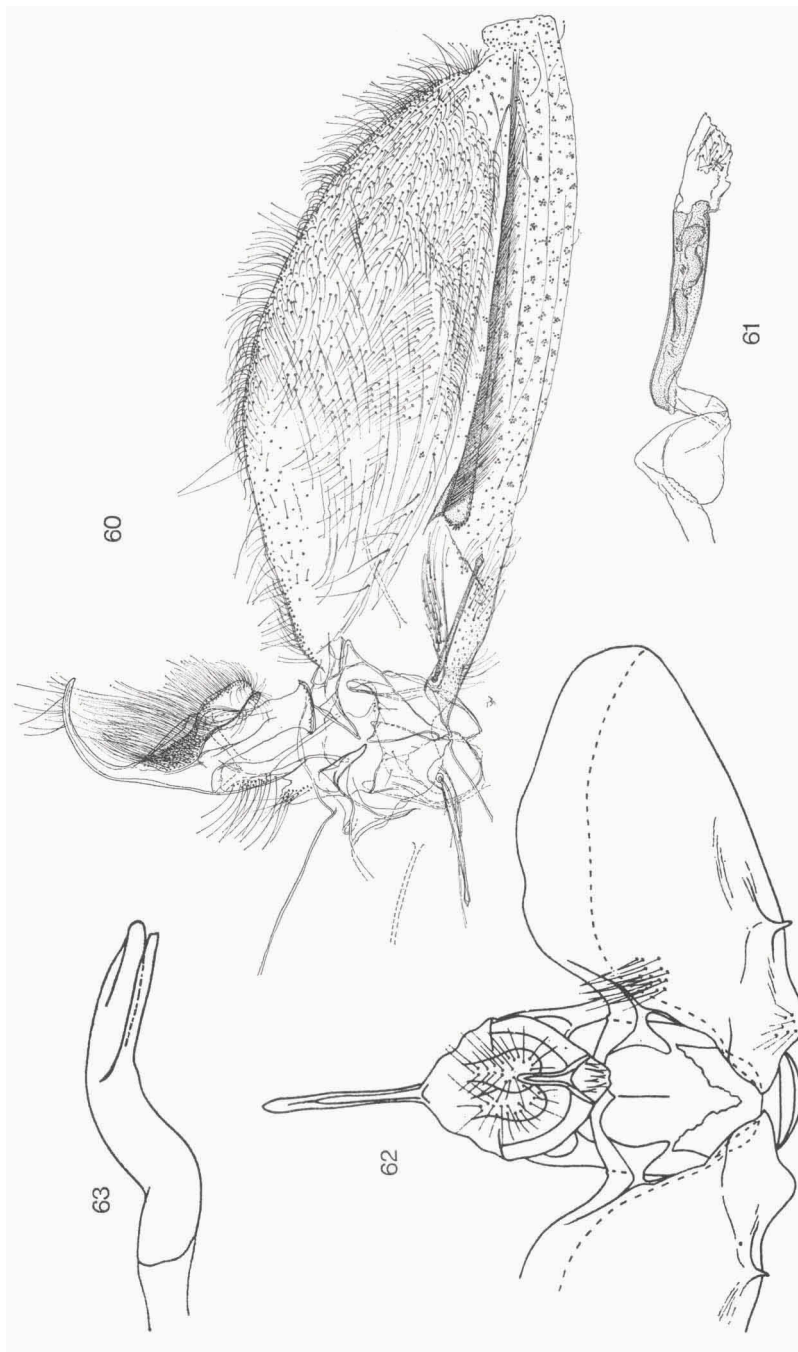
Male genitalia. Tegumen higher than broad. Uncus with a strong triangular base and a moderate, narrowed and gradually curved hook. Socius long and narrow, long-haired. Gnathos long, little curved, with moderate arms, dilated at base and a large, obtuse and dilated end, with rounded and denticulate extreme edge. Transtilla paired, two hollow, converging cones. Anellus paired, sclerotized, halves semioval, very large. Anellus lobes small bristly depressed pads at the base of this. Valva large, semioval, broadest in middle, strongly narrowed towards ends, rather smooth. Sacculus with a single, long and slender clavate spike at base; split subventrally, posterior  $2/3$  of its lower edge denticulate and short-bristled throughout. Aedeagus moderate, rather slender, gently dilated and truncate. Cornuti spread, small and slender spines.

Female genitalia. Seventh tergite finely granulate throughout, anapophyses very short, lower edge with a broad, triangular excision. Sterigma, a narrow

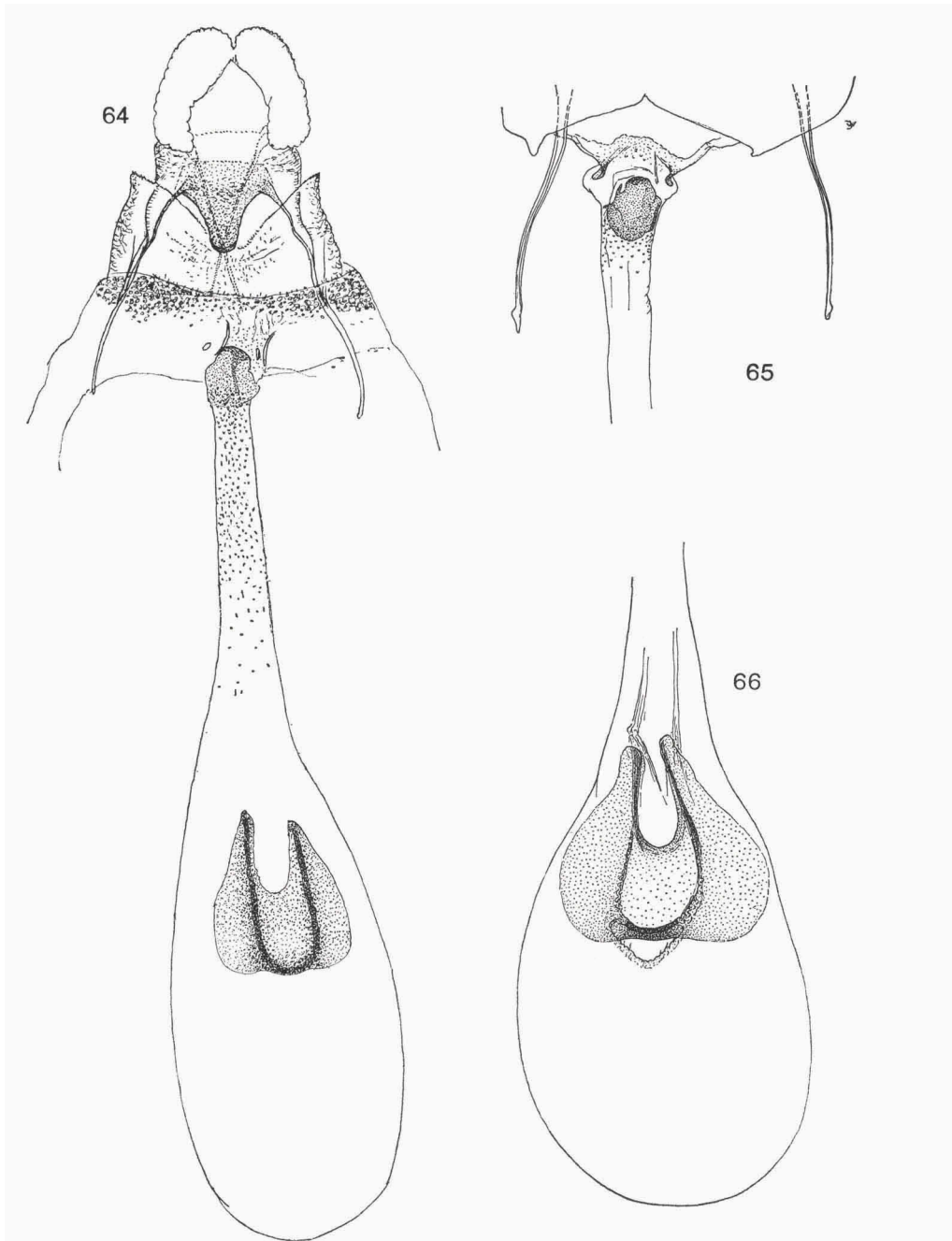




Figs. 58-59. *Polylopha* Low., ♀ genitalia. 58, *P. epidesma* Low., slide 8653; 59, *P. oachrantia* sp. n., holotype.



Figs. 60-63. *Polylopha* Low., ♂ genitalia. 60, *P. portacius* (Meyr.), slide 8811; 61, do., aedeagus; 62, *P. phaeolopha* (Turn.); 63, do., aedeagus ) figs. 62-63, after Common, 1963).



Figs. 64-66. *Polylopha porpacias* (Meyr.), ♀ genitalia. 64, slide 8693; 65, colliculum of slide 8743; 66, do., bursa.

band, strongly punctulate. Ostium wide, with a short dark point at each side, Colliculum, a short, ovoid sclerite. Signum broad, with short free ends.

Material studied. Besides the three specimens from Puttalam I have studied a long series of specimens bred from leaves of *Polyalthia longifolia* at Pusa, India. This material has been cited and the stages described by Fletcher. The labels read: "8.x.17, rolling *Polyalthia longifolia* leaves, Pusa, Gosh Coll., C. no. 1703", "Presented by R. L. E. Ford, BM 1949-487", 1 ♂, genit. slide 8693; and: "14.viii.1934, leaf roller, Pusa, Rangi Coll., C. no. 2681", "(Food plant) *Polyalthia longifolia*", "Presented by R. L. E. Ford, BM 1949-487", 1 ♀, genit. slide 8692.

It was Common (1963) who pointed out that *P. porpacias* was distinct from *epidesma* Lower and not a synonym. The genitalia slides at the British Museum, made by that author are labelled as follows: ♂ 8811, ♀ 8743, *Polylopha porpacias* (Meyr.) ♂, "Rolling *Polyalthia longifolia* leaves, 9.x. 1919, Pusa, Gosh Coll. C no. 1708". Slide & Det. I.F.B. Common, CSIRO, 1961.

### ***Polylopha phaeolopha* (Turner) (figs. 62-63, 76)**

*Colocyttara phaeolopha* Turner, 1925: 55. — Common, 1963: 146, figs. 13M, N, 14G, pl. 3 fig. 13 (*P. capnophanes* Turner syn.).

*Procoronis capnophanes* Turner, 1946: 200.

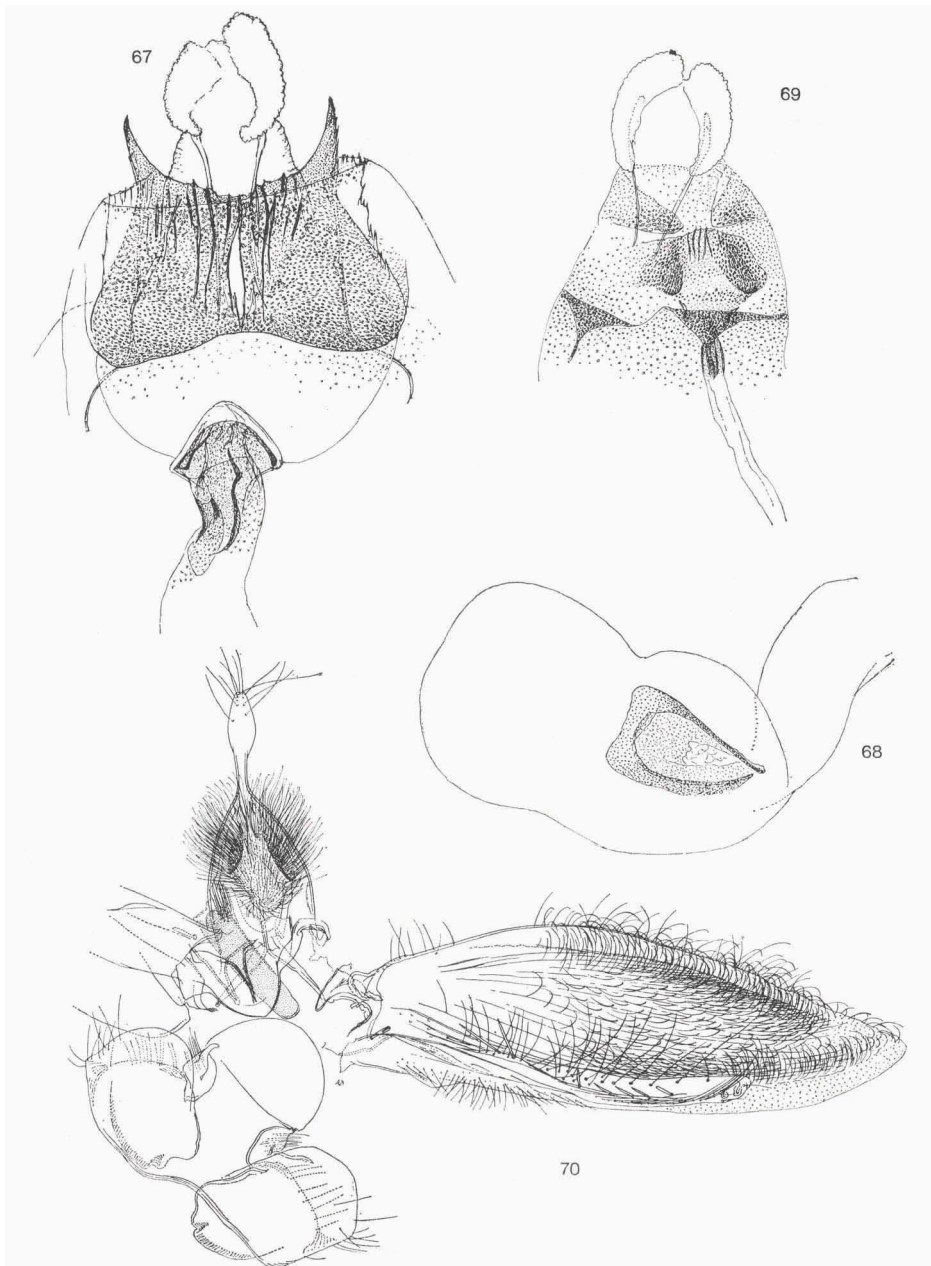
*Polylopha phaeolopha*; Common, 1963: 146, figs. 13M, N, 14G, pl. 3 fig. 13.

Distribution. Queensland; New South Wales.

The following is a composite description of male and female by Common (p. 147):

"Head, palpus, and antenna fuscous. Thorax fuscous with dark fuscous elongate median spot, tegulae brown; legs pale ochreous, fore and median tibiae and tarsi fuscous, apices of segments paler. Abdomen fuscous, two basal segments ochreous. Fore wing pale ochreous brown, strigulated with dark fuscous and with six tufts of raised scales: two large tufts at about one-third, one above and one below fold, the dorsal one slightly more distal; two slightly smaller tufts, one on *R* at about one-half and the other on fold beyond one-half; two small tufts, one near upper angle and one near lower angle of cell; a large dark fuscous basal patch, with outer margin outwardly curved from costa at one-fifth to dorsum at one-third; a dark fuscous area beyond this, between fold and dorsum, which may be connected to basal patch and extend to tornus; strigulae forming slender, slightly oblique lines towards apex and termen; cilia dark fuscous. Hindwings fuscous, paler basally, with large ochreous brown central area.

"*Male genitalia*. — Gnathos arms united medially, produced to slender



Figs. 67-70. *Polylopha* Low., ♂ and ♀ genitalia. 67, *P. hypophaea* sp. n., ♀ allotype; 68, do., bursa; 69, *P. epidesma* Low., slide 18638; 70, *P. ornithopora* (Diak.), ♂ apallotype.

rounded apex; sacculus with short, acute apical projection; aedeagus bent, cornutus a slender spine.

"*Female genitalia*. — Apophyses anteriores and apophyses posteriores about equal in length; ostium bursae broad, lamella antevaginalis sclerotized; ductus bursae somewhat sclerotized towards junction of ductus seminalis, densely lined with minute spines between ostium bursae and ductus seminalis and lined with scattered minute projections for short distance beyond junction; signum absent.

"*Expanse*. — Male 13.9-14.5 mm, female 15.1-17.3 mm.

"*Distribution*. — South-eastern Queensland and north-eastern New South Wales, where it is associated with rain-forest.

And further down: "*P. phaeolopha* is an obscure species, smaller than *P. epidesma*, from which it may be distinguished by the ochreous brown area central of the hindwing, and by the genitalia in both sexes".

### **Polylopha epidesma** Lower (figs. 54-58, 69)

*Polylopha epidesma* Lower, 1901: 71 (♂). — Common, 1963: 148, figs. 2G, 3M, 13O, P, 14H, pl. 3 figs. 14, 15.

*Peronea epidesma*; Meyrick, 1910: 291, 292 (syn.: *P. porpacias* Meyr.). — 1912b: 71. — 1913: 66, no. 111. — Fletcher, 1920: 42, pl. 9 figs. a-f (adult and stages illustrated).

*Colocyttara epidesma*; Turner, 1925: 54 (type-species of new genus).

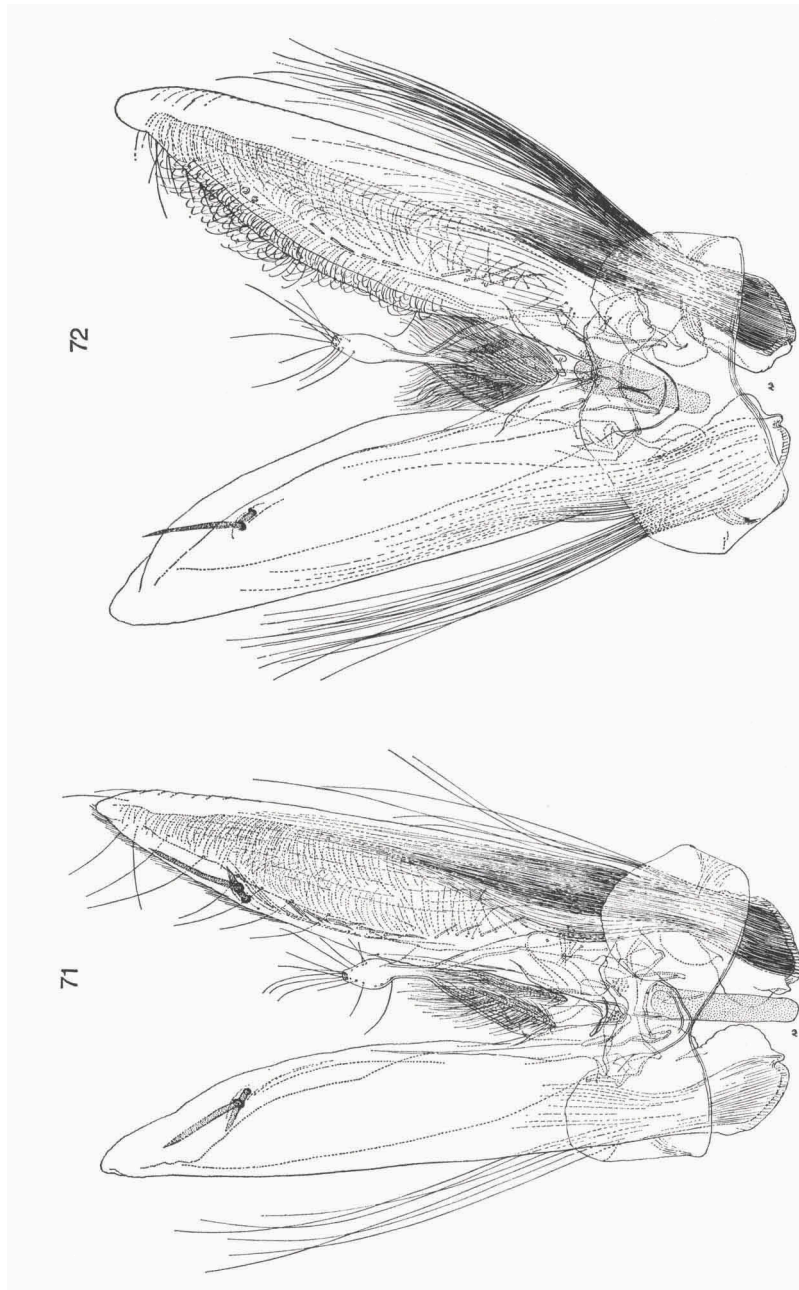
Distribution. Australia.

Food plant. *Polyalthia longifolia* (Anonaceae).

The species may be briefly redescribed as follows.

♂♀ 17 mm. Head and thorax whitish touched with pale ochreous, densely mixed and dusted with grey-fuscos. Abdomen fuscous-grey, valvae pale grey.

Fore wing oblong-suboval, costa curved at ends, little curved in middle, apex obtusely pointed, termen sinuate above, little rounded below; 4-5 oblique and interrupted transverse bands of raised scale-tufts, alternating with faint bands of hardly raised scales. Pale grey, clouded and dusted with fuscous and tawny. Anterior  $\frac{2}{3}$  of costa with slender darker transverse grey lines and marks; anterior band greyish, darker, from  $\frac{1}{5}$  of costa not reaching  $\frac{1}{3}$  of dorsum, above with a few black strigulae, followed by a very oblique patch of grey-tawny suffusion, edged by blackish posteriorly and not reaching middle of fold; posterior third of costa with four, and tornus, with five, brownish, subquadrate spots, equidistant and faintly dark-edged, those along costa more distant, last subapical; a horizontal submarginal row of black points above posterior fifth of dorsum, ultimate of these larger, with a dilated broad bar, obliquely descending over cilia in tornus; a faint



Figs. 71-72. *Polylopha ornithopora* (Diak.), ♂ genitalia, with coremata partly in situ. 71, slide 8414; 72, slide 8413.

suffusion before middle of termen, dotted with blackish; posterior fifth of wing except along edges, pale grey. Cilia creamy, with two or three narrow black lines: subbasal, submedian and subapical.

Hind wing dark bronze-fuscous, paler on basal half or third. Cilia dark fuscous with a darker subbasal band.

Male genitalia. Uncus hook long, gradually curved, little dilated at top. Gnathos with narrow, dilated arms and a flat furcate top. Transtilla, a slender band with a large trapezoidal appendix in middle of lower edge, a large, erect sclerite with deeply emarginate top. Vinculum small, rounded. Valva extremely large, gradually narrowed, split throughout; sacculus with a group of very large spines at or along base; a harpe before and below centre of disc of valva, a dense sheaf of long, slender spines. Aedeagus moderate, slender, straight.

Female genitalia. Seventh tergite with dark reticulate structure. Sterigma (eighth sternite) large, a broad band, emarginate in middle above and beneath, and with vertical folds towards the upper (caudal) edge, on both sides of this with coarse granulation; lower edge with two sclerotized triangular prominences with dark edge. Ostium wide, cup-shaped. Colliculum, a short, double tube, stronger sclerotized than ostium and also stronger than colliculum in other species. Ductus bursae simple. Corpus bursae large. Signum laterally scythe-shaped, strongly curved, moderately large.

Material studied. "Palmerston, Port Darwin, W. Australia, 31.xii.1908, 6, 7 and 10.i.1909", genit. slides 8714 ♂, 8713 ♀, 8711 ♂ and 8712 ♀, respectively. "Toowong, Queensland, 8.ii.1897 (Dodd)", 19286 Walsingham Collection, genit. slide 18638 (6750) (BM) (J. Razowski fec.).

***Polylopha ornithopora*** (Diakonoff) comb. nov. (figs. 70-72, 75)

*Polyortha ornithopora* Diakonoff, 1953: 86, fig. 302 (♀).

Distribution. East Central New Guinea.

This is the largest species of the genus, with the narrowest fore wings. The structural features are the same as in the type-species, except that vein 2 in the fore wing originates from beyond  $2/3$  of cell.

♂ 19 mm, apallotype. Similar to the female, but with slightly less suffused and narrow fore wing. Body exactly similar. Fore wing with anterior third of costa bearing two ferruginous-blackish subtriangular spots, surrounded by grey suffusion and alternating with small ferruginous marks; these spots beyond base and before  $1/4$ , respectively, continued obliquely across wing by dark grey suffusion and highly raised grey and whitish scale-tufts; median third of costa with a pair of ferruginous marks and grey





Fig. 73. *Polylopha hypophaea* sp. n., ♂ genitalia, holotype.

dusting; posterior third of costa with five ferruginous-fuscosubtriangular spots, extending over cilia, ultimate spot just preapical, small, followed by a similar subapical spot on termen, all these spots continued by broad ferruginous bars over cilia; transverse band similar but more defined, formed above by brownish suffusion, below, by blackish marbling, with a larger, black, oblique bar to tornus, continued over cilia and followed by a white bar. Otherwise similar to the female.

Hind wing slightly paler grey.

Male genitalia. Tegumen moderate. Uncus with erected-triangular base, hook moderate, curved and clavate, top lanceolate, rather spoon-shaped. Socius oblong, fleshy, densely haired. Gnathos with slender, semicircular arms, hook curved, flattened and truncate. Transtilla H-shaped, legs narrowed towards tips. Anellus, a broad plate with a median split, narrowed rostrad. Valva very long, pointed-oval, split throughout. Sacculus long, over  $2/3$ , with strong, sparse spines throughout, at extreme top with a short and a very long stout dark spine. Aedeagus rather small, straight, gently dilated towards top.

Female genitalia. Sterigma, a single transverse band, dilated at the sides, forming a more sclerotized median transverse part with thickened upper edge and small denticulate lateral prominences. Colliculum moderate, ring-like. Ductus bursae rather narrow and moderately long. Corpus bursae ovoid. Signum absent.

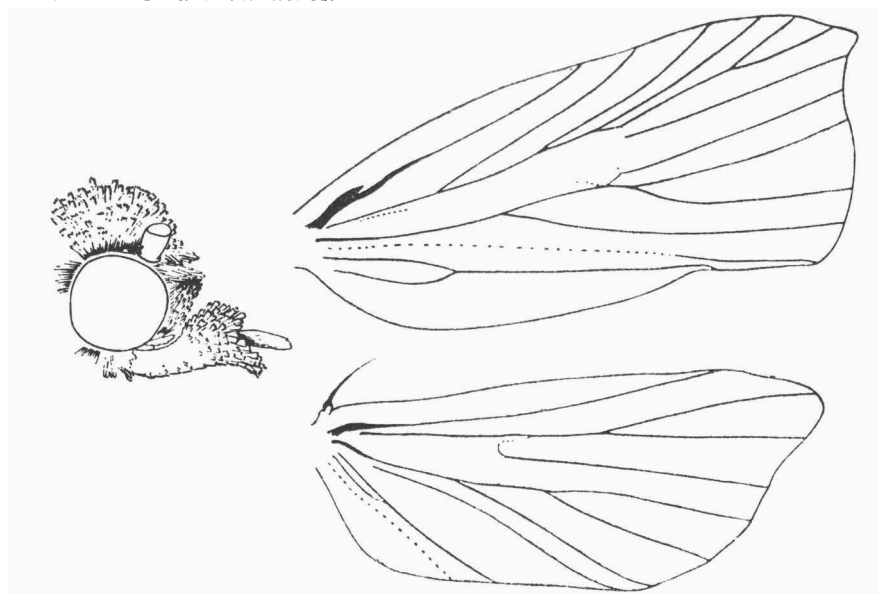
East Central New Guinea, Stars Range, camp 36, 1250 m, 28.vii.1959, 1 ♂, allotype, genit. slide 8414. The same, camp 40, 2350 m, 18 and 19.viii.1959, 2 ♂, genit. slide 8413.

***Polylopha oachranta* spec. nov. (fig. 59)**

♀ 14-15 mm. Head pale grey, finely strewn with white and olive. Palpus with basal segment white, median grey with two white transverse stripes, terminal third dusted with white; terminal segment grey. Thorax grey, a median pair of blackish dots. Abdomen dark grey above, whitish below.

Fore wing oblong-oval, broadest in middle, costa moderately curved, more so at extremities, apex obtusely pointed, very short, termen hardly sinuate above, convex. White, faintly olive-tinged, suffused with slaty-grey, tending to form indistinct transverse bands, with fine transverse striation (dark tips of scales); numerous incomplete and rather faint transverse brownish lines and more distinct, curved white lines, similarly oblique; ill-defined darker grey clouding along costal half of wing, with indication of a transverse fascia reaching middle of costa; a small spot on termen; about five very oblique series of moderately raised large scale-tufts, running across

disc; anterior part of costa with three faint, dark-parted white bands, posterior one, postmedian; basal patch darker grey, limited by very oblique and convex series of three raised scale-tufts: on costa beyond base, above fold, and a small one, above dorsum, respectively; a larger black raised tuft in middle of discal  $1/4$ , followed by a small jet-black mark along fold and a smaller one beneath this; a small quadrate, blackish-brown tornal spot, extending over cilia, preceded by a jet-black horizontal mark; costa before apex, apex, and tornus with a deep ferruginous-olive narrow marginal line, interrupted between veins and preceded along termen by a row of white dots. Cilia snow-white.

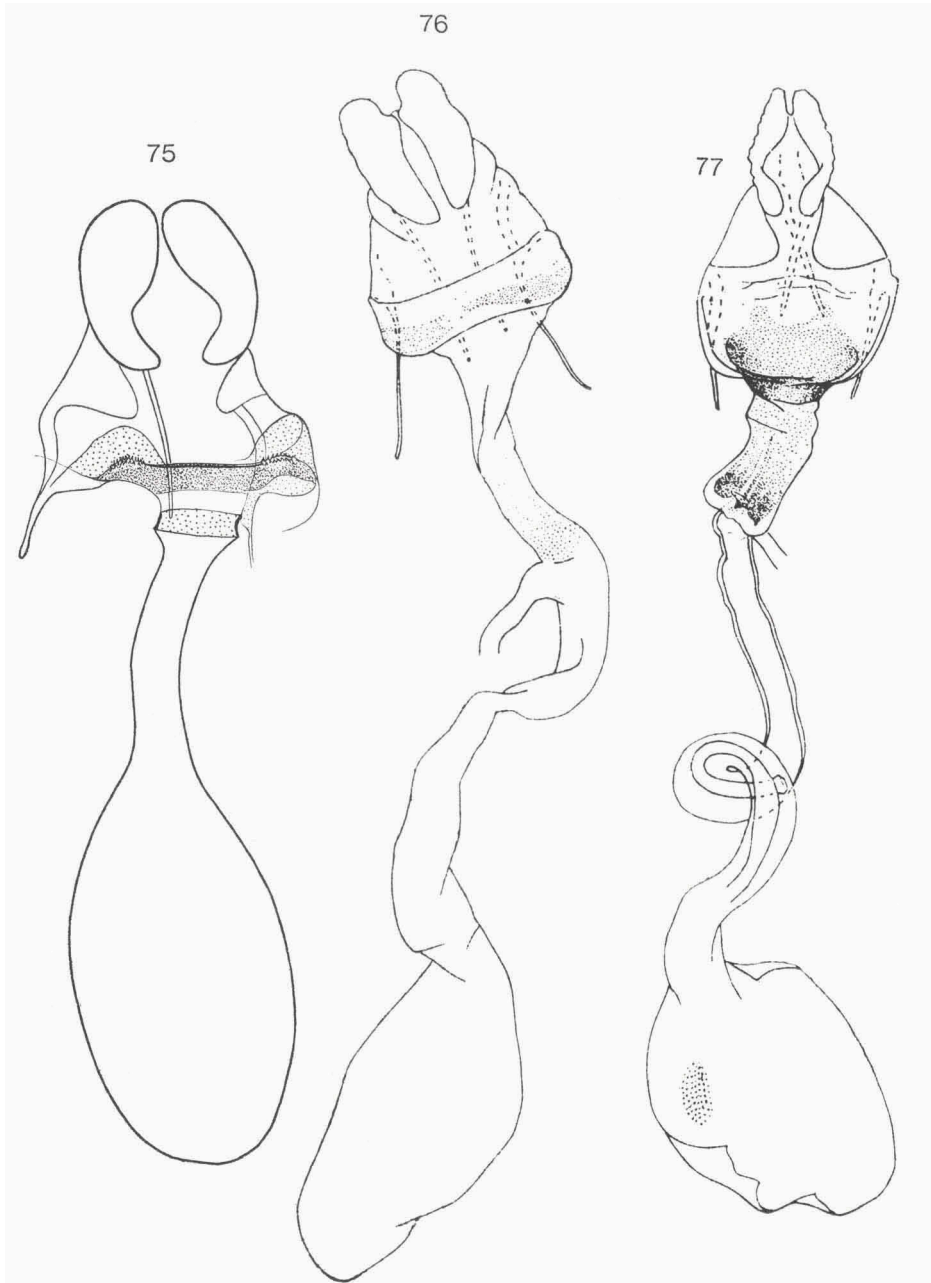


Figs. 74. *Apura xanthosoma* Turn., head and wing neuration (after Common, 1963).

Hind wing dark slaty-grey, gradually turning blackish towards apex. Cilia pale milky-grey, with a lilac-grey basal band.

Female genitalia. Eighth sternite ring-shaped, sclerotized and strongly reticulate-punctulate, upper edge straight, lower, with triangular projections over bases of apophyses and a smaller rounded projection in middle. Lamella postvaginalis, an undulating, moderate band. Sides of ninth sternite posteriorly with rough processes, ninth tergite, a simple collar. Ostium small, circular; colliculum slender, with thick, strong walls. Corpus bursae oblong-oval, banana-shaped. Signum large, with the shape approaching a W, with flattened upper arms and transversely projecting median part.

Pacific Region, Marianas Is., Saipan Id., 1-2 mi E of Tanapag,



Figs. 75-77. Polyorthini, ♀ genitalia. 75, *Polylopha ornithopora* (Diak.), holotype; 76, *P. phaeolopha* (Turn.); 77, *Apura xanthosoma* Turn. (fig. 75, after Diakonoff, 1953; figs. 76-77, after Common, 1963).

20.iv.1945, at light, Field Museum Collection, ♀ genitalia on slide 10377, 31.vii (J. F. Gates Clarke), 1 ♀, holotype; the same locality and other labels, but date: 25.ii.1945, 1 ♀, paratype.

Closely allied with *P. epidesma* Lower, from Australia, but with more obtuse apex and less oblique termen with snow-white cilia of the much lighter fore wings, with slaty-grey, instead of bronze-grey hind wings and with distinct female genitalia.

### **Apura** Turner, 1916

*Apura* Turner, 1916: 519 (type-species, *A. xanthosoma* Turner, by monotypy). — Fletcher, 1929: 20. — Common, 1963: 87, 144 (redescription).

Head with roughly appressed scales. Ocellus posterior. Antenna short-ciliate. Palpus about twice diameter of eye; median segment strongly expanded by roughly projecting scales above and beneath, terminal segment short, porrect, with appressed scales. Thorax with a large posterior crest.

Fore wing with raised scale-tufts, broad, dilated, apex pointed and slightly produced, termen sinuate, dorsum notched before tornus. Vein 2 from beyond middle of cell, 3 and 4 stalked from angle, 5 distant and straight, parallel to 6, 7 and 8 stalked, 7 to costa, 9 from 2/3 distance from stalk to 10, 10 from beyond middle, chorda and median branch indefinite.

Hind wing without cubital pecten, oblong-semioval, apex rather rounded. Vein 2 from about 2/3, 3 and 4 connate or stalked from angle (lower half of discoidal vein indefinite), 5 horizontal and straight, at extreme base slightly diverging from 4, 6 and 7 stalked.

Further may be cited the original redescription by Common (p. 144).

"*Male genitalia* (Fig. 13 *K, L*). — Uncus long, slender, apex rounded; socii large, clothed with short hairs; gnathos with slender arms, united medially to form a sclerotized dentate flange at the base of a broad central piriform projection; transtilla a narrow band, slightly arched; valva large, rounded, simple, sacculus with thorn-like distal projection; aedeagus cylindrical, curved, with an acute projection beneath distal orifice, cornuti absent.

"*Female genitalia* (Fig. 14 *I*). — Ostium bursae broadly funnel-shaped, sclerotized; ductus bursae with single coil near middle, broad to junction with ductus seminalis, somewhat sclerotized before junction, thence narrower to coil and lined with minute projections; ductus seminalis long and lined with minute scattered spines; corpus bursae rounded, signum a scobinate patch".

Common pointed out the close relationship of *Scytalognatha* Diakonoff,

1956, with *Apura*. He also transferred "*Polyortha*" *xylodryas* Meyrick, 1927, from Samoa, to the present genus, on the ground of the similarity of the wing shape, the colouring and the signum; he did not mention the neururation, but Mr. Moreby of the British Museum, kindly informs me now, that the veins 3 + 4 and 7 + 8 in the fore wing indeed are stalked as in *Apura xanthosoma*, but the stalks are shorter than in the type-species.

***Apura xanthosoma* Turner (figs. 74, 77, 78-79)**

*Apura xanthosoma* Turner, 1916: 519. — Common, 1963: 144, 145, figs. 2F, 3L, 13K, L, 14I, pl. 3 fig. 12 (redescription).

Distribution. Queensland. New Guinea.

Common's redescription may be summarized thus.

♂ 17-18 mm, ♀ 16-18 mm. Fore wing with six tufts of raised scales. Ochreous-brown, suffused with whitish just beyond basal patch near fold; basal patch large, fuscous, edge dark fuscous, slightly convex, from 1/4 of costa to beyond 1/3 of dorsum; terminal area leaden-grey, becoming brown in tornus; an ochreous-brown band from 4/5 of costa to termen near tornus, with thin fuscous and broader whitish edges. Cilia fuscous.

Hind wing fuscous; cilia light fuscous.

The genitalia are described with the genus above.

The species has been taken "at mercury vapour light in rain-forest, but nothing is known of its host relationships" (p. 519).

***Apura xylodryas* (Meyrick)**

*Peronea xylodryas* Meyrick, 1927: 69 (♀). — Clarke, 1955: 329. — Razowski, 1965: 213.

*Acleris xylodryas*; Clarke, 1958: 16, pl. 8 figs. 3-3c (type, wings and genitalia illustrated).

*Apura xylodryas*; Common, 1963: 144.

Distribution. Samoan Is., Upolu Island.

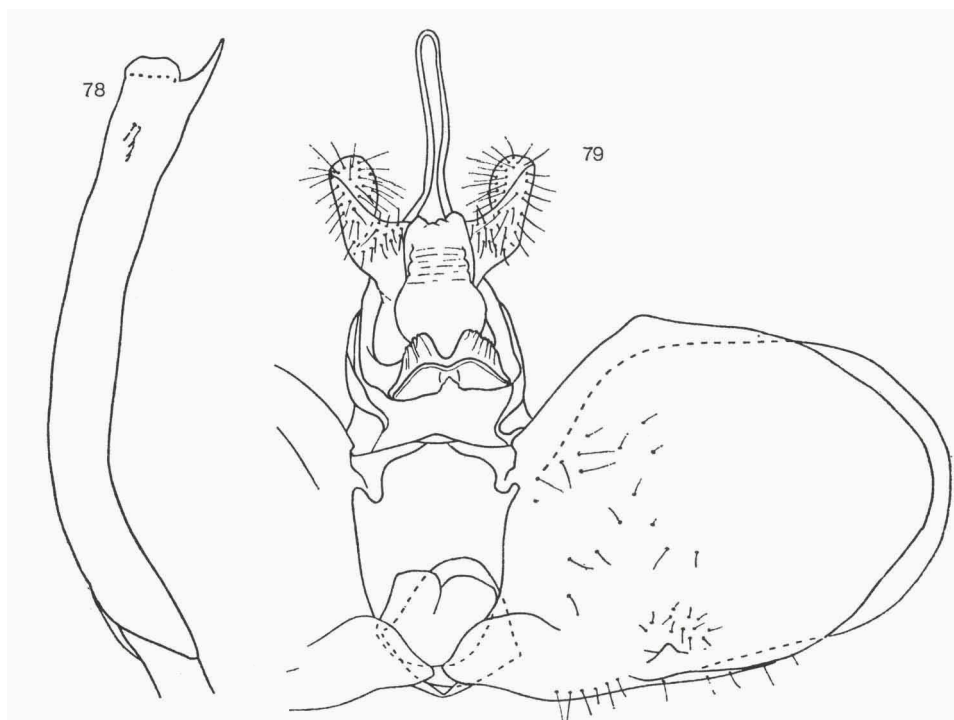
The unique holotype, female, is labelled: "Samoan Is., Upolu Id., Malolelei, 21.iv.1935, 2000 ft (P. A. Buxton & G. H. Hopkins)". The genitalia are on slide 9427.

The rather dark species has the characteristic fore wing: dilated and with sinuate termen and prominent tornus.

Female genitalia slightly aberrant. Sterigma represented by a hyaline transverse band, dilated in middle, at each side with a slender curved rod along upper edge, interrupted in middle. Ostium with colliculum forming a

large, sclerotized and simple-walled tube, gradually dilated towards top, upper edge broadly emarginate. Cestum following upon colliculum, long, sclerotized, with one curve at end, merging into the curve of ductus bursae. Corpus bursae ovoid. Signum, an oblong, scobinate sclerite.

Remarks on the structure of this species are already made with the genus *Apura* above.



Figs. 78-79. *Apura xanthosoma* Turn. 78, ♂ genitalia; 79, aedeagus (after Common, 1963).

### **Scytalognatha** Diakonoff

*Scytalognatha* Diakonoff, 1956: 637 (type-species, *S. abhuta* Diakonoff, New Guinea, by original designation). — Common, 1963: 144.

The original description may be cited as follows in full:

“Head with appressed scales. Ocellus posterior. Proboscis rather weak. Antenna simple, scape without pecten. Labial palpus moderate, subascending, covered with rather closely appressed scales, median segment with a tuft of scales at apex beneath, terminal segment exposed, rather smooth, tolerably pointed, 1/2 of median. (Thorax denuded). Posterior tibia normal.

"Fore wing broad, truncate. Vein 2 from beyond the middle of lower edge of cell, 3 and 4 short-stalked from angle, 5 and 6 remote, straight and parallel, 7 and 8 stalked from upper angle of cell, 7 to apex, 9 rather close at base to 7 + 8, 11 just before the middle of cell; 1b furcate to beyond  $1/3$ ; cell narrow.

"Hind wing slightly under 1, subtrapezoidal, cilia over  $1/3$ ; vein 2 from  $3/4$  of cell, 3 and 4 rather short-stalked from angle, 5 median, straight, running basad halfway the length of cell, 6 and 7 stalked from upper angle of cell, discoidal vein obliterate except at extremities ("cell open").

"Male genitalia with gnathos bearing in its middle a huge rising dentate spike. Valva membranous, simple, unarmed. Transtilla absent. Aedeagus simple, broad and conical, without cornuti. (Female genitalia unknown).

"Type of the genus: *Scytalognatha abluta* spec. nov., ♂.

"A remarkable genus of obscure relationship, with the gnathos of a unique shape. The termination of the stalked veins 7 and 8 in the fore wing is unusual, the neuration of the hind wing, at least in the region of the dis-

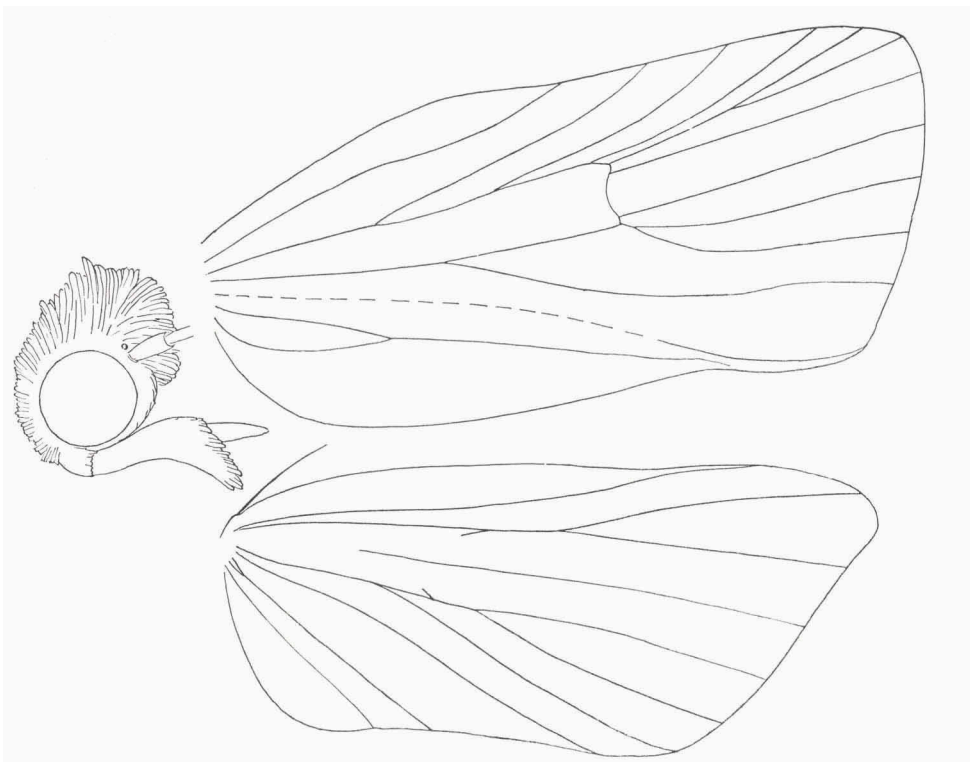


Fig. 80. *Scytalognatha abluta* Diak., head and wing neuration (after Diakonoff, 1956).



coidal vein, is abortive. Superficially the insect suggests a *Peronea* (*Acleris* auctt.). The unarmed and simplified valva is puzzling; it prevents the attribution of the genus to either of the tribes Cnephasiini and Peroneini (Tortricini auctt.), and suggests a relationship with the tribe Cacoeciini".

It is amusing to read to what an extent the author has been puzzled by this genus. Now that the concept of the Polyorthini has become clear to me, the affinity of *Scytalognatha* is no longer a mystery, the more so, because now also the female is available.

***Scytalognatha abluta*** Diakonoff (figs. 44-45, 80-81)

*Scytalognatha abluta* Diakonoff, 1956: 638, figs. 5, 6, 9 (♂). — Common, 1963: 144.

Distribution. N. New Guinea.

The type-specimen, a male, is labelled thus: "N.W. New Guinea, Sorong, 8.viii-14.viii.1948 (M. A. Lieftinck)", genit. slide 1283.

A second, very similar male specimen is now available, 15 mm, labelled thus: "Kumusi R., N.E. Brit. N. Guin., low elev., v-ix.1907 (A. S. Meek)", 1 ♂, genit. slide 8697.

The male genitalia are very similar to those of the type, the uncus is slightly more rhomboidal, with a more narrowed point. The valva is split longitudinally, the coremata of the seventh abdominal segment, not mentioned in the original description, are long, well-developed and partly fitting in the fold of the valva. Aedeagus simple, rather shorter than in the holotype. (The broad oval plate, figured in the holotype around the vinculum, is the eighth sternite, folded downwards).

♀ apallotype, 16 mm. Fore wing similarly shaped and with identical venation; rather rubbed and appearing light and unicolorous. Only terminal and apical markings traceable and similar to those in the male. Hind wing similar to that in the type.

Female genitalia. Lobi anales dark, granulate and densely bristled; ovipositor directed more posterad than ventrad. Ninth segment coloured, forming a rigid high collar. Sterigma inverted-trapezoidal, with band-like lateral arms, upper edge irregularly serrate, finely aciculate towards middle; lower angles triangular, distinct. Colliculum membranous, thickened but hyaline along lower half, ductus bursae divided into a sausage-like, little dilated corpus bursae proper and a lateral diverticle, almost as large. Signum, an elongate patch of slender, subdiverging spines of diverse sizes.

"Geelvink Bay, Ron [Id.], New Guinea, 1897 (Doherty)", 1 ♀, apallotype, genit. slide 8704 (BM).



Fig. 81. *Scytalognatha abhuta* Diak., ♂ genitalia, holotype (after Diakonoff, 1956).

### **Cnephasitis** Razowski

*Cnephasitis* Razowski, 1965: 213 (type-species, *Oxygrapha dryadarcha* Meyrick, by original designation).

Head with appressed scales. Ocellus posterior. Proboscis moderate. Antenna in male simple. Thorax without a crest. Abdomen normal.

Fore wing oval, broadest before middle, costa arched at base, apex obtuse, termen convex. Vein 2 from  $\frac{2}{3}$  of cell, 3 from angle, 4 nearer to 5, 5 remote and parallel, 7 separate to costa, 8 from upper angle of cell, 9 from  $\frac{2}{3}$  distance 10-8, 10 from  $\frac{3}{5}$  distance 11-9, 11 from before middle, chorda from  $\frac{1}{3}$  distance 11-10, to above base of 7, median branch to base of 5.

Hind wing about 1, without a cubital pecten. Anal veins 1a-c developed,

2 from beyond 4/5, 3 and 4 short-stalked from angle, 5 straight and remote, median, 6 and 7 short-stalked, 8 free from base of wing.

Male genitalia. Tegumen slightly higher than broad. Uncus with a broad, triangular base and a slender hook, pointed at top and constricted at base. Socius rather short, oblong-oval. Gnathos broad, arms slender and almost semi-circular, hook simple, obtuse. Transtilla submembraneous, partly scobinate medially, longitudinally plicate, with dilated bases. Anellus moderate, suboval, submembraneous in middle. Vinculum tortricine. Valva of normal tortricide size, below costa with a split to beyond middle. Sacculus sclerotized and ending in a strong prong, ventral edge of valva sclerotized and serrate. Aedeagus large, straight, cylindrical, ending in two large prongs, median of these largest, sinuate and clavate, with a large thorn at its base.

Female genitalia. Sterigma large and sclerotized, oval and smooth, upper edge notched in middle, sides with a small fold each. Colliculum large, a dark, irregular cylindre, narrowed in middle, sides partially folded. Ductus bursae very short, forming a large, hyaline diverticle. Corpus bursae long, pear-shaped, upper third partly sclerotized. Signum, a large, oval, partly

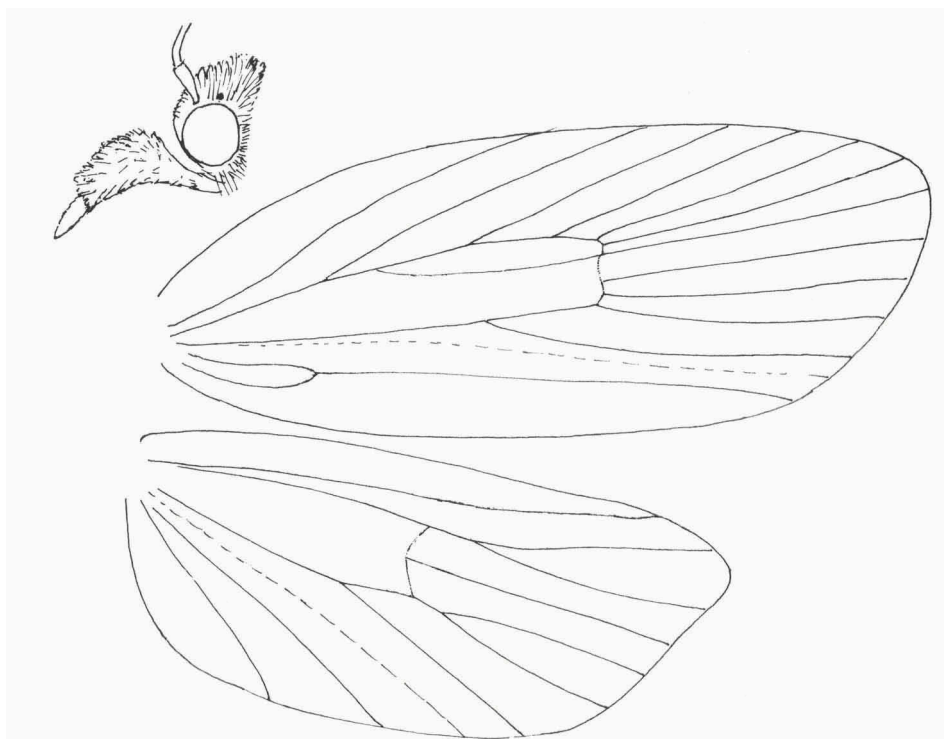


Fig. 82. *Cnephasitis dryadarcha* (Meyr.), head and wing neuration.

hollow, basket-shaped sclerite, with strong, regular scobinations on the outer surface.

The systematic position of the genus has been discussed already in the introduction.

**Cnephasitis dryadarcha** (Meyrick) (figs. 82-86)

*Peronea dryadarcha* Meyrick, 1912a: 17 (♀). — 1912b: 70. — 1913: 66. — Clarke, 1955: 120.

*Acleris dryadarcha*; Clarke, 1958: 7, pl. 3 figs. 4-4b (lectotype designated, wings, genitalia figured).

*Cnephasitis dryadarcha*; Razowski, 1965: 213, 215 (transferred to *Cnephasiini*).

Distribution. Assam; Sikkim (up to 7000 ft).

The female lectotype is labelled: "Khasi Hills, Assam, .7.06" (Meyrick Coll.); the genitalia are on slide 6880.

Further material studied: "Sikkim (O. Möller)", "Walsingham Collection, B.M. 1910-427", 1 ♂, genit. slide 8707. Sikkim, Möller, 1886, Elwes 8., genit. Nr. (5524) 18612 (J. Razowski fec., 1962). "B.M., Sikkim & Bhotan (A. V. Knyvelt)", 1 ♂, genit. slide 8694. "N. E. Burma, Kambaiti, 7000 ft, 18.vi.1934 (R. Malaise)", 1 ♀; the same, 7.v.1934 (R. Malaise), 1 ♀, genit. slide 8716. Calcutta, Bengal, A., 65, Meyrick Coll., genitalia on slide 18613 (5532) BM, made by Razowski.

A large, tawny species, resembling an *Acleris*, but with the fore wing narrowed beyond middle and with the characteristic neuration of the hind wing. The species is but little variable: either with a dark brown basal patch, narrowed below, or with its edge only, being a convex rather narrow streak at 1/5.

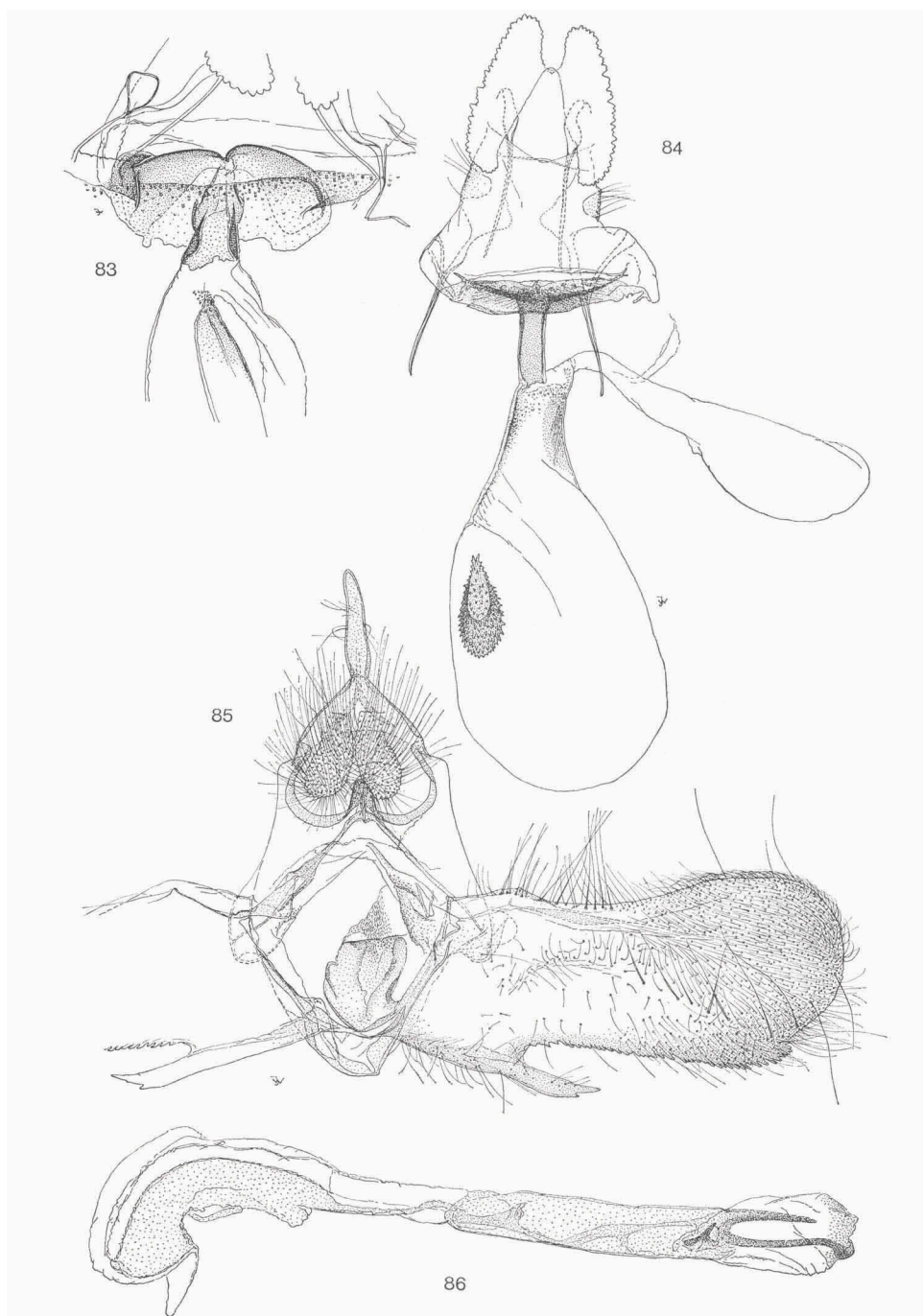
Hind wing whitish-ochreous, towards apex and upper half of termen faintly suffused with lighter ochreous.

Male and female genitalia, as described with the genus, above.

**Cnephasitis apodicta** spec. nov. (fig. 87)

♂ 26 mm. Head pale grey. Antenna brownish, minutely ciliated. Palpus long, projecting 3 times diameter of eye beyond face; pale ochreous, closely strewn with brownish; terminal segment moderate, 1/4 median, moderately pointed. Thorax grey (partly denuded). Abdomen dull chestnut-brown, posterior halves of segments grey-ochreous-whitish, glossy.

Fore wing almost oval, broadest in middle, costa arched along anterior third, distinctly angulate and prominent beyond base, along posterior 2/3 gradually curved, apex obtusely pointed, termen strongly rounded, little oblique, dorsum gently curved; apparently with small tufts of scales on surface



Figs. 83-86. *Cnephasitis dryadarcha* (Meyr.), genitalia. 83, sterigma, slide 18613 (5532); 84, ♀, holotype; 85, ♂, slide 18617 (5524); 86, do., aedeagus.

(worn). Light grey, irregularly marbled with dark grey, partly suffused with light tawny and with greyish-white. Basal patch to about 1/6, tinged tawny throughout, edge inwards-oblique, blackish, angularly prominent below costa and on dorsum; an ill-defined blackish costal patch along median third, reaching to fold, anterior edge with three faint teeth: at extremities and in middle, posterior edge almost indefinite; anterior edge in middle

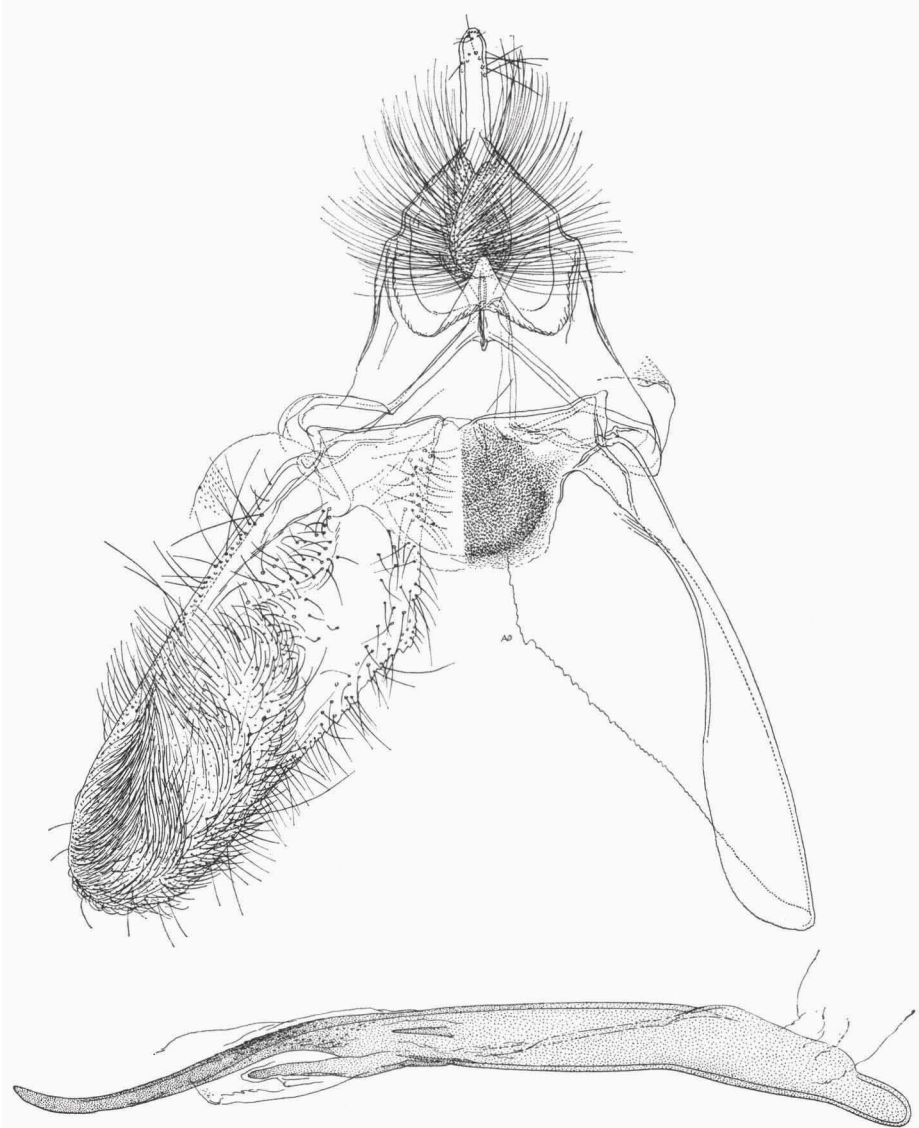


Fig. 87. *Cnephasis apodicta* sp. n., ♂ genitalia, holotype.

and top along fold with rather faint, greyish-ferruginous suffusion; space between basal and costal patches distinctly suffused with greyish-white and marbled with blackish, along dorsum below fold more obscured and transversely striated with blackish; costa beyond middle with a moderate round creamy spot extending over cilia, followed by another smaller spot (and traces of more, rubbed, spots beyond these); wing before termen with a band, formed by moderate black interneural streaks before termen; this band parallel to edge of wing, from below  $\frac{2}{3}$  of costa and before termen to tornus, gradually narrowing and streaks becoming thicker downwards. Cilia, also along posterior  $\frac{3}{4}$  of costa, grey (imperfect).

Hind wing dull pale ochreous-creamy, cilia concolorous, with a silky gloss.

Male genitalia. Tegumen and uncus resembling those in the type species. Socius slightly shorter. Gnathos with shorter, downwards more dilated arms with wrinkled outer edge, hook broader. Transtilla (in figure turned down), subtriangular, in middle with a round membraneous thickening with very dense aciculae. Valva oblong-suboval, slightly narrowed, sacculus indefinite, flat, its extreme edge sclerotized and narrowed, with a moderate, obtusely angular process at  $\frac{1}{3}$  length of valva; costa with an unmistakable longitudinal split, in left valva running to  $\frac{2}{3}$ , in right especially distinct throughout. Aedeagus long, straight, slightly narrowed, with a huge, sinuate apical, a shorter, subapical, and a slender lateral spine at the bases of the other two. Eighth abdominal segment without coremata or menses.

Upper Burma, Hpimaw Fort, Nr. Myitkyina, 8000 ft (Capt. A. Swann); Brit. Mus. 1923-488; 1 ♂, holotype, genit. slide 8695.

Allied to the type-species.

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