

**REVISION OF CRYPTASPASMA WALSINGHAM 1900
(LEPIDOPTERA, TORTRICIDAE)**

by

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The genus *Cryptaspasma* comprises moths of moderate or rather large size, mostly of a "dark and earthy appearance", as Edward Meyrick once characterized them. These insects usually are of different shades of purple-brown to bronze-brown, with suffused blackish spots or retination. Although distributed over the Tropics of the whole world the species follow the same type of colouring and markings everywhere. Certain species from Papua, e.g., are surprisingly similar to other from Africa, New Zealand or Peru! Besides, this type resembles very closely that of an entirely different group of the Microlepidoptera, viz., that of the genus *Acrolophus* Poey, a Tineoid group from South and Central America. So close is this resemblance that Meyrick even suggested that this might be a case of mimicry. However, *Acrolophus* does not occur in tropical Asia where *Cryptaspasma* is most numerous, comparatively speaking.

The obscure, monotonous colouring led several students, myself included, to the confusing of certain species, so that a vague and unsatisfactory conception of the systematics of the group resulted. This situation was a challenge for undertaking at last the here following revision, in spite of the obviously premature stage of our knowledge. Greatly would I have welcomed larger series of specimens in better condition, but they were not available.

I am greatly indebted to several institutions who kindly provided me with material from their collections, for identification or for comparison. In the first place I wish to thank Mr. J. D. Bradley, British Museum (Natural History), London, England, for his continuous help and interest, without which this revision certainly would not have been finished; furthermore my thanks are due to the Trustees of that Museum for the loan of valuable material upon which this study mainly is based, and for permission to publish photographs of genitalia from the collection of that Museum; to Mr. A. J. Hesse, Entomologist, South African Museum, Cape Town, South Africa; to

Dr. L. Vari, Transvaal Museum, Pretoria, South Africa; and to Dr. Th. Schönmann, Division of Lepidoptera, Naturhistorisches Museum, Vienna, Austria. A grant of the "Nederlandse Organisatie voor Zuiver-Wetenschappelijk Onderzoek" enabled me to make microphotographs of the genitalia.

In total 1 genus, 2 subgenera, 19 species and 2 subspecies are described in this paper as new, while 14 known species are recorded or re-described.

The genus *Cryptaspasma* may be divided into five distinct subgenera, judging from peculiarities of the genital structures, parallel to the geographical distribution of the species. Two of these subgenera occur in South America, two in Asia, one of them penetrating into Australia and New Zealand, while Africa houses only one subgenus. When regarded separately, these subgenera may appear to be quite different and seemingly remote from each other, but considered together they form a perfect transitional series.

The five subgenera have in common the characteristic short, lobe-shaped uncus, bearing, in all species but one, a long pencil of bristles on the under side; and also by the presence of not less typical truncate spines, distributed over different places of the inner side of the valva and invariably present in all species but one.

It may seem paradoxical, but these large, dark coloured Olethreutinae might be the nearest relatives of the genus *Bactra* Stephens, most species of which are small, slender, narrow-winged and pale-coloured insects. This relationship is entirely surprising but nevertheless probable. It was first pointed out to me by my colleague, Dr. Obraztsov. Further study seems to confirm this surmise.

Starting from this relationship with *Bactra* the subgenera may be arranged as follows. *Anaphorodes* subgen. nov., South American, is the most primitive member of the group and stands most distant from *Bactra*; it possesses a not modified valva with a normal pulvinus (being the most proximal portion of a longitudinal tumescence of the disc of the valva above the sacculus). The gap is filled by other subgenera, in the following sequence. *Microcorses* Wals., in which the pulvinus is extended, so as to form a separate flap at the base of the valva; the subgenus is known only from Japan; *Cryptaspasma* Wals., South American, with a pulvinus exactly like that in the preceding genus, but with the valva somewhat blown up and little sclerotized; *Allobrachygonia* Fern., the largest subgenus with the widest distribution: from Japan to New Zealand; the genitalia are comparatively small and can be completely retracted inside the seventh abdominal segment, through the eighth; the valva is strongly blown up, the pulvinus is modified into an oval lobe crowned with a spike; the males of this group may be in possession

of secondary sexual characters, viz., a diversely developed costal fold and a fold at the base of the dorsum of the hind wings, sometimes also extensive coremata on 5-8 abdominal pleurites. Finally, the fifth is *Metaspassma* subgen. nov., African; this is the key form with regard to the relationship of the whole genus, with *Bactra*; *Metaspassma* shows the beginning of a differentiation of a separate lobe of the cucullus, armed with a palisade or corona of the characteristic truncate spines, exactly in the same way as is armed the separate lobe of the cucullus, the valvula, in two subgenera of *Bactra*. Consequently I believe the second top of the cucullus in *Metaspassma* to be homologous with the valvula in those subgenera (*Chiloides* Butl. and *Nannobactra* Diak.). It seems to me that *Anaphorodes* is ancestral to *Metaspassma*, and that this in turn is in some way ancestral to *Bactra*.

A novel fact, interesting from a general point of view, came to light during the present revision. As is generally known, the popular controversy whether the Tortricoid group Olethreutinae (Eucosmidae of some authors) is an independent family or only a subfamily of the Tortricidae, is to a great extent supported by the evidence of the cubital pecten in the hind wings. This pecten is present in the "Eucosmidae", absent in the Tortricidae.

Now the cubital pecten in *Cryptaspassma* appears to be in diverse stages of development; it may be normal in some species, while in others it is reduced to a series of fine, sparse hairs, situated only towards the base. As Dr. Obraztsov and myself jointly noticed to our great surprise, during a recent stay at the British Museum, one species, *C. (Allobrachygonia) angulicostana* Wals., possesses a normal cubital pecten in the female, while it is entirely absent in the male! This discovery makes the presence of the cubital pecten much less reliable as a distinctive character. It also provides a strong support for the classical opinion that the Olethreutinae are only a subfamily of the Tortricidae.

Genus **Cryptaspassma** Walsingham 1900

(Text figs. 1a-d)

Cryptaspassma Walsingham 1900, Ann. Mag. Nat. Hist., ser. 7, vol. 5, p. 463 (Type, by original designation, *Penthina? lugubris* Felder 1875, ♂, actually ♀, Brasil). — Fernald 1908, Tortr. Genera & Types, p. 46, 62. — Fletcher 1929, Mem. Agr. Ind., Ent., vol. 11, p. 60 (syn.: *Acharneodes* Meyr.).

Brachygonia Walsingham 1900, Ann. Mag. Nat. Hist., ser. 7, vol. 5, p. 464 (praeocc.). (Type, by original designation and monotypy, *Brachygonia angulicostana* Walsingham 1900, ♂ ♀, Japan). — Fernald 1908, Tortr. Genera & Types, p. 47, 62 (praeocc.). — Fletcher, 1929, Mem. Agr. Ind., Ent., vol. 11, p. 34 (praeocc.; Tortricid?). *Syn. nov.*

Microcorses Walsingham 1900, Ann. Mag. Nat. Hist., ser. 7, vol. 5, p. 465 (Type, by original designation and monotypy, *Microcorses marginifasciatus* Walsingham 1900, ♂, Japan). — Fernald, 1908, Tortr. Genera & Types, p. 47, 62. — Fletcher, Mem. Agr. Ind., Ent., vol. 11, p. 139 (syn. of *Cnephasia?*). *Syn. nov.*

Allobrachygonia Fernald 1908, Tortr. Genera & Types, p. 62 (nom. nov. pro *Brachygonia* Walsingham 1900 nec Kirby 1889). (Type, by original designation and monotypy, *Brachygonia angulicostana* Walsingham 1900). *Syn nov.*

Acharneodes Meyrick 1926, Ann. S. Afr. Mus., vol. 23, p. 327. (Type, by original designation, *Notocelia helota* Meyrick 1905, ♂ ♀, Ceylon). — Fletcher 1929, Mem. Agr. Ind., Ent., vol. 11, p. 2, 60 (syn. of *Cryptaspasma*).

Head (text figs. 1a, b, d) with closely appressed dense scales, sometimes slightly rising on forehead so as to form two short tufts. Ocellus posterior. Proboscis moderate or short. Antenna thickened in male and with the basal

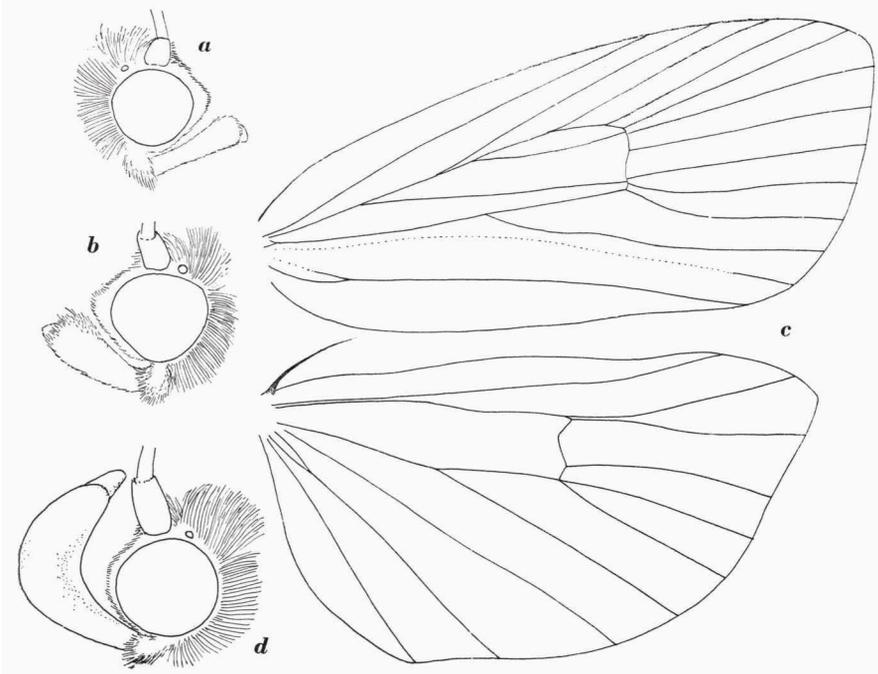


Fig. 1. Heads and wing neuration of the genus *Cryptaspasma* Wals. *a*, *C. (C.) lugubris* Feld., head, male; *b*, the same, female; *c*, wing neuration; *d*, *C. (Allobrachygonia) syostoma* spec. nov., head, male.

fourth sometimes flattened, fasciculate-ciliate, sometimes serrulate towards apex. Palpus in male ascending, more or less appressed to face, basal segments sometimes long-scaled with a projecting tuft, median segment long, reaching to forehead or exceeding it, sometimes clavate, smooth, sometimes roughish along the top only; palpus in female more thickened beyond middle, sometimes roughish towards apex above and beneath; terminal segment short, obtuse, sometimes concealed. Thorax sometimes with a dense, rounded and appressed posterior crest. Abdomen with diversely developed, sometimes

extensive, coremata on segments 8 to 5, or less. Sometimes all femora with very dense brushes of scales below, posterior tibia dilated with bristly scales above and beneath.

Fore wing (text fig. 1c) with 12 veins, all separate. 2 from beyond 2/3, 3 and 4 approximated from angle, 7 separate, to termen, 9 approximated to 8, 11 from slightly before middle of cell; sometimes with a raised patch of scales on the surface; in male sometimes with a diversely developed costal fold, or with a triangular frontal brush of dense scales instead. Upper parting vein from between 10 and 11 to base of 7, lower parting vein from base of cell to just below base of vein 5.

Hind wing with a cubital pecten of diverse development, sometimes slight or even appearing absent in male, usually normal in the two sexes. 8 veins, all separate. 2 from well beyond middle, 3 and 4 closely approximated, connate or seldom stalked, 5 approximated towards base, 6 and 7 closely approximated towards base.

Genitalia as described in the following key to subgenera and under the subgenera.

Walsingham originally designated *Penthina? lugubris* Felder & Rogenhofer (Brazil) as the type of the genus. He thought that the series of Asiatic specimens before him, from Darjeeling, Assam, Perak and Batian Island, all belonged to this Brazilian species. However, *Cryptasasma lugubris* Walsingham nec Felder appears to belong to the subgenus *Allobrachygonia*, as is explained below. But by Walsingham's designation of Felder's species as the type of the genus the nominotypical subgeneric name *Cryptasasma* pertains to the South American species, while the Asiatic subgenus receives the name *Allobrachygonia* Fern.

The discrimination of the subgenera is indicated in the following key.

KEY TO THE SUBGENERA

1. Male genitalia with a free pulvinus, being a densely scaled lobe or a smooth rounded process at the base of the valva. 2
- Male genitalia without such pulvinus 4
2. Valva swollen; pulvinus smooth, rounded, with a large cusp on top. Asiatic species *Allobrachygonia* Fern.
- Valva not swollen; pulvinus, a lobe with a brush of rhopaloid hair-scales. 3
3. Pulvinus, a small hairy lobe; outer edge of valva emarginate, thus separating sacculus from cucullus. Asiatic species . . . *Microcorses* Wals.
- Pulvinus, a big densely haired lobe; outer edge of valva not emarginate,

- sacculus being not distinctly separated from cucullus. South American species *Cryptaspassma* Wals.
4. Valva slightly swollen at base; sacculus undefined; cucullus slender, with a simple palisade of truncate bristles; socii developed.
Metaspassma subgen. nov.
- Valva normal, not swollen at base; sacculus well-defined, triangularly projecting; its top extended into a long, pointed process; cucullus broader; socii vestigial *Anaphorodes* subgen. nov.

Subgenus 1. **Anaphorodes** nov.

(Pl. 1 figs. 2, 3)

Head and antenna as in the subgenus *Cryptaspassma*. Proboscis weaker, rather short. Thorax with a hardly indicated posterior crest.

Fore wing without raised scales, in the male without a costal fold, neuration as in the subgenus *Cryptaspassma*.

Hind wing with cubital pecten formed by a few fine dark hairs only, appressed to surface and almost concealed by a tuft of hairs situated just below the cubital vein. Veins 3 and 4 connate.

Male genitalia (pl. 1 figs. 2, 3) little specialized, but immediately recognizable as being of the *Cryptaspassma* group by the peculiar brush-like hair-pencil of the uncus. Socii, rounded verrucae covered with sparse hairs. Pulvinus normal, not developed into a free lobe. Valva strong, armed with series of truncate bristles in several rows; cucullus narrowed, rounded and projecting; sacculus triangularly prominent, densely haired and bristled, top of the sacculus extended into a pointed long cusp, with a patch of strong bristles below its base. Coremata, two moderate brushes, one on each side of the eighth abdominal segment.

Female genitalia unknown.

Type of the subgenus, *Olethreutes anaphorana* Walsingham 1914 (♂, Panama).

Cryptaspassma* (*Anaphorodes*) *anaphorana (Walsingham 1914)

combin. nov.

(Pl. 1 fig. 3)

Olethreutes anaphorana Walsingham 1914, Biol. Centr.-Amer., Heter., vol. 4, p. 249, pl. 7, fig. 23 (♂, Panama).

Distribution. Panama.

Male genitalia (pl. 1 fig. 3). Socius, a small rounded prominence, sparsely haired. Valva elongate, with a triangularly prominent, bristly sacculus; cucul-

lus rather broad, rounded, with a subapical patch of some three rows of truncate bristles (broken on the right side in the mount). Top of sacculus extended into a long and strong cusp, with a patch of truncate spines below its base (Spc₂). Aedocagus moderately long, attenuated. (Slide no. 2778, holotype).

Material studied. P a n a m a, Chiriqui, Volcan de Chiriqui, 2000-3000 ft., 1881-2 (G. C. Champion), holotype, ♂, unique, genitalia slide no. 2778 B.M. Type in the British Museum. In the original description the palpi are stated to be "erect". They are ascending and closely approximated to face.

Cryptaspsma (Anaphorodes) anisopis spec. nov.

(Pl. 1 fig. 2)

♂ 19 mm. Head, thorax, fuscous-brown, tegulae tinged fulvous-brown. Antennae pale brownish, becoming blackish-brown towards base. Palpus light bronze-brown; median segment slightly clavate, smooth; terminal segment entirely concealed. Legs light fuscous, posterior leg pale ochreous. Abdomen dark brown.

Fore wing elongate-suboval, without fold, costa clearly bent beyond base, gently curved posteriorly, apex rounded, termen almost straight, hardly convex. Light tawny-brown, strongly suffused throughout with grey with a purplish gloss, except in anterior half of disc. Markings dark grey, dark brown and blackish-brown. Anterior half of costa suffused with grey, with a series of closely spaced blackish transverse blotches, becoming shorter and more triangular posteriorly, apical half of costa with some five larger, trapezoidal spots; a large invert-trapezoidal blackish-brown patch just before and below centre of disc, occupying almost central fourth of wing length; upper edge of this patch slightly outwards-oblique, ill-defined, other edges distinct; accentuated by bright tawny-fulvous narrow margin of ground colour; space above this patch rather suffused with grey and with a cloudy blackish-brown mark from edge of large patch to upper angle of cell; an inwards-oblique, erect-triangular whitish spot along the closing vein, posteriorly slightly mixed with ochreous; two ultimate costal spots connected by an irregular dark brown band with dorsum before tornus; the space between this band and the preceding markings occupied by a rather broad, straight, pale greyish band with a purple gloss; some irregular blackish-brown spots in apex and along upper half of termen; dorsum rather suffused with grey. Cilia purplish-grey, with a whitish basal line and a blackish subbasal band.

Hind wing deep fuscous-bronze with a slight coppery tinge. Cilia fuscous with a pale basal line and a darker fuscous subbasal fascia.

Male genitalia (pl. 1 fig. 2). Similar to those in the preceding species (*C. (A.) anaphorana*), differing as follows. Tegumen higher and narrower. Valva with a thickened and much larger pulvinus, densely covered with fine long hairs; cucullus longer and narrower; lower edge of sacculus distinctly concave, the cusp at its top less curved; truncate bristles not concentrated at the base of cucullus but extended in a single row towards sacculus; Spc_2 not below but above the base of cusp. Cornuti, a tube with longitudinal folds, one of which is stronger sclerotized than the other. (Slide no. 2858, holotype).

Material studied. Brazil, Santa Catharina, Neu Bremen, 18.IV.1931 (F. Hoffmann), holotype, ♂, gen. no. 2858 D. Type in the Vienna Museum (it was among specimens of "*Acharneodes*" *acrolophoides* Meyr., but is not marked as syntype).

Differs from *C. (A.) anaphorana* by the male genitalia and by the more contrasting markings.

Subgenus 2. **Microcorses** Walsingham 1900 status nov.

(Pl. 1 fig. 4)

Microcorses Walsingham 1900, Ann. Mag. Nat Hist., ser 7, vol. 5, p. 465 (Type, by original designation and monotypy, *Microcorses marginifasciatus* Walsingham 1900, ♂, Japan).

Head as in the subgenus *Cryptasasma*, palpus with terminal segment a trifle more exposed. Thorax apparently without a crest (worn).

Fore wing without raised scales, without a costal fold in male. Vein 2 originating from 2/3. Otherwise as *Cryptasasma*.

Hind wing in ♂ without a distinct cubital pecten (only in one specimen weakly developed in the right hind wing only); instead, a scent organ between the basal portions of veins 1b and 1c, before their bases, on the upper side of wing, being an ovoid hyaline vesicle deeply sunk in a fold of the wing membrane, fold and vesicle covered and completely concealed from above by a shining smooth flap of small and oval modified scales. Veins 3 and 4 connate.

Femora normally scaled. Anterior tibia slightly dilated with longer scales.

Male genitalia. Uncus, a triangular sclerite with a long hair-pencil. Socius, a small knob with a few hairs. Valva with a free pulvinus, shaped as a rather large flap, situated towards costal angle of the base of valva, clothed with dense rhopaloid hairs. Edge of valva deeply emarginate between cucullus and sacculus; cucullus top with curved hairs above and with short truncate bristles towards emargination of the valva; sacculus well-defined; prominent, hairy; Spc_2 , a group of truncate and slightly dilated bristles.

Type of the subgenus, *Microcorses marginifasciata* Walsingham 1900 (♂, Japan).

Cryptasasma (Microcorses) marginifasciata (Walsingham 1900)

combin. nov.

(Pl. 1 fig. 4)

Microcorses marginifasciatus Walsingham 1900, Ann. Mag. Nat. Hist., ser. 7, vol. 5, p. 466 (♂, Japan).

Distribution. Japan.

Material studied. Holotype, ♂ "J a p a n, Pryer 1886, no. 70592" (printed label, number written), Walsingham Coll., gen. slide no. 1861 B.M.; paratype, no. 70557, 1 ♂, gen. no. 109 B.M.; "Kyushu, Prov. Higo, Iida San, 19.V. 1896 (A. E. Wileman)", "Wileman Coll., B.M. 1922-261", 1 ♂, gen. no. 2882 D.

The male genitalia (pl. 1 fig. 4, as described for the subgenus above), show a remarkably close affinity towards the South American subgenus *Cryptasasma*, being in possession of an exactly similar hairy and free pulvinus. This is one of the proofs of the close connection between all the subgenera of the genus *Cryptasasma*.

The male scent organ at the base of the upperside of the wing has already been noticed by Walsingham, and shortly recorded in the original description. This organ probably has only specific significance, being merely a manifestation of sexual dimorphism, as is amply discussed with the subgenus *Allobrachygonia*, below.

Subgenus 3. **Cryptasasma** Walsingham 1900 status nov.

(Pl. 1 figs. 5-7, pl. 2 fig. 9)

Cryptasasma Walsingham 1900, Ann. Mag. Nat. Hist., ser. 7, vol. 5, p. 463 (Type, by original designation, *Penthina* ? *lugubris* Felder 1875, ♀, Brazil).

Distribution. South America.

Palpus with median segment smoothly scaled in male, rougher in female, terminal segment obtuse, almost concealed. No costal fold in male. Hind wing with veins 3 and 4 stalked in male, separate in female. Cubital pecten formed by a few very long and fine hairs, appressed and not clearly originating from the cubital vein, more or less merging in a brush of hairs situated below that vein in the male; in the female cubital pecten somewhat more distinct. Otherwise as stated for the genus.

Male genitalia (pl. 2 fig. 9) with a voluminous pulvinus shaped as a free flap in the median portion of the base of the valva, clothed with dense and long rhopaloid hairs. Socius: an apical verruca with long, rather sparse

hairs. Valva pointed, outer edge with several rows of truncate bristles, increasing in size centrad. Coremata, two very dense brushes of long scales, one on each side of the eighth abdominal segment.

Female genitalia (pl. 1 figs. 5-7) with the lamella antevaginalis formed by a modified, thickened and sclerotized transverse collar, deeply emarginate in middle or divided in two, with a retinate surface and aciculate along the upper edge. Colliculum, an asymmetrical invert-trumpetlike tube. Signa very large, attached at the very base of the ductus bursae, broad blades with rounded tops.

Type of the subgenus, *Penthina?* *lugubris* Felder 1875, ♀, Brazil.

***Cryptasasma (Cryptasasma) lugubris* (Felder 1875)**

(Pl. 1 figs. 5-7, pl. 2 fig. 9)

Penthina ? lugubris Felder 1875, Reise Novara, Lep., vol. 5, pl. 138 fig. 32 (♀, Brazil, Amazonas).

Cryptasasma lugubre, Walsingham 1900 (partim), Ann. Mag. Nat. Hist., ser. 7, vol. 5, p. 464 (describes type specimen; description of Indian material, not this species).

Distribution. Brazil, Amazonas.

Male genitalia (pl. 2 fig. 9). Tegumen strong, broad and depressed. Uncus moderately long, with a long hair-pencil on the underside. Socius moderate, with long bristles. Gnathos apparently indicated, a slender bowed rod, membraneous in centre. Valva rather narrow and slender, cucullus long, bristles along outer edge of valva in many rows, becoming short outwardly, all bristles of about the same shape, truncate, most with slightly dilated top. Aedoeagus moderately long, slightly and gradually attenuated towards top. Cornutus is a sclerotized longitudinal fold of the vesica. Corema, a very dense brush of black hair-scales on a pad on each side of the eighth segment. (Slide no. 2766 B. M.).

Female genitalia (pl. 1 figs. 5-7). Ninth segment sclerotized. Lamella antevaginalis shaped as a high collar, thickened, darkly sclerotized, with clearly reticulate surface. Colliculum trumpet-like, asymmetrical, strongly oblique, its lower portion forming a stronger sclerotized ring (distinct along edges, cf. arrows); ductus bursae short; corpus bursae large, pear-shaped, wall embossed; signa very large, about equal in size and shape, broad, with a rounded top, right signum situated slightly higher than left, and with a slightly more extended basal plate. (Slide studied, holotype, female, no. 2718 B.M.; no. 2719, B.M.).

Material studied. Brazil, holotype, ♀, "fl. Amazonas", "Bates", "276", "B. in cop." gen. slide no. 2718 B. M.; "Brazil, Teffe, 1.20 (Parish)", in Meyrick coll., 1 ♂, gen. slide no. 2766 B. M.; the same labels, 1 ♀, gen.

slide no. 2719 B. M. "French Guiana, St. Jean du Maroni (Coll. Le Moul't)". "Brit. Mus. 1911-491", 1 ♀, gen. slide no. 2789 D. Type in the British Museum (Natural History).

Cryptasasma (Cryptasasma) acrolophoides (Meyrick 1931) combin. nov.

(Pl. 2 figs. 8, 10-12)

Acharneodes acrolophoides Meyrick 1931, Exot. Microl., vol. 4, p. 128 (♂ ♀, Brazil, Jaragua).

Distribution. Brazil, Jaragua.

Male genitalia (pl. 2 fig. 8). Very similar to those of the preceding species but differing as follows. Valva broader, cucullus shorter; pulvinus much longer with an extremely dense covering of hair-scales; bristles on the outer side of the valva extending further towards cucullus, and of two distinct types: longer, truncate, brown bristles forming an inward group, gradually replaced outwardly by short, pointed, black bristles. Otherwise similar to *C. (C.) lugubris*. (Slides studied, 2910 D, lectotype; 2859 D, paratype, Vienna Mus.; 2788, paratype, Brit. Mus.).

Female genitalia (pl. 2 figs. 10-12). Similar to those in *C. (C.) lugubris*, differing only as follows. Lamella antevaginalis with reticulate surface only on its median half, laterally aciculate throughout. Colliculum with lower portion a trifle broader. Signa exactly equal, right signum with a hardly extended basal plate (cf. arrow). Otherwise similar to *C. (C.) lugubre*. (Slides examined, 2908; 2909, figured; paratypes, in Vienna Mus.).

Material studied. Lectotype, ♂, hereby selected, gen. no. 2910 D, Brazil, "Sta. Catharina, Jaragua, Fr. Hoffmann" (printed label, with the date written in ink on the other side "31.VIII.1927"). Paratypes have the same labels, but different dates, viz., 1 ♂, gen. no. 2859 D, 31.VIII.1927; ♀, gen. no. 2908 D, "VI.1926"; 1 ♀, gen. no. 2909 D, "21.VIII.1927" (all from the Vienna Mus.). 1 ♂, the same label, but written in Meyrick's hand, gen. slide no. 2788 D (in the Brit. Mus.).

Meyrick cites "8 ex. (Type Vienna Mus.)". Of these I was able to study seven specimens. The type was not indicated by Meyrick, three of the six specimens, kindly loaned to me by the Vienna Museum, bore red "TYPE" labels, 2 ♂, 1 ♀. One of the males is selected as lectotype above (in Vienna Museum).

Cryptasasma (Cryptasasma) athymopis spec. nov.

(Pl. 2 figs. 13-14)

♀ 29 mm. Head and palpus ochreous-tawny, palpus with median segment

abruptly dilated at apex, terminal segment brown, almost concealed. Thorax dark fuscous-brown, posteriorly becoming dull dark greenish-grey. Abdomen dark brown, venter, paler, tinged ochreous.

Fore wing elongate-subtriangular, dilated, broadest at $4/5$, apex moderately rounded, termen almost straight, hardly convex. Rather dark fuscous, marbled with fuscous-black, marbling tending to form rather irregular, little oblique, transverse strigulation. Costa fuscous-grey, with a regular series of numerous erect-triangular blackish suffused marks; basal half of wing suffused with dark greenish-grey, this colour especially distinct and not interrupted, on dorsum below fold; a faint large roundish patch, indicated by irregular and interrupted narrow fuscous-black edge, being part of the marbling; this patch extending as a small rather well-defined, invert-trapezoidal mark below fold slightly beyond its middle; a sordid ochreous, whitish-centred, dark fuscous-edged spot on closing vein, small and not conspicuous; terminal fifth of wing without greenish-grey suffusion, tinged warm brown; cloudy blackish marginal marks in apex and along termen. Cilia (worn) grey, with a whitish basal line.

Hind wing fuscous-bronze, more greyish-fuscous and dull towards dorsum, brighter and warmer brown-bronze tinged towards apex. Cilia (worn) concolorous, with a fine whitish basal line.

Material studied. P e r u, Carabaya, Oconeque, 7000 feet, II.1905 (G. Ockenden), 1 ♀, holotype, gen. slide no. 2786 D, in the British Museum.

Female genitalia (pl. 2 figs. 13-14) differ from those of *C. (C.) lugubris* as follows. Lobi anales shorter and slightly broader, more oval. Lamella antevaginalis broad, invert-trapezoidal, with an oblique longitudinal ridge on each side converging in middle of lower edge, so as to separate an invert triangle; surface not retinate but densely aciculate, making the appearance of being densely and finely squamose. Colliculum (lower portion turned upward in mount and viewed from below), about as in *C. (C.) lugubris*. Signa very wide above, more attenuated and with narrower points. (Slide no. 2786 D, holotype).

***Cryptasasma (Cryptasasma) microloga* spec. nov.**

(Pl. 4 figs. 23-25)

♀ 24 mm. Head fuscous-tawny, palpus pale ochreous, paler apically; rather slender, ascending, median segment little dilated, terminal exposed (probably palpus worn). Thorax dark brown, mixed with fuscous, tegula mixed with fulvous. Abdomen dark purple.

Fore wing elongate-suboval, moderately dilated, apex rounded, termen

gently convex. Purplish-fuscous, terminal fourth brown-fuscous. Markings dull dark brown. Anterior half of costa with some seven small transverse blackish marks; posterior half of costa with four triangular dots, alternating with slender strigulae, two such strigulae between first and second dots; a rather conspicuous whitish-yellow small spot on closing vein, dark-edged; a large longitudinal dark brown patch below posterior half of cell, semioval, ill-defined, extending below fold in its middle. Cilia (worn) fuscous, with a pale basal line.

Hind wing rather dark bronze-fuscous. Cilia light grey with a pale basal line.

Female genitalia (pl. 4 figs. 23-25) very similar to those in the preceding species, differing as follows. Signa much more slender and narrower, with a trumpet-like, dilated and oblique base. (Slide no. 2907D, holotype).

Material studied. Brazil, Santa Catharina, Neu Bremen, 14.VI.1931, Fr. Hoffmann, 1 ♀, holotype, gen. slide no. 2907D. This specimen was among the material named by Meyrick as "*Acharneodes acrolophoides*", but without a red type label.

Closely allied to *C. (C.) athymopis* but smaller, with more rounded fore wing and a convex termen, and with distinct signa.

Subgenus 4. **Allobrachygonia** Fernald 1908 status nov.

(Pl. 3 figs. 19, 21, pl. 6 figs. 43-45)

Brachygonia Walsingham 1900, Ann. Mag. Nat. Hist., ser. 7, vol. 5, p. 464 (praeocc.) (Type, by original designation and monotypy, *Brachygonia angulicostana* Walsingham 1900, ♂ ♀, Japan).

Allobrachygonia Fernald 1908, Genera Tortr. & Types, p. 62 (nom. nov. pro *Brachygonia* Wals.). (Type *Brachygonia angulicostana* Wals., by original designation).

Acharneodes Meyrick 1926, Ann. South Afr. Mus., vol. 23, p. 327 (Type, by original designation, *Notocelia helota* Meyrick 1905, ♂ ♀, India).

Head as in the subgenus *Cryptasasma* but palpus usually more slender in male, ascending and appressed to face, median segment not clavate, terminal segment obliquely ascending or very short, sometimes concealed; seldom palpus in male modified (elongate, sickle-shaped, and thickened); palpus in female with median segment less ascending, more dilated with roughish scales above and beneath. Thorax sometimes with a crest. Legs normal, sometimes posterior tibia with bristly subappressed scales above and beneath. Abdomen, with a pair of dense coremata on each side of the eighth segment, and also with dense lateral brushes of long hair-scales on segments 5-7, directed upwards and backwards, and meeting over dorsum.

Fore wing sometimes with a variably shaped costal fold, sometimes base of costa abruptly rounded and angularly bent (*C. (A.) angulicostana*); vein 2

from before 2/3, 3 and 4 rather distant, from angle, usually approximated.

Hind wing with a normal cubital pecten in the two sexes, veins 3 and 4 connate. (In the type species cubital pecten absent in the male!) Sometimes dorsum with an oval lobe, folded over upper side of wing and covered with short velvety hairs.

Male genitalia (pl. 3 figs. 19, 21). Small, somewhat flattened rostro-caudally, but valva and pulvinus swollen and vesicular; the entire genitalia are entirely retractable into the eighth abdominal segment, the intersegmental membrane between eighth and ninth segments being strongly extended, so as to form a kind of pouch, with characteristic longitudinally strigulated wall. Pulvinus, a spheroid or ovoid body at the base of the valva, crowned with a large spike, seldom with two spikes. Cucullus narrowed, with a variably shaped palisade of truncate bristles. Cornuti absent, but a part of the manica is sclerotized and forming a moderate tube which can be extended out of the aedoeagus; in that case the aedoeagus appearing much longer than it actually is.

Female genitalia (pl. 6 figs. 43-45). Signa, two unequal, strongly curved hooks, with flattened and rounded points, right signum with a stronger dilated base than the left. Lamella antevaginalis, a variably shaped, aciculate, invert-trapezoidal band, with a few bristly hairs on the inside of the ostium bursae. Colliculum, an asymmetrical, invert-trumpetlike tubular sclerite.

The genitalia of the two sexes are rather uniform which makes discrimination of the species difficult, especially where no secondary sexual characters in the males are developed; and discrimination of the females.

This is the largest subgenus. It is distributed from Japan over tropical Asia as far as Australia and New Zealand.

A noteworthy feature of the male is modification of the base of dorsum in the hind wing. Basal portion of the edge of dorsum is folded over the upper side of the wing, along its entire length, as in *C. (A.) brachyptycha* and *lasiura*, or only along its basal half, and then concealed under a tuft of loose long hairs on the upper surface, usually whitish or pale ochreous; the inside of a pocket so formed is either very smooth or covered with modified short scales; this is the case in *C. (A.) helota*, *zophocosma*, *glebaecolor*, etc.; in some other species only the extreme base of the dorsum is folded (and then easily overlooked), as in *C. (A.) geina*, or reduced to a short submarginal fold towards base, filled with long fine snow-white hairs, as in *C. (A.) hesyca*; finally, in *C. (A.) debeauforti* the edge of dorsum forms a rigid whitish vesiculation, more or less concealed by long hairs. These

11. Cucullus slender, truncate bristles to about $\frac{2}{3}$. Valva moderate . . .
helota Meyr.
 — Cucullus dilated (distinctly broader than in *helota*), truncate spines in
 a well-defined dense patch to middle of cucullus. . . *zophocosma* Meyr.
 12. Hind wing with entire dorsum folded over and forming a conspicuous
 semioval lobe on upper side. *lasiura* Meyr.
 — Hind wing with only the basal portion of dorsum forming an ill-defined
 small fold 13
 13. Fore wing with cilia ochreous, slightly barred and tipped with greyish
ochrotricha spec. nov.
 — Fore wing with cilia dark fuscous-grey or purplish 14
 14. Fore wing with ground colour deep purple with bronze and bluish reflec-
 tions. Hind wing dark fuscous-bronze . . . *haplophyes* spec. nov.
 — Fore wing with ground colour pale fuscous, with slight purplish gloss.
 Hind wing pale greyish *triopis* spec. nov.

Cryptasasma (Allobrachygonia) brachyptycha (Meyrick 1911)

(Pl. 3 fig. 16, pl. 4 figs. 26-28)

Eucosma brachyptycha Meyrick 1911, Proc. Linn. Soc. N.S. Wales, vol. 36, p. 246 (♂, Queensland, Ceylon). — 1912, Journ. Bombay Nat. Hist. Soc., vol. 21, p. 869 — Clarke 1955, Meyrick's Types, vol. 1, p. 69.

Cryptasasma brachyptycha, Clarke 1958, Meyrick's Types, vol. 3, p. 323, pl. 160 figs. 1, 1a (lectotype, ♂ from Ceylon, selected).

Distribution. Ceylon.

The rather terse original description pertains to the Queensland specimen which is lost. Herewith the record of the species from Australia becomes uncertain. The lectotype is from Ceylon. Here follows a redescription based upon material from Sumatra, without doubt conspecific with the lectotype.

♂ 14-18 mm. Head and palpus brownish-black; palpus strongly ascending, median segment hardly clavate, very gently thickened below top, with dense, smoothly appressed scales, velvety; terminal segment short, pointed. Antenna short, thickened, basal fourth flattened. Thorax without a crest. Anterior femur moderately thickened with short appressed scales. Abdomen blackish-purple at base, becoming grey posteriorly, segments 5-8 with strong lateral tufts of glossy greyish hair-scales, directed backwards and upwards, and meeting above dorsum.

Fore wing elongate-triangular, costa with a short triangular lobe (text fig. 1e) reaching to $\frac{1}{5}$, projecting forward and covered with a brush of dense dark grey hairs; posteriorly costa moderately curved, apex rounded, termen gently convex, oblique. Purplish-grey, finely punctulate and marbled with dark brown, markings dark brown. Posterior $\frac{1}{5}$ of costa with four sub-

triangular blackish spots, alternating with small dots, two posterior of these small dots, minute; a large triangle of dark brown marbling, extending on costa from $\frac{1}{4}$ to $\frac{2}{3}$, top almost reaching middle of dorsum; centre of this triangle formed by ground colour except a median double dark brown branch from top of triangle to first large costal dot; this triangle edged below by a rather bright ochreous suffusion; a roundish spot of similar suffusion in disc beyond cell; an irregular dark brown transverse band from the fourth costal spot, sinuate and convex posteriorly along its upper portion, abruptly narrowed below middle of disc, to tornus, with an ill-defined branch from its

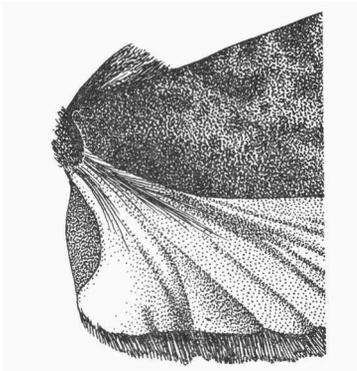


Fig. 1 e. *Cryptaspsma (Allobrachygonia) brachyptycha* (Meyr.), male, base of right fore wing with costal bush of hairs, and of right hind wing with dorsal fold.

middle to dorsum before tornus; a serrulate dark brown marginal streak in apex and along upper portion of termen. Cilia dark fuscous-grey with a pale base.

Hind wing with a rather broad semioval dorsal lobe, folded over upper side; purple-blackish, with velvety short hairs; hind wing rather dark brownish-bronze, white along costa, whitish on dorsum around lobe which is glossy dark grey. Cilia fuscous, darker around apex, base paler. Veins 3 and 4 connate.

Male genitalia (pl. 3 fig. 16). Very distinct. Uncus broad. Socius minute. Valva moderate, with cucullus very broad, rather densely covered with fine bristles, truncate spines absent, instead, a sclerotized longitudinal ridge. Pulvinus slender, not smooth but somewhat plicate, sclerotized and hairy, with one large clavate spike on top. Aedocagus moderate, sclerotized (Slide no. 2706 D, of the redescribed specimen; no 7125 B.M. of the lectotype).

♀ 19 mm. Neallotype. Head, palpus, and thorax, deep purple, a small tuft between bases of antennae touched with ochreous, palpus above greyish. Abdomen dark bronze-fuscous, venter whitish-ochreous.

Fore wing elongate-triangular, costa gently curved throughout, apex obtuse, termen gently convex, oblique. Deep purple, irrorated with brown. Markings dark brown, ill-defined, but the median triangle traceable, as well as the preterminal fascia which is more slender and partially interrupted; dark marginal line from apex to tornus; a small whitish dot on closing vein. Cilia as in male.

Hind wing bronze-brown with a brighter bronze gloss than in male. Cilia glossy fuscous-bronze, apical half pale-greyish.

Female genitalia (pl. 4 figs. 26-28). Lobi anales rather small. Ninth segment moderately sclerotized. Sterigma shaped as a slender band, finely aciculate, in middle (lamella antevaginalis proper) bent downward and slightly dilated, with a few bristles inside. Ostium bursae circular. Colliculum very oblique, rather narrow above, dilated portion tolerably broad. Right signum with a larger basal plate which has a slender appendix above internally. (Slide no. 2710 D, neallotype).

Material studied. Central West Sumatra, Fort de Kock, 920 m, VIII.1921; III.1922; 1924. 3 ♂, 1 ♀. The male specimen redescribed, the same locality, 1926, gen. no. 2706 D; neallotype, female, the same, 1925, gen. no. 2710 D (E. Jacobson). In total 4 ♂, 2 ♀. Type in the British Museum; neallotype in the Leiden Museum.

A smaller species, easily recognizable by the tufted costal lobe of the fore wings and the dorsal lobe of the hind wings in the male.

***Cryptasasma (Allobrachygonia) systoma* spec. nov.**

(Text fig. 1 d; pl. 5 fig. 36, pl. 6 figs. 49-51)

♂ 21 mm. Head dark fuscous. Antenna thickened towards base, shortly fasciculate-ciliate; blackish-fuscous. Palpus enlarged, recurved, by far exceeding vertex of head; smooth-scaled, median segment sickle-shaped, gradually thickened, broadest in middle, compressed laterally, terminal segment rounded, appearing short outwardly, longer inwardly (top of median segment being very obliquely inwards-truncate). Thorax fuscous. Abdomen fuscous-brown.

Fore wing broad, elongate-subrectangular, along basal half rather abruptly dilated, posterior half with tolerably parallel edges; costal fold narrow, to middle of costa; costa gently curved along anterior half, straight posteriorly, apex subobtuse, rather long, termen straight, oblique. Pale fuscous, with a strong brassy gloss, irrorated with darker fuscous, markings blackish-fuscous with a purple gloss (strongly rubbed). The following usual markings still traceable: an irregular suffusion on end of cell, another below middle of cell;

a strongly inwards-oblique irregular fascia from costa before apex to dorsum before tornus, dilated downward; a narrow, irregular marginal fascia along termen, partially interrupted, linear in apex and in tornus. Cilia fuscous (worn).

Hind wing with cubital pecten; only extreme base of dorsal edge forming a small, not conspicuous fold on upper side; light purplish-fuscous, with some prismatic reflections, dorsum with a brassy gloss. Cilia fuscous (worn).

Male genitalia (pl. 5 fig. 36) extremely similar to those of *C. (A.) glebaecolor*, but with valva broader, cucullus more slender, pulvinus more triangular and broader, socius smaller. (Slide no. 2712 D, holotype).

♀ 16-18 mm (allotype 18 mm). Head fuscous-tawny. Antenna, thorax, purple. Abdomen light purple-fuscous, towards base becoming pale ochreous.

Fore wing more gradually dilated posteriorly, costa being gently bowed along basal half, termen somewhat longer, apex less rounded than in male. Fuscous-leadened, finely retinate with dull dark fuscous, markings darker fuscous. A yellowish point on closing vein, preceded by an almost S-shaped discal mark, broad above, attenuated below, inwards-oblique; preterminal fascia double, formed by dark retination; and consisting of a V-shaped mark on costa reaching almost to vein 3, narrowly connected with a quadrate spot on dorsum before tornus; some retination or marbling on termen. Cilia fuscous with a light ochreous base.

Hind wing with a strong cubital pecten; light fuscous, becoming darker in apex. Cilia fuscous, with a pale base and a darker subbasal line.

Female genitalia (pl. 6 figs. 49-51). Lamella antevaginalis slightly broader in middle, left signum with a smaller basal plate. Otherwise as in *C. (A.) helota*. (Slide no. 3003 D, allotype, no. 2709 D, paratype).

Material studied. West Java, Mount Gedé-Panggrango, Tijbodas, 1400 m, IV.1949 (A. M. Neervoort), 1 ♂, holotype, gen. no. 2712 D; 1 ♀, allotype, gen. no. 3003 D, 1 ♀, paratype, gen. no. 2709 D; 2 ♀, paratypes. 1 ♂, 4 ♀. Types in the Leiden Museum.

Nearest to *C. (A.) glebaecolor*, but smaller, with broader and more pointed wings; male immediately recognizable by the remarkably modified palpi.

***Cryptasasma (Allobrachygonia) helota* (Meyrick 1905)**

(Pl. 3 fig. 17, pl. 4 figs. 29-31, pl. 6 figs. 40-42)

Notocelia helota Meyrick 1905, Journ. Bombay Nat. Hist. Soc., vol. 16, p. 586 (♂ ♀, Ceylon). — Clarke 1955, Meyrick's Types, vol. 1, p. 155.

Eucosma helota, Meyrick 1911, Proc. Linn. Soc. N.S. Wales, vol. 36, p. 246.

Acharneodes helota, Meyrick 1926, Ann. South Afr. Mus., vol. 23, p. 327.

Cryptasasma lugubre (partim), Walsingham 1900 nec Felder 1875, Ann. Mag. Nat. Hist., ser. 7, vol. 5, p. 463-464.

Cryptaspasma lugubris Diakonoff 1949 nec Felder 1875, Bijdr. Dierk., vol. 28, p. 135 (syn. *helota*, *brachyptycha*, *zophocosma*).

Cryptaspasma helota, Clarke 1958, Meyrick's Types, vol. 3, p. 323, pl. 160, figs. 2-2a (syn. *zophocosma*, *lugubris* Diak. nec Feld.; lectotype, ♀, selected).

Distribution. Ceylon.

This species may be described as follows. ♂ 14-17 mm. Antenna moderate, thickened but not flattened, ciliate, ciliations under $\frac{1}{3}$, still distinctly longer than in many other species. Palpus moderate, ascending and more or less appressed to face, smooth-scaled, slightly clavate in male, apex of median segment roughish, terminal segment short, rounded, exposed, not exceeding base of antenna.

Fore wing elongate-truncate, rather narrow; costal fold rather narrow, tumescent and slightly depressed, reaching to before middle of costa, thence very narrow, open, gradually unfolding, to $\frac{3}{4}$; costa slightly curved at base, a trifle prominent along fold, gently impressed beyond middle, hardly curved posteriorly; apex rounded, termen convex, dorsum strongly sinuate. Pale fuscous, marbled with darker, sometimes deep purple or brownish-fuscous, with markings ill-defined. Costal fold darker fuscous. Markings dark fuscous-purple. A faint basal patch on dorsum; an inwardly oblique patch in centre of wing; a small mark and three elongate spots on costa beyond fold; an ill-defined preterminal oblique band and a narrow marginal fascia; a minute, inwardly oblique pale tawny dot on upper angle of cell, sometimes absent; sometimes a pale longitudinal ochreous-tawny streak below cell, from beyond base to $\frac{2}{3}$ of wing length, conspicuous in darkened specimens but often entirely absent.

Hind wing fuscous, of variable shade of darkness, with a bronze gloss, veins slightly darker. Cilia concolorous, with a pale base and a blackish sub-basal band.

Male genitalia (pl. 3 fig. 17). Uncus with a broad base (in most mounts uncus bowed down and its base appearing as a right transverse structure); sides of this base rounded and projecting; its top almost semicircular. Socius moderate, with a dozen bristles. Valva moderately broad; cucullus long, gradually attenuated, top slender and curved; truncate spines in a dense patch on lower half of the inner side of cucullus, hardly reaching beyond middle of its length, upper half of cucullus with moderate bristles. Sacculus hardly bristled at all, a single row of hairs from the patch of spines, dilated and extending to opposite base of pulvinus. Pulvinus erect-oval, moderately broad. Hinges of valvae hardly sclerotized. Aedoeagus slightly curved, pointed. (Slide described, no. 2898 D).

♀ 22-27 mm. Head and palpus fuscous-tawny, median segment of palpus less ascending, more dilated towards apex than in male.

Fore wing elongate-subtruncate, costa more curved than in male, especially posteriorly, apex somewhat less rounded. Colouring and markings as in male, but wing much more suffused with rather dark purplish-fuscous, with a strong purple gloss, markings obscure; a conspicuous, inwards-oblique, small whitish mark on closing vein. Cilia dark fuscous.

Hind wing and cilia as in male, in the melanistic Perak specimen, a trifle darker.

Female genitalia (pl. 4 figs. 29-31, pl. 6 figs. 40-42). Ninth segment rather elongate, moderately sclerotized. Lobi anales small. Lamella antevaginalis deeply V-shaped, thickened, minutely punctulate and aciculate, with a few long bristles inside ostium bursae; area around this lamella subhyaline and also punctulate, with a well-defined refracting edge. Signa slightly variable, their shape strongly changing with their position in mount; strongly hooked, moderate, left signum more bowed, right, with a small projection of the basal plate above, and a keel or ridge, below this plate, on the inner side (Slide described, no. 2831 B.M.).

Material studied. Ceylon. Maskelyia, VI. 1904, 2 ♂, gen. no. 2781 B.M. and 2898 D; the same, I.1906, 1 ♂, gen. no. 2801 D, 1 ♀, gen. no. 2895 D; 1 ♀, gen. no. 2831 B.M.; (Pole). The same, III.1906, 1 ♂, gen. no. 2791 D (Alston); 1 ♀, IV.1905, gen. no. 2896 D (Green). South India, Nilgiri Hills, 3500 feet, VIII.1907, 1 ♂, gen. no. 2900 D.; the same, 1 ♀, IX.1910, gen. no. 2793 D (H. L. Andrewes). (Meyrick Coll. B. M.). Malay Peninsula, Perak, Gunong Hijan, 4000-4900 feet, no. 41626, 1 ♂, gen. no. 2767 B.M.; the same 1 ♀, no. 773, gen. no. 2790 D (Doherty) (Walsingham Coll.). East Java, Tengger Mountains, Nongkodjadjar, 1300 m, Mount Pandjangan, 28.V.1940, 1 ♂ (A. M. R. Wegner). 7 ♂, 5 ♀. Types in the British Museum.

Distinct by the comparatively small size, slender fore wings and narrow, well-developed costal fold in the male.

***Cryptasasma (Allobrachygonia) glebaecolor* spec. nov.**

(Pl. 3 fig. 18, pl. 5 fig. 39, pl. 7 figs 54-56)

Cryptasasma lugubre Walsingham 1900 nec Felder 1875 (partim), Ann. Mag Nat. Hist., ser. 7, vol. 5, p. 463-464.

♂ 25-26 mm. Head dark fuscous. Antenna normal, shortly fasciculate-ciliated; purple-fuscous. Palpus rather slender, ascending close to face, median segment gradually dilated, roughish at tip only, terminal segment very short, exposed; dark purple. Thorax purplish-fuscous mixed with pale fuscous. Abdomen fuscous-grey.

Fore wing elongate-triangular, costal fold narrow, to middle, costa gently

curved along fold, impressed before its end, faintly curved again posteriorly, apex rounded, termen convex, oblique. Pale fuscous, finely marbled with darker, with a strong purple gloss. Markings dark fuscous, rather well-defined. Basal patch indicated by coarse marbling, edge well-defined, angulate, top just above fold at $\frac{1}{4}$ of wing length; costal patch dark fuscous-purple, posterior half of costa with small unequal subcostal spots; an irregular strongly inwards-oblique series of discal spots from second costal spot (at $\frac{2}{3}$ of costa) towards $\frac{1}{3}$ of dorsum, formed by a rounded-triangular patch in end of cell, including (in paratype) a minute whitish-ochreous dot on closing vein, and by a contiguous inverted-triangular patch below cell; posterior angle of the latter patch continued upwards by a strigula to upper edge of cell, its top reaching below fold halfway towards dorsal margin; an irregular preterminal fascia of dark fuscous marbling, originating from the third and fourth costal spots, furcate above, strongly sinuate outwards beyond cell, thence turning inwards, and running into an irregularly quadrate spot above tornus; a narrow subterminal fascia parallel to lower half of termen; a moderate marginal suffusion from apex to tornus. Cilia dark fuscous with pale ochreous base and a faint submedian band.

Hind wing with cubital pecten; dorsum with the edge of basal half turned up and folded over on the upper side, forming a slightly dilated pocket filled with fine long hairs, scaling on the outside of the fold dense and roughly appressed. Hind wing rather light bronze-fuscous, with slightly darker veins, and with prismatic reflections. Cilia fuscous with bronze gloss, base ochreous, a submedian band, silvery-whitish.

Male genitalia (pl. 3 fig. 18, pl. 5 fig. 39). Resembling those of *C. (A.) helota* but differing as follows. Uncus more rounded, socius larger, with more bristles. Valva much broader and more vesicular in middle, with a well-isolated longitudinal band of fine bristles, running from top of cucullus to before middle of lower edge of valva; cucullus more slender than in *C. (A.) helota*, patch of truncate spines broader and curved at base, also longer, running almost to top of cucullus; pulvinus very large, semioval, its spine slender. Aedoeagus considerably narrowed towards apex. (Slides nos. 2899 D, paratype, 2768 B.M., holotype).

♀ 29 mm. Head and palpus tawny-ochreous. Thorax and abdomen purple (greasy). Fore wing (greasy!) purple. Hind wing pale fuscous-bronze, cilia pale fuscous.

Female genitalia (pl. 7 figs. 54-56). Lamella antevaginalis shallow-V-shaped, thick, finely aciculate. Ostium bursae dilated into a strong cup. Sclerite of colliculum very narrow at base. Corpus bursae long-pear-shaped. (Slide no. 3052 D, allotype).

Material studied. I n d i a, A s s a m, Darjeeling, 26.VIII.1886 (Elwes), no. 43, 1 ♂, paratype, gen. no. 2899 D; 1 ♂, holotype, no. 44, "*Penthina? lugubris* F. & R., Reise Nov., Lp. V, Pl. 138.32 (1875), Homotype. Wlsm. descr." (black-edged label), gen. no. 2768 B. M. (Walsingham Collection). 1 ♀, paratype, "S i k k i m, Möller, 1887, Elwes 46", "Walsingham Collection 1910-427" (printed), "*Penthina? lugubris* F. & R. ♀, Reise Nov., Lp. V, Pl. 138.32 (1875), Homo-type, Wlsm." (black-edged, written label), gen. no. 2830 ♀ B.M. July, 1889 (Pilcher), 1 ♀, allotype, gen. no. 3052 D (Rothschild Collection). Types in the British Museum.

Cryptasasma (Allobrachygonia) zophocosma (Meyrick 1931)

(Pl. 5 fig. 32, pl. 7 figs. 58-59)

Hysterosia zophocosma Meyrick 1931, Exot. Microl., vol. 4, p. 159 (♂, Formosa). — Clarke 1955, Meyrick's Types, vol. 1, p. 331.

Idiographis zophocosma, Diakonoff 1949, Bijdr. Dierk., vol. 28, p. 135 (syn. of *lugubris* Feld.).

Cryptasasma zophocosma, Clarke 1958, Meyrick's Types, vol. 3, p. 323, pl. 160 figs. 3-3a (syn. of *helota* Meyr.).

Distribution. Formosa.

Contrary to the opinion of Clarke (1958) and to that of myself (1949) I am now satisfied that this species is distinct. Superficially it is very similar to *C. (A.) helota*, the costal fold in the male is the same, as are the size, the colouring and the markings, at least, inside the range of individual variation of the last mentioned species. The difference, however, is provided by minor features of the male genitalia (pl. 5 fig. 32), where cucullus is clearly broader and slightly shorter, with the area of the truncate spines very dense and well-isolated, being limited to the lower half of the cucullus. The pulvinus is less smooth, but plicate.

♂, holotype. In all respects, except the genitalia, similar to *C. (A.) helota*. As a characteristic feature of the present species may be mentioned a dark fuscous rather broad preapical streak from costa before apex to termen below apex (to end of vein 6), extending along terminal edge and attenuated downwards to end of vein. In *C. (A.) zophocosma* there is a small whitish-leadened spot of ground colour in the extreme apex, making the terminal fascia preapical, while in *C. (A.) helota* an apical spot is absent, and the fascia, apical.

The antenna in this species is slender, slightly compressed laterally towards base, and appearing dilated there.

♀ 19 mm, neallotype. Head, palpus and thorax dark fuscous, palpus sub-ascending, triangularly dilated, with roughish scales above. Fore wing elongate-sublanceolate, costa gently curved, more so before apex, subobtuse,

termen gently convex, oblique. Fuscous-leadен, densely irrorated and marbled with fuscous-purple. Costa purple, posterior half with five pairs of minute whitish marks, becoming more distant posteriorly; a minute roundish white dot on middle of closing vein, preceded by deep purple suffusion; an ill-defined preterminal fascia and retination along terminal margin, deep purple. Cilia ochreous, with two suffused and partially interrupted blackish bands.

Hind wing bronze-fuscous, cilia concolorous.

The female genitalia (pl. 7 figs. 58-59) possess a U-shaped, instead of a V-shaped lamella antevaginalis. This difference should be checked on a long series of specimens which were not available to me.

Material studied. F o r m o s a, holotype, male, "Ranrun, Formosa, 8.7.25, S.I." (in Meyrick's hand), "Meyrick Coll., B.M., 1938-290", "*Hysterosia zophocosma* Meyr. holotype" (in Stringer's hand), "*Acharneodes helota* Meyr., det. A. Diakonoff 1946", "♂ genitalia on 9401, 26.IV.1949, J. F. G. C. (Clarcke's hand). A s s a m, North Manipur, Mao, 5000-7000 feet, VIII. 1889 (Doherty), 1 ♂, no. 340, gen. no. 2790 D; 1 ♀, neallotype, the same but without number, gen. no. 2897 D) (Walsingham Collection). Type and neallotype in the British Museum.

A male specimen in very poor condition from West Java, Mounts Gedé-Panggrango, Tjibodas, 1400 m, IV.1949 (A. N. Neervoort), gen. no. 3002 D, may belong to a distinct species, but is too worn for description.

***Cryptasasma (Allobrachygonia) hesyca* spec. nov.**

(Pl. 5 fig. 37, pl. 7 figs. 52-53, 57)

♂ 24 mm. Head, palpus, and thorax fuscous-brown, sides of vertex pale tawny. Thorax with a purple gloss; palpus rather dilated, with roughish scales towards tip; terminal segment obtuse, almost concealed. Antenna not dilated, shortly fasciculate-ciliated; fuscous. Abdomen pale fuscous-grey with a strong purple gloss, coremata long.

Fore wing oblong-subtriangular, costal fold strong, to before middle, apex rounded, termen gently rounded, oblique. Whitish-fuscous, densely irrorated and marbled with dark fuscous, with a purple gloss. Markings dark fuscous-brown, ill-defined. Costal fold deep brownish-purple; costa posteriorly with one small, and three large, subtriangular spots; discal markings strongly suffused, forming a smaller spot in end of cell and a larger patch below middle of cell, reaching below fold halfway to dorsum; preterminal fascia complete, rather straight and broad, irregularly ladder-shaped; a submarginal line halfway between fascia and termen, more or less dissolved in surrounding fine retination; marginal line along termen narrow; pale mark

on closing vein roundish, light tawny. Cilia pale fuscous, becoming rather bright tawny towards base, a suffused submedian darker fuscous band.

Hind wing rather dark fuscous-bronze, with distinct darker marbling, being fuscous markings of the under side showing through; basal third of dorsum folded over upper side of wing, concealing fine and long white hairs, edge of fold thickened and sclerotized, outer surface of fold densely ciliate. Cilia of hind wing light fuscous, basal half darker fuscous, with a narrow tawny-tinged basal line.

Male genitalia (pl. 5 fig. 37). Valva broad, outer edge of the base (sacculus portion) slightly angulate; cucullus moderate, attenuated, top very slender, slightly curved; truncate spines long, in a thick patch; outer surface of sacculus with a broad band of small spines; this band dilated basad at the angulation of the sacculus. Hinges of valvae sclerotized. Aedoeagus short. Caulis rather long. (Slide no. 3051 D, holotype).

♀ 25-31 mm (allotype 31 mm). Head and palpus tawny; median segment of palpus suffused with fuscous-purple, except towards top above; strongly dilated. Abdomen rather pale fuscous.

Fore wing oblong, less triangular than in male, costa moderately curved throughout, apex obtuse, less rounded than in male, termen hardly convex, almost straight, oblique. Pale fuscous, strongly mixed with whitish-blue scales, especially beyond cell, evenly marbled throughout with light purplish. Markings dark brown and glossy golden-brown. Indistinct, reduced dark brown suffusion in disc; pale mark on closing vein whitish, dark-edged; preterminal fascia represented by irregular broad band of golden-brown, glossy marbling; strongly attenuated below middle; terminal markings ill-defined. Cilia pale tawny, suffused with brownish.

Hind wing pale fuscous-bronze, tinged ochreous. Cilia concolorous, with a slightly darker subbasal band.

Female genitalia (pl. 7 figs. 52-53, 57). Lamella antevaginalis invert-trapezoidal, appearing to have a double edge. Lamella postvaginalis weak, gently emarginate above, with a short angular projection at each side of upper edge. Signa rather long, left shorter and more curved. (Slide no. 2886 D, allotype).

Material studied. P h i l i p p i n e I s l a n d s, Luzon, subprovince Benguet, Panai, Hights Place, 7000 feet, 12.XII.1912 (A. E. Wileman, Rothschild Collection), 1 ♂, holotype, gen. no. 3051 D; 1 ♀, allotype, gen. no. 2886 D; 5 paratypes. 2 ♂, 5 ♀, Types, ♂ ♀, in the British Museum.

A large species. The male is distinct by the dorsal fold in hind wings and the spinulose valva.

Cryptasasma (Allobrachygonia) debeauforti spec. nov.

(Pl. 5 fig. 33)

♂ 20 mm. Head and palpus purplish-black; palpus rather slender, little dilated, exceeding base of antenna. Antenna blackish; short-ciliate, serrulate towards apex. Thorax dark fuscous (defaced). Abdomen brown, paler posteriorly, lateral tufts pale purplish-grey, anal tuft purple-black.

Fore wing elongate-triangular, rather narrow. Costal fold narrow, reaching slightly beyond middle, open posteriorly; costa curved at base, slightly convex at $\frac{1}{4}$, gently impressed before middle, apex rounded, termen hardly convex, long, oblique. Glossy fuscous-leaden, marbled and retinate with darker fuscous. Markings dull dark brown. Costal fold and its broad fringe of appressed scales blackish-purple; discal triangle ill-defined, suffused; small mark on closing vein round, white; preterminal fascia furcate above, originating from two ultimate erect-triangular costal dots, to preterminal dorsal spot which is erect; terminal markings formed by fine retination, marginal line narrow. Cilia fuscous-grey, with a pale ochreous basal line and a subbasal fuscous fascia.

Hind wing with a dark fuscous cubital pecten; rather dark fuscous with a faint purple gloss; base of dorsum curved and folded over, this fold forming a rigid vesicular whitish thickening, concealed from the upper side of wing by long and dense ochreous-whitish hair-scales. Cilia darker, fuscous-grey.

Male genitalia (pl. 5 fig. 33). Spheroidal; valva thick, cucullus broad, not distinctly separated from the body of the valva, constricted below top which is broad and rounded; truncate spines short, in a long but narrow patch, ventrally ending in a small sclerotized fold; pulvinus small, with a large, acute spike, and with long bristles above; inner side of the base of valva with a sclerotized fold. (Slide no. 2736 D, holotype).

Material studied. British New Guinea, Papua, Maneau Range, 2230 m, Mount Dayman, northern slope, 19.V-19.VI.1953 (G. M. Tate, 4th Archbold Expedition), 1 ♂, holotype, gen. no. 2736 D. Type in the Leiden Museum.

Distinct by the dorsal modification of the hind wing.

Dedicated to the eminent Dutch zoogeographer, Prof. Dr. L. F. de Beaufort, on the occasion of his 80th birthday.

Cryptasasma (Allobrachygonia) debeauforti subsp. **brachyptera** nov.

♂ 23 mm. Similar to the nominate form but more robust, with broader wings. Discal dark brown markings dissolved in three spots: a small point just above fold towards base of wing (first plical spot), a large subtriangular

second plical patch below cell, and a roundish smaller spot before upper angle of cell; mark on closing vein rather large, rounded, tawny; a similarly coloured elongate-oval distinct patch between dark plical markings.

Hind wing broader, more fuscous-bronze-tinged, faintly marbled with grey; vesicular fold at base of dorsum somewhat larger.

Male genitalia identical to those of the nominate form.

Netherlands Central New Guinea, Mount Goliath, 5000-7000 feet, about 139° longitude, II.1911 (A. S. Meek), 1 ♂, holotype, gen. no. 2888 D. Type in the British Museum.

***Cryptaspa* (*Allobrachygonia*) *geina* spec. nov.**

(Pl. 3 fig. 15)

♂ 21 mm. Head pale fuscous, a thick appressed tuft on vertex, projecting over forehead and tipped with dark fuscous. Antenna fuscous; serrulate throughout, moderately thickened, shortly fasciculate-ciliated. Palpus dark purplish-fuscous, rather long, exceeding base of antenna, obliquely ascending, median segment dilated at top, terminal segment short. Thorax pale fuscous mixed with darker. Abdomen pale fuscous, posterior half with the large abdominal tufts, grey.

Fore wing suboval, costal fold very short, to $\frac{1}{5}$, edge with a fringe of loose scales; costa gently curved, more so towards extremities, apex rounded, termen hardly convex, oblique. Pale fuscous, finely marbled with darker dull fuscous, markings dark fuscous-brown; median half of wing with a strong purple gloss, especially bright on dorsum, base and termen dull fuscous. Costal fold purple-fuscous; costa with a row of subtriangular dark spots beyond fold, alternating with minute points; dorsum with a row of suffused dark dots; pale mark on closing vein small, pale ochreous, dark-edged; discal triangular mark traceable (rubbed), indistinctly connected with an erect mark on dorsum before tornus; preterminal band and marginal markings obliterate. Cilia pale fuscous with a whitish basal line and a darker median shade.

Hind wing fuscous with a purple gloss, a narrow marginal band and apical area, glossy whitish-fuscous. Cilia fuscous-whitish, with an ochreous-fuscous basal third.

Male genitalia (pl. 3 fig. 15) resembling those in *C. (A.) glebaecolor* most. Valva broad and vesicular but cucullus slender and long, more like that in *C. (A.) helota* but longer; patch of truncate spines dilated basally, spines becoming very short outwardly. Outer surface of sacculus with fine bristles mixed with slender spines. (Slide no. 2914 D, holotype).

Material studied. South Celebes, Mount Lompobattang, Parang-

bobo Goa, 5000 feet, V.1938 (J. P. A. Kalis), "B.M. 1938-610", Rothschild Collection), 1 ♂, holotype, gen. no. 2914 D. Type in the British Museum.

Cryptasasma (Allobrachygonia) querula (Meyrick 1912)

(Text figs. 3-8, pl. 3 fig. 22, pl. 8 fig. 62)

Eucosma querula Meyrick 1912, Trans. N. Zeal. Inst., vol. 44, p. 125 (♂ ♀ New Zeal., Wellington, Christchurch; Queensland). — Philpott 1928, l.c., vol. 59, p. 471-473, figs. 6 A-D, J, L (gen. ♂ fig.). — Clarke 1955, Meyrick's Types, vol. 1, p. 268.

Distribution. New Zealand. (The specimen from Queensland is lost and this record remains dubious).

♂ 22-26 mm. Head fuscous, forehead and face each with a short projecting tuft. Antenna slightly thickened, serrulate and fasciculate-ciliated throughout, ciliations over $\frac{1}{3}$. Palpus subascending, median segment strongly dilated, roughish in middle of upper edge, and at apex below, terminal segment slender, exposed. Thorax fuscous tinged ferruginous. Abdomen dark fuscous with a strong purple gloss, anal tuft ochreous-whitish, glossy.

Fore wing oblong, oval-subtriangular, dilated; with a minute costal fold along the extreme base; costa curved throughout, more so at base, apex rounded, termen convex, oblique. Fuscous-brown with a strong purple gloss. Markings deep brown. Costal fold purplish-brown; a series of rather large semicircular spots along costa, alternating with small points; discal marks ill-defined, being a suffusion in middle of cell and a larger elongate patch below cell; the mark on closing vein pale ochreous, close to lower angle of cell, strongly edged with dark brown; preterminal fascia furcate on costa, single to middle of wing, thence truncate once more and forming an erect-oval, slightly inwards-oblique mark, resting on dorsum before tornus; a slender submarginal line along termen, connected with margin by fine retination. Cilia dark fuscous with purple and bronze reflections.

Hind wing rather dark bronze-grey with a silvery gloss. Cilia silvery-grey, with fuscous basal half.

Male genitalia (pl. 3 fig. 22, pl. 8 fig. 62). Resembling those of *C. (A.) helota* but quite distinct by a very much longer and slender, curved ventral edge of cucullus; the patch of truncate spines is dilated rostrad, with a few spines spread across the valva. Base of uncus rectangular. Uncus short, almost semicircular. Pulvinus large, its upper edge sinuate. (Slides nos. 3099 B.M., lectotype; 3029 D and 3030 D, paratypes).

Female unknown.

Material studied. Lectotype, male, hereby selected: "New Zealand, Wellington, 11, G.V.H." (in Meyrick's hand). "*Eucosma querula* Meyr., E. Meyrick det., in Meyrick Coll.", "Meyrick Coll., B.M. 1938-290". Gen. no.

3055 D.; Christchurch, 6.IV.1910 (A.P.)" (in Meyrick's hand), 1 ♂, gen. no. 3099 B.M., paratype; 1 ♂, paratype, gen. no. 3030 D.; "Pelorus B., 28.XI.1928 (A. Philpott), 1 ♂, gen. no. 3029 D; the same labels, 3 ♂ (Meyrick Collection). 6 ♂. Type in the British Museum.

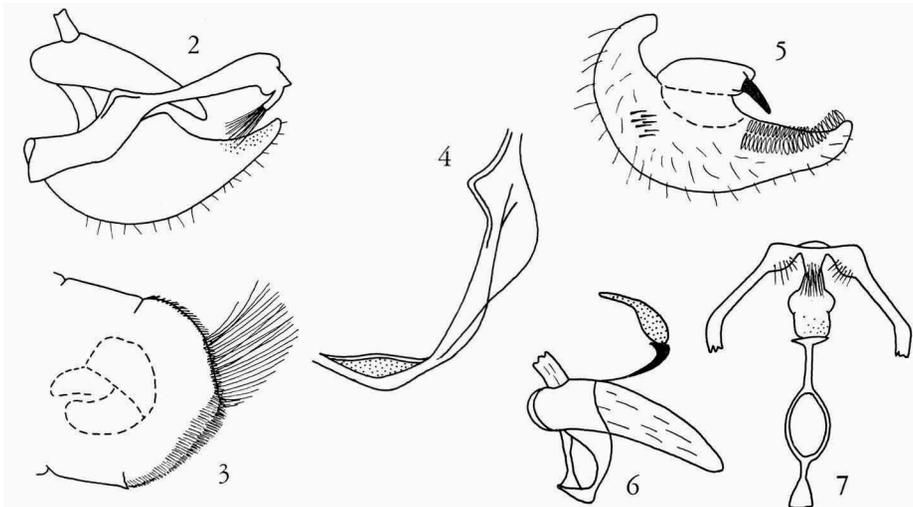
It is not quite clear why Meyrick kept so much to the name *Eucosma querula* later on, identifying with it differently looking material from Capetown, Colombia, Peru, etc.

Philpott (1928) made an extensive and accurate description of the male genitalia (p. 471-473) which may be cited in full.

"*Eucosma querula* Meyr.

"The male genitalia of this species are not only entirely different from the ordinary type of the genus, but do not approach those of any species of the family [Eucosmidae] of which figures have been available for comparison. It is a question whether a form with such widely different sex-organs should not be separated generically.

"The genitalia are normally concealed within the eighth segment, which is in turn partly withdrawn within the seventh. A dense tuft of long curved hair-scales rises from the conjunctiva beyond the eighth segment and protrudes through the opening, taking the place of the anal tuft. The genitalia proper form a compact, more or less rounded mass. The tegumen is narrow and fused with the much broader vinculum, this organ being sharply angled at the point of junction. The uncus is small, bent sharply downwards and



Figs. 2-7. Male genitalia of *Cryptasasma (Allobrachygonia) querula* (Meyr.). 2, lateral aspect; 3, end of abdomen with the genitalia not exerted; 4, vinculum; 5, valva; 6, aedoeagus, with juxta, caulis, and part of tegumen; 7, aedoeagus, juxta, anus, part of tegumen and uncus, caudal aspect. (All after Philpott, 1928).

bears a terminal brush of moderately long hair. On each side of the uncus the tegumen is slightly dilated, the area carrying a few weak hairs; probably this represents the vestigial socii. The gnathos is absent. The aedeagus is stout and tusk-like. The anellus is of the Eucosmid type, ventrally merging with the rather short angular juxta, but dorsally it throws out a thin well chitinized spring-like strip which connects with the ventral chitinized plate of the anal tube. The harpes are broad and strongly rounded on the basal $\frac{2}{3}$, the apical third being much narrowed and densely clothed with short blunt spines along the upper margin; attached to the upper margin is a rounded flap, armed apically with a stout blunt socketed spur. The flap is normally folded back on the harpe, but is hinged and freely moveable."

The surmise expressed in the first paragraph of the above citation appears, in the light of our present knowledge, to be entirely correct. Philpott, however, did not carry his suggestion into effect. His rather diagrammatic, but basically correct, figures are reproduced here on text figs. 2-7.

Cryptasasma (Allobrachygonia) angulicostana (Walsingham 1900)

combin. nov.

(Pl. 3 figs. 19, 21, pl. 6 figs. 43-45)

Brachygonia angulicostana Walsingham 1900, Ann. Mag. Nat. Hist., ser. 7, vol. 5, p. 464 (♂ ♀, Japan). — Fernald 1908, Genera Tortr. & Types, p. 47, 62.

Distribution. Japan.

This species can easily be separated from all its congeners by the total absence of a cubital pecten in the hind wing of the males, a completely unexpected and astonishing feature. The female has a weak but undeniable cubital pecten.

The male hind wing, furthermore, has the basal third of the dorsum folded over on the upper side and forming a flat pocket, covered by scaling and deceavily concealed and inconspicuous; this fold contains sparse, modified short scales.

The species owes its name to the presence of a strongly curved and prominent base of the costa of the fore wings, which is folded upwards at the same time, so as to form a kind of elementary costal fold. However, this feature is distinct only in the male paratype specimen, while in the holotype the base of the edge of the costa actually is slightly bent down, simply rounded, not prominent and without any indication of a fold. In the male no. 70559 (which is very worn and mouldy) the prominence is somewhat more distinct again. This feature seems to be subject to variation and to be not a very reliable characteristic.

Male genitalia (pl. 3 figs. 19, 21). Resembling perhaps those in *C. (A.) glebaecolor* most; distinct from those in *C. (A.) helota* by uncus being less broad, more bowed, with a shorter pencil of bristles. Valva less hairy, broader and more swollen, angularly prominent on the lower half. Cucullus shorter and more slender, with a dense group of truncate spines, gradually replaced by usual bristles apicad; a group of hyaline small pointed spines on sacculus (disappeared in the mount of the holotype); hinge of valva robust, sclerotized. Pulvinus not smooth, with a few weak bristles, spike rather small. Aedoeagus moderately sclerotized, slightly curved. (Slides no. 1855 B.M., holotype; 108 B.M., paratype; no. 2882 D, paratype).

Female genitalia (pl. 6 figs. 43-45) similar to those in *C. (A.) brachyptycha*. Median portion of lamella antevaginalis more thickened. Colliculum clearly wider above ("stalk" of the "trumpet" wider). Signa considerably less curved. (Slide no. 5621 B. M., allotype).

Material studied. Holotype, male, J a p a n, 1886 (Pryer), no. 70553 (printed label, number written), gen. slide no. 1855 B.M. Allotype, female, the same date no. 70573, slide no. 5621 B.M. Paratype, male, the same, black-edged large label with "*Brachygonia angulicostana* ♂ Wlsm" (written), "Paratype 1/1", "Walsingham Collection 1910-427" (printed), gen. no. 108 B.M. Additional worn male specimen (not cited in the original description), the same, no. 70559, "*Brachygonia angulicostana* Wlsm ♂. Named by Wlsm.", gen. no. 2882 D. 3 ♂, 1 ♀.

***Cryptasasma (Allobrachygonia) ochrotricha* spec. nov.**

(Pl. 3 fig. 20, pl. 6 figs. 46-48)

♂ 17 mm. Head dark fuscous; palpus ascending, appressed to face, moderate, smoothly scaled, exceeding base of antenna, dark purplish. Antenna tawny, slightly dilated, beyond base considerably flattened laterally, towards apex serrulate; short-ciliate. Thorax dark fuscous. Abdomen glossy fuscous-grey, segments 5-8 with long, brushy coremata.

Fore wing subtriangular-ovate, dilated, without a costal fold; costa gently curved at base, straight in middle, apex broadly rounded, termen moderately rounded, oblique. Pale fuscous, marbled with darker purplish-fuscous, partially with a bronze gloss. Markings (rubbed) dull dark brown. Discal markings indicated by an elongate triangle below cell halfway towards dorsum; pale mark on closing vein inwards-oblique, slender, ochreous-tawny; costa throughout with some nine moderate dark dots; preterminal fascia incomplete, from well below two penultimate costal dots, indistinctly furcate below middle, with an irregular arm to dorsum before tornus, another, nar-

rower arm, to tornus; an interconnected series of small triangular dots on ends of veins along termen. Cilia rather bright tawny on basal half, becoming pale ochreous on apical half, basal half irregularly marked with broad dark grey bars, tips of cilia suffused with greyish.

Hind wing rather dark fuscous-bronze, rather dull.

Male genitalia (pl. 3 fig. 20). Similar to those in *C. (A.) helota*, with the same attenuated, slender and curved cucullus, but with small bristles spread in a longitudinal, not isolated band shifted more laterad; pulvinus similar to that in *C. (A.) brachyptycha*: less smooth than in *helota*, and with a larger spike. (Slide no. 2707 D, holotype).

♀ 20-27 mm (allotype 27 mm). Head and palpus dull tawny-fuscous; palpus triangularly dilated, roughish along upper edge, subporrect, by far exceeding vertex. Thorax dark purplish, tegula light tawny. Abdomen dark brown.

Fore wing somewhat narrower than in male, apex less rounded and more oblique. Pale fuscous suffused with light tawny. Markings dark brown, paler than in male. Costa with a series of triangular dots, smaller and more numerous than in male; mark on end of cell rounded, whitish, preceded by a large inwards-oblique dark brown patch in centre of disc; preterminal band broader, pale brownish, forming a suboval upper, and an irregular-quadrate dorsal patch; the posterior branch linear, ill-defined, marginal fascia narrow. Cilia deeper ochreous throughout, only suffusedly barred and touched with grey.

Hind wing light fuscous with a faint bronze gloss.

Female genitalia (pl. 6 figs. 46-48). Lamella antevaginalis thickened and aciculate as usual but much smaller than in *C. (A.) glebaecolor*, with several bristles not only on the inside but also on the outside. Lamella postvaginalis, a clearly sclerotized bowed band. Colliculum rather short. Signa moderate. (Slide no. 2711 D, allotype).

Material studied. West Java, Mount Gedé-Panggrango, Tjibodas, 1400 m, X.1949, 1 ♂, holotype, gen. no. 2707 D; the same, IX.1949, 1 ♀, allotype, gen. no. 2711 D; 2 ♀, paratypes, the same, VIII.1949 (A. M. Neervoort). The same locality, 27.II.1940, 1 ♀ (L. J. Toxopeus). 1 ♂, 4 ♀.

Distinct by complete absence of a costal fold in the male and by rounded fore wings with ochreous cilia, in the two sexes.

***Cryptasasma (Allobrachygonia) triopis* spec. nov.**

(Pl. 5 fig. 34)

♂ 19 mm. Head and thorax rather bright fuscous-purple. Antenna

moderately thickened, not flattened nor serrulate, short-ciliate. Palpus rather long, slender, smooth, not dilated at all, terminal segment short. Thorax light fuscous-purple.

Fore wing suboval, rather broad, without a costal fold, costa gently curved at base, straight in middle, apex rounded, termen gently convex, long. Pale fuscous grey, with a purple gloss, finely irrorated and strigulated with dark fuscous. Markings blackish-fuscous. Basal half of costa with some five moderate subtriangular marks, two anterior interconnected by a marginal striga; posterior half of costa with five more marks, first largest, elongate, third subtriangular, other smaller, transverse, wedge-shaped; discal mark large, interrupted (rubbed?) along lower edge of cell, its anterior edge angularly emarginate below fold, lower extremity truncate; mark on closing vein obliterate; a series of smaller dots below posterior costal dots, running parallel to costal edge; a straight subterminal fascia, from below subapical costal mark, moderate, interrupted in middle of wing breadth, lower half broader, running to dorsum before tornus; fine retination before termen; dorsum slightly suffused with purplish; a faint spot of yellow suffusion beyond cell. (Cilia missing).

Hind wing dull light fuscous, broadly white along costa. Cilia greyish (imperfect).

Male genitalia (pl. 5 fig. 34) resembling those of *C. (A.) haplophyes* but with a more curved valva which is stronger attenuated above; cucullus longer, more slender, with a more curved top; patch of spines slender but longer, reaching almost to middle of valva, its edge sinuate; pulvinus considerably sclerotized, broader. Uncus larger. (Slide no. 2765 B.M., holotype).

Material studied. G u a m I s l a n d, Commander Marianas' Hill, III.1949 (K. L. Maehler), 49-12171, 1 ♂, holotype, gen. no. 2765 B.M. Type in the British Museum.

Allied to *C. (A.) haplophyes*.

Cryptasasma (Allobrachygonia) haplophyes spec. nov.

(Pl. 5 fig. 35)

♂ 22 mm. Head, palpus, and thorax, light brownish-purple. Antenna moderately thickened, apical fourth laterally compressed and serrulate; short-ciliate, brownish-purple. Abdomen grey, venter whitish-grey, anal tuft dark grey, last segment pale grey.

Fore wing elongate-oval, broad, costa distinctly curved throughout, apex rounded, termen hardly convex, little oblique. Bright brownish-purple, with bronze and bluish reflections. Markings blackish, well-defined, faintly edged

with tawny suffusion. Anterior half of costa with five small triangular spots; an elongate-triangular larger spot on middle of costa, followed by four moderate triangular dots, becoming larger posteriorly; an erect-subtriangular patch on $\frac{1}{4}$ of dorsum reaching to fold, a couple of black dots above this; discal triangle large, base limited by vein 1b and truncate, upper edge limited by lower margin of cell; anterior angle of this patch with a small vertical projection, a smaller similar projection from before posterior end of this edge; several round dots arranged in regular, little oblique series over upper half of wing below costa; subterminal fascia little oblique, irregular, abruptly dilated below vein 5; terminal fascia just submarginal, interrupted on extremities of veins. Cilia purplish, basal half somewhat darker, dorsum with four slender transverse lines.

Hind wing dark bronze-grey, paler at base. Cilia grey, with a light basal line and a darker grey antemedian shade.

Male genitalia. Valva moderate, hardly narrowed above; cucullus very broad, spines in a dense patch, ending ventrally in a short sclerotized ridge; pulvinus large, twice as high as broad, gently sclerotized mesially. (Slide no. 2894 D, holotype).

Material studied. Eastern British New Guinea, Upper Waria River, Bubu River, Saiko, 5500 feet, IX.1936 (F. Shaw Mayer), 1 ♂, holotype, gen. no. 2894 D. Type in the British Museum.

Distinct by the broad cucullus, by absence of a costal fold, and by unmodified hind wings.

***Cryptasasma (Allobrachygonia) lasiura* (Meyrick 1912)**

(Pl. 5 fig. 38)

Eucosma lasiura Meyrick 1912, Bombay Journ. Nat. Hist. Soc., vol. 21, p. 868 (♂, India, N. Coorg.) — Clarke 1955, Meyrick's Types, vol. 1, p. 182.

Cryptasasma lasiura, Clarke 1958, l.c., vol. 3, p. 323, pl. 160, figs. 4-4a.

Distribution. India.

The following may be added to the original description.

♂. Antenna not thickened, short-ciliate, flattened and serrate towards apex. Palpus with basal segment roughish, median strongly expanded with rough scales towards apex, terminal segment moderate, obliquely ascending, pointed. Posterior tibia with roughly appressed long scales above and beneath.

Fore wing elongate-truncate, costa slightly curved towards extremities, straight in middle, without a costal fold.

Hind wing with a strongly reduced cubital pecten, formed by hardly a dozen very long and fine white hairs; dorsum extended, folded over on

upper side along its whole length, fold broad, its edge forming a slight raised ridge; fold vesicular, densely scaled on both sides.

Male genitalia (pl. 5 fig. 38). Valva not strongly swollen, only moderately dilated; cucullus with dense long hairs along its entire length, these hairs especially dense on top, basally mixed with a slender, rather small patch of truncate spines; pulvinus rather short, broader than high, with a large curved spike. Juxta large. (Slide no. 7124 B.M.).

Material studied. I n d i a, North Coorg, Dibidi, 4.VIII.1906 (Newcome), lectotype, male (selected by Clarke, gen. slide no. 7124 B.M.). (Meyrick Collection).

Superficially resembling *C. (A.) brachyptycha* closely, except for the entire absence of a costal fold; the dorsal fold is very similar. However, there is no actual affinity to that species. Judging from the genitalia which are very characteristic by the long cucullus hairs, *C. (A.) lasiura* stands isolated.

SPECIES INCERTAE SEDIS

Of the three following species only females are available. Although they obviously belong to the subgenus *Allobrachygonia*, their affinities to other species remain uncertain.

Cryptasasma (Allobrachygonia) peratra spec. nov.

(Pl. 8 figs. 65-66)

♀ 20 mm. Head and thorax dark purplish-fuscous. Antenna dark purple. Palpus straight, obliquely ascending, median segment expanded with appressed scales at apex; dark fuscous, blackish towards apex; terminal segment very short. Abdomen dark bronze.

Fore wing elongate-suboval, dilated, costa gently curved throughout, apex rounded, termen almost straight, gently convex. Deep purplish-fuscous, darker purplish towards base, paler fuscous towards termen. Markings formed by dark fuscous marbling all over the wing. Costa with a row of numerous small semicircular blackish-purple dots along basal $\frac{2}{3}$, the third before last dot twice as large as other; posterior third of costa with three larger semioval dots; discal patch ill-defined, being a longitudinal shadow in cell including a whitish-ochreous dot on closing vein; two or three irregularly zigzag lines originating from the three large costal dots, interconnected so as to form a retinate broad band across wing; a similar zigzag marginal fascia along termen. Cilia glossy dark fuscous, with a deeper purplish sub-basal band, extreme base paler.

Hind wing rather dark dull fuscous with hardly any bronze gloss. Cilia paler fuscous, glossy, with a darker fuscous subbasal fascia.

Female genitalia (pl. 8 figs. 65-66). Postapophyses with long, rounded sub-basal appendages. Lamella antevaginalis forming a V-shaped band which is rather abruptly dilated towards middle, in middle transparent; colliculum little sclerotized. Signa rather slender and short. (Slide no. 3006 D, holotype).

Material studied. New Guinea, Rossel Island, Mount Rossel, 2100 feet, XII. 1915 (W. F. Eichhorn), 1 ♀, holotype, gen. no. 3006 D. Type in the British Museum.

Probably related to *C. (A.) haplophyes*.

Cryptasasma (Allobrachygonia) orphnina spec. nov.

(Pl. 8 figs. 63-64, 67)

♀ 31 mm. Head, palpus, and thorax deep fuscous-brown with a purple gloss; palpus rather long, obliquely ascending, posterior half curved outward, porrect, moderately dilated; terminal segment short. Abdomen dark bronze-fuscous.

Fore wing elongate-suboval, costa gently curved towards extremities, more so posteriorly apex rounded, termen convex. Deep fuscous with slight purplish reflections, rather dull. Markings conspicuous, dull blackish-fuscous, faintly ochreous-edged, along costa, blackish. Basal half of costa with small triangular dots, interconnected along edge; posterior half of costa with four large subtriangular elongate spots; discal markings equal in shade, irregular subquadrate dots between veins not densely scattered over the wing, tending to form transverse strigulation towards base; discal markings, two: an irregular, elongate patch in end of cell, constricted in middle, limited posteriorly by a roundish white dot; an irregular patch in fold slightly before preceding, formed of two connected subrectangular spots, upper shifted basad; a distinct, inward-oblique fascia halfway between cell and termen, cut by veins so as to form a series of subtriangular spots; two similarly cut transverse lines between preceding and termen, more slender and pale, first of these short, in right wing forming a connection between the two exterior series of spots. Cilia dull, deep fuscous, darker along basal third.

Hind wing dull grey-fuscous, in apex and along upper third of termen becoming paler, whitish, costa white. Cilia pale grey, slightly glossy, basal third dull grey-fuscous.

Female genitalia (pl. 8 figs. 63-64, 67). Postapophyses with slender sub-basal appendages. Lamella antevaginalis robust, V-shaped, gradually dilated mesiad, laterally with a broad distinctly sclerotized marginal dilatations. Ostium bursae sclerotized. Colliculum rather short, very oblique, tubular, not dilated portion sclerotized only on one side. Ductus bursae below colliculum dilated so as to form a moderate vesicle. Corpus bursae large, erect-

ovoid. Signa very long, right signum with a large basal plate. (Slide no. 3005 D, holotype).

Material studied. New Guinea, Dampier Island, II and III.1914 (Meek's Expedition), "Rothschild Bequest B.M. 1939-1", 1 ♀, holotype, gen. no. 3005 D; 1 ♀, paratype. 2 ♀. Type in the British Museum.

Probably related to the preceding species, but considerably differing by the genitalia, markings and shape and length of the palpus.

Cryptasasma (Allobrachygonia) pelagia spec. nov.

(Pl. 7 figs. 60-61)

♀ 21 mm. Head, palpus, and thorax rather dark fuscous-purple; palpus moderately long, strongly dilated triangularly, terminal segment very short, almost entirely concealed. Abdomen purple, sides greyish-fuscous.

Fore wing elongate-semioval, costa gently curved throughout, apex rounded, termen convex, moderately oblique. Lilac-purple, glossy; markings, dull dark brown fine zigzag transverse striae, tending to form irregular retination. Costa suffused with blackish and cut by some ten sordid whitish-ochreous small transverse marks. A cloudy rounded blackish-fuscous patch on end of cell, including a sordid pale ochreous slightly inwardly oblique dash along closing vein; two fine zigzag transverse fasciae, outwards-convex, between cell and termen; a subterminal series of irregular small blackish marks between veins, followed each by a faint fulvous suffused dot on the extreme edge of wing. Cilia cloudy dark grey, with a blackish-grey median band and sordid fulvous base.

Hind wing rather dark purplish-grey, faintly marbled with darker towards apex. Cilia pale grey, glossy.

Female genitalia (pl. 7 figs. 60-61). Eighth segment sclerotized, rather short, Sterigma shaped as a high collar, bent rectangularly and finely aciculate throughout, with some long bristles on the inside. Signa with strongly curved points. (Slide no. 3053, holotype).

Material studied. New Hebrides, Red Crest, Aneityum, 3 miles N.E. of Anelganhat, 1200 feet, VI.1955 (E. Cheesman), 1 ♀, holotype, gen. no. 3053 (Brit. Mus. 1955-217). Unique. Type in the British Museum.

It would be interesting to study the males of this species. The female is distinct by the broad collar-like sterigma (lamella antevaginalis).

Subgenus 5. **Metasasma** nov.

(Text fig. 7, pl. 8 fig. 68)

Head as in *Cryptasasma*. Antenna not thickened, serrulate, short-ciliated.

Palpus rather long, longer in female, bent, obliquely ascending along basal half, porrect, dilated with appressed scales along posterior half; terminal segment, short, exposed, obtuse. Fore wing without a costal fold in male. Hind wing with a developed cubital pecten, dorsum in male normal, without a fold. Abdomen in male with a wreath of rather short coremata around the eighth segment only.

Male genitalia. Uncus, a simple lobe, without a hair-pencil. Socius well-developed, pending, apex hooked. Pulvinus entirely absent. Cucullus slender, tending to form a separate appendage, bearing the truncate spines (probably a homologon of the valvula in *Bactra*). Otherwise similar to *Allobrachygonia*.

Female genitalia. Lamella antevaginalis V-shaped. Colliculum short, strongly sclerotized. Corpus bursae rather small, subspheroidal. Signa moderate, right signum with a small basal plate.

Type of the subgenus: *Acharneodes atrinodis* Meyr.

Distribution. Africa, Madagascar.

***Cryptasasma (Metasasma) subtilis* spec. nov.**

(Pl. 8 fig. 69, pl. 9 figs. 70-71)

♂ 15 mm. Head and thorax greyish-purple. (Palpi broken). Antenna greyish, darker ringed, simple, short-ciliate. Abdomen fuscous, venter pale grey.

Fore wing rather narrow, oblong-oval, costa without fold, moderately curved throughout, apex rounded, termen gently rounded, oblique. Pale greyish-fuscous, with strong leaden, and faint purple, reflections. Markings blackish-fuscous, dark purple-grey on costa. Anterior half of costa with numerous subtriangular transverse marks; posterior half of costa with four larger triangular dots and one (second one), very small; a convex narrow line indicating edge of basal patch, bluntly angulate on fold, vertical on dorsum; discal mark large, obliquely crescentic, interior horn extended as a slender line upward, to upper edge of cell, angulate basad there, thence straight and inwards-oblique, to costa before middle; an irregular streak from $\frac{3}{5}$ of costa to dorsum before tornus, angulate basad on upper fourth, outwardly convex along lower $\frac{3}{4}$; a vertical subterminal fascia, furcate on costa, attenuated downwards (regularly zigzag in left wing), to vein 3; a well-defined marginal fascia in apex and along termen. Cilia pale greyish-purple.

Hind wing bronze-fuscous. Cilia (imperfect) concolorous, with a pale basal line.

Male genitalia (pl. 8 fig. 69). Similar to those of *C. (M.) atrinodis*, but

cucullus, valvula and the series of truncate spines all distinctly shorter. Uncus triangular, more pointed. (Slide no. 3017 D, holotype).

♀ 18-20 mm (allotype 20 mm). Fore wing elongate-suboval, more fuscous-tinged. Markings reduced, dark fuscous, forming a more or less interrupted transverse strigulation. Discal markings, a suffused patch in posterior half of cell, including a pale orange slightly inwards-oblique mark on closing vein, and an irregular larger suffused blotch below middle of cell; a complete sub-terminal fascia, both slender and zigzag; terminal fascia dissolved (in allotype only) in a series of dots. Otherwise as in male.

Hind wing slightly darker, with a purple gloss except towards base. Cilia pale grey, a purplish subbasal fascia.

Female genitalia (pl. 9 figs 70-71) similar to those in *C. (M.) atrinodis*, but ostium bursae wider, corpus bursae much larger, elongate. Signa shorter, left signum much dilated at base, almost funnel-shaped, right signum less curved, with a larger base. (Slide no. 3018 D, allotype).

Material studied. Northern Madagascar, Diego Suarez, 15.IV, 1917, 1 ♂, holotype, gen. no. 3017; 26-28.III.1917, 1 ♀, allotype, gen. no. 3018 D; 26-28.III and 10-13.IV.1917, 2 ♀, paratypes (G. Melou). 1 ♂, 3 ♀. Types in the British Museum.

A small species, distinct by its facies and the unusual markings of the male.

Cryptasasma (Metasasma) atrinodis (Meyrick 1926) combin. nov.

(Text fig. 8, pl. 1 fig. 1, pl. 8 fig. 68, pl. 9 figs. 72-73)

Acharneodes atrinodis Meyrick 1926, Ann. S. Afr. Mus., vol. 23, p. 327. — Clarke, 1955, Meyrick's Types, vol. 1, p. 59.

Material of the present species was identified by Meyrick with his "*Eucosma*" *querula* from New Zealand (as already remarked above). The larger, elegantly and distinctly marked form was described by him as *Acharneodes atrinodis*, which appears to be the correct name for this very variable species. Contrary to the occurrence of the genus in Asia, only one species is known to me from the African continent at present. Owing to the kindness of the Director of the South African Museum, Capetown, I was able to study the type specimen which is redescribed below and figured on plate 1 fig. 1.

♂ 24 mm. Head, palpus and thorax light chestnut-brown with a purple gloss; palpus rather long, subascending, dilated with roughish scales posteriorly, terminal segment rather short, exposed, obtuse. Abdomen fuscous.

Fore wing warm light tawny and chestnut-brown with a strong golden

gloss. Costa suffused with dark fuscous, with some 12 pairs of whitish-ochreous transverse marks; anterior three pairs of these ill-defined, median marks clearest, posterior pairs each melted into a single broader mark. Discal markings conspicuously dull blackish-fuscous, edged with light tawny. A series of points between veins 12 and 11, becoming smaller posteriorly; some more of these spots scattered over centre of disc; an oblique, semioval patch on end of cell, not reaching below parting vein, pointed anteriorly, including a triangular pale golden-tawny dot on closing vein; a large semioval patch below cell with upper edge straight, limited by lower edge of cell; lower edge of this patch rounded; an oblique group of some four dark dots halfway towards upper part of termen, lower of these largest, rounded; faint deeper tawny-golden suffusion filling cell, surrounding discal markings, and forming a hardly traceable fascia from upper discal patch to tornus. Cilia greyish-

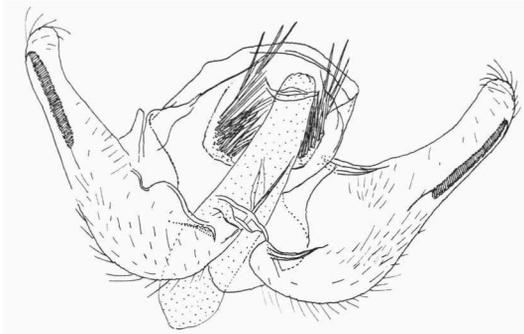


Fig. 8. *Cryptasasma (Metasasma) atrinodis* (Meyr.), genitalia of the holotype, male.

tawny, with a strong golden gloss. Basal patch rather small, indicated by a purple suffusion, more distinct on costa, edge with a few black marks, and projecting with a blunt angle in middle.

Hind wing dark brownish-bronze with a faint grey marbling towards apex. Cilia pale fuscous-grey with a bronze-brownish subbasal suffusion and a pale basal line.

Male genitalia as described for the subgenus *Metasasma* above (Text fig. 8, pl. 8 fig. 68).

♀ 24 mm (neallotype). Head light tawny. Palpus long, bent before middle, posterior half clothed with loosely appressed scales, dilated, obtuse, terminal segment slender and short, visible from inside, entirely concealed from outside; light tawny, basal half of median segment below, dark brown. Antenna brown, scape dark purple. Thorax dark brownish-purple. Abdomen rather dark purplish-fuscous, venter paler.

Fore wing slightly longer and more narrowed than in male, termen convex. Deep brownish-purple, with indistinct transverse strigulae of slightly brighter

tawny-ochreous raised scales. Interrupted irregular strigulae on anterior $\frac{2}{3}$ of disc, three more or less entire transverse fasciae between cell and termen, being black interrupted lines, suffused on both sides with ochreous-tawny; pale mark on closing vein conspicuous, slightly inwards-oblique, whitish, posteriorly edged with ochreous-tawny, preceded by a dark brown transverse cloudy mark. Cilia dark grey, touched with yellowish, with a paler base and a darker grey antemedian shade.

Hind wing fuscous-golden, with a strong gloss, faintly marbled with grey (underside marbling showing through). Cilia concolorous.

Female genitalia (pl. 9 figs. 72-73). Sterigma deeply V-shaped, arms rather broad, finely aciculate. Ostium bursae shaped as a broad, truncate funnel, sclerotized. Colliculum strongly sclerotized. Corpus bursae rather small. Signa moderate, right not much longer than left (Slide no. 3022 D, neallotype).

Material studied. Holotype, male, "Rondebosch, Cape T." (printed label), "*Eucosma atrinodis* Meyr." (in Meyrick's hand), "TYPE" (red printed label), genit. no. 2857 D (South African Museum). Neallotype, female, Uganda, Ruwenzori Range, Nyinabitaba, 8650 feet, 7-13.VII.1952 (D. S. Fletcher), gen. no. 3022 D. (British Museum). Further material. Cape Colony, Capetown, L., 5.1919, 1 ♂, gen. no. 2779 B.M.; 2 ♀, gen. nos. 2784 D and 2785 D; 8.1919, 1 ♂, gen. no. 2780 B.M. Natal, Pinetown, G. P. L., 2.1911, 1 ♀, gen. no. 2783 D, (British Museum, Meyrick Coll.; these were identified as "*querula*"). Uganda, Ruwenzori Range, Mahoma River, 6700 feet 13-16.VIII.1952, 2 ♂, gen. nos. 3440 B.M. and 3431 B.M.; Misigo, 8550 feet, 2-3.VIII.1952, 4 ♂, gen. nos. 3608 B.M. and 3010 D; 1 ♀, gen. no. 3021 D; Nyinabitaba, 8650 feet, 7-13.VII.1912, 2 ♀, gen. no. 3434 B.M.; 1 ♂, gen. no. 3019 D (D. S. Fletcher, Ruwenzori Expedition, B.M. 1952-566) 10 ♂, 7 ♀. A variable species, especially the males.

APPENDIX

Among the material of surmised *Cryptaspassma* species, which I selected for study myself, several forms were represented not belonging to that genus at all. Some came from an interesting locality, Palu District in Central West Celebes, collected by J. P. A. Kalis in 1937. As far as I know no Microlepidoptera have ever been collected there before or after that. Some of these and other species appeared to be of considerable taxonomic interest. I use this opportunity to describe and record several of them.

A group of Olethreutinae is especially interesting and also puzzling. The species have two unusual features in common, viz., the stalking of the veins 8 and 9 in the fore wing, identifying them as belonging to the genus *Collogenes* Meyrick; and besides, the not less unusual modifications of

scaling of the anterior, median and posterior legs in the two sexes! Additional rich scaling of the legs in the males is a common feature in the subfamily, being a manifestation of the secondary sexual dimorphism. But that these features are developed also in the opposite sex in exactly the same degree, is noteworthy.

Herewith the surprising peculiarities of these species were not yet exhausted. The study of the genitalia in the two sexes revealed to my astonishment that not all of them could be attributed to *Collogenes* but formed a mixture of two distinct genera. This means that three species of *Collogenes* and two species of the new genus described below, all in the same degree developed the two exceptional characters of neuration and legs mentioned above, which is remarkable indeed. The entire neuration of the fore and hind wings appeared even to be exactly identical in all the species, as also the peculiarities of the legs; colouring and markings of the females of two species were so similar as to make the separation not possible without dissection of the genitalia.

Collogenes Meyrick 1931

(Text figs. 10-11, 14, pl. 9 fig. 74)

Collogenes Meyrick 1931, Exot. Microl., vol. 4, p. 141 (Type, by monotypy, *C. percnoptylla* Meyrick 1931, ♂, Bismarck Islands).

This interesting genus has been described by Meyrick all too tersely. The following redescription may prove to be useful.

Head with appressed scales. Ocellus posterior. Proboscis slender and short. Palpus in male moderate, subascending, median segment slender, gently sinuate, roughish along lower edge, especially at base, hardly dilated towards apex, slightly roughish at apex above; terminal segment short, sub-obtuse and porrect. Thorax with a double posterior crest. Legs (text fig. 14): anterior femur dilated with roughish scales below, along posterior half; tibia expanded by bristly hairs; median tibia strongly expanded by rough scales above, by bristly scales below, flattened internally; posterior tibia strongly dilated by roughly projecting hairs above and beneath, basal segment of tibia dilated above only. Abdomen normal; 3rd sternite (pl. 10 fig. 80) forming a thickened plate with strong edge and, possibly, modified hair or scale-clothing.

Fore wing without a costal fold, subtriangular. Vein 2 from beyond $\frac{4}{5}$ 3 from angle, 4 closely approximated towards base, diverging at base, 3-5 equidistant, 5-6 remote, diverging towards base, 7 separate, from angle, to termen, 8 and 9 stalked, stalk approximated to 7, 10 from halfway between their stalk and 11, 11 from middle; closing vein strongly bent in middle,

upper angle produced posterad; parting vein from towards base, soldered to upper edge of cel, thence sinuate downward, to lower edge of cell, vestigial beyond vein 2, apparently to base of vein 4.

Hind wing with a normal cubital pecten; pencil of hairs on base of

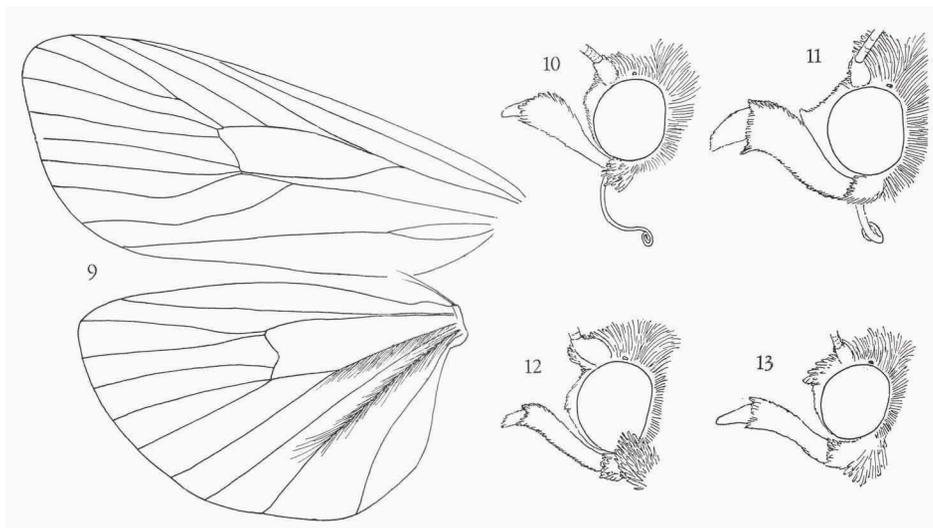


Fig. 9. *Mesocallyntera squamosa* gen. et spec. nov., wing venation ♀. Fig. 10. *Collogenes pseusta* spec. nov., head ♂. Fig. 11, the same, ♀. Fig. 12. *Mesocallyntera squamosa* spec. nov., head ♂. Fig. 13, the same, ♀.

vein 1b normal, not extending along the length of that vein; with 2 from just beyond middle, 3 and 4 approximated, from angle, 5 moderately approximated, closing vein angulate, 6 and 7 closely approximated towards base.

Male genitalia. Of the simple Laspeyresiine type. Tegumen, a slender bow. Uncus, a small hairy prominence. Socius, also a hairy prominence of diverse size. Valva with very strong processus basales; constricted in middle; sacculus stronger sclerotized, or ill-defined; cucullus of diverse shape, densely covered with small spines. Caulis very strong and high. Aedoeagus long and slender, base abruptly swollen. Cornuti, small spines or absent.

Female genitalia. Ovipositor moderate. Eighth segment moderately elongate. Seventh segment strongly sclerotized throughout, especially two large sclerites of the tergite, showing through ventrally. Sterigma, a membranous, large aciculate cup, with outer lower edges folding inward when retracted inside the 7th segment. Ductus bursae slender, moderately long, sclerotized throughout, except along its upper fifth. Corpus bursae large,

spheroidal. Signa, small thorns with scobinate surface, right signum with a longer basal plate (in *pseusta* spec. nov.).

Collogenes percnophylla Meyrick 1931

(Pl. 9 fig. 74)

Collogenes percnophylla Meyrick 1931, Exot. Microl., vol. 4, p. 142 (♂, New Hanover). — Clarke, 1955, Meyrick's Types, vol. 1, p. 240.

The following may be added to the terse original description, besides what is already remarked in the redescription of the genus above.

♂. Fore wing with scales arranged in regular fine transverse rows, visible by the bases of the scales being hyaline or whitish; upon this smooth ground the veins stand out strongly being densely covered with roughish scales; this roughish scaling becoming extended over costa and dorsum. Deep brown,

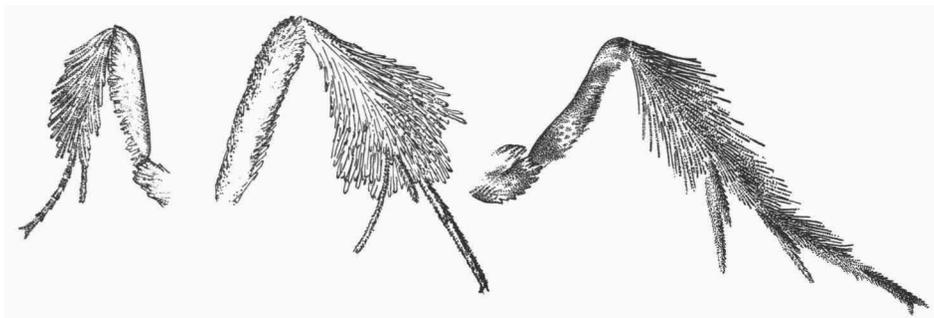


Fig. 14. *Collogenes pseusta* spec. nov., male, fore, middle, and hind legs.

ground colour appearing paler by hyaline bases of scales; along veins and on dorsum strewn with whitish-blue metallic scales; basal patch moderate, deep purple, extended over base of dorsum; several irregular transverse fasciae, dull, appearing roughish and not mixed with metallic scales, dark brown, arranged as follows: an irregular rather broad fasciate blotch on middle of costa, reaching to lower edge of cell, connected with dorsum by two distant raised narrow lines; a series of raised dull tufts on veins forming a slender transverse fascia, from vein 8 beyond cell to dorsum before tornus, slightly inwards-oblique and gently dilated downwards; an irregular sub-triangular costal patch occupying somewhat less than the fourth fifth of costa, outwards-oblique and continued by a rather broad sinuate preterminal fascia, formed by longitudinal raised tufts of scales on veins, terminated on vein 3; a ferruginous-brown marginal line, gently attenuated below, along costa before apex, in apex, and along termen to tornus, interrupted by

metallic dots on veins. Cilia glossy fuscous-fulvous, apical half (except in tornus) irregularly barred and suffused with blackish.

Hind wing rather dark fuscous-purple, with a pale dorsum. Cilia glossy whitish-fuscous with a light purplish-fuscous basal third. Cilia opposite apex purplish-fuscous.

Male genitalia (pl. 9 fig. 74). Tegumen high. Uncus with an emarginate top. Socius, a moderate hairy prominence. Tuba analis distinct, its lower surface at base slightly sclerotized, forming a subscaphium, no gnathos. Vinculum, a slender bow. Valva robust, narrowed in middle, cucullus obliquely rounded, densely covered with moderate bristles. Sacculus elongate-triangular, sclerotized, bluntly prominent towards top, Spc_2 , a group of fine bristles, Spc_1 , a dense patch of stronger bristles situated submarginal, separated from edge by a straight ridge. Juxta very long and strong; caulis long. Aedoeagus very slender, long, base abruptly bulbate. Slide no. 3068 D, lectotype).

Material studied. Bismarck Islands, New Hannover, IV.1923 (A. S. Meek), 1 ♂, lectotype, hereby selected, gen. no. 3068 D; 1 ♂, paratype. Type in the British Museum.

Collogenes plumbosa spec. nov.

(P. 10 fig. 79)

♂ 17.5 mm. Head dark purple. Antenna brownish (partially missing). Palpus moderate, ascending, median segment slender, slightly dilated at apex only, terminal segment very short, subtriangular. Deep ochreous-orange, on basal half and along edges suffused with purplish. Thorax purplish, with leaden reflections, posterior tufts with a pinkish-bronze gloss. Abdomen pale tawny irrorated with pale fuscous.

Fore wing in all respects similar to that of *C. percnophylla*. Hind wing a trifle paler.

Male genitalia (pl. 10 fig. 79). Of the primitive Laspeyresiine type, as e.g., in certain *Cryptophlebia* species. Tegumen, a semiellipsoid slender bow. Uncus, a small, hairy prominence. Socius, a somewhat larger hairy knob. Vinculum straight, a strong simple transverse rod. Valva constricted in middle, sacculus strongly sclerotized, elongate-triangular, ending in a patch of small spines (Spc_2); cucullus moderate, ellipsoid, asymmetrical, costal edge finely haired, lower $\frac{4}{5}$ of disc beset with short spines, especially dense along ventral edge; costa angularly prominent towards base (right valva slightly deformed in mount) Juxta very strong; caulis long. Aedoeagus long,

slender, abruptly bulbate at base. Cornutus, one slender spine. (Slide no. 2887 D, holotype).

Material studied. Bismarck Islands, New Hannover, III-IV.1923 (A. S. Meek), 1 ♂, holotype, gen. no. 2887 D. Superficially exactly similar to *C. percnophylla*, only slightly smaller and with a trifle paler hind wing; the genitalia considerably different, especially in the shape of the vinculum and the attachment of the valva.

Collogenes pseusta spec. nov.

(Text figs. 10-11, 14, pl. 10 figs. 80-81, pl. 11 fig. 88)

♂ 21-23 mm. Head dark purple. Antenna fuscous, short-ciliate, scape dark purple. Palpus ferruginous-fulvous, basal half and apical edge of median segment, blackish. Thorax dark purple mixed with pale fuscous and whitish-grey. Legs (text fig. 14), anterior black, tarsus brown; median, black, tuft on tibia brown in middle, tibia itself pale ochreous inwardly, tarsus ferruginous, ringed with pale ochreous; posterior tibia whitish-ochreous coarsely irrorated with blackish-grey, tarsus dark brown above. Abdomen dark grey, anal tuft tawny-ochreous, venter whitish.

Fore wing subtriangular, costa faintly concave at $\frac{1}{3}$, curved before apex, apex rounded, termen almost straight, oblique. Light ochreous-tawny, markings fuscous-brown, partially edged with fulvous, more or less filled out with blackish-leaden or purplish. Basal patch fasciate, rather narrow, extended along dorsum to $\frac{1}{3}$; fuscous-brownish mixed with black; costa with small dark markings of diverse sizes; a large subtriangular patch occupying about central fourth of costa, anteriorly reaching to middle of fold, anterior edge concave, dark posterior edge tolerably straight above, with a small emargination on upper edge of cell, a deep semicircular excision below, narrowing patch to half of its breadth; this patch centred on costa with pale ochreous, posterior edge marked with blackish, on costa with an elongate reddish mark; space between basal and median patches conspicuously whitish-ochreous above fold; a moderate inwards-oblique tuft of raised scales in $\frac{1}{2}$ of fold; two elongate reddish-brown costal marks on posterior fourth of costa, limited below by a broken line so as to form an outwards-oblique V-shaped mark; a conspicuous straight leaden-black or purplish preterminal fascia, preceded by a zigzag line, followed by an incomplete brownish line, forming a series of cuspidate marks on veins; a bright orange-fulvous marginal line in apex and along termen, broken between veins; sometimes terminal area suffused with whitish between markings. Cilia pale fulvous, sometimes darker, light tawny, in middle of termen cilia tipped with blackish.

Hind wing dark grey-fulvous, dull, veins blackish. Cilia whitish-grey with a subbasal dark line.

Male genitalia (pl. 10 figs. 80-81). Uncus trapezoidal. Socius very small. Valva sclerotized, moderately constricted in middle; costa thickened; sacculus moderately sclerotized, dilated at base; cucullus broadly triangular, covered all over with rather fine spines of equal size, upper angle of cucullus prominent. Juxta strong. Caulis long. Aedoeagus extremely slender, very long, with base abruptly bulbate. Cf. also description of the male genitalia for the genus above. (Slide no. 3064 D).

♀ 24 mm. Palpus slightly longer and more sinuate. Similar to male, but with dark markings more unicolorous dark purple, instead of ferruginous and brown, ground colour greyish-fuscous instead of light tawny. Legs exactly as in male!

Female genitalia (pl. 11 fig. 88) as described with the genus above.

Material studied. West Central Celebes, Palu District, Lindu Palu, 3700 feet, IV.1937, 1 ♂, holotype, gen. no. 3064 D; 1 ♀, allotype, gen. no. 3007 D; 2 ♀, paratypes, gen. nos. 3062 D and 3063 D; Loda Palu, 4000 feet, 1 ♂, paratype, 1 ♀, paratype, gen. no. 3059; Sidaonta, 4500 feet, 1 ♂, paratype, gen. no. 2885 D (J. P. A. Kalis, Rothschild Coll.) West Java, Mount Gedé-Panggrango, Tjibodas, 1400 m, V.1949 (A. M. Neervoort, Leiden Mus.), 1 ♀, paratype, gen. no. 3004 D. East Java, Tengger Mountains, Singolangu, 5000 feet, June 1934, 1 ♂, gen. no. 3076 (J. P. A. Kalis, Rothschild Coll.). 4 ♂, 5 ♀.

In all respects (except, of course, the genitalia) similar to *Mesocallyntera squamosa* described below. All the specimens of these two species available (several from the same locality, with the same collecting date), are, alas, not quite well preserved. This might have reduced the slight differences of colouring if there were any. The two males of *C. pseusta* are slightly more tawny-coloured and more distinct; but the third specimen, from Sidaonta, is greyish-fuscous and similar to *Mesocallyntera squamosa*. Especially the females, at least, in their present state, proved to be indistinguishable superficially.

Mesocallyntera gen. nov.

(Text figs. 9, 12-13, pl. 10 figs. 82, 83; pl. 11 fig. 85)

Head with appressed scales. Ocellus posterior. Proboscis developed. Antenna short-ciliate in male, apical fourth flattened laterally. Palpus moderate or rather long, longer in female, obliquely ascending, median segment slender at base, gradually dilated, top abruptly dilated with roughish hairs above,

terminal segment moderate, triangular, subobtuse. Thorax with a roughly spreading double posterior crest; mesopleura with a long pencil of hairs directed caudad (in the two sexes). Median femur in the two sexes with a small subapical tuft below, median tibia strongly expanded with roughly appressed dense scales, tarsus slender, normal. Posterior tibia in the two sexes dilated with bristly hairs above and beneath, and with a long pencil of hairs from base above.

Fore wing without a costal fold; covered on both sides with slightly raised scales, especially loose and dense along veins on under side, bases of scales semihyaline, making the wing appear semitransparent; vein 2 from $\frac{3}{4}$, 3 from angle, 3-5 approximated and equidistant, closing vein strongly angulate inwards below middle, 5 and 6 strongly diverging towards base, 7 straight, to termen, 8 and 9 stalked, stalk closely approximated to 7, 8 to just above apex, 10 closer to their stalk than to 11, 11 from middle of cell.

Hind wing with a cubital pecten; vein 1b at base with a strong pencil of hairs, then with a pecten of long hairs along its length to well before end; hind wing similarly scaled as fore wing but scales smaller and hardly raised, the wing hardly making a semipellucient appearance; vein 2 from $\frac{2}{3}$, 3 and 4 connate, 5 approximated at base, 6 and 7 closely approximated towards base.

Male genitalia. Tegumen (pl. 10 figs. 82, 83), a slender single bow, dilated into oval plates at the sides towards base. Uncus absent. Socius, a moderate porrect knob. Valva slender, sinuate, narrowed posteriorly; cucullus furcate, beset with strong curved black bristles of diverse sizes; caulis long. Aedoeagus slender, strongly curved, sclerotized; cornuti, 3-5 long, strong spines curved towards top.

Female genitalia (pl. 11 figs. 84, 85). Ovipositor large, anal lobe, except with usual bristles, also with a single series of short sclerotized papillae. Ninth segment elongate. Lamella antevaginalis obsolete; lamella postvaginalis, a membranous, semicircular aciculate sclerite. Colliculum, an irregularly shaped spheroid, semihyaline body. Ductus bursae short and wide. Corpus bursae short, almost semispherical. Signa absent.

Type of the genus, *Mesocallyntera squamosa* spec. nov., ♂♀, Celebes.

Superficially, and except for the genitalia in the two sexes which are quite different, also structurally, resembling *Collogenes* to such an extent, that it is not possible to separate the here concerned species (at least, in the not quite perfect condition, as in this case) without the study of the genital characters. This congruency is the more remarkable because both the stalking of veins 8 and 9 in the fore wing in the two sexes, and the modified legs in females are exceptional features. Still they are present and

exactly similar in the two genera! Structurally differing from *Articolla* Meyr. by veins 6 and 7 in hind wing being separate, and by an entirely differing facies and genitalia; from *Statherotis* Meyr. also by quite different facies and genitalia.

Mesocallyntera squamosa spec. nov.

(Pl. 10 fig. 83, pl. 11 fig. 85)

♂ 22-24 mm (holotype 22 mm). Head deep purple with a leaden-greenish metallic gloss, edges of face pale ochreous. Antenna light brownish, scape deep purple. Palpus brown, apex of median segment suffused with deep purple, rather long and slender, median segment abruptly expanded with roughly appressed scales at apex; tufts on prothorax, at each side of base of palpi brightly fulvous. Thorax purple mixed with whitish-fuscous and ferruginous, with bright violet and lilac reflections, apical half of tegula conspicuously whitish, apical tufts rough, purple. Anterior leg glossy fuscous, tibia and tarsus pale-ringed; median leg whitish at base, knee, tibia, and tarsus blackish-purple, tarsus white-ringed; with a small tuft at top of femur inwardly; tibia strongly expanded externally by a rough large tuft of scales, whitish, becoming glossy black towards apex; tarsus slender, pale-ringed; posterior leg sordid whitish-fuscous, suffused with grey towards tip; a slender long pencil of pale-ochreous hairs from base above; posterior tarsus fuscous, pale-ringed. Abdomen dark fuscous-purple with a pale fuscous basal band, anal tuft pale ochreous.

Fore wing elongate-triangular, strongly dilated, costa faintly curved at base and towards apex, gently concave before middle, apex moderately rounded, termen almost straight, gently concave. Ground colour formed of dark scales with whitish bases making the impression of wing being semihyaline. Rather dark fuscous-purplish, with bluish or violet reflections. Markings dull deep purple, appearing opaque (scales without pale bases), slightly mixed with fuscous, here and there edged with white. Basal patch fasciate, extended along dorsum to before its middle; costa with a series of irregularly sized and spaced dots along anterior $\frac{2}{5}$; a large triangular patch on middle of costa centred with paler, with acute top to lower edge of cell, where it is suffused with fulvous-violet and continued as a slender line along vein 3; a zigzag longitudinal fascia between cell and vein 1b; a suffused patch on about $\frac{4}{5}$ of costa, followed by a fulvous subapical costal dot; four orange-fulvous marginal dots of diverse size, on terminations of veins 5-8; a large ocellus from below vein 7 extending to tornus, above slightly paler than ground colour, below gradually becoming leaden with bluish-metallic gloss; the ocellus narrowed between veins 7 and 5, its top rounded; strongly con-

stricted on vein 3 by an acute fulvous, whitish-edged dentation from terminal edge and a deep purple dentate vertical blotch anteriorly, dentate on veins 3 and 2; edge of ocellus slightly suffused with purple; veins beyond cell except in ocellus, marked with fulvous and deep purple dots; beyond cell vein 4 fulvous with a whitish edge, veins 5 and 6 deep purple, 7 and 8 bright fulvous. Cilia dark fuscous-grey, with a blackish antemedian line, cilia in tornus pale fuscous.

Male genitalia (pl. 10 fig. 83) as described for the genus above.

Hind wing rather dark fuscous with a faint purplish gloss, costa with blue reflections, faint whitish spots in apex and along termen, dorsum pale fuscous. Cilia pale fuscous with white reflections, basal third dark fuscous.

♀ 23-28 mm (allotype 24 mm). Head and palpus as in male, palpus with media and especially terminal segments longer. Leaden-grey colouring extended over anterior half of wing to below costa, and also in apex, and forming a rounded patch beyond cell; dark purple edge to ocellus broader and well-defined; all ends of veins on termen with small white-edged orange triangles; ocellus including two dentate, similarly coloured marks on veins 3 and 4, respectively (in male these are united with terminal edge). Cilia pale fulvous, with an interrupted brown antemedian line along upper $\frac{2}{3}$ of termen. Cilia opposite middle of termen tipped with black.

Hind wing darker than in male, more bronze-coloured. Cilia as in male, slightly more brownish-tinged.

Female genitalia (pl. 11 fig. 85) as described for the genus above.

Material studied. West Central Celebes, Palu District, Lindu Palu, 3700 feet, IV.1937 (J. P. A. Kalis), 1 ♂, holotype, gen. no. 2913 D; 1 ♀, allotype, gen. no. 3057 D; 2 ♀, paratypes, gen. nos. 3060 D, and 3061 D; 2 ♀, paratypes; 1 ♂, paratype, gen. no. 3058 D (Rothschild Collection). 2 ♂, 5 ♀. Types in the British Museum.

All the specimens are slightly rubbed. They are extremely similar to *Collogenes pseusta* with regard to facies, peculiarities of scaling of the fore wing and colouring. Also the legs are similarly scaled, but differ slightly in colouring: in the male of that species the tufts of the median tibiae are brownish, not black, as in the females of that species and in the two sexes of *M. squamosa*.

Mesocallyntera squamosa loricata subsp. nov.

(Pl. 10 fig. 82)

♂ 23 mm. Exactly similar to the nominate form, but with the palpi slightly paler, light fulvous instead of brown, and with tegulae less conspicuously whitish apically; fore wing slightly more dilated posteriorly, paler, more glossy

leaden-coloured. Posterior tibia with hair-pencil from base, brightly ochreous.

Hind wing slightly paler.

Male genitalia (pl. 10 fig. 81) similar to those of the nominate form, only the aedoeagus is shorter and slightly broader, and more gradually curved throughout. This is not enough of a difference for specific separation of the present specimen.

Material studied. British New Guinea, Hydrographer Mountains, 2500 feet, II.1918 (Eichhorn Bros.), 1 ♂, holotype, gen. no. 2912. Type in the British Museum.

Mesocallyntera siderostola spec. nov.

(Pl. 11 fig. 84)

♂ 29 mm. Head blackish with leaden-metallic reflections. Palpus long, basal half obliquely ascending, apical half porrected; tawny, apex of median segment, its roughish upper edge, and upper half of terminal segment black with a strong leaden-metallic gloss. Thorax glossy pale fuscous, mixed with ochreous and dark fuscous, apical crests tawny-ochreous, each with a round black dot on base laterally. Abdomen deep brown. Legs dark fuscous ringed with pale ochreous, median leg and posterior tibia tufted as described with the genus.

Fore wing elongate-triangular, as in the preceding species, rather rounded, termen straight, little oblique (not concave). Brownish-tawny, densely suffused with shining leaden-grey metallic scales, markings dull blackish-brown. Edge of basal patch well-defined, curved from base of costa to well above middle of termen, thence continued by a narrow line, upwards-angulate and almost reaching cell above middle of dorsum, thence straight to above dorsum before tornus; triangular costal patch less regular; pale median mark more shifted anterad; rather well-defined large oval patches of glossy metallic ground colour, arranged thus: a transverse-semioval patch in tornus, with a white outer edge, confluent with an obliquely-erect larger patch above it, which is narrowed along upper half; these two patches together forming the ocellus; a less distinct oval patch in centre of disc beyond cell, confluent with a second patch on $\frac{2}{3}$ of costa; small, more or less interconnected round spots along termen, and in two irregular oblique rows: before and in apex; all metallic markings partially separated by irregular well-defined blackish-brown lines and bands, partially narrowly edged with tawny; preterminal, arrowhead-shaped marks on veins 5, 4, and 3, distinct. Cilia light tawny, with a fulvous antemedian line along upper $\frac{2}{3}$ of termen, opposite middle of termen cilia tipped with black.

Hind wing dull dark brown, paler towards base and dorsum. Cilia glossy whitish-fuscous with a dull brownish basal third.

Female genitalia (pl. 11 fig. 84). Similar to those in *M. squamosa*, differing as follows. Postapophyses dilated at base, longer. Eighth segment shorter. Lamella postvaginalis emarginate at the sides (in *M. squamosa* hardly so), in middle with a more distinct triangular fold. (Slide no. 2735 D, holotype).

Material studied. Central Netherlands New Guinea, Snow Range, Araucaria Camp, 800 m, 17.III.1939, 1 ♀, holotype, gen. no. 2735 D (L. J. Toxopeus, Third Archbold Expedition). Type in the Leiden Museum.

Although the genitalia show but slight differences, together with those of colouring and markings they allow of a separation of this species from *squamosa*. Males might provide for stronger differences with that species.

Cryptophlebia cnemoptila (Meyrick 1930) combin. nov.

(Pl. 9 fig. 75, pl. 10 fig. 77)

Acharneodes cnemoptila Meyrick 1930, Ann. Naturhist. Mus. Wien, vol. 44, p. 225 — Clarke 1955, Meyrick's Types, vol. 1, p. 94.

Distribution. Brazil.

The species has a characteristic *Cryptophlebia* appearance. It does not resemble a *Cryptaspasma* (= *Acharneodes*) in any way.

Male genitalia (pl. 9 fig. 75, pl. 10 fig. 78). Tegumen rather small, erect-oval, not wide. Uncus, socii, absent. Tuba analis distinct; subscaphium, a semioval, bent plate. Valva rather narrow, curved, constricted before middle, primary incision naked. Sacculus well-defined, dilated posterad, Spc, a group of long bristles. Cucullus densely bristled, basally with a transverse ridge of bristles, angularly projecting ventrad; corona represented by some five dark marginal spines. Aedoeagus long, slender, moderately bent. (Slides no. 2860 D, holotype, fig. 75; no. 2911 D, paratype, fig. 78).

Material studied. Holotype, male, Brazil, Pernambuco, Recife, 27.IV-4.V.1927 (Zerny), gen. no. 2860 D, "Acharneodes cnemoptila Meyr." (written label in Meyrick's hand). Paratype, male, Jaraguá, Santa Catharina, 21.X.1930 (Fr. Hoffmann), 1 ♀, gen. no. 2911. Type in the Vienna Museum.

Cryptophlebia encarpa (Meyrick 1920)

(Pl. 9 figs. 76-77)

Argyroploce encarpa Meyrick 1920, Exot. Microl., vol. 2, p. 349 (India, Calcutta, Ceylon, ♀, on *Citrus*). — Joannis 1929, Ann. Soc. Ent. France, vol. 98, p. 718 (Tonkin, in *Litchi* seeds). — Fletcher 1932, Agric. Res. Sci. Mon., vol. 2, p. 28 (India, in *Zizyphus* fruits). — Clarke 1955, Meyrick's Types, vol. 1, p. 125.

Cryptophlebia encarpa, Clarke, loc cit., vol. 3, p. 324, pl. 161, figs. 3-3b (Genit. fig., lectotype ♀ select.).

Distribution. India, Ceylon, Tonkin.

♀ 16-18 mm. Head pale pinkish-ochreous mixed with lilac-purplish. Antenna purple, dark-ringed. Palpus ascending, median segment triangularly dilated, rather smooth, terminal segment porrected, slender, moderate, tip obtuse; pale ochreous, densely irrorated and suffused with lilac-purplish, except a pale spot before apex above. Thorax light lilac-purple, mixed with pale ochreous, apex marked with pale ochreous.

Fore wing triangular, costa little curved at base, straight posteriorly, apex rather pointed, subobtuse, termen long, almost straight, oblique. Pale ochreous, dotted with grey, suffused with greyish-purple, transversely strigulated with fine ferruginous-brown lines. Basal patch large, complete, rather dark purplish-grey, extending on costa to $\frac{3}{5}$, on dorsum to $\frac{2}{3}$, edge rather straight, serrulate, outwards-oblique to above fold, angulate there, thence straight and inwardly oblique; this edge accentuated by a ferruginous strigula; basal patch on costal edge posteriorly with a series of minute pale transverse marks; a well-defined triangular slightly outwards-oblique and acutely pointed spot on $\frac{3}{4}$ of dorsum, pinkish, finely edged with ferruginous, tipped and broadly cut in middle, by ferruginous-black; this mark separated from basal patch by a whitish line; a small dark transverse mark on costa beyond basal patch, connected by an interrupted ferruginous line with tornus; costal patch ill-defined, triangular, formed by four purplish and grey costal spots, becoming smaller posteriorly, and by a blackish suffusion around and below them, connected with tornus by a couple of strongly sinuate irregular, purple-ferruginous or black lines, more or less filled with grey suffusion; the broad pale band between basal patch and these markings becoming pinkish towards costa; a broad band in apex and along termen, greyish-white, traversed by several blackish very oblique lines, merging into a similar marginal line. Cilia greyish-white, scales with white tips, base of cilia white, an interrupted blackish-purple antemedian band.

Hind wing rather dark fuscous-purple with a slight pinkish tinge in certain lights, and with faint prismatic reflections. Cilia glossy pale fuscous with a pale base and a brownish antemedian shade.

Female genitalia (pl. 9 figs. 76-77). Seventh sternite moderately sclerotized throughout, finely punctulate, in middle with a longitudinal furrow which is denser punctulate; upper edge of sternite with a deep excision in which fits the lamella antevaginalis, being a dark rod, forming a pear-shaped figure; lamella postvaginalis, above this, invert-triangular, punctulate. Colliculum, a very narrow short tube. Signa, large hooks. (Slide no. 3067 D).

Material studied. West Central Celebes, Loda Palu, 4000 feet,

V.1937, 1 ♀, gen. no. 3067 D; Lindu Palu, 3700 feet, IV.1937, 1 ♀: Mount Rangkunau, Palu, 1800 feet, XII.1936, 1 ♀ (J. P. A. Kalis, Rothschild Collection). 3 ♀. Type in the British Museum.

A small species, probably nearest to *C. farraginea* (Meyr), from Java, differing by the genitalia.

***Cryptophlebia macrops* spec. nov.**

(Pl. 11 figs. 86-87, pl. 12 fig. 93)

♂ 21 mm. Head pale tawny, vertex suffused with grey. Antenna pale tawny-fuscous. Palpus pale ochreous, posterior half suffused with light purplish. Thorax pale tawny, becoming whitish-ochreous towards apex. Abdomen whitish-ochreous, faintly touched with grey posteriorly, except anal tuft; faintly ringed with greyish irroration.

Fore wing ovate-triangular, rather broad, costa gently curved throughout, apex obtuse-pointed, termen gently rounded, oblique. Whitish-ochreous, finely irrorated with light tawny, markings lilac-fuscous and dark fuscous-purple. Costa with numerous subtriangular dark fuscous-brownish dots, alternating with slender and slightly paler brownish strigulation, a large and conspicuous, dark fuscous-purple patch in disc, occupying posterior half of cell, not quite reaching costa, below limited by fold; anterior edge suffused, posterior well-defined, bluntly angulate in middle; faint greyish and orange-fulvous transverse irroration tending to connect discal patch with dorsum, also some fulvous irroration below costa anteriorly; a broad irregular subterminal transverse band, formed by purplish-brown transverse strigulation; this band darker towards costa, almost interrupted in middle, gradually disappearing downward and not quite reaching dorsum; edges of band ill-defined, except posterior edge which is deeply scalloped; dorsal patch small, ill-defined, erect-triangular with an acute top, more or less edged and transversely cut by purple-black; termen beyond transverse band pale, with a lilac gloss, terminal edge whitish, cut with numerous very oblique strigulae; an oblique purplish spot in apex. Cilia ochreous-white, broadly barred with dark grey.

Hind wing pale ochreous, finely and regularly retinate with brownish. Cilia fuscous-whitish.

Male genitalia (pl. 12 fig. 93). Valva with cucullus regularly elongate-oval, rather broad, covered with rather fine closely appressed bristles, becoming denser towards ventral edge; sacculus well-defined, sclerotized, short, with a patch of small bristles at base, moderately excised at top, top formed by a strong cluster of short teeth. Aedoeagus sclerotized, rather slender, moderately long. (Slide no. 3008 D, holotype).

♀ 22-24 mm. Similar to male, but with discal patch more suffused, transverse purplish strigulation sometimes more distinct; dorsal patch obliquely fasciate, more wedge-shaped than triangular. In one specimen a pale orange-fulvous irroration extended below fold and in middle of disc between cell and termen.

Hind wing darker, suffused with dull fuscous. Cilia fuscous.

Female genitalia (pl. 11 figs. 86-87). Eighth segment sclerotized. Lamella antevaginalis, a moderate sclerite with irregularly rounded edges, with a semicircular, rather wide excision above; ostium bursae concentric with this excision, edge narrow, dark ventrally, dorsally ill-defined, forming a small lamella postvaginalis which is distinctly sclerotized. Colliculum tubular, irregularly shaped, with a refracting wall. Signa rather small, pointed hooks on round basal plates. (Slide no. 3009 D, allotype).

Material studied. South Africa, Cape Colony, King Williamstown, Annshaw, 1898, 1 ♂, holotype, gen. no. 3008 D; 1 ♀, allotype, gen. no. 3009 D; 2 ♀, paratypes (Barrett). 1 ♂, 3 ♀.

Distinct by the isolated large discal patch.

Note. **Eucosma litigosa** Meyrick 1912, Journ. Bombay Nat. Hist. Soc., vol. 21, p. 867 (Assam). It may be stipulated here that this species, preserved in the British Museum (Natural History) under the genus "*Acharneodes*" Meyrick, does not belong to the genus *Cryptasasma* Walsingham (= *Acharneodes*).

The same applies to "**Acharneodes**" **ischnobathra** Meyrick 1938, Trans. Roy. Ent. Soc. London, vol. 87, p. 511 (New Guinea).

Both these species possibly belong in the vicinity of the genus *Olethreutes* Hübner; anyway they have nothing to do with *Cryptasasma*.

COPROMORPHIDAE

Copromorpha macrolepis spec. nov.

(Pl. 12 figs. 89-92, pl. 13 fig. 94)

♂ 22 mm. Head glossy whitish-fuscous touched with ochreous, crown mixed with dark fuscous. Antenna dilated, moderately flattened laterally, serrate, serrations short-ciliate; light fuscous-ochreous. Palpus rather long, moderately arched upward, porrect; median segment slightly roughish below, terminal segment $\frac{1}{3}$ of median; rather dark fuscous-purple, median segment mixed with blackish along lower edge, tip whitish; terminal segment blackish, basal and apical thirds whitish. Thorax brownish-fuscous, indistinctly marbled with whitish. Abdomen fuscous, suffused with purple-brown, tinged yellowish, venter purplish.

Fore wing elongate-ovate, rather narrow, moderately dilated, broadest at $\frac{3}{4}$, with series of large, rounded, raised scale-tufts on surface; scales between tufts slightly raised, with transparent bases, giving the wing semi-pelluculent appearance in certain lights. Sordid pale ochreous, suffused and marked with dark fuscous, with a purple gloss. Costa dark fuscous with five slightly raised pale-ochreous scale-tufts, making narrow transverse marks, which become wider and less distant posteriorly; basal patch represented by a greyish-fuscous suffusion occupying $\frac{1}{4}$ of wing, edge rather well-defined, ending in a discal finely pale-edged tuft; a slender transverse tuft beyond this on dorsum; transverse fascia indicated by a cloudy fuscous, purplish-tinged suffusion from below costa beyond middle to posterior half of dorsum, containing some five large tufts, one on each angle of cell, upper enclosed in a large longitudinal dark dash, one on lower edge of cell, and two on dorsum, respectively; rounded black dots between tufts; a transverse series of ill-defined smaller ochreous-tinged tufts on veins beyond cell, together forming an erect-oval figure; raised black tufts on veins before termen, arranged in some three indistinct transverse series converging in tornus; a purplish-fuscous suffusion occupying termen to below apex and posterior half of dorsum, and obscuring markings. Cilia rather dark purplish-grey, with a whitish basal line and a cloudy dark grey basal third.

Hind wing rather dark grey-bronze, with a coppery-golden gloss along veins and margin, visible in certain lights. Cilia concolorous, with the same gloss.

♀ 26 mm. With longer and darker palpi. Antenna less dilated, also serrate. Fore wing longer and narrower. A conspicuous elongate blackish-purple patch in upper angle of cell, larger than in male; raised tuft on lower angle of cell finely edged with ochreous; light ochreous raised tufts on veins half-way between cell and terminal black tufts slightly more distinct than in male; whitish points on extremities of veins along termen and in apex (in male scarcely visible). Otherwise similar to male.

Male genitalia (pl. 12 figs 89-92). Tegumen, a slender bow. Uncus, a long thin sickle. Valvae dilated and soldered together at base (in mount, separated); cucullus narrowed, long and slender, top truncate, with a short dorsal and a longer projecting ventral cusp. Transtilla, a broad, transverse sclerite, triangularly prominent in middle of upper edge, prominence finely punctulate, with a not punctulate median transverse furrow. Aedoeagus rather short, top rectangular; cornuti, numerous fine bristles. Coremata, long pencils upon slender, sinuate stalks. (Slide no. 3065 D, holotype).

Female genitalia (pl. 13 fig. 94). Ovipositor pointed. Anal lobe with proximal angle bent over. Eighth segment short-tubular. Lamella antevaginalis little modified, a transverse split, flanked by long hairs, finely

punctulate. Colliculum shaped as a very large funnel, moderately sclerotized. Ductus bursae short, bulbous at its extremity. Corpus bursae spheroid, wall punctulate. Signum absent. (Slide no. 3066 D, allotype).

Material studied. West Central Celebes, Palu District, Lindu Palu, 3700' IV.1937, 1 ♂, holotype, gen. no. 3065 D; 1 ♀, allotype, gen. no. 3066 D; 2 ♀, paratypes (J. P. A. Kalis, Rothschild coll.). 1 ♂, 3 ♀. Types in the British Museum. Distinct by fuscous-purplish colouring and by the genitalia.

CORRIGENDUM

Melanalopha Diakonoff 1941

Melanalopha Diakonoff 1941, Treubia, vol. 18, p. 437, fig. 7, pl. 22 figs. 3-5 (type species *M. lathraea* Diak., ♂ ♀, East Java).

After a close re-examination of the series of the only species of this interesting genus I am satisfied that a serious error was entered in my original description. Actually the scape of the antenna of this species is normal and does not possess any pecten of hairs or bristles, as I then thought.

Herewith the genus loses its position as a representative of a separate (often questioned) family Melanalophidae Diakonoff 1941, which latter name simply becomes a synonym of the tribe Laspeyresiini of the subfamily Olethreutinae.

The genus, however, remains interesting, as it is the only Southern Asiatic representative of the Olethreutinae without a cubital pecten of hairs in the hind wing.

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Plate 3. Male genitalia of *Cryptasasma* (*Allobrachygonia*) species. Fig. 15. *C.* (*A.*) *geina* spec. nov., holotype. Fig. 16. *C.* (*A.*) *brachyptycha* (Meyr.), holotype. Fig. 17. *C.* (*A.*) *helota* (Meyr.), gen. no. 2898 D. Fig. 18. *C.* (*A.*) *glebaecolor* spec. nov., paratype. Fig. 19. *C.* (*A.*) *angulicostana* (Wals.), holotype (Spc wiped off). Fig. 20. *C.* (*A.*) *ochrotricha* spec. nov., holotype. Fig. 21. *C.* (*A.*) *angulicostana* (Wals.), paratype, gen. no. 109 B (Spc distinct). Fig. 22. *C.* (*A.*) *querula* (Meyr.), gen. no. 3056. (Figs. 16, 19 and 21, by the courtesy of the Trustees of the British Museum, Natural History).

Plate 4. Female genitalia of *Cryptasasma*. Figs. 23-25. *C.* (*Cryptasasma*) *microloga* spec. nov., holotype. 23, Ovipositor, sterigma and colliculum; 24, bursa copulatrix; 25, sterigma, more magnified. Figs. 26-28. *C.* (*Allobrachygonia*) *brachyptycha* (Meyr.), neallotype. 26, sterigma, more magnified; 27, bursa copulatrix; 28, ovipositor, ostium, and colliculum. Figs. 29-31. *C.* (*A.*) *helota* (Meyr.). 29, general aspect; 30, lamella antevaginalis; 31, signa. Figs. 29, 30, and 31 by the courtesy of the Trustees of the British Museum (Natural History).

Plate 5. Male genitalia of *Cryptasasma*, subgenus *Allobrachygonia* (holotypes). Fig. 32. *C.* (*A.*) *zophocosma* Meyr. Fig. 33. *C.* (*A.*) *debeauforti* spec. nov. Fig. 34. *C.* (*A.*) *triopis* spec. nov. Fig. 35. *C.* (*A.*) *haplophytes* spec. nov. Fig. 36. *C.* (*A.*) *syostoma* spec. nov. Fig. 37. *C.* (*A.*) *hesyca* spec. nov. Fig. 38. *C.* (*A.*) *lasiura* Meyr. Fig. 39. *C.* (*A.*) *glebaecolor* spec.

nov. Figs. 32 and 38, by the courtesy of the Trustees of the British Museum (Natural History).

Plate 6. Female genitalia of *Cryptasasma* (*Allobrachygonia*). Figs. 40-42. *C. (A.) helota* Meyr. specimen no. 2831. 40, sterigma, more magnified. 41, ovipositor, ostium, and colliculum. 42, bursa copulatrix. Figs. 43-45 *C. (A.) angulicostana* Wals., allotype. 43, sterigma, more magnified; 44, ovipositor, ostium, colliculum. 45, signa. Figs. 46-48. *C. (A.) ochrotricha* spec. nov., allotype. 46, sterigma, more magnified; 47, signa; 48, ovipositor, sterigma, and colliculum. Figs. 49-51. *C. (A.) systoma* spec. nov., allotype. 49, sterigma, more magnified; 50, bursa copulatrix; 51, ovipositor, sterigma, and colliculum.

Plate 7. Female genitalia of *Cryptasasma* (*Allobrachygonia*). Figs. 52-53, 57. *C. (A.) hesyca* spec. nov., allotype. 52, ovipositor, sterigma, and colliculum; 53, sterigma, more magnified; 57, bursa copulatrix. Figs. 54-56. *C. (A.) glebaecolor* spec. nov., allotype. 54, ovipositor, sterigma, and colliculum; 55, signa; 56, sterigma, more magnified. Figs. 58-59. *C. (A.) zophocosma* Meyr., neallotype. 58, general aspect; 59, sterigma, more magnified. Figs. 60-61. *C. (A.) pelagia* spec. nov., holotype. 60, sterigma, more magnified; 61, general aspect.

Plate 8. Genitalia of *Cryptasasma*. Fig. 62. *C. (Allobrachygonia) que-rula* (Meyr.), male, gen. no. 3029 D. Figs. 63-64, and 67. *C. (A.) orphnina* spec. nov., holotype. 63, sterigma, strongly magnified; 64, ovipositor, sterigma, and colliculum; 67, bursa copulatrix. Figs. 65-66. *C. (A.) peratra* spec. nov., holotype. 65 sterigma, strongly magnified; 66, general aspect. Fig. 68. *C. (Metasasma) atrinodis* (Meyr.), male, gen. no. 3010 D. Fig. 69. *C. (M.) subtilis* spec. nov., male, holotype.

Plate 9. Figs. 70-71. *Cryptasasma* (*Metasasma*) *subtilis* spec. nov., allotype, female genitalia. 70, general aspect; 71, sterigma, more magnified. Figs. 72-73. *C. (M.) atrinodis* (Meyr.), neallotype, female genitalia. 72, general aspect; 73, sterigma, more magnified. Fig. 74. *Collogenes percno-phylla* Meyr., holotype, genitalia. Fig. 75. *Cryptophlebia cnemoptila* (Meyr.), paratype, gen. no. 2911 D. 76-77. *C. encarpa* (Meyr.), gen. no. 3067 D. 76, ovipositor and sterigma; 77, bursa copulatrix.

Plate 10. Male genitalia. Fig. 78. *Cryptophlebia cnemoptila* (Meyr.), holotype. Fig. 79. *Collogenes plumbosa* spec. nov., holotype. Fig. 80. *C. pseusta*

spec. nov., holotype. 81. The same, abdominal sternites 1 + 2 and 3, lateral aspect. Fig. 82. *Mesocallyntera squamosa loricata* subsp. nov., holotype. Fig. 83. *M. s. squamosa* spec. et subsp. nov., holotype.

Plate 11. Female genitalia. Fig. 84. *Mesocallyntera siderostola* spec. nov., allotype. Fig. 85. *M. s. squamosa* spec. nov., allotype. Fig. 86. *Cryptophlebia macrops* spec. nov., allotype, ovipositor, sterigma and colliculum. Fig. 87. The same, bursa copulatrix. Fig. 88. *Collogenes pseusta* spec. nov., allotype.

Plate 12. Figs. 89-92. *Copromorpha macrolepis* spec. nov., holotype. 89, aedoeagus; 90, general aspect, without aedoeagus (*c* = corema); 91, coremata, slightly less magnified; 92, tip of right valva, strongly magnified. Fig. 93. *Cryptophlebia macrops* spec. nov., holotype, male.

Plate 13. Fig. 94. Female genitalia of *Copromorpha macrolepis* spec. nov., allotype.

