

# BLATTIDAE

BY

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EXOTIC

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The collection of *Blattidae*, made by His Royal Highness Prince Leopold of Belgium during a tour in the East in the early part of last year (1929), contains 27 species, of which a considerable proportion, viz. 7 species, are here described as new. Three of these represent new genera, viz. *Parasigmoidella*, *Pseudoplatia* and *Macrocerca*, but it has also been necessary to erect two other new genera from the study of this and other material, viz. *Liosilphoidea* and *Stictolampra*.

In the sub-family of the *Pseudomopinae* I have now for the first time adopted the genera *Symploce* Hebard and *Symplocodes* Hebard, as used by that author especially in his « Studies in Malayan Blattidae » (*Proc. Acad. Nat. Sc.*, Philadelphia, vol. LXXXI, pp. 1-109 [1929]).

Oxford, Sept. 10th 1930.

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## LIST OF SPECIES

**Ectobiinae.**

- Hemithyrsocera palhata* Fabr. .... Sumatra.  
*Mareta longe-alata*, nov. sp. .... Sumatra; New Guinea.

**Pseudomopinae.**

- Blattella germanica* L. .... Bali.  
*Symploce cavernicola* Shelford .... Sumatra.  
*Symploce radicefera* Hanitsch .... Bali; Sumatra.  
*Symplocodes ridleyi* Shelford .... Bali.  
*Pseudophyllodromia laticeps* Walker .... Sumatra.  
*Parasigmoidella marginalis*, nov. gen. and spec. .... New Guinea.  
*Liosilphoidea lata* Hanitsch .... Sumatra; New Guinea.

**Epilamprinae.**

- Morphna pustulata* Hanitsch .... Sumatra.  
*Rhabdoblatta procera* Brunner .... Celebes.  
*Pseudophoraspis nebulosa* Burmeister .... Java.  
*Stictolampra trilineata*, nov. gen. and spec. ... New Guinea.  
*Stictolampra brevipennis*, nov. gen. and spec. .... New Guinea.  
*Pseudoplatia atra*, nov. gen. and spec. .... Aru.  
*Rhichnoda rugosa* Brunner .... Sumatra

**Blattinae.**

- Platyzosteria soror* Brunner .... Celebes.  
*Cutilia nitida* Brunner .... New Guinea; Aru; Sumatra.  
*Dorylaea flavicincta* de Haan .... Celebes.  
*Blatta concinna* de Haan .... Sumatra.  
*Periplaneta australasiae* Fabr. .... Sumatra; Aru.  
*Periplaneta brunnea* Burmeister. .... Java.  
*Macrocerca leopoldi*, nov. gen. and spec. .... New Guinea.

**Panchlorinae.**

- Pycnoscelus surinamensis* L. .... Sumatra.

**Perisphaerinae.**

- Paranauphoeta rufipes* Brunner .... New Guinea.

**Panesthinae.**

- Panesthia plagiata* Walker .... Ceylon.  
*Panesthia hamifera*, nov. spec. .... New Guinea; Sumatra.



## ECTOBIINAE.

*Hemithyrsocera palliata* FABR.

1 ♀, Aer Poeti, Sumatra, 23.IV.1929.

Ranging from Ceylon, India, China, Indo-China, Lower Siam and the Malay Peninsula to Sumatra and Borneo, but not yet recorded from Java.

*Mareta longe-alata* nov. spec.

1 ♂, Angi Gita (Arfak), New Guinea, 10.III.1929 at about 2,000 m. above sea level.

1 example (sex ? abdomen mutilated), Bireun, Sumatra, 2.V.1929.

♂. The deeply divided sub-genital lamina, the armature of the front femora with piliform spines only, its greyish-testaceous colour combined with its long tegmina and wings, sufficiently characterize this insect both generically and specifically.

Head exposed, indistinctly mottled darker and lighter fusco-testaceous; eyes apart the distance between the antennal sockets; antennae testaceous. Pronotum broad, widest behind the middle; anterior and posterior margins straight, sides curved, disk dull testaceous, with confused darker blotches; lateral margins very broad, hyaline. Tegmina much exceeding the abdomen, semi-hyaline testaceous, a short dark-brown humeral stripe; 15 costals, of which the 10th is 4-ramose, the 11th to 14th forked; radial forked from  $\frac{2}{3}$  of its base; 10 slightly oblique discoidal sectors; veins of distal parts with minute nodes, each bearing a diminutive bristle <sup>(1)</sup>. Wings large, hyaline; mediastinal vein 3-ramose, ends thickened; 10 costals, of which the 6th and 7th are multi-ramose, the 10th forked, the others simple; radial vein simple; median vein at  $\frac{2}{3}$  of its course giving off an incomplete branch towards the radial, its main trunk terminally forked; ulnar with 6 branches, of which the last is incomplete; apical triangle inconspicuous. Body above testaceous, lateral margins blackish; supra-anal lamina triangular; cerci testaceous. Body below dull testaceous, with marginal blackish blotches; sub-genital lamina deeply divided, each half with a short style. Legs testaceous; anterior femora armed with piliform spines only.

♂. Total length : 19 mm.; body, 11 mm.; pronotum, 3 × 4 mm.; tegmina, 15 mm.; wings, 14 mm.

I have before me a long series of this species, taken by Karny and Siebers

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<sup>(1)</sup> As in *Margattea setifera* HANITSCH, from Sumatra; *Arkiv för Zoologi*, Vol. XXIA, No. 2, p. 14 (1929).

at Wai Lima, S. Sumatra (Nov.-Dec. 1921), showing an interesting variation in the colouring of tegmina and wings. In some specimens the tegmina present a distinctly tessellate orange pattern, and the ends of the more distal costal veins a black infiltration, whilst the wings may be fuscous, instead of colourless. Important is that of the specimens from Wai Lima which I have examined, none show a branched median vein of the wing, and the rami of the ulnar vein are

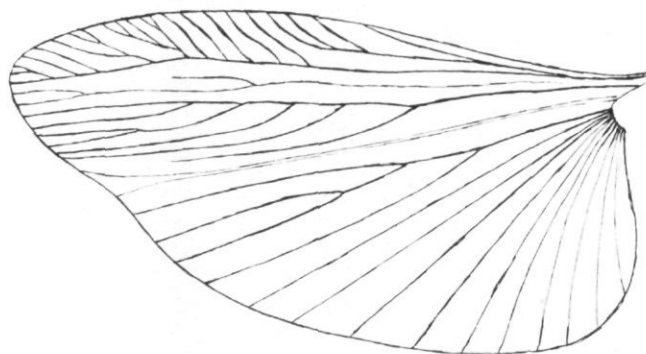


FIG. 1. — *Mareta longe-alata*, nov. sp. left wing.

all complete. The condition of the median and ulnar veins in the wings of the type can therefore not be regarded as of specific value. However, in *Mareta arborescens* mihi, which I recently described from Java, the median vein of the wing is also 3-ramose, and two of the six rami of the ulnar vein are incomplete. (*Stettiner Entom. Zeit.*, vol. XCI [1930], p. 183, fig. 2 and 3.)

#### PSEUDOMOPINAE.

##### *Blattella germanica* L.

1 example (sex ? abdomen missing), Singaradja, Bali, 23.I.1929.  
Cosmopolitan.

##### *Symploce cavernicola* SHELFORD.

*Ischnoptera cavernicola*. SHELFORD. A. M. N. H. [7], Vol. XIX [1907], p. 27. —  
HANITSCH, J., Malay Br., R. A. S., Vol. I [1923], p. 398.)

*Phyllodromia nigrocincta*. CHOPARD. (Mem. Asiat. Soc. Bengal, Vol. VI [1919], p. 343,  
fig. 1; pl. XII, fig. 1-3.)

*Symploce cavernicola*. HEBARD. (Proc. Acad. Nat. Sci., Philadelphia, Vol. LXXXI [1929],  
p. 66.)

1 ♀, Haran Kloof, Sumatra, 24.IV.1929.

First recorded by Shelford from a cave at Bidi, Sarawak, then by Chopard

from Goah Glap, Bukit Tapang, Biserat, Jalor, Peninsular Siam, by myself from a cave at Jibong, Sarawak, and by Hebard from Baso cavern, W. Sumatra, and Simalur Island, Sumatra. Finally there is in the Oxford University Museum a series from Mt. Start cave, Sarawak, taken by E. Banks, 20-XII-1928.

**Symploce radificera** HANITSCH.

*Neoblattella radificera*. HANITSCH. (Bulletin, Raffles Museum, No. 1 [1928], p. 20; Arkiv för Zoologi, Vol. XXI<sup>A</sup>, No. 2 [1929], p. 12; Tijdschr. voor Entom., Vol. LXXII [1929], p. 274.)

*Symploce radificera*. HEBARD. (Proc. Acad. Nat. Sci., Philadelphia, Vol. LXXXI [1929], p. 61, pl. IV, fig. 4.)

1 ♂, Singaradja, Bali, 23.I.1929; 1 ♀, Koeta Nopan, Sumatra, 25.IV.1929.

Previously known from Sumatra, the Malay Peninsula and Borneo. This is therefore the first record from Bali.

**Symplocodes ridleyi** SHELFORD.

*Hemithyrsocera ridleyi*. SHELFORD. (T. E. S., London, 1912, p. 660, pl. LXXX, fig. 15. — HANITSCH, Arkiv. för Zool., Vol. XXI<sup>A</sup> [1929], p. 4.)

*Symplocodes ridleyi*. HEBARD. (Proc. Acad. Nat. Sci., Philadelphia, Vol. LXXXI [1929], p. 75.)

1 ♂, Singaradja, Bali, 23.I.1929.

Hitherto known from Singapore, the Malay Peninsula and Sumatra only.

**Pseudophyllodromia laticeps** WALKER.

*Blatta laticeps*. WALKER. (Cat. Blatt., B. M., Supplement, p. 142 [1869].)

*Pseudophyllodromia laticeps*. SHELFORD. (Gen. Ins., fasc. 73, p. 16, pl. I, fig. 8 [1908]. — HANITSCH, J. Malay Br., R. As. Soc., Vol. I [1923], p. 417; Bull., Raffles Museum, No. 1 [1928], p. 29. — HEBARD, Proc. Acad. Nat. Sci., Philadelphia, Vol. LXXXI [1929], p. 77.)

1 ♂, Panti, Sumatra, 26.IV.1929.

First recorded by Walker from Singapore and Borneo, and then by myself from several places on the Malay Peninsula, from Sumatra and the Mentawi Islands. Hebard gives additional localities on the Peninsula, Sumatra and Borneo.

**Parasigmoidella** nov. gen.

This genus is erected for forms which differ from *Sigmoidella* Hebard (*Proc. Acad. Nat. Sci.*, Philadelphia, vol. LXXXI [1929], p. 39) by :

1. The radial vein of the tegmina being distally forked;
2. The median and ulnar veins of the wings being only weakly curved;
3. The anterior femora bearing distally only two heavy spines.

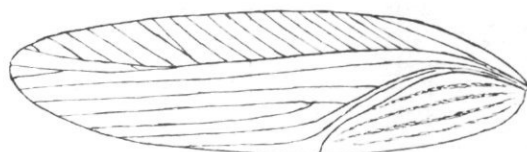
It is so far represented by a single species only.

**Parasigmoidella marginalis** nov. spec.

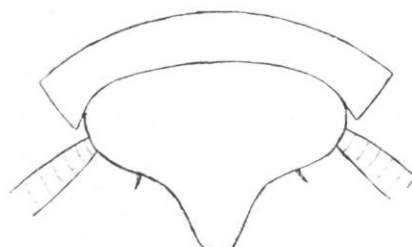
1 ♂, New Guinea (no further particulars).

1 ♀, Siwi, New Guinea, 8.III.1929.

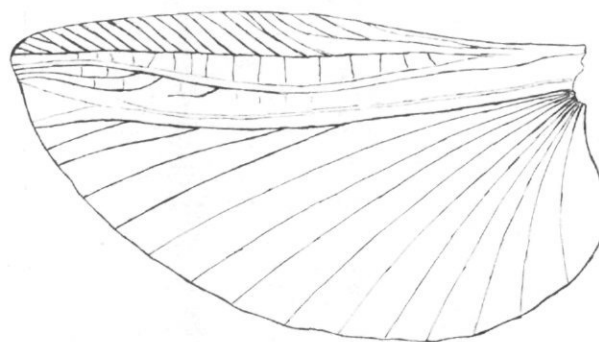
♂. Head free, shining black; eyes apart  $\frac{3}{4}$  the distance between the antennal sockets; antennae (mutilated) fuscous. Pronotum broad, widest



2  
Left tegmen.



4  
End of abdomen, from below.



Left wing.

3

*Parasigmoidella marginalis*, nov. sp. ♂.

behind the middle, anterior and posterior margins nearly straight, sides slightly curved; disk fusco-castaneous; anterior and lateral margins broad, yellowish

hyaline. Tegmina exceeding the abdomen by  $1/3$  of their length, dark amber, mediastinal area whitish hyaline; radial vein bifurcate at  $3/4$  from the base, 21 costals, posterior branch of radial distally forked; 6 longitudinal discoidal sectors; anal area long, narrow, anal sulcus sharply defined; 4 anal veins, broad, diffused. Wings dark fuscous; mediastinal vein 3-ramose; radial vein simple, 16 costals, black, thickened, but not clubbed; median vein weakly sigmoid, simple; ulnar vein weakly sigmoid, with 2 complete branches and one incomplete; cross-venules strongly marked; apical triangle well-developed. Abdomen above and below dark fuscous to black; cerci dark fuscous; sub-genital lamina (♂) transversely oval, posteriorly triangularly produced; styles small, situated near the middle of each side. Legs light fuscous; anterior femora with 3 heavy spines near the centre, followed by a row of piliform spines (type B); distally 2 heavy spines.

♂. Total length : 11,5 mm

♀. Similar to the ♂. Sub-genital lamina large, shining black.

#### **Liosilphoidea** nov. gen.

Stal, in *Bih. Svensk. Akad.*, vol. II (13), p. 10 (1874) erected the genus *Liosilpha* to include certain species in which the supra-anal lamina both of the ♂ and the ♀ is emarginate at the apex, and in which the anterior femora are armed after type A, with *Blatta pumicata* Stal (*Eugenie's Resa*, Orthoptera, p. 309 [1858]), from Rio Janeiro, Brazil, as genotype.

Shelford, in « Genera Insectorum », *Phyllodromiinae*, p. 16 (1908) defines *Liosilpha* as « Broad, convex insects. Tegmina short, scarcely exceeding apex of abdomen, their venation often obsolete in the anal and discoidal fields, marginal field broad. Wings with a minute apical triangle or none, ulnar vein multiramose. Femora strongly armed. Sub-genital lamina of male with large, asymmetrical and strongly chitinised styles ». Besides *Blatta pumicata* Stal, he places under this genus :

*Blatta curta* WALKER, from the Congo;

*Blatta anomala* SAUSSURE, from Gaboon;

*Pseudectobia alluaudi* SHELF., from Madagascar, and

*Phyllodromia* (?) *japonica* SHELF., from Japan.

Later, in *Entom. Mo. Mag.* (2), vol. XXII (1911), p. 156, Shelford says : « *Liosilpha pumicata* Stal, the type of *Liosilpha*, is a very broad, short and rather convex species, with the discoidal sectors of the tegmina oblique, the ulnar vein of the wings ramose, no apical triangle, and the front femora armed after Type A; the tegmina and wings do not exceed the apex of the abdomen, and the species has very much the appearance of an *Allacta*. »



In *J., Malay Br., R. Asiat. Soc.*, vol. I (1923), pp. 416-417, I described three new species which I took to belong to this genus, viz. :

*Liosilpha lata*, from the Malay Peninsula and Sarawak;

*Liosilpha longe-alata*, from Java, and

*Liosilpha picea*, from Sarawak.

In *J., Siam Society*, vol. VII (*Nat. Hist. Suppl.*), p. 17, fig. 9 and 10 (1927), I added a new species :

*Liosilpha vittata*, from S. Annam, and in *Bulletin, Raffles Museum*, No. 1 (1928), p. 28.

*Liosilpha angustior*, from the Mentawi Islands.

I now find that *L. picea* has nothing to do with *Liosilpha* Stal, and has to be removed to the subfamily *Blattinae*, whilst *L. vittata* is better placed under *Margattea* Shelford, near *M. contingens* Walker. The three other species, however, closely approach *Liosilpha*, being broad and convex insects, with the anterior femora armed after type A, and with strongly chitinised styles, but they differ from it by the presence of a well-developed apical triangle, and by the supra-anal lamina in both sexes being entire, not emarginate. I regard this as a new genus and propose the name *Liosilphoidea* for it.

#### ***Liosilphoidea lata* HANITSCH.**

*Liosilpha lata*. HANITSCH. (*J., Malay Br., R. Asiat. Soc.*, Vol. I [1923], p. 416, fig. 14.)

1 ♂, Mount Singalang, Sumatra, about 2,000 m. altitude, 22.IV.1929.

1 ♀, Angi Gita, New Guinea, 10.III.1929.

I first described this species from Sarawak, Singapore and the Malay Peninsula (Gunong Angsi and Kedah Peak), and have since seen additional material from Batang Padang, Perak (H. M. Pendlebury, May 1923) and Gunong Benom, Pahang (I. H. N. Evans, July-Aug. 1925).

My original description of the type (♂) from Gunong Angsi may be enlarged and amended as follows :

♂. Broad, convex, pale straw-coloured, shining. Head practically hidden, testaceous, a transverse castaneous bar between the eyes; eyes apart barely one-half the distance between the antennary sockets; antennae much exceeding the body, testaceous. Pronotum very broad, anterior margin parabolic, posterior margin sub-truncate; disk clouded orange and brown, with a few scattered black dots; lateral margins broad, amber. Tegmina exceeding the abdomen, reaching to 3/4 of the cerci, amber-coloured; mediastinal vein and proximal

third of anal sulcus infuscated; costal area broad, 15 costals, radial simple, 5 oblique discoidal sectors; anal area greatly elongated, sulcus ending beyond the middle of the posterior border, 4 anals. Wings very broad, pale fuscous; mediastinal vein bifurcate at its base, terminating somewhat beyond the middle of the costal border; 7 costals, the first 3 simple, 4th, 5th and 6th bifurcate, 7th 4-ramose; all the costals stout, terminally thickened, at their bases joined by transverse venules; median vein bifurcate at 6/7 of its length, the anterior branch terminally forked again; ulnar vein 5-ramose; apical triangle greatly developed, with its outer margin obtusely produced. Abdomen above strongly infuscated; supra-anal lamina narrow, rounded, entire; styles long, 12-jointed. Abdomen below: anterior segments black, their posterior margins narrow testaceous; posterior segments testaceous, infuscated; sub-genital lamina light castaneous, rectangular,  $2 \frac{1}{2}$  times as broad as long; styles large, chitinised, each style dorsally with a shorter spine. Legs testaceous, strongly armed; anterior femora on the inner margin with 10 spines of decreasing length (type A), distally with 3 large spines; tarsal claws symmetrical, smooth.

♀ similar to the ♂.

	♂	♀
Total length . . . . .	14,5 mm.	15 mm.
Body . . . . .	11,5 mm.	13 mm.
Pronotum . . . . .	4,5 × 6 mm.	4 × 6 mm.
Tegmina . . . . .	11 mm.	11 mm.

Returning to the present material: the ♂, from Singaiang, Sumatra, agrees with the type ♂, from Gunong Angsi, Matay Peninsula, in having the median vein of the wing bifurcate, whilst in the ♀ from Angi Gita, N. Guinea, that vein is simple as in the ♀ from Gunong Benom, Pahang.

#### EPILAMPRINAE.

##### *Morphna pustulata* HANITSCH.

Pl. I, fig. 1.

*Stettiner Entom. Zeitung*, Vol. XCI, p. 185, fig. 6 (1930).

1 ♂, Panti, Sumatra, 26.IV.1929.

This species has not yet been recorded from outside Sumatra, the other three examples known having been taken at Tandjong Poera, E. Coast, Sumatra (♂ and ♀), and at Padang Pandjang, W. Sumatra (♂).

As my original description was in German, it may be convenient to recapitulate it in English:

♂. Head covered, orange-testaceous, vertex with 3 longitudinal black lines which fuse between the lower part of the eyes to a broad transverse dark

castaneous blotch; another large castaneous macula on the face, widest between the antennal sockets, then becoming narrower, and finally spreading out again and sending a narrow streak towards the side of the face; eyes apart by less than  $1/3$  the width of the head; antennae dark testaceous proximally, turning fuscous distally. Pronotum large, broad, anterior margin parabolic, posterior margin obtusely angled; disk very dark castaneous, the dark colour spreading out along the posterior margin of the pronotum, but not quite reaching the anterior margin; lateral margins broad, very pale orange, with numerous large and small reddish castaneous pustulae. Tegmina exceeding the abdomen by  $1/5$  of their length; mediastinal area rufo-castaneous, remainder uniformly dark castaneous, with numerous deep punctures accompanying the veins. Wings with the anterior part pale orange, apex darker; posterior part hyaline, veins dull orange. Body above brownish testaceous, each segment with a pair of large sub-marginal black spots, placed at the anterior margin of each segment. Supra-anal lamina large, semi-circular, posterior margin with a deep median indentation. Cerci fusco-testaceous, darker above. Body below fuscous orange, each segment with a pair of sub-marginal black maculae. Sub-genital lamina large, twice as broad as long. Styles pale testaceous, symmetrical, placed at either side of the lamina. Legs with the coxae olive, femora pale castaneous, tibiae darker castaneous; posterior metatarsus as long as the succeeding joints together, entirely unarmed, pulvillus terminal; tarsal joints also unarmed; arolium large.

♀. Resembles the ♂ in most particulars, but larger and somewhat darker in colour, especially the abdomen below deep castaneous.

The measurements of the 4 known examples of this species are :

	T. Poera.	P. Pandjang.	Panti.	T. Poera.
	♂	♂	♂	♀
Total length . . . . .	46 mm.	49 mm.	47 mm.	51 mm.
Body . . . . .	38 mm.	40 mm.	39 mm.	42 mm.
Pronotum . . . . .	10,5 × 16 mm.	12 × 19 mm.	13 × 18,5 mm.	12,5 × 18 mm.
Tegmina . . . . .	36 mm.	40 mm.	38 mm.	41 mm.

#### KEY TO THE SPECIES OF **MORPHNA** SHELFORD.

##### 1. Tegmina unicolorous :

2. Pronotum unicolorous.

3. Antennae, body, legs unicolorous : *M. badia* BRUNNER.

3'. Antennae, body, legs bicolorous : *M. dotata* WALKER.

2'. Pronotum bicolorous : *M. pustulata* HANITSCH.



**1'. Tegmina bicolorous :**

2. Black central macula of pronotum reaching to the anterior margin : *M. mjöbergi* HANITSCH.
- 2'. Black central macula of pronotum not reaching to the anterior margin :  
*M. maculata* BRUNNER.

**Rhabdoblatta procera BRUNNER.**

*Epilampra procera*. BRUNNER. (Syst. Blatt., p. 192 [1865].)

2 ♂♂, 1 ♀, Menado, Celebes. Van Braekel.

Widely distributed throughout the Malaysian sub-region, but apparently not before recorded from Celebes.

As Brunner's description was based upon a ♀ only, I gave that of a ♂, from the Mentawi Islands, in *Bulletin, Raffles Museum*, No. 1, p. 30 (1928).

The three specimens of the present collection show the extremes in colour variation, the tegmina of the one ♂ being dull brownish orange, with traces only of black spots; the other ♂ cinereous, faintly ferruginous tinged and with a number (about six) of very distinct black blotches; the ♀ dark cinereous, without blotches.

The two ♂♂ measure about 35 mm. in total length, the one ♀ 41 mm.

**Pseudophoraspis nebulosa BURMEISTER.**

*Epilampra nebulosa*. BURM. (Handb. Entom., Vol. II, p. 505 [1838].)

1 ♂, Buitenzorg, Java.

Common throughout the Malaysian sub-region

**Stictolampra nov. gen.**

STAL (*Bihang, Svenska Vet. Akad. Handl.*, vol. II, No. 13, p. 10 [1874]); BRUNNER (*Annali Mus. Civ. Stor. Nat.*, Genova [2], vol. XIII, p. 24 [1893]); SHELFORD (*Genera Insectorum, Epilamprinae*, p. 2 [1910]) and HEBARD (*Proc. Acad. Nat. Sci.*, Philadelphia, vol. LXXXI, p. 88 [1929]), all suggest the possibility of dividing *Epilampra* Burmeister, into two sections, according to whether the pronotum is smooth or punctured. Even if no additional characters should be found, it will be helpful to accept their suggestion and thus at least slightly break up this unwieldy genus.

I therefore propose retaining the name *Epilampra* for the species with a

smooth pronotum, and erecting a new genus, *Stictolampra*, for those in which the pronotum is punctured.

The great majority of the Oriental species of *Epilampra* would remain under that genus, as having a smooth pronotum, whilst the following would come under *Stictolampra*.

*E. lurida* BURMEISTER (= *E. cribricollis* SERV.);

*E. saussurei* KIRBY (= *E. puncticollis* SAUSSURE), A. M. N. H. (7), vol. XII, p. 277 (1903), from China;

*E. funebris* HANITSCH (J., M. B., R. As. Soc., vol. I, p. 427 [1923]), from the Baram River, Borneo;

*E. moultoni* HANITSCH (*loc. cit.*, p. 429, fig. 19 and 20), also from the Baram River.

The Oxford University Museum contains two other species with strongly punctured pronotum, a ♀, from New Guinea, doubtfully named by Shelford « ?*Epilampra keraudrenii* Le Guillou » (*Rev. Zool.*, p. 292 [1841]), and a ♂, from Sarawak, which, after comparison with the Paris Museum, he had labelled « *E. doleschali* Brunner? » (*Nouv. Syst. Blatt.*, p. 194 [1865]). But as the descriptions of these two species do not mention a punctured pronotum, their identification seems unsafe.

The present collection contains two species, both from New Guinea, which plainly come under *Stictolampra*.

#### *Stictolampra trilineata* nov. spec.

Pl. I, fig. 2.

1 ♂, New Guinea.

♂. Head exposed, testaceous, reddish suffused; occiput and vertex with 3 very distinct reddish-castaneous longitudinal lines which between the lower part of the eyes fuse to form a reddish-castaneous patch, spreading to nearly the base of the labrum; eyes apart by  $\frac{1}{2}$  the inter-antennary distance; antennae brownish. Pronotum sub-elliptical, posterior margin obtusely angled; coarsely punctured; disk castaneous, the colouring spreading to the anterior and posterior margins, the latter with 8 elongated blackish maculae; lateral margins pale testaceous, with scattered deep-orange maculae. Tegmina exceeding the abdomen by nearly  $\frac{1}{3}$  their length, deeply punctured in the anal area, less so elsewhere; testaceous, speckled with numerous large and small blackish-brown blotches, and with a broad black humeral stripe, enclosing 3 or 4 pale testaceous spaces. Wings fully developed. Supra-anal lamina entire, pale orange.

Cerci stout, dull orange, with black tips. Body below shining golden amber, darker posteriorly; sub-genital lamina slightly asymmetrical (shrunk?), sub-oval, left half more fully developed; styles small, pale amber. Legs brownish amber; anterior femora on the inner margin with 4 stout spines, followed by a series of widely spaced piliform spines; posterior femora with 3 stout spines on the inner margin, and two genicular spines; posterior metatarsus about equal in length to the succeeding joints together, entirely spined, pulvillus minute; tarsal joints sparsely spined, putvilli minute; tarsal claws symmetrical; arolia present.

♂. Total length 36 mm.; body 25 mm.; pronotum 7 × 9 mm.; tegmina 31 mm.

*Stictolampra brevipennis* nov. spec.

Pl. I, fig. 3.

1 ♀, Sakoemi (Arfak), New Guinea, 2.III.1929, in primeval forest, about 500 m. above sea level.

♀. Head exposed, testaceous, occiput with two ill-defined blotches of castaneous; vertex testaceous; upper half of face black, punctured, lower half testaceous; eyes apart by nearly the inter-antennary distance; antennae (mutilated) fuscous. Pronotum broad, anterior margin parabolic; posterior margin very obtusely angled; deeply and closely punctured; testaceous, minutely dotted with brown, leaving free a pale yellowish design on the disk; a few black maculae along the anterior margin and six large black blotches on the posterior margin. Tegmina shorter than the abdomen, reaching only to the middle of the sixth segment; apex rounded; closely punctured, especially in the anal area; testaceous, with numerous deep castaneous blotches. Wings shorter than the tegmina, only just exceeding the fourth segment. Abdomen above mottled testaceous and castaneous, a series of longitudinal black lines along the posterior margin of each segment. Supra-anal lamina semi-orbicular, a minute median indentation on the posterior border. Cerci short, stout, testaceous. Abdomen below testaceous, on either side a broad sub-marginal black stripe, on the sub-genital lamina the two fusing to a narrow median black stripe. Legs for the greater part fusco-testaceous; with certain parts shining black, viz. the proximal portion of the anterior femora, the median coxae and partly the median femora, and the posterior femora; anterior femora on the inner side with 4 large spines, followed by about 12 piliform spines and a single apical spine; posterior metatarsus longer than the succeeding joints taken together, entirely spined; 1st, 2nd and 3rd tarsal joints also spined; all pulvilli terminal; tarsal claws symmetrical; arolium present.

♀. Total length 20 mm.; pronotum 5,8 × 8,5 mm.; tegmina 11 mm.

**Pseudoplatia** nov. gen.

Broad, flat. — Head free; ♀ with rudimentary tegmina only, and no wings (♂ unknown); posterior metatarsus shorter than the succeeding joints, armed, pulvillus terminal; tarsal joints not armed.

This genus has quite the appearance of *Opisthoplatia* Brunner, but differs from it by the head being free, by the ♀ being without wings (♂ unknown), and by the posterior metatarsus being much shorter and its pulvillus terminal, whilst in *Opisthoplatia* the head is covered, the ♀ bears both tegmina and wings, though only rudimentary ones, like the ♂, the posterior metatarsus is equal in length to the succeeding joints, with the pulvillus very long, extending to the middle of the joint.

**Pseudoplatia atra** nov. spec.

Pl. I, fig. 4.

3 ♀♀, S. Manoembai, Aru I., 26.III.1929.

♀. Broad, flat, shining black. — Head exposed, shining black, labrum and palps dull orange; eyes apart the distance between the antennal sockets; antennae  $\frac{2}{3}$  the length of the body, testaceous to dull orange. Pronotum with the anterior margin parabolic, posterior margin straight; shining black. Tegmina scale-like, sub-triangular, only barely exceeding the posterior border of the mesonotum, black. Wings absent. Abdomen above shining black, with the lateral margins of the posterior segments faintly deep-castaneous. Supra-anal lamina semi-orbicular, posteriorly with a shallow median emargination, dull orange; cerci black, tips rufous. Body below deep-castaneous to black, posterior margin of sub-genital lamina entire. Legs dark castaneous; anterior femora with 5 spines each; posterior metatarsus  $\frac{3}{4}$  the length of the succeeding joints together, spined for the greater part of its length, pulvillus terminal; tarsal joints unarmed; arolia large.

♀. Total length 33 mm.; pronotum 8 × 13,5 mm.; tegmina 4 mm.

The 3 ♀♀ specimens which I take to be full-grown, have superficially quite the appearance of *Opisthoplatia orientalis* Burmeister, minus the orange margin of the pronotum of the latter, but can readily be distinguished by the generic characters given above.

**Rhcnoda rugosa** BRUNNER.

*Ann. Mus. Genova* (2), Vol. XIII, p. 31, pl. I, fig. 11a, b (1893).

1 ♀, Panti, Sumatra, 26.IV.1929.

Common throughout Malaysia.

## BLATTINAE.

**Platyzosteria soror** BRUNNER.

*Platyzosteria soror*. BRUNNER. (Syst. Blatt., p. 219 [1865].)

1 ♀, Menado, Celebes. Van Braekel.

Originally described from Amboina. Shelford (*Genera Insectorum, Blattinae* p. 7 [1910]) gives its range as « Formosa, Borneo, Austro-Malayan, Melanesian and Polynesian Islands », and I recorded it from Singapore (*J., S. B., R. Asiat. Soc.*, No. 69, p. 98 [1915]) and from Medan, Sumatra (*Arkiv för Zool.*, vol. XXIa, No. 2, p. 3 [1929]).

**Cutilia nitida** BRUNNER.

*Platyzosteria nitida*. BRUNNER. (Syst. Blatt., p. 214 [1865].)

1 ♂, Siwi, New Guinea, 7.III.1929. — 2 ♂♂, 3 ♀♀, Angi Gita, New Guinea, 10.III.1929. — 1 ♀, lake Angi Gita, New Guinea, 10.III.1929. — 1 ♀, S. Manoembai, Aru, 26.III.1929. — 1 ♂, Bireun, Sumatra, 2.V.1929.

Widely distributed throughout the Malay Archipelago, Formosa, Philippines, Ternate, Amboina, Ceram, New Guinea and N. S. Wales.

**Dorylaea flavicincta** DE HAAN.

*Blatta (Periplaneta) flavicincta*. DE HAAN. (Temminck, Verh. Orth., p. 50 [1842].)

1 ♀ (immature), Tondano-Menado, Celebes. Van Braekel.

Known from the Malay Peninsula, Sumatra, Java, Borneo, Formosa and Madagascar (*J., Malay Branch, R. Asiat. Soc.*, vol. I, p. 437 [1923]), also from the Mentawi Islands (*Bulletin, Raffles Museum*, No. 1, p. 34 [1928]).

**Blatta concinna** DE HAAN.

*Blatta (Periplaneta) concinna*. DE HAAN. (Temminck, Verh. Orth., p. 50 [1842].)

1 ♀, Medan, Sumatra, 3.V.1929.

Ranging throughout the Malay Archipelago to Hongkong, Japan and Australia. Hebard (*Proc., Acad. Nat. Sci., Philadelphia*, vol. LXXXI, p. 84 [1929]) who erects the genus *Blattina* for this species, records it from the Madras Presidency.



**Periplaneta australasiae** FABR.

*Blatta australasiae*. FABR. (Syst. Ent., p. 271 [1775].)

1 ♂, Panti, Sumatra, 26.IV.1929. — 1 ♀. S. Manoembai, Aru I., 26.III.1929. — 1 ♀ (immature), Palembang, Sumatra, 13.IV.1929.

Cosmopolitan.

**Periplaneta brunnea** BURMEISTER.

*Periplaneta brunnea*. BURM. (Handb. Entom., Vol. II, p. 503 [1838].)

*Periplaneta truncata*. KRAUSS. (Zool. Anz., Vol. XV, p. 165 [1892].)

1 ♂, 1 ♀, Buitenzorg, Java, 17-19.XII.1928.

Cosmopolitan.

**Macrocerca** nov. gen.

Allied to *Periplaneta* Burmeister, and to *Homalosilpha* Stal, but differing from either by the enormous cerci of the ♂. Antennae long and slender. Pronotum sub-orbicular, greatest width just behind the centre. Tegmina and wings of the ♂ much exceeding the abdomen, of the ♀ only barely so. Legs long, femora only sparsely spined, tibiae strongly armed, spines tri-seriately arranged. Tarsi long and slender, but less so than in *Periplaneta* and *Homalosilpha*.

**Macrocerca leopoldi** nov. spec.

Pl. I, fig. 5.

2 ♂♂, 1 ♀, Angi Gita, New Guinea, 10.III.1929.

♂. Head covered, testaceous, a black bar on the vertex, filling the interocular space; eyes apart by less than  $\frac{1}{2}$  the distance between the antennal sockets; antennae exceeding the body, brownish testaceous. Pronotum sub-orbicular, widest just behind the centre; disk dull orange, with a crescentic black line on either side and a pair of blackish dots near the middle, lateral margins broad, semi-hyaline. Tegmina greatly exceeding the abdomen, semi-hyaline, testaceous to pale amber, mediastinal and proximal part of costal area almost colourless, a brownish black humeral streak. Wings fully developed, anterior half pale testaceous, mediastinal vein fuscous, other veins greenish-fulvous; posterior half almost colourless, veins dull fulvous. Abdomen above

in front mottled testaceous and olive-brown, turning to nearly black behind; supra-anal lamina trapezoidal,  $\frac{3}{5}$  as long as broad, posterior margin straight, entire; cerci enormous [missing in the ♂ paratype], slender, brownish, moderately setose. Abdomen below olive-brown, darker at the sides; sub-genital lamina similar to the supra-anal lamina, posterior margin straight, entire; styles symmetrical, large, weakly curved. Legs long, slender; right anterior femur unarmed, except for setae; left anterior femur with 1 spine; posterior femora weakly armed with a few spines in the distal half only, and with 2 genicular spines; posterior tibiae strongly armed, tri-seriately spined; posterior metatarsus equal in length to the succeeding joints together, entirely spined; tarsal joints with coarse setae only; pulvilli minute; arolia present.

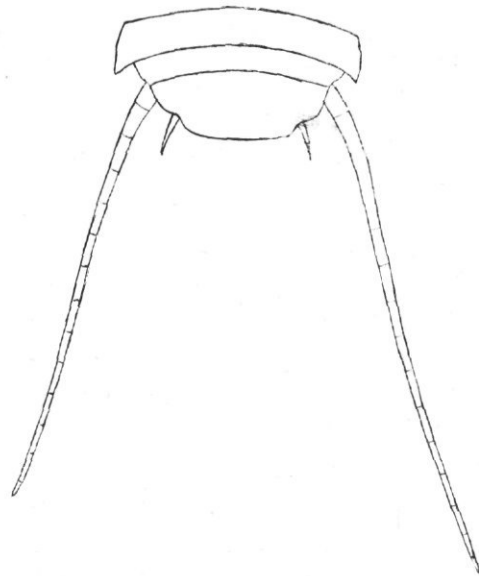


FIG. 5. — *Macrocerca leopoldi*, nov. sp. ♂.

End of abdomen, from below.

The ♀ is very similar to the ♂ in colouring, but differs as follows: body shorter; pronotum slightly broader; tegmina and wings very much shorter, reaching to the apex of the abdomen only; cerci shorter.

	♂	♀
Total length . . . . .	33 mm.	19 mm.
Body . . . . .	22 mm.	19 mm.
Pronotum . . . . .	5,8 × 6,6 mm.	6 × 7,7 mm.
Tegmina . . . . .	29 mm.	17 mm.
Wings . . . . .	26 mm.	14 mm.
Cerci . . . . .	8 mm.	5 mm.

**PANCHLORINAE.*****Pycnoscelus surinamensis* L.**

*Blatta surinamensis*. L. (Syst. Nat., ed. XII, p. 687 [1767].)

1 ♂ (immature), Padang, Sumatra, 21.IV.1929. — 1 ♀ (immature), Panti, Sumatra, 26.IV.1929.

Cosmopolitan.

**PERISPHAERINAE.*****Paranauphoeta rufipes* BRUNNER.**

Pl. 1, fig. 6.

*Paranauphoeta rufipes*. BRUNNER. (Syst. Blatt., p. 400 [1865].)

*Nauphoeta discoidalis*. WALKER. (Cat. Blatt., B. M., p. 39 [1868].)

*Paranauphoeta rufipes* var. *Novae Guineae*. BOLIVAR. (Act. Soc. Españ. [1898], p. 138.)

7 ♂♂, 4 ♀♀ and 19 immature examples. Siwi, New Guinea, 7.III.1929.

Originally described from Ternate. The Oxford University Museum contains examples, collected by Wallace, from Aru, Wagiou, Batchian and Dorey (New Guinea), also one from the Astrolabe Mts., New Guinea, presented by the Natural History Museum, Brussels.

**PANESTHINAE.*****Panesthia plagiata* WALKER.**

*Panesthia plagiata*. WALKER. (Ann. Nat. Hist. (3), Vol. IV, p. 220 [1859]; Cat. Blatt., B. M., p. 21 [1868].)

1 ♂, Kandy, Ceylon.

Walker's type, now in the British Museum, came from Ceylon, and in his *Cat. Blatt.* he enumerates several other examples from the same locality. The Oxford University Museum contains a long series from there, collected by Dr Templeton, E. E. Green and others.

Brunner, in *Syst. Blatt.*, p. 395 (1865) regards *P. plagiata* Wlk. as synonymous with *P. transversa* Burm., from Java (*Handb. Entom.*, vol. II, p. 513 [1838]), but in *Ann. Mus. Genova*, vol. XXXIII, p. 52 (1893) he withdraws his identification and, entirely ignoring *P. plagiata* Wlk., described a Blattid from Ceylon under the name of *P. inermis* nov. sp. From Brunner's description it is evident that his *P. inermis* is merely a synonym of *P. plagiata* Wlk.



and has to be suppressed. Curiously enough, Saussure in his « Revision de la tribu des Panesthiens » (*Rev. Suisse de Zool.*, vol. III [1895], pp. 299-34) also ignores *P. plagiata* Wlk. Kirby, in his *Syn. Cat. Orth.*, vol. I, p. 204 (1904) correctly gives *P. transversa* Brunn. and *P. inermis* Brunn. as synonyms of *P. plagiata* Wlk.

Besides the striking colour markings, viz. the intensely black shining tegmina, each with a large yellow spot, the crenulated posterior margin of the 7th abdominal tergite is very characteristic of this species.

***Panesthia hamifera*\* nov. spec.**

Pl. I, fig. 7.

1 ♂, lake Angi Gita, New Guinea, 10.III.1929. — 1 ♀, Bireun, Sumatra, 25.V.1929.

♂. Medium size, black. — Head black (antennae missing). Pronotum in front with a broad sinus, a blunt horn on either side; disk deeply depressed, behind it a ridge with two tubercles; margins finely punctured, in the disk the

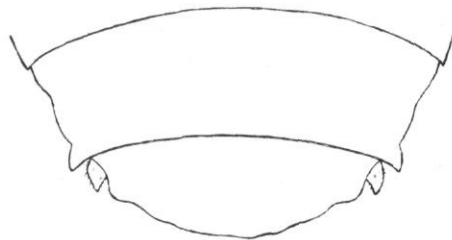


FIG. 6. — *Panesthia hamifera*, nov. sp. ♂.

End of abdomen, from above.

punctures replaced by minute tubercles. Tegmina and wings black, much worn, their remnants not exceeding the metanotum. Abdomen above punctured, anteriorly only slightly, posteriorly deeply and coarsely so; outer margin of 7th abdominal segment with two shallow undulations, posteriorly drawn out into a tooth-like hook; posterior margin of supra-anal lamina with 9 crenulations, viz. a large one on either side, the others very shallow. Cerci with a brownish pubescence. Legs black, anterior femora unarmed.

♀. Slightly larger than the ♂. Antennae black, shading to dark brown terminally. Anterior sinus of the pronotum shallower and the lateral cornua smaller than in the ♂. Tegmina and wings worn as in the ♂, the former distinctly castaneous in colour. Abdomen punctured and the posterior hook-like

(\*) From the hook-like processes of the 7th abdominal segment.

processes of the 7th segment as in the ♂. Supra-anal lamina with the two outer crenulations broader, but flatter than in the ♂. Anterior femora also unarmed.

	♂	♀
Total length. . . . .	29 mm.	31 mm.
Pronotum, length . . . . .	6,5 mm.	6 mm.
Pronotum, width . . . . .	11 mm.	11 mm.

Nearest to a ♂ in the British Museum, from Ternate, measuring 28 mm. in length, labelled « *Panesthia serratissima* Brunner », which I take to be one of Brunner's paratypes. (*Nouv. Syst. Blatt.*, p. 394 [1865]). Besides in size, this particular specimen agrees with the ♂ of *Panesthia hamifera* by the conformation of the pronotum, the worn tegmina and the hook-like spine of the 7th abdominal segment, but it differs from it by its labrum being testaceous to light castaneous, instead of black, by its anterior femora bearing 2 spines each, and by the sides of the 7th abdominal segment showing hardly any undulations, which in our species are quite distinct. The type of *P. serratissima* is described as with the tegmina fully developed and, according to the measurements given, apparently slightly exceeding the abdomen.

The collection also contains five larvae, all entirely apterous, which I take to belong to *P. hamifera*, as at least the three larger and more developed specimens distinctly show the characteristic spines of the 7th abdominal segment. They show a considerable variation in the number of spines of the anterior femora, a condition not unusual in other species of *Panesthia* (see my paper in *Treubia*, vol. III, p. 214 [1923]).

	Length.	Locality.	Left femur.	Right femur.
♂ . . . . .	26 mm.	Siwi . . . . .	2 spines . . . . .	2 spines
♂ . . . . .	24 mm.	Siwi . . . . .	2 spines . . . . .	3 spines
♀ . . . . .	18 mm.	Bireun . . . . .	0 spine . . . . .	1 spine
♀ . . . . .	14 mm.	Siwi . . . . .	2 spines . . . . .	1 spine
♂ . . . . .	11 mm.	Bireun . . . . .	0 spine . . . . .	0 spine

## ILLUSTRATIONS IN THE TEXT

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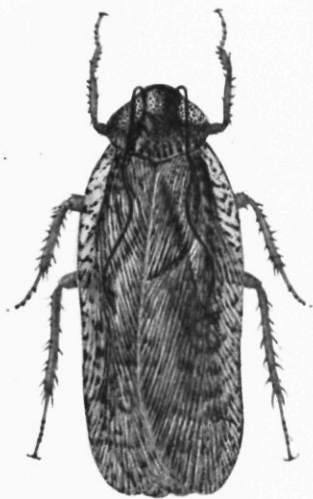
- Fig. 1. — *Mareta longe-alata* n. sp. ♂. Left wing.
- Fig. 2. — *Parasigmoidella marginalis* n. sp. ♂. Left tegmen.
- Fig. 3. — *Parasigmoidella marginalis* n. sp. ♂. Left wing.
- Fig. 4. — *Parasigmoidella marginalis* n. sp. ♂. End of abdomen, from below.
- Fig. 5. — *Macrocerca leopoldi* n. g., n. sp. ♂. End of abdomen, from below.
- Fig. 6. — *Panesthia hamifera* n. sp. ♂. End of abdomen, from above.
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## EXPLANATION OF THE PLATE

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### PLATE I.

- Fig. 1. — *Morphna pustulata* Hanitsch ♂.  
Fig. 2. — *Stictolampra trilineata* n. g., n. sp. ♂.  
Fig. 3. — *Stictolampra brevipennis* n. g., n. sp. ♀.  
Fig. 4. — *Pseudoplatia atra* n. g., n. sp. ♀.  
Fig. 5. — *Macrocerca leopoldi* n. g., n. sp. ♂.  
Fig. 6. — *Paranauphoeta rufipes* Brunner ♂.  
Fig. 7. — *Panesthia hamifera* n. sp. ♂.
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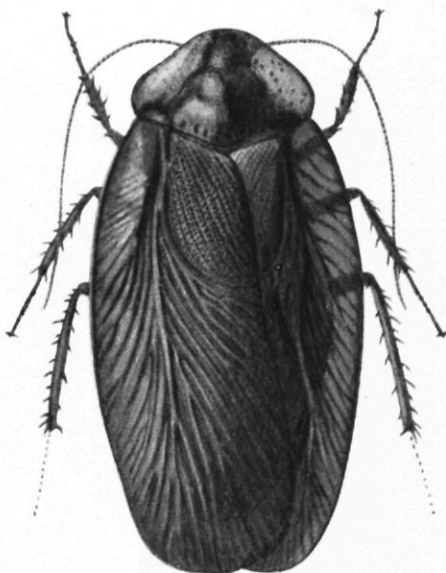
2. — *Stictolampra trilineata* n. sp., ♂  
(Type)



3. — *Stictolampra brevipennis* n. sp., ♀  
(Type)



4. — *Pseudoplatia atra* n. sp., ♀  
(Type)



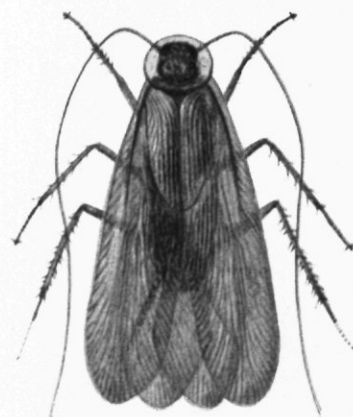
1. — *Morphna pustulata* Hanitsch, ♂



7. — *Panesthia hamifera* n. sp., ♀  
(Paratype)



6. — *Paranauphoeta rufipes* Brunner, ♀



5. — *Macrocerca leopoldi* n. sp., ♂  
(Type)

R. HANITSCH. — Blattidae.



