

## TINGIDAE OF NEW GUINEA (Hemiptera)

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This is a preliminary account of the Family Tingidae in New Guinea and nearby islands. The new records herein are based upon the following collections: Bernice P. Bishop Museum, specimens netted by Dr. J. Linsley Gressitt and associates in the present field survey of the insects of the islands of South Pacific Ocean<sup>1</sup>; American Museum of Natural History (New York); Rijksmuseum van Natuurlijke Historie (Leiden); and Drake Collection (USNM). Specimens also have been received from J. J. H. Szent-Ivany, Port Moresby, and other entomologists in New Guinea and nearby islands. The records in the literature are also included.

From these various sources, a sizeable representation of the tingifauna of New Guinea has been available for initial study. The records are of particular value because they contribute immensely to the poorly-known fauna of this large island lying in a zoological realm of such unusual chorological and scientific interest. The genera and their components provide biotic data relative to systematics, affinities, and dispersal of lace-bugs needed for comparative, faunistic studies with those of the other large islands of the Eastern Hemisphere, such as Madagascar, Taiwan, Ceylon, and Luzon. To some extent, the mainlands of Australia, India, and Africa also enter into the New Guinean faunistic picture.

In comprehensive study of the morphology and higher classification of tingids, Drake and Davis (1960): (1) Erected the Superfamily Miroidea Hahn to hold the families Tingidae Laporte and Miridae Hahn; (2) Divided the family Tingidae into the subfamilies Tinginae Laporte, Cantacaderinae Stål, and Vianaidinae Kormilev; (3) Separated the Cantacaderinae into the tribes Cantacaderini and Phatnomini; and (4) Suppressed the Subfamily Agrammatinae Douglas and Scott (= Serenthiinae Stål) as a synonym of the Subfamily Tinginae.

Up to this writing, only 7 genera and 10 species of tingids have been recorded in the literature from New Guinea and off-shore islands. Of these numbers, one genus and 4 species are as yet unrecorded elsewhere. The paucity of these records is due to the lack of insect collecting, not only in New Guinea but also on many other islands of the East Indies. As will be shown in the pages and illustrations that follow, New Guinea has a very rich tingifauna with many singular and curious forms.

The present paper enumerates 26 genera and 45 species of lace-bugs from New Guinea, including 7 genera and 26 species characterized herein as new. Although the initial tabu-

1. Material collected on the program "Zoogeography and evolution of Pacific insects" supported in part by grants from the National Science Foundation; also partly taken on a J. S. Guggenheim Memorial Fellowship, 1955-56, by J. L. Gressitt.

lation indicates extremely high endemism, the fact should not be overlooked that the insect faunae of many islands of the Indian and South Pacific Oceans are poorly or even totally unknown, and the host plants of only a few tingids are recorded. With these facts in mind, it seems at present unwise to draw many conclusions relative to the origin, pattern of distribution, and affinities of the New Guinea tingifauna. Endemism, however, appears to be impressively high.

For the fine illustrations, I wish here to express my sincere appreciation to the following artists: Patricia J. Hogue, Arlington, Virginia; Arthur Smith, British Museum (Nat. Hist.), London, England; and Elsie H. Froeschner, Bozeman, Montana. The studies on New Guinea Tingidae are a by-product of a grant-in-aid from the National Science Foundation (G4095). Unless stated otherwise in the description, the types are in the U. S. National Museum (Drake Collection).

The subfamily Vianaidinae is not known to occur in New Guinea or other parts of the Eastern Hemisphere. The vianaidines are inhabitants of the Neotropical Region and are found in the West Indies (Trinidad), Bolivia, and Argentina. The tingines and cantacaderines are well represented in New Guinea and can be separated from each other by the following dichotomy:

- Head very long, porrect, longly produced in front of eyes, unarmed or armed with 1-9 spines; bucculae very long, often surpassing apex of head; antenna with segments 1-2 short, 2 not attaining apex of head; pronotum 1-, 3-, or 5-carinate, with hind margin wide and subtruncate, never triangularly prolonged backwards so as to cover clavus; scutellum exposed or concealed beneath hind part of pronotum; clavus well-developed, always visible, at times fused with discoidal area; abdominal sternites 2 and 3 fused, other segments free (figs. 1-4)..... **Cantacaderinae**
- Head usually short, strongly declivent, only slightly produced in front of eyes (except in such genera as *Biskria*, *Ypsotingis*, *Dictyonota*, and *Dictyotingis*); bucculae generally long, terminating anteriorly along lateral sides of labium, or slightly longer, curved inward with ends meeting in front of labium; antenna customarily with segments 1-2 extending beyond apex of head (except in genera with long, porrect head); pronotum 1- or 3-carinate, hind margin triangularly prolonged backwards so as to cover scutellum and clavus (clavus greatly reduced or absent); abdominal sterna 2-4 fused, other segments free (figs. 5-27)..... **Tinginae**

#### SUBFAMILY CANTACADERINAE STÅL

Three genera, seven species, and one subspecies, of cantacaderines have been noted in New Guinea. These figures include one new species. The genera *Phatnoma* Fieber and *Oranoma* Drake belong to the Tribe Phatnomini Drake and Davis and the Genus *Cantacader* Amyot and Serville to the Tribe Cantacaderini Stål.

#### KEY TO TRIBES AND GENERA OF CANTACADERINAE IN NEW GUINEA

1. Elytra with a sharply defined, uniseriate, stenocostal area along outer margin (figs. 1, 2)..... Cantacaderini ..... **Cantacader**
- Elytra without stenocostal area (figs. 3, 4)..... Phatnomini ..... 2

2. Pronotum unicarinate (fig. 4) ..... **Oranoma**  
 Pronotum tricarinate (fig. 3) ..... **Phatnoma**

**Cantacader quinquecostatus** (Fieber) Fig. 1.

*Taphrostethus quinquecostatus* Fieber, 1844, Ent. Monographien, Leipzig, p. 41, pl. 3, figs. 18-20.

*Monanthia subovata* Motschulsky, 1863, Soc. Nat. Moscou, Bull. 36 (3): 91.

*Cantacader quinquecostatus*, Distant, 1903, Fauna India, Rhynchota 2: 123, fig. 88.—Drake, 1956, Ins. Micronesia (Bishop Mus.) 7 (2): 106, fig. 1.

DISTRIBUTION: India, Ceylon, Java, Philippines, Penang I., Micronesia (Palau).

NEW GUINEA: One specimen labeled "New Guinea".

**Cantacader nocturnis** Hacker, 1929, Queensland Mus., Mem. 9: 324, pl. 22, fig. 1.

DISTRIBUTION: Queensland (Brisbane), Australia, taken "at light", only record of its occurrence in the literature.

NEW GUINEA: (NE) Wewak, 13 Oct. 1957, elevation 2-20 meters, Gressitt. This species agrees with a paratype of *nocturnis* from Brisbane.

**Cantacader agilis** Drake, 1951, Mus. Nat. Hung., Ann. 1: 166.

DISTRIBUTION: Island Deslacs, Bismarck Archipelago, and New Guinea (Berlinhafen), 1896, collected by L. Biró. Known only from the type series.

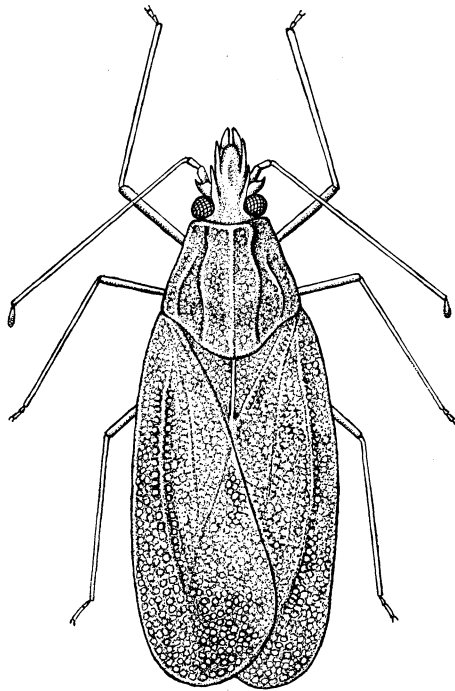


Fig. 1. *Cantacader quinquecostatus* (Fieber).

*Cantacader agilis tricarinatus* Drake, 1951, Mus. Nat. Hung., Ann. 1: 167.

DISTRIBUTION: New Guinea (Berlinhafen), Island Deslacs (Bismarck Archipelago),

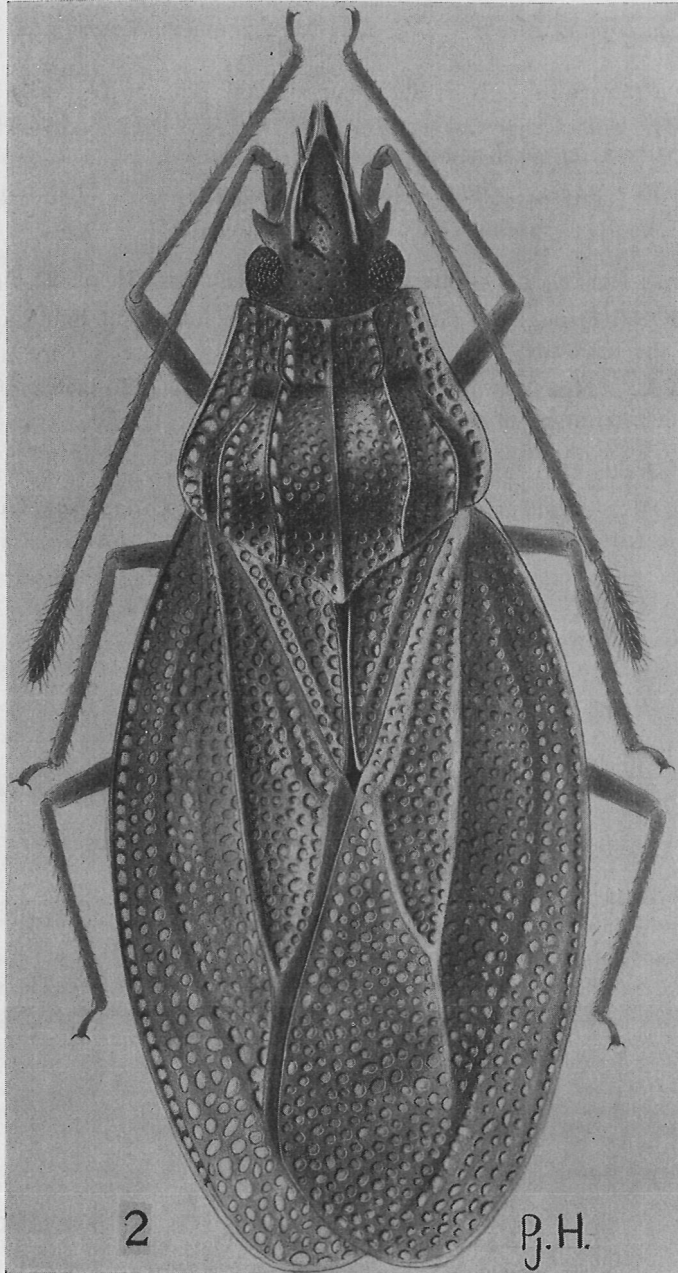


Fig. 2. *C. amydis* n. sp.

and not recorded elsewhere. This subspecies differs from the typical *agilis* in having the pronotum tricarinate instead of 5-carinate. The macropterous form only is known.

**Cantacader amydis** Drake, n. sp.      Fig. 2.

Pale brown, with a few veinlets dark brown or infuscate; body beneath flavotestaceous; head above grayish brown. Antenna brownish, last segment blackish. Legs brownish testaceous, tips of tarsi dark. Length 4.50 mm; width 1.85 (widest part of elytra).

Head very long, punctate, extending anteriorly beyond segment 2, sparsely indistinctly pubescent, segmental measurements: I, 0.27 mm; II, 0.12 mm; III, 1.22 mm; IV, 0.41 mm. Bucculae long, extending forward beyond apex of tylus, mostly triseriate. Labium long, extending on to the (visible) abdominal sternite 2; laminae of sulcus high, nearly parallel, biseriate, open behind. Hypocostal laminae uniseriate. Ostiole and ostiolar sulcus not visible on each metapleuron. Legs slender, smooth, inconspicuously pubescent.

Pronotum moderately transversely convex, reticulately punctate, 5-carinate; median carina long, elevated, composed of one row of moderately large areolae; 1st lateral pair of carinae long, interrupted at calli, also present on collum, practically as high as median carina, composed of one row of areolae, slightly convex within on anterior part of pronotal disc; outer pair of carinae distinct, but less elevated than lateral pair, without areolae, terminating just behind calli, curving inwardly anteriorly with apices nearly touching lateral carinae (1st pair) behind calli; collum long, sharply delimited, composed of 4-5 transverse rows of areolae, feebly quadrately raised at middle, truncate in front; paranota narrow opposite humeri, there uniseriate; wider and triseriate opposite calli and collum, slightly reflexed, with outer margin nearly straight. Scutellum concealed by hind margin of pronotum.

Elytra (macropterous) longer than abdomen, broadly rounded behind; stenocostal area distinct, uniseriate; costal area fairly wide, mostly triseriate, biseriate along median part; discoidal area long, rather narrow, extending much beyond middle of elytron, acutely angulate at both base and apex, 5-6 areolae wide opposite apex of clavus, with outer boundary vein costate and nearly straight; sutural area on same horizontal level as the discoidal and claval areas; subcostal area wide, sloping obliquely downward, 4-5 areolae deep in widest part. Hind wings extending beyond apex of abdomen.

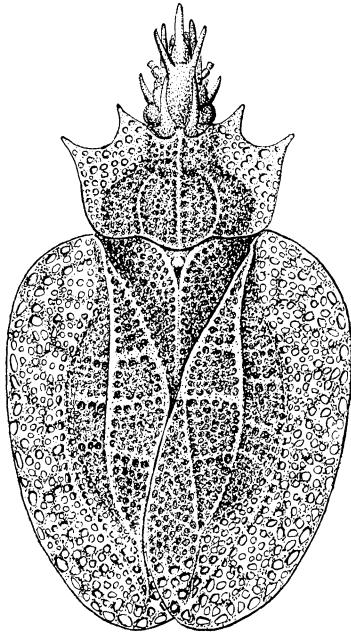
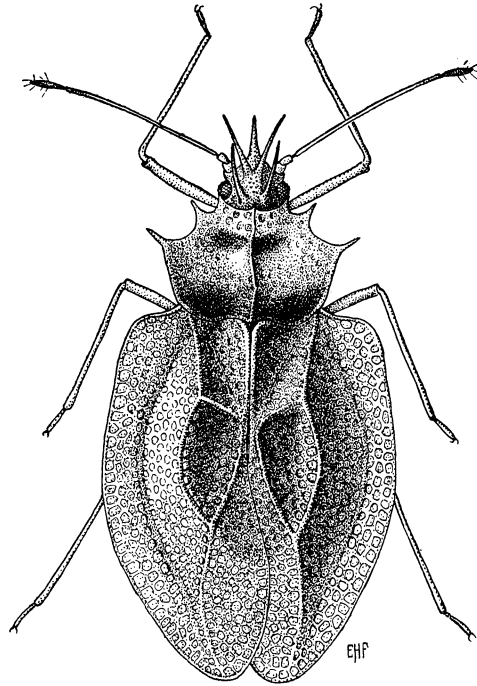
Holotype (macropterous ♀), Wakaiuna, Normanby I., 0-50 m, 12 Apr. 1956, in Amer. Mus. Nat. Hist. (New York). Paratypes: 1 ♀, same data as type; 1 specimen, Tamelele, Fergusson I., Papua, 31 May 1956; and 1 specimen, Deidei, Gompa Bay, Fergusson I., 26 July 1956. Male and brachypterous forms unknown.

Distinguished from *C. diffidens* Drake and Poor, *C. japonicus* Drake, and *C. quadricornis* Le Peletier and Serville by the more elevated, uniseriate median and first lateral pair of pronotal carinae. These structures will also separate *amydis* from other congeners mentioned herein.

**Phatnoma uichancoi** Drake

*Phatnoma pacifica*, Drake, (not Kirkaldy) 1937, Iowa State Coll. Jour. Sci. 11: 393.

*Phatnoma uichancoi* Drake, 1950, Arthropoda 1: 155, 165.

Fig. 3. *Phatnoma verdica* Drake and Maa.Fig. 4. *Oranoma biroi* Drake.

**DISTRIBUTION:** Philippine Islands, New Guinea.

**NEW GUINEA:** 1 specimen labeled "New Guinea".

*Phatnoma verdica* Drake and Maa, 1955, Taiwan Mus., Quart. Jour. 8: 2.—Drake, 1956, Ins. Micronesia (Bishop Mus.) 7: 107, fig. 2. Fig. 3

**DISTRIBUTION:** New Guinea (holotype), Micronesia (Palau, on bark of *Glochidion*; Ngarmalk).

**NEW GUINEA:** (Netherlands) Hollandia, 100 m, 24 July 1955, on *Pipturus* sp.; Wiselmeren (Duroto), 1,800 m, 21 Aug. 1955 and Waghete, 1,700 m, 17 Aug. 1955; (NE) Tsenga, Upper Jimmi V., 1,200 m, 14 July 1955; (Papua) Bisianumu (E of Port Morseby), 500 m, 8 June 1955, in primary forest, all Gressitt.

*Oranoma biroi* Drake Fig. 4.

*Oranoma biroi* Drake, 1951, Mus. Nat. Hung., Ann. 1: 166.

**DISTRIBUTION:** Sattelberg, Huon-Golf, New Guinea, 1899, Biró (type locality) and known only from there. A brachypterous ♀ (holotype) is illustrated.

#### SUBFAMILY TINGINAE STÅL

The tingines are represented by 26 genera and 45 species in New Guinea, including 7

genera and 25 species described herein as new.

*Cysteochila idonea* Drake, 1956, *Ins. Micronesia* (Bishop Mus.) 7(2): 109, fig. 4. Fig. 5.

DISTRIBUTION: Known from Caroline Is. (Kusaie) and Solomon Is. (Three Sisters.)

NEW GUINEA: Wum, Upper Jimmi Valley, 840 m, NE New Guinea 17 July 1955, Gressitt.

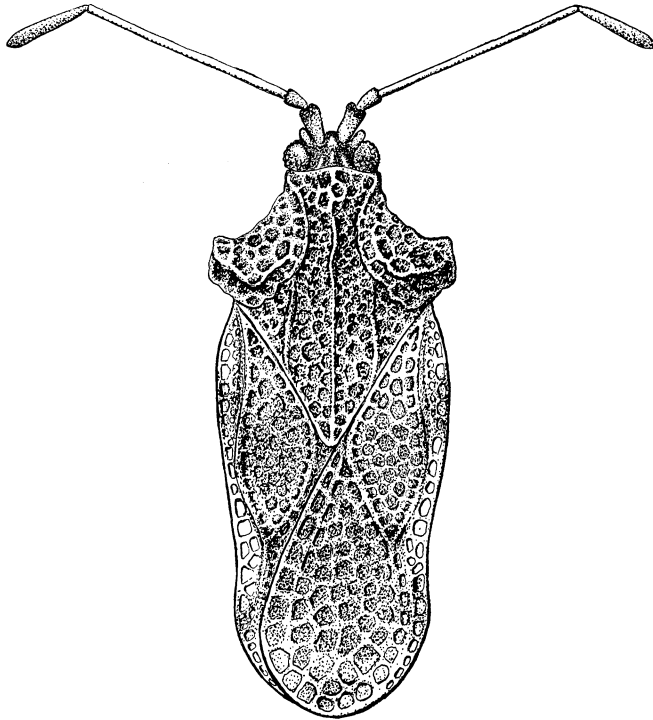


Fig. 5. *Cysteochila idonea* Drake.

*Cysteochila lita* Drake, n. sp. Fig. 6.

Oblong, dark brownish fuscous, with collar and hood yellowish brown, cephalic spines brown, apex of discoidal area and longer expanses from there extending outwards into subcostal and costal areas brownish testaceous, body beneath reddish brown with thoracic sterna darker. Labium brownish with dark apex, reaching to base of mesosternum. Antenna yellowish brown; segment 4 blackish. Legs yellowish brown; femora more or less dark fuscous and tarsi infusate. Length 3.25 mm; width 1.05.

Head very short, strongly deflexed, armed with 5 rather short, stout, decumbent spines; bucculae wide, areolate, closed in front. Antenna rather slender, segmental measurements: I, 0.15 mm; II, 0.10 mm; III, 1.08 mm; IV, 0.40 mm. Scent gland ostiole and ostiolar channel on each metapleuron distinct, with sulcus narrow and nearly upright. Hypocostal laminae uniseriate. Legs fairly slender.

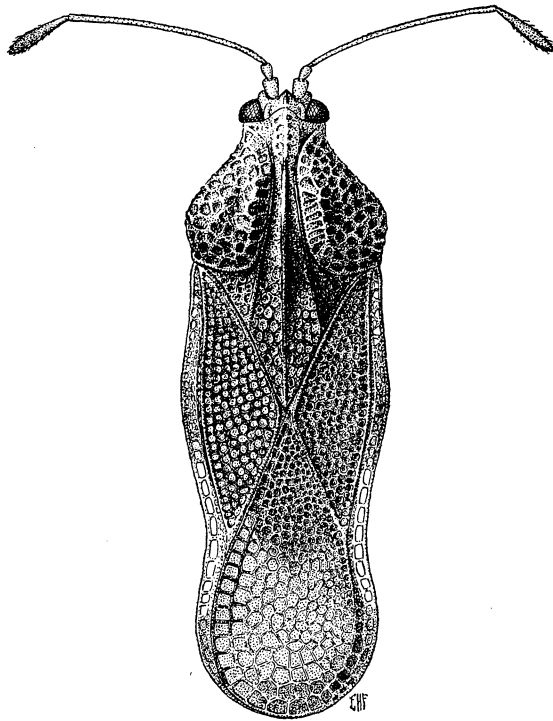


Fig. 6. *C. lita* n. sp.

Pronotum very strongly convex, tricarinate, with discal part on each side covered by the reflexed paranotum up to the lateral carina; carinae raised, rather thick, without distinct areolae, the median carina slightly higher and slightly thicker than lateral pair; backward projection of pronotum triangular, areolate; hood small, feebly produced anteriorly at the middle. Elytra not wider than width of pronotum across humeral angles, longer than abdomen, moderately constricted on lateral sides opposite apices of discoidal area, the sutural areas overlapping, with their apices jointly rounded in repose; costal area narrow, mostly uniseriate, with an extra row of very small cells along middle third (adjacent to subcostal area, rather difficult to see), with areolae in basal part and pale space beyond the middle hyaline; subcostal area narrow, nearly erect, biseriate; discoidal area extending a little beyond middle of elytra, acutely angulate at both base and apex, 6 or 7 areolae deep in widest part, with outer boundary vein slightly arcuate; sutural area on same horizontal level as the discoidal area. Hind wings longer than abdomen, hyaline.

Holotype, ♂ (BISHOP 2719), Wisselmeren, Enarotadi, 2,000 m, New Guinea (Netherlands), 8 Aug. 1955, Gressitt.

The smaller size, coloration, and much stouter antennae distinguish this species from *C. syscena*. *C. emmelia* is a smaller, pale species with wider costal areas, and smooth paranota.



***Cysteochema emmelia* Drake, n. sp.**

Moderately large, oblong, testaceous, with a small spot on each paranotum, transverse band (veinlets only) near middle of costal and subcostal areas, most veinlets in discoidal area, and a few veinlets in sutural area infusate. Head brown, cephalic spines testaceous; body beneath yellowish brown, with laminae forming buccal and rostral sulci whitish testaceous. Legs and antenna pale brown, tips of tarsi and antennal segment 4 blackish. Length 3.25 mm; width (elytra) 1.25.

Head very short, with dorsal spines subappressed; bucculae areolate, closed in front. Antenna rather slender, measurements of segments: I, 0.12 mm; II, 0.10 mm; III, 1.00 mm; IV, 0.37 mm. Labium long, extending on metasternum; laminae low on prosternum, much wider on meso- and metasternum, with V-shaped opening behind. Hypocostal lamina uniseriate. Metathoracic scent glands with ostiole and ostiolar canal on each metapleuron, the sulcus prominent, sides raised, and nearly upright.

Pronotum strongly convex, with disc covered by the very large, reflexed paranota; median carina long, without areolae, concealed by paranota on median part of disc; lateral carinae as high as median carina, converging anteriorly, in contact with median carina slightly behind middle of disc, thence anteriorly concealed by paranota; hood very small, extending backwards between calli, scarcely produced in front; paranota very large, resting smoothly on pronotal surface. Elytra (widest part) very little wider than greatest width of pronotum; costal area moderately wide, with one complete row and a 2nd row of areolae along basal 3/5, all areolate hyaline; subcostal area nearly upright, narrow, almost entirely biseriate; discoidal area large, extending beyond middle of elytron, acutely angulate at both base and apex, 7 areolae deep in widest part (middle); sutural area on same horizontal level as discoidal area, with areolae in apical 1/2 as large as those in costal area. Hind wings extending beyond apex of abdomen, densely clouded with dark fuscous.

Holotype ♂ (BISHOP 2720), Mt. Wilhelm, NE New Guinea, 3,000 m, 4 July 1959, Gressitt.

This pale species can be separated from other members of the genus in New Guinea by its almost uniform testaceous color and wider costal area. The areolae are neatly and evenly arranged, and the paranota are completely reflexed and lie flatly on the surface of the pronotum.

***Cysteochema nativa* Drake, n. sp. Fig. 7.**

Oblong, reddish fuscous, with costal area, carinae, and boundary vein separating discoidal and sutural area dark reddish brown; body beneath dark ferruginous, coated with pruinose, the laminae of labial sulcus reddish brown; labium brown, with tip blackish; bucculae dark fuscous-brown. Antenna dark brown, with distal 2/3 of last segment blackish. Legs dark brown. Length 4.60 mm; width (elytra) 1.55.

Head very short, black, with 5 suberect, brown, moderately long spines; bucculae wide, areolate, ends meeting in front. Labium extending to middle of mesosternum; laminae uniseriate, widely separated, cordate on metasternum. Antennae indistinctly pubescent, segmental measurements: I, 0.17 mm; II, 0.12 mm; III, 1.55 mm; IV, 0.62 mm. Ostiole and ostiolar sulcus on each metapleuron prominent, upright, slightly arcuate, with sides raised.

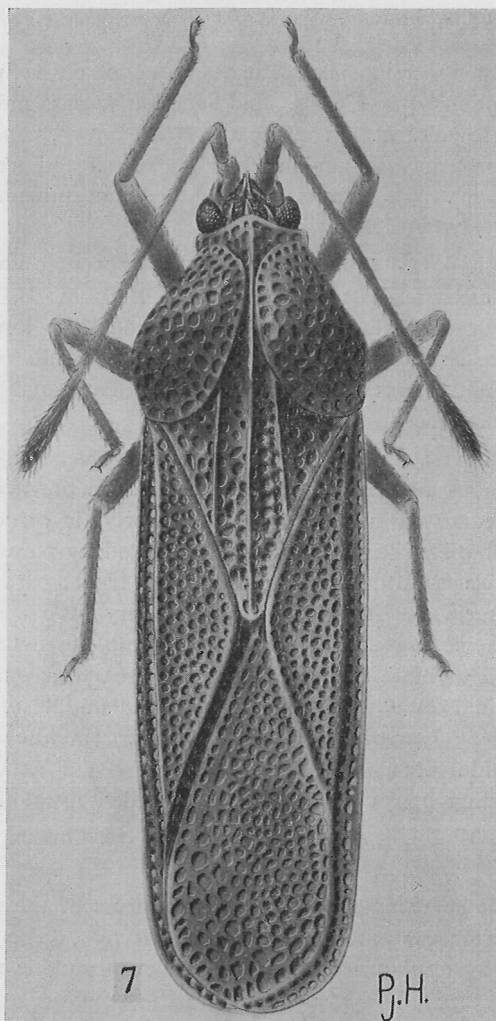


Fig. 7. *Cysteochila nativa* n. sp.

Hypocostal laminae uniseriate. Legs moderately long, indistinctly pubescent.

Pronotum strongly convex, punctate, mostly concealed by large, reflexed paranota, tricarinate, each carina thick, moderately elevated; median carina percurrent, slightly more elevated than lateral pair, with one row of small areolae; lateral carinae parallel on posterior process, converging anteriorly and covered by paranota on pronotal disc; collum slightly elevated at middle, there subtectiform but not forming a distinct hood; paranota very large, completely reflexed, with outer margin rounded, concealing median carina on central part of disc.

Elytra with sides parallel, not wider than width across humeral angles; costal area very narrow, uniseriate, reflexed upright along basal  $3/5$ , subcostal area narrow, upright, mostly uniseriate; discoidal area  $2/3$  as long as elytra, 6 or 7 areolae deep at middle,

bounded by prominent veins, acutely angulate at both base and apex, with outer boundary vein nearly straight; sutural area on same horizontal level as discoidal area. Areolae of elytra and paranota neatly arranged. Hind wings densely clouded with fuscous.

Holotype ♀, Finschhafen, NE New Guinea, 24 Apr. 1946, Dr. L. J. Bennett (Drake Coll., USNM).

Separated from *C. jimmina* by its stouter form, shorter antenna, wider paranota, narrower costal areas, and reddish fuscous color.

***Cystechila jimmina* Drake, n. sp.**

Oblong, parallel-sided, uniformly black-fuscous, legs dark brown with tarsi blackish, antenna dark brown with segments 1, 2, 4 blackish, body beneath blackish, hind wing densely clouded with dark fuscous. Dorsal surface without pubescence, appendages sparsely clothed with minute, flake-like, golden pubescence. Length 4.25 mm; width 1.10.

Head very short, blackish, strongly declivent, feebly produced in front of eyes; bucculae wide, finely areolate, closed in front; hind pair of spines short, appressed, extending anteriorly to front margins of eyes, the frontal 3 spines short, very stout, tuberculiform. Antenna long, moderately thick, segmental measurements: I, 0.15 mm; II, 0.12 mm; III, 1.35 mm; IV, 0.62 mm. Labium dark brown, blackish at tip, extending near middle of mesosternum, the laminae raised, thick, areolate, brownish testaceous, open behind. Metathoracic scent glands with ostiole and ostiolar canal on each metapleuron, the sulcus nearly upright, with sides raised. Hypocostal laminae narrow, uniseriate. Legs rather short, femora not swollen.

Pronotum rather strongly convex, punctate, unicarinate; median carina percurrent, thick, with areolae scarcely distinct; lateral carinae as thick but slightly less elevated than median, with areolae, converging anteriorly in front of base of hind projection but not coming in contact with median carina on disc, concealed on pronotal disc by the large, reflexed paranota; collum distinct, areolate, truncate in front, elevated with median carina at the middle so as to form a small, tectiform hood; paranota very wide, completely reflexed, concealing outer pair of carinae on pronotum but not coming in contact there with median carina, the areolae slightly larger than those on the elytron.

Elytra nearly parallel-sided, scarcely wider than width of pronotum at humeral angles, longer than abdomen, sutural areas overlapping so as to lie with apices jointly rounded in repose; costal area slightly turned upward, mostly uniseriate, with 2 rows of cells in widest part just behind apex of discoidal area, with small areolae; subcostal area narrow, nearly upright, with small areolae, mostly biseriata; discoidal area large, about 3/5 as long as the elytron, acutely angulate at both apex and base, with outer boundary vein nearly straight, 6 or 7 areolae deep in widest part; sutural area on same horizontal level as discoidal area, areolae becoming slightly larger apically. Pronotal carinae, marginal veins of elytra and boundary veins separating sutural, discoidal, and subcostal areas prominent and about equally costate. Hind wing densely clouded with fuscous.

Holotype ♀ (BISHOP 2721), Kumur, Upper Jimmi Valley, NE New Guinea, 1,000 m, 13 July 1955, Gressitt.

Separated from *C. nativa* (fig. 7) by its darker, uniform color, longer form, and narrower costal area, which is also 2-seriate in widest part just beyond apex of discoidal area.

***Cysteochila syscena* Drake, n. sp.**

Moderately large, oblong, brownish testaceous, with most veinlets in paranota and hood, veinlets in median fascia of costal and subcostal areas, and some scattered veinlets in sutural area fuscous; pronotal disc and head dark fuscous; cephalic spines brown; body beneath reddish brown; appendages brownish testaceous. Length 3.75 mm; width (elytra) 1.25.

Head very short, armed with 5 short, porrect spines; bucculae wide, areolate, closed in front. Antenna fairly long, very slender, indistinctly pubescent, segmental measurements: I, 0.12 mm; II, 0.10 mm; III, 0.92 mm; IV, 0.35 mm. Labium concealed by mounting point. Legs moderately long, slender, smooth, femora slightly swollen. Hypocostal lamina long, uniseriate. Orifice and ostiolar canal of metathoracic scent glands present on each metapleuron, the sulcus nearly upright.

Pronotum moderately convex, largely concealed by reflexed paranota, tricarinate; hood small, distinct, slightly extended in front of collar, prolonged backwards between calli, with the median dorsal vein forming an obtusely angulate angle at crest; paranota very large, strongly reflexed, with a small tumid area near humeri and another much longer tumid ridge near outer margin, space between these tumid areas distinctly concave, outer margin of each paranotum touching median carina on pronotal disc. Median carina long, foliaceous, mostly uniseriate, strongly arcuately raised between middle of pronotal disc and posterior process, there biseriate; lateral carinae concealed by reflexed paranota on pronotal disc, slightly convergent anteriorly in front of posterior process and posteriorly on apical part of process; posterior process moderately inflated so that the superior edge of the median carina forms a deeply concave line.

Elytron nearly parallel-sided, longer than abdomen; costal area moderately wide, biseriate, inner row of areolae smaller than outer row, areolae rounded or ovate; subcostal area subequal to costal area in width, nearly upright, biseriate; discoidal area large, extending backwards beyond middle of elytron, acutely angulate at both base and apex, bounded on all sides by a raised boundary vein, widest near middle, there 7 or 8 areolae deep; sutural area on same horizontal level as discoidal area, the areolae becoming slightly larger in apical part.

Holotype ♀ (BISHOP 2722), Ti, Nakanai Mts., New Britain, 29 July 1956, E. J. Ford, Jr.

Separated at once from other members of the genus in New Guinea by the biseriate costal area and the strongly raised, arched median carina behind the middle of the pronotal disc. The reflexed paranota project slightly outward at the humeral angles; the backward projection of the pronotum is a little inflated.

***Trachypeplus guinaicus* Drake, n. sp.**

Small, ellipsoid, testaceous with slight brownish tinge, disc of pronotum brown, head brownish with its spines pale testaceous, bucculae brownish testaceous, abdomen beneath reddish brown, labium brown with blackish tip, laminae of labial sulcus whitish testaceous, legs brownish testaceous with femora slightly infuscate, antenna testaceous with segments 1-2 brownish and last blackish. Entire body, above and beneath, rather sparsely clothed with minute, flakelike, golden, glittering pubescence. Length 3.20 mm; width 1.50.

Head very short, strongly deflexed, armed with 5 suberect, stout blunt spines; bucculae wide, areolate, closed in front. Labium reaching to base of mesosternum; labial laminae of sulcus thick, raised, without distinct cells, open behind. Antenna rather slender, indistinctly pubescent, segmental measurements: I, 0.15 mm; II, 0.10 mm; III, 0.75 mm; IV, 0.30 mm. Legs moderately long, femora not swollen. Metathoracic scent glands with ostiole and narrow, upright sulcus on each metapleuron.

Pronotum rather strongly convex, punctate, tricarinate, all carinae long, thick, elevated, and uniseriate; median carinae slightly higher than lateral pair; lateral carinae nearly parallel, terminating anteriorly at calli; hood small, narrow, about  $2\times$  as long as wide, extending backwards on fore part of pronotal disc; posterior process triangular, areolate; paranota reflexed, with outer 3 rows of areolae resting on pronotal surface, the space between the outer margin of reflexed paranotum and lateral carina not quite as wide as that between one of the lateral carina and median carina. Elytra a little wider near middle than pronotal width at humeri; costal area irregularly bi-triseriate, mostly biseriate; subcostal area almost upright, biseriate; discoidal area more than  $2/3$  as long as elytra, widest at middle, there 6 or 7 areolae deep; sutural area on same horizontal level as discoidal area. Hind wings slightly longer than the abdomen.

Holotype ♀, Asama, Morobe, New Guinea, 1946, L. J. Bennett (Drake Coll., USNM).

Allied to *T. jacobsoni* Horváth of Java, but readily separated from it by the larger size, more elevated pronotal carinae, and the lack of spines on outer margins of paranota and elytra. The pronotal hood is also longer and projects backwards between and slightly behind calli.

*Ulonemia aptata* Drake, n. sp.      Fig. 8.

Oblong, nearly parallel-sided, testaceous, with pronotal disc brown, calli and head blackish, paranota whitish testaceous, body beneath blackish fuscous, cephalic spines pale testaceous, buccal and sternal laminae of labial channel testaceous, and the discoidal and sutural areas of elytra with some dark brown. Anterior part of pronotum, head and body beneath often coated with whitish excretion. Antenna brownish, with segments 1-2 reddish fuscous and 4 blackish; segment 3 sparsely clothed with very short, flake-like, golden pubescence, and 4 with grayish pubescence. Legs reddish brown, with tarsal segments dark fuscous. Labium dark fuscous. Hind wing clouded with dark fuscous. Length 4.10 mm; width 1.25.

Head very short, strongly declivent; cephalic spines moderately long, hind pair appressed, median spine situated near middle of vertex and erect, frontal pair porrect; bucculae wide, areolate, parallel, not curved inwardly in front. Labium extending almost to base of mesosternum. Antenna rather slender, segmental measurements: I, 0.15 mm; II, 0.12 mm; III, 1.38 mm; IV, 0.45 mm. Hypocostal lamina uniseriate. Legs moderately long, moderately slender.

Pronotum moderately convex, distinctly punctate, areolate on posterior projection, tricarinate, carinae raised but not clearly areolate; lateral carinae long, terminating at calli, divergent anteriorly from behind middle of disc; collum slightly raised, areolate, subtruncate in front (slightly convex at middle), with a very small, narrow hood projecting backwards between calli; paranota narrow, long, upright, uniseriate, slightly wider op-

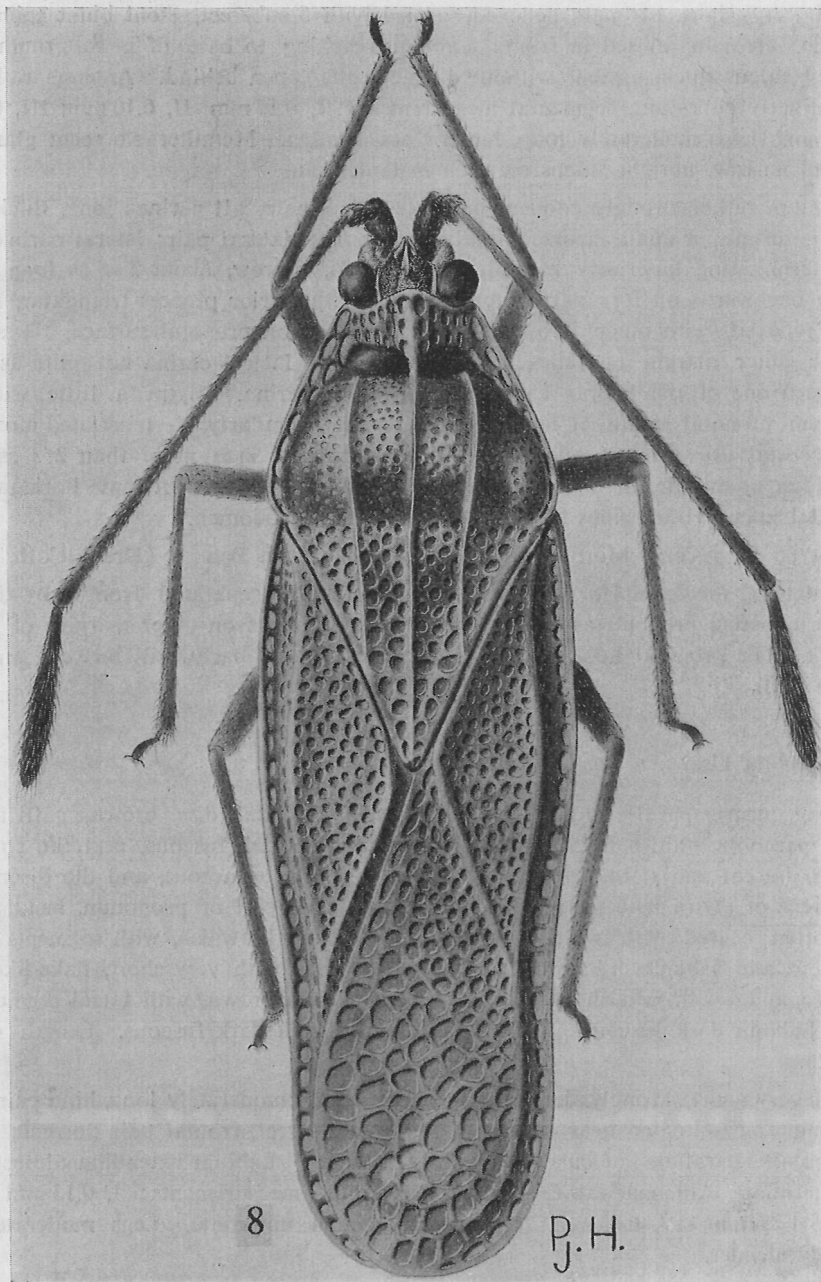


Fig. 8. *Ulonemia aptata* n. sp.

posite calli. Elytra scarcely wider than width across humeri, longer than abdomen, with areolae neatly arranged; costal area uniseriate, the areolae moderately large; subcostal area nearly upright, biseriate, with areolae a little smaller than those in costal area;

discoidal area large, extending beyond middle of elytron, acutely angulate at both base and apex, outer boundary vein feebly arcuate, 6 or 7 areolae deep in widest part (middle), opposite apex of pronotal process; sutural area on same horizontal level as discoidal area, with areolae becoming a little larger apically.

Holotype ♀ (BISHOP 2723), Nondugl, NE New Guinea, 1,600 m, 8 Aug. 1955, Gressitt.

Paratype 1 ♀, same data as type.

Separated from *P. electa* (Drake & Poor) of the Philippines by its distinctly broader form, smaller hood, and dark head above and body beneath.

*Eteoneus peroronus* Drake, 1942, Iowa State Coll. Jour. Sci. 17: 7.

DISTRIBUTION: Malay Peninsula (Perit Bunter), type locality, and not recorded elsewhere.

NEW GUINEA: (Papua) Bisianumu, NE of Port Moresby, 500 m, in primary forest, June 1955, Gressitt; (NE) Korop, Upper Jimmi V., 1,300 m, Gressitt; Maffin Bay, Dutch New Guinea, Sept. 1944, E. S. Ross.

*Eteoneus lectus* Drake, n. sp. Fig. 9.

Moderately large, oblong, dark ferruginous-brown, without color markings, entire dorsal surface and body beneath furnished with very short, scale-like, golden pubescence that glitters in bright light; body beneath with sternum blackish fuscous tinted with bluish, abdomen dark reddish fuscous. Antenna testaceous, with segments 1-2 brownish and 4 mostly dark fuscous or black. Legs brownish testaceous, with tip of last tarsal segment fuscous. Length 3.10-3.60 mm, width (elytra) 1.20-1.40.

Head black, very short, strongly declivent; bucculae blackish fuscous, areolate, ends meeting in front of labium. Labium brownish testaceous, reaching onto metasternum; rostral laminae low, rather thick, blackish, not clearly areolate, cordate on metasternum, with V-shaped opening behind. Antenna rather slender, very long, clothed with pale pubescence, segmental measurements: I, 0.12 mm; II, 0.10 mm; III, 1.15 mm; IV, 0.50 mm. Metathoracic scent glands with ostiole and upright ostiolar sulcus on each metapleuron. Hypocostal laminae uniseriate. Legs indistinctly pubescent.

Pronotum moderately convex, punctate, unicarinate, without trace of lateral carinae; median carina distinctly raised, without areolae; calli impressed, impunctate; collum raised, areolate; paranota absent but with a small triangular, plate-like structure projecting outward from each humeral angle. Elytra longer than abdomen, with sutural areas overlapping in repose, with exterior margins finely serrate; costal area varying from biseriate to largely triseriate, often entirely triseriate in widest part; subcostal area nearly vertical, largely triseriate (partly 4-seriate in one ♀), with areolae smaller than those in costal area; discoidal area not quite reaching to middle of elytron, 3 or 4 areolae wide in widest part; sutural area on same horizontal level as discoidal area, the areolae becoming slightly larger apically. Wing infusate, shorter than elytron.

Holotype ♂ (BISHOP 2724), and allotype ♀, Kerawat, 60 m, Gazelle Peninsula, New Britain, 31 Aug. 1955, Gressitt. Paratypes: 2 specimens, same data as type; 1 specimen,

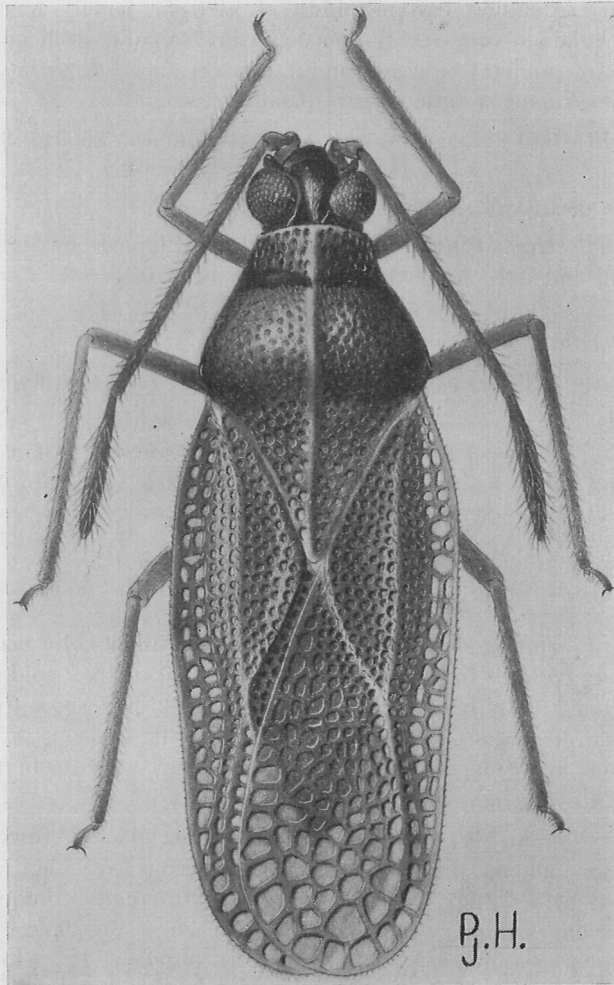


Fig. 9. *Eteoneus lectus* n. sp.

same locality as type, 3 Apr. 1956; and 2 specimens, Gazelle Peninsula, Baining, St. Paul's, 350 m, New Britain, 7 Sept. 1955, Gressitt.

This species is distinctly larger than *E. peroronus* Drake; the latter has the costal area testaceous with the premedian and apical bands blackish fuscous.

#### Genus *Scymnotingis* Drake, new genus

Moderately large, oblong. Head short, feebly prolonged in front of eyes, sharply declivent, armed with usual spines; eyes moderately large, transverse, with hind margins touching pronotum; buccal laminae areolate, ends meeting in front of labium. Antenna rather slender, moderately long; segments 1-2 short, slightly swollen; 3 longest, slenderest; 4 moderately long, fusiform. Labium moderately long, extending onto mesosternum;



laminae areolate, meeting behind. Legs moderately long, femora very little swollen. Metathoracic scent glands with ostiole and ostiolar channel on each metapleuron, the sulcus projected arcuately upright. Pronotum moderately convex, punctate, unicarinate; collum subtruncate in front, areolate, with very small hood projecting backwards between calli; hind process triangular, areolate; paranota very narrow, cariniform, not distinctly punctate. Elytra longer than abdomen, very little wider than pronotum across humeri; costal area narrow, uniseriate; corium divided into subcostal, discoidal, and sutural areas; subcostal area narrow, nearly upright; discoidal area fairly large, extending beyond middle of elytron, on same horizontal level as that of sutural area. Hind wing fully developed.

Type species: *Scymnotingis sigillata* n. sp.

Allied to the Genus *Eteoneus* Distant and separated from it by the very long, narrow, carinate paranota, the much smaller compound eyes. The pronotum is unicarinate and both paranota and median carina are uniseriate.

***Scymnotingis sigillata* Drake, n. sp. Fig. 10.**

Head black, cephalic spines reduced, brownish; pronotum black, shiny, with narrow, outer margins of collum and paranota, median part of small hood, and median carina brownish; elytra brownish testaceous, with median part of costal area, basal 3/4 of subcostal area, all but apices and median spot of discoidal area and most of the veinlets in sutural area black; body beneath black, with abdominal sterna shiny; hypocostal laminae mostly black. Antenna brownish testaceous; segment 4 black. Legs brownish testaceous, femora broadly banded with fuscous. Length 3.20 mm; width (elytra) 1.20.

Head with cephalic spines very small; bucculae broad, black, closed in front. Labium brown, extending on to metasternum; sternal laminae of rostral sulcus black, widely separated, uniseriate, with a V-shaped opening at apex. Hypocostal lamina moderately wide, long, uniseriate. Metathoracic scent glands with ostiole and ostiolar sulcus on each metapleuron, the sulcus nearly upright, wide, with sides sharply elevated, trough-like. Antennae moderately stout, inconspicuously pubescent, segmental measurements: I, 0.11 mm; II, 0.08 mm; III, 0.80 mm; IV, 0.20 mm. Legs moderately stout, clothed with short, golden pubescence.

Pronotum moderately convex, finely rugulose punctate, unicarinate, composed of one row of tiny areolae; median carina percurrent; paranota narrow, upright, composed of a single row of tiny areolae; collum raised, areolate, truncate in front, slightly elevated at middle so as to form a very small, pyriform hood, which extends backwards between the calli; calli deeply impressed, impunctate. Elytra with sutural areas overlapping in repose; costal area rather narrow, composed of one row of areolae; subcostal area much wider than costal, sloping downwards, mostly triseriate; discoidal area large, extending beyond middle of elytra, with outer boundary vein arcuate, acutely angulate at both ends, widest at middle, there 7 to 9 areolae deep; sutural area with areolae mostly larger than in discoidal area and on same horizontal level. Hind wing longer than abdomen, dark fumose.

Holotype ♀ (BISHOP 2725), Daulo Pass, 3,000 m, Asaro-Chimbu Divide, NE New Guinea, 14 June 1955, Gressitt.

***Cromerus invarius* (Walker)**

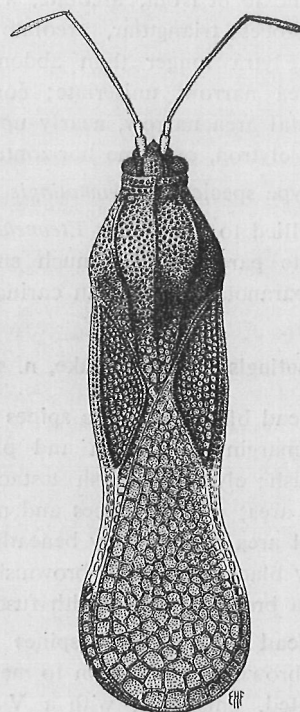
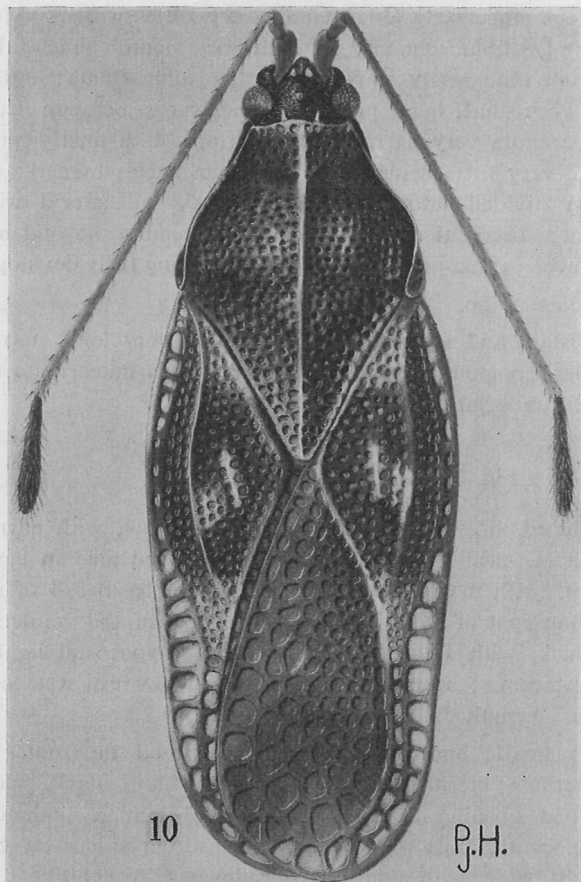


Fig. 10. *Scymnotingis sigillata* n. gen., n. sp.

Fig. 11. *Larotingis aporia* n. gen., n. sp.

*Monanthia invaria* Walker, 1873, Cat. Hem., pt. 3, British Mus., p. 196.

*Cromerus invaria*, Distant, 1902, Ann. Mag. Nat. Hist., ser. 7, 9: 356.

This species was described from New Guinea and is known only from the type specimens.

*Perissonemia torquata* Drake & Poor, 1937, Philip. Jour. Sci. 62: 2, fig. 1.

One specimen, labeled "New Guinea". This species was described from the Philippines (Mindanao). We also have specimens from Malacca (Perak), Solomon Island (Bougainville), and Philippines.

*Perissonemia borneensis* (Distant)

*Teleonemia borneensis* Distant, 1909, Indian Mus., Rec. 3: 6, pl. 10, figs. 1, 1a.

*Perissonemia (Ulonemia) borneensis* (sic), Drake & Poor, 1937, Philip. Jour. Sci. 62: 4.

1 specimen, Wau, New Guinea, 23 Aug. 1956, 980 m, Ford. Known heretofore from Borneo (Sandakan), Philippines, and Straits Settlement.

Genus *Larotingis* Drake, new genus

Small, slender, elytra scarcely wider than pronotum at humeral angles. Head short, feebly extended in front of eyes, strongly declivent, armed with short spines; eyes small, transverse; antenniferous tubercles short, bluntly rounded in front, concave within; bucculae areolate, closed in front. Labium extending on to mesosternum; laminae areolate. Antenna slender, moderately long, segments 1-2 short, 3 long and slender, 4 moderately long, very little swollen. Legs long, slender. Hypocostal lamina narrow, uniseriate. Scent gland ostiole and ostiolar sulcus present on each metapleuron.

Pronotum moderately convex, rugulose areolate in appearance; collum distinct, without hood; calli impressed, impunctate, small; paranota carina-like, scarcely distinct; posterior process triangular, distinctly areolate; median carina long, present on collum, more raised than lateral pair; lateral carinae terminating anteriorly at calli. Elytron long, extending beyond apex of abdomen, slightly constricted on sides beyond the middle, divided into the usual areas; costal area very narrow, with boundary vein between it and subcostal area not clearly defined; subcostal area narrow, nearly erect; discoidal area extending a little beyond middle of elytra, on same horizontal level as that of sutural area. Hind wing longer than abdomen.

Type species: *Larotingis aporia* n. sp.

Separated from other tingid genera of New Guinea by the lack of a distinct boundary vein between costal and subcostal areas, without expanded paranota, and the narrow hypocostal laminae.

*Larotingis aporia* Drake, n. sp. Fig. 11.

Oblong, slender, deep black, with sutural area fuscous-black, most of hypocostal laminae and wider part of costal area brownish testaceous; eyes, cephalic spines, pronotal carinae, bucculae and sternal laminae of labial sulcus black, body beneath black, slightly shining. Antennae and legs flavotestaceous. Labium brownish. Length 3.50 mm; width (elytra) 0.90.

Head with short, appressed, black spines. Antenna sparsely furnished with short, appressed, seta-like pubescence, measurements of segments: I, 0.12 mm; II, 0.10 mm; III, 0.85 mm; IV, 0.40 mm. Labium extending on to anterior part of metasternum. Hypocostal lamina very narrow, uniseriate. Scent gland sulcus (on each metapleuron) nearly upright, the sides elevated. Legs indistinctly pubescent. Pronotum tricarinate; median carina more raised than lateral pair, uniseriate, entirely black (included cells); lateral carinae very distinct, with areolae indistinct, terminating in front of calli, distinctly diverging anteriorly from behind middle of pronotal disc, distinctly convex within; collum fairly long, truncate in front, areolate.

Elytron long, narrow, constricted on sides beyond middle; costal area narrow, perhaps entirely uniseriate, not clearly differentiated from subcostal area; discoidal area bounded by a costate vein, acutely narrowed at both base and apex, 6 areolae deep at widest part, extending a little beyond middle of elytron; sutural area with larger areolae than those in discoidal area, areolae all clouded with blackish fuscous. Hind wing longer than abdomen, densely clouded with dark fuscous.

Holotype ♂ (BISHOP 2726), Wisselmeren, Okaitadi, New Guinea (Neth.), 1,800 m, 7 Aug. 1955, Gressitt.

The color, form, and lack of paranota separate this species from other tingids of New Guinea. We have before us an undescribed species of this new genus from the Philippines.

#### Genus *Ottoicus* Drake, new genus

Very elongate, parallel-sided. Head short, only slightly produced in front of eyes, inserted into prothorax up to eyes, armed with 5 spines; bucculae long, areolate, with ends meeting in front; antenniferous tubercle short, blunt, rounded in front, with inner side concave. Antenna long, slender; segment I shorter than transocular width, very little swollen; II shorter and more slender than I; III, very long, most slender; IV only slightly swollen, longer than I+II. Hypocostal laminae long, uniseriate. Ostiole and ostiolar channel of metathoracic scent gland on each metapleuron very prominent, nearly upright. Pronotum convex across humeri, punctate, tricarinate; median carina percurrent, present on hood; lateral carinae long, terminating anteriorly at calli: backward projection of hind margin of pronotum triangular, areolate; paranota narrow, long, turned upright, areolate; collum very long, areolate, practically truncate in front, raised and extended backwards at middle between calli so as to form a small hood; calli small, impunctate, impressed. Elytra scarcely wider than width across humeri, very little wider but much longer than abdomen, without tumid areas, sutural areas overlapping in repose; costal area narrow, uniseriate; subcostal area narrow, erect, biseriate; discoidal area long, extending beyond middle of elytron, on same horizontal level as sutural area. Areolae small, neatly, regularly arranged. Hind wing longer than abdomen, fumose. Legs long, slender.

Type species: *Ottoicus dissitus* n. sp.

This genus reminds one of the genus *Tigava* Stål, but is readily separated from it by the shorter antennae, especially segment I, and much longer discoidal area. The long body and long antenna also separate it from other tingid genera of the South Pacific and Indian Oceans.

#### *Ottoicus dissitus* Drake, n. sp.      Fig. 12.

Very elongate, nearly 4× as long as distance across humeri, almost parallel-sided, brownish with paranota whitish testaceous, the carinae, apices of discoidal areas, and tip of posterior process of pronotum testaceous; head blackish fuscous, spines testaceous; body beneath brownish testaceous, with labial laminae testaceous. Legs brownish testaceous. Antenna brownish, with segment 4 mostly black. Length 4.50 mm; width 0.90. (across humeri).

Head armed with 5 short, blunt, tubercular spines, hind pair appressed, other 3 spines porrect. Bucculae closed in front. Labium extending to end of sulcus; laminae wide, areolate, nearly parallel, open behind. Antenna long, rather slender, with minute, flake-like, golden pubescence, segmental measurements: I, 0.25 mm; II, 0.11 mm; III, 1.55 mm; IV, 0.60 mm. Pronotum strongly swollen across humeral angles, finely punctate; lateral carinae without areolae, concave within in front of middle of pronotal disc, parallel behind disc; median carina without areolae; collum long, finely areolate, truncate in front,

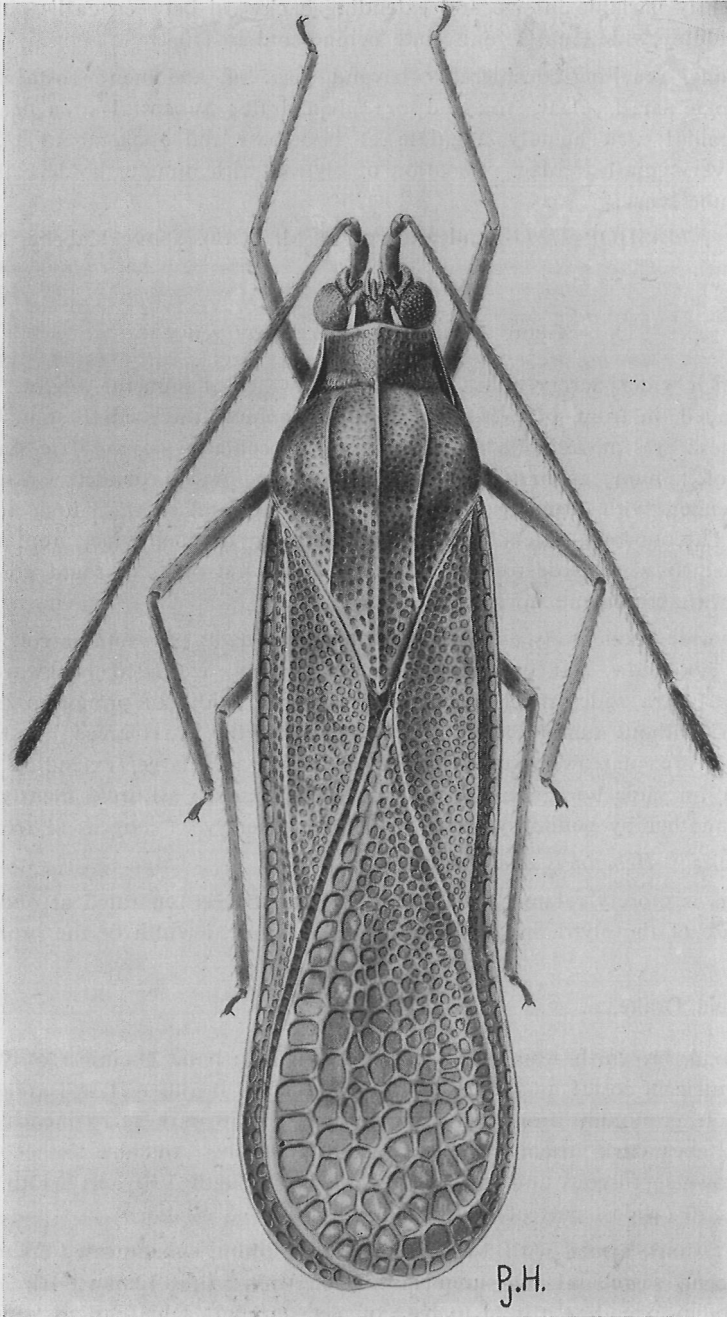


Fig. 12. *Ottoicus dissitus* n. gen., n. sp.

with hood slightly variable in size and extending backward between calli; paranota erect, biseriate at middle (widest part), uniseriate behind and in front.

Elytron long, reaching considerably beyond apex of abdomen; costal area narrow, uniseriate, areolae small, clear, rounded or subquadrate; subcostal area nearly vertical, biseriate; discoidal area acutely angulate at both base and apex, about  $\frac{3}{5}$  as long as elytron, with very small areolae. Venation of elytron with minute, golden, flake-like, inconspicuous pubescence.

Holotype ♂ (BISHOP 2727), and allotype ♀ Mt. Otto, above Kabebe, New Guinea, 2,500 m, Gressitt.

#### Genus *Hebetingis* Drake, new genus

Broad, much wider across elytra at base than width at humeral angles. Head short, scarcely extended in front of eyes, armed with 5 spines, the medial spine placed near middle of vertex; eyes moderately large, transverse; bucculae wide, areolate, ends not meeting in front of labium; antenniferous tubercles short, bluntly rounded. Antenna moderately long, slender, with segments 1-2 slightly swollen and short, 3 long and slender, 4 subfusiform. Labium long, extending onto metasternum; laminae wide, areolate, with ends meeting at base so as to close rostral sulcus. Ostiole and ostiolar canal present on each metapleuron, with prominent, upright sulcus.

Pronotum wide, moderately convex, punctate, tricarinate; paranota narrow, long, reflexed, areolate; hood low, flat, quadrate, truncate in front, extended backwards as far as base of calli. Elytra wide, much wider than greatest width of pronotum, much longer than abdomen, without tumid elevations, divided into the usual areas; costal area very wide; subcostal area narrow, nearly upright, discoidal area large, extending beyond middle of elytron, on same horizontal level as the sutural areas, all areas clearly differentiated from one another by boundary veins. Hind wing nearly as long as elytron.

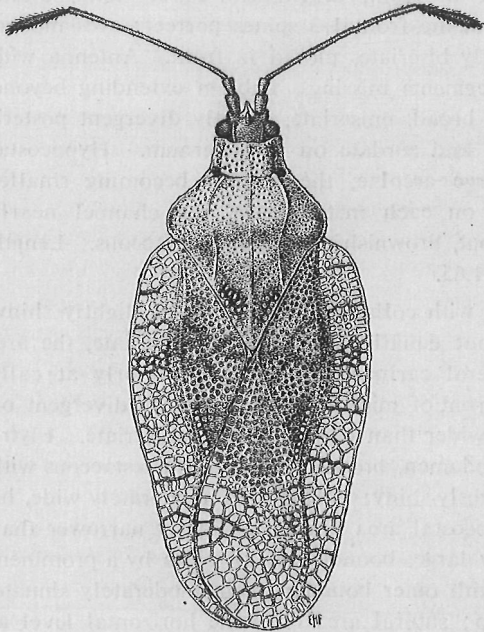
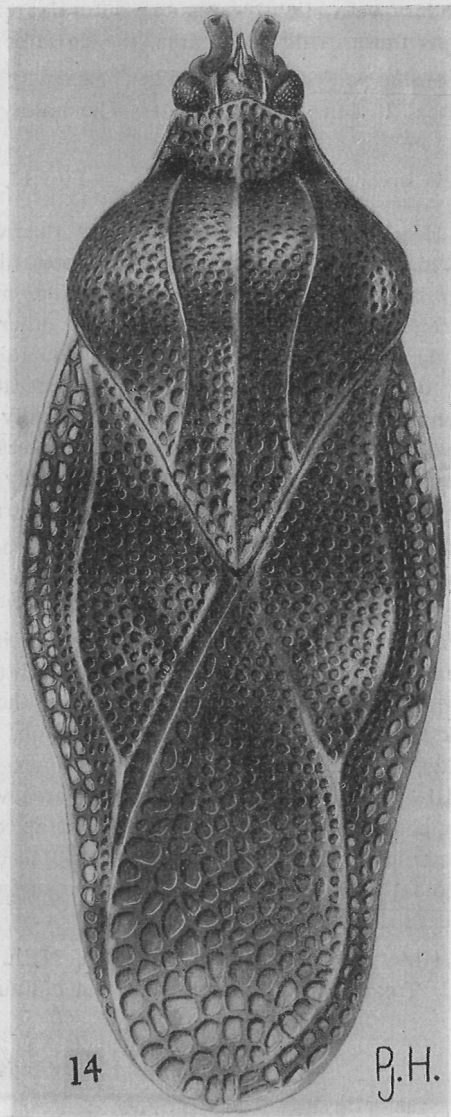
Type species: *Hebetingis adeia* n. sp.

This genus is closely related to *Tingis* Fabricius, but is separated at once from it by having the base of the elytra much wider than the humeral width of the pronotum.

#### *Hebetingis adeia* Drake, n. sp.      Fig. 13.

Large, broad, brownish testaceous, with a premedian band (veinlets only) and a few transverse veinlets in costal area, some veinlets and spots in other elytral areas, and variegated marks on pronotum brown to dark fuscous; head dark ferrugineous, with spines testaceous and eyes dark fuscous; body beneath blackish. Antenna testaceous with segments 1-2 brownish fuscous and last segment black. Length 4.30 mm; width 1.20 (across humeri) and 2.10 (widest part of elytra).

Head very short, armed with 5 moderately large, blunt, subappressed spines. Antenna shortly pubescent, segmental measurements: I, 0.20 mm; II, 0.12 mm; III, 2.94 mm; IV, 0.85 mm. Labium extending almost to base of metasternum; labial sulcus wide, closed behind, the areolae of laminae moderately large. Ostiolar channel on each metapleuron prominent, upright, with sides raised. Legs moderately long, rather slender, sparsely pubescent.

Fig. 13. *Hebetingis adeia* n. gen., n. sp.Fig. 14. *Tingis toxopeusi* n. sp.

Pronotum moderately convex, distinctly punctate, carinae very distinct, non-areolate; median carina long, percurrent; lateral carinae slightly sinuate, extending anteriorly to calli, convex within in front of middle of disc; posterior projection triangular, areolate, acutely angulate at apex. Elytra widest across apex of pronotal process, with sutural areas overlapping and jointly rounded behind in repose, the areolae rather small, not arranged in very regular rows; costal area very wide, 6 areolae deep in widest part; subcostal area narrow, upright, biseriata; discoidal area very large, extending beyond middle of elytra, acutely angulate at both base and apex, 9-10 areolae deep in widest part, outer

boundary vein slightly arcuate; sutural area with areolae in basal part about the same size as those in discoidal area, thence larger and about as large as those in costal area.

Holotype ♂ (BISHOP 2728), Nenguag, Asaro-Chimbu Divide, E. Highlands, NE New Guinea, 28 June 1955, Gressitt. The holotype is illustrated.

**Tingis toxopeusi** Drake, n. sp.      Fig. 14.

Head black, very short, sharply declivent in front, armed with 5 very long, blunt, brownish spines, the occipital pair appressed and the frontal 3 spines porrect; eyes moderately large, black; bucculae fairly wide, mostly biseriata, closed in front. Antenna with segments 1-2 short, thick, brownish, other segments missing. Labium extending beyond middle of mesosternum; sternal laminae fairly broad, uniseriate, slightly divergent posteriorly on mesosternum, more widely separated and cordate on metasternum. Hypocostal lamina composed of one row of moderately large areolae, the areolae becoming smaller apically. Orifice and ostiolar channel present on each metapleuron, the channel nearly upright, with sides raised. Legs moderately stout, brownish with tibiae testaceous. Length 4.00 mm; width (across widest part of elytra) 1.65.

Pronotum moderately convex, dark fuscous with collar and hood brown, slightly shiny, rugulose punctate, 3-carinate all carinae about equally elevated and uniseriate, the areolae small; median carina percurrent, the lateral carinae terminating anteriorly at calli, more widely separated and convex within in front of middle of disc, slightly divergent on apical part of hind process; paranota a little wider than carinae, erect, uniseriate. Elytra longer, and about costal area wider, than the abdomen, brownish or reddish testaceous with dark fuscous areas as shown in illustration, slightly shiny; costal area moderately wide, biseriata, areolae (except in fascia) hyaline; subcostal area biseriata, slightly narrower than costal area, nearly upright; discoidal area very large, bounded on all sides by a prominent vein, acutely angulate at both base and apex, with outer boundary vein moderately sinuate, widest near middle, there 9 or 10 areolae deep; sutural area on same horizontal level as discoidal area, the areolae slightly larger in distal 1/3. Metathoracic wings present. Body beneath dark fuscous.

Holotype ♀, Top camp, 2,100 m, Neth. Ind. - American New Guinea Expedition, 1939, L. J. Toxopeus, in Rijksmuseum van Natuurlijke Historie, Leiden, Holland.

**Genus Hypsotingis** Drake, new genus

Large, oblong, ornated with a large hood. Head very short, strongly deflexed, armed with 5 long spines, almost entirely concealed by high hood of collum; bucculae areolate, moderately wide, closed in front; antenniferous tubercles small, bluntly rounded. Antenna very slender, fairly long; segments 1-2 short, former slightly more swollen and slightly longer; 3 long, very slender; 4 missing. Labium long, extending onto metasternum; laminae fairly high, uniseriate, open behind. Metathoracic scent glands with ostiole and ostiolar channel on each metapleuron, the sulcus upright with sides distinctly raised. Hypocostal laminae uniseriate.

Pronotum moderately convex, punctate, tricarinate; median carina strongly elevated, united with median vein of hood above middle of pronotal disc, with one row of short



and extremely wide areolae; lateral carinae long, high, extending anteriorly along sides of hood to calli, slightly constricted behind hood; paranota wide, long, reflexed, with inner 2 rows of cells turned obliquely upwards and outer row of extremely wide cells reflexed farther so that the exterior margin of paranotum touches the pronotal surface; hood very large, very high, columnar, with apical 1/3 of pillar-like structure curved forward, much higher at crest of pillar than basal length, extending anteriorly to apex of head and backwards to middle of pronotum. Elytra wide, wider and longer than abdomen, separated into the usual areas; costal area quite wide; discoidal area large, extending backwards beyond middle of elytra. Legs moderately long, slender; femora very little swollen.

Type species: *Hypsotingis columna* n. sp.

Separated from the Genus *Conchotingis* Drake by the flat and non-reflexed outer part of the costal area of the elytron, the very slender antenna, and the extremely broad areolae of the pronotal carinae and of the outer row of the reflexed paranota.

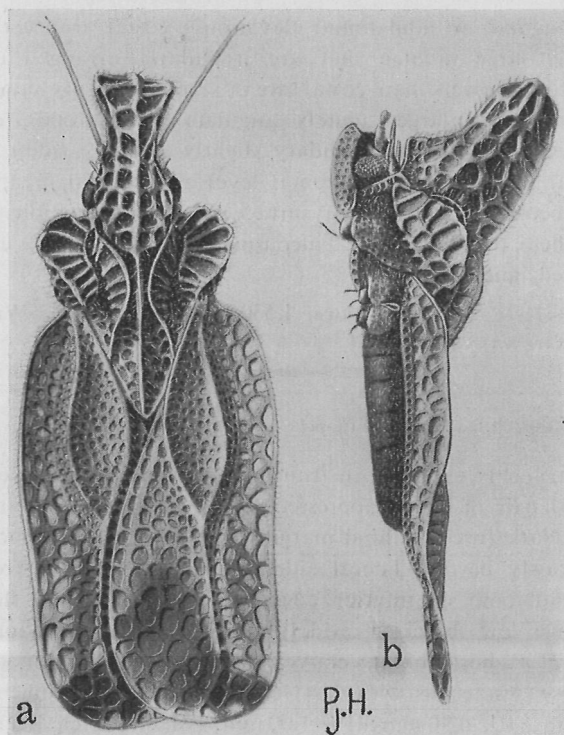


Fig. 15. *Hypsotingis columna* n. gen., n. sp., dorsal (a) and lateral (b) aspects.

***Hypsotingis columna*** Drake, n. sp.

Fig. 15.

Large, oblong, brownish testaceous, with pronotal disc, head, and apical part of elytra dark or blackish fuscous; body beneath black, clothed with short, curled, pale pubescence; rostrum ferruginous, extending to apex of sulcus; buccal and sternal laminae of rostral

sulcus brownish testaceous; appendages pale brownish fuscous. Metathoracic wings longer than abdomen, densely clouded with fumose. Length 4.45 mm; width (elytra) 2.00.

Head armed with 5 very long, testaceous spines, which are pointed forward. Antenna very slender, indistinctly pubescent, measurements of segments: I, 0.10 mm; II, 0.08 mm; III, 1.30 mm; IV, missing. Labial laminae of bucculae wide, areolate, closed in front. Rostral sulcus open at apex. Hypocostal lamina long, composed of one row of small areolae. Orifice and ostiolar sulcus of scent glands prominent on each metapleuron, testaceous. Legs long, slender.

Pronotum moderately convex, mostly covered by reticulated projections of pronotum, tricarinate; hood very large, pillar-like, projected forward over most of head, backwards to middle of pronotal disc, with posterior part pillarform and curved forward, basal length less than height of hind part (82: 92); lateral carinae long, very wide, slightly sinuate, composed of one row of short, very wide, rectangular areolae, the areolae in widest part  $3 \times$  as wide as long; median carina also uniseriate, the areolae in broadest part nearly  $2 \times$  as wide as long.

Elytron subrectangular, without tumid elevations; costal area very wide, composed of 3 rows of moderately large areolae that are irregularly arranged and variable in size; discoidal area much narrower than costal area, sloping sharply downwards, triseriate in widest part; discoidal area large, acutely angulate at both ends, concavely depressed, bounded by raised veins, with outer boundary slightly arcuate, widest near middle, there 6 areolae deep; sutural area on same horizontal level as discoidal area, the areolae of same size as those in subcostal area. Dorsal surface of lacy projections of pronotum and of elytra sparsely clothed with very fine, inconspicuous, pale hairs; elytron also provided with shorter, scattered, fine hairs.

Holotype ♀ (BISHOP 2729), Urapura, 1,530 m, Kamo Valley, Wisselmeren, New Guinea (Netherlands), Gressitt; illustrated.

*Orotngis eueides* Drake, n. sp. Fig. 16.

Head very short, feebly extended in front of eyes, strongly declivent, brownish fuscous, armed with a frontal pair of short, appressed spines, other spines wanting; eyes moderately large, transverse, dark fuscous, hind margins touching collum; bucculae short, parallel, not extending anteriorly beyond lateral sides of labium, open in front, without areolae, with a large, subbasal tooth on inferior edge. Labium testaceous, stout, reaching base of mesosternum; laminae low, blackish, widely separated from each other, meeting behind. Antenniferous tubercles short, blunt, convex within. Antennae moderately long, rather slender, shortly pilose, testaceous with last segment brownish, segmental measurements: I, 0.90 mm; II, 0.13 mm; III, 0.90 mm; IV, 1.00 mm. Metathoracic scent gland with ostiole and ostiolar channel on each metapleuron, the sulcus nearly upright, its sides elevated. Legs slender, indistinctly pubescent, testaceous with last tarsal segment infusate. Length 3.30 mm; width (across elytra) 1.80.

Pronotum strongly, nearly semiglobosely swollen, very coarsely punctate, moderately narrowed anteriorly in front of humeri, blackish fuscous, shining; median carina long, fairly thick, raised but without areolae, the lateral carinae wanting; posterior projection areolate, rounded at apex; paranota narrow, linear, upright, with a single row of tiny are-

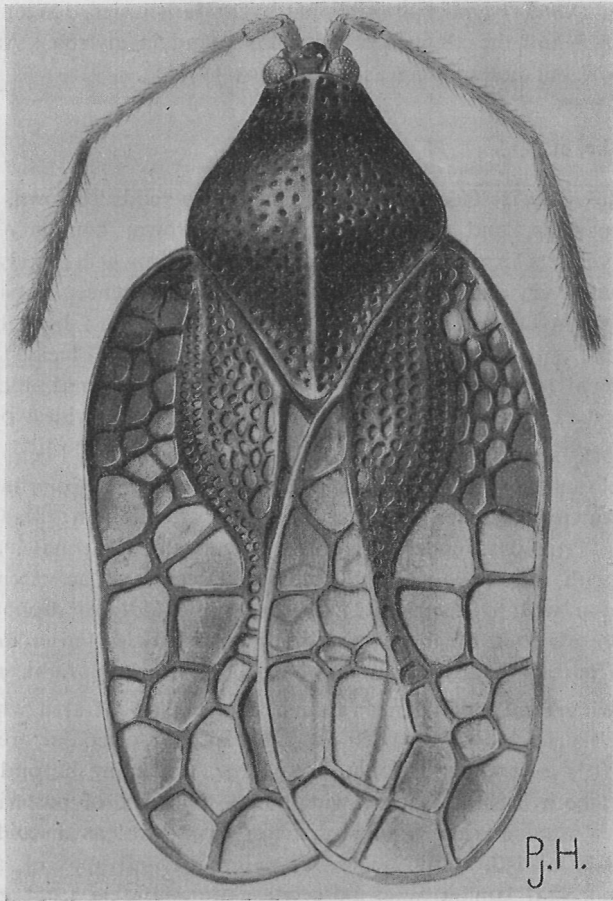


Fig. 16. *Orotising eueides* n. sp.

olae. Elytra very wide, sharply roundly dilated at base, much wider than abdomen, nearly as wide at apex as greatest width, veinlets fairly thick, with marginal vein strongly costate; costal area wide, 3 areolae deep in fuscous band, areolae in band tinged with fuscous, the areolae beyond band large, 2 deep, with veinlets testaceous and areolae clear; subcostal area narrow, sloping downward, 2 areolae deep in dark fuscous part, thence apically uniseriate with areolae much larger and clearer; discoidal area with veinlets dark fuscous, not reaching backwards to middle of elytron, acutely angulate at both ends, widest near middle, there 5 areolae deep, the areolae feebly larger than those in subcostal area, sutural area on same horizontal level as the discoidal area, the areolae as large as those in distal 1/2 of costal area, veinlets testaceous, slightly brownish basally. Hind wing clear, not as long as elytron. Body beneath blackish, abdomen darker than thoracic sternae.

Holotype ♂ (BISHOP 2730), Wisselmeren, Duroto, 1,800 m, east of Enarotadi, 21 Aug. 1955, New Guinea (Netherlands), Gressitt. Paratype: 1 specimen, taken with type (antennae missing).

Separated from *O. muiri* Drake of Amboina by its larger size, longer antenna with segment 4 longer than 3 and the absence of an apical band in elytron. Antennal segment 4 is very long in *muiri* but not so long as 3 (III, 56; IV, 45).

*Celantia creta* Drake, n. sp. Fig. 17.

Large, elongate-ovate, testaceous, with pronotal disc reddish brown, marginal veins of paranota, elytra, carinae, and median vein of hood brown, boundary veins of areas of corium and some veinlets in discoidal and sutural areas brownish; body beneath blackish fuscous, clothed with very short, grayish or yellowish pubescence; dorsal surface of body with short, fine, upright or recumbent, inconspicuous pubescence; head blackish, with dorsal spines testaceous; antenna fusco-ferrugineous, with segment 4 blackish; legs dark brown, tarsi blackish; buccal laminae testaceous, labial laminae of sternal sulcus brownish testaceous, the labium dark fuscous. Length 4.60 mm; width 2.10 (widest part at elytra).

Head very short, slightly extended in front of eyes, with 5 long, anteriorly-directed spines; bucculae closed in front; labium reaching to base of mesosternum, the laminae of sulcus areolate. Antenna slender, segmental lengths: I, 0.18 mm; II, 0.14 mm; III, 1.40 mm; IV, 0.50 mm. Pronotum moderately convex, punctate, tricarinate, all carinae strongly elevated, each with one row of large areolae; lateral carinae extending anteriorly to calli, feebly concave within (anteriorly from back of middle of pronotal disc); median carina slightly more elevated on disc, there biseriata, otherwise uniseriate; hood tectiform, concealing median part of head; paranota wide, long, nearly upright, mostly triseriate.

Elytra much wider and much longer than abdomen; costal area wide, mostly quadriseriata, 5 or 6 cells deep in widest part opposite apex of discoidal area; subcostal area nearly upright, mostly biseriata; discoidal area large, extending beyond middle of elytra, acutely angulate at both base and apex, widest opposite apex of posterior process of pronotum, there 6 or 7 areolae wide; sutural area on same level as discoidal area, with areolae larger beyond basal 1/3. Hind wings extending beyond apex of abdomen, clouded with fuscous. Hypocostal lamina long, uniseriate. Metathoracic scent glands with ostiole and ostiolar canal on each metapleuron, the sulcus nearly upright and elevated apically. Legs long, slender, sparsely provided with short, pale pubescence.

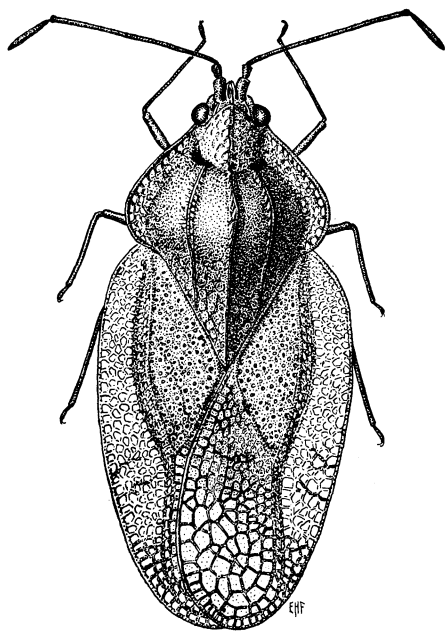
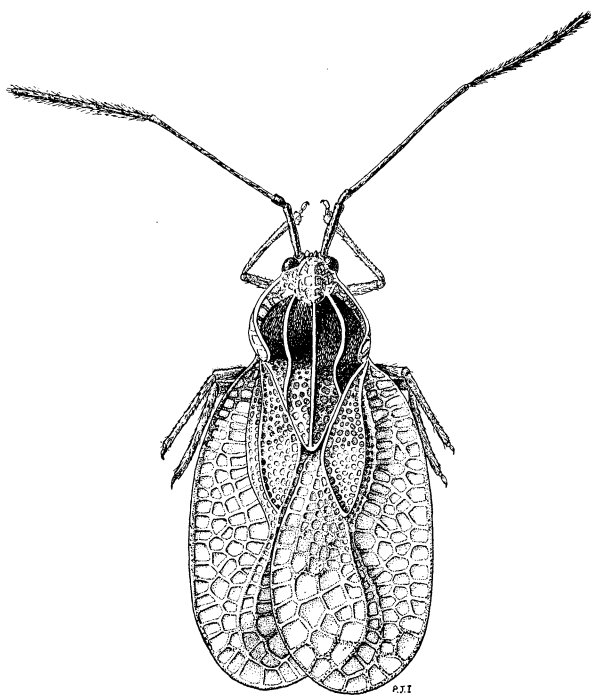
Holotype ♂ (BISHOP 273), Kerawat, 60 m, New Britain, 31 Aug. 1955, Gressitt.

Separated from *C. vagans* Distant of Ceylon by the shorter antennae and smaller areolae of elytra.

*Mecopharsa secta* Drake, n. sp. Fig. 18.

Broad, testaceous, with pronotal disc and head above black-fuscous, outer marginal vein and some veinlets in distal 1/2 of elytron brownish fuscous. Antenna brownish, with segments 1 and 4 dark brown or fuscous. Legs brownish testaceous. Body beneath blackish brown; abdomen reddish brown. Length 3.50 mm; width 1.80 (across apex of hind pronotal projection).

Head very short, armed with 5 short, blunt, whitish spines. Labium testaceous with apex blackish, extending to base of mesosternum. Antenna long, slender, sparsely clothed with tiny, scale-like, golden pubescent hairs on segments 1-3, and 4 with short, grayish,

Fig. 17. *Celantia creta* n. sp.Fig. 18. *Mecopharsa secta* n. sp.

pubescent hairs, segmental lengths: I, 0.50 mm; II, 0.12 mm; III, 1.20 mm; IV, 1.13. Metathoracic scent glands with ostiole and ostiolar canal on each metapleuron, the sulcus prominent, nearly upright. Legs slender, moderately long, tarsi slender.

Pronotum tricarinate, with backward projection of hind margin triangular and areolate; median carinae highly elevated, as high as hood, composed of one row of very wide, rectangular areolae; lateral carinae not as elevated as median carina, composed of one row of areolae about 1/2 as high as those in median carina; paranota fairly wide, long, convexly reflexed upward, mostly triseriate. Elytra much wider and much longer than abdomen, slowly arcuately expanded at base, without tumid areas; costal area very wide, with moderately large, clear areolae, 4 areolae deep in widest part; subcostal area narrow, nearly upright, biseriate; discoidal area reaching middle of elytron, acutely angulate at both base and apex, 5 areolae deep at middle; sutural area with large, clear areolae, on same horizontal level as discoidal area. Pronotal carinae with a few pale, fine hairs.

Holotype ♀, Eubenangee, New Guinea, Dec. 1945.

Easily separated from *M. hackeri* Drake from Australia by the highly elevated median carina, wider paranota, and quadriseriate costal area (widest part).

*Lepturga dignata* Drake, 1943, *Revista Chilena Hist. Nat.* 45: 176. Fig. 19.

DISTRIBUTION: Malaya (Penang I.).

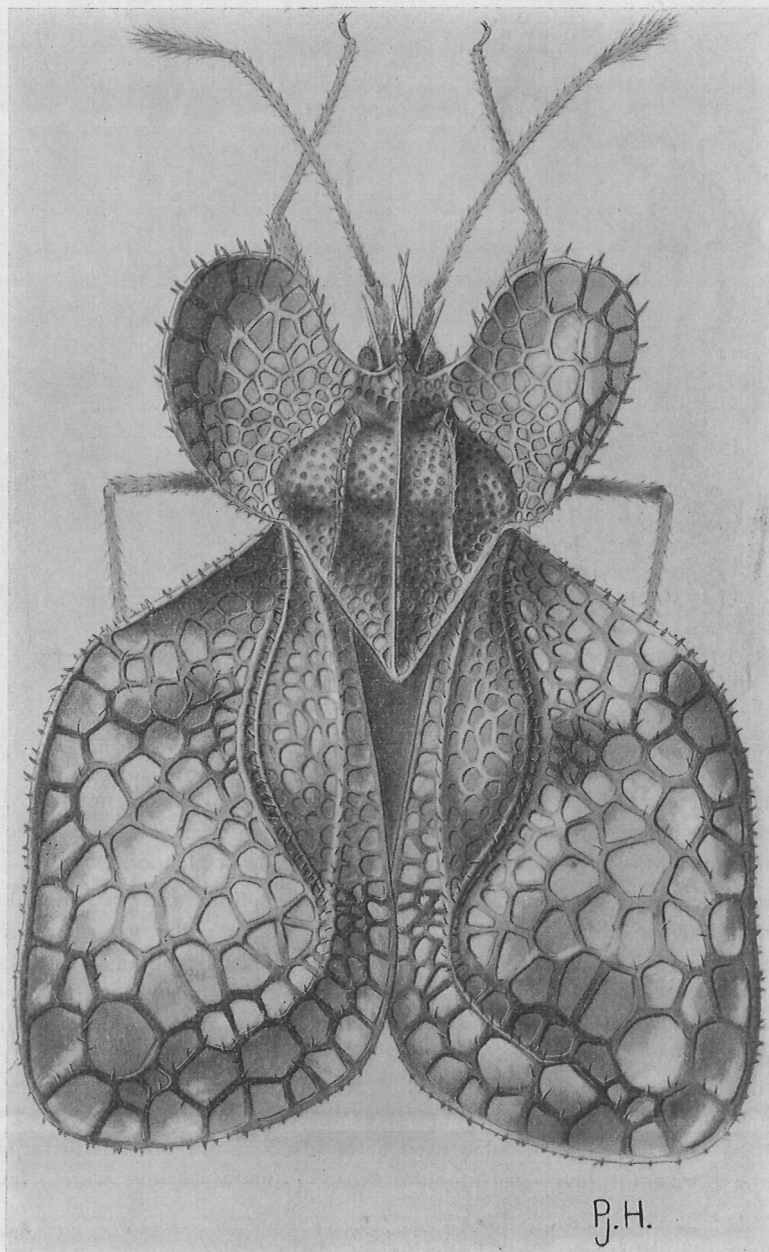


Fig. 19. *Lepturga dignata* Drake.

NEW GUINEA: Several specimens, simply labeled "Dutch New Guinea".  
*Furcilliger cheesmanae* Drake, 1954, Biol. Soc. Wash., Proc. 67: 10. Fig. 20.

DISTRIBUTION: Known only from the ♂ holotype (British Mus.), Kokoda, Papua, which is illustrated.

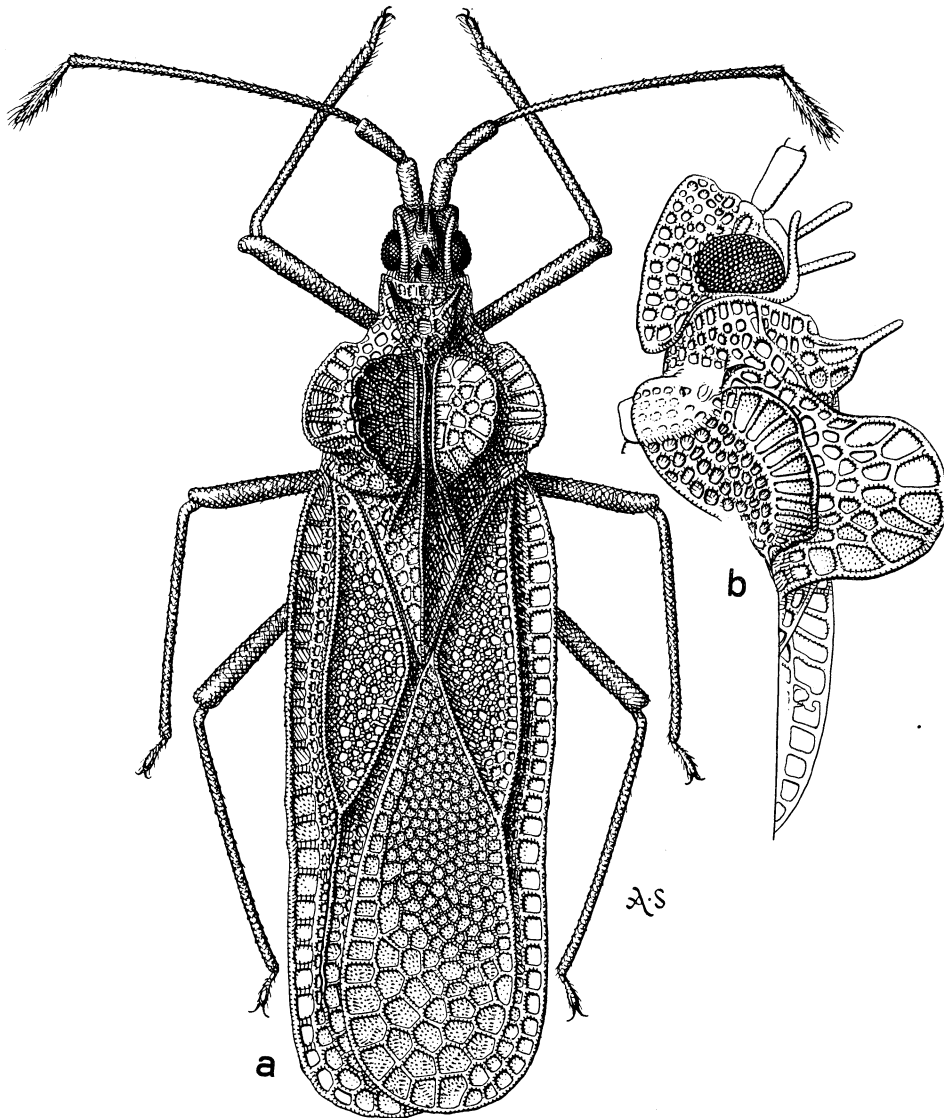


Fig. 20. *Furcilliger cheesmanae* Drake, dorsal (a) and lateral (b) aspects.

#### Genus *Placotingis* Drake, new genus

Moderately large, flat, with or without a small hood. Head very short, strongly declivent, feebly extended in front of eyes, armed with 5 spines; bucculae wide, areolate, closed in front; antenniferous tubercles short, bluntly rounded; eyes moderately large, transverse. Antennae long, slender, segment 1 as long or longer than transocular width, 2 short, 3 very long and slender, 4 moderately long. Labium extending onto mesosternum;

labial laminae uniseriate, with ends meeting behind. Ostiole and ostiolar canal of metapleuron not visible. Hypocostal lamina uniseriate.

Pronotum moderately convex, tricarinate; collum areolate, raised, with or without a small hood; calli impressed, impunctate; paranota wide opposite humeri, sharply narrowed behind calli, thence anteriorly very narrow; posterior projection of hind margin triangular, mostly punctate, not distinctly areolate. Elytra widely expanded, much longer than abdomen, apices separated in repose, indistinctly serrate on outer margin; costal area very wide; subcostal area very narrow, upright; discoidal area large, extending beyond middle of elytron; sutural area on same horizontal level as discoidal area. Hind wing longer than abdomen. Legs moderately long, slender.

Type species; *Placotingis merga* n. sp.

Rather closely related to *Uhlerites* Drake, but easily distinguishable from it by the tricarinate paranota, short paranota, and the minute, flake-like pubescence of the dorsal surface. The type species, *P. merga* is without a hood on the collum, but the second species described herein has a small, tectiform hood. In both species the collum is long.

**Placotingis merga** Drake, n. sp.      Fig. 21.

Moderately large, broad, flat, testaceous, with head blackish, pronotum brown, cephalic spines testaceous, venation of paranotum and elytron testaceous with areola hyaline and iridescent, labium testaceous with tip black, laminae of buccal and labial sulci whitish testaceous, body beneath blackish fuscous with yellowish pubescence. Legs testaceous with tarsi fuscous. Length 3.60 mm; width 2.05 (widest part of elytra).

Head with 5 long, slender spines; hind pair bifurcate, anterior 3 clustered together. Labium extending beyond middle of mesosternum. Antenna brownish, with segment 4 mostly black, segmental measurements: I, 0.45 mm; II, 0.12 mm; III, 1.58 mm; IV, 0.45 mm. Pronotum moderately convex across humeral angles; median carina long, with one row of small areolae, terminating anteriorly on collum; lateral carinae low, parallel, non-areolate, terminating anteriorly at calli; paranota subrectangular, 5 areolae long, mostly 2 areolae wide, 3 deep in front. Elytra together broadly ellipsoidal in outline; costal area very wide, 5 areolae deep in widest part; subcostal area narrow, nearly erect, biseriate along discoidal area, then uniseriate posteriorly; discoidal area large, acutely angulate at base and apex, 6 areolae deep in widest part (areolae difficult to count), areolae in apical part of sutural area large, subequal to those in costal area. Hind wing whitish, extending beyond tip of abdomen.

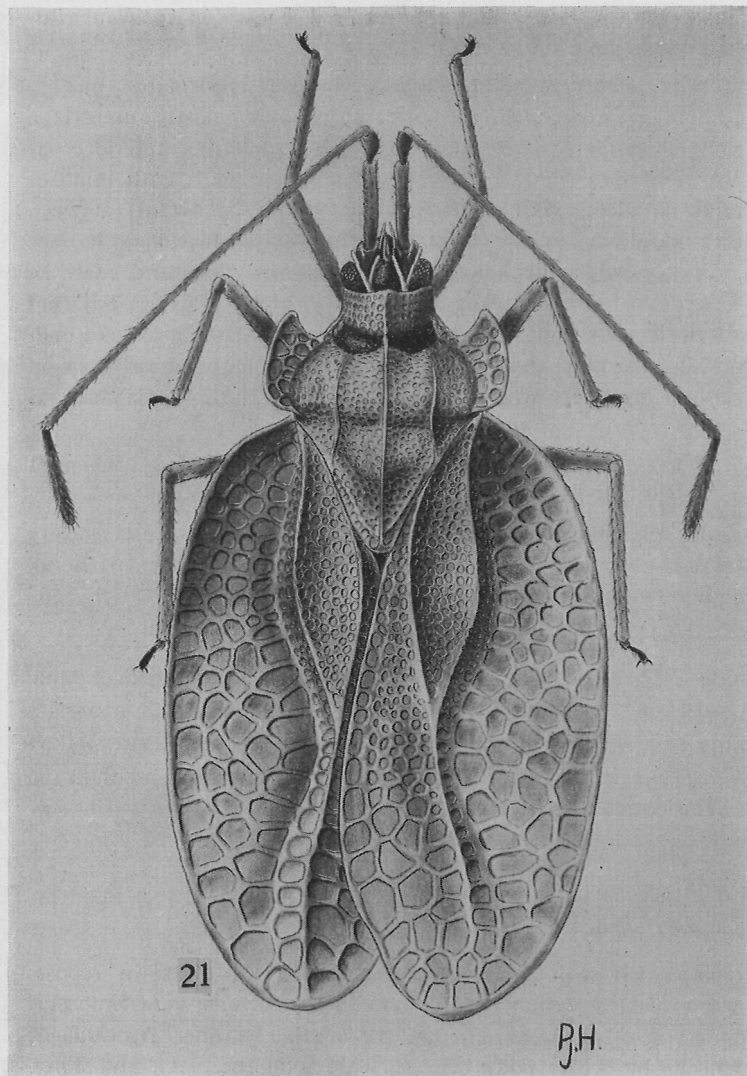
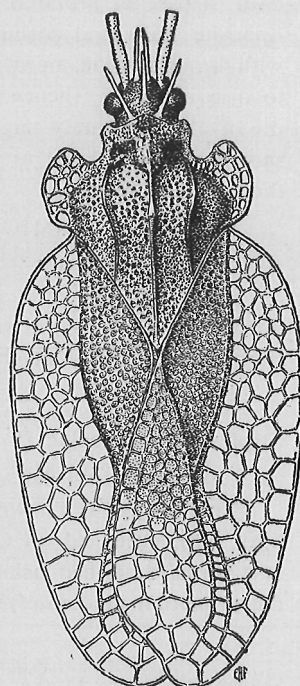
Holotype ♂ (BISHOP 2732), Mt. Wilhelm, 3,000 m, NE New Guinea, 2 July 1955, Gressitt.

The type is illustrated. *Merga* can be separated from the species described below by the forked hind pair of cephalic spines, collum without hood, and distinctly less elevated, pronotal carinae.

**Placotingis par** Drake, n. sp.      Fig. 22.

Broadly obovate, testaceous-brown, head reddish brown, bucculae with anterior part



Fig. 21. *Placotingis merga* n. sp.Fig. 22. *P. par* n. sp.

blackish, laminae of labial sulcus pale testaceous, abdomen beneath blackish fuscous, and legs testaceous. Length 3.25 mm; width 1.60.

Head convex above, smooth, short, armed with 5 very long, porrect, brownish spines; bucculae wide, areolate, closed in front; eyes moderately large, black. Labium testaceous extending onto metasternum; laminae of sulcus very narrow and parallel on prosternum, quite high, parallel and areolate on mesosternum, very low, cordate, without cells and

closed behind on metasternum. Ostiole and ostiolar sulcus on each metapleuron with upright channel. Hypocostal lamina long, uniseriate.

Pronotum moderately convex across humeral angles, punctate, tricarinate; median carina more elevated than lateral pair, extending anteriorly on hood, mostly uniseriate, with 2 or 3 extra cells in arch on pronotal disc; lateral carinae terminating anteriorly at calli, slightly concave within in front of middle of disc, the areolae small; calli impressed, impunctate; collum raised, areolate, with small hood extending backwards between calli to base of pronotal disc; paranota wide opposite pronotal disc, thence very narrow opposite calli and collum. Elytron wide, much longer than abdomen; costal area wide, with large areolae, mostly 4 areolae deep; subcostal area narrow, erect, biseriate adjacent to discoidal area, thence posteriorly uniseriate; discoidal area long, extending beyond middle of elytra, acutely angulate at both base and apex, with small areolae; sutural area on same horizontal level as discoidal area, the areolae in distal half as large and clear as those in costal area.

Holotype ♂ (BISHOP 2733), Wisselmeren, Enarotadi, New Guinea (Neth.) 1,900 m, 1 Aug. 1955, Gressitt.

The type is illustrated, only the first antennal segment is present. This species is very distinct from *P. merga* and easily differentiated from it by the presence of a small hood, shorter collum, and much higher pronotal carinae.

***Stephanitis colocasiae*** Horváth, 1912, Mus. Nat. Hung., Ann. 10: 320, 326.—Drake & Maa, 1953, Taiwan Mus., Quart. Jour. 6: 100.

This species is known only from the types, Friedrich-Wilhelmshafen, New Guinea, 22 May 1901, collected on *Colocasia esculentia*. It is a smaller and narrower species than the new forms described below. The costal area is triseriate in widest part; lateral carinae of the pronotum moderately long, 2× as long as in *S. ligyra*, n. sp.

***Stephanitis ligyra*** Drake, n. sp. Fig. 23.

Large, elytra divergent posteriorly with apices separated from each other in repose, testaceous with pronotal disc brownish, venation testaceous with 2 transverse veins in costal area and a few scattered veinlets in other areas fuscous, the areolae hyaline. Appendages testaceous with antennal segment 4 blackish; body beneath with abdomen black and shiny. Length 4.80 mm; width 1.35 (across apex of hind pronotal process).

Head very short, with spines reduced, concealed from above (except eyes) by the large hood. Antenna very slender, shortly pilose, segmental measurements: I, 0.32 mm; II, 0.12 mm; III, 1.75 mm; IV, 0.60 mm. Legs long, slender, indistinctly pubescent. Orifice of metathoracic scent glands with an upright sulcus on each metapleuron, apex of sulcus raised. Hypocostal laminae uniseriate.

Pronotum moderately convex, punctate with hind process areolate, tricarinate; median carina broken; lateral carinae foliaceous, not very long, parallel, terminating anteriorly behind base of hood and posteriorly not quite attaining hind margin of pronotal process; hood large, inflated, narrowed anteriorly, extending slightly beyond apices of antennal segment 1, posteriorly not quite extending to middle of disc, shorter than median carina;

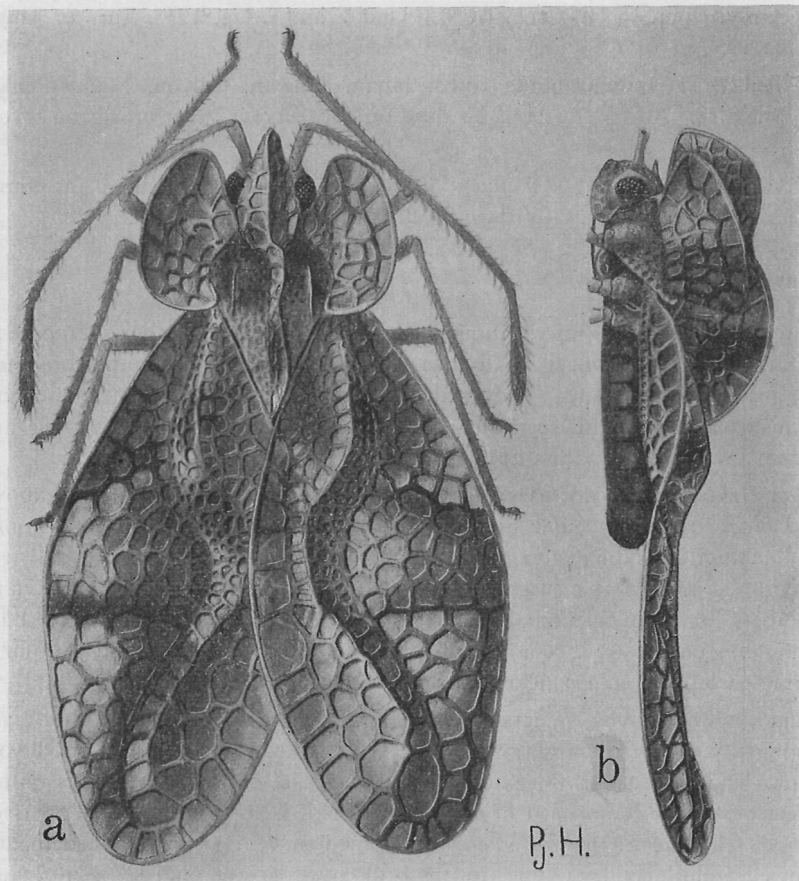


Fig. 23. *Stephanitis ligyra* n. sp., dorsal (a) and lateral (b) aspects.

paranota quite large, triseriate, areolae fairly large. Elytra obliquely widening from base to middle, much longer and wider than the abdomen, with fairly large areolae; costal area wide, 5 or 6 areolae deep in widest part; subcostal area 3 areolae deep in widest part along discoidal area; discoidal area not extending to middle of elytron, with boundary vein separating it from subcostal area raised; all areolae rather large and clear, venation without vestiture.

Holotype ♀ (BISHOP 2734), Okaitadi, 1,800 m, Wisselmeren, 7. Aug. 1955, New Guinea (Netherlands), Gressitt.

The lateral carinae and shape of the elytra distinguish the species from its congeners in New Guinea, and nearby islands.

#### *Stephanitis typica* (Distant)

*Cadamustus typicus* Distant, 1903, Fauna India, Rhynchota, 2: 132, fig. 95.

*Stephanitis typica* Horváth, 1912, Mus. Nat. Hung., Ann. 10: 320, 325.—Takeya, 1951, Ku-

rume Univ. Jour. (Nat. Sci.), 4: 8.—Drake and Maa, 1953, Taiwan Mus., Quart. Jour. 6: 10.

**DISTRIBUTION:** India, China, Korea, Japan, Taiwan, Ceylon, Malay Peni., Philippines, Java, Sumatra. Attacks banana, feeding on the leaves. Also breeds on several other plants.

**NEW GUINEA:** Rossel I. (Papua), 50 m, 28 Sept. 1950. Taken in numbers, all stages, on banana leaves, Karaita Village, Gulf District (Papua), 1959.

**Stephanitis agaica** Drake, n. sp.

Large, elytra wide, divergent with apices separated from each other in repose; testaceous with some veinlets brownish or fuscous; areolae hyaline; pronotum brownish, with hind process testaceous, areolate; body beneath blackish fuscous, shiny. Antenna testaceous or brownish testaceous with segment 4 dark. Legs testaceous with tips of tarsi dark. Length 4.55 mm; width 2.25 (across apex of pronotal process).

Head very short, with dorsal spines directed forward, concealed from above (save eyes) by the large hood; bucculae areolate, with ends meeting or almost in contact with each other; labium extending onto mesosternum. Antenna long, slender, rather densely and shortly pilose, segmental measurements: I, 0.40 mm; II, 0.12 mm; III, 1.75 mm; IV, 0.90 mm. Labial laminae of sternal sulcus whitish testaceous, uniseriate, closed behind. Hypocostal lamina uniseriate. Metathoracic scent glands with ostiole and ostiolar channel on each metapleuron, the sulcus nearly upright with sides elevated.

Pronotum slightly convex, punctate, tricarinate; lateral carinae very short, very little elevated, convexly divergent posteriorly, with space between apices and hood not longer than a carina, length of a carina scarcely as long as one of the larger cells of paranota; median carina very high, composed of 2 rows of broad cells, subequal in both length and height to hood, with dorsal margin as convex as median vein of hood; hood inflated, pyriform, narrowed anteriorly, reaching forward to apex of antennal segment 2, extending posteriorly to middle of disc; paranota wide, long, slightly reflexed, 4 areolae deep. Elytra much wider and much longer than abdomen, arcuately widened from the base, with outer margin finely serrate; costal area wide, 5 to 7 areolae deep in widest part; subcostal and discoidal areas with boundary vein between them raised so as to form a small tumid elevation, the subcostal area there also convexly raised and bi- or triseriate; discoidal area not reaching middle of elytra, narrow at base, broadly concave within at apex, with surface slightly concave and sloping inwards, 3 or 4 areolae deep in posterior part. Hind wing whitish, longer than abdomen.

Holotype ♂ (BISHOP 2735), and allotype ♀, Wisselmeren, Enarotadi, 1,900 m, New Guinea (Neth.), 1 Aug. 1955, Gressitt. Paratypes: 2 specimens same data as type; 1 specimen same locality as type, 20 Aug. 1955, and 1 specimen, Mt. Wilhelm, 2 July 1959, 3,000 m, New Guinea (NE), all Gressitt.

The very short lateral carina of pronotum separates this species at once from the other new species described herein.

**Nesocypselas piperica** Drake, 1957, Ent. Soc. Lond., Proc. (B) 26: 203–205, 2 figs. Fig. 24.

**DISTRIBUTION:** New Britain (Keravat, Gazelle Peninsula), a pest of black pepper,

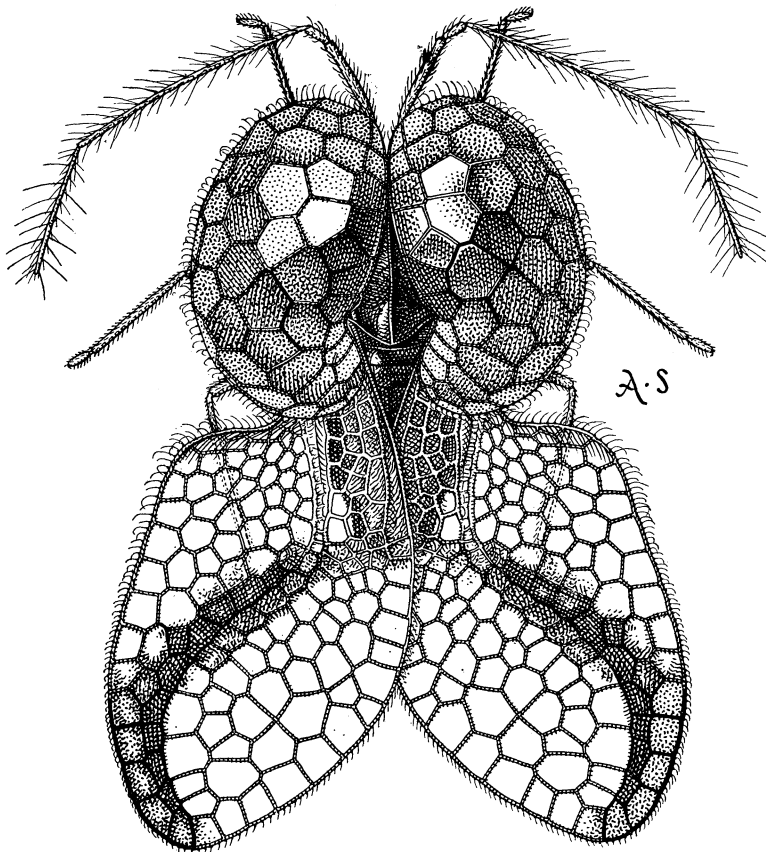


Fig. 24. *Nesocypsela piperica* Drake

feeding on the inferior side of the leaves.

NEW GUINEA: (Papua) Near Port Moresby.

*Nesocypsela bellatula* Drake, n. sp. Fig. 25.

Large, broad, dorsal surface of head, pronotum, and abdomen concealed by the large paranota and elytra, only median carina of pronotum exposed. Head black-fuscous; pronotum dark fuscous with collar, median carina, and apical part of posterior process testaceous, shiny; abdomen black, shiny, beneath moderately clothed with short, curled, pale pubescence. Appendages testaceous, slightly tinged with brown. Length 4.00 mm; width (pronotum) 1.90 and elytra (widest part) 3.10.

Head very short, strongly declivent, without spines, concealed by paranota (prolonged anteriorly); bucculae areolate, testaceous-brown, ends not meeting in front. Antenna long, very slender, inconspicuously pubescent, segmental measurements: I, 0.42 mm; II, 0.12 mm; III, 1.20 mm; IV, 0.70 mm. Labium brown, apical segment blackish, extending onto metasternum; rostral laminae absent on pro- and metasterna, low, testaceous, with sides widely

separated, and divergent posteriorly, truncatedly closed behind. Legs long, slender, inconspicuously pubescent. Orifice and ostiolar canal of metathoracic scent glands present on each metapleuron, sulcus directed nearly upright, with its sides distinctly elevated. Hypocostal lamina uniseriate, becoming obsolete posteriorly beyond middle of elytra.

Pronotum slightly convex, unicarinate, posterior projection abbreviated, rounded at apex; median carina very distinct; paranota extremely long, ellipsoidal in outline, reflexed, strongly inflated, impressed on inner side in front of middle, more than  $2\times$  as long as high (65:28), about as wide as high. Elytra very broad, strongly divergent posteriorly, with apices widely separated; costal area very wide, subcostal area uniseriate, discoidal and sutural areas not differentiated from each other. Markings of veinlets as shown in the illustration; areolae largely transparent, some cells tinted with fuscous. Veinlets and outer margins of elytra without hairs.

Holotype ♀ (BISHOP 2736), Wisselmeren, Duroto, E of Enarotadi, 1,800 m, New Guinea (Neth.), 21 Aug. 1955, Gressitt. Paratype ♀, same data as type.

This singular species differs from *N. piperica* by the lack of hairs on the paranota and lateral margins of elytra, nearly nude antennae, rounded apex of posterior process of pronotum and shape of the inflated paranota. The paranota are semiglobose and appendages are longly hairy in *piperica*.

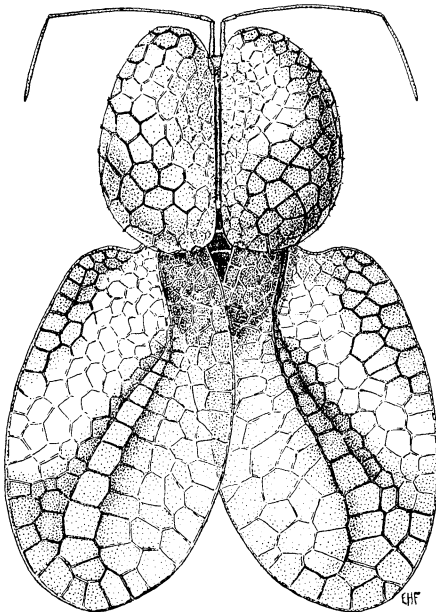


Fig. 25. *Nesocypselas bellatula* n. sp.

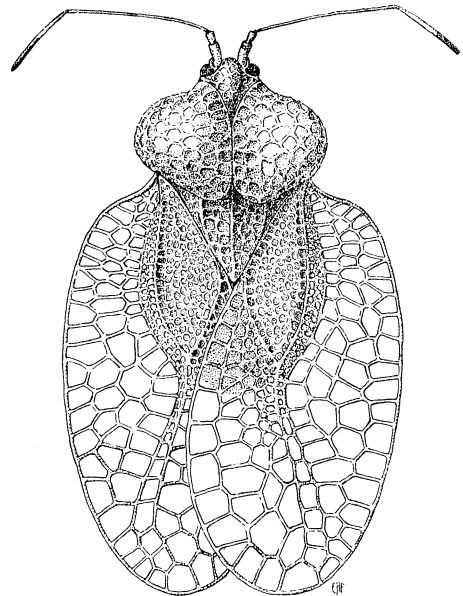


Fig. 26. *Gyalotingis gressitti* n. gen., n. sp.

#### Genus *Gyalotingis* Drake, new genus

Broad, distinctly lacy in appearance. Head short; strongly declivent, feebly produced

in front of eyes, armed with appressed or porrect spines. Antenna moderately long, slender; segments 1-2 very short, 3 long and slender, 4 about 1/3 as long as 3. Labium extending onto the mesosternum; laminae of bucculae sulcus areolate, with ends meeting in front; labial laminae of sternal sulcus areolate, open behind. Hypocostal laminae uniseriate. Metathoracic scent glands with ostiole and ostiolar sulcus on each metapleuron. Legs moderately long, slender.

Pronotum tricarinate, punctate, with posterior process triangular and areolate; hood moderately large, inflated, projected anteriorly over basal part of head; paranota large, reflexed, thimble-shaped, with rounded base covering each side of pronotum (fig. 26); lateral carinae visible behind reflexed paranota, median carina also concealed by paranota on middle of disc. Elytra much wider and much longer than abdomen, broadly ellipsoidal in outline, divided into the usual areas; costal area very wide: subcostal area narrow, nearly upright; discoidal area large, reaching to middle of elytra, on same horizontal level as sutural area.

Type species: *Gyalotingis gressitti* n. sp.

This genus can be separated from *Nesocypselas* Kirkaldy by the thimble-shaped paranota and longer discoidal areas.

***Gyalotingis gressitti* Drake, n. sp.      Fig. 26.**

Large, broadly ovate, testaceous, with areolae moderately large and clear; body beneath dark fuscous to deep black; buccal and labial laminae of rostral sulcus areolate, testaceous, the bucculae closed in front. Antenna and legs brownish testaceous with tips of tarsi and distal 1/2 of antennal segment 4 blackish. Labium brownish with apex black. Length 4.00 mm; width 2.50 (widest part of elytra).

Head above with median and basal parts covered by pronotal hood; frontal spines short, subappressed, testaceous; eyes small, transverse, blackish; bucculae triseriate, ends meeting in front; labium extending to middle of mesosternum. Antenna moderately long, indistinctly pubescent, segmental measurements: I, 0.20 mm; II, 0.12 mm; III, 1.22 mm; IV, 0.60 mm. Scent gland sulcus on each metapleuron with sides raised, nearly upright. Legs indistinctly pubescent. Pronotum moderately convex, with discal part concealed by the reflexed, thimble-shaped paranota; hood moderately large, inflated, extending anteriorly to base of antenna, not entirely concealing eyes, the width, length, and height subequal to one another; lateral carinae concave within, covered by paranota on pronotal disc; median carina long, non-areolate (also lateral pair), covered on median part of disc by paranota; paranota very large, reflexed, thimble-like in shape (fig. 26).

Elytron very wide, much longer than abdomen, distinctly ellipsoidal in outline, 2.80 mm long and 2.40 mm wide; costal area very wide, 4 areolae deep in widest part; subcostal area narrow, nearly erect, biseriate; discoidal area scarcely extending beyond middle of elytron, narrow at both ends, widest opposite apex of hind pronotal process, there 6 areolae deep. Hind wing clouded with dark fuscous.

Holotype ♀ (BISHOP 2737), Wisselmeren, Enarotadi, New Guinea (Neth.) 1,900 m, 6 Aug. 1955, Gressitt. Paratype: 1 ♀ Wisselmeren, Okaitadi, (Neth.) New Guinea, 1,000 m, 7 Aug. 1955, J. L. Gressitt, in whose honor the species is named. The holotype is illustrated.

*Xenotingis malkini* Drake, 1948, Biol. Soc. Wash., Proc. 61 : 149.

DISTRIBUTION: New Guinea (Hollandia, ♂ holotype), only record.

NEW GUINEA: (Netherlands) Hollandia, 100 m, 24 Aug. 1954, Gressitt.

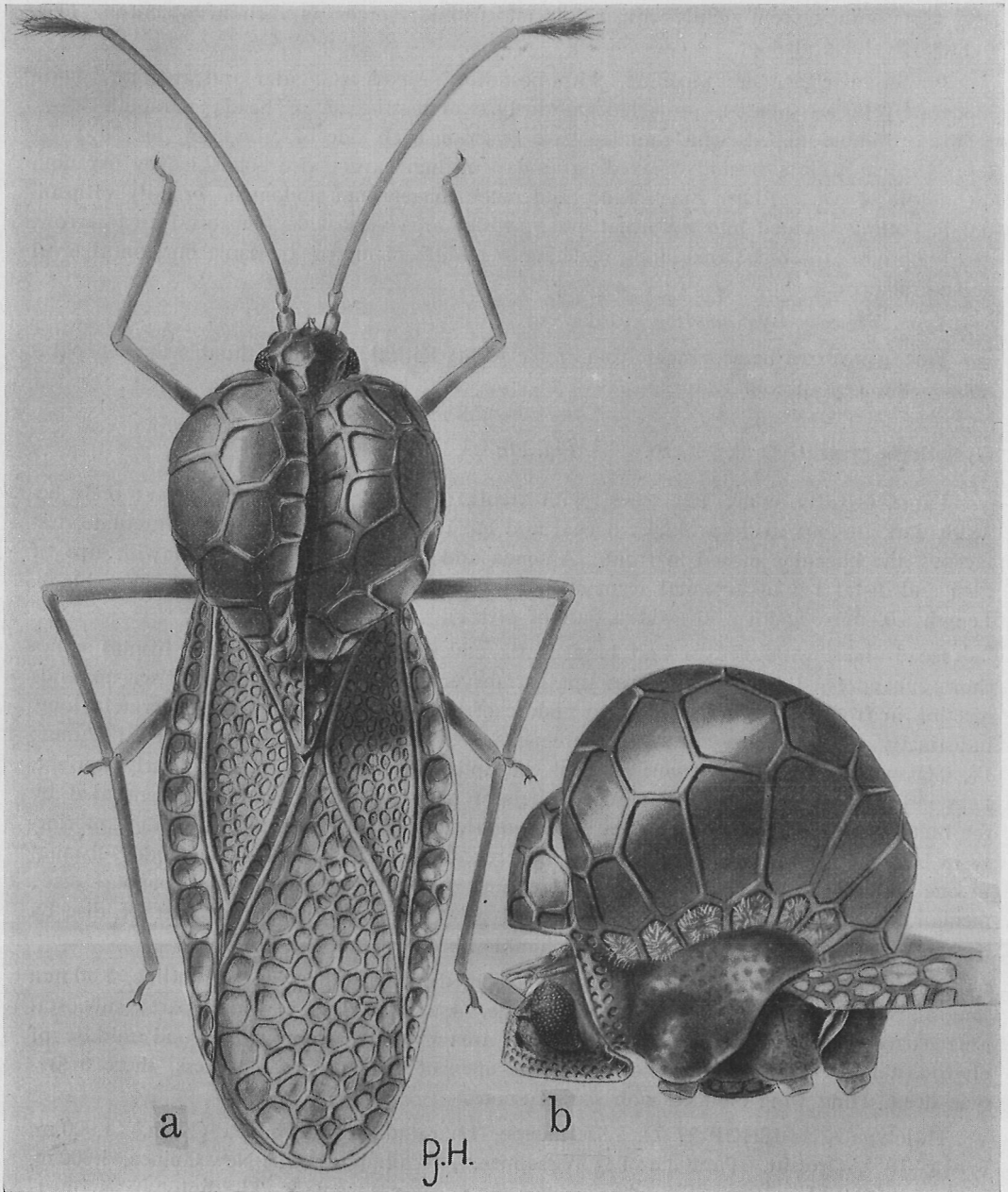


Fig. 27. *Xenotingis papuana* Drake, dorsal (a) and lateral (b) aspects.



*Xenotingis papuana* Drake, 1954, Great Basin Nat. 14: 8. Fig. 27.

DISTRIBUTION: Papua (Kokoda), 400 m. Only record, ♂ holotype.

NEW GUINEA: (NE) Tsenga, 1,200 m, Upper Jimmi Valley, 15 July 1955, light trap, Gressitt. This specimen, ♀ allotype (BISHOP 2965), is figured.

*Diplocysta papuana* Drake, n. sp.

Oblong, brown, with head and pronotum black, paranota blackish brown, hood black-fuscous, subapical band of elytron broad, dark fuscous, and body beneath blackish. Labium brown, with tip blackish; laminae of buccal and rostral sulci dark brown to dark fuscous. Antenna and legs brownish, with tips of tarsi and last antennal segment blackish. Areolae of darkened areas clouded with same color as veinlets. Metathoracic wings densely clouded with fumose. Pubescence of appendages very sparse, short, concolorous with segments. Length 4.00 mm; width (elytra) 1.70.

Head very short, median part between eyes covered with hood, strongly declivent, armed with 5 short, porrect, testaceous spines; bucculae broad, areolate, the ends meeting anteriorly. Labium extending to base of mesosternum; laminae uniseriate, parallel on mesosternum, obliquely converging posteriorly, nearly meeting behind. Antenniferous tubercles very short, broadly rounded in front, concave on inner margin. Antenna moderately long, rather slender, segmental measurements: I, 0.12 mm; II, 0.10 mm; III, 1.00 mm; IV, 0.42 mm. Hypocostal laminae narrow, uniseriate. Ostiole of scent glands present on each metapleuron, with sides of upright canal prominently raised.

Pronotum distinctly convex, punctate, areolate on hind process, tricarinate; hood very large, inflated, extending anteriorly as far as apex of head and backwards almost to posterior process, longer at base than greatest height (1.08 mm, 0.88 mm), width and height subequal (70:72) to each other; median carina raised anteriorly, areolate in front, terminating at base of hood; lateral carina also elevated anteriorly, areolate on pronotal disc, divergent anteriorly in front of hind process, termination a little before reaching middle of pronotal disc; paranota long, triseriate, rows 1-2 of areolae reflexed upright, the outer or row 3 of areolae as wide as 1-2 together, rectangular, reflexed downward so that the outer margin rests on pronotal surface.

Elytra parallel-sided, wider than abdomen but not wider than pronotum across humeral angles, longer than abdomen, without tumid elevations; costal area moderately wide, mostly biseriate, triseriate in widest part of middle, with areolae moderately large and clear; subcostal area nearly erect, mostly biseriate, uniseriate in basal and apical parts; discoidal area extending slightly beyond middle of elytra, acutely angulate at both base and apex, with outer boundary vein slightly arcuate, widest at middle, there 5 areolae deep, the areolae as large as or slightly larger than those on costal area; sutural area on same horizontal level as discoidal area, the areolae mostly larger than those in discoidal area. Hind wing extending beyond apex of abdomen.

Holotype ♂ (BISHOP 2966), Bisianumu, E of Port Moresby, 500 m, New Guinea (Papua) 6 June 1955, Gressitt.

Differ from *D. globulifera* Hacker from Magnetic Island (near Australia) in having the hood extending farther forward over head, shorter lateral carinae, wider paranota, and wider costal areas.

**Diplocysta rustica** Drake, n. sp.

Head very short, black, armed with 5 spines, the anterior 3 spines porrect, hind pair appressed; bucculae testaceous, closed in front, areolate. Labium brownish, extending to base of mesosternum; rostral laminae or thoracic sterna areolate, brownish testaceous, nearly closed at base. Antenna rather slender, indistinctly pubescent, pale testaceous, segment 4 blackish, segmental measurements: I, 0.12 mm; II, 0.10 mm; III, 0.92 mm; IV, 0.31 mm. Metathoracic scent glands with ostiole and ostiolar canal on each metapleuron, the sulcus upright, pale testaceous. Legs testaceous, indistinctly pubescent. Length 3.00 mm; width (elytra) 1.25.

Pronotum moderately convex, rather rugulose punctate, black, apex of posterior process, paranota, and hood brownish testaceous; median carina more elevated than lateral pair, slightly arched behind middle of disc; lateral carinae uniseriate, with smaller areolae, terminating anterior on pronotal disc opposite end of median carina, the inner side of each forming a convex line; hood moderately large, subglobose or pyriform (lateral aspect), slightly extended forward in front of collar, posteriorly extending backwards to middle of pronotal disc, more elevated behind, basal length greater than highest point (42:32), greatest height and widest part subequal (32:31); paranota moderately wide, extending backwards a little behind humeri, reflexed with rows 1-2 of areolae projecting obliquely upwards and outer row of very wide cells turned downward so that the outer margin nearly touches the pronotal surface, thus forming a long cavity at crest (longitudinal line between inner 2 and outer row of areolae).

Elytra much longer than abdomen, nearly parallel-sided, infusate apically; costal area moderately wide, composed of 2 rows of clear areolae that are variable in size and not regularly arranged; subcostal area nearly vertical, biseriate; discoidal area large, acutely angulate at both ends, widest near middle, there 6 or 7 areolae deep; sutural area with larger areolae than in discoidal area, with median and apical parts infusate. Hind pair of wings clouded with fuscous.

Holotype ♂ Eubenangee, New Guinea, Dec. 1946, L. J. Bennett (Drake Coll., USNM).

The smaller size, much smaller and differently shaped hood, and the color of pronotum with its lacy projections distinguish this insect at once from *papuana*.