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Some Chalcidoidea collected in the Philippine, Bismarck and Solomon Islands. 2. Eucharitidae, with keys and check-lists to Indo-Australian genera (Insecta, Hymenoptera)

[Noona Dan Papers No. 136]

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Abstract. *Gollumiella* gen.n. is described and records are given of 15 species, including 8 new species, viz. *Gollumiella longipetiolata* (Palawan; Tawi Tawi), *Losbanus peterseni* (Palawan), *Schizaspidia palawanensis* (Palawan), *S. batuensis* (Tawi, Tawi), *S. peterseni* (Mindanao), *S. tawiensis* (Tawi Tawi), *Rhipipallus peterseni* (New Britain) and *Stilbula palawanensis* (Palawan). New generic synonyms are proposed, viz. *Kapaloides* Mani, *Neokapala* Girault, *Kapatella* Girault, and *Thoracanthella* Girault all = *Schizaspidia* Westwood; *Propsilogaster* Girault and *Purapsilogastrus* Ghesquière = *Epimetegea* Girault; *Arhipipallus*, *Chalcurella*, *Chalcurelloides*, *Chalcuroidella*, *Chalcuroides*, *Parachalcura*, and *Rhipipalloidea* all of Girault = *Rhipipallus* Kirby; and *Eltolada* Cameron = *Stilbula* Spinola.

A few new specific synonyms and a series of new specific combinations are presented. Revised check-lists are given of Indo-Australian members of the genera *Losbanus*, *Gollumiella* gen.n., *Schizaspidia*, *Chalcura*, *Epimetegea*, *Rhipipallus*, and *Stilbula*, and keys are prepared for the Indo-Australian species of *Losbanus*, *Schizaspidia*, and *Chalcura*.

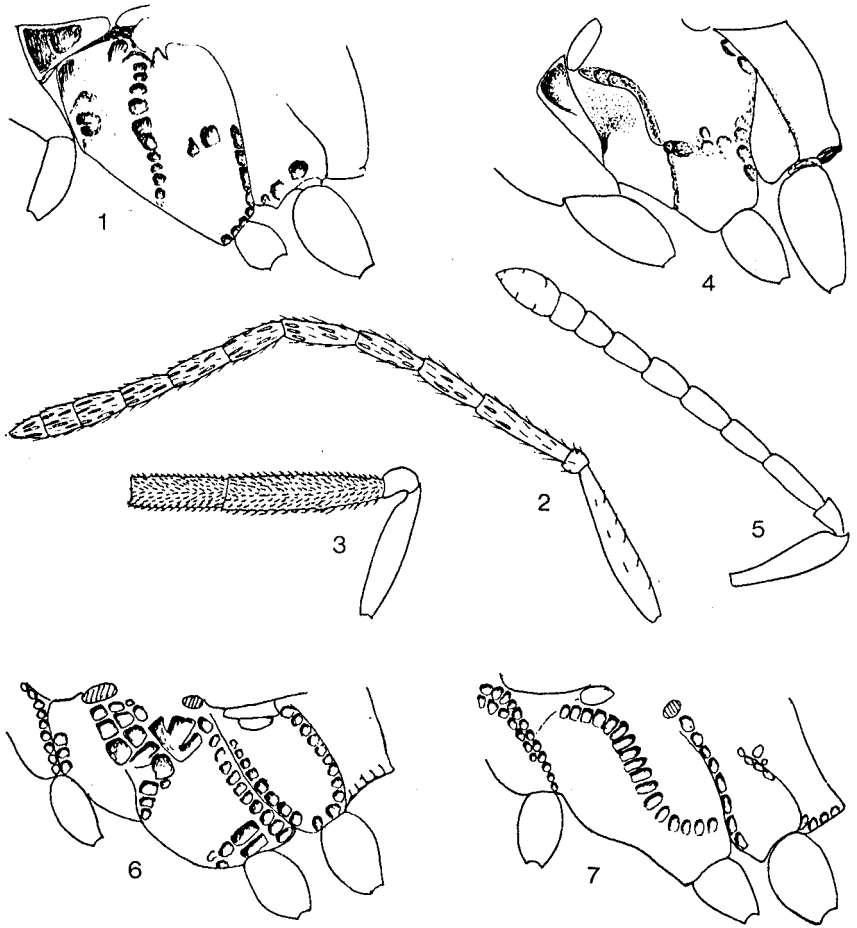
This is the second part of a report on the collection of Chalcid flies collected in the Philippines and the Bismarck Islands during the Danish Noona Dan Expedition 1961-62 (Petersen, 1966). The Noona Dan material of Eucharitidae showed to contain 15 species of which 11 are from the Philippines. 8 species and one genus are new to science. The material belongs to the Zoological Museum, Copenhagen and is housed there except for a few duplicates in the author's collection.

During the study of the Noona Dan material it was necessary to examine a large number of related species and the results of this examination are very shortly presented in revised generic diagnoses, keys and check-lists.

I am much indebted to Dr. Børge Petersen, Zoological Museum, Copenhagen, for the loan of the Noona Dan material and to Dr. M.W.R. de V. Graham, University Museum, Oxford, for aid with some Westwood types.

EUCHARITIDAE

This family is characterized as follows: Head very transverse; mandibles falcate with



Figs. 1-7. *Losbanus* spp. 1-3) *L. peterseni* sp. n., 1) ♀, mesopleura, 2) ♀, antenna, 3) ♂, basal part of antenna; 4,5) *L. laeviceps* (Gahan), 4) ♀, mesopleura, 5) ♀, antenna; 6) *L. nishidai* (Ishii and Nagasawa), ♀, mesopleura; 7) *L. gressitti* (Watanabe), ♀, mesopleura.

one to three teeth, antennae without anelli and sometimes without a distinct clava, often serrate or with branches on flagellar segments. Thorax short, subglobose; scutellum sometimes with processes; prepectus fused with the dwarfed pronotum. Gastral petiole often long and cylindrical; gaster with hidden ovipositor. Fore wing with stigmal vein more or less reduced. Metallic coloured.

Eucharitids are parasitic on ants. Their eggs are laid on plants and the primary larvae (planidium type) climb up the ants and so are carried to the ant nest.

The family is distributed mostly in the tropics.

LOSBANUS Ishii, 1932:210

Watanabe (1958) included *Parapsilogaster laeviceps* Gahan and *Psilogaster nishidai* Ishii and Nagasawa in *Losbanus* and gave a redescription of the genus after a study of the type-species. The present material contains a new species and on the basis of my study of this species and other *Losbanus* specimens I propose the following diagnosis of the genus:

♀. Head strongly transverse, smooth; labial and maxillary palps 3-segmented; antennae 12-jointed 1173. Mesoscutum short with strong notauli; axillae broadly united medially; scutellum without a process; propodeum nearly smooth. Gastral petiole at least twice as long as the hind coxa; ovipositor thick and armed with distinct saws.

Type-species: *Psilogaster uichancoi* Ishii, 1932.

Losbanus peterseni sp.n.

Types. Philippines, PALAWAN: holotype ♀ and 2 ♀, 1♂ paratypes, Tagabung, 1150m, 19.ix.1961 (Noona Dan Exped.). — In the Zoological Museum, Copenhagen, paratype in my collection.

Description. ♀. Dark blue. Mandibles, antennal scapes, pedicels, tip of femora, tibiae and tarsi stramineous; the rest of antennae, femora and fore coxae brown; mid and hind coxae dark brown; tegulae yellowish brown; gaster brown dorsally.

Antennae (fig.2) inserted just on level with anterior edge of eyes; malar space as long as eyes; occipital carina sharp. Thorax dorsally strongly rugose; mesoscutum and scapulae with strong, transverse carination. Dorsellum and propodeum smooth; the latter with a median carina; sulcus spiracularis with transverse carinae; spiracles circular and placed near anterior margin of propodeum. Mesopleura as in fig.1, smooth with a foveolation. Gastral petiole more than twice as long as hind coxa, with longitudinal carinae. Fore wing with a large, bare basal part; stigmal vein reduced to a pterostigma-like spot.

♂. Similar to female, but antennae different (fig.3).

Length. ♀, 2.5-2.7mm; ♂, 2.5-2.6mm.

Remarks. Rather similar to *L. gressitti* Watan. but distinguishable as appears from the key presented below.

Key to species of *Losbanus*:

1. Metapleuron with strong reticulation along sutures 2.
- Metapleuron nearly without reticulation 3.
2. Below tegulae strong reticulation (fig. 6); scapulae and axillae strongly reticulate. Black with slight purplish reflections; antennae brown with scapes and pedicels yellowish; legs yellowish except coxae and femora black. ♂ as ♀, but more slender; petiole thrice rather than only twice as long as hind coxa. ♀, 1.5mm; ♂, 1.3mm long *L. nishidai*
- Below tegulae no strong reticulation (fig. 7); scapulae and axillae smooth. Black; antennae dark brown with the two basal segments yellowish; legs yellow with coxae dark brown. Wings hyaline, wing veins brown. ♀, 1.3mm; ♂, unknown *L. gressitti*
3. Scapulae and nearly all of axillae smooth, polished. Head and thorax metallic green, pleural metanotum and propodeum with blue and purple reflections; antennae with scapes yellowish brown, pedicels pale brown and flagellum darkbrown; mandibles yellow except brown tips. Legs yellowish except metallic green coxae. ♀, 2.8mm long; ♂ unknown *L. unichancoi*
- Scapulae and axillae with transverse carinae or wrinkles 4.

4. Scapulae, mesoscutum and axillae with transverse carinae. Mesopleuron (fig. 1). Dark blue; mandibles, antennal scapes and pedicels, tibiae, tarsi and tips of femora stramineous; rest of antennae and femora, and fore coxae brown; mid and hind coxae dark brown. ♂ as ♀, but antennae different (fig. 3). ♀, 2.5-2.7mm; ♂, 2.5-2.6mm long *L. peterseni* sp.n.
- Scapulae, posteriorly smooth; axillae with weak longitudinal wrinkles.
Antennae (fig. 5) short. Mesopleuron (fig. 4) with very weak foveolation. Head, thorax, gaster and all coxae black; thorax faintly bluish tinged, on gasteron coppery; all femora dark brown; trochanters, narrow apices of all femora, tibiae, tarsi, tegulae and antennae yellowish testaceous; antennal flagellum brownish toward apex. ♀, 2mm; ♂ unknown *L. laeviceps*

Check-list of species of *Losbanus*:

- gressitti* Watanabe, 1958:28, E. Caroline Is.
laeviceps (Gahan, 1940:429, *Parapsilogaster*). Ceylon.
nishidai (Ishii and Nagasawa, 1941:292, *Psilogaster*). W. Caroline Is.
peterseni sp.n. Philippines, Palawan.
uichancoi Ishii, 1932:210, Philippines.
sp.? Watanabe, 1958:28, Caroline Is.

Gollumiella gen.n.

Diagnosis. Head transverse; antennae in ♀ 1183, in ♂ 1172 (figs. 9,10) inserted just on level with the anterior edge of the eyes. Thorax (fig. 8) short declivous with strong reticulation; notauli well defined; scutellum strongly convex. Costal cell of fore wing narrow; basal part of wing bare. Gastral petiole very long, in ♀ 2.5 times as long as hind coxa, in ♂ 3.0 times as long.

Type-species: *G. longipetiolata* sp.n.

Remarks. This new genus is near *Losbanus* but differs as follows: antennae in ♀ with 13 rather than 12 segments, in ♂ with 11 rather than 12; mesopleura reticulated with large meshes rather than smooth with some foveolation; propodeum reticulated rather than nearly smooth.

The following two species, described in *Eucharis*, may be included in *Gollumiella*:
pallidipes (Cameron, 1909a:232), *comb.n.* Borneo.
purpureoventris (Cameron, 1909a:232), *comb.n.* Borneo.

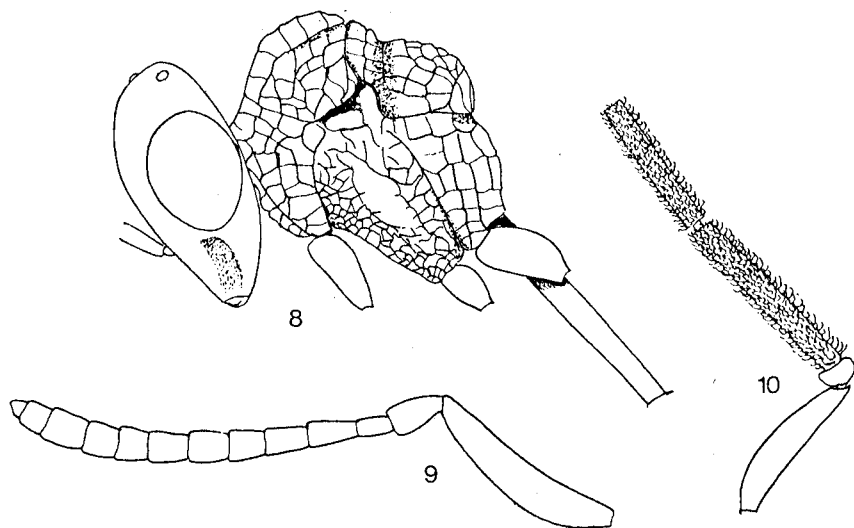
Gollumiella longipetiolata sp.n.

Types. Philippines, PALAWAN: holotype ♀, Tagembung, 1150m, 19.xi.1961; paratypes 1♀, 2♂, Pinigisan, 600m, 24.ix.1961. TAWI TAWI: paratype ♀, Tarawakan, 28.x.1961. (Noona Dan Exped.). — In the Zoological Museum, Copenhagen, except 2 paratypes in my collection.

Description. ♀. Brown; antennae, mandibles and legs pale yellow; coxae yellowish brown; wing veins very pale yellow.

Head smooth; antennae (fig. 9) with flagellar segments gradually shorter toward apex. All of thorax and propodeum reticulated with large meshes (fig.8). Gastral petiole cylindrical, smooth with a weak longitudinal striation; gaster small, smooth.

♂. Similar to female in colour, but flagellum and hind femur brown. Head more transverse, in frontal view broader than high; two deep pits at the base of clypeus; antennae (fig. 10) slenderer with frizzy hairs. Reticulation on thorax finer than in female and the coxae are finely transversely striated; fore wing hairy, only a small



Figs. 8-10. *Gollumiella longipetiolata* gen. n., sp. n. 8) ♀, lateral view of part of body, 9) ♀, antenna, 10) ♂, basal part of antenna.

area of basal cell bare.

Length. ♀, 2.0 - 2.1mm, ♂, 2.9 - 3.0mm.

SCHIZASPIDIA Westwood, 1835:69

Syn.: *Laetocantha* Shipp, 1894:188.

Psygmatochera Enderlein, 1912:146.

Neokapala Girault, 1913e:92, *syn.n.*

Thoracantha, Girault, 1915:237, 1932:4 (nec Latreille, 1825).

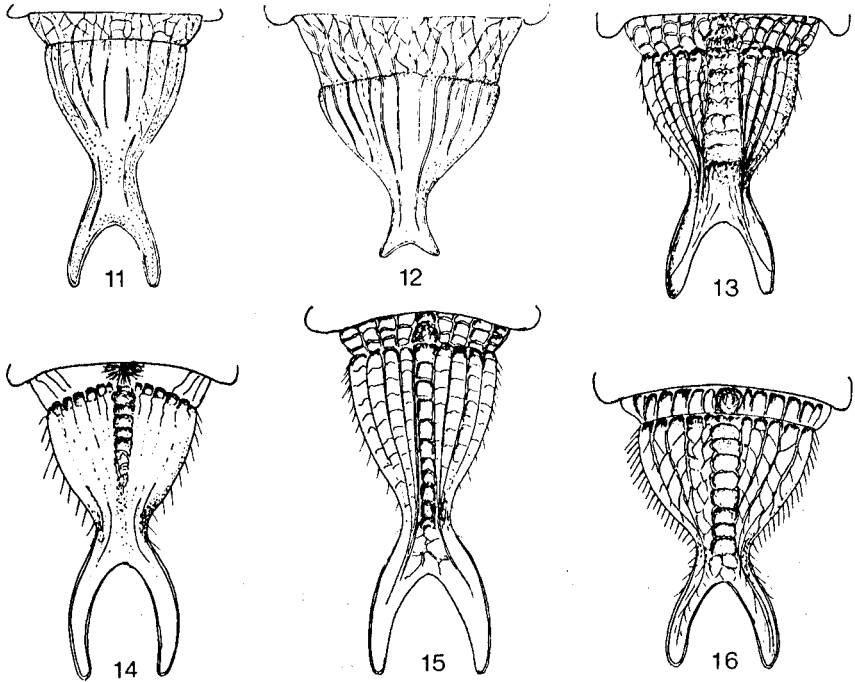
Kapatella Girault, 1932:4, *syn.n.*

Thoracanthella Girault, 1940:323, *syn.n.*

Schizaspidia so far comprises species from nearly all regions but as not recently revised there is some confusion about the members of the genus. To me this genus seems to be confined to the Indo-Australian region only.

The genus might be diagnosed as follows: Antennae in both sexes 12-jointed, ♀ 1182 (sometimes 1191), ♂ 1191, serrate in ♀ (figs. 33-37), flagellar joints branched in ♂ (figs. 38-45); head transverse, smooth with sculpture only above antennal sockets and on the cheeks. Thorax with very strong puncturation; notauli distinct; axillae broadly united medially; scutellum with a forked process at apex. Gastral petiole longer than hind coxa, cylindrical, smooth, punctate or striate. Mesopleura with strong puncturation sometimes with smooth areas. Costal cell of fore wing broad; stigmal vein moderately long, perpendicular to marginal vein; basal part of fore wing more or less bare.

Type-species: *Schizaspidia furcifera* Westwood.



Figs. 11-16. Scutellum of *Schizaspidia* ♀♀. 11) *S. scutellaris* Masi 12) *S. vicina* Masi, 13) *S. antennata* Gahan, 14) *S. nasua* (Walker), 15) *S. convergens* (Walker) 16) *S. tawiensis* sp. n.

Schizaspidia batuensis sp.n.

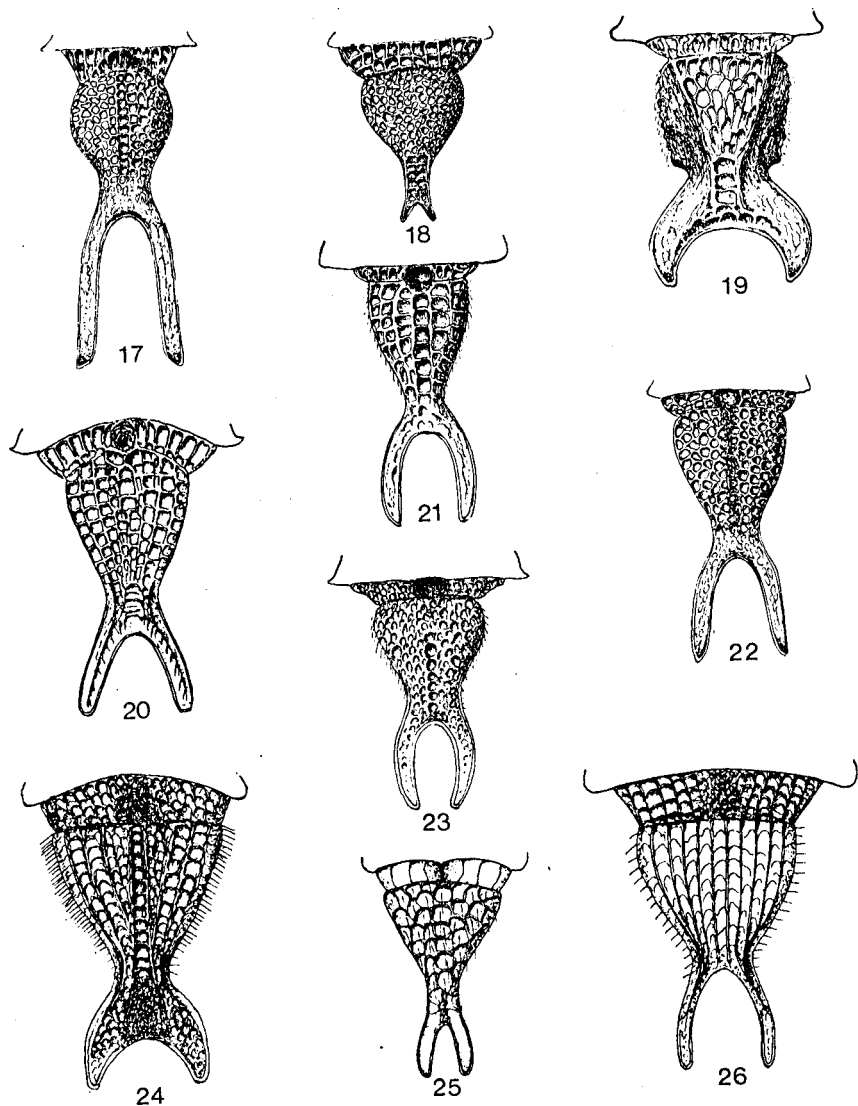
Holotype. Philippines; TAWI TAWI: ♂, Tarawakan, N. of Batu Batu, 14.xi.1961 (Noona Dan Exped.). — In the Zoological Museum, Copenhagen.

Description. ♂. Black with a tint of blue. Antennae brownish yellow, except scapes yellow. Legs yellowish brown with paler tibiae and dark brown coxae. Gastral petiole a: thorax; gaster brown. Wings hyaline; wing veins brown.

Head transverse, smooth with striate vertex; antennae (fig. 40) with the branches of the flagellar segments flattened. Thorax very strongly punctate to rugose; scutellum (fig. 19) with a very large prong; mesopleura strongly punctate with a smooth area below tegulae. Gastral petiole twice as long as hind coxa, punctate. Fore wing with basal cell nude below. Length, 4 mm.

♀. Unknown.

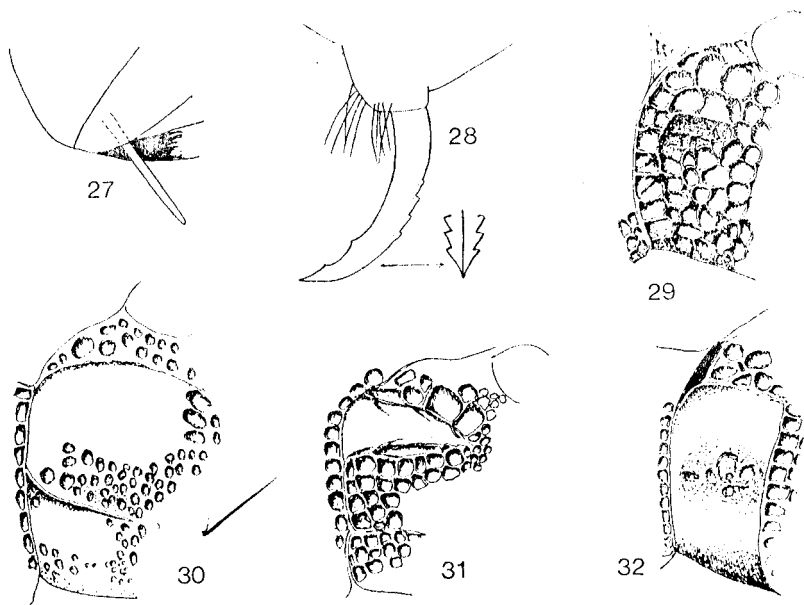
Remarks. For comparison with other species see the key below. This remark is due also to the following new species.



Figs. 17-26. Scutellum of *Schizaspidia* ♂♂. 17) *S. chamorro* Yasumatsu, 18) *S. brevifurcata* Watanabe, 19) *S. batuensis* sp. n., 20) *S. murrayi* Kirby, 21) *S. nasua* (Walker), 22) *S. ponapensis* Ishii, 23) *S. antennata* Gahan, 24) *S. furcifera* Westwood, 25) *S. peterseni* sp. n., 26) *S. palawanensis* sp. n.

Schizaspidia palawanensis sp.n.

Holotype. Philippines, PALAWAN: ♂, Pinigisan, 600 m, 10.ix.1961 (Noona Dan Exped.). — In the Zoological Museum, Copenhagen.



Figs. 27-32. *Schizaspidia* spp. Terebra of 27) *S. convergens* (Walker) and 28) *S. antennata* Gahan; mesopleura of 29) *S. furcifera* Westwood, ♂, 30) *S. murrayi* Kirby, ♂, 31) *S. caeruleiceps* Cameron, ♂, 32) *S. nasua* (Walker), ♀.

Description. ♂. Black with an obscure tint of dark green. Antennae, mandibles, tegulae, coxae and gaster brown to dark brown; antennal scapes paler. Legs except coxae stramineous. Wings hyaline; fore wing with an infuscation around stigmal vein.

Head smooth except with vertex, occiput and temples weakly striate. Antennae as in fig. 43. Thorax rugoso-punctate; scutellum (fig. 26); mesopleura as in *S. murrayi* (fig. 30). Gastral petiole more than twice as long as hind coxa; striate-punctate. Length, 2.6 mm.

♀. Unknown.

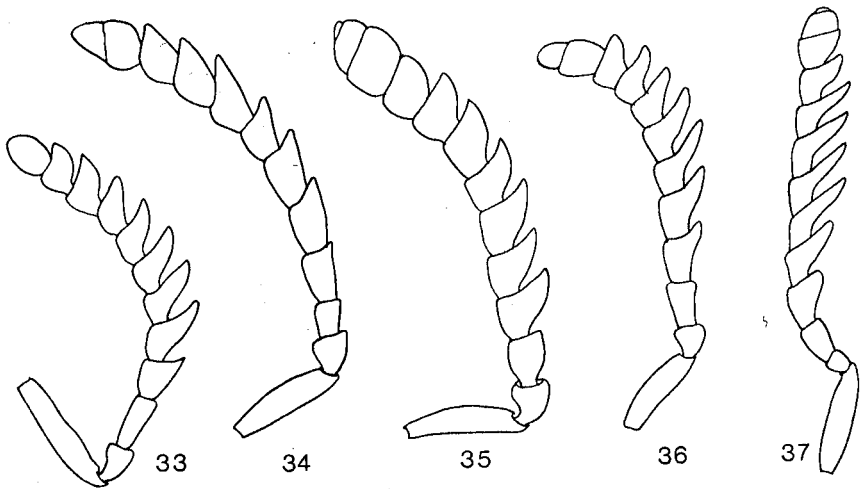
Schizaspidia peterseni sp.n.

Holotype. Philippines; MINDANAO: ♂, Sapamoro, Curuan district, 20.xii.1961 (Noona Dan Exped.). — In the Zoological Museum, Copenhagen.

Description. Bluish black mixed with green. Antennae, mandibles, legs except coxae, and tegulae dark yellowish brown. Coxae and gaster brown to dark brown. Wings hyaline; fore wing with a fuscous cloud around stigmal vein; wing veins pale brown.

Head smooth with weak striation on temples. Thorax with rugose-umbelicate puncturation; posterior part of scapulae and axillae nearly smooth. Mesopleura as in fig. 30 (*murrayi*) but more smooth anteriorly. Length, 2.5 mm.

♀. Unknown.



Figs. 33-37. Antenna in *Schizaspidia* ♀♀. 33) *S. antennata* Cahlan, 34) *S. sabariensis* Ishii, 35) *S. convergens* (Walker), 36) *S. tawiensis* sp. n., 37) *S. nasua* (Walker).

Schizaspidia tawiensis sp. n.

Types. Philippines; TAWI TAWI: holotype ♀, Tarawakan, 20.x.1961; paratypes, 1♀, 18♂, same loc., 23.x.-13.xi.1961 (Noona Dan Exped.). — In the Zoological Museum, Copenhagen, except 1♀ and 2♂ paratypes in my collection.

Description. ♀. Bluish black. Antennal scapes, tegulae and legs, except coxae, stramineous. The rest of antennae brown with clava yellowish brown. Gaster brown with a tint of metallic blue. Wings hyaline; fore wing with an infuscation around stigmal vein; wing veins pale brown.

Head smooth except transversely striate on vertex and temples; the latter also with small punctures intermixed. Antennae (fig. 36). Thorax strongly rugose-punctate. Scutellum (fig. 16) longitudinally carinated with transverse wrinkles. Propodeum rugose-punctate. Mesopleura as in fig. 30 (*murrayi*). Gastral petiole a little longer than hind coxa. Terebra as in fig. 28 (*antennata*). Antenna (fig. 36). Length, 3.0-3.6 mm.

♂. As female but darker brown. Antenna (figs. 41, 44).

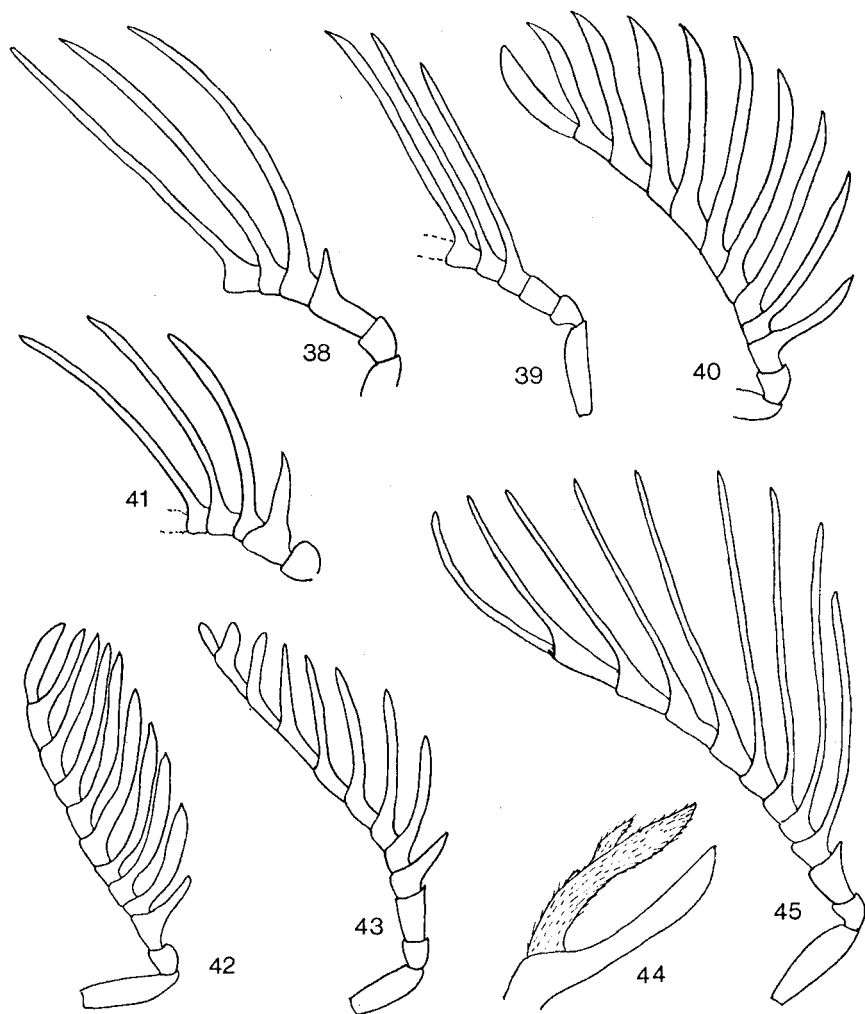
Schizaspidia nasua (Walker)

Material. Philippines; MINDANAO: 15♀, 64♂, Sapamoro, 16.-28.xii.1961 (Noona Dan Exped.).

Remarks. Mesopleura of female is shown in fig. 32, the female antenna in fig. 37, the male antenna in fig. 45. Formerly known only from Luzon, Philippines.

Schizaspidia ponapensis Ishii

Material. Bismarck Is.; NEW BRITAIN: 13♀, S. of Cape Hoskins aerodrome, 6.vii.1962 (Noona Dan Exped.).



Figs. 38-45. Antenna in *Schizaspidia* ♂♂. 38) *S. ponapensis* Ishii, basal part, 39) *S. convergens* (Walker), basal part, 40) *S. batuensis* sp. n., 41) *S. tawiensis* sp. n., basal part, 42) *S. furcifera* Westwood, 43) *S. palawanensis* sp. n., 44) *S. tawiensis* sp. n., clava and last flagellar joint, 45) *S. nasua* (Walker).

Remarks. The female antenna is shown in fig. 34, part of the male antenna in fig. 38, and fig. 22 shows the scutellum of the male. Formerly known only from the Caroline and Palau Is.

Schizaspidia murrayi Kirby

Material. Bismarck Is.; NEW BRITAIN: 7♂, S. of Cape Hoskins aerodrome, 6.vii.1962 (Noona Dan Exped.).

Remarks. Mesopleura of the male is shown in fig. 30, and fig. 20 shows the scutellum of the male. Formerly known only from the Tonga Is.

Key to Oriental and Australian species of *Schizaspidia*:

♀♀ (females of some species unknown)

(Not included in the key are: *aenea* Girault, *guttipennis* Girault, *taiwanensis* Ishii and *yakushimensis* Ishii)

1. Scutellum with the posterior process short (as in fig. 12) 2.
- Scutellum with the posterior process elongate (see figs. 11, 13 - 16) 4.
2. Antennae strongly serrate (as in fig. 37). Scutellum longitudinally striato-reticulate. Head and thorax bluish black, gaster violet. Antennae and legs yellowish brown. Wings hyaline, fore wing with a transverse band from stigmal vein to posterior margin. Length: 5.5 mm *S. furcifer* 3.
- Antennae not strongly serrate (as in fig. 34) 3.
3. Black with legs, antennae, mandibles, tips of scutellar prongs and gaster light brown to fuscous; Wings hyaline, fore wing with a brownish suffusion around stigmal vein. Length: 2.75 mm *S. samouana*
- Thorax dark blue-green, head black, gaster bluish black. Antennae with scapes yellowish grey, flagellum brown; legs stramineous or yellowish orange. Scutellum (fig. 12). Length: 3.5 mm *S. vicina*
4. Scutellum with longitudinal striation or carination (see figs. 11, 14) 5.
- Scutellum with pits (umbelicate or rugose) or more or less longitudinal reticulation (as in figs. 13, 15, 16) 6.
5. Head, thorax and petiole dark green, dorsally with tint of purple; gaster green; funicle castaneous, scapes and wing veins yellowish grey; around stigmal vein yellowish fuscous. Legs yellowish with all femora brownish yellow. Scutellum (fig. 11). Length: 3.3 - 3.4 mm *S. scutellaris*
- Bright green mixed with blue and cupreous; antennae ferrugineous, legs fulvous, coxae bluish green; fore wing with a transverse fuscous band from stigmal vein to posterior margin. Head smooth except vertex which is minutely punctate. Scutellum (fig. 14). Antenna (fig. 37). Length: 3.3 - 3.6 mm *S. nasua*
6. Yellow maculated. Basal 4 segments of antennae, prothorax, greater part of mesonotum, a triangular mark on top of metapleuron, petiole and legs pale yellow; the rest of antennae black except apical joint rufous. An oval mark in the centre of the mesonotum at the base, a narrow longish oval on the sides opposite the tegulae, a stripe across the base of scutellum, a small triangular mark at the base of scutellum in the middle, sternum, mesopleurae, metathorax except for the triangular yellow mark on top of metapleura, blue. A black band shortly beyond the middle of the petiole; gaster black. Wings hyaline, a small fuscous cloud at the end of the subcostal vein and a smaller one at the stigmal vein. Length: 4 mm *S. trimaculata*
- Not yellow maculated 7.
7. Scutellum with longitudinal carinae connected by transverse wrinkles (as in figs. 15, 16) 8.
- Scutellum with large pits, rugose or umbelicate punctate (as in fig. 20) 11.
8. Scutellum short (as in fig. 13) 9.
- Scutellum more elongate (as in fig. 15) 10.
9. Scutellum (fig. 13). Head, thorax, propodeum and gastral petiole dark green; gaster brownish black; all coxae dark brown, rest of legs yellowish testaceous; tegulae testaceous. Fore wing hyaline with a broad indefinitely delimited brownish fuscous band from stigmal vein almost to the posterior margin of the wing. Antenna (fig. 33). Length: 3 mm *S. antennata*
- Scutellum (fig. 16). Bluish black; antennal scapes, tegulae and legs except coxae stramineous; the rest of antennae brown with clava yellowish brown; all coxae dark brownish black. Gaster brown with metallic tint of blue. Fore wing hyaline, wing veins pale brown, around stigmal vein a brownish cloud. Antenna (fig. 36). Length: 3.0 - 3.6 mm *S. tawiensis* sp. n.
10. Petiole lineolated with carinate margins. Thorax finely transverse striato-reticulate. Blue-green; tegulae, antennae and legs reddish brown with coxae greenish blue and femora more or less aeneous. Fore wing with a transverse band from stigmal vein but not reaching the posterior margin. Length: 4 mm *S. fasciatipennis*

not aenea

- Petiole nearly smooth. Thorax striato-reticulate. Head and thorax metallic, yellowish green; gaster green; antennae tawny; legs brownish yellow, coxae green (metallic). Scutellum (fig. 15). Antenna (fig. 35). Ovipositor (fig. 27). Length: 4 mm *S. convergens*
- 11. Antennae strongly serrate (as in fig. 37). Blackish blue with more or less metallic tint. Antennae dark brown, coxae bluish black. Wings hyaline, fore wing with a fuscous cloud just below stigmal vein. Length: 3 mm *S. ponapensis*
- Antennae not strongly serrate (as in fig. 34) 12.
- 12. Head and thorax black with a tint of purple and coppery bronze; gaster brown; petiole pale yellow. Antennae piceous; legs yellowish with coxae black and femora darkened at the base. Wings hyaline. Length: 5 mm *S. calomyrmecis*
- Thorax black with metallic bluish-green; head dark metallic-green, antennae reddish-brown, scapes yellowish brown. Fore and mid coxae dark brown, hind coxae concolorous with thorax, femora dark brown, tibiae and tarsi brown. Gastral petiole and first gastral tergite bluish black, remaining sternites and tergites, and aedeagus dark brown. Wings hyaline, fore wing with a diffuse conspicuous infuscation around stigmal vein, veins brown. Length: 3 mm *S. sabariensis*

♂♂ (males of some species unknown)

- 1. Scutellum with short prongs (as in fig. 18) 2.
- Scutellum with longer prongs (as in figs. 17, 20, 23) 4.
- 2. Scutellum (fig. 18) rugose reticulate. Bluish black with strong metallic green reflections. Antennae dark brown with the two basal segments paler. Legs light brown, coxae concolorous with thorax. Wings hyaline, fore wing without a fuscous marking, veins dark brown. Length: 2.5 mm *S. brevifurcata*
- Scutellum longitudinally striate (as in fig. 12) 3.
- 3. Aeneous green or blue rather than black; antennae, mandibles, tips of scutellar prongs, legs and gaster light brown to fuscous. Wings hyaline, fore wing with a brownish suffusion around stigmal vein. Petiole of gaster securiform rather than cymbiform. Length: 2.75 mm *S. samoana*
- Thorax and gastral petiole dark green with a blue tint; head and rest of gaster black. Antennal scapes yellowish grey; the rest of antennae and wing veins testaceous to yellowish brown; legs stramineous. Length: 3.5 - 4.5 mm *S. vicina*
- 4. The tines of the scutellar fork long, as long as scutellum proper (as in fig. 17). Bluish black with a tint of violet; gaster brownish black; antennae dark brown with the two basal joints paler; legs light brown, coxae somewhat darker. Wings hyaline. Length: 4 mm *S. chamorro*
- The tines of the scutellar fork shorter than scutellum (figs. 20 - 23) 5.
- 5. First flagellar segment without a tooth or branch 6.
- First flagellar segment with a tooth or branch 9.
- 6. Antennae with short branches (fig. 43) 7.
- Antennae with long branches (fig. 39) 8.
- 7. Scutellum (fig. 26) with striato-reticulate puncturation. Black, some obscure tint of dark green. Antennae (fig. 43), tegulae, mandibles, all coxae and gaster brown to dark brown; antennal scapes paler. The rest of legs stramineous. Wings hyaline with an infuscation around stigmal vein, wing veins brown. Length: 2.6 mm *S. palawanensis* sp.n.
- Scutellum (fig. 25) with large umbellate puncturation. Antenna (as in fig. 43). Bluish black mixed with green. Antennae, mandibles, legs and tegulae dark yellowish brown; coxae and gaster brown to dark brown. Wings hyaline with a fuscous cloud around stigmal vein, veins pale brown. Length: 2.5 mm *S. peterseni* sp.n.
- 8. Head and thorax metallic yellowish green, gaster green; antennae tawny, legs brownish yellow, coxae green (metallic). Antenna (fig. 39). Length: 3.5 mm *S. convergens*
- Dark blue; antennae black; legs yellowish brown with femora black. Wings cinereous, fore wing with a indistinct brown spot around the stigmal vein, veins piceous. Length: 5 mm *S. cyanea*
- 9. Clava with a small joint (fig. 44). Black with tint of blue; antennae brownish yellow with scapes yellow; legs yellowish brown with paler tibiae, and coxae dark brown. Gastral petiole of the same colour as thorax; gaster brown. Wings hyaline, wing veins brown. Scutellum (fig. 41). Length: 3.1 - 4.0 mm *S. tawiensis* sp.n.
- Clava without a small joint 10.
- 10. Branches of flagellar segments strongly flattened (as in figs. 40, 42) 11.
- Branches of flagellar segments only slightly flattened or cylindrical 12.
- 11. Scutellum with very large, broad prong (fig. 19). Black with a tint of blue; antennae brownish yellow, scapes yellow. Legs yellowish brown with tibiae paler; coxae dark brown. Gastral petiole concolorous

in tawny to orange
to test.

- with thorax, gaster brown. Wings hyaline, wing veins brown. Antenna (fig. 40). Length: 4.0 mm
 *S. batuensis* sp.n.
- Scutellum with smaller prong (fig. 24). Black; head black with obscure metallic reflections; mandibles and antennae ferruginous-brown. Coxae concolorous with thorax, the rest of legs brown. Wings hyaline with a indistinct infuscation around the stigmal vein, wing veins dark brown. Gastral petiole black, first tergite brownish black, rest of gaster ferruginous-brown. Mesopleuron (fig. 29). Antenna (fig. 42). Length: 4.0 mm *S. furcifera*
12. Flagellar segments with cylindrical branches. Dark metallic green. Antennae dark brown. Legs brownish yellow, coxae green. Length: 4 mm *S. travancorensis*
- Flagellar segments with slightly flattened branches (see also couplet 10) 13.
13. Mesopleuron rugose punctate. Thorax and head black; head with some metallic reflections; mandibles and antennae ferruginous brown. Coxae concolorous with thorax, rest of legs brown. Gastral petiole black, first tergite of gaster brownish black, gaster otherwise ferruginous brown. Antenna (as fig. 42). Length: 3 mm *S. coromandelica*
- Mesopleuron anteriorly with more or less smooth areas (see figs. 30 - 32) 14.
14. First flagellar segment with a branch (as fig. 41) 15.
- First flagellar segment with a tooth (as fig. 45) 16.
15. Dark greenish black; antennae yellowish brown; legs brown, coxae testaceous brown. Gastral petiole black, gaster dark coppery-brown. Length: 3.5 mm *S. andamanensis*
- Dark green; head except occiput, and gaster blue; antennae and legs testaceous, femora and hind tibiae infuscated. Wings hyaline, veins testaceous. Head smooth, the sides of vertex widely, weakly striate, malar space finely, irregularly striate. Mesopleuron (fig. 31). Length: 4.5 mm *S. caeruleiceps*
16. The tines of scutellar fork convergent (figs. 21, 23) 17.
- The tines of scutellar fork divergent (figs. 20, 22) 18.
17. Scutellum (fig. 21). Antenna (fig. 45). Bright green, mixed with blue and cupreous; antennae ferruginous, legs fulvous, coxae bluish green. Wings hyaline with a fuscous transverse band from stigmal vein to posterior margin of fore wing. Head smooth except minutely punctate vertex. Length: 3.3 mm *S. nasua*
- Scutellum (fig. 23). Head, thorax, propodeum and gastral petiole dark green; gaster brownish black; coxae dark brown, the rest of legs yellowish testaceous; tegulae testaceous. Wings hyaline, fore wing with a broad, vaguely delimited, brownish-fuscous band from stigmal vein nearly to the posterior margin. Length: 3.0 mm *S. antennata*
18. Scutellum (fig. 20). Head and thorax green, with a slight coppery reflection. Antennae yellowish brown; scapes yellow beneath; gaster blackish green on the sides and with a broad yellowish stripe above, continuing backwards to the apex; legs yellowish. Wings hyaline, veins blackish. Length: 3.0 mm *S. murravi*
- Scutellum (fig. 22). Antenna (fig. 38). Blackish blue with more or less metallic tint. Antennae dark brown; coxae bluish black. Wings hyaline, fore wing with a fuscous cloud just below stigmal vein. Length: 3 mm *S. ponapensis*

→ as thorax

Below I give a list of Oriental and Australian species of *Schizaspidia* based on the present studies. Species transferred from *Schizaspidia* to other genera, or placed in synonymy, are in brackets.

Check-list of Oriental and Australian species of *Schizaspidia*:

aenea (Girault, 1913c:101, *Astilbula*), *comb. n.*, Australia.

Syn.: *Epimetegea aenea* (Girault, 1915:227), *syn. n.*

Kapatella transstriata Girault, 1932:4, *syn. n.*

Neokapala furcatella Girault, 1913c:92.

antennata Gahan, 1940:433, Kuala Lumpur.

(*atkinsoni* Mani et al., 1974:36, belongs to *Stilbula*).

batuensis sp. n., Philippines.

brevifurcata Watanabe, 1958:23, Palau, Caroline Is.

calomyrmecis Brues, 1934:206, West Australia.

caeruleiceps Cameron, 1909a:231, Borneo.

(*ceylonica* Enderlein, 1912:146, *Psygmatochera*, syn. of *convergens*).
chamorro Yasumatsu, 1942:156, Caroline Is.
convergens (Walker, 1960:358, *Eucharis*), Ceylon.
coromandelica (Mani et al., 1974:45, *Kapaloides*), comb. n., India.
cyanea Walker, 1862:386, Amboina, Moluccas.
(doddi Bingham, 1906:130, belongs to *Kapala*)
fasciatiennis (Girault, 1928b:456, *Kapala*), comb. n., Luzon, Philippines.
fulcifera Westwood, 1835:69, India.

guttipennis (Girault, 1932:4, *Thoracantha*), comb. n., Australia. = *emersoni*
(Indica Mani, 1935:254, belongs to *Stilbula*).

(manipurensis Clausen, 1928:85, belongs to *Stilbula*).

murrayi Kirby, 1884:403, Tonga Is.

Syn.: *Thoracantha emersoni* Girault, 1915:237.
Thoracanthella emersoni Girault, 1940:323.

(mysorensis Mani et al., 1974:37, belongs to *Stilbula*).
nasua (Walker, 1846:21,88, *Thoracantha*), Philippines.

Syn.: *Kapala foveatella* Girault, 1928b:453.
Kapala violacea Ishii, 1932:209.

(nekkensis Ishii, 1935:5, belongs to *Stilbula*)

(palauensis Ishii, 1941:108, syn. of *ponapensis*).

palawanensis sp. n. Philippines.

peterseni sp. n., Philippines.

(polyrhachicida Wheeler and Wheeler, 1924:49, belongs to *Stilbula*).

ponapensis Ishii, 1941:107, Caroline and Palau Is.

Syn.: *Schizaspidia palauensis* Ishii, 1941:108.

(quinqueguttata Girault, 1915:235, belongs to *Stilbula*).

(rudis Westwood, 1874:154, belongs to *Kapala*). no way.

sabariensis (Mani et al., 1974:42, *Kapaloides*), comb. n., India.

scutellaris Masi, 1926:366, Taiwan.

taiwanensis Ishii, 1938:198, Taiwan.

(tanjorensis Mani et al., 1974:39, belongs to *Stilbula*).

tawiensis sp. n., Philippines.

trimaculata Cameron, 1909b:205, Borneo.

vicina Masi, 1926:366, Taiwan.

yakushimensis Ishii, 1938:197, Taiwan.

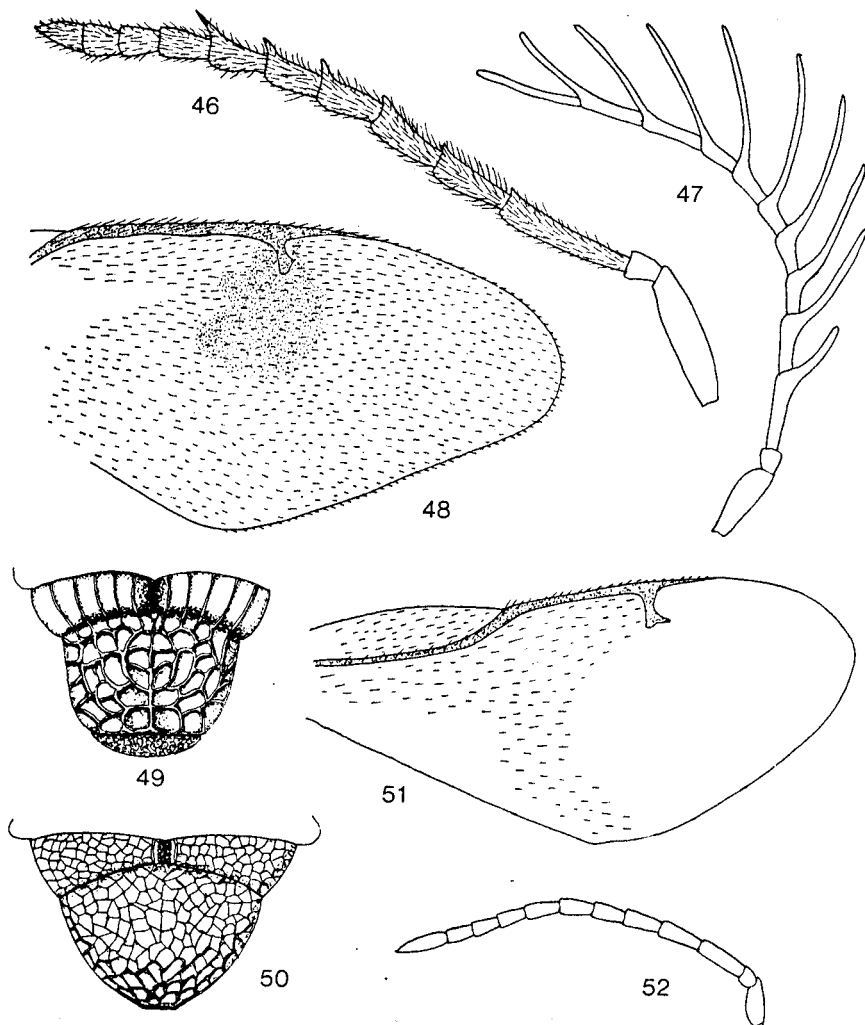
CHALCURA Kirby, 1886:30

Diagnosis. Antenna 1182 in ♀, 1191 in ♂; in females with or without teeth on the flagellar segments (fig. 46), in males flagellar segments with branches, shorter or lacking on first segment (fig. 47). Scutellum (fig. 49) without a posterior process. Gastral petiole at least twice as long as hind coxa, cylindrical. Fore wing with costal cell not especially narrow; stigmal vein as in fig. 48.

Type-species: *Eucharis deprivata* Walker.

Chalcura aeginata (Walker)

Material. Philippines; PALAWAN: 1♂, 1♀, Uring Uring, 15. and 26.viii.1961.



Figs. 46-49. *Chalcura aeginata* (Walker), 46) ♀, antenna, 47) ♂, antenna, 48) ♀, part of fore wing, 49) ♀, scutellum. — Figs. 50-52. *Epimetegea montana* (Girault), ♂, 50) scutellum, 51) fore wing, 52) antenna.

BALABAC: 2 ♂, Dalawan Bay, 12.x.1961 (Noona Dan Exped.).

Remarks. Antennae, scutellum and part of fore wing are illustrated in figs. 46 - 49. Formerly known only from Luzon (Laguna).

Key to Indo-Australian species of *Chalcura*:

♀♀. (Unknown in some species).

1. Antennae with teeth on flagellar segments 3 - 5 (fig. 46). Thorax with strong sculpture. Head, thorax, all coxae and gastral petiole green. Mandibles, antennal scapes, legs except coxae yellow; antennal clava yellowish brown, the rest of antenna brown; all femora with a tint of brown. Gaster yellowish brown with tip of dark brown. Wing brown with a brownish cloud around stigmal vein. Length: 3.3 mm *C. aeginata*
- Antennae without teeth on flagellar segments which are only slightly produced 2.
2. Head and thorax aeneous green. Gaster black; gastral petiole with metallic reflections. Legs, except coxae, and antennae straw yellow to fuscous brown. Fore wing with brown suffusion especially marked below stigma. Length: 2 mm *C. samoana*
- Metallic green with purplish reflections. Gaster except petiole dark brown. Antennae fuscous brown with basal two segments paler. Legs light brown, except coxae concolorous with thorax. Wings hyaline; wing veins dark brown. Length: 4.5 mm *C. upeensis*

♂♂.

1. First flagellar segment without a branch. Metallic green with purplish reflections. Gaster, except petiole, dark brown. Antennae fuscous brown, with basal two segments paler. Legs light brown, except coxae concolorous with thorax. Wings hyaline; wing veins brown. Length: 4.5 mm *C. upeensis*
- First flagellar segment with a branch 2.
2. Mesopleura lightly reticulate and finely punctate on posterior half. Head and thorax aeneous green. Gaster black; gastral petiole black with green metallic reflections. Legs, except coxae, and antennae stramineous to fuscous brown; coxae as thorax. Fore wing with suffusion of brown especially marked below stigma. Length: 2 mm *C. samoana*
- Mesopleura smooth above 3.
3. Posterior part of scapulae reticulate-punctate. Head, thorax, coxae and gastral petiole shining green. Antennal scapes, mandibles, legs except coxae yellow; rest of antennae brown. Gaster brown. Wing veins brown; fore wing with a brownish cloud around stigmal vein. Length: 3.8 - 4.0 mm *C. aeginata*
- Posterior part of scapulae smooth. Head, thorax, coxae and gastral petiole metallic green. Antennal scapes, tegulae, mandibles and legs except coxae yellow. The rest of antennae dirty yellow. Gaster yellowish brown. Wing veins brown; wings suffused with brown; fore wing with a cloud of pale brown around stigmal vein. Length: 4.0 mm *C. deprivata*

Check-list of Oriental and Australian species of *Chalcura*:*aeginata* (Walker, 1846:21,86, *Eucharis*), Philippines.Syn.: *Chalcura glabra* Girault, 1928b:451.*deprivata* (Walker 1860:359, *Eucharis*), Ceylon.*samoana* Fullaway, 1940:404, Samoa.*upeensis* Fullaway, 1913:285, Mariana Is., Caroline Is.*EPIMETAGEA* Girault, 1913d:225Syn.: *Psilogasteroides* Girault, 1913e:93, preoccupied.*Parapsilogaster* Girault, 1915:232 (nec Bigot), preoccupied.*Astilbula* Girault, 1913d:101.*Propsilogaster* Girault, 1940:324, *syn. n.**Parapsilogastrus* Ghesquière, 1946:368, *syn. n.*

Diagnosis. Head transverse. Notauli distinct; axillae broadly meeting before scutellum; scutellum (fig. 50) semicircular posteriorly with no process. Gastral petiole short, as long as or only slightly longer than hind coxa. Antenna, 1191, (fig. 52) inserted above level with the anterior edges of eyes. Fore wing (fig. 51) with costal cell not especially narrow; stigmal vein long, vertical.

Type-species: *Eucharis faustus* Walker.

Epimetegea montana (Girault)

Material: Philippines; PALAWAN: 1 ♂, Uring Uring, 16.viii.1961. BALABAC: 2 ♂, Dalawan Bay, 11. and 12.X.1961. (Noona Dan Exped.).

Remarks. Fore wing, antenna and scutellum are shown in figs. 50 - 52. Formerly known only from Luzon.

Check-list of Indo-Australian species of *Epimetegea*:

- aenea* (Girault, 1915:277, *Astilbula*), Australia. ? *all Schizogaster?*
- geneobrunnea* Girault, 1929:334, Australia.
- biclavata* (Girault, 1940:324, *Propsilogaster*), *comb. n.*, Australia.
- bicoloriventris* Girault, 1915:228, Australia.
- boudiennyi* Girault, 1940:325, Australia.
- brunneipetiole* Girault, 1934a:2, Australia.
- brunneipolita* Girault, 1934b:1, Australia.
- bunyae* Girault, 1934b:1, Australia.
- bunyae* var. *elongata* Girault, 1940:324, Australia.
- eribotes* (Walker, 1839:14, *Eucharis*), *comb. n.*, Australia.
- fasciiventris* Brues, 1919:14, Australia.
- jaustus* (Walker, 1839:10, *Eucharis*), *comb. n.*, Australia.
- flavifemora* Girault, 1929:334, Australia.
- hemiglaber* Girault, 1940:325, Australia.
- ilychi* Girault, 1936:3, Australia.
- roseiskoi* Girault, 1940:325, Australia.
- (laeviceps* Gahan, 1940:429, *Parapsilogaster*, belongs to *Losbanus*).
- magnifica* (Girault, 1913e:96, *Astilbula*), Australia.
- maxinovichi* Girault, 1936:3, Australia.
- montilicornis* Girault, 1940:325, Australia.
- montana* (Girault, 1928b:451, *Parapsilogaster*), *comb. n.*, Philippines.
- Syn.: *Parapsilogaster striatus* Girault, 1928b:451, *syn. n.*
- myrmicae* Girault, 1936:3, Australia.
- polita* Girault, 1915:228, Australia.
- polita* var. *varia* Girault, 1940:324, Australia.
- phidiasae* Girault, 1940:325, Australia.
- (purpura* Girault, preoccupied, n. nom. *purpureicorpus*)
- purpureicorpus* Girault, 1915:227, Australia.
- reticulativentris* Girault, 1934:1, Australia.
- sanguiniventris* Girault, 1929:334, Australia.
- sanguiniventris* var. *oji* Girault, 1940:325, Australia.
- valgus* (Walker, 1939:11, *Eucharis*), *comb. n.*, Australia.
- ulyanovi* Girault, 1940:325, Australia.

RHIPIPALLUS Kirby, 1886:31

Syn.: *Chalcurella* Girault, 1913e:94; 1915:230, *syn. n.*

Chalcurelloides Girault, 1913a:46, *syn. n.*

Chalcuroidella Girault, 1913e:100, *syn. n.*

Chalcuroides Girault, 1915:236, *syn. n.*

Arhipallus Girault, 1936:3, *syn. n.*
Parachalcura Girault, 1940:324, *syn. n.*
Rhipipalloidea Girault, 1934:1, *syn. n.*

The above mentioned genera, mainly monobasic, are placed in synonymy with *Rhipipallus*. The differences from *Rhipipallus* mentioned by Girault have in my opinion no generic value at all.

Type-species: *Eucharis volosus* Walker.

Rhipipallus peterseni sp. n.

Types. Bismarck Is.; NEW BRITAIN: holotype ♀, Yalom, 1000 m, 22.v.1962; paratype ♂, same loc., 20.v.1962 (Noona Dan Exped.). In the Zoological Museum, Copenhagen.

Description. ♀. Black with green reflections. Antennal scapes and pedicels, mandibles, tibiae and tarsi yellow; the rest of antennae, fore and mid coxae, femora and tegulae brown. Hind coxae and gastral petiole as thorax; gaster glistening dark brown. Wing veins brown; fore wing (fig. 55) with a transverse fuscous cloud reaching posterior margin although very faint at the margin. Head smooth except the transversely striate occiput; malar space as long as an eye; antennae, 1182 (fig. 53), first flagellar joint as long as scape, 2nd. to 8th. funicle joints increasingly serrate; occiput with a sharp carina. Thorax strongly transversely striate; mesopleura with anterior half smooth, the other half punctate; notauli distinct; scapulae smooth on posterior half; axillae longitudinally striate; scutellum semicircular, reticulated with large meshes, apex with two minute spinelike plates; upturned; propodeum areolated. Gastral petiole twice as long as hind coxa, smooth with a forked median carina; gaster smooth basally with very fine punctures. Fore wing (fig. 55) with basal cell bare and underside of costal cell hairy. Length, 5mm.

♂. Similar to female but head and thorax with purplish reflections. Antennae, 1191 (fig. 54) and gastral petiole three times as long as hind coxa. Length, 5 mm.

Remarks: Rather similar to *Rhipipallus maculatus* (Watanabe) but differs as follows: Female with serrate antennae and a different colour; male without a branch on first flagellar joint and also differently coloured.

Check-list of Oriental and Australian species of *Rhipipallus*:

affinis Bingham, 1906:129, Queensland.

bispinosus (Girault, 1929:335, *Chalcuroidella*), *comb. n.*, Australia.

cameroni Kirby, 1886:37, Australia(?), Celebes (?).

gruberi (Girault, 1940:326, *Rhipipalloidea*), *comb. n.*, Australia.

hyalinus (Girault, 1913a:46, *Chalcurelloides*), *comb. n.*, North Queensland.

maculatus (Watanabe, 1958:31, *Parachalcura*), *comb. n.*, Marshall and Caroline Is.

mirus (Girault, 1934b:1, *Rhipipalloidea*), *comb. n.*, Australia.

nigrocyanus (Girault, 1913e:94, 1915:231, *Chalcurella*), *comb. n.*, Tasmania.

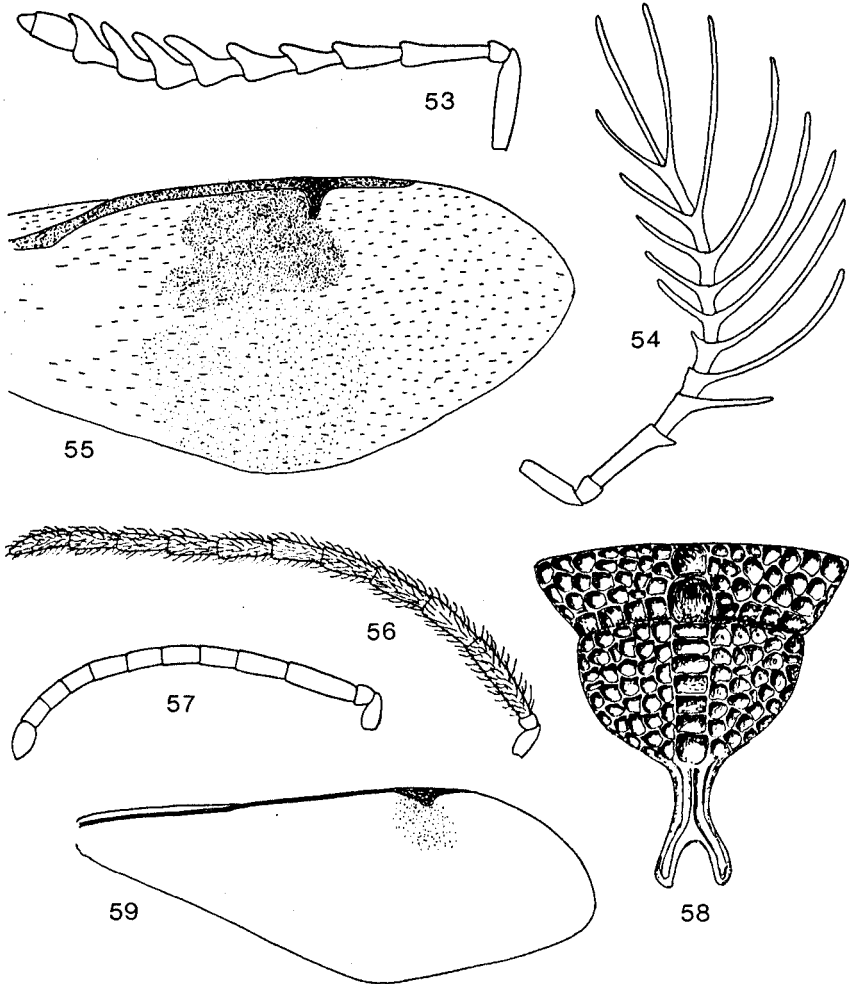
peterseni sp. n., New Britain.

orientalis (Girault, 1913c:100, *Chalcuroidella*), *comb. n.*, North Queensland.

ramosus (Girault, 1940:324, *Parachalcura*), *comb. n.*, Australia.

turneri Kirby, 1894:47, Australia.

Syn.: *Arhipallus turneri* Girault, 1936:3, *syn. n.*



Figs. 53-55. *Rhipipallus peterseni* sp. n., 53) ♀, antenna, 54) ♂, antenna, 55) ♀, fore wing. — Figs. 56-59. *Stilbula* spp. 56) *S. palawanensis* sp. n., ♂, antenna, 57) *S. cyniformis* Rossi, ♀ antenna, 58-59) *S. palawanensis* sp. n., ♂, scutellum and fore wing, respectively.

versicolor (Girault, 1915:236, *Chalcuroides*), *comb. n.*, Queensland.

volosus (Walker, 1839:9, *Eucharis*), Australia.

Syn.: *Stilbula volosus* Walker, 1871:65.

STILBULA Spinola, 1811:150

Syn.: *Eltolada* Cameron, 1909a:230, *syn. n.*

Diagnosis. Head transverse, as wide as thorax. Antenna, 1191, (figs. 56, 57) with flagellar segments cylindrical and elongate in both sexes. Scutellum (fig. 58) with a forked tooth-like process; notauli distinct; mesopleuron punctate with a more or less large smooth area; prepectus fused with a distinct elevation laterad of each spiracle. Gastral petiole long and slender. Fore wing (fig. 59) with costal cell very narrow; stigmal vein reduced.

Type-species: *Ichneumon cyniformis* Rossi.

Stilbula trimaculata (Cameron)

Material. Philippines; PALAWAN: 1♀, Pinigisan, 600 m, 15.ix.1961 (Noona Dan Exped.).

Remarks. This female fits the description in all essential features but has more yellow as follows: in the middle of metapleura, near anterior margin of callus and on nucha.

Stilbula polyrhachicida (Wheeler and Wheeler)

Material. Bismarck Is.; NEW IRELAND: 1♀, Lemkamin, 900 m, 21.iv.1962 (Noona Dan Exped.).

Stilbula palawanensis sp. n.

Holotype. Philippines; PALAWAN: 1♂, Pinigisan, 600 m, 13.ix.1961 (Noona Dan Exped.). In the Zoological Museum, Copenhagen.

Description. ♂. Head and thorax dark green with purplish and golden green reflections on thorax. Antennae yellowish brown. Pronotum yellow with a green spot in front of fore coxae and green fused prepectus. Legs, tegulae and gastral petiole yellow; all coxae basally and petiole in the middle with brown reflections. Gaster dorsally dark brown, ventrally yellowish brown. Wings hyaline with a cloud below stigmal vein.

Head almost twice as wide as high, striato-punctate. Antenna (fig. 56) with frizzy hairs on flagellar segments; malar space half the length of an eye. Thorax and propodeum strongly punctate-reticulate; scutellum (fig. 58) with a forked process, the shaft of the process longer than the prong; mesopleura with a narrow smooth area. Gastral petiole thickened in the middle. Fore wing shown in fig. 59. Length: 2.5 mm.

♀. Unknown.

Remarks. Somewhat similar to *Stilbula carolinensis* Watanabe, but differs as follows: The forked process of scutellum nearly as long as scutellum; petiole 1½ times as long as hind femur; scape short nearly quadratic, pedicel transverse, first flagellar segment nearly 6 times as long as broad. The colour is also different.

Check-list of Oriental and Australian species of *Stilbula*:

arenae Girault, 1934b:1, Australia.

albipennis Girault, 1929:332, Australia.

albpetiole Girault, 1929:332, Australia.

atkinsoni (Mani et al., 1974:36, *Schizaspidia*), *comb. n.*, Burma.

australiana Girault, 1913e:93, Queensland.

bidentata Girault, 1913e:92, Queensland.

- carolinensis* Watanabe, 1958:24, Caroline Is.
indica (Mani, 1935:254, *Schizaspidia*), *comb. n.*, Assam.
insularis Cameron, 1907:85, Chagos.
leucopoda (Cameron, 1909:231, *Eltolada*), *comb. n.*, Borneo.
manipurensis (Clausen, 1928:85, *Schizaspidia*), India.
mysorensis (Mani et al., 1974:37, *Schizaspidia*), *comb. n.*, India.
octodigitata Girault, 1929:333, Australia.
palawanensis sp. n., Palawan.
pallidiclava Girault, 1934b:1, Australia.
peduncularis Westwood, 1874:155, Australia.
polyrhachicida (Wheeler and Wheeler, 1924:49, *Schizaspidia*), Luzon.
quadrigitata Girault, 1929:331, Australia.
quinqueguttata (Girault, 1915:235, *Schizaspidia*), *comb. n.*, Queensland.
tanjorensis (Mani et al. 1974:39, *Schizaspidia*), *comb. n.*, India.
toga Girault, 1937:1, Australia.
trimaculata (Cameron, 1909:230, *Eltolada*), Borneo.

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