

ON A COLLECTION OF BLATTIDAE FROM SOUTHERN ANNAM.

BY R. HANITSCH, PH. D.

WITH 18 TEXT-FIGURES.

This paper is based upon a small collection of Blattidae from Southern Annam, viz. Tour Cham, Phanrang; Daban, Phanrang, 650 feet; Dran, Langbian, 3,000 feet; Dalat, Langbian 5,000 feet and Langbian Peaks, 5,500-7,500 feet, made by Mr. C. Boden Kloss and Dr. Malcolm Smith in April and May 1918. It includes 31 species, of which not less than 19 are described here as new. As the greater part of the collection was made at high elevations the number of new forms is not surprising. To the descriptive part I have added a list of all species so far recorded from the Indo-Chinese, or Himalayan, sub-region, together with their geographical distribution. As defined by Wallace this sub-region, one of the four divisions of the Oriental region, embraces the Himalayas, including Nepal and Bhotan, Assam, Burma, Pegu, Tenasserim as far as the Isthmus of Kra, Siam, Cambodia, Cochin-China, Annam, Tonkin, Laos, Yunnan, Kwantung, including Hongkong, Fokien as far as the watershed between the Si-kiang and the Yang-si-kiang, finally, the Andamans, Hainan and Formosa. It is thus a sub-region of extreme physical variety, unsurpassed by any other, regarding which Wallace\* says that it is "probably the richest of all the sub-regions, and perhaps one of the richest of all tracts of equal extent on the face of the earth."

However, the appended list shows that, including the present collection, only 180 species of Blattidae have so far been recorded from this part of the world, considerably fewer than from the Malayan sub-region. In my paper on 'Malayan Blattidae,' Part II [Journ. Malayan Branch, Roy. Asiat. Soc., Vol. I, pp. 393-474 (1923)] I enumerated 234 species from this latter sub-region. Adding to these the 24 n. spp., which I recently described from Mt. Murud and Mt. Dulit, Northern Sarawak [Sarawak Museum Journal, Vol. III,

---

\*A. R. Wallace, The Geographical Distribution of Animals, Vol. I, p. 329 (1876).

pp. 75-106 (1925)], this brings the number of Malayan species so far known up to 258. A table comparing these two sub-regions as to the number of species in the respective sub-families of Blattidae may be of interest:

	Indo-Chinese sub-region.	Malayan sub-region.
Ectobinae	14 species	15 species
Phyllodromiinae	50	79
Epilamprinae	32	55
Blattinae	21	40
Panchlorinae	5	5
Corydinae	15	15
Oxyhaloinae	5	9
Perisphaerinae	19	18
Panesthinae	19	22
<hr/>		
	180 species	258 species.

Finally, the number of species so far recorded as peculiar to these two sub-regions respectively is 128 in the case of the Indo-Chinese, and 182 in the case of the Malayan sub-region. Further systematic collecting will probably show that the range of the species at present recorded as peculiar is considerably greater than these figures would seem to indicate.

The entire collection, including the types, is kept in the Oxford University Museum.

#### LIST OF SPECIES COLLECTED.

##### Sub-fam. 1. ECTOBINAE.

*Anaplectoidea klossi* n. sp.

##### Sub-fam. 2. PHYLLODROMIINAE.

*Phyllodromia germanica* Linn.

- „ *laterifera* Walker.
- „ *reticulata* Fab.
- „ *globoso-stylata* n. sp.
- „ *interlineata* n. sp.
- „ *labyrinthica* n. sp.

*Phyllodromia maculicollis* n. sp.

„ *nigro-alba* n. sp.

*Liosilpha vittata* n. sp.

*Ceratinoptera annamensis* n. sp.

*Temnopteryx (?) cincta* n. sp.

Sub-fam. 3. NYCTIBORINAE.

None.

Sub-fam. 4. EPILAMPRINAE.

*Homalopteryx malcolmsmithi* n. sp.

*Epilampra annamensis* n. sp.

„ *klossi* n. sp.

„ *sublurida* n. sp.

Sub-fam. 5. BLATTINAE.

*Blatta concinna* de Haan.

*Stylopyga flavo-marginata* n. sp.

*Periplaneta australasiae* Fab.

„ *nivei-palpis* Hanitsch.

„ *elegans* n. sp.

Sub-fam. 6. PANCHLORINAE.

*Leucophaea surinamensis* L.

Sub-fam. 7. BLABERINAE.

None.

Sub-fam. 8. CORYDINAE.

*Ctenoneura major* Hanitsch.

Sub-fam. 9. OXYHALOINAE.

*Chorisoneura sagittaria* n. sp.

Sub-fam. 10. PERISPHAERINAE.

*Perisphaeria semilunata* n. sp.

„ *multipunctata* n. sp.

Sub-fam. 11. PANESTHINAE.

*Panesthia regalis* Walker.

„ *saussurii* Stål.

„ *triangulifera* n. sp.

„ sp.

*Miopanesthia discoidalis* Saussure.

## Sub-family 1. ECTOBINAE.

*Anaplectoidea klossi* n. sp.

♀. Head covered, testaceous, shining; eyes testaceous, with black margins; antennae (mutilated) testaceous. Pronotum broad, anterior margin parabolic, posterior margin rounded; disk yellowish

testaceous, lateral margins hyaline. Tegmina reaching not quite to the end of the abdomen, yellowish testaceous, semi-hyaline; medastinal area hyaline; 16 costals; ulnar vein with 6 branches; 3 axillary veins. Wings very

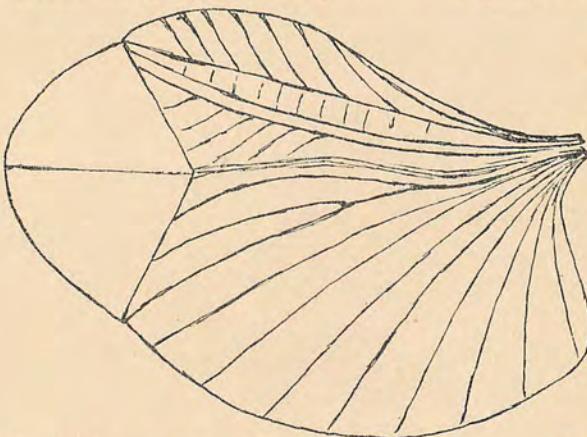
Fig 1. *Anaplectoidea klossi* n. sp. ♀. Left wing,  $\times 12$ .

delicate, faintly yellowish; 7 costals, their extremities swollen; medio-discal field crossed by 11 transverse venules; ulnar with 6 branches; apical area broader than long, not quite one-third the total wing length, its base obtusely angled. Abdomen below testaceous. (Legs missing). Sub-genital lamina very ample, rounded. Cerci long, testaceous, setiferous.

♀. Total length 7.5 mm., tegmina 6 mm.

Hab. 1 ♀. Tour Cham, Phanrang, S. Annam. April-May 1918.

The genus *Anaplectoidea* Shelford, differs from *Anaplecta* Burmeister, by the branching of the ulnar vein of the wing. It includes *A. nitida* Shelf., from Celebes and Batchian, *A. dohertyi* Shelf., from Sangir, *A. modesta* Shelf., from Ceylon, and *A. notata* Shelf., from Phuc Son, Annam. The present species differs from *A. notata* chiefly by the venation of the wings, viz. by having 7 costals and 6 branches to the ulnar, against 14 costals and 4 branches to the ulnar in *A. notata*. A species very similar to, if not identical with, *A. notata* occurs on Singapore Island, where it was taken by Mr. C. J. Saunders in the jungle near the Impounding Reservoir,



Thomson Road, and on Bukit Timah in November and December 1922.

Sub-family 2. PHYLLODROMIINAE.

**Phyllodromia germanica** Linn.

2 ♀ ♀ Dran, Langbian, S. Annam, 3,000 feet. Apr.-May 1918.

1 ♀ Saigon, May 1918.

**Phyllodromia laterifera** Walker.

So far known from the Malayan sub-region only, viz. Sarawak, Singapore and Penang. The present collection contains a ♂ from Tour Cham, Phanrang, S. Annam (April-May 1918). It is slightly smaller than the specimen, also ♂, from Singapore, which I recently redescribed\*, viz.:

	<i>Annam</i>	<i>Singapore</i>
Total length	17 mm.	18·5 mm.
body	11·5 „	13 „
pronotum	3 × 4·5 „	4 × 5 „
tegmina	13·5 „	15 „

**Phyllodromia reticulata** Fabricius.

Fabricius, Entomologia systematica, Supplementum, p. 186 (1798).

This species is curiously enough omitted both by Brunner, in 'Nouveau Système des Blattaires,' and by Kirby, in his 'Systematic Catalogue of Orthoptera.' The Oxford Museum contains a number of specimens from Madras, identified by Shelford, and one from Chantaboon, Siam, collected by Mouhot. This species also occurs on Singapore Island where Mr. C. J. Saunders took it on 18.9.1922.

**Phyllodromia globoso-stylata** n. sp.

♂. Head exposed, dark testaceous, with a cream-white transverse vitta from eye to eye; antennae at least as long as the body, fuscous. Pronotum sub-oval, broader behind than in front; disk testaceous, a comma-like black mark on either side of the middle line; lateral margins broad, hyaline. Tegmina broad, considerably exceeding the abdomen, semi-hyaline, faintly testaceous; mediastinal area broad; radial vein with 9 costals of which the first five are single,

---

\* Journ. Malayan Branch, R. Asiat. Soc., Vol. I, p. 406 (1923).

the 6th bifurcate, the 7th and 8th multiramose, the 9th bifurcate; ulnar vein multiramose; five anal venules. Wings fuscous along the anterior margin and towards the apex, remainder hyaline; mediastinal vein with three branches; radial vein with five costals, of which the 1st is single, the 2nd tri-ramose, the 3rd multiramose, the 4th simple, the 5th tri-ramose; median vein simple; ulnar vein with four bran-

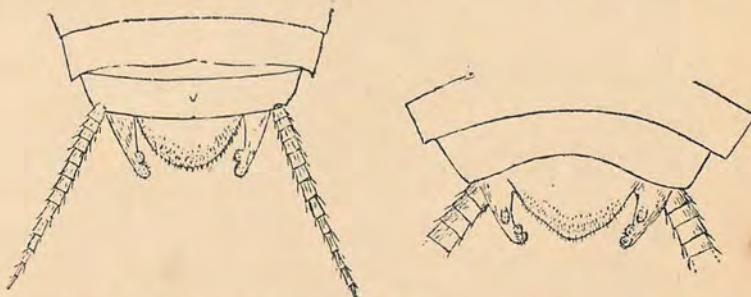


Fig. 2. *Phyllodromia globosostylata* n. sp. ♂. End of abdomen, *stylata* n. sp. ♂. dorsal view,  $\times 10$ .

Fig. 3. *Phyllodromia globosostylata* n. sp. ♂. End of abdomen, ventral view,  $\times 12$ .

ches, of which the 1st, 2nd and 4th are simple, the 3rd tri-ramose; no apical triangle; 1st axillary with five branches. Abdomen below almost black, with indefinite testaceous blotches on either side of the middle line. Supra-anal lamina broad, transverse, narrow; cerci with 13 joints, setiferous; sub-genital lamina rounded, its apex coved with minute spines and bristles; styles stout, each with three rounded knobs, one of which forms the apex, the second lying just below and inside the first one, and the third in the middle of the under surface; all the knobs covered with most minute spines. Legs testaceous, upper edges of femora brown; anterior femora on their proximal one-third with a few large spines, on their distal two-thirds with a close series of about 15 minute spines; posterior femora moderately to strongly armed; arolia present.

♂. Total length 16.5 mm.; body 11 mm.; pronotum  $4 \times 5$ . mm.; tegmina 13 mm.

*Hab.* 1 ♂ Dran, Langbian, S. Annam, 3,000 feet. Apr.-May 1918; 1 ♂ Dalat, Langbian, S. Annam, 5,000 feet. Apr.-May 1918.

*Phyllodromia interlineata* n. sp.

♀. Head exposed, testaceous; occiput (just visible) black;

vertex testaceous; a broad black vitta between the eyes; a heavy T-mark on the frons also black; antennae (mutilated) probably at least as long as the body, fuscous. Pronotum broad, anterior margin parabolic, posterior margin slightly rounded; black, bordered all round with testaceous; with a longitudinal median testaceous line which joins on to the testaceous border in front, but fails to reach the testaceous border behind (thus reminding of the markings in *Hemithyrsocera histrio* Burn.). Tegmina considerably exceeding the body, testaceous brown; 15 costals, of which the two last ones are multiramose; radial vein bifurcate, its proximal third very stout, black; anterior and posterior ulnar veins both multiramose; anal vein broad and deeply impressed; a system of brown lines between and parallel to the costals, and between and parallel to all the branches of the ulnars and to the axillary veins of the anal area; with well-marked cross-venules joining the branches of the ulnar veins. Wings fuscous; mediastinal vein with 6 branches; 12

*Fig. 4. Phyllodromia interlineata* n. sp. ♀. costals; radial vein bifurcate; median vein single; Left tegmen,  $\times 9$ . ulnar vein bifurcate; apical triangle present, but small. Abdomen below testaceous. Supra-anal lamina triangularly produced, its posterior margin notched; sub-genital lamina moderate, 3 times broader than long, rounded, entire; cerci long, its joints alternating black and white. Legs testaceous, anterior femora distally with a close series of minute spines, proximally with a few scattered larger spines; posterior femora moderately spined; arolia present.

♀. Total length 11.5 mm.; body 9 mm.; pronotum  $2 \times 3$  mm.; tegmina 9 mm.

*Hab.* 1 ♀ S. Annam. April-May 1918.

***Phyllodromia labyrinthica* n. sp.**

♀. Small, broad, depressed. Allied to *P. marmorata* Walker.—Head exposed, fulvo-testaceous, on the vertex four longitudinal castaneous stripes which on the frons unite to a single broad band,



ending in the labrum; antennae with the basal joint fulvous (remainder missing). Pronotum broad, sub-oval, whitish testaceous, with a complicated design in castaneous and with numerous dots. Tegmina somewhat exceeding the abdomen, broad, whitish testaceous to almost

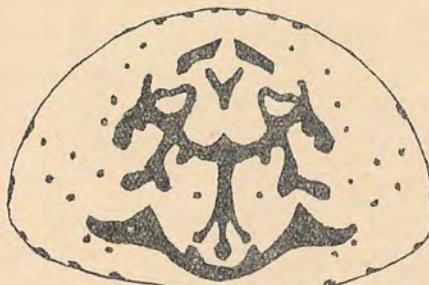


Fig. 5. *Phyllodromia labyrinthica*  
n. sp. ♀. Pronotum,  $\times 13$ .

hyaline and colourless, everywhere, except in the mediastinal area, clouded with dark castaneous blotches and dots, the dots being restricted chiefly to the apex and to the anterior margin; a large castaneous blotch in the centre of each tegmen and in the anal area the pale ground colour for the greater part replaced by castaneous; mediastinal area broad, subhyaline; 13 costals; anal vein prominent. Wings broad, slightly fuscous; mediastinal vein bifurcate at its base, distal branch incrassated terminally; 7 costals, the first 3 simple, the others branched, the proximal costals with their ends incrassated; median vein simple; ulnar vein with 5 branches; apical area insignificant. Abdomen below orange-testaceous in the centre, sides broadly margined with black. (Cerci missing). Legs very pale testaceous, femora with the upper edges black, tibiae each with 3 castaneous blotches, viz. one at either end, and one centrally; anterior femora with a series of minute spines in their distal two-thirds only; posterior femora weakly armed.

♀. Total length 11 mm.; body 9 mm.; pronotum  $3 \times 4.2$  mm.; tegmina 8 mm.

*Hab.* 1 ♀. Tour Cham, Phanrang, S. Annam. Apr.-May 1918.  
*Phyllodromia maculicollis* n. sp.

♀. Head only slightly exposed, light testaceous, vertex faintly orange; eyes testaceous, their inner portion black; antennae black, filiform, much exceeding the body. Pronotum broad, anterior border parabolic, posterior border almost straight, not produced; shining black, with a large testaceous leaf-like macula in the centre of the disk, the broad base of the leaf lying in front, the apex, bifid, point-

ing posteriorly; lateral margins hyaline, light testaceous. Tegmina exceeding the abdomen, pale testaceous, a large black blotch spreading

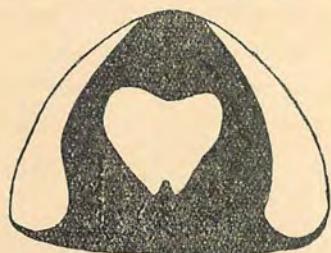


Fig. 6. *Phyllodromia maculicollis*  
n. sp. ♀. Pronotum,  $\times 10$ .

over each tegmen, constricting the testaceous portion to the base of the tegmen, to the mediastinal area, the anterior margin, the apex, and to the centre; 9 costals of which the first 6 are simple, the 7th bifurcate, the 8th and 9th multiramose.

Wings broad, hyaline, except for two fuscous blotches, one in the region of the proximal costals, the other near the middle of the ulnar vein; mediastinal vein with 2 branches; 7 costals, with stout venules between them; median vein simple; ulnar vein with 4 branches; small apical triangle. Abdomen below testaceous, each sternite with a black macula at its outer margin; sub-genital lamina ample, rounded, orange, with a broad castaneous border. Cerci (mutilated) with the basal joints testaceous, marked with black dots. Legs pale testaceous; anterior femora proximally with a few large spines, distally with a close series of very minute spines; posterior femora moderately armed.

♀. Total length 13 mm.; body 10 mm.; pronotum  $4 \times 4.5$  mm.; tegmina 10 mm.

Hab. 1 ♀. Daban, Phanrang, S. Annam, 650 feet. Feb.-May 1918.

#### *Phyllodromia nigro-alba\** n. sp.

♀. Head free, testaceous, a transverse brown band between the eyes; antennae testaceous, longer than the body. Pronotum broad, anterior margin parabolic, posterior margin rounded, not produced; disk testaceous, in front and at the sides enclosed by a broad, chestnut-coloured band which in its turn is encircled by a narrow cream-coloured band; lateral margins hyaline. Tegmina greatly exceeding the abdomen, pale testaceous, semi-transparent; 24 costals, 7 discoidal sectors. Wings hyaline, mediastinal vein very long, with 5 branches, their ends incassated; radial vein bifurcate, anterior half with 7 costals, the first two of which with their ends incassated; median vein

\*Referring to the alternately black and white joints of the cerci.

simple; ulnar vein with 3 branches; apical triangle insignificant. Abdomen above testaceous with a broad sub-marginal black stripe on either side; ventrally light testaceous, each segment with a pair of indistinct brown maculae. Supra-anal lamina broadly triangular, testaceous; sub-genital lamina ample, rounded, pale testaceous. Cerci

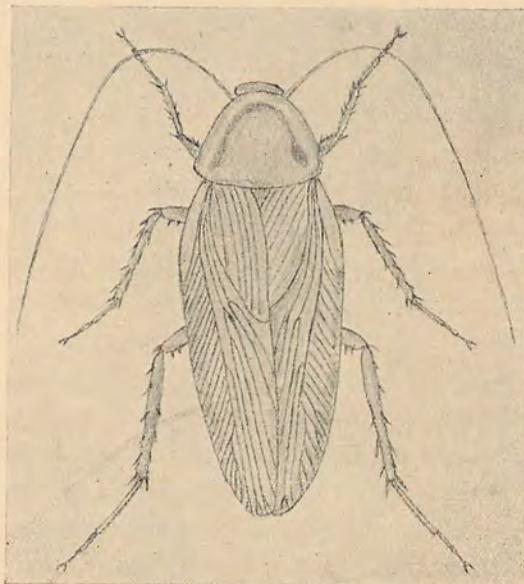


Fig. 7. *Phyllodromia nigro-alba* n. sp. ♀,  $\times 4$ .

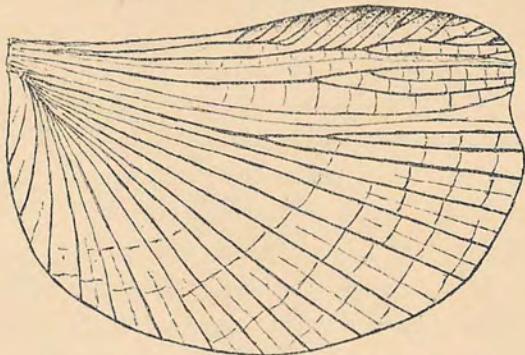


Fig. 8. *Phyllodromia nigro-alba* n. sp. ♀.  
Right wing,  $\times 7$ .

very long, 24 joints, flattened, above almost uniformly testaceous,

below with the joints alternating black and white, the black joints only bearing setae. Legs testaceous; anterior femora proximally with 5 large spines, distally with a close-set series of minute spines; posterior femora strongly armed.

♀. Total length 13.5 mm.; body 9.5 mm.; pronotum  $3 \times 4$  mm.; tegmina 11 mm.

Hab. 1 ♀. Tour Cham, Phanrang, S. Annam. April-May 1918.

**Liosilpha vittata\*** n. sp.

♀. Broad, flat.—Head almost entirely covered, dark testaceous, a whitish band across the front between the eyes, just above the insertion of the antennae; eyes far apart; antennae (mutilated) fuscous. Pronotum large, very broad, anterior margin parabolic, posterior margin almost straight, slightly undulating; disk testaceous, with a few darker markings; lateral margins broad, hyaline. Tegmina broad, exceeding the body and reaching almost to the tip of the cerci, testaceous, semi-hyaline, venation clearly marked, mediastinal area broad, hyaline; 9 costals. Wings broad, apex and anterior border fuscous, mediastinal vein with 3 branches; 6 costals, of which the first three are single, the 4th tri-ramose, the 5th and 6th bifurcate; median vein single; ulnar with 3 branches, the 1st and 3rd of which are simple,

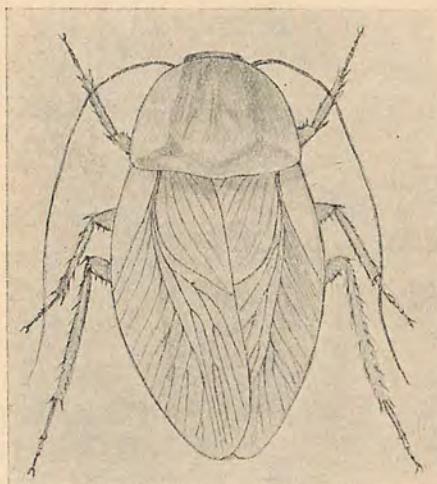


Fig. 9. *Liosilpha vittata* n. sp. ♀,  $\times 4$ .

\*From the whitish vitta between the eyes.

the 2nd tri-ramose; no definite apical triangle. Abdomen below black, shining, with testaceous blotches on either side of the middle line, segments with their outer edges narrowly lined with testaceous.

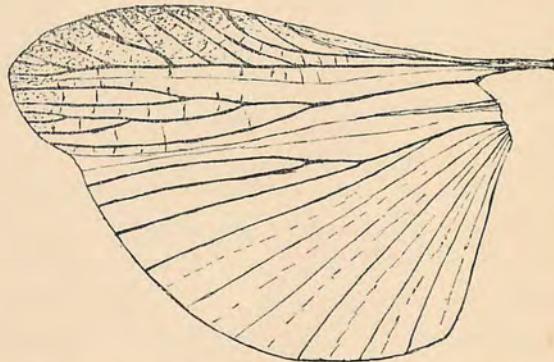


Fig. 10. *Liosilpha vittata* n. sp. ♀. Left wing,  $\times 8$ .

Sub-genital lamina very ample, rounded, black, with a few testaceous blotches. Cerci fuscous, with 9 or 10 joints. Legs testaceous, upper edges of the femora black; anterior femora proximally with a few moderately-sized spines, distally with a close series of about 20 very minute spines; posterior femora moderately spined; tibial spines with black dots at their bases.

♀. Total length 13 mm.; body 10.5 mm.; pronotum  $3\cdot2 \times 5$  mm.; tegmina 9.5 mm.

*Hab.* 1 ♀. Dalat, Langbian, S. Annam, 5,000 feet. April-May 1918.

#### *Ceratinoptera annamensis* n. sp.

♂, ♀. Small, broad, depressed. Head covered for the greater part; testaceous with dark blotches on the upper frons; antennae exceeding the body, testaceous. Pronotum with the anterior margin parabolic, posterior margin rounded to almost straight; disk with cloudy lighter and darker testaceous markings; lateral margins more uniform light testaceous. Tegmina lanceolate, both in the ♂ and ♀, only barely as long as the body, hyaline, testaceous, 13 costals. Wings considerably smaller than the tegmina, 8 costals, their ends swollen; radial vein bifurcate; median vein simple; ulnar vein simple. Abdomen below testaceous, the ♂ with darker blotches in the middle line; the ♀ with sub-marginal darker blotches and a large

dark macula in the centre of the sub-genital lamina. Supra-anal lamina triangular in the ♂, rounded in the ♀. Sub-genital lamina in the ♂ asymmetrical, consisting of a large left lobe, and a small right one; between them a single median style; in the ♀ ample, rounded. Legs testaceous, posterior femora strongly armed.

♂ and ♀. Total length 8 mm.; pronotum  $2\cdot3 \times 3\cdot2$  mm.; tegmina 6·8 mm.; wings 4·9 mm.

*Hab.* Dalat, Langbian, S. Annam, 5,000 feet. 2 ♂♂, 1 ♀. Apr.-May 1918.

This is the only species of *Ceratinoptera* so far recorded from the Indo-Chinese sub-region. Otherwise the genus is widely distributed and is found in all regions of the world, except the Palearctic. From the Malayan sub-region three species are known *C. fulva* Brunner, and *C. sundaica* Fritze, both from Java, and *C. klossi* mihi, from Sumatra.

***Temnopteryx (?) cincta* n. sp.**

♀. Larva. Apterous. Head exposed, shining black. Antennae setiform, as long as the body, fuscous. Pronotum sub-quadrata sides rounded; shining black, with an orange border all round which

is broadest at the sides, narrowest behind. Mesonotum, metanotum and abdominal tergites all shining black, each posteriorly with a narrow orange border; all abdominal tergites, except the first, with the lateral margin posteriorly produced into a minute spine. Supra-anal lamina broad, short, its centre produced as an obtuse triangle, the sides posteriorly ending in a tooth. Abdomen below light castaneous in the middle, darker at the sides. Cerci large, setiferous, dark testaceous, joints indistinct. Sub-genital lamina ample, rounded. Legs dark

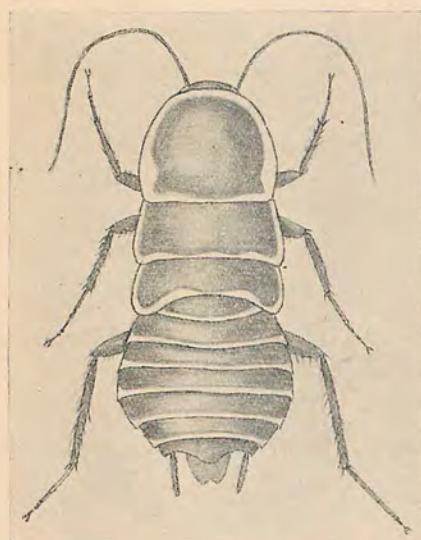


Fig. 11. *Temnopteryx (?) cincta* n. sp. ♀,  $\times 4$ .

testaceous, outer edges black, stout, strongly spined. Anterior femora in their distal third with 5 equally-sized small spines; posterior femora with larger spines distributed along their whole length. Arolia present.

♀. Total length 12 mm.; pronotum  $3\cdot5 \times 4\cdot5$  mm. Also three minute larvae, 5 mm. in total length.

*Hab.* Langbian Peaks, S. Annam, 5,500-7,500 feet. April-May 1918.

In the absence of tegmina and wings it is impossible definitely to assign this species either to *Temnopteryx* or to *Ceratinoptera*. Its colouring, however, reminds of certain species of the former genus, especially *T. abyssinica* Saussure & Zehntner.

#### Sub-family 3. NYCTIBORINAE.

None.

#### Sub-family 4. EPILAMPRINAE.

##### *Homalopteryx malcolmsmithi*, n. sp.

♂. Broad, depressed. Closely allied to *H. macassariensis* deHaan.—Head entirely covered, fulvo-testaceous, on the frons 4 small black dots arranged in a square; antennae as long as the body,

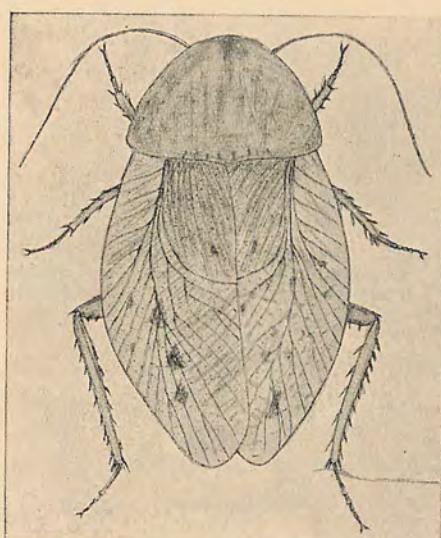


Fig. 12. *Homalopteryx malcolmsmithi*  
n. sp. ♂,  $\times 2$ .

basal joint fulvous, remainder fuscous. Pronotum large, anterior margin parabolic, posterior margin somewhat produced; slightly raised in the middle line; disk reddish-testaceous, lateral margins broad, fulvo-testaceous, both disk and margins densely covered with dark orange spots and blotches; a number of short striae of the same colour along the posterior margin. Tegmina slightly exceeding the abdomen, broad, fulvo-testaceous, minutely serio-punctate, with a few scat-

tered small and large black blotches; mediastinal vein prominent, multi-ramose, 7 branches; radial vein very stout, 8 costals; ulnar vein only moderate, multi-ramose; anal vein ending at the suture at two fifths the length of the tegmen; anal area very broad, about 12 anal venules, the interspaces densely serio-punctate, more so than the rest of the wing. Abdomen below fulvo-testaceous, with a few scattered small black spots, and a series of larger and more regularly arranged spots along the posterior margin of each sternite. Subgenital lamina sub-oval, with a distinct indentation at the posterior margin. Legs fulvo-testaceous; posterior metatarsus as long as the remaining joints together, uniserrately spined at its proximal half only; remaining joints unarmed.

♂. Total length 29 mm.; body 23.5 mm.; pronotum  $9 \times 12$  mm.; tegmina, length 21 mm.; tegmina, width 9.5 mm.

Hab. 1 ♂. Dran, Langbian, S. Annam, 3,000 feet. April-May 1918.

Closely allied to *H. macassariensis* de Haan, from the Philippines, Celebes, Amboina and Ceram, but differing from it by its tegmina being marked with black blotches and being much more finely impresso-punctate.

***Epilampra annamensis* n. sp.**

♂ and ♀. Small, closely allied to *E. fervida* Walker, and *E. plena* Walker.—Head exposed; very light testaceous, especially on the vertex and the labrum, closely dotted with black on the frons; antennae as long as the body, fuscous. Pronotum with the sides deflexed, posterior margin produced, obtusely angled; light testaceous, not impresso-punctate, covered with numerous minute dark dots, a few larger ones, and two large castaneous blotches, one on either side of the posterior margin just opposite the insertion of the tegmina. Tegmina exceeding the abdomen; in the ♂ reddish-testaceous, with diffused darker dots and blotches; in the ♀ greyish-testaceous, with the markings more in the form of short, dark striae; in either sex a large dark macula at the base of the anal vein, just opposite the macula on the posterior margin of the pronotum. Abdomen below very light testaceous, with scattered black spots in either sex, in the ♀ in addition with a large black macula in the centre of the subgenital lamina. Legs testaceous, with scattered black dots.

	♂	♀
Total length :	21 mm.	22 mm.
body	18 "	18·5 "
pronotum	$5 \times 6$ "	$5 \times 6$ "
tegmina	18 "	18 "

Hab. 2 ♂ ♂, 2 ♀ ♀. Dran, Langbian, S. Annam, 3,000 feet. Apr.-May 1918.

The dark maculae on the posterior margin of the pronotum and at the base of the tegmina are the readiest means of distinguishing this species from allied forms.

*Epilampra klossi* n. sp.

♀. Head exposed, testaceous, finely dotted with black, especially on the vertex; a longitudinal thin light line in the middle of the vertex; a broader lighter band connecting the insertion of the antennae; antennae as long as the body, testaceous. Pronotum with the anterior margin parabolic, posterior margin produced; brownish-

testaceous, shining finely and closely dotted with black, and with a few scattered larger black maculae, some of which are arranged regularly along the posterior margin. Tegmina broad, exceeding the abdomen, brownish-testaceous, shining, closely impresso-punctate, with indefinite black blotches along the anterior border, and similar, but more definite black maculae along the radial vein. Abdomen below pale testaceous, finely and closely dotted with black, and

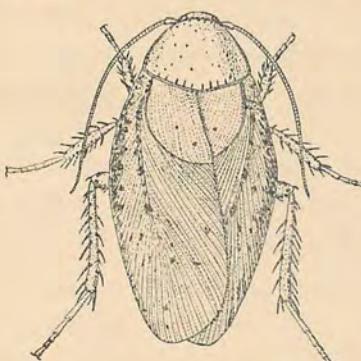


Fig. 13. *Epilampra klossi* n. sp.  
♀,  $\times 1\frac{1}{2}$ .

with larger black spots along the posterior margin of the sternites. Sub-genital lamina of the same colouring as the sternites, but without the larger black spots. Cerci dull orange to testaceous. Legs testaceous, with the upper edges of the femora black, and with black spots at the bases of all spines. Posterior metatarsus at least as long as the remaining joints, spined along its whole length; second and third joints also spined; all pulvilli apical; arolia present.

♀. Total length 34 mm.; body 30 mm.; pronotum  $8.5 \times 11$  mm.; tegmina 27 mm.

*Hab.* 1 ♀. Tour Cham, Phanrang, S. Annam. April-May 1918.  
**Epilampra sublurida** n. sp.

♂. Nearest allied to *E. lurida* Burmeister, but differing from it by several important characters.—Head exposed, testaceous, with two indistinct darker vittae running from the vertex to below the insertion of the antennae; antennae as long as the body, testaceous. Pronotum small, sub-circular, posterior margin obtusely produced; fulvo-testaceous, disk reddish-testaceous; most minutely punctured, with numerous smallish brown spots which are larger towards the posterior margin. Tegmina much exceeding the abdomen, fulvo-testaceous, almost uniform in colouring, no humeral vitta, anal area finely impresso-punctate, elsewhere only traces of punctures; mediastinal vein with 5 or 6 branches; 12 costals; 14 anal venules. Abdomen below reddish testaceous, with numerous brown dots. Cerci and styles testaceous. Legs testaceous; posterior metatarsus longer than the succeeding joints, entirely armed; tarsal joints also armed; pulvilli small, terminal; arolia present.

♂. Total length 32 mm.; body 25 mm.; pronotum  $6 \times 8$  mm.; tegmina 27 mm.

*Hab.* 1 ♂, Dran Langbian, S. Annam, 3,000 feet. April-May 1918.

*E. lurida* Burmeister, differs from the present species by having pronotum and anal area of the tegmina much more coarsely punctured, by the presence of a humeral vitta and of equidistant dark spots along the whole length of the radial vein, and by the abdomen below being uniformly amber-coloured, with a pair of large black spots on each segment.

#### Sub-family 5. BLATTINAE

##### **Blatta concinna** de Haan.

1 ♂, S. Annam. Apr.-May 1918.

1 ♂, Dran, Langbian, S. Annam. 3,000 feet. Apr.-May 1918.

This widely distributed species was originally described from Java. It is common throughout the Malay Archipelago, and has also been recorded from Burma, Hongkong, Japan and Australia.

*Stylopyga flavo-marginata* n. sp.

♂. Apterous. Head almost entirely covered, shining black, a lacrymiform testaceous macula on the frons; first two joints of maxillary palps pale testaceous, terminal joint brown; antennae exceeding the body, fuscous. Pronotum with the anterior margin parabolic, posterior margin straight; fulvo-testaceous; disk shining black, enclosing two testaceous maculae, viz.

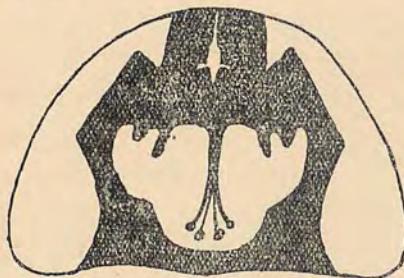


Fig. 14. *Stylopyga flavo-marginata*  
n. sp. ♂. Pronotum,  $\times 10$ .

produced backwards, both fulvotestaceous, each with a large black blotch spreading along the hinder margin and sending off tooth-like processes forwards. Tergites fulvo-testaceous, each with several black maculae. Cerci 11-jointed, testaceous, base and apex black, and a pair of black spots on each of the median joints. Styles small. Legs testaceous, upper margin of femora dark brown; posterior metatarsus longer than the remaining joints, entirely armed; second and third joints also armed. Arolia present. The single specimen obtained is probably immature.

♂ Total length 11 mm.; pronotum  $3\cdot8 \times 5\cdot8$  mm.

Hab. 1 ♂, Langbian Peaks, S. Annam, 5,500-7,500 feet. Apr.-May 1918.

Differs from the cosmopolitan *S. rhombifolia* Stoll, chiefly by the markings of the pronotum, the lateral margins of which are entirely fulvo-testaceous in the present species.

*Periplaneta australasiae* Fab.

1 ♂ (immature), and 1 ♀, Dran, Langbian, S. Annam, 3,000 feet. April-May 1918.

*Periplaneta nivei-palpis* Hanitsch.

1 ♂, 4 ♀ ♀, Saigon, May 1918.

I recently described this species from a single ♀ specimen, taken by Dr. E. Mjöberg at Lio Matu, Sarawak [Sarawak Museum

Journal, Vol. III, p. 96 (1925)]. Additional material of both sexes enables me slightly to enlarge the description.

♂ and ♀. Head free or hidden,\* shining black; first three joints of the maxillary palpi snowy-white,† terminal joint whitish testaceous; antennae as long as the body, fuscous. Pronotum parabolic, shining black. Tegmina much exceeding the abdomen, dark castaneous, lighter towards the tips. Wings testaceous. Abdomen below intense black, shining. Cerci stout, black, 6-jointed. Legs long, slender, reddish testaceous, coxae castaneous; posterior metatarsus longer than the remaining joints, strongly spined; second and third joints also spined; arolia present. Readily distinguished by its white palpi from all other Malayan species of *Periplaneta*.

	♂	♀
Total length	17 mm.	20 mm.
body	13 "	15 "
pronotum	$4 \times 5$ "	$5 \times 6$ "
tegmina	13 "	16 "

#### *Periplaneta elegans* n. sp.

♂. Long, slender, dark castaneous.—Head free, shining black; mouthparts castaneous; antennae exceeding the tegmina, black at the base, becoming light brown towards the tips. Pronotum with the anterior margin parabolic, posterior margin rounded, slightly produced; shining black. Tegmina dark castaneous, much exceeding the body; mediastinal area broad; mediastinal vein simple; 11 costals, 1 and 2 of which are simple, 3 and 4 bifurcate, 5 multiramose; 6, 7 and 8 bifurcate, 9, 10 and 11 multiramose and springing from a single point; about 17 anal venules. Wings with the anterior half light castaneous, posterior sub-fuscous, hyaline; mediastinal vein 4-ramose; 6 costals, 1 and 2 of which are single, 3 bifurcate, 4 and 5 multiramose and anastomosing, 6 multiramose; median vein bifurcating at a quarter of its total length from the base, the anterior branch dividing again near its end, the posterior branch for four-fifths of its total length enclosed by a narrow clear space, and having passed

\* In the ♀ specimen from Sarawak and in one ♀ from Saigon the head is free, in the other specimens hidden.

† In the specimens from Saigon the maxillary palps are less pure white than in the one from Sarawak.

through it, dividing repeatedly; ulnar vein stout, multiramose. Supra-anal lamina large, bilobed, each lobe being sub-triangular, with blunt angles. Cerci and styles black. Sub-genital lamina sub-quadrata, with a median indentation. Abdomen below shining black. Legs long, slender, dark castaneous to black; posterior femora strongly armed.

$\delta$ . Total length 31 mm.; body 20 mm.; pronotum  $6 \times 7.5$  mm.; tegmina 26 mm.

*Hab.* 1  $\delta$ . Dran, Langbian, S. Annam, 3,000 feet. April-May 1918.

#### Sub-family 6. PANCHLORINAE.

*Leucophaea surinamensis* L.

1 ♀ (immature): Tour Cham, Phanrang, S. Annam. April-May 1918. 2 ♀ ♀ (immature): Dran Langbian, S. Annam, 3,000 feet. April-May 1918.

#### Sub-family 7. BLABERINAE.

None.

#### Sub-family 8. CORYDINAE.

*Ctenoneura major* Hanitsch.

1 ♂ Langbian Peaks, S. Annam, 5,500-7,500 feet. April-May 1918.

In the Sarawak Museum Journal, Vol. III, pp. 100-102 (1925) I proposed a new genus for two new species of Corydinae, taken by Dr. E. Mjöberg in Northern Sarawak. The new genus *Ctenoneura*, was distinguished chiefly by the character of its wings, showing a comb-like arrangement of the branches of the ulnar vein, thus reminding of *Euthyrrhapha* Burmeister, but differing from that genus by its smooth, not pilose, tegmina. It included two n. spp., viz. *C. fulva*, from Mt. Murud, 6,500 feet, and Mt. Dulit (elevation ?), and *C. major*, from Mt. Murud, 6,500 feet. The present collection contains a ♂ specimen of *C. major*, from the Langbian Peaks, and it is an interesting fact that it came from practically the same elevation as the type from Sarawak, viz. from 5,500 feet-7,500 feet.

(N. B. In the original description of *C. major*, loc. cit. p. 102, line 17, read "4 anal venules" for "4 discoidal sectors").

## Sub-family 9. OXYHALOINAE.

*Chorisoneura sagittaria* n. sp.

♂. Slender, fusiform. Head exposed, testaceous, a darker band between the eyes; eyes far apart, prominent as seen from above; antennae (mutilated) brown. Pronotum sub-elliptical, posterior border almost straight; disk testaceous, lateral margins broad, hyaline. Tegmina much exceeding the abdomen, long, narrow, fusiform, pointed at the apex, hyaline, between the veins with longitudinal rows of minute square-shaped orange maculae; 11 costals, far apart. Wings pale orange, darker along the anterior border; 13 costals; radial vein simple; median vein inconspicuous or absent; ulnar vein bifurcate, the two branches almost uniting again before reaching the apex; apical triangle well developed.

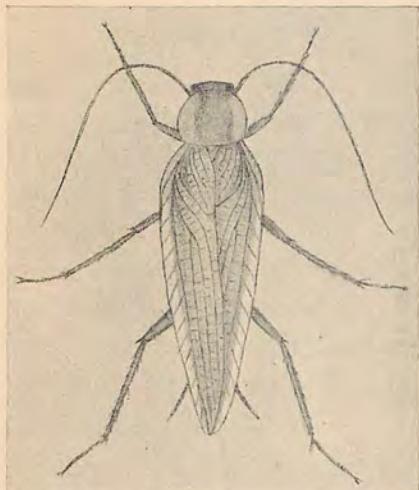


Fig. 15. *Chorisoneura sagittaria*  
n. sp. ♂, × 4.

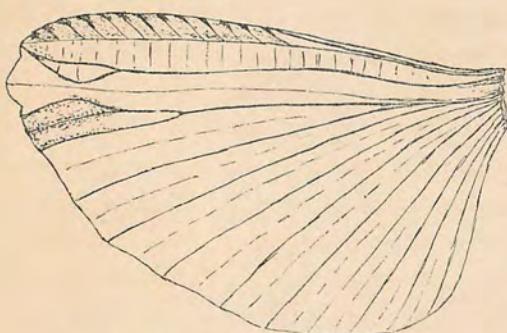


Fig. 16. *Chorisoneura sagittaria*  
n. sp. ♂. Left wing, × 8.

9 mm.

Hab. 1 ♂. Langbian Peaks, S. Annam, 5,500-7,500 feet. April-May 1918.

♂. Total length 11 mm.; body 9 mm.; pronotum 1·8 × 2 mm.; tegmina

The orange maculae between the veins of the tegmina seem characteristic of many other species of *Chorisoneura*, e. g., *C. lativitrea* Walker, from the Oriental region, *C. pallida* Shelford, from the Cameroons, *C. vitrocincta* Walker, and *C. brunneri* Shelford, from South America.—The spines on the posterior femora are most delicate and may perhaps be regarded as pilosity.

#### Sub-family 10. PERISPHAERINAE.

##### *Perisphaeria semilunata* n. sp.

♀. Elliptical, spherical when contracted, entirely apterous. Head orange; a large, shining black macula on the frons, spreading to the base of the labrum; labrum and mouth parts generally, orange; eyes black, far apart; antennae two-thirds of the length of the body, basal joint dull orange, remainder black. Pronotum very large, entirely covering the head, its margin slightly inverted; back, as also the upperside of the body generally, with most minute corrugations and punctures. Abdominal segments without sulci, segments 4 to 7 on either side, close to the lateral margin, with a single deep impression.\* Supra-anal lamina small, rounded, two and a half times as broad as long, margin entire. Pronotum below black, meso- and metasternum orange, abdomen below dark castaneous to black; cerci small, conical, castaneous. Legs orange, posterior metatarsus shorter than the remaining joints; arolia large.

♂. Total length 18 mm.; pronotum 7·3 × 10 mm.

Hab. 2 ♀ ♀, Langbian Peaks, S. Annam, 5,500-7,500 feet. Apr.-May 1918.

Allied to *P. armadillo* Serville, but differing from it by having the antennae black, instead of yellow, and by the lower part of the face being black, instead of ferruginous, the black area being sharply marked off from the orange above.

##### *Perisphaeria multipunctata* n. sp.

♂ larva. Small, apterous, dark castaneous, shining, minutely punctured. Head covered by the pronotum, ferruginous, eyes moder-

---

\* Saussure and Zehntner, Rev. Suisse Zool. Vol. III, p. 35 (1895), in their key to *Perisphaeria*, characterise *P. lucasiana* S. & Z., *P. armadillo* Serv., and *P. glomeriformis* Lucas, as having 'segmenta abdominis 3-6 utrinque puncto impresso unico.' This is an error. The segments bearing the impression are 4-7.

ately far apart. antennae two-thirds of the length of the body, pale orange at the base, turning fuscous distally. Pronotum moderate in size, margins slightly inverted. Abdominal segments without sulci; segments 1 and 2 with no lateral impressions, segments 3 and 4 on either side with two impressions each, segments 5, 6 and 7 with three impressions each. Supra-anal lamina rounded, entire. Cerci small, conical, castaneous. Body below castaneous. Sub-genital lamina similar to the supra-anal lamina, small, rounded, entire, light castaneous. Styles absent. Legs ferruginous, posterior metatarsus shorter than the remaining joints; arolia present.

$\sigma$ , larva, Total length 8 mm.; pronotum  $3 \times 4$  mm.

Hab. 1  $\sigma$  larva, Langbian Peaks, S. Annam, 5,500-7,500 feet. April-May 1918.

Nearest to *P. himalayae* S. & Z., from Assam (Rev. Suisse Zool., Vol. III, p. 36), which is also known from an immature  $\sigma$  only. This latter species, however, is described as bearing two impressions on the 5th abdominal segment only, and three on the 6th.

#### Sub-family 11. PANESTHINAE.

##### *Panesthia regalis* Walker.

I place under this species two  $\varphi$  examples from Dalat, Langbian, S. Annam, 5,000 feet (Apr.-May 1918), both larvae and apterous, measuring 35 mm. and 22 mm. respectively, and both marked by a large, deep orange macula spreading over mesonotum and metanotum.

The larger specimen may be described as follows:

$\varphi$ . Entirely apterous, dark castaneous to black, with a large, orange macula spreading over mesonotum and metanotum. Head exposed, shining black on the occiput, dark castaneous on the vertex, shading off into light castaneous on the upper part of the frons, a large black blotch between the insertion of the antennae, clypeus and labrum castaneous, maxillary palps light castaneous, their terminal joint dark castaneous; antennae one-fourth the length of the body, proximal half dark castaneous, distally shading off into dull orange. Pronotum dark castaneous, divided by a deep sulcus into a small anterior and a large posterior portion, the sulcus being strongly sinuate and receding in its middle; the front part of the pronotum closely and finely punctured and deeply depressed in its centre; the

hind part almost smooth in the centre, distinctly punctured at the sides; mesonotum and metanotum with a very large, deep orange macula, occupying the whole mesonotum, except the lateral margins, and spreading over the metanotum, but not quite reaching to the posterior margin and leaving free a broad portion on either side. First abdominal segment almost smooth, second segment with a few scattered punctures which become more numerous and larger in each succeeding segment, and are very large, deep and coarse in the 7th segment and the supra-anal lamina. Supra-anal lamina on its posterior margin with 8 shallow crenulations and a large spine on either side. Anterior sterna orange castaneous, shading off into dark castaneous in the posterior segments. Coxae orange castaneous, femora light castaneous, tibiae and tarsi dark castaneous. Anterior femora with 3 spines each. Total length 35 mm.; pronotum  $7\cdot8 \times 11$  mm.

The smaller specimen, also ♀ and from the same locality, differs from the one just described in the following particulars; the orange macula is on the mesonotum, and still more so on the metanotum, almost divided into two halves by a median darker streak; anterior femora with 2 spines each; total length 22 mm.; pronotum  $5\cdot5 \times 8\cdot5$  mm.

Dr. Uvarov informs me that there are two larvae in the British Museum collection, labelled "Assam, W. F. Badgley," which, probably by Kirby, had been placed with the types of *P. regalis* Walker. From the description he has kindly given me, they would seem to me identical with the two larvae from Annam.

#### *Panesthia saussurii* Stål.

I place under this species two specimens viz. an immature ♂, from Langbian Peaks, S. Annam, 5,500-7,500 feet (April-May 1918), and an adult ♀, from Dalat, Langbian, S. Annam, 5,000 feet (May 1918), which agree with each other by their intensely black colour of the body, and by the unusual deep orange tint of the pulvilli.

♂, immature, apterous: total length 34 mm.; pronotum  $8 \times 11\cdot5$  mm.; supra-anal lamina very slightly crenulated; anterior femora with two spines each.

♀, adult, tegmina broken off and reaching to the end of the 4th abdominal segment only; total length 41 mm.; pronotum  $9 \times 13\cdot5$

mm.; the crenulation of the supra-anal lamina merely indicated by a faintly wavy outline; anterior femora with two spines each.

**Panesthia triangulifera n. sp.**

♀. Head exposed, shining black, base of labrum deep orange, remainder light chestnut. Antennae one-third of the length of the body,

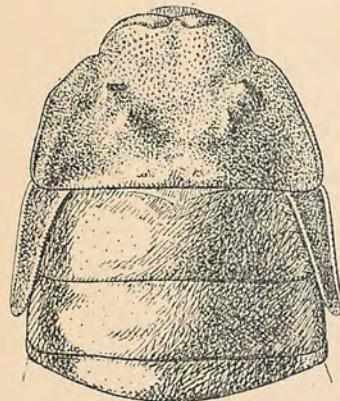


Fig. 17. *Panesthia triangulifera* n. sp. ♀. Front part of the body, from above,  $\times 2$ .

first 10 joints shining black, smooth, distal 30 joints with russet pilosity. Pronotum shining black, anterior border with slight indentation, with a blunt tooth on either side of the latter; centre of disk much depressed, cibrose, laterally and posteriorly enclosed by a ridge which on either side is raised into two blunt protuberances, and into a single median one behind. Mesonotum and metanotum smooth; first 6 abdominal tergites also smooth, each with a sulcus; 7th tergite strongly corrugated and cibrose, its sides posteriorly drawn out into a tooth. Supra-anal lamina deeply cibrose, posterior border with 10 teeth. Abdomen below dark chestnut to black, smooth. Sub-genital lamina black, with an irregular series of sub-marginal depressions. Tegmina short, narrow, triangular, twice as long as broad, reaching only to the middle of

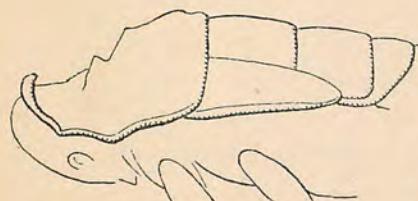


Fig. 18. *Panesthia triangulifera* n. sp. ♀. Front part of the body, from the left,  $\times 2$ .

the metanotum. Wings absent. Anterior femora with 2 spines each; all pulvilli dark orange.

♀. Total length 47 mm.; pronotum  $13 \times 19.5$  mm.; tegmina 9 mm.

Hab. 1 ♀, Dalat, Langbian, S. Annam, 5,000 feet. May 1918.

**Panesthia sp.**

Two opterous specimens, ♂ and ♀ respectively, both apparently immature and possibly belonging to the same species.

♂. Dark chestnut, apterous, abdomen considerably broader than the pronotum.—Head exposed, antennae dark russet. Pronotum

smooth to the greater extent, a depression in the front which is finely punctured. All abdominal tergites with a distinct sulcus; 6th tergite with distinct, though small, projecting lateral angle; 7th tergite strongly corrugated and deeply punctured, sides entire, lateral tooth larger. Supra-anal lamina broadly and deeply punctured, posterior margin crenulated, 10 blunt teeth. Anterior femora with 2 spines each. Total length 32 mm.

♀. Possibly a younger stage of the above ♂. Apterous light chestnut, abdomen even broader than in the ♂, making the total outline sub-triangular. Pronotum smooth, with a depression similar to that in the ♂. Abdominal tergites without sulcus. Lateral teeth of the 6th and 7th tergites as in the ♂, 7th tergite also strongly corrugated and deeply punctured. Supra-anal lamina as in the ♂, and also with 10 blunt teeth. Left anterior femur with 3 spines, right femur with one only. Total length 24 mm.

Hab. 1 ♂, ♀, Dalat, Langbian, S. Annam, 5,000 feet. May 1918.

**Miopanesthia discoidalis** Saussure.

In Journ. Malayan Branch, Roy. Asiatic Soc., Vol. I, p. 459 (1923) I recorded three specimens of this species, all ♀ ♀ and all approximately from the same altitude, though from different localities, viz. from Kedah Peak, Malay Peninsula 3,000 feet; from Bukit Kutu, Selangor, 3,000 feet; and from Mt. Mararang, N. Celebes, 3,000-4,000 feet. The present collection contains an example, also ♀, from Langbian Peaks, S. Annam, 5,500-7,500 feet (Apr.-May 1918), which I have to assign to the same species. It measures 22 mm. in total length, i. e., the same as the specimen from Celebes, but is somewhat darker in colour than any of the others. Its body is uniformly black, and the legs dark castaneous, with the exception of the metatarsus, the first three tarsal joints and the claws, all of which are dark orange to light castaneous. The fact that the type from Java, is also ♀, that no ♂ of this species has ever been described, and that of *M. stenotarsis* Saussure, from Java and Sarawak, as far as I am aware, only ♂ examples have been recorded, almost leads one to suspect, that the two 'species' are merely the different sexes of the same species. Only additional material can decide this point.

LIST OF THE BLATTIDAE OF THE INDO-CHINESE SUB-REGION,  
TOGETHER WITH THEIR GEOGRAPHICAL DISTRIBUTION.

Sub-family 1. ECTOBINAE.

	<i>Distribution.</i>
<i>Theganopteryx formosana</i> Karny.	Formosa.
Suppl. Entom. No. 4, p. 103 (1915).	
<i>Theganopteryx parilis</i> Walker.	Hongkong.
Cat. Blatt. Brit. Mus. p. 110 (1865).	
<i>Theganopteryx perspicillaris</i> Karny.	Formosa.
Suppl. Entom. No. 4, p. 103 (1915).	
<i>Theganopteryx ruficollis</i> Karny.	Formosa.
Suppl. Entom. No. 4, p. 104 (1915).	
<i>Hemithyrsocera communis</i> Brunner von Wattenwyl.	Burma.
Ann. Mus. Genova, (2) vol. xiii, p. 23 (1893).	
<i>Hemithyrsocera ferruginea</i> Brunner von Wattenwyl.	Burma.
Ann. Mus. Genova, (2) vol. xiii, p. 22, pl. 1, fig. 6 (1893).	
<i>Hemithyrsocera ignobilis</i> Shelford.	Assam.
Trans. Ent. Soc., London, p. 238 (1906).	
<i>Hemithyrsocera lateralis</i> Walker.	Siam ; Burma ; India ; Malay Pen.
Cat. Blatt. Brit. Mus. p. 213 (1868) ; Hanitsch, J., Mal. Branch, R. A. S., vol. i, p. 395, pl. 12, fig. 2 (1923).	
<i>Hemithyrsocera nigra</i> Brunner von Wattenwyl.	Tenasserim ; Bur- ma ; India ; Indo- China ; China.
Nouv. Syst. Blatt., p. 120 (1865) ; id., Ann. Mus. Genova, (2) vol. xiii p. 21 (1893).	
<i>Hemithyrsocera tessellata</i> Rehn.	Lower Siam.
Proc. U. S. Nat. Mus. vol. xxvii, p. 545 (1904).	
<i>Hemithyrsocera vittata</i> Brunner von Wattenwyl.	Cambodia.
Nouv. Syst. Blatt. p. 119 (1865).	
<i>Anaplecta fulva</i> Brunner von Wattenwyl.	Burma ; Tenasserim.
Ann. Mus. Genova, (2) vol. xiii, p. 12 (1893).	
<i>Anaplectoidea notata</i> Shelford.	Annam.
Deutsche Entom. Zeitschr., p. 611 (1909).	
<i>Anaplectoidea klossi</i> n. sp.	S. Annam.
	Sub-family 2. PHYLLODROMIINAE.
<i>Ischnoptera australis</i> Saussure.	Australia ;
Mém. Soc. Sc. Phys. Nat. Genève, vol. xvii, p. 155,	Formosa.

*Distribution.*

pl. 1, fig. 17 (1863); Karny, Suppl. Entom. No. 4,  
p. 101 (1915).

<i>Ischnoptera ectobioides</i> Saussure.	S. China.
Mém. Soc. Sc. Phys. Nat. Genève, vol. xxiii, p. 104 (1873).	
<i>Ischnoptera formosana</i> Karny.	Formosa.
Suppl. Entom. No. 4, p. 102 (1915).	
<i>Ischnoptera fusca</i> Brunner von Wattenwyl.	Burma.
Ann. Mus. Genova, (2) vol. xiii, p. 24 (1893).	
<i>Ischnoptera himalayica</i> Brunner von Wattenwyl.	Himalayas.
Nouv. Syst. Blatt., p. 129 (1865).	
<i>Ischnoptera modesta</i> Brunner von Wattenwyl.	Burma.
Ann. Mus. Genova, (2) vol. xiii, p. 24 (1893).	
<i>Ischnoptera modestiformis</i> Karny.	Formosa.
Suppl. Entom. No. 4, p. 101 (1915).	
<i>Ischnoptera multiramosa</i> Brunner von Wattenwyl.	Burma; Formosa.
Ann. Mus. Genova, (2) vol. xiii, p. 23, pl. 1, fig. 8 (1893); Karny, Suppl. Entom. No. 4, p. 100 (1915).	
<i>Ischnoptera sauteri</i> Karny.	Formosa.
Suppl. Entom. No. 4, p. 102 (1915).	
<i>Ischnoptera schenklingi</i> Karny.	Formosa.
Suppl. Entom. No. 4, p. 101 (1915).	
<i>Phyllodromia aliena</i> Brunner von Wattenwyl.	Upper Burma.
Ann. Mus. Genova, (2) vol. xiii, p. 15 (1893).	
<i>Phyllodromia birmanica</i> Brunner von Wattenwyl.	Burma.
Ann. Mus. Genova, (2) vol. xiii, p. 17, pl. 1, fig. 4, (1893).	
<i>Phyllodromia bivittata</i> Serville.	Cosmopolitan.
Hist. Ins. Orth., p. 108 (1839); Hanitsch, J., S. B., R. A. S., No. 69, p. 40 (1915).	
<i>Phyllodromia colligata</i> Walker.	Amoy, China.
Cat. Blatt. Brit. Mus., p. 221 (1868).	
<i>Phyllodromia brunneri</i> Shelford.	Upper Burma.
Genera Insectorum, Phyllodr., p. 13 (1908). <i>P. punctulata</i> Brunner von Wattenwyl, Ann. Mus. Genova, (2) vol. xiii, p. 18 (1893).	
<i>Phyllodromia curvinervis</i> Saussure & Zehntner.	Burma; Java.
Grandidier, Hist. nat. Madagascar, Orth., vol. i, p. 32 (1895).	

		<i>Distribution.</i>
<i>Phyllodromia feae</i> Shelford.		Burma.
Gen. Insect., Phyll., p. 13 (1908).		
<i>P. marmorata</i> Brunner von Wattenwyl, Ann.		
Mus. Genova, (2) vol. xiii, p. 19 (1893).		
<i>Phyllodromia formosana</i> Shiraki.		Formosa.
Trans. Sapporo N. H. S., vol. ii, p. 107 (1907-8).		
<i>Phyllodromia fuliginosa</i> Brunner von Wattenwyl.	Burma.	
Ann. Mus. Genova, (2) vol. xiii, p. 16, pl. 1, fig. 2 (1893).		
<i>Phyllodromia germanica</i> L.		Cosmopolitan.
Syst. Nat. (ed. xii), vol. i (2), p. 668 (1767);		
Hanitsch, J., S. B., R. A. S., No. 69, p. 45 (1915).		
<i>Phyllodromia humbertiana</i> Saussure.		India ; Pegu ; Tenasserim ; China ; Formosa.
Mém. Soc. Sc. Phys. Nat. Genève, vol. xvii, p. 130 (1863); Karny, Suppl. Ent. No. 4, p. 99 (1915).		
<i>P. cognata</i> Brunner von Wattenwyl, Ann. Mus.		
Genova, (2) vol. xiii, p. 17 (1893).		
<i>Phyllodromia immunda</i> Brunner von Wattenwyl.	Pegu ; Burma.	
Ann. Mus. Genova, (2) vol. xiii, p. 20 (1893).		
<i>Phyllodromia isomorpha</i> Walker.		Hongkong.
Cat. Blatt. Brit. Mus. p. 108 (1868).		
<i>Phyllodromia laterifera</i> Walker.		Sarawak ; Singa- pore ; Penang ; Annam.
Cat. Blatt. Brit. Mus. p. 231 (1868) ; Hanitsch, J., M. B., R. A. S., vol. i, p. 406 (1923).		
<i>Phyllodromia lineata</i> Shiraki.		Formosa.
Trans. Sapporo N. H. S., vol. i, part 2, p. 2 (1905-6).		
<i>Phyllodromia lituricollis</i> Walker.		Bhamo, Upper Burma ; Amoy ; China ; Formosa.
Cat. Blatt. Brit. Mus., p. 105 (1868) ; Karny, Suppl. Entom. No. 4, p. 99 (1915).		
<i>P. bisignata</i> Brunner von Wattenwyl, Ann. Mus.		
Genova, (2) vol. xiii, p. 15, pl. 1, fig. 1 (1893).		
<i>Phyllodromia lugubris</i> Brunner von Wattenwyl.	Rangoon,	
Ann. Mus. Genova, (2) vol. xiii, p. 16, pl. 1, fig. 3. 1893).	Burma.	
<i>Phyllodromia majuscula</i> Walker.		Siam.
Cat. Blatt. Brit. Mus., Suppl., p. 139 (1869).		
<i>Phyllodromia nigripronota</i> Shiraki.		Formosa.
Trans. Sapporo N. H. S., vol. i, part 2, p. 2 (1905-6).		
<i>Phyllodromia notulata</i> Stål.		Malay Pen. ;

	<i>Distribution.</i>
<i>Eugenie's Resa</i> , Orth., p. 308 (1858); <i>Karny</i> , Suppl. Entom. No. 4, p. 100 (1915); <i>Hanitsch</i> , J., M. B., R. A. S., vol. i, p. 411 (1923).	Borneo; Java; Cocos Keeling; Formosa; Tahiti; Hawaii.
<i>Phyllodromia polygrapha</i> Walker. Cat. Blatt. Brit. Mus. p. 222 (1868); <i>Hanitsch</i> , J., M. B., R. A. S., vol. i, p. 411 (1923).	Siam; Sarawak; Malay Pen.
<i>Phyllodromia ramifera</i> Walker. Cat. Blatt. Brit. Mus., Suppl., p. 27 (1871).	Nepal.
<i>Phyllodromia reticulata</i> Fabricius. Entomologia systematica, Suppl., p. 186 (1798).	India; Siam; Singapore.
<i>Phyllodromia sinensis</i> Walker. Cat. Blatt. Brit. Mus., Suppl., p. 148 (1869).	Hongkong.
<i>Phyllodromia sordida</i> Brunner von Wattenwyl. Nouv. Syst. Blatt., p. 104 (1865).	Cambodia.
<i>Phyllodromia submarginata</i> Walker. Cat. Blatt. Brit. Mus., Suppl., p. 27 (1871).	Cachar; Manipur; Upper Burma.
<i>Phyllodromia subtilis</i> Brunner von Wattenwyl. Ann. Mus. Genova, (2) vol. xiii, p. 18 (1893).	Pegu; Burma.
<i>Phyllodromia supellectilium</i> Serville. Hist. Ins. Orth., p. 114 (1839); <i>Hanitsch</i> , J., S. B., R. A. S., No. 69, p. 56 (1915).	Cosmopolitan.
<i>Phyllodromia unicolor</i> Brunner von Wattenwyl. Ann. Mus. Genova, (2) vol. xiii, p. 18 (1893).	Mandalay, Burma.
<i>Phyllodromia vicina</i> Brunner von Wattenwyl. Ann. Mus. Genova, (2) vol. xiii, p. 19 (1893).	Burma.
<i>Phyllodromia vivilis</i> Brunner von Wattenwyl. Nouv. Syst. Blatt., p. 103 (1865); <i>Karny</i> , Suppl. Entom. No. 4, p. 100 (1915); <i>Hanitsch</i> , J., M. B., R. A. S., vol. i, p. 414 (1923).	" Malacca"; Formosa.
<i>Phyllodromia globoso-stylata</i> n. sp.	S. Annam.
<i>Phyllodromia interlineata</i> n. sp.	S. Annam.
<i>Phyllodromia labyrinthica</i> n. sp.	S. Annam.
<i>Phyllodromia maculicollis</i> n. sp.	S. Annam.
<i>Phyllodromia nigro-alba</i> n. sp.	S. Annam.
<i>Liosilpha vittata</i> n. sp.	S. Annam.
<i>Allacta modesta</i> Brunner von Wattenwyl. Ann. Mus. Genova, (2) vol. xiii, p. 21, pl. 1, fig. 5 (1893).	Burma.

	<i>Distribution.</i>
<i>Ceratinoptera annamensis</i> n. sp.	S. Annam.
<i>Temnopteryx (?) cincta</i> n. sp.	S. Annam.
Sub-family 4. EPILAMPRINAE.	
<i>Homalopteryx malcolmsmithi</i> n. sp.	S. Annam.
<i>Phlebonotus pallens</i> Serville.	Bengal; Assam; Ceylon; Java.
Ann. Sci. Nat., vol. xxii, p. 17 (1831); Shelford, Gen. Ins., Epilamprinæ, p. 5, pl. 1, figs. 3 & 4 (1910); Hanitsch, J., S. B., R. A. S., No. 69, p. 64 (1915).	
<i>Morphna maculata</i> Brunner von Wattenwyl.	Malay Pen.; Borneo; Java?; Formosa.
Nouv. Syst. B'att., p. 179 (1865); Hanitsch, J., S. B., R. A. S., No. 69, p. 65, pl. 4, fig. 16 (1915); Karny, Suppl. Entom. No. 4, p. 98 (1915).	
<i>Opisthoplatia maculata</i> Shiraki.	Formosa.
Annot. Zool. Jap., p. 32, pl. 2, fig. 4 (1906).	
<i>Opisthoplatia orientalis</i> Burmeister.	India; China.
Handb. Entom. vol. ii, p. 482 (1838); Brunner, Nouv. Syst. Blatt., p. 199, pl. 5, fig. 22 (1865).	
<i>Pseudophoraspis fruhstorferi</i> Shelford.	Tonkin.
Gen. Insect., Epilamprinæ, p. 12, pl. 2, fig. 3 (1910).	
<i>Rhabdoblaatta abdominalis</i> Kirby.	Tonkin.
A. M. N. H. (7), vol. xii, p. 279 (1903).	
<i>Rhabdoblaatta horologica</i> Kirby.	Khasia Hills, Assam.
A. M. N. H. (7), vol. xii, p. 280 (1903).	
<i>Rhabdoblaatta imperatrix</i> Kirby.	Tonkin.
A. M. N. H. (7), vol. xii, p. 274 (1903).	
<i>Rhabdoblaatta regina</i> Saussure.	Cochin China.
Mém. Soc. Sc. Phys. Nat. Genève, vol. xx, p. 270 (1869).	
<i>Epilampra alligata</i> Walker.	Hongkong.
Cat. Blatt. Brit. Mus., p. 71 (1868). = <i>E. munda</i> Walker = <i>E. isochroma</i> Walker.	
<i>Epilampra annandalei</i> Shelford.	Lower Burma.
Records Ind. Mus., vol. iii, p. 127 (1909).	
<i>Epilampra excelsa</i> Navás.	Himalayas.
Bol. Soc. Aragon, vol. iii, p. 131 (1904).	
<i>Epilampra formosana</i> Shiraki.	Formosa.
Trans. Sapporo Nat. Hist. Soc., vol. i, part 2, p. 3 (1905-6.)	
<i>Epilampra imitans</i> Brunner von Wattenwyl.	Burma;

	<i>Distribution.</i>
<i>Epilampra marmorata</i> Brunner von Wattenwyl. Ann. Mus. Genova, (2) vol. xiii, p. 29, pl. 1, fig. 10 (1893).	Tenasserim.
<i>Epilampra moloch</i> Rehn. Proc. U. S. Nat. Mus., vol. xxvii, p. 550 (1904).	Burma.
<i>Epilampra monticola</i> Kirby. A. M. N. H. (7), vol. xii, p. 277 (1903).	Lower Siam.
<i>Epilampra olivacea</i> Saussure. Mém. Soc. Sc. Phys. Nat. Genève, vol. xx, p. 267 (1869).	Tonkin.
<i>E. immaculata</i> Kirby, A. M. N. H. (7), vol. xii, p. 279 (1903).	Cochin China ; Tonkin.
<i>Epilampra pallida</i> Kirby. A. M. N. H. (7), vol. xii, p. 278 (1903).	Tonkin.
<i>Epilampra punctata</i> Brunner von Wattenwyl. Nouv. Syst. Blatt., p. 173 (1865); Karny, Suppl. Entom., No. 4, p. 98 (1915).	Ceylon ; Formosa.
<i>Epilampra sinensis</i> Walker. Cat. Blatt. Brit. Mus. p. 197 (1868).	Hongkong.
<i>Epilampra truongana</i> Rehn. Proc. U. S. Nat. Mus., vol. xxvii, p. 548 (1904).	Lower Siam.
<i>Epilampra annamensis</i> n. sp.	S. Annam.
<i>Epilampra klossii</i> n. sp.	S. Annam.
<i>Epilampra sublurida</i> n. sp.	S. Annam.
<i>Rhienoda desidiosa</i> Rehn. Proc. U. S. Nat. Mus., vol. xxvii, p. 552 (1904).	Lower Siam.
<i>Rhienoda plicata</i> Navás. Bol. Soc. Aragón, vol. iii, p. 130 (1904).	Himalayas.
<i>Rhienoda rugosa</i> Brunner von Wattenwyl. Ann. Mus. Genova, (2) vol. xiii, p. 31, pl. 1, fig. 2 (1893); Hanitsch, J., S. B., R. A. S., No. 69, p. 93, pl. 3, fig. 18 (1915).	Burma ; Pegu ; Tenasserim ; Mal- ay Pen. ; Borneo ; Sumatra ; Java ; Halmahera.
<i>Cilolampra laevis</i> Brunner von Wattenwyl. Ann. Mus. Genova, (2) vol. xiii, p. 28 (1893).	Burma ; Tenasserim.
<i>Calolampra marginata</i> Brunner von Wattenwyl. Ann. Mus. Genova, (2) vol. xiii, p. 28, pl. 1, fig. 9 (1893).	Pegu.
<i>Calolampra pedisequa</i> Rehn.	Lower Siam.

*Distribution.*

Proc. U. S. Nat. Mus., vol. xxvii, p. 547 (1904).

## SUB-FAMILY 5. BLATTINAE.

*Platyzosteria soror* Brunner von Wattenwyl.

Nouv. Syst. Blatt. p. 219 (1865); Hanitsch, J., S. B., R. A. S., No. 69, p. 98, pl. 5, fig. 29 (1915); *P. semicincta*, Walker.

Malay Pen.; Borneo; Formosa; Austro-Mal.; Melanesian and Polynesian Is.

*Cutilia nitida* Brunner von Wattenwyl.

Nouv. Syst. Blatt., p. 214 (1865); Hanitsch, J., M. B., R. A. S., vol. i, p. 433, pl. xiii, fig. 8 (1923).

Amboina; Ceram; N. Guinea; N. S. Wales; Solomon I.; Philippines; Formosa; Malay Archipelago.

*Methana pallipalpis* Serville.

Hist. Nat. Ins. Orth. p. 71 (1839); Shiraki, Trans. Sapporo N. H., Soc., vol. i, part 2, p. 4 (1905-6); Hanitsch, J., M. B., R. A. S., vol. i., p. 434 (1923).

Malay Pen.; Sumatra; Java; Borneo; Formosa; Talaut; Ceram; Australia.

*Dorylaea flavicincta* de Haan.

Temminck, Verh. Orthoptera, p. 50 (1842); Karny, Suppl. Entomol., No., 4, p. 97 (1915); Hanitsch, J., M. B., R. A. S., vol. i, p. 437 (1923).

Malay Pen.; Sumatra; Java; Borneo; Formosa; Madagascar.

*Blatta concinna* de Haan.

Temminck, Verh. Orthoptera, p. 50 (1842); Hanitsch, J., S.B., R.A.S., No. 69, pl. i, fig. 6 (1915).

Burma; Malay Arch.; Hong-kong; Japan; Australia.

*Blatta orientalis* L.

Syst. Nat. (ed. X), vol. i, p. 424 (1758); Hanitsch, J., S.B., R.A.S., No. 69, p. 103 (1915).

Cosmopolitan.

*Blatta sinuata* Brunner von Wattenwyl.

Ann. Mus. Genova, vol. xiii, p. 35, pl. 1, fig. 12 (1893).

Burma.

*Stylopyga rhombifolia* Stoll.

Spectres, Blattes etc. p. 5, pl. 3, d., fig. 13 (1813); Hanitsch, J., S. B., R. A. S., No. 69, p. 105, pl. 5, fig. 24 (1915).

Cosmopolitan.

*Stylopyga flavomarginata* n. sp.

S. Annam.

*Periplaneta americana* L.

Cosmopolitan.

Syst. Nat. (ed. x), vol. i. p. 424 (1758); Hanitsch, J., S. B., R. A. S., No. 69, p. 108, pl. 4, fig. 21 (1915).

*Periplaneta australasiae* Fab.

Cosmopolitan.

*Distribution.*

<i>Syst. Entom.</i> , p. 271 (1775); Hanitsch, J., S. B., R. A. S., No. 69, p. 10 <sup>3</sup> , pl. 4, fig. 22 (1915).	
<i>Periplaneta formosana</i> Karny.	Formosa.
Suppl. Entomol., No. 4, p. 96 (1915).	
<i>Periplaneta gracilis</i> Brunner von Wattenwyl.	Burma.
Ann. Mus. Genova, (2) vol. xiii, p. 36 pl. 1, fig. 4 (1893).	
<i>Periplaneta nivei-palpis</i> Hanitsch.	Sarawak ; Saigon.
Journal, Sarawak Museum, vol. iii, p. 96 (1925).	
<i>Periplaneta picea</i> Shiraki.	Japan ; Formosa.
Annot. Zool. Jap., vol. vi, p. 26, pl. 2, fig. 3 (1906); Karny, Suppl. Entomol., No. 4, p. 97 (1915).	
<i>Periplaneta valida</i> Brunner von Wattenwyl.	Pegu.
Ann. Mus. Genova, (2) vol. xiii, p. 36, pl. 1, fig. 13 (1893).	
<i>Periplaneta elegans</i> n. sp.	S. Annam.
<i>Homalosilpha gaudens</i> Shelford.	Tonkin ; Formosa.
Genera Ins., Blattinae, p. 19 (1910); Karny, Suppl. Entomol., No. 4 p. 96 (1915).	
<i>Homalosilpha ustulata</i> Burmeister.	India ; Burma ; Pegu : Malay Pen. ; Malay Arch.
Handb. Entomol., vol. ii, p. 503 (1838); Hanitsch, J., S. B., R. A. S., No. 69, p. 112, pl. 7, fig. 38 (1915).	
<i>Protagonista lugubris</i> Shelford.	Tonkin.
A. M. N. H. (8), vol. i, p. 158, pl. 9, fig. 1 (1908).	
<i>Spelaeoblatta gestroi</i> Bolivar.	Burma.
Ann. Mus. Genova, vol. xxxviii, p. 32 (1897).	
Sub-family 6. PANCHLORINAE.	
<i>Rhyparobia maderae</i> Fab.	Cosmopolitan.
Entomologia syst., vol. ii, p. 6, n. 2 (1792-4); Hanitsch, J., S. B., R. A. S., No. 69, p. 120 (1915).	
<i>Leucophaea conferta</i> Walker.	Siam.
Cat. Blatt. Brit. Mus., Suppl., p. 148 (1869).	
<i>Leucophaea nigra</i> Brunner von Wattenwyl.	Yunnan; Burma; Sumatra ; Java.
Nouv. Syst. Blatt., p. 280 (1865); Hanitsch, J., S. B., R. A. S., No. 69, p. 122 (1915).	
<i>Leucophaea surinamensis</i> L.	Cosmopolitan.
Syst. Nat. (ed. xii), vol. ii, p. 688 (1766-68); Hanitsch, J., S. B., R. A. S., No. 69, p. 121 (1915).	

*Distribution.*

\* *Nauphoeta basalis* Kirby.

A. M. N. H. (7), vol. xii, p. 378 (1903).

## Sub-family 8. CORYDINAE.

*Corydia aenea* Brunner von Wattenwyl.

Nouv. Syst. Blatt. p. 340 (1865); id., Ann. Mus. Genova, (2) vol. xiii, p. 39, pl. 1, fig. 15 (1893).

*Corydia dasytoides* Walker.

Cat. Blatt. Brit. Mus., p. 191 (1868).

*Corydia plagiata* Walker.

Cat. Blatt. Brit. Mus., p. 58 (1868).  
*C. elegans* Brunner von Wattenwyl, Ann. Mus., Genova, (2) vol. xiii, p. 39, pl. 1, fig. 16 (1893).

*Corydia purpurealis* Kirby.

A. M. N. H. (7), vol. xi, p. 405 (1903).

*Corydia westwoodii* Gerstäcker.

Archiv f. Naturg., vol. xxvii, p. 114 (1861).

*Corydia zonata* Shiraki.

Trans. Sapporo N. H. S., vol. ii, p. 110 (1907-8); Karny, Suppl. Entomol., No. 4, p. 95 (1915).

*Alluaudella himalayensis* Gravely.

Records Ind. Mus., vol. v, p. 309, pl. 20, fig. 5 (1910).

*Polyphaga everestiana* Chopard.

Bull. Soc. ent. France, p. 196 (1922).

*Polyphaga thibetana* Chopard.

Bull. Soc. ent. France, p. 195 (1922).

*Polyphaga yunnanensis* Chopard.

Bull. Soc. ent. France, p. 195 (1922).

*Dyscologamia capucina* Brunner von Wattenwyl.

Ann. Mus. Genova, (2) vol. xiii, p. 39, pl. 1, fig. 17a & b (1893); Hanitsch, J., S. B., R. A. S., No. 69, p. 129 (1915).

*Dyscologamia nepalensis* Saussure.

Rev. Suisse Zool., vol. i, p. 300 (1893).

*Dyscologamia silphoides* Walker.

Cat. Blatt. Brit. Mus., p. 182 (1868).

Pegu.

Amoy ; Tonkin.

India ; Burma.

S. W. Fokien.

Assam.

Formosa.

Kurseong,  
Himalayas.

Mt. Everest.

Tibet.

Yunnan.

Tenasserim ;  
Burma ; Borneo.

Sikkim.

Cambodia.

\* Systematic position doubtful.

*Distribution.*

\**Ipolutta paradoxa* Karny.

Entom. Mitteil. vol. iii, p. 250 (1914).

*Ctenoneura major* Hanitsch.

Journal, Sarawak Museum, vol. iii (Part 1.), p. 102 (1925).

Khasia Hills,  
Assam.

Sarawak;  
S. Annam.

## Sub-family 9. OXYHALOINAE.

*Diploptera dytiscoides* Serville.

Ins. Orth., p. 102 (1839); Hanitsch, J., S. B., R. A. S., No. 69, p. 133, pl. vi, fig. 31 (1915); id., J., M. B., R. A. S., vol. i, p. 449 (1923).

Ceylon; Burma;  
Malay Pen.: Borneo; Philippines;  
Burū; Australia;  
Honolulu; Tahiti;  
Hawaii.

*Chorisoneura flavoantennata* Brunner von Wattenwyl.

Nouv. Syst. Blatt., p. 257 (1865); Shiraki, Trans. Sapporo N. H. S., vol. i, part 2, p. 5 (1905-6).

*Chorisoneura lativitrea* Walker.

Cat. Blatt. Brit. Mus., p. 223 (1868); Hanitsch, J., S. B., R. A. S., No. 69, p. 134 (1915); id., J., M. B., R. A. S., vol. i, p. 449 (1923).

Cambodia; Sarawak; Singapore.

*Chorisoneura nigra* Shiraki.

Trans. Sapporo N. H. S., vol. ii, parts 1-2, p. 109 (1907-8).

Formosa.

*Chorisonoura sagittaria* n.sp.

S. Annam.

## Sub-family 10. PERISPHAERINAE.

*Paranauphoeta affinis* Shelford.

Bhutan.

Trans. Ent. Soc., London, p. 275 (1906).

*Paranauphoeta circumdata* de Haan.

Sumatra; Borneo; Cambodia;  
Assam.

Temminck, Verhand. Orthopt., p. 52 (1842); Hanitsch, J., S. B., R. A. S., No. 69, p. 138 (1915).

*Paranauphoeta indica* Saussure & Zehntner.

Assam.

Rev. Suisse Zool., vol. iii, pp. 8 & 15 (1895).

*Paranauphoeta lyrata* Burmeister.

Celebes; Philippines; India; Lower Siam; Malay Pen.; Sumatra; Borneo; Java.

Handb. Entom., vol. ii, p. 508 (1838); Hanitsch, J., S. B., R. A. S., No. 69, p. 139, pl. 6, fig. 32 (1915).

*Paranauphoeta shelfordi* Karny.

Formosa.

\* Systematic position doubtful.

*Distribution.*

Suppl. Entom. No. 4, p. 94 (1915).	
<i>Paranauphoeta vicina</i> Brunner von Wattenwyl.	Pegu.
Ann. Mus. Genova, (2) vol. xiii, p. 44 pl. 1, fig. 19 (1893).	
<i>Perisphaeria brunneri</i> Kirby.	Burma ; Pegu ; Tenasserim.
Kirby, Syn. Cat. Orthopt., vol. i, p. 189 (1904).	
<i>Pseudoglomeris fornicata</i> Brunner von Wattenwyl,	
Ann. Mus. Genova, (2) vol. xiii, p. 43, pl. 1, fig. 18 (1893).	
<i>Perisphaeria cotesiana</i> Saussure & Zehntner.	Assam.
Rev. Suisse Zool., vol. iii, p. 32 (1895).	
<i>Perisphaeria glomeriformis</i> Lucas.	Cochin China ; Philippines ; Malay Pen.
Ann. Soc. ent. France (4), vol. iii, p. 408, pl. 9, figs. 10 and 10a (1863) ; Hanitsch, J., S. B., R. A. S., No. 69, p. 142, pl. 7, fig. 40 (1915).	
<i>Perisphaeria himalayaea</i> Saussure & Zehntner.	Assam.
Rev. Suisse Zool., vol. iii, p. 36 (1895).	
<i>Perisphaeria pygmaea</i> Karny.	Formosa.
Suppl. Entom. No. 4, p. 92 (1915).	
<i>Perisphaeria semilunata</i> n. sp.	S. Annam.
<i>Perisphaeria multipunctata</i> n. sp.	S. Annam.
<i>Psudogloemeris flavicornis</i> Burmeister.	India; Assam; Te- nasserim; Cambo- dia; Java; Borneo.
<i>Pseudoglomeris magnifica</i> Shelford.	Tonkin.
A. M. N. H. (7), vol. xix, p. 48 (1907).	
<i>Pseudoglomeris dubia</i> Hanitsch.	Yunnan.
<i>Pseudoglomeris semisulcata</i> Hanitsch.	Yunnan.
<i>Pseudoglomeris nepalensis</i> Saussure & Zehntner.	Sikkim.
Rev. Suisse Zool., vol. iii, p. 37 (1895).	
<i>Pseudoglomeris planiuscula</i> Brunner von Wattenwyl.	Burma ; Tonkin ; Formosa ; " Malacca."
Ann. Mus. Genova, (2) vol. xiii, p. 44 (1893) ; Karny, Suppl. Entom., No. 4, p. 91 (1915) ; Hanitsch, J., M. B., R. A. S., vol. i, p. 453 (1923).	
* <i>Kurokia nigra</i> Shiraki.	Formosa.
Trans. Sapporo N. H. S., vol. i, p. 6 (1905-6).	

\*According to Karny (Suppl. Entom., No. 4, p. 91) probably identical with *Pseudoglomeris planiuscula* Brunner.

*Distribution.**Stilpnoblatta bengalensis* Saussure.

Mém. Soc. Genève, vol. xx, p. 284 (1869).

India ; Cochin  
China.

## Sub-family 11. PANESTHINAE.

*Salganea morio* Burmeister.

Handb. Entom. p. 513 (1838) ; Karny, Suppl. Entom. No. 4, p. 91 (1915) ; Hanitsch, J., S. B., R. A. S., No. 69, p. 145 (1915) ; id. J., M. B., R. A. S., vol. i, p. 455, pl. 12, fig. 12 (1923).

Malay Pen. ; Sumatra ; Java ; Borneo ; Formosa ; Amboina ; Burma ; Ceylon.

*Salganea passalooides* Walker.

Cat. Blatt. Brit. Mus., p. 22 (1868) ; Karny, Suppl. Entom., No. 4, p. 91 (1915).

Ceylon ; Formosa.

*Caeparia saussurii* Wood-Mason.

J. Asiat. Soc. Bengal, vol. xlv (2), p. 190 (1876) ; id. A. M. N. H. (4), vol. xix, p. 118 (1877).

Sikkim.

*Panesthia angustipennis* Illiger.

Magaz. Insekt., vol. i, p. 185 (1801) ; Karny, Suppl. Entom., No. 4, p. 91 (1915) ; Hanitsch, J., S. B., R. A. S., No. 69, p. 149 (1915).

Singapore ; Sumatra ; Borneo ; Philippines ; Formosa ; Amboina ; Pondicherry.

*Panesthia antennata* Brunner von Wattenwyl.

Ann. Mus. Genova, (2) vol. xiii, p. 50 (1893).

Burma.

*Panesthia biglumis* Saussure.

Rev. Suisse Zool. vol. iii, p. 319 (1895) ; Hanitsch, J., S. B., R. A. S., No. 9 p. 150 (1915).

India ; Sikkim ; Java ? Philippines (in O.U.M.).

*Panesthia birmanica* Brunner von Wattenwyl.

Ann. Mus. Genova, (2) vol. xiii, p. 54 (1893).

Tenasserim.

*Panesthia flavipennis* Wood-Mason.

J. Asiat. Soc. Bengal, vol. xlv, (2) p. 190 (1876) ; id., A. M. N. H. (4), vol. xix, p. 117 (1877).

Naga Hills ; Brahmaputra.

*Panesthia incerta* Brunner von Wattenwyl.

Ann. Mus. Genova, (2) vol. xiii, p. 50 (1893) ; Karny, Suppl. Entom. No. 4, p. 91 (1915).

Burma ; Formosa

*Panesthia javanica* Serville.

Ann. Sci. Nat., vol. xxii, p. 38 (1831) ; Hanitsch, J., S. B., R. A. S., No. 69 p. 147, pl. 6, fig. 34 (1915).

Burma ; Cambodia ; Lower Siam ; Malay Pen. ; Sumatra ; Java ; Borneo ; Philippines.

*Panesthia mandarinea* Saussure.

Mém. Soc. Genève, vol. xvii, p. 168, pl. 1, fig. 25 (1863) ; Hanitsch, J., S. B., R. A. S.,

Burma ; China ; Malay Pen. ; Borneo.

*Distribution.*

No. 69, p. 149, pl. 6, fig. 33 (1915).	
<i>Panesthia necrophoroides</i> Walker.	Tenasserim.
Cat. Blatt. Brit. Mus., p. 22 (1868).	
<i>Panesthia regalis</i> Walker.	Silhet; Assam; Annam.
Cat. Blatt. Brit. Mus., p. 21 (1868).	
<i>P. bengalica</i> Brunner, Ann. Mus. Genova, (2) vol. xiii, p. 52 (1893).	
<i>Panesthia saussurii</i> Stål.	Philippines; Formosa; Malay Pen.; Sumatra; Java; Borneo; Ceram; N. Guinea; N. S. Wales.
Ofver. K. Vet. Akad. Förh., vol. xxxiv (No. 10), p. 37 (1877); Karny, Suppl. Entom. No. 4, p. 90 (1915); Hanitsch, J., M. B., R. A. S., vol. i, p. 457 (1923).	
<i>Panesthia stellata</i> Saussure.	Sikkim.
Rev. Suisse Zool., vol. iii, p. 313 (1895).	
<i>Panesthia transversa</i> Burmeister.	Java; Burma.
Handb. Entom., vol. ii, p. 513 (1838); Brunner, Ann. Mus. Genova, (2) vol. xiii, p. 51 (1893).	
<i>Panesthia triangulifera</i> n. sp.	S. Annam.
<i>Miopanesthia bigibbosa</i> Saussure.	Sikkim; Khasia Hills.
Rev. Suisse Zool., vol. iii, p. 324, pl. 9, fig. 1 (1895).	
<i>Miopanesthia discoidalis</i> Saussure.	Java; India; S. Annam; Mal. Pen.; N. Celebes.
Rev. Suisse Zool., vol. iii, p. 326 (1895); Hanitsch, J., S. B., R. A. S., No. 69, p. 157 (1915); id., J., M. B., R. A. S., vol. i, p. 459 (1923).	

**BIBLIOGRAPHY.**

- BOLIVAR, IGNACIO, Viaggio di Leonardo Fea in Birmania e regioni vicine. lxxviii. Nouvelle espèce cavernicole de la famille des Blattaires. Ann. Mus. Genova, vol. xxxviii, pp. 32-36 (1897).
- BRUNNER VON WATTENWYL, C., Nouveau Système des Blattaires. Vienne, 1865.
- BRUNNER VON WATTENWYL, C., Revision du Système des Orthoptères. Annali del Museo civico di Storia Naturale di Genova, (2) vol. xiii, pp. 1-230, pls. 1-6 (1893).
- BURMEISTER, H., Handbuch der Entomologie. vol. ii. Berlin, 1839.
- CHOPARD, L., Les Orthoptères cavernicoles de Birmanie et de la Péninsule Malaise. Mem. Asiat. Soc., Bengal, vol. iii, pp. 339-396, pls. 12-14 (1919).
- CHOPARD, L., Les Polyphaga du groupe du *sinensis* Walker. Bull. Soc. entom. France, pp. 194-196, 1 pl. (1922).

- FABRICIUS, JOH. CHRIST., Species Insectorum. 2 vols. Hamburg and Kiel, 1781.
- FABRICIUS, JOH. CHRIST., Entomologia systematica emendata et aucta. vol. ii. Hafniae, 1792-94.
- GERSTLECKER, A., Ueber das Vorkommen von ausstülpbaren Hautanhängen am Hinterleibe von Schaben. Archiv für Naturgeschichte, vol. xxvii, pp. 107-115 (1861).
- GRAVELY, F. H., *Alluaudella himalayensis*, a new species of degenerate (♂) Cockroach, with an account of the venation found in the genera *Cardax* and *Alluaudella*. Rec. Ind. Mus. Calcutta, vol. v, pp. 307-311, pl. 20 (1910).
- HAAN, W. de, Bijdragen tot de Kennis der Orthopteren. In: C. J. Temminck, Verhandelingen over de Natuurlijke Geschiedenis der Nederlandsche overzeesche bezittingen. Leiden, 1839-1844.
- HANITSCH, R., Malayan Blattidæ. Journal, Straits Branch, R. Asiatic Society, No. 69, pp. 17-178, pls. 1-7 (1915).
- HANITSCH, R., Malayan Blattidae. Part II. Journal Malayan Branch, R. Asiatic Society, voi. i, pp. 393-474, pls. 12 & 13 (1923).
- HANITSCH, R., Blattidae collected by Prof. Gregory's expedition to Yunnan. Journ. Asiat. Soc. Bengal, N. S. XX, 1924, p. 338.
- HANITSCH, R., on a collection of Blattidae from Northern Sarawak, chiefly Mt. Murud and Mt. Dulit. Journal, Sarawak Museum, vol. iii, pp. 75-106 (1925).
- ILLIGER, KARL, Neue Insekten. Magazin für Insekten kunde. vol. i. Braunschweig, 1801.
- KARNY, H., Orthoptera. In: Wissenschaftliche Ergebnisse der Expedition Filchner nach China und Tibet, 1903-1905, vol. x, part 1, pp. 1-56. Berlin, 1908.
- KARNY, H., Ein neues Blattiden-Genus aus Assam. Entom. Mitteil. vol. iii, p. 250 (1914).
- KARNY, H., H. Sauter's Formosa-Ausbeute. Orthoptera et Oothecaria. Supplementa Eutomologica, No. 4, pp. 56-108 (1915).
- KIRBY, W. F., Notes on Blattidae etc., with Descriptions of new Genera and Species in the Collection of the British Museum, South Kensington. No. I, Annals and Magazine of Natural History, (7), vol. xi (1903), pp. 404-415.—No. II, ibid. (7), vol. xii (1903), pp. 273-280.—No. III, ibid. (7), vol. xii, (1903), pp. 373-381.
- KIRBY, W. F., A synonymic Catalogue of Orthoptera. 3 vols. London, 1904-1910.
- LINNÉ, C., Systema Naturae. Editio xii. 1767.

- LUCAS, H., Quelques Remarques sur le genre *Perisphaera*, Orthoptère de la famille des Blattaires. Annales de la Société Entomologique de France, (4), vol. iii, pp. 405-409, pl. 9, figs. 10-10c (1863).
- NAVAS, L., Notas Zoológicas. iii. Algunos Insectos de Kurseong en la Cordillera del Himalaya. Bol. Soc. Aragon, vol. iii, pp. 129-134 (1904).
- REHN, JAMES A. G., Studies in Old World Forficulids or Earwigs, and Blattids or Cockroaches. Proc. U. S. National Museum, vol. xxvii, pp. 539-560 (1904).
- SAUSSURE, H. de, Mélanges Orthoptérologiques. Mémoires de la Société de Physique et d'Histoire naturelle de Genève. vol. xvii, pp. 129-170, 1 pl. (1863); vol. xx, pp. 227-326, 2 pls. (1869); vol. xxiii, pp. 1-164, 3 pls. (1872).
- SAUSSURE, H. de, Revision de la tribu des Hétérogamiens. Revue suisse de Zoologie, vol. i, pp. 289-318 (1893).
- SAUSSURE, H. de, Revision de la tribu des Panesthiens et celle des Epilampriens. Revue suisse de Zoologie, vol. iii, pp. 299-364, pl. 9 (1895).
- SAUSSURE, H. DE, and LEO ZEHNTNER, Revision de la tribu des Perisphériens. Revue Suisse de Zoologie, vol. iii, pp. 1-60, pl. I (1895).
- SAUSSURE, H. de, and LEO ZEHNTNER, Histoire naturelle des Orthoptères 1<sup>re</sup> partie. Blattides et Mantides. In "Histoire physique, naturelle et politique de Madagascar" by A. Grandidier, vol. xxiii, xvi and 244 pp., iv and 10 pls. Paris, 1895.
- SERVILLE, AUDINET, Revue méthodique des Insectes de l'ordre des Orthoptères. Ann. Sci. Nat., Zool., vol. xxii (1831).
- SERVILLE, AUDINET, Histoire naturelle des Insectes.—Orthoptères. Paris, 1839.
- SHELFORD, R., Studies of the Blattidae. Transactions, Entomological Society, London: 1906, pp. 231-280, pls. 14-16; pp. 487-519, pl. 30; 1907, pp. 455-470; 1909, pp. 253-327, pls. 7-9; 1912, pp. 643-661, pls. 79-80.
- SHELFORD, R., Aquatic Cockroaches. The Zoologist, (4), vol. xi, pp. 221-226 (1907).
- SHELFORD, R., On some new species of Blattidae in the Oxford and Paris Museums. Annals and Magazine of Natural History, (7), vol. xix, pp. 25-49 (1907).
- SHELFORD, R., Some new Genera and Species of Blattidae, with Notes on the Form of the Pronotum in the Sub-family Perisphaerinae. Annals and Magazine of Natural History, (8) vol. i, pp. 157-177, pls. 9 and 10 (1908).

- SHELFORD, R., Orthoptera, Fam. Blattidae, in 'Genera Insectorum,' Sub-fam. Ectobinae, fasc. 55, pp. 1-13, 1 pl. (1907).  
 Sub-fam. Phyllodromiinae, fasc. 73, pp. 1-29, 2 pls. (1908).  
 Sub-fam. Nyctiborinae, fasc. 74, pp. 1-5, 1 pl. (1908).  
 Sub-fam. Epilamprinae, fasc. 101, pp. 1-21, 2 pls. (1910).  
 Sub-fam. Blattinae, fasc. 109, pp. 1-27, 2 pls. (1910).
- SHELFORD, R., Note on some Amphibious Cockroaches. Records, Indian Museum, Calcutta, vol. iii, pp. 125-127, 2 figs. (1909).
- SHELFORD, R., Descriptions of some new genera and species of Blattidae (Orth.). Deutsche Entomol. Zeitschrift, pp. 611-624 (1909).
- SHIRAKI, T., Die Blattiden Japans. Annotationes Zoologicae Japonenses, vol. vi, part 1, pp. 17-35, pl. II (1906).
- SHIRAKI, T., Neue Forficuliden und Blattiden Japans. Trans. Sapporo Nat. Hist. Soc., vol. i, part 2, pp. 1-14 (1905-1906).
- SHIRAKI, T., Neue Blattiden und Forficuliden Japans. Trans. Sapporo Nat. Hist. Soc., vol. ii, parts 1-2, pp. 103-111 (1907-1908).
- STÅL, C., Kong. Svenska Fregatten Eugenies resa omkring jorden under befäl af C. A. Virgin åren 1851-1853. Zoologi v. Stockholm, 1861.
- STÅL, C., Orthoptera nova ex Insulis Philippinis. In: Oefversigt af Kongl. Vet. Akad. Förhandlingar, vol. xxxiv, No. 10, pp. 33-58 (1877).
- STOLL, CASPAR, Représentation exactement colorée d'après nature des Spectres, des Mantes, des Sauterelles, des Grillons, des Criquets et des Blattes. Amsterdam, 1787.
- WALKER, FRANCIS, Catalogue of the Specimens of Blattariae in the Collection of the British Museum. London, 1868.
- WALKER FRANCIS, Supplement to the Catalogue of the Blattariae. London, 1869.
- WALKER FRANCIS, Supplement to the Catalogue of the Blattariae. London, 1871.
- WOOD-MASON, J., Descriptions of new Species of Blattidae belonging to the genus *Panesthia*. Journal, Asiatic Society of Bengal, vol. xlv, part 2, pp. 189-190 (1876).