

**TORTRICIDAE CHIEFLY FROM THE COLLECTION OF THE
INSTITUTE FOR PLANT DISEASES AT BUITENZORG**

(6th Paper on Indo-Malayan and Papuan Tortricidae)

by

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By the courtesy of the Director of the Institute for Plant Diseases ("Instituut voor Plantenziekten") at Buitenzorg, Java, I obtained for study a collection of partly unnamed Tortricidae. A few notes on the foodplants of some species from this lot have been published already elsewhere ¹⁾. The following is a complete list with remarks on localities and foodplants. One genus, one species and two varieties are described as new.

The names of the collectors, members of the staff of the "Instituut voor Plantenziekten", are abbreviated as follows: Raden AWIBOWO: Aw, Dr C. J. H. FRANSSEN: Fr, Dr P. VAN DER GOOT: vdG, Dr L. G. E. KALSHOVEN: Khv, TJOA TJIEN MO: Tj, Dr J. VAN DER VECHT: vdV, Fr. A. TH. H. VERBEEK: Verb. I am greatly indebted to Dr KALSHOVEN for his help and suggestions and his interest in this paper.

***Cerace triphanella* SNELL., 1903.**

SNELLEN, Tijdschr. v. Entom. vol. 46, p. 26-27, pl. 4, fig. 1, 1903.

This species has been described after two ♀♀ (now in the Leiden Museum); the description of the male follows here.

♂ 22 mm. Head and palpi blackish-violet, on vertex mixed with dark purple; thorax dark brownish-purple, its edges and patagia blackish-violet. Antennae whitish, ringed black, bipectinate. Abdomen blackish-violet, anal tuft light yellow. Forewings with costa strongly and abruptly arched at base, concave before middle, gradually slightly rounded towards apex, apex rounded-rectangular, termen strongly rounded-projecting on vein 6, in the way common for the genus, very oblique beneath, dorsum straight. Groundcolour bright orange-yellow, scattered with whitish-silvery, shining dots. A blackish-violet triangular blotch on base of wing from costa to about $\frac{3}{4}$ of wing breadth, its posterior edge straight, little oblique, its lower angle sharply projecting: some blackish and purple scales on $\frac{1}{6}$ of dorsum; a very narrow, suffused, dark, purplish streak along costa, dilated posteriorly, interrupted about six times by above-mentioned shining blotches, the last of these on $\frac{1}{2}$ of costa; the apical part of

¹⁾ A. DIAKONOFF, Zool. Meded. Rijksmus. Nat. Hist. (Leiden), vol. 21, pp. 111-240, 1939.

wing from before $\frac{3}{5}$, reddish-purple, suffused blackish-brown along anterior edge, which is convex anteriorly and shows some 5 suffused dentations; the apical area is scattered with ochreous-yellow scales and dots and shining bluish-leaden blotches: 4 - 5 transverse, semilunar streaks on costa and smaller, rounded dots in disc; a terminal, yellow suffusion on vein 6. Cilia brownish-black, mixed with yellow on vein 6. Hindwings bright yellow, apical fifth blackish, with dentate anterior edge. Cilia blackish. Fore legs blackish, middle legs blackish with ochreous femur and top of tibia, hind legs whitish-ochreous, with femur blackish above.

West Java, Sindanglaja, VIII, IX, XII.1935, feeding on leaves of tea-plant. Tjinjirecan, X.1935, feeding on leaves of *Cinchona*-tree (vdG). 2 ♂, 6 ♀.

The species is very variable and possesses melanistic forms, two of which are described below; their genital apparatus is identical with that of the type.

Cerace triphaenella SNELL. **nox** nov. var.

♀ 32 mm. Head, palpi, thorax and forewings unicolorous, dark brownish-black, regularly scattered with rounded and elongate, shining blueish-leaden patches and dots. Hindwings, abdomen and legs as in type.

West Java, Sindanglaja, X.1935, feeding on leaves of tea-plant (vdG). 1 specimen. Also 1 specimen in the author's collection from Java, Soekaneegara, VII.1936 (L. J. TOXOPEUS).

Cerace triphaenella SNELL. **melanoptera** nov. var.

♂ 22 mm. Head and palpi reddish-brown, mixed with ochreous; thorax and patagia dark brownish-purple and red, collar and edges of patagia ochreous. Forewings somewhat broader than in ♂ of the type, blackish-brown; apical $\frac{2}{5}$ reddish, suffused with brownish, especially in tornus, with suffused yellowish dots along costa and apex; the whole wing is scattered with leaden-metallic spots less distinct than in type; a reddish streak on $\frac{1}{6}$ of dorsum. Hindwings dark greyish-brown, with costa from base to $\frac{3}{4}$ orange-yellow, scattered with brown scales, especially on veins 3 - 6. Abdomen dark yellow, a dark brown band on every segment, interrupted laterally. ♀ 21 mm, head, thorax and abdomen reddish-black, anal tuft orange-yellow. Forewings as in male, but darker, apical part dark brownish-red, metallic spots more distinct. Hindwings orange-yellow, paler at base and suffused blackish on veins beyond cell, with marginal $\frac{1}{3}$ blackish, sometimes entirely suffused blackish.

West Java, Sindanglaja 6.IX.1935; Tjinjirecan, 11.X.1935. Bred from *Thea* (leaves, vdG) and *Cinchona* (id.). 1 ♂, 2 ♀.

Adoxophyes privatana WALK., 1863.

WALKER, List Lep. Het. B.M., vol. 28, p. 328, 1863.

West Java, Pasar Minggu, Buitenzorg, Tapos (Mt. Gedé), Sindanglaja, Bandoeng, Tjiamis, Patjet; bred from *Thea* (leafroller, Lfs, vdG, Tj.), *Citrus*

(leaves, Lfs, Fr.), *Derris* (leaves, vdV), *Linum* (id.), *Glycine max* (leaves, vdG), *Theobroma* (id.), *Sida acuta* (leaves, Fr.), *Carica papaya* (id.), *Flacourtia* (id.), *Nephelium* (id.), *Desmodium gyroides* (leaves, Khv.), *Calophyllum inophyllum* (id.), *Vitex heterophylla* (id.), *Eugenia aquea* (id.), *Cassia* spec. (fruits, Khv.), *Schima noronhae* (leaves, Khv.), *Ricinus* (v. Heurn), ["Oelat poetjoek" (Lfs.), "lobak" (?)]. Centr. Java, Pekalongan, Semarang, Telawa; bred from *Solanum torvum* (leaves, Khv.), *Litsea chinensis* (id.), "loendo"¹⁾ (id.), *Cassia siamea* (pods, Khv.), *Cantharospermum barbatum* (id.), *Alternanthera sessilis* (shoots, Khv.), *Eugenia densiflora* (flowers, Khv.), *Evodia accedens* (id.), *Jasminum sambac* (leaves, Aw.), *Rosa* sp. (leaves, Verb.), *Citrus* (leaves, Aw.). 23 ♂, 30 ♀.

Adoxophyes perstricta MEYR., 1928.

MEYRICK, Exot. Microl., vol. 3, p. 453-454, 1928.

West Java, Buitenzorg; bred from *Nerium* (shoot, vdV.), *Nephelium* (shoot, Fr.), *Ricinus* (v. Heurn). Centr. and East Java, Pekalongan, Pasoeroean; bred from *Jasminum sambac* (leaf, Aw.), *Mangifera* (shoot, Fr.). 2 ♂, 4 ♀.

Epagoge retractana WALK., 1863.

WALKER, List Lep. Het. B.M. vol. 28, p. 322, 1863.

West Java, Buitenzorg; bred from *Gossypium* (Fr.). Centr. Java, Telawa; bred from *Barleria prionitis* (fruits, Khv.), *Elephantopus scaber* (flower, Khv.), *Lantana* (id.).

Homona coffearia NIETN., 1861.

NIETNER, Enem. Coff. Ceyl., p. 24, 1861.

West Java, Buitenzorg, Tjipetir, Goenoeng Mas, Sindanglaja, Patjet, Bandoeng, Lembang, Mt. Goentoer, Pengalengan; bred from *Thea* (leaves, Lfs, vdG, Tj.), *Pyrus* (leaves, vdG.), *Derris* (leaves, Fr., vdV.), *Linum* (id.), *Citrus* (leaves, Fr.), *Eugenia polyantha* (leaves, Khv.), *Cinnamomum* (id. Lfs.), *Eucalyptus alba* (leaves, Khv.), *Acacia auriculiformis* (id.), *Calophyllum inophyllum* (young shoots, Khv.), *Nephelium* (leaves, Lfs.), Centr. Java, Semarang, Kedoengdjati, Telawa; bred from *Cajanus indicus* (leaves, Khv.), *Arachis hypogaea* (id.), "dojo" (? *Dysoxylum*, leaves, Khv.), *Bauhinia* (flowers, Khv.), *Melochia indica* (id.), *Glochidion* (fruits, Khv.), *Gossypium* (id.), *Pluchea indica* (young shoots, Khv.). East Java, Djatiroto, Pasoeroean; bred from *Crotalaria*, *Gossypium* (leaves, Fr.). 29 ♂, 52 ♀.

Homona picrostacta MEYR., 1921 (pl. 16 fig. 1-2).

MEYRICK, Zool. Meded. Mus. Leiden, vol. 6, p. 146-147, 1921.

The female of this species is described after one specimen in the Leiden Museum as follows: "♀, Head, thorax, and forewings as in the dark form of

¹⁾ *Salacia* ? *Ventilago* ?

♂ (but doubtless light forms also occur) Hindwings pale yellowish." Furthermore MEYRICK remarks: "Nearest *coffearia* (which also occurs in Java), but quite distinct by peculiar costal patch and pale hindwings".

Afterwards the female of *picrostacta* has not been found again. The above description is drawn from the material in the Leiden Museum, which could not be studied under the present circumstances. This species is not uncommon in Java and I have seen several males, but looked in vein for females which would agree with MEYRICK's description cited above.

After studying a small lot of Tortricidae from the collection of the East and Central Java Experiment Station, I came, at last, to the following conclusions. *H. picrostacta* MEYR. is closely related indeed to *coffearia* NIETH., but it is not less sexually dimorphous than the latter species. The females have markings absolutely different from those in the males, and can be distinguished from the females of *H. coffearia* only with difficulty. All this time they have been overlooked, by myself as well, and regarded as females of *coffearia*!

As to MEYRICK's description cited above, according to which the female of *picrostacta* would have the same markings as the male, this must be incorrect. I have investigated now a series of males and females which are quite different, but correspond with each other in locality, foodplant and even in date of emergence of the moths, and I do not doubt that they belong together.

Moreover, *H. picrostacta* MEYR. is trimorphous: two different forms of female, a broad-winged and a narrow-winged one, occur together. This makes the matter still more intricate. Descriptions of both follow here.

Homona picrostacta MEYR. ♀, **euryptera** forma nova.

εὐρυς broad, πτέρον = wing.

♀ 21 - 26 mm. Forewings with costa violently arched anteriorly, prominent at $\frac{1}{4}$, sinuate posteriorly, apex prominently rounded, termen sinuate above, broadly rounded and prominent beneath. Light or dark ochreous, markings ochreous-brown. Basal area with outer edge strongly rounded, very oblique above, bluntly prominent or rounded in middle, little oblique below middle, to $\frac{1}{4}$ of dorsum; scale-projection at base of dorsum large, semicircular, brown (in worn specimens often entirely disappeared); transverse fascia narrow in upper $\frac{1}{3}$, broadly dilated in disc, narrowed again on dorsum, its anterior edge rather straight, from $\frac{2}{5}$ of costa to $\frac{3}{5}$ of dorsum, its posterior edge oblique and sinuate above, from beyond $\frac{2}{5}$ of costa to dorsum just before tornus, dentate in cells, deeply triangularly indent on veins 4 - 6, considerably prominent in cell 2, distinctly and abruptly narrowed on dorsum; a more or less distinct, but always present short, vertical, brown strigula on transverse vein just between the bases of vein 5 and 6 (this is a good characteristic, even distinct in worn and faded specimens!); costal patch narrowly elongate-semioval, from beyond $\frac{1}{2}$ of costa to apex. In light coloured specimens only dark edges of markings remain and form together with transverse small strigulae a brownish retination. Cilia light

ochreous. Hindwings light ochreous-yellow, brighter yellow towards apex. Cilia light ochreous.

West Java, Pasar Minggoe; bred from *Citrus*, VII.1939 (leaves, Fr.). Central Java, Telawa, 12.XI.1931 (leaves?, Khv). East Java, Malang 27.III.1928; bred from *Tephrosia*, 16.III.1926 (J. G. BETREM) 4 ♀.

As said above, this species is very closely allied to *coffearia*, from which species (♀) it can be distinguished by the shape of transverse fascia, which in the latter species has the posterior edge sinuate below costa, but gradually curved in disc throughout and not abruptly narrowed on dorsum; and by absence of transverse strigula below costal patch; the costal patch in dark specimens of *coffearia* is mostly extended by a shadow along apex and upper half of termen, in lighter specimens the anterior edge of this shadow is indicated by a brown strongly curved preterminal fascia, running parallel to termen and reaching from beyond $\frac{1}{4}$ of costa to tornus; the forewings in *coffearia* are narrowed beyond middle, with costa less sinuate and apex less prominent than in the present form of *picrostacta*.

Homona picrostacta MEYR. *stenoptera*, forma nova.

στενός = narrow.

♀ 19.5 - 21 mm. Forewings narrowed posteriorly, with costa violently arched anteriorly, straight in middle, slightly concave before apex, apex prominent, slightly curved, termen vertical above, gradually and violently rounded beneath, not projecting. Varying from light ochreous to brightly ferruginous-brown, markings ochreous-brown to shining dark brown. Basal area as in preceding form, with an elongate, brown suffusion along dorsum to before $\frac{1}{2}$; transverse fascia as in preceding, with an abrupt, triangular indentation in middle posteriorly, anterior edge of this indentation bearing a very distinct, dark brown, transverse, discal streak on the same place as in f. *euryptera*, but even more distinct; costal patch from before $\frac{2}{3}$ to apex, suffused below, with dark transverse strigulae. In light specimens remain only basal suffusion, costal patch, costal and dorsal parts of transverse fascia and discal streak, the latter very distinct. Dark specimens with these markings indistinct, costal half of wing, transverse fascia and scale-projection on dorsum being suffused dark brown, shining violet, apex and veins on posterior $\frac{1}{3}$ of wing blackish-violet. Cilia and hindwings as in f. *euryptera*.

West Java, Pasar Minggoe, bred VI-VII.1939 from *Citrus* (leaves, Fr.) 5 ♀. East Java, Malang, bred 6.I.1933 from *Citrus* (leaves, Dr J. G. BETREM) 1 ♀.

I did not succeed in detecting any difference in males and record these separately: West Java, Pasar Minggoe, bred VI-VII.1939 from *Citrus* (leaves, Fr.). Central Java, Semarang, bred from *Antidesma bunius* (leaves, Khv). East Java, Tjepoe (at light, VERB.); Telawa, bred from *Grewia tomentosa*, (leaves, Khv.), *Cajanus cajan* (leaves, id.); Malang, bred 27.III.1928 from *Citrus*

(leaves, Dr. J. G. BETREM); Djatiroto, bred from *Crotalaria* (leaves, Khv.), Gedangan, *Cajanus cajan* (leaves, id.); *Arachis hypogaea* (leaves, id.). 14 ♂.

Genital apparatus ¹⁾. ♂. Scopae rather large. Saccus moderate, semicircular. Valva very short, erected, narrow, curved, densely covered with long, hair-shaped scales. Costa with rectangular top, an emargination between this and the top of sacculus, which is short, strongly chitinised, its top also rectangular. Uncus short and broad, truncate, slightly emarginate at the top, strong. Socii minute knobs. Gnathos long, strong curved, with narrow point. Anellus moderate. Transtilla a massive, broad band, with large processes at the sides, covered with asymmetrical, comb-like dentations on the inner side and at the top. Aedoeagus strong, with two arms, the upper one narrow and curved, ending in a long sharp hook. Cornuti a sheaf of long spines. (Genit. slide No. 200D).

♀. Ovipositor short, broad, dilated at apex. Apophyses very narrow, short. Limen chitinised, dilated in middle, ostium moderate, beginning by a funnel, with a process in dorsal wall hanging over the orifice. Ductus and cestum very peculiar, strongly and regularly coiled (this reminds of the coiled ductus in Phaloniadae). Colliculum absent. Bursa moderate, pear-shaped. Signum large, with a dilated, cup-shaped base. (Genit. slides No. 203D and 204D).

Homona spec.

West Java, Buitenzorg, bred from *Thea* (leaves, vdG.) 1 ♀. The single specimen lacks the abdomen, therefore I do not describe it.

Cacoecia tabescens MEYR., 1921.

MEYRICK, Zool. Meded. Mus. Leiden, vol. 6, p. 147, 1921.

West Java, Buitenzorg, bred from *Calophyllum inophyllum* (young leaves, Khv.) and *Eucalyptus alba* (leaves, id.). Central Java, Telawa, bred from *Gossypium* (fruits, Khv.), *Lagerstroemia speciosa* (id.), "lekgetan" (id.), *Jatropha* (id.), *Lantana camara* (fruits, id.). 4 ♂, 3 ♀.

Cacoecia seditiosa MEYR., 1921.

MEYRICK, Zool. Meded. Mus. Leiden, vol. 6, p. 147, 1921. *C. transcucata* MEYRICK, Exot. Microl., vol. 4, p. 569, 1932. DIAKONOFF, Zool. Meded. Mus. Leiden, vol. 21, p. 173, 1939 ²⁾.

The description of this species is drawn after one female specimen from the collection of the Leiden Museum, sent to MEYRICK by VAN EECKE, at that time keeper of entomology of that Museum. Instead of sending the whole material of Microlepidoptera from the Malay Archipelago for identification, VAN EECKE selected a few representatives of every supposed species (2-3 specimens) and afterwards placed the remaining lot under MEYRICK's types and

¹⁾ For terms used in descriptions of the genitalia I may refer to my above mentioned paper in the Zool. Meded. Leiden Museum. In the present paper the following abbreviations are used: "ostium", "ductus" and "bursa" for "ostium genitale", "ductus bursae" and "bursa copulatrix" respectively.

²⁾ Unfortunately in this paper the type of *seditiosa* MEYR. is cited erroneously as a ♂.

cotypes according to his own insight. In consequence of this many species have been described in an insufficient way. This is also the case with *C. seditiosa*. 5 ♂ in the above-mentioned collection have neither been investigated nor described by MEYRICK. Later on the male of *seditiosa* has been described after one specimen from Java (bred from *Citrus* leaves at Buitenzorg) under the name of *transcutata* MEYR., which I could state when studying genitalia of this specimen in the British Museum. Unfortunately in my paper cited above (1939, p. 173) the names *Cacoecia transcutata* MEYR. and *Cacoecia brachytoma* MEYR. have been interchanged. Thus *Cacoecia transcutata* MEYR. (type ♂, in British Museum) is a synonym of *seditiosa* MEYR. (type ♀, in the Leiden Museum), while *C. brachytoma* MEYR. (type ♂, in British Museum) is a synonym of *C. micacaeana* WALK. (type ♀, in British Museum). I regret very much this error. There can be no doubt about the synonymy as mentioned here. I have studied the genitalia of the type specimens concerned. (The genitalia slides are preserved in the British Museum).

This example of *seditiosa* may point out the importance of sending large series of specimens, as complete as possible, to specialists for identification, to avoid publication of incomplete descriptions and creation of valueless and confusing synonyms.

The typical feature of the species is the presence in both sexes of a preterminal, well-defined, brownish, triangular patch, by which the costal patch has an obliquely erected-triangular appearance and extends nearly to tornus; in reality costal patch is of elongate-ovate shape (reaching on costa from $\frac{1}{2}$ to $\frac{7}{8}$ in ♀, a little broader in ♂). In lighter specimens the markings are conspicuously dark brown upon a light ochreous-brownish-lilac groundcolour and preterminal patch is entirely confluent with costal patch. In darker specimens (which are very common), with groundcolour dark ferruginous-brown, shining greyish-violet, the preterminal patch is only indicated by an indistinct suffusion and by its posterior edge, being a dark brown, oblique stria from posterior end of costal patch to before termen above tornus.

An important character of the male of *seditiosa* is omitted from MEYRICK's description of *transcutata*: a triangular, dark brown patch of rough scales on base of dorsum, reaching with its upper, sharp angle to $\frac{1}{2}$ of disc, its lower angle forming an acute scale-projection on base of dorsum.

The males of this species can easily be distinguished from *micacaeana* by dark dorsal scale-projection; and both males and females by the extended costal patch; besides, by the shape of forewings in female, which have violently sinuate costa and termen and considerably projecting apex, and by absence of dark costal ciliar brush in hind wings.

Genital apparatus: ♂. Uncus narrowed towards apex, rather slender; tegumen dilated towards base; gnathos with a huge hook and slender arms; socii small bristled knobs; valva moderate, costa indented at base, sacculus strong, darkly chitinised, with a curved, sharp hook; transtilla gradually bowed, somewhat dilated in middle; anellus chitinised, rather broad. Aedoeagus little curved, two

hooks at apex, vinculum long, bluntly pointed, rather broad. Cornuti a sheaf of very long spines. Ductus ejaculatorius extremely long, about 20 × as long as aedoeagus.

♀. Ovipositor dilated above, with erected lobes. Apophyses rather long, narrow. Ostium spheroid, supported by two rings: above and halfway its length. Colliculum darkly chitinised, short. Cestum strong and broad, coiled once, its end dilated and spoon-shaped. Bursa large, pearshaped, signum very strong, straight, acute, its base forming a large chitinisation. (Genit. slide No. 205D).

West Java, Buitenzorg, bred from *Capsicum annuum* (leaves, Aw.), *Citrus* (leaves, Fr.), *Albizia* (leaves?, Khv.), *Hibiscus sabdariffa* (leaves, Tj.), *Derris* (leaves, id.), *Tephrosia purpurea* (flower bud, id.), *Solanum tomentosum* (leaves, Aw.). 14 ♂, 19 ♀.

Cacoecia atrolucens nov. spec. (pl. 16 fig. 3 - 5).

♂ 14.5 - 15 mm. Head ferruginous-brown, face dark brown. Palpi dark brown, terminal joint with lighter tip. Collar and thorax dark coppery-brown, lighter posteriorly. Forewings little dilated posteriorly, costal fold rather narrow, to before $\frac{2}{5}$, costa moderately arched anteriorly, slightly sinuate posteriorly, apex rounded, a little prominent, termen sinuate above, rounded beneath. Light ochreous, mixed with lilac and brownish, groundcolour shining coppery; markings dark brown, costal fold dark lilac-ferruginous, shining, edged beneath by a longitudinal patch of rough scales; triangular scale-projection on base of dorsum brown, a brown, oblique, transverse fascia originating from it, pointing towards half of costa, sharply angulated in fold, dark blackish-brown beyond this angulation, pointing towards half of costal fold; transverse fascia sharply edged, brown, very narrow on costa, abruptly dilated below, with anterior edge little oblique, bowed on lower margin of cell, running to half of dorsum; its posterior edge running horizontally on vein 6, with an acute projection towards $\frac{1}{3}$ of termen, concave and sinuate below, with another projection: semicircular, before tornus; these two projections lilac, glossy, edged posteriorly by a brown line; costal patch brown, elongate, narrow, from $\frac{1}{3}$ to $\frac{5}{6}$ of costa, a blackish dot below it above first projection of transverse fascia; terminal fascia brown, running vertically from posterior end of costal patch, with a triangular dilatation on vein 6, pointing towards base, then gradually bowed towards $\frac{1}{2}$ of termen, running along this and tornus into the base of transverse fascia; apex brown, with a short streak along termen, connected with preterminal fascia. Groundcolour on basal area and in disc below costal patch lilac-ochreous, on costa between transverse fascia and costal patch light ochreous, before apex and tornus light ochreous; dark markings on upper margin of cell scattered with blackish scales. Cilia brown. Hindwings light ochreous with dorsal half greyish. Abdomen greyish-ochreous, anal tuft brownish. Fore and middle legs greyish, hind legs ochreous.

Genital apparatus. Uncus narrow, elongate, little dilated at the top, tegumen rather narrow at base; gnathos slender, long, with a short hook; socii absent;

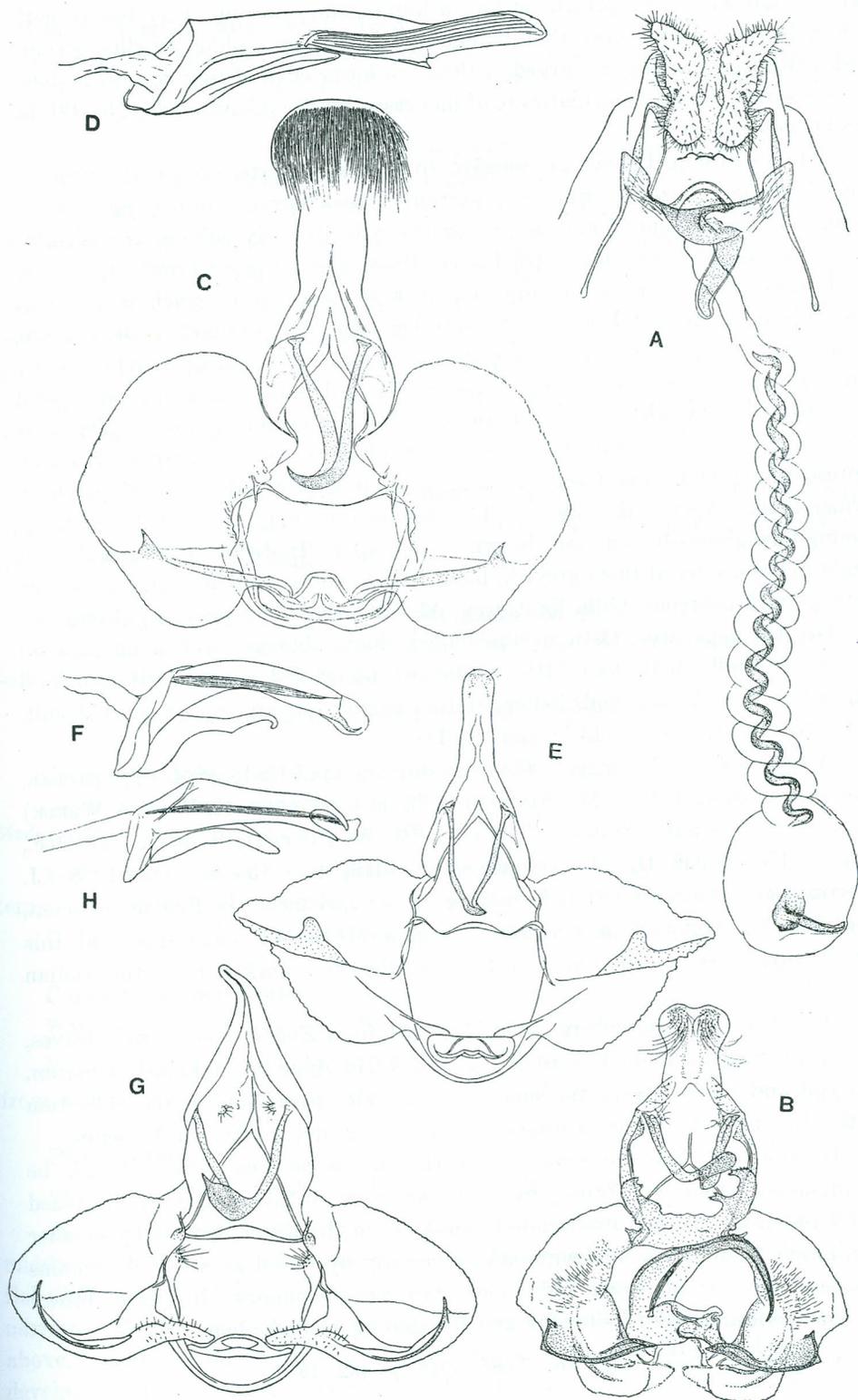


Fig. 1. A - B. *Homona picrostacta* MEYR.: A. ♀ genitalia; B. ♂ genitalia; C - D. *Cacoecia micaceana* WALK.: C. ♂ genitalia; D. aedoeagus. E - F. *Cacoecia atrofulcens*, nov. spec.: E. ♂ genitalia; F. aedoeagus. G - H. *Cacoecia seditiosa* MEYR.: G. ♂ genitalia; H. aedoeagus (Author del.).

valva broad with costa protruded into a blunt point; sacculus very broad, with a broad, blunt point; transtilla biangulate, bowed in middle; anellus strong, dark chitinised; aedoeagus curved, a thorn on lower edge of top; cornuti a sheaf of long spines. Ductus ejaculatorius of moderate length. (Genit. slides No. 116 D, 138 D and 140 D).

♀ 15.5 - 20 mm. Forewings elongate, little dilated posteriorly, costa strongly arched at base, broadly sinuate posteriorly, apex curved, projecting, termen sinuate, broadly rounded and projecting beneath. Brightly shining greyish-lilac and ochreous, with markings dark brown. Basal area suffused brown, especially on dorsum; transverse fascia indicated by a striga on costa reaching to $\frac{1}{3}$ of disc, abruptly dilated beneath, its anterior edge well defined, little oblique, running into $\frac{1}{2}$ of dorsum; in some specimens indistinct and only indicated by a narrow striga dilated below $\frac{1}{2}$ of disc by an ill-defined lilac suffusion. Costal patch very narrow, almost a streak along costa from beyond $\frac{1}{3}$ to $\frac{5}{6}$. Terminal area with irregular, transverse, brown strigulae, the most distinct of which representing preterminal fascia, running from posterior end of costal patch to termen before. Apex dark brown, with a short striga along termen. Cilia coppery, shining ferruginous-brown, dark brown around apex. Hindwings with apical third bright ochreous, basal third greyish, basal half to costa whitish, costal scale-tuft dirty greyish-ochreous. Cilia light grey. Abdomen brownish-grey, legs ochreous.

Genital apparatus. Ostium cup-shaped, ductus bursae swollen up into an egg-shaped bulb, with two little, chitinised plates below, then straight and rather broad, with three coils below; cestum narrow; signum rather short (Genit. slides No. 64 D, 112 D, 113 D and 139 D).

West Java, Preanger, 5000 ft., Sindanglaja, 1881, 1894 (Tjinjiroean, Govern. Cinchona Estate, Mt. Malabar, 1700 m.) (SYTHOFF, H. W. v. D. WEELE) [in Leiden Museum]. Buitenzorg, Aug. 1919 (W. ROEPKE); Tjibodas, 31 Dec., 2 Jan. 1937 - 1938 (L. J. TOXOPEUS); Sindanglaja, 15 - 30 Oct. 1938 (J. WESTENBERG) [Author's coll.]. Bandoeng [three specimens, in British Museum, identified by MEYRICK as *Cacoecia epicyrta* MEYR., of which material this author says: "seven specimens, rather smaller and darker than the Indian form" ¹⁾].

West Java, Buitenzorg; bred III, 1931 from *Evodia* "sampang", leaves, Aw.) [in Coll. Inst. Plant Dis. Btzg.]. 17 ♂, 6 ♀. Holotype in the Leiden Museum, allotype and paratypes in the author's collection, paratypes in the collection of the Institute for Plant Diseases at Buitenzorg and in British Museum.

Intermediate between *seditiosa* MEYR. and *micaceana* WLK.; it can be distinguished from the former by light ochreous costal area, very flattened costal patch and curved preterminal fascia; from the latter, males: by smaller size, brown colour with lilac shine and especially by costal area, which remains distinct even in damaged and faded specimens; females: by dark brown markings without reddish-fuscous and by shining groundcolour.

¹⁾ MEYRICK, Trans. Ent. Soc. Lond. 1910, p. 432, 1910.

Cacoecia micaceana WALK., 1863.

WALKER, List Lep. Het. Brit. Mus., vol. 28, p. 314, 1863. *Cacoecia brachytoma* MEYRICK, Exot. Microl., vol. 4, p. 341, 1932. Further synonymy: DIAKONOFF Zool. Meded. Mus. Leiden, vol. 21, p. 173, 1939.

The following is the description of the genital apparatus of this species: ♂. Uncus very large, broad, at apex dilated considerably, with a brush of bristles; gnathos rather short, strongly curved, with a huge hook; socii absent; valva very broad, sacculus considerable, with a chitinised upper margin and a short, sharply pointed hook, curved outwards. Transtilla slender, gradually bowed downwards; vinculum arms broad and strong, anellus strong. Aedoeagus small, with a short tooth on lower margin; cornuti long spines. ♀. Ostium broad, with two curved scale-patches above; ductus darkly chitinised at origin, ending in two dark lobes, a dilatation below these with two lateral hyaline thickenings; cestum broad, ending into a curved, spoon-shaped knob in the bursal wall; signum long.

West Java, Buitenzorg, Sindanglaja, Tjipetir, Patjet. Bred from *Aleurites* (leaves, Fr.), *Linum* (leaves, Fr. and vdV.), *Thea* (leaves, vdV.), *Citrus* (leaves, Fr.), *Zea mais*. 6 ♂, 20 ♀.

Cacoecia micaceana WALK. var. **compacta** (MEYR.).

Cacoecia compacta MEYRICK, Exot. Microl., vol. 2, p. 164-165, 1918. DIAKONOFF, Zool. Meded. Mus. Leiden, vol. 21, p. 173, 1939.

West Java, Sindanglaja, bred from *Thea* (leaves, vdG.). 1 ♂.

Cacoecia micaceana WALK. var. **machlopis** (MEYR.).

Cacoecia machlopis MEYRICK, Exot. Microl., vol. 1, p. 4, 1912. DIAKONOFF, Zool. Meded. Mus. Leiden, vol. 21, p. 173, 1939.

This form of female with broad wings, with violently sinuate costa and termen and prominent apex deserves to be placed in the range of a variety.

West Java, Buitenzorg, bred from *Thea* (leaves, Tj.) 1 ♀.

Cacoecia serpentiana WALK., 1863.

WALKER, List Lep. Het. Brit. Mus., vol. 28, p. 317, 1863.

West Java, Sindanglaja, Patjet. Central Java, Magelang; bred from *Linum* (leaves, Fr.), *Thea* (leaves, vdG.), *Citrus* (leaves, Tj.). 5 ♂, 2 ♀.

Phaenacropista nov. gen.

φαίνω = to show, ἄκρον = marge, ἄπρεσθεν = hind.

Head with roughly appressed scales on vertex, face smooth, projecting in middle. Antennae in female with scape little thickened by short roughish scales, flabellum smooth. Palpi moderate, porrected, basal joint short, median joint narrowed at base, smooth beneath, dilated beyond middle by projecting scales above, terminal joint short, a little drooping, smooth, truncate. Proboscis well developed. Thorax broad, very smooth. Patagia short. Legs strong, middle and

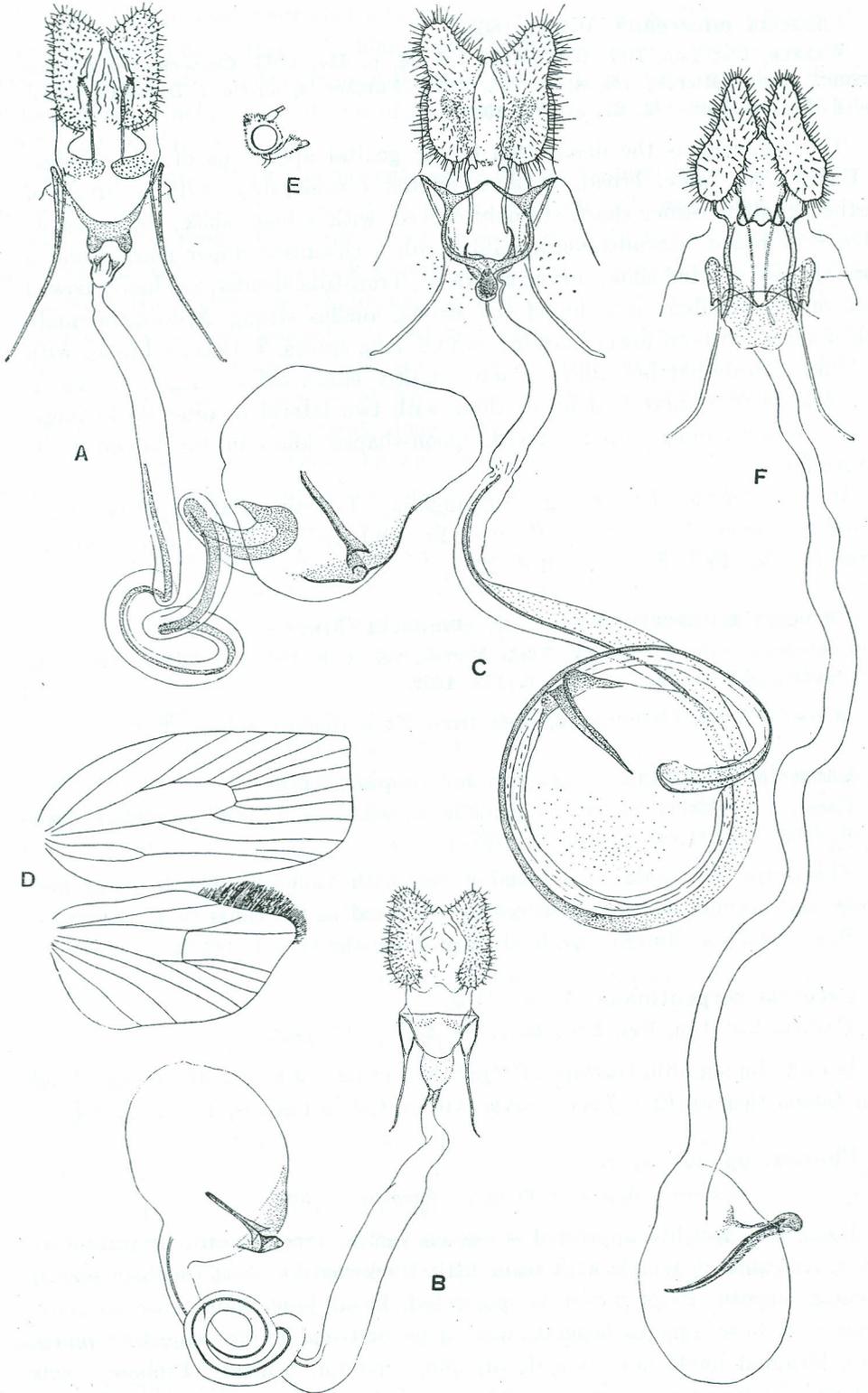


Fig. 2. A. *Cacoecia micaceana* WALK., ♀ genitalia. B. *Cacoecia atrolucens*, nov. spec., ♀ genitalia. C. *Cacoecia seditiosa* MEYR., ♀ genitalia. D-F. *Phaenacropista cremnotoma* MEYR., nov. gen., ♀: D. wing neuration; E. head; F. ♀ genitalia.

hind tibia with rough, bristle-shaped scales. Abdomen broad, with elongate anal tuft.

Forewings elongate-rectangular, costa gradually arched anteriorly, slightly sinuate posteriorly, apex shortly projecting, rounded, termen slightly sinuate above, vertical, tornus rounded, dorsum broadly rounded. All veins separate; 1 with a furca to $\frac{2}{5}$ of wing, 2 from about $\frac{2}{3}$, 3 from before angle, 4 from angle, closely approximated to 5 at base, 5 parallel, 6 approximated to 7, 6 a little nearer to 5, 7 from angle, to termen, 8 from before angle, 10 from $\frac{2}{3}$, 11 from before middle of cell. Hindwings without cubital pecten, very short: not reaching beyond $\frac{4}{5}$ of forewings, 1, semiovate, costa sinuate before apex, apex rounded-projecting, termen slightly convex above, dorsum considerably projecting. Costal cilia rather long and extremely dense, forming a conspicuous patch before apex, which, in resting position, is protruded from beneath the costa of forewing and is visible from above. 5 approximated towards base, 6 and 7 connate, 6 to apex in ♀, to termen in ♂, 7 to costa in ♀, to apex in ♂, 8 very straight.

Genotype *cremnotoma* MEYR., 1936. Correlated with *Adoxophyes* MEYR., but with veins 7 and 8 in forewings separate, and with *Cacoecia* HB., but with vein 3 in forewings from before angle, and with palpi roughly scaled above. Position of vein 8 in forewings and of vein 6 in hindwings of ♀ is remarkable.

Phaenacropista cremnotoma MEYR., 1936 (pl. 16 fig. 6).

Schoenotenes cremnotoma MEYRICK, Exot. Microl., vol. 5, p. 62, 1936.

♀ 17 mm. Head and abdomen ochreous-greyish, palpi of the same colour, with medial joint brownish beneath and around apex; thorax light grey, edged posteriorly greyish-ochreous. Legs light greyish-ochreous. Forewings light greyish-ochreous, scarcely tinged violet, somewhat shining; retinate with darker greyish-brown, scattered with dark brown scales. Transverse fascia indicated by a small, erect-triangular, sharply pointed, greyish-brown patch on $\frac{2}{5}$ of costa, pointing towards $\frac{3}{5}$ of dorsum, and by a semicircular row of some 5 dark brown dots, this row concave anteriorly, beginning from beneath the triangular patch, to before $\frac{1}{2}$ of dorsum. Costal patch elongate-triangular, greyish-brown, with three little, dark brown, triangular dots on costa, the most apical of them very distinct, nearly black; a suffusion on costa before apex dark brown, a minute strigula originating from it and separating the apex; a curved, dark brown, angulate striga, consisting of blotches between the veins, from the apex of costal patch to termen above tornus; a few dots between this and the apex and along costa dark brown; an indistinct suffusion on basal third of dorsum. Cilia light ochreous-whitish, with a dark brown medial line or with dark grey basal half. Hindwings light grey, darker on veins, $\frac{2}{3}$ of costa whitish-ochreous; cilia forming a dense hair-brush on apical half of costa, shining black from $\frac{1}{2}$ of costa, around apex to half of termen; light grey beyond this.

West Java, Sindanglaja. 9. VI. - 23. VII. 1936. Bred from leaves of *Thea* (vdG.) 4 ♀. The type of this species, a ♂, is in the British Museum.

Ulodemis trigrapha MEYR., 1907.

Ulodemis trigrapha MEYRICK, J. Bomb. N. Hist. Soc., vol. 17, p. 736, 1907. *U. falsa* MEYRICK, J. Bomb. N. Hist. Soc., vol. 22, p. 711, 1914. DIAKONOFF, Zool. Meded. Mus. Leiden, vol. 21, p. 179, 1939.

West Java, Sindanglaja, Patjet, Garoet; bred from *Linum* (leaves, vdV.), *Thea* (leaves, vdG.), *Citrus* (leaves, Fr.), *Cinnamomum camphora* (leaves, Verb.), *Nephelium* (leaves, vdG.). 8 ♂, 20 ♀.

Isotenes miserana WALK., 1863.

WALKER, List Lep. Het. Brit. Mus., vol. 28, p. 301, 1863.

West Java, Sindanglaja, bred from *Thea* (leaves, vdG.) and *Citrus* (leaves, Fr.) 2 ♂, 9 ♀. North East Sumatra, Tongkoh; bred 30-V-1932 from male inflorescence of *Pinus merkusii* (Khv.) 1 ♀.

Eboda celligera MEYR., 1918.

MEYRICK, Exot. Microl., vol. 2, p. 170, 1918.

West Java, Buitenzorg, bred from *Nephelium lappaceum* (leaves, Fr.). Central Java, Telawa, bred from *Schleichera oleosa* (leaves, Khv.). 3 ♂, 5 ♀. Pupal stage lasts 8 days.

Paratorna dorcas MEYR., 1908.

MEYRICK, J. Bombay N.H. Soc., vol. 18, p. 624, 1908.

West Java, Tapos (Mt. Gedeh, 700 m); bred from *Schima noronhae* (leaves Khv.) 2 ♂.

Peronea halidora MEYR., 1908.

MEYRICK, J. Bombay N.H. Soc., vol. 18, p. 624, 1908.

Central Java, Telawa; bred from *Cinnamomum iners* (leaves, Khv.), 3 ♂, 2 ♀.

Genus **Phricanthes** MEYRICK, 1881.

MEYRICK, Proc. Linn. Soc. N. S. Wales, vol. 6, p. 636, 1881 (type *asperana* MEYR.).

After having described this genus the author himself considered it to be a synonym of *Peronea* CURTIS. Afterwards he seems to have rejected this opinion as in his own Indo-Malayan collection in the British Museum this name is present again and the species *flexilineana* Wlk., *asperana* MEYR. and *petulans*

MEYR. are placed under it; he did not publish, however, this change of opinion. This genus is omitted in my paper on the Genera of Indo-Malayan and Papuan Tortricidae.

Phricanthes flexilineana WALK., 1863.

WALKER, List Lep. Het. Brit. Mus., vol. 28, p. 345, 1863.

CENTRAL JAVA, Semarang; bred from living bark *Dillenia* (Khv.) 3 ♂.

Phricanthes asperana MEYR., 1881.

MEYRICK, Proc. Linn. Soc. N.S. Wales, vol. 6, p. 636, 1881.

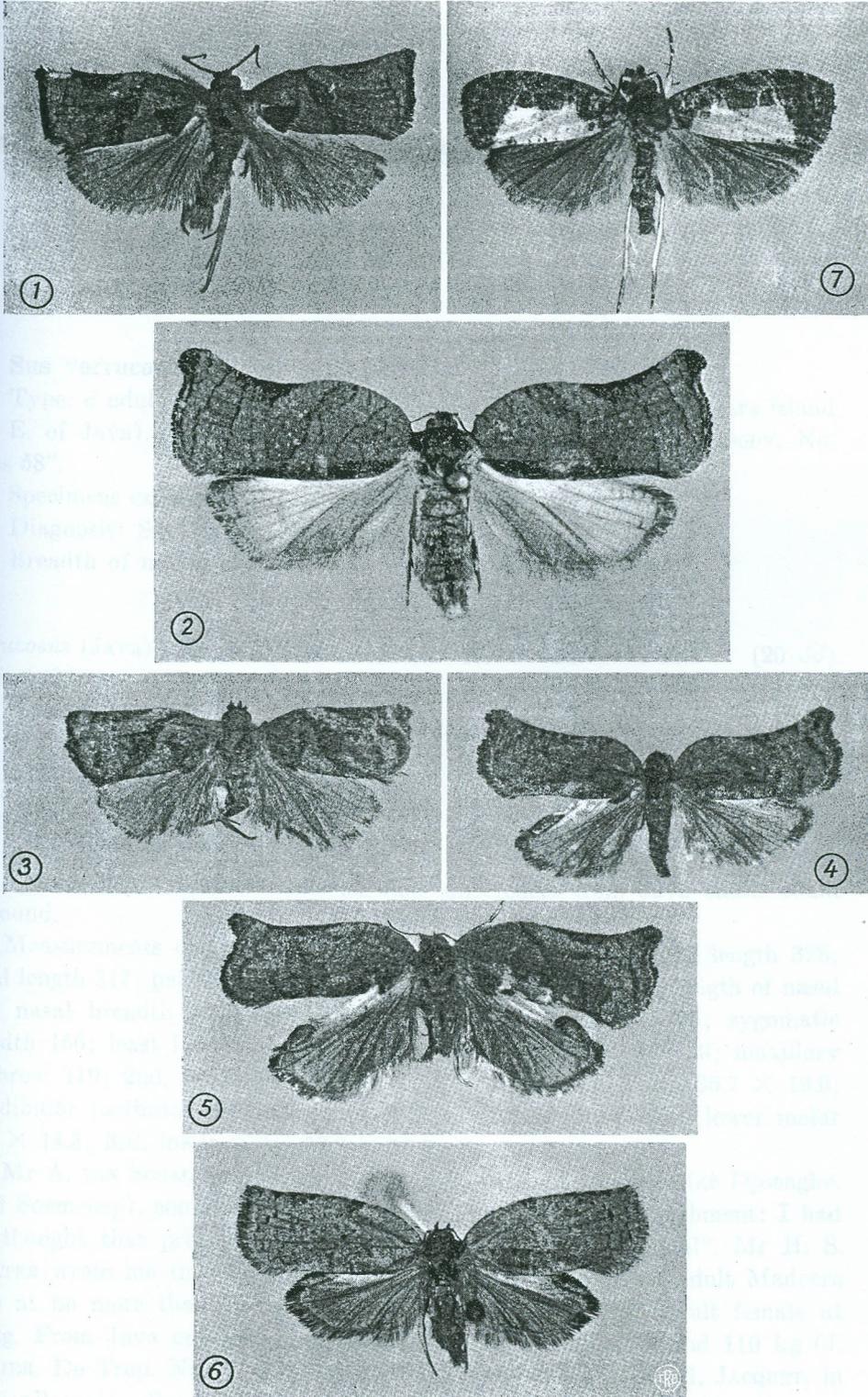
CENTRAL JAVA, Telawa; bred from *Dillenia* (bark of living trunks, Khv.). 2 ♂, 4 ♀.

Phricanthes nivera nov. spec. (pl. 16 fig. 7).

♂ 15 mm, ♀ 16 mm. Head brownish-ochreous, face, basal joints of antennae and front of vertex snow-white in male; vertex and basal joints of antennae brown-ochreous, only face snow-white in female. Antennae brown, shortly ciliate. Palpi porrected in male, subascending in female, with appressed scales below, abruptly triangularly dilated beyond middle, with long, projecting scales above; terminal and medial joints brown in male, mixed with light brown and ochreous, apex of medial joint, its fringe along the upper side and the terminal joint snow-white; in female the brown colour extends to before the tips of this fringe and the terminal joint has a few dark brown scales. Proboscis rather short. Thorax and patagia dark-brown in male, mixed posteriorly and on patagia with greyish in female. Abdomen brown or brownish-ochreous anteriorly, darker posteriorly. Legs greyish, mixed with white and brown, tarsi dark-brown, light ringed. Forewings with small, raised scale-tufts, in male with costa thickened at base, with an indication of a very short and small costal fold. Costa gradually moderately curved from base to $\frac{3}{4}$, more curved towards apex, apex broadly rounded, termen rounded above and beneath, straight in middle. Vein 7 to costa just before apex. Violet-grey, dark brown, mixed with ochreous-reddish, black and snow-white. A snow-white dorsal area, rather sharply edged, reaching from $\frac{1}{2}$ of dorsum to before tornus and beyond $\frac{1}{2}$ of wing breadth, scattered with a few small, raised blackish and ochreous scales, forming minute transverse fasciae; its shape elongate-trapezoidal, with excavate upper edge and truncate projections at the sides above; basal area, a rounded suffusion on middle of costa, reaching to fold, and a large costal patch, reaching from costa before apex to tornus, dark brown mixed with reddish-ochreous and blackish; two transverse streaks on middle of costa, a longitudinal streak in middle of round patch, a suffusion on costa before apex and a transverse streak along the posterior edge of costal patch black; a brownish, triangular patch between rounded and costal patches, minutely edged with whitish. Violet-grey ground-

colour distinct on upper half of wings between dark markings; a transverse violet-grey streak before termen with a glossy shine; a reddish-brown interrupted streak along termen. Cilia reddish-ochreous, with dark tips and a brown antemedian line. Hindwings greyish-brown with dark apex in male, dark bronzy-brown in female, somewhat lighter towards base. Cilia bronzy-grey, shining.

C e n t r a l J a v a, Telawa, teak-forest; bred 11.V.1937, from *Tetrocera scandens* MEYR. (leaves, Khv.). 1 ♂, 2 ♀. Holotype and paratype in my collection, allotype in the collection of the Institute for Plant Diseases, Buitenzorg.



A. DIAKONOFF: Tortricidae.

Fig. 1. *Homona picrostacta* MEYR., ♂; fig. 2. ♀; fig. 3. *Cacoecia atrolucens* nov. spec., ♂, holotype; fig. 4. ♀, a darkly coloured specimen; fig. 5. ♀ allotype; fig. 6. *Phaenacropista cremnotoma* (MEYR.), nov. gen., ♀; fig. 7. *Phricanthes nivigera* nov. spec., holotype (author photogr.).