

**SOME EPHIALTINAE, XORIDINAE AND BANCHINAE
OF THE PHILIPPINES
(Hymenoptera: Ichneumonidae)¹**

By **Setsuya Momoi**²

Abstract: Descriptions of 10 new taxa of Ichneumonidae of the subfamilies Ephialtinae, Xoridinae and Banchinae, together with notes on some other ichneumonflies from the Philippines, are given.

The present article treats material from the Philippines collected by members of the B. P. Bishop Museum and of the Noona Dan Expedition (Petersen, 1966). It includes descriptions of some new taxa, viz., 1 species of *Leptopimpla*, 2 species of *Itopectis*, 2 species of *Coccygomimus*, 2 species of *Syzeuctus*, and 2 species and one subspecies of *Leptobatopsis*, and notes on some other species. Most of the specimens treated in this paper, including type specimens of the new species and subspecies described herein, are housed in the B. P. Bishop Museum (BISHOP) and the Zoological Museum of Copenhagen (COPENHAGEN). Some duplicate specimens are retained in my collection at Kobe University.

I am grateful to Dr J. L. Gressitt and Dr C. Yoshimoto of the B. P. Bishop Museum, Honolulu, and to Dr B. Petersen of the Zoological Museum, Copenhagen, for their kindness in placing the material at my disposal. I am also grateful to Dr H. Townes of the American Entomological Institute, Ann Arbor, for critically reading the manuscript.

Subfamily **Ephialtinae**

Scambus (Scambus) oresbios Baltazar, 1961

SPECIMENS. ♂, Luzon, Mountain Prov., Abatan, Buguias, 60 km S of Bontoc, 1800-2000 m, 1.V.1964, ♂, *ibid.*, 29.V.1964, H. M. Torrevillas.

Flavopimpla nigromaculata (Cameron, 1899)

SPECIMENS. ♀, Busuanga I., 4 km N San Nicolas, 21.V.1962, in Malaise trap, H. Holtmann. ♀, Luzon, Mt Makiling, Laguna, 29.VIII.1922, ♀, Cabibihan, Tayabas, 26.IX.1930, ex. seeds of hagachac, F. C. Hadden.

Leptopimpla baltazarae Momoi, new species Fig. 1.

♀. Temple short, strongly convex, about 0.23 as long as eye in lateral view. Face more or less

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Fig. 1. Tip of ovipositor of *Leptopimpla baltazarae*.

flattened, with fine, very dense punctures and exceedingly dense hairs. Clypeus weakly convex, impressed at apex medially, with very dense punctures, its apex with a distinct median notch. Malar space about 0.2 as long as basal width of mandible. Pronotum with no epomia, with rather coarse dense punctures along its upper margin and in humeral corner. Mesoscutum with coarse punctures that

are mostly distant from one another by about or less than their diameter, with moderately dense hairs. Notaulus distinct. Scutellum with medium sized dense punctures. Mesopleurum polished, with medium sized to rather coarse punctures that are mostly distant from one another by about 2-3 times their diameter, its hind half smooth, the smooth area narrowed ventrally, prepectus with dense punctures that are distant from one another by about 1.0-1.5 their diameter, prepectal carina ending at level of mesopleural pit. Metapleurum polished, with fine punctures that are mostly distant from one another by about 2-4 times their diameter, becoming denser towards front upper corner, hairless and impunctate along upper margin medially. Propodeum coarsely and evenly subrugulose-punctate, with only its apical small depression smooth. Tergite 1 about 1.5 as long as wide, slightly narrowed basally, its apical width about 1.6 times its basal width, its dorsolateral carina short, developed as a small, roughly triangular projection, its dorsomedian carina strongly transverse, thus enclosing very short basal basin. Sternite 1 fused with tergite 1, V-shaped at apex, the lateral part ending at basal 0.6 of tergite 1 and the median part ending at basal 0.3 of the tergite. Tergite 2 about 1.8 as long as wide, about 1.4 as long as tergite 1. Tergite 3 about 1.5 as long as wide. Sternites 2-4 each with indistinct small sclerites. Tergites 1-5 coarsely and densely punctate except in basolateral corners of tergites 2 and 3 and on apical narrow calosities, punctures becoming finer and sparser on tergite 5. Tergites 2-6 each with a pair of tumidities that are elongated on tergites 2-5. Subgenital plate with a large apicomedian membranous excision that extends to near base. Lower valve of ovipositor with about 7 strong ridges at apex, the apical part tending to enclose lower ridge of dorsal valve. Ovipositor sheath about 1.4 as long as fore wing. Hind femur with short dense hairs above, widely scattered somewhat elongate hairs beneath. Nervellus broken at upper 0.3. Fore wing 14.0 mm long.

Black. Face, clypeus, mandible, pronotum, propleurum, mesoscutum, mesopleurum, scutellum and postscutellum red. Metapleurum more or less reddish. Tegula yellow. Tergite 2 and following tergites sometimes narrowly stained with brown at apices and bases. Basolateral corners of tergites 2-4 reddish yellow. Flagellum reddish basally on outer side. Scape reddish beneath. Fore and mid legs light reddish brown, partly light yellowish brown, fore leg more extensively paler. Hind leg black and blackish brown, with base of tibia narrowly white. Wings evenly brown.

Holotype ♀ (BISHOP 9285), Luzon, Camarines Sur, Mt Isarog, 800 m, 27-30.IV.1963, H. M. Torrevillas.

This species is tentatively placed in *Leptopimpla*. It agrees with the known species of the genus in most of the characters and especially in the absence of the epomia and sternite 1 completely fused with the tergite 1. In this species, however, the tergites are not so strongly elongated as in the other species, the oblique groove on either side of tergite 2 is somewhat stronger and longer, and the apical part of the lower valve of the ovipositor tends to enclose the upper valve. In these features and in some other characters it is somewhat allied with the species of *Pimplaetus*, and could be placed in

that genus if the temple were much more buccate, tergite 1 more strongly cylindrical at the base and the oblique groove on tergite 2 much stronger and longer.

This species cannot be placed in *Flavopimpla* nor *Afrephialtes* owing to the facts that the abdomen is much more slender, tergite 1 conspicuously shorter than tergite 2, the epomia absent, the basal basin of tergite 1 much reduced, and sternite 1 fused with tergite 1.

Acropimpla benguetica Baltazar, 1961 Fig. 2 & 3.

SPECIMEN. ♀, Luzon, Mountain Prov., Abatan, Buguias, 60 km S of Bontoc, 1800-2000 m, 5.IV.1964, in light trap, H. M. Torre Villas.

The present specimen disagrees with the original description of *benguetica* in the absence of the areolet and in the minor details of the coloration of the hind tibia and tarsus. Dr H. Townes has kindly compared the specimen with the type specimen and informed me that they are the same species differing only in the absence or presence of the areolet.

Camptotypus (Camptotypus) obiensis spilonota
Roman, 1913

SPECIMEN. ♀, Luzon, Benaue, Ifugao, Mountain Prov., 3550 feet, ca. 1.VI.1957, T. Ellinger.

Sericopimpla (Charitopimpla) species

SPECIMEN. ♂, Palawan, Mantalingajan, Pini-gisan, 600 m, 1.IX.1961, Noona Dan Expedition 1961-62.

The present specimen agrees well with the description of "*Charitopimpla annulipes* group b" of Baltazar (1961). In my opinion, however, it represents a species that is not true *annulipes* but a species of the *sagrae* species group in which there are many species so very much resembling each other that there is considerable confusion among them. This species cannot at present be named.

Sericopimpla (Charitopimpla) species

SPECIMEN. ♀, Tawi Tawi, Tarawakan, north of Batu Batu, 24.X.1961, Noona Dan Expedition 1961-62.

The present specimen agrees well with the description of "*Charitopimpla annulipes*, group a" of Baltazar (1961). It represents a species of the *sagrae* species group, very similar to if not identical with *sagrae* Vollenhoven, 1879

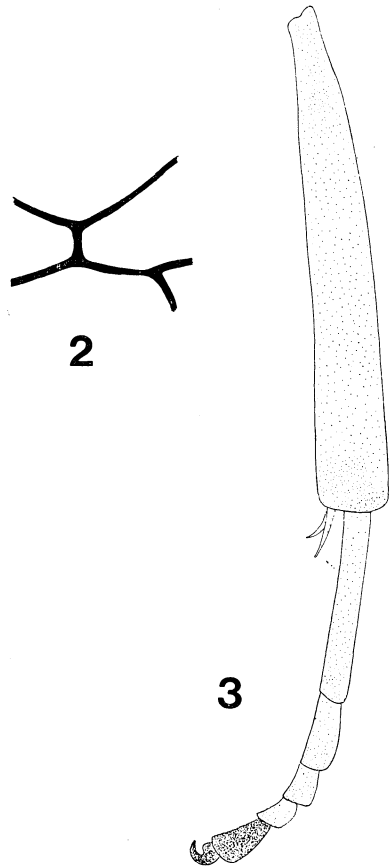


Fig. 2 & 3. *Acropimpla benguetica*: 2, part of right fore wing, showing absence of areolet; 3, hind tibia and tarsus.

Pachymelos orientalis Baltazar, 1961

SPECIMEN. ♀, Luzon, Albay Prov., Mt Mayon (volcano), 16 km NW of Lagaspi, 1900–2000 m, 13.V.1962, H. M. Torrevillas.

Millironia nodata Baltazar, 1964

SPECIMEN. ♀, Mindanao, Cotabato, General Santos, NDC Cotton Proj., 15.VIII.1958, in light trap, H. E. Milliron.

Itopectis leucobasis Momoi, new species Fig. 4.

♀. Flagellum weakly thickened towards apex, with 22–23 segments, its 6th segment from apex about 1.4–1.5 as long as wide. Temple about 0.5 as long as eye in lateral view. Face with fine rather evenly dense punctures. Clypeus with apex subtruncate. Malar space about 0.3 as long as basal width of mandible. Mesoscutum with fine weak punctures and moderately dense hairs. Notaulus a short impression. Mesopleurum largely smooth and hairless, its upper, front and lower portions with some irregularly spaced punctures and hairs. Prepectal carina very weakly sinuate opposite lower level of pronotum. Metapleurum virtually unsculptured, with hairs only along upper and hind margins. Propodeum with no dorsomedian carinae, with somewhat elongate dense hairs on lateral face and on basolateral portion of dorsal face. Tergites 1–5 densely punctate, their apices broadly smooth. Tergite 6 with punctures similar to those on preceding tergites but slightly sparser. Postmedian transverse grooves on tergites 2–5 strong. Fore tarsal claw with a small basal tooth. Hind tarsal segment 5 about 1.2 as long as segment 2. Ovipositor sheath about 1.1 as long as hind tibia, a little shorter than tergites 1–3 combined. Fore wing 3.9–5.0 mm long.

Black. Palpi, pronotum broadly along upper margin and narrowly along lower margin, tegula, tergites 1 and 2, apices, lateral portions and extreme bases of tergites 3 and 4, and apices and lateral (ventral) portions of tergites 5–8 white. Antenna fuscous brown, darkened apically, light reddish brown basally beneath, its scape white beneath. Legs white. Hind coxa and hind femur black. Base and apical 0.5 of hind tibia, apices of hind tarsal segments 1 and 2, segment 3 except for base, and entire segments 4 and 5 blackish brown. Base and apical half of mid tibia, apices of mid tarsal segments 1–3, and entire segments 4 and 5 slightly brownish. Stigma blackish brown. Wings subhyaline.

♂. Essentially similar to ♀. Fore wing 3.7–4.1 mm long.

Holotype ♀ (BISHOP 9286), Luzon, Mountain Prov., Abatan, Buguias, 60 km S of Bontoc, 1900–2000 m, 31.V. – 1.VI.1964, H. M. Torrevillas.

Paratypes. ♀, same locality as the type, 28.V.1964, ♂, *ibid.*, 8.V.1964, ♂, *ibid.*, 28–29.V.1964, 2 ♂♂, *ibid.*, 15.VI.1964, H. M. Torrevillas.

This species is very similar to *australis* Momoi, 1966, from New Guinea, from which it can easily be distinguished by the presence of a white band on the pronotum along its upper margin, the entirely white fore and mid coxae and trochanters and tergites 1 and 2, and the presence of a median white ring on the hind tibia.

Itopectis philippinensis Momoi, new species Fig. 5.

♀. Flagellum weakly thickened towards apex, with 23 segments, its 6th segment from apex about 1.3 as long as wide. Temple about 0.5 as long as eye in lateral view. Face with fine

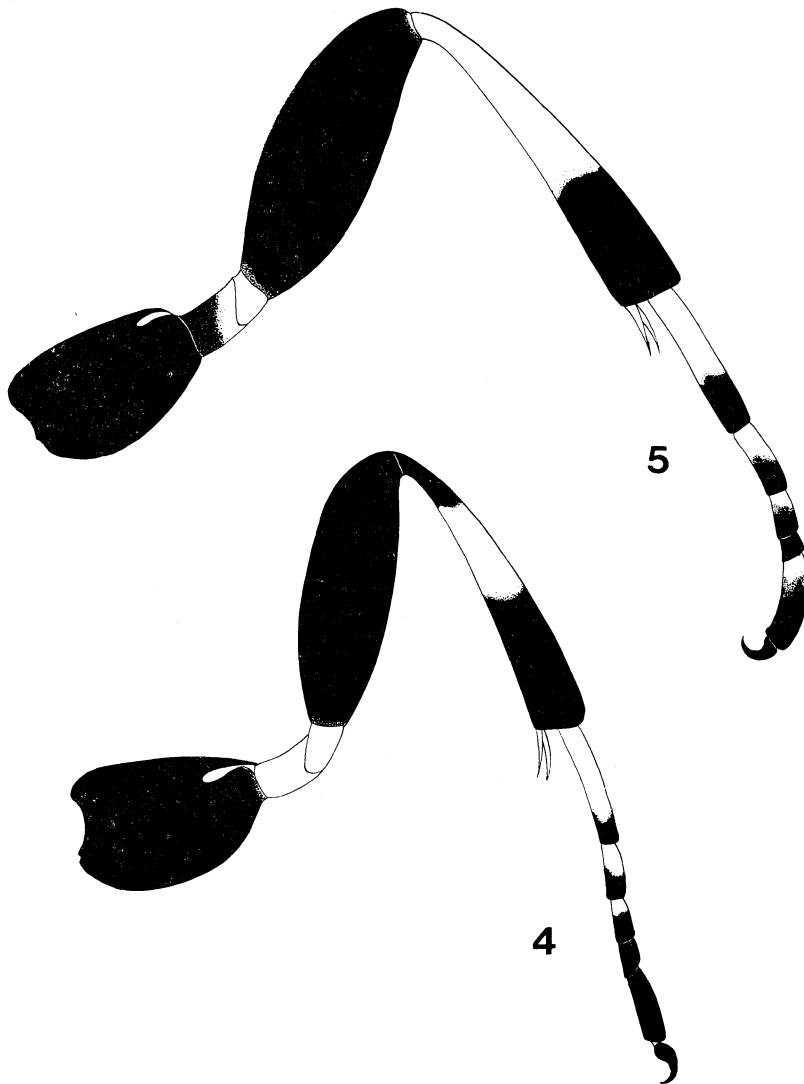


Fig. 4 & 5. Hind leg, ♀ : 4, *Itoplectis leucobasis* ; 5, *Itoplectis philippinensis*.

to medium-sized dense punctures, those on lateral portion somewhat finer and sparser. Clypeus with apex subtruncate. Malar space about 0.3 as long as basal width of mandible. Mesoscutum polished, with weak fine punctures that are mostly distant from one another by more than their diameter, with moderately dense hairs. Mesopleurum with moderately dense hairs and fine punctures, its hind half virtually unsculptured and hairless except for upper and lower portions. Prepectal carina moderately strongly sinuate opposite lower level of pronotum. Metapleurum with moderately dense hairs except on lower half. Propodeum with a pair of rather closely spaced dorsomedian carinae which extend to basal 0.6, with dense, somewhat elongate hairs except for apical declivity and space between the dorsomedian carinae. Tergites 1-5 coarsely

and densely punctate, their apices not smooth but largely with weak punctures. Tergite 6 with punctures a little sparser than those on tergite 5. Postmedian transverse grooves on tergites 2 and 3 rather distinct but interrupted medially, those on tergites 4 and 5 weak or almost absent. Ovipositor sheath a little longer than tergites 1 and 2 combined, and about 1.0 as long as hind tibia. Fore tarsal claw with a basal small tooth. Hind tarsal segment 5 about 1.1 as long as segment 2. Fore wing 7.2 mm long.

Black. Palpi, humeral angle of pronotum and tegula light brown. Tergite 2 and following tergites narrowly light brown or reddish brown at apices. Legs light brown. Fore and mid coxae black, with apices light brown. Hind coxa black. Mid first trochanter with a black blotch on inner side. Hind first trochanter black, with apex light brown. Hind femur black, at base dark brown to light brown, its extreme apex light brown. Apical 0.3-0.4 of hind tibia, apical 0.3-0.4 of hind tarsal segments 1 and 2, apical half of segment 3, and apical 0.7 of segment 5 blackish brown. Similar color pattern repeated on mid tibia and tarsus but infuscation much less strong. Wings subhyaline. Stigma blackish brown.

♂. Essentially similar to ♀. Fore wing 5.1 mm long.

Holotype ♀ (BISHOP 9287), Luzon, Mountain Prov., Abatan, Buguias, 60 km S of Bontoc, 1800-2000 m, 5.IV.1964, H. M. Torrevillas.

Paratypes. 2 ♂♂, same locality as the type, 28-29.V.1964, H. M. Torrevillas.

This species can easily be distinguished from any other known species of the genus from the Oriental region by the almost entirely black hind femur and the absence of blackish marking at the base of the hind tibia.

The 2 species of *Itoplectis* described above may be distinguished by the following key:

Propodeum with no dorsomedian carinae. Tergites bicolored, black and white, the basal 2 tergites entirely white. Hind tibia with a basal blackish ring. **leucobasis**
 Propodeum with distinct dorsomedian carinae. Tergites black, their apices narrowly stained with brown. Hind tibia with no blackish basal ring. **philippinensis**

Coccygomimus distinctus Momoi, new species Fig. 6.

♀. Frons smooth, polished, with hairs only along lateral margin. Face with fine dense punctures, punctures somewhat sparser on lateral portion, with a median indistinct longitudinal welt. Clypeus with a few punctures at base, its apex broadly notched at middle. Malar space about 0.6 as long as basal width of mandible. Pronotum smooth, polished, virtually hairless. Mesoscutum polished, with fine punctures, with rather evenly dense, short hairs. Scutellum polished, smooth, with no lateral carina. Mesopleurum virtually smooth, polished, with a few widely scattered irregularly spaced hairs. Prepectus with very fine dense setiferous punctures. Metapleurum smooth, polished, its hind upper corner finely rugulose, with hairs only along upper and hind margins. Propodeum short, smooth, polished, its dorsal face more or less finely trans-striate and more or less punctate basolaterally, coarsely trans-striate basomedially, with hairs only on basolateral portion of dorsal face, its lateral face virtually hairless. Propodeal spiracle elliptic, medium sized. Tergite 1 as seen in lateral view with its basal oblique truncation extending well beyond middle, with a pair of small central tubercles on summit of its median convexity. Tergites 1-5 more or less mat, with dense punctures except on apices. Tergite 6 faintly mat, with a few fine, scattered punctures and scattered short hairs. Epipleura narrow throughout. Ovipositor not flattened at apex, its sheath about 2.4 as long as tergite 1, about as long as tergites 1-3 combined. Nervulus distinctly distad of basal vein. Fore tarsal segment 4 about as long as wide, not excised. Fore wing 9.4 mm long.

Head and thorax black. Palpi light brown. A broad stripe on upper margin of pronotum

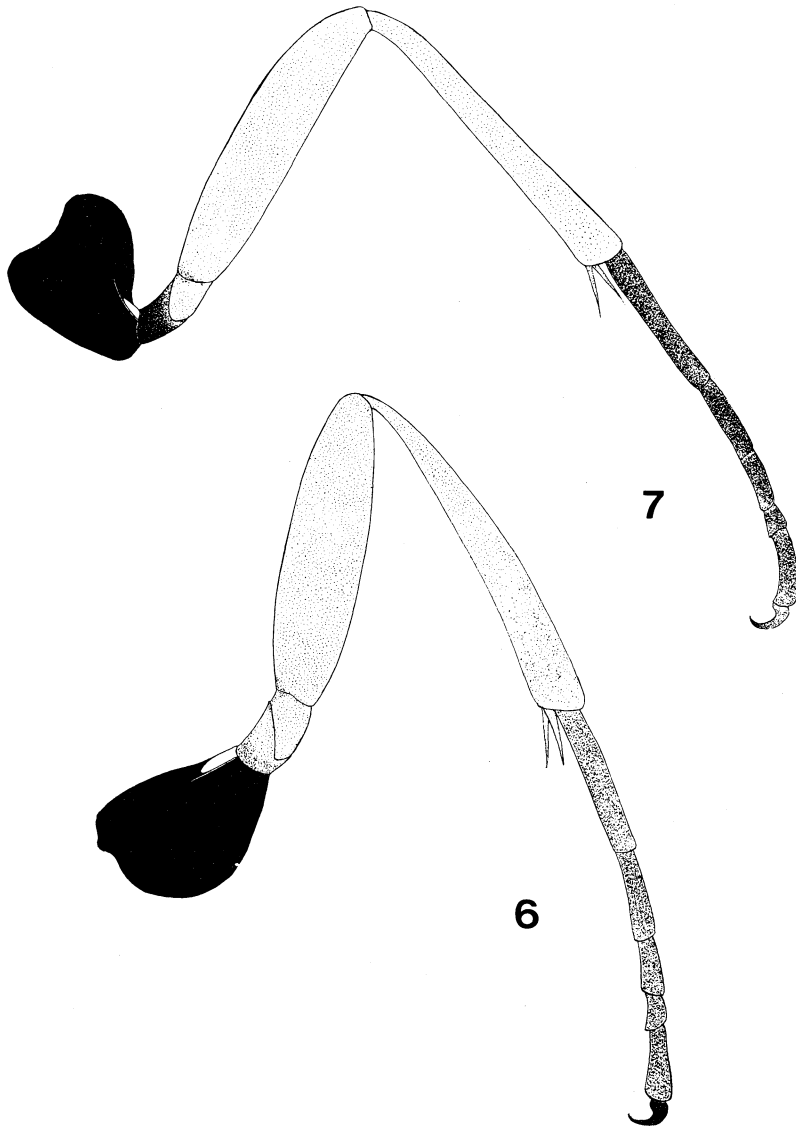


Fig. 6 & 7. Hind leg, ♀ : 6, *Coccygomimus distinctus*; 7, *Coccygomimus erythromerus*.

extending from humeral angle to base of notaulus, spiracular sclerite, tegula, a large spot on scutellum, subtegular ridge, a large apicolateral spot on propodeum, and lower site of scape and pedicel white. Tergites reddish brown, with tergite 1 basally blackish. Ovipositor sheath black. Legs reddish brown, with fore leg slightly paler. Fore coxa, fore trochanters and mid coxa white, the mid coxa black on apical margin. Fore femur dark brown, whitish or yellowish on front side. Hind coxa black. Mid and hind trochanters more or less darkened in part. Hind tibia apically indefinitely darkened, especially above. Fore and mid tarsal segment 5, and

hind tarsus blackish brown. Wings hyaline, fore wing with a distinct preapical cloud. Hairs on body and legs mostly white.

♂. Sculpture finer than in ♀. Flagellum with no distinct raised line. Propodeum with fine punctures basolaterally on dorsal face, otherwise virtually smooth and polished. Tergite 1 more or less flattened, with no central tubercles. Tergites finely and densely punctate, punctures almost obscure within coriacea on hind tergites. White markings on propodeum confluent to form a broad transverse band. Tergite 1 white, with a black marking on basomedian basin. Tergite 2 and following tergites blackish brown, their apices and lateral portions broadly white to light reddish brown, the dark-colored portion less extensive on basal tergites and becoming larger on hind tergites. Fore and mid legs white. Hind coxa black. Hind trochanters light brown, somewhat darkened at base. Hind femur red. Hind tibia yellowish brown, somewhat infusate apically. Hind tarsus blackish brown. Otherwise essentially similar to ♀. Fore wing 6.2 mm long.

Holotype ♀ (BISHOP 9288), Luzon, Mountain Prov., Abatan, Buguias, 60 km S of Bontoc, 1800–2000 m, 28–29.V.1964, H. M. Torre Villas.

Paratype, ♂, same locality as the type, 5.IV.1964, H. M. Torre Villas.

This species is distinctive in the finely and less extensively sculptured, less extensively hairy and conspicuously pale spotted thorax, the largely rufous abdomen, the dark spotted fore wing, the hind tibia lacking pale ring towards the base, and the epipleura narrow throughout. It may belong to a species group of which distribution appears to be centered in New Guinea and the adjacent islands.

Coccygomimus erythromerus Momoi, new species Fig. 7.

♀. Frons finely sculptured above and laterally, smooth and polished ventromedially, with a median longitudinal impression. Face with medium-sized to large, evenly dense punctures that are mostly distant from one another by less than their diameter. Malar space about 0.75 as long as basal width of mandible. Clypeus punctate at base, finely sculptured on apex, the apex subtruncate. Pronotum densely subrugulose-punctate, its lateral scrobe densely rugulose. Mesoscutum with medium-sized very dense punctures, on median lobe somewhat subrugulose-punctate, on lateral lobe punctures mostly distant from one another by less than their diameter and tending to be confluent. Scutellum weakly punctate basally, subrugulose-punctate apically. Mesopleurum with coarse, very dense punctures that are mostly distant from one another by much less than their diameter and tending to be confluent, with an unsculptured area along hind margin, the area narrowed downward but extending towards lower hind corner. Prepectal carina ending at or slightly above level of mesopleural pit. Metapleurum with dense oblique striae, becoming rugulose-punctate dorsad. Propodeum rugulose-punctate, its dorso-medial portion coarsely, rather transversely rugulose, its apical depression rather radially rugulose at middle, sparsely granular laterally. Propodeal spiracle large, linear. Tergites 1–5 more or less mat, densely subrugulose-punctate, punctures becoming finer on hind tergites, their apices with weak fine punctures but not unsculptured. Tergite 6 coriaceous and finely punctate. Tergite 1 with no dorsomedian tubercles, its median elevation evenly convex on each side of middle. Epipleura 2 and 3 narrow, 4 and 5 slightly wider. Nervulus opposite basal vein. Ovipositor slightly flattened at apex, its sheath about 2.0 as long as tergite 1, about 0.9 as long as tergites 1–3 combined. Fore tarsal segment 4 shorter than wide, strongly excised at apex. Hind femur about 4.4 as long as wide. Hind tarsal segment 4 conspicuously longer than wide. Fore wing 9.6–10.0 mm long.

Black. Maxillary palpus apically brown. Legs reddish brown. Coxae and hind tarsus black. Hind first trochanter blackish brown, its apex pale. Mid first trochanter dark brown or blackish

brown basally. Fore first trochanter somewhat darkened in part. Stigma and veins fuscous brown. Wings subhyaline. Hairs on body white or somewhat brownish.

♂. Flagellar segments 6-10 or 11, each with a raised line. Punctures on tergites weaker, on tergite 5 they are almost obscure within coriacea. Maxillary palpus light brown. Tegula whitish. Scutellum with a white median spot. Flagellum light fuscous brown. Otherwise essentially similar to ♀. Fore wing 6.1-10.5 mm long.

Holotype ♀ (BISHOP 9289), Luzon, Mountain Prov., Abatan, Buguias, 60 km S of Bontoc, 1800-2000 m, 6.V.1964, H. M. Torre Villas.

Paratypes. 2 ♀♀, 4 ♂♂, same data as the type.

This species is very similar to *laothoe* (Cameron, 1897), known from Ceylon, India and Pakistan. From that species it can be distinguished in the characters noted in Table 1.

Table 1. Characters of *Coccygomimus erythromerus* and *C. laothoe*, based on the ♀.

	<i>laothoe</i>	<i>erythromerus</i>
Unsculptured area on mesopleurum	not extending downward over mesopleural pit	extending downward to lower hind corner of mesopleurum
Prepectal carina	ending quite above level of mesopleural pit	ending at or slightly above level of mesopleural pit
Tergite 1	more or less tubercled on each side of median elevation	not tubercled on each side of median elevation
Nervulus	distinctly distad of basal vein	opposite basal vein
Hind leg	less slender, its femur about 3.6 as long as wide, its tarsal segment 4 about as long as wide	slender, its femur about 4.4 as long as wide, its tarsal segment 4 longer than wide
Tegula & spiracular sclerite	brown	black
Trochanters	entirely black	reddish brown, hind first trochanter black, mid first trochanter blackish brown, fore first trochanter somewhat darkened

This species is also similar in general appearance to *instigator* (Fabricius, 1793), known from Eurasia. It can, however, easily be distinguished from the latter by the mostly whitish hairs on the body, the absence of median tubercles of tergite 1 of the ♀, the nervulus opposite basal vein but not distad of the latter, and the entirely reddish brown second trochanters of the legs.

The 2 species of *Coccygomimus* treated above may be distinguished by the following key:

Fore wing with a distinct preapical cloud. Thorax largely with no sculpture, with conspicuous white markings. Scape white, with a line on upper site brown **distinctus**
 Fore wing with no cloud. Thorax largely with dense sculpture, with no conspicuous white

markings. Scape entirely black.....**erythromerus**

Echthromorpha agrestoria punctum (Brullé, 1846)

SPECIMENS. ♀, Luzon, Camarines Sur, Mt Isarog, 750-850 m, 10-12.V.1963, H. M. Torrevillas. ♂, Palawan, Brookes Point, Uring Uring, 17.VIII.1961, ♂, Palawan, Mantalingajan, 600 m, 11.IX.1961, Noona Dan Expedition 1961-62.

The subspecies *punctum* has generally been considered to be a synonym of the subspecies *notulatoria* (Fabricius, 1804), by recent authors. So far as the specimens I have examined are concerned, however, it seems that the 2 are distinct, being distinguishable from each other in the characters given in Table 2.

The subspecies *punctum* occurs in the Philippines and Borneo, while the subspecies *notulatoria* occurs in Formosa, Hong Kong, India and southeastern Asia.

Table 2. Characters of *Echthromorpha agrestoria punctum* and *E. a. notulatoria*.

	<i>notulatoria</i>	<i>punctum</i>
♂ Pronotum	black marking along hind rim not extending forward	black marking along hind rim narrowly extending forward over the position of epomia
Tergite 7	yellow and reddish yellow, often more or less blackish basally	black, with apex yellow and reddish yellow
Hind tibia	scarcely darkened at base	black at base
♀ Tergites 2-5	punctures on lateral tumidities dense	punctures on lateral tumidities sparse
Mesopleurum	front and hind yellow markings separated	front and hind yellow markings confluent or touching each other
Mesosternum	largely black	largely yellow and reddish yellow
Propodeum	with a black line extending from base to spiracle	with no black line extending from base to spiracle

Lissopimpla basalis (Vollenhoven, 1879)

SPECIMENS. 5 ♀♀, 3 ♂♂, Palawan, Mantalingajan, Pinigisan, 600 m, 8-23.IX.1961, 2 ♂♂, *ibid.*, 7-13.X.1961, 2 ♂♂, Tawi Tawi, Tarawakan, N of Batu Batu, 23-29.X.1961, 2 ♀♀, 1 ♂, Mindanao, Sapamoro, Curuan district, 17-20.XII.1961, Noona Dan Expedition 1961-62.

In the specimens from Palawan the metapleurum and the lateral face of the propodeum are black, while in the specimens from Tawi Tawi and Mindanao they are yellow and reddish yellow. Further study may prove the 2 to be separate subspecies.

Theronia (Poecilopimpla) frontella fasciata Gupta, 1962

SPECIMEN. ♀, Mindanao, Zamb. del Sur, Domingug, 22.X.1959, L. W. Quate.

Theronia (Erythrotheronia) clathrata subspecies

SPECIMENS. ♂, Palawan, Mantalingajan, Tagembung, 1150 m, 16.IX.1961, ♂, *ibid.*, 17.IX.1961, ♂, *ibid.*, 19.IX.1961, Noona Dan Expedition 1961-62.

This subspecies is very similar to the subspecies *malayensis* Gupta, 1962, known from the Malay Peninsula, but the dark spots are more extensive. It may be a new subspecies but I am disinclined to name it so at this time since it is represented only by male specimens.

In the Philippines there has been recorded another subspecies of *clathrata*, *asaphia* Gupta, 1962, occurring on Mindanao, from which this form can easily be distinguished by the almost complete prepectal carina and the quite different color pattern of the body.

Theronia (Parema) sulcata ferrugata Gupta, 1962

SPECIMENS. ♀, Luzon, Camarines Sur, Mt Isarog, 750-800 m, 19.IV.1963, in light trap, ♀, *ibid.*, 22.IV.1963, ♂, *ibid.*, 800-850 m, 25.IV.1963, in light trap, H. M. Torrevillas.

Pseudeugalta furcifera (Bingham, 1895)

SPECIMEN. ♂, Luzon, Camarines Sur, Mt Isarog, 500-600 m, 25.IV.1962, H. M. Torrevillas.

Eugalta philippina Baltazar, 1954

SPECIMEN. ♂, Luzon, Camarines Sur, Mt Isarog, 1000-1500 m, 20 km E of Naga, 23.IV.1963, H. M. Torrevillas.

Eugalta sp.

SPECIMEN. ♂, Palawan, Mantalingajan, Tagembung, 17.IX.1961, Noona Dan Expedition 1961-62.

Lytarmes maculipennis nobilitator (Smith, 1862)

SPECIMENS. ♀, Luzon, Camarines Sur, Mt Isarog, 26.IV.1962, ♀, Misamis Or., Balason, 4-5.IV.1960, H. M. Torrevillas.

Sychnostigma vulgaris Baltazar, 1961

SPECIMEN. ♀, Palawan, Mantalingajan, Pinigisan, 600 m, 22.IX.1961, Noona Dan Expedition 1961-62.

Subfamily **Xoridinae****Xorides (Cyanoxorides) ruficeps** (Cameron, 1903)

SPECIMENS ♀, Tawi Tawi, Tarawakan, north of Batu Batu, 28.X.1961, ♀, *ibid.*, 3.XI.1961, ♀, *ibid.*, 10.XI.1961, ♀, *ibid.*, 12.XI.1961, Noona Dan Expedition 1961-62.

Xorides (Cyanoxorides) iodes Baltazar, 1961

SPECIMEN. ♀, Mindanao, Agusan, S Francisco, 10 km SE, 12.XI.1959, L. W. Quate.

In the present specimen tergite 1 is metallic blue and legs are black, with segments 1-4 of all tarsi white, and hind coxa and femur extensively reddish brown. In the other characters, however, it agrees with the description, so that I have little doubt about the present identification.

Xorides (Epixorides) mindanensis Baltazar, 1961

SPECIMENS. ♀, Balabac, Palawan Bay, 8.X.1961, ♂, Tawi Tawi, Tarawakan, north of Batu Batu, 12.XI.1961, Noona Dan Expedition 1961-62.

Subfamily **Banchinae****Stictolissonota** sp.

SPECIMEN. ♂, Mindanao, Sapamoro, Curuan district, 21.XII.1961, Noona Dan Expedition 1961-62.

The present specimen represents a new species somewhat allied to *foveata* Cameron, 1907, from India and Nicobar Island. It is not named because the single male specimen seems inadequate for a satisfactory characterization of the species.

Syzeuctus torrevillasi Momoi, new species Fig. 8.

♂. Lateral ocellus distant from eye by about 2.0 its diameter. Eye moderately small. Frons strongly swollen laterally, strongly concave medially, with no median longitudinal excision. Malar space about 1.0 as long as basal width of mandible, about 1.2 as long as shortest distance between eye and occipital carina. Temple strongly convex, about 0.5 as long as eye in lateral view. Face about 0.6 as long as wide. Face, frons and vertex, including stemmaticum, coarsely and densely subrugulose-punctate. Clypeus mat. Temple somewhat mat ventrad, polished dorsad. Occiput polished. Clypeus, temple and occiput with indistinct punctures. Thorax with coarse, strong, rather evenly-spaced punctures, those on pronotum and mesoscutum mostly distant from one another by about or slightly less than their diameter and those on mesopleurum and metapleurum distant mostly by much less than their diameter. Hind lower corner of pronotum unsculptured. Mesoscutum faintly mat, with hairs on front slope dense, those on upper

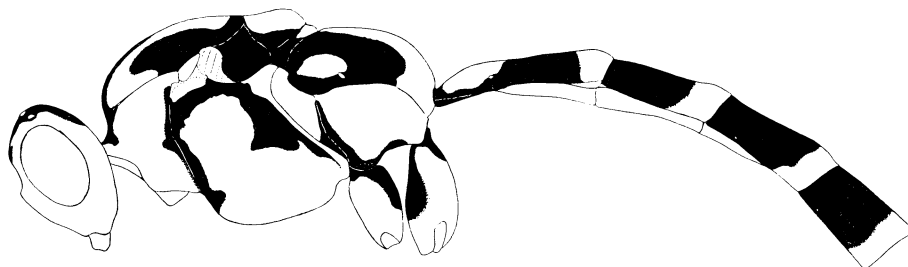


Fig. 8. Head, thorax and bases of abdomen and mid and hind legs of *Syzeuctus torrevillasi*, in lateral view.

and hind portions widely and irregularly scattered. Scutellum sparsely punctate. Upper half of mesopleurum largely unsculptured, with only some irregularly-spaced punctures. Metapleurum more densely subrugulose-punctate ventrad. Propodeum coarsely and strongly subrugulose-punctate, punctures sparser on dorsolateral portion, its dorsomedian portion almost unsculptured from base to apex. Apical transverse carina of propodeum replaced by an obtuse ridge. Tergite 1 polished, with a few widely-scattered setiferous punctures. Tergite 2 subpolished, with rather unevenly-spaced, dense hairs basally and apicolaterally, about 1.5 as long as wide. Tergite 3 and following tergites weakly mat, with almost evenly dense hairs. Spiracle of tergites normal in size, subcircular. Nervulus opposite basal vein. Nervellus with discoidella at lower 0.35, discoidella pigmented basally and apically. Tarsal claws not pectinate. Fore wing 7.5 mm long.

Yellow. Black are: a small median spot on face, median portion of frons and vertex, including stemmaticum, upper portion of occiput, a transverse short band on pronotum just behind its collar, 3 broad longitudinal stripes on mesoscutum (lateral ones confluent with each other posteriorly to form a prescutellar marking), wing cavities, front, upper and hind margins of mesopleurum, metasternum, lateral portion of propodeum except for apex and a spot just before its spiracle, base and median 0.35 of tergite 1, basal 0.6-0.7 of tergites 2-6, upper face of mid and hind coxae, basal half of lower face of hind coxa, hind first trochanter except for apex, extreme base of hind femur, and upper face of mid first trochanter and of mid femur. Apical tergites reddish brown. Antenna fuscous brown, blackish basally, its scape yellow at apex. Hind femur reddish brown. Fore and mid legs beyond their trochanters and hind leg beyond its femur yellowish brown, their tarsi, especially mid and hind ones, somewhat infuscate. Wings slightly infumate, with no definite cloud. Veins and stigma fuscous brown.

Holotype ♂ (BISHOP 9290), Luzon, Mountain Prov., Abatan, Buguias, 60 km S of Bontoc, 1800-2000 m, 19-20.V.1964, H. M. Torrevillas.

Paratypes. ♂, same data as the type.

***Syzeuctus macrospiracularis* Momoi, new species** Fig. 9.

♂. Lateral ocellus distant from eye by about 0.7 its diameter. Eye moderately large. Frons weakly swollen laterally, weakly concave medially. Malar space about 1.0 as long as basal width of mandible, about 1.3 as long as shortest distance between eye and occipital carina. Temple weakly convex, strongly receding, about 0.5 as long as eye in lateral view. Face about 0.6 as long as wide. Face, frons and vertex, including stemmaticum, with medium-sized dense punctures that are mostly distant from one another by much less than their diameter. Clypeus, temple and occiput polished, with fine, sparse punctures. Thorax and propodeum with coarse, strong



Fig. 9. Head, thorax and bases of abdomen and legs of *Syzeuctus macrospiracularis*, in lateral view.

punctures that are mostly distant from one another by much less than their diameter. Hind lower corner of pronotum unsculptured, subpolished. Mesoscutum entirely with dense hairs. Mesopleurum with a narrow, oblique, unsculptured area just below mesopleural pit extending forward to near middle. Propodeum with no apical transverse carina. Tergite 1 polished, virtually smooth, with a few widely-scattered fine punctures. Tergite 2 polished, with rather dense hairs. Tergite 3 and following tergites weakly mat, with dense hairs. Tergite 2 about 1.7 as long as wide. Spiracles of tergites unusually large, sausage-shaped. Nervulus distad of basal vein by about its own width. Nervellus broken at lower 0.25, discoidella pigmented, indicated as a fold. Tarsal claws pectinate. Fore wing 5.8-6.1 mm long.

Yellow. Black or blackish brown are: extreme bottom of frontal scrobe, stemmaticum, upper portion of occiput, a transverse short band on pronotum just behind its collar, 3 lines on mesoscutum (median one broadened at posterior end and lateral ones confluent with each other posteriorly to form a transverse prescutellar band), front, upper and hind margins of mesopleurum, an oblique short line on mesopleurum in position of speculum, front and hind margins of mesosternum, wing cavities, front margin of metapleurum, a line on propodeum just below its spiracle, a pair of oblique basomedian lines on propodeum, metasternum, tergites except for apex broadly, lateral margin narrowly and base of tergite 1, and a stripe on basolateral portion of hind coxa. Greater part of hind first trochanter and hind tarsus dark brown. Hind femur and tibia light reddish brown. Antenna reddish brown beneath, fuscous brown above, darkened basally, its scape and pedicel yellow beneath. Wings almost hyaline, fore wing clouded at apex. Veins and stigma blackish brown.

Holotype ♂ (BISHOP 9291), Luzon, III.1958, N. L. H. Krauss.

Paratypes. 4 ♂♂, same data as the type.

This species is characterized by having the spiracles of the abdominal tergites unusually large and sausage-shaped, and the discoidella pigmented, indicated as a fold. In certain species from southeastern Asia and India, such as *claripennis* Cameron, 1902, spiracles of certain abdominal tergites are specialized and unusually large but they are quite circular, cavernous and limited to hind tergites. In coloration this species is somewhat similar to *torrevillasi*, new species.

The 2 species of *Syzeuctus* treated above may be distinguished by the following key:

Spiracles of tergites normal in size, subcircular. Lateral ocellus distant from eye by about 2.0 its diameter.	torrevillasi
Spiracles of tergites unusually large, sausage-shaped. Lateral ocellus distant from eye by about 0.73 its diameter	macrospiracularis

Leptobatopsis indica (Cameron, 1897)

SPECIMENS. 4 ♀♀, 10 ♂♂, Luzon, Mountain Prov., Abatan, Buguias, 60 km S of Bontoc, 1800-2000 m, 6-28.V.1964, H. M. Torre Villas, ♂, Mindanao, Zamboanga del Norte Manucan, 11 km SSE, 250 m, 13.X.1959, ♀, Mindanao, Zamboanga del Sur Molave, 50 km NWW, 500 m, 19-20.X.1959, ♂, Palawan, Erant Pt., 80 km SW Tarumpitao Pt., 31.XII.1959-4.I.1960, ♂, Negros Or., L. Balinsasayao, 1-7.X.1959, ♀, Mindanao, Bukidnon, 1250 m, Mt Katanglad, 4-9.XI.1959, L. W. Quate. ♀, Mindanao, Agusan, Los Arcos, 19-23. XI.1959, in Malaise trap, C. Yoshimoto & L. W. Quate.

Leptobatopsis melanomerus Momoi, new species Fig. 10 & 11.

♀. Inner margins of eye weakly diverging ventrad. Frons smooth, polished, a little swollen laterally, concave medially, with no median longitudinal excision. Face polished, with coarse, irregularly-spaced but rather dense punctures, those on each side of median portion slightly denser. Clypeus distinctly convex, punctate basally. Malar space about 0.7 as long as basal width of mandible. Hypostomal carina normally raised. Occipital carina meeting hypostomal carina only a little above base of mandible. Thorax about 1.6 as long as high, with dense strong punctures that are mostly distant from one another by much less than their diameter. Epomia vestigial. Lateral scrobe of pronotum striate and striate-punctate. Mesoscutum entirely punctate. Scutellum with sparse punctures. Speculum medium sized, oblique, extending slightly before middle. Propodeum more or less mat, punctate as in metapleurum. Tergite 1 polished, with a few widely-scattered, setiferous punctures, its spiracle approximately at middle. Tergites 2 and 3 strongly mat. Tergite 2 about 2.4 as long as wide. Tergite 4 weakly mat, and following tergites more faintly mat. Nervulus distad of basal vein by about its own width. Postnervulus broken approximately at middle. Areolet petiolate, 2nd recurrent vein slightly distad of middle. Nervellus broken at lower 0.2, reclivous. Trochanters simple. Fore and mid tarsal claws pectinate. Hind tarsal claw not pectinate, with a subapical accessory tooth on inner side. Fore wing 8.6 mm long.

Black. Palpi, mandible, clypeus, malar space, orbit of face broadly, orbit of frons narrowly, a small spot in hind lower corner of pronotum, a triangular spot on mesoscutum in position of notaulus, subtegular ridge, upper end of mesepimeron, basal 0.25 of tergite 1, apices of tergites 2 and 3 narrowly, and base of tergite 3 narrowly yellowish white. Humeral angle of pronotum and scutellum with an almost obscure whitish spot. Apex of tergite 1 narrowly whitish at middle. Apex of subgenital plate and ventral edge of tergites 4 and 5 somewhat pale. Antenna yellowish basally beneath. Legs light brown. Hind coxa black, at apex and basally beneath yellowish. Greater part of hind trochanters dark brown. Hind femur blackish brown, at base slightly paler. Wings a little infumate, fore wing definitely infumate at apex. Stigma and veins blackish brown.

Holotype ♀ (BISHOP 9292), Luzon, 20 km SW of Baguio, 2.X.1945, H. E. Milliron.

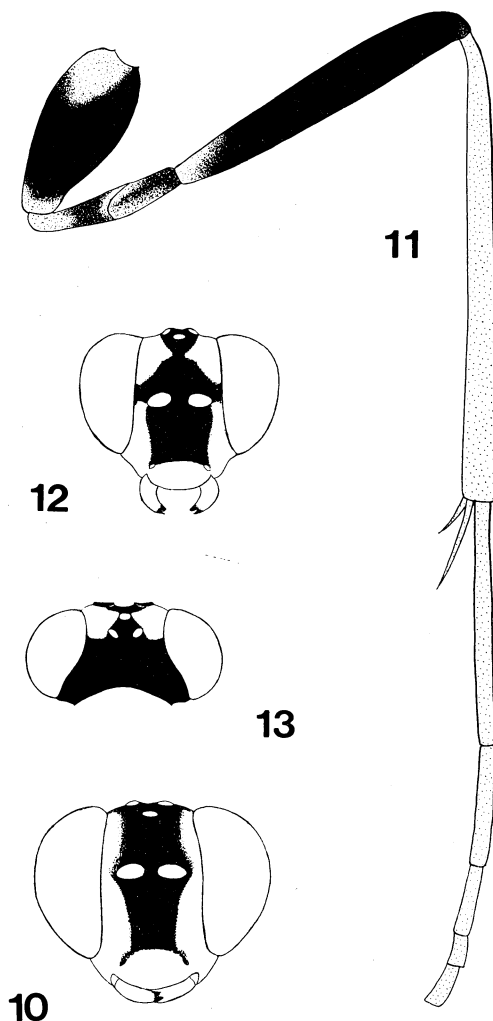


Fig. 10 & 11. *Leptobatopsis melanomerus*. Fig. 12 & 13. *Leptobatopsis peterseni*. Fig. 10 & 12, head in frontal view. Fig. 11, hind leg. Fig. 13, head in dorsal view.

This species is similar to *molochi* Morley, 1913, from Burma, from which it is easily distinguished by the entirely light brown hind tibia and tarsus.

Leptobatopsis nigra immaculata Momoi, new subspecies

♀. Frons entirely black, with no yellow orbital marking. Pale markings on malar space, on lower portion of face next to clypeus, on lower edge of pronotum and on subtegular ridge usually absent, rarely present but almost obscure. Otherwise similar to *nigra nigra* Cushman, 1933. Fore wing 6.1-6.7 mm long.

Cushman (1933) gave no description of the hind tarsus. In both *nigra nigra* and *nigra immaculata* the hind tarsus is black, with segments 2-4 and also apical 1/2 of segment 1 white, at least obscurely white. The hind tarsal claw is not pectinate but has a small subapical accessory tooth on the inner side. The fore and mid tarsal claws are pectinate.

Holotype ♀ (COPENHAGEN), Palawan, Brookes Point, Uring Uring, 18.VIII.1961, Noona Dan Expedition 1961-62.

Paratypes. ♀, Palawan, Mantalingajan, Pinigisan, 600 m, 7.IX.1961, ♀, *ibid.*, 9.IX.1961, 2 ♀♀ (1 ♀ lacking head), *ibid.*, 13.IX.1961, ♀, Balabac, Palawan Bay, 7.X.1961, Noona Dan Expedition 1961-62.

Leptobatopsis peterseni Momoi, new species Fig. 12 & 13.

♀. Inner margins of eyes slightly diverging ventrad. Frons slightly swollen laterally, slightly concave medially, with a median longitudinal excision, smooth, polished. Face polished, with medium-sized, dense punctures on each side of median portion, its lateral portion with a few widely-scattered punctures. Malar space about 1.0 as long as basal width of mandible. Hypostomal carina normally raised. Occipital carina meeting hypostomal carina at a point distant from base of mandible by about 0.5 length of malar space. Thorax about 1.6 as long as high, with rather fine to medium-sized, weak punctures that are mostly distant from one another by much more than their diameter, those on front part of mesoscutum finer, those on mesopleurum irregularly spaced and those on metapleurum rather irregularly spaced. Lateral scrobe of pronotum unsculptured. Epomia present but weak. Hind 0.5-0.6 of mesoscutum, scutellum and greater part of mesopleurum unsculptured. Punctures on propodeum slightly coarser than those on metapleurum, those on lateral face distant from one another by slightly less than their diameter and those on dorsolateral portion by about or slightly more than their diameter, dorsomedian portion virtually impunctate from base to apex. Tergites polished, unsculptured. Tergite 1 with spiracle approximately at middle. Tergite 2 about 1.5 as long as wide. Nervulus opposite basal vein. Postnervulus broken a little above middle. Areolet petiolate, second recurrent vein a little basad of its hind angle. Nervellus broken at lower 0.4, reclivous. Trochanters simple. Hind tarsal claw not pectinate, with a subapical small accessory tooth on inner side. Fore and mid tarsal claws pectinate. Fore wing 6.3 mm long.

Reddish brown. Head yellow, with a large, median, square marking on face, bottom of frontal scrobe, stemmaticum, upper portion of occiput, including greater part of temple and hind slope of vertex, black. Flagellum black, basally beneath light brownish, its median 7 segments white. Scape and pedicel mostly light brown. Propleurum, pronotum and fore coxa yellow. Mesoscutum black, laterally and posteriorly becoming reddish brown. Propodeum somewhat darkened basally on dorsal face in holotype, entirely reddish brown in paratype. Scutellum and base of tergite 1 obscurely yellowish. Ovipositor sheath black. Hind tarsus blackish except for segment 1. Mid and fore tarsi more or less infuscate apically. Wings hyaline, with no cloud. Veins dark

brown. Stigma light brown, darkened on the margin.

Holotype ♀ (COPENHAGEN), Mindanao, Sapamoro, Curuan district, 19.XII.1961, Noona Dan Expedition 1961-62.

Paratype. ♀, same locality as the type, 18.XII.1961, Noona Dan Expedition 1961-62.

This species can easily be recognized by the largely rufous, polished and only weakly and less extensively sculptured body and legs. Judging from literature and specimens at hand such kinds of less extensively sculptured species occur abundantly in New Guinea and the adjacent islands, but have hitherto been unrecorded from the Oriental region.

The 4 species and subspecies of *Leptobatopsis* treated above may be distinguished by the following key :

1. Mesoscutum entirely punctate 2
 Mesoscutum with hind 1/2 unsculptured 3
2. Hind tibia blackish brown to black, with a narrow white ring towards base. Metapleurum with a conspicuous white spot. **indica**
 Hind tibia entirely light brown. Metapleurum with no white spot..... **melanomerus**
3. Ground color of body reddish brown. Flagellum with a white median ring. Fore wing with no cloud. **peterseni**
 Ground color of body black. Flagellum with no white median ring. Fore wing with a definite apical cloud. **nigra immaculata**

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