

AUSTRALIAN HYMENOPTERA CHALCIDOIDEA—VI.*

The Family Pteromalidae with Descriptions of New Genera and Species.

By A. A. GIRAULT.

INTRODUCTION.

WHOLE portions of this great family are barely represented in the Australian fauna. The Sphegigasterini seems the most numerous, the Pteromalini the least, represented of the tribes. The large series of old-world genera are rarely met with and species of the type genus are few, one species only having been found so far in our extensive collections. This paper includes a large number of the genera but the species must be much more numerous than the few recorded here.

TRIBE PTEROMALINI.

GENUS MERAPORUS Walker.

1. MERAPORUS NIGRIVIRIDIS Girault. Female.

Dark metallic green, the head and thorax (excluding the propodeum) bronze, the abdomen shining black; fore wings with a rather obscure, round stained spot against the submarginal vein just before its apex, otherwise hyaline. Legs deep fuscous, the coxæ concolorous; antennæ black, the scape and pedicel brownish. Marginal vein slightly longer than stigmal the latter slightly longer than postmarginal. Punctate. Propodeal spiracle long-elliptical, the median carina half complete from base, the lateral ones complete. Parapsidal furrows about half complete. Funicle 1 longest, much shorter than pedicel, cup-shaped, the distal funicle joints wider than long; club not enlarged. Clypeus striate.

Habitat: Tasmania (King Island).

Type: No. I. 1277, South Australian Museum, Adelaide.

GENUS PTEROMALUS Swederus.

It is almost needless to say that the great number of species catalogued under this genus in many instances do not belong here. Walker has described the following species as members of it from Australia. I have seen only one species of the genus which is probably the common *puparum* of Linnaeus but it is not recorded as such for the reason that the identity of this species is doubtful and its occurrence in Australia, though probable, cannot be said to be proved. It is even doubtful whether anyone knows what *puparum* is. There are too many members of its genus, tribe and family (not to mention miscogasterids) resembling it not to be fearful that mistaken identifications have been made in the past, especially since its type is unknown and its various descriptions vague and conflicting. Perhaps, fifty years

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or more ago, nearly every green pteromalid or miscogasterid reared in connection with the chrysalids of butterflies was identified as *puparum*. The present position of this genus is certainly chaotic to say the least. To study the group a systematist would need an open sesame to all museums and libraries. If we could afford to lose the old records concerning members of the genus, it would not be a bad plan for someone to commence a modern study of the group ignoring all former species and fixing the genotype. This is the darker, evil horn of the dilemma but may become necessary.

1. PTEROMALUS BATON Walker. Male, female

Walker, 1839, pp. 32-33.

Habitat: Hobart, Tasmania; Sydney, New South Wales.

Types: Probably in the Natural History Museum, London.

This species seems correctly placed.

2. PTEROMALUS BEBIUS Walker. Male, female.

Walker, 1839, pp. 31-32.

Habitat: Sydney, New South Wales.

Types: Probably in the Natural History Museum, London.

3. PTEROMALUS ELPINICES Walker. Female, male.

Walker, 1839, p. 32.

The species seems correctly placed.

Habitat: Hobart, Tasmania.

Types: Probably in the Natural History Museum, London.

4. PTEROMALUS EUCTEMON Walker. Female, male.

Walker, 1839, p. 31.

Habitat: Sydney, New South Wales.

Types: Probably in the Natural History Museum, London.

5. PTEROMALUS EUROPS Walker. Female.

Walker, 1839, pp. 30-31.

Habitat: Sydney, New South Wales.

Type: Probably in the Natural History Museum, London.

6. PTEROMALUS FABIA Walker. Female, male.

Walker, 1839, pp. 33-34.

Habitat: King George's Sound.

Types: Probably in the Natural History Museum, London.

7. PTEROMALUS GORGIAS Walker. Male.

Walker, 1839, p. 34. This species may be a miscogasterid.

Habitat: Sydney, New South Wales.

Type: Probably in the Natural History Museum, London.

8. PTEROMALUS HESUS Walker. Female.

Walker, 1839, p. 33. This species seems correctly placed.

Habitat: Hobart, Tasmania.

Type: Probably in the Natural History Museum, London.

9. PTEROMALUS NIPHE Walker. Female.

Walker, 1839, p. 29. This species seems truly placed.

Habitat: Hobart, Tasmania.

Type: Probably in the Natural History Museum, London.

10. PTEROMALUS OCEIA Walker. Female

Walker, 1839, p. 30. Apparently in its right genus.

Habitat: Hobart, Tasmania.

Type: Probably in the Natural History Museum, London.

11. PTEROMALUS PUPARUM (Linnaeus) Swederus.

Ashmead, 1900, p. 345. (See preceding remarks.)

Habitat: New South Wales; Europe, North America.

Host: *Papilio eretheus*.

Type: Unknown.

12. PTEROMALUS THESTOR Walker. Female.

Walker, 1839, pp. 29-30. Seems correctly placed.

Habitat: Hobart, Tasmania.

Type: Probably in the Natural History Museum, London.

13. PTEROMALUS UNCA Walker.

Walker, 1839, p. 28.

Habitat: Hobart, Tasmania.

Type: Probably in the Natural History Museum, London.

14. *PTEROMALUS STIRONOTUS* Cameron.

Cameron, 1912, pp. 213-214.

Dark coppery green, abdomen dark bronzy-violaceous, antennal scape yellow, flagellum fuscous; legs yellow, darker at base, tarsi paler; wings hyaline, slightly tinged with fuscous in the middle, nervures black. Metanotum with a distinct keel down its centre, the sides distinctly margined, narrowed obliquely towards the apex, depressed inside the lateral keels. Head and thorax not very shining, smooth, front and vertex with some minute punctures. **Vertex rather deeply, widely, roundly emarginate.** Antennal scape separated from the ocelli by one-third of their length. Ocelli in a curve, the hinder separated from each other by double the distance that they are from the eyes. Palpi yellow. Apex of clypeus slightly, roundly incised.

Thorax finely, closely punctured and sparsely haired; the abdomen much more shining. The under side of the base of the antennal flagellum may be testaceous; the coxæ may be blackish. The stigmal vein is as long as the postmarginal. Thorax roundly narrowed at the base. Scutellum large, longer than wide, the apex broadly rounded. Abdomen shorter than the thorax and wider than it, broadly oval.

Habitat: Hay, New South Wales.

Type: Query.

Host: *Agrotis* species.

GENUS *NEOCATOLACCUS* Ashmead.1. *NEOCATOLACCUS AUSTRALIENSIS* new species.

Female:—Length, 2.20 mm.

With all of the characters of the genus but the spiracular sulcus certainly somewhat obscure and the transverse carina on the propodeum does not approach the median carina on each side; also the propodeal spiracles are rather small, elliptical. Antennæ like those figured for *Pseudocatolaccus asphondylæ* Masi with its original description. Dark metallic green or blue, the coxæ concolorous, the femora fuscous or bluish, rest of legs pallid. Wings hyaline. Scape and pedicel yellow, the funicle and club dusky. Caudal margin of second abdominal segment straight or convexed. The lateral carinæ are short and curved, running toward the meson and forming the transverse carina.

Male:—Antennæ with only two ring-joints, the abdomen shorter and stouter and with much of the centre of proximal half yellowish or brownish. Funicle and club black, the joints of the funicle subquadrate and subequal. Pubescence not adpressed nor conspicuous but short. Vertex not especially thin.

Described from two males, four females captured from a window, November 16, 1911. Also a female reared in December, 1912, from miscellaneous forest galls.

Habitat: Nelson (Cairns), Queensland and Port Darwin, Northern Territory.

Types: No. 1596, Queensland Museum, two males, two females on a tag, male and female head together on a slide.

Later, one male, four females were received from G. F. Hill, who reared them from the "grain moth," January 1, 1913, at Port Darwin, Northern Territory. On the propodeum there is a round fovea at cephalic margin over halfway to the spiracle from meson.

GENUS TRICHOGLINES Thomson.

1. TRICHOGLINES BRACONOPHAGUS Cameron.

Trichoglenes (?) *braconophagus* Cameron, 1912, pp. 214-215.

"*Trichoglenes* (?) *braconophagus*, sp. n.

"Head and thorax dark bronzy-black, closely reticulated; abdomen smooth and shining, violaceous-black; metanotum slightly more finely reticulated than the scutellum, its sides bordered by a distinct, roundly curved furrow; its apex is much more strongly reticulated than the rest; pronotum less strongly than mesonotum; apex of metanotum with a rounded slope. Antennal scape and legs rufo-fulvous. Wings hyaline, nervures rufo-testaceous; stigmal branch longish, curved, as long as postmarginal, dilated at apex; the two forming a longish triangle, longer than it is wide at the apex; apex of wings shortly ciliated. ♂ ♀. Length, 1.5 mm.

"Sydney; 'parasitic on a Braconid parasite'; 21st June."

"From the appearance and structure of the cocoons, I have no doubt that they are those of an *Apanteles*, which, from their spinning their cocoons in company, are preyed upon by various Parasitic Hymenoptera, *Ichneumonidae* (e.g., *Hemiteles*), *Braconidae*, *Chalcididae*, and *Proctotrypidæ*.

"The abdomen in the ♂ is broadly oval, in the ♀ it is longer (but still shorter than the thorax), and much more sharply pointed at the apex; the ovipositor shortly projects. The femora and tibiae are darker-coloured, more infuscated, in the ♀ than in the ♂. There is a broad, smooth keel on the apex of propleuræ, and a shorter, narrower one on the base of the mesopleuræ. The second abdominal segment is slightly shorter than all the following united, the third is about one-half its length. Flagellum of antennæ densely pilose; antennæ inserted opposite the end of the eyes.

"I am not certain about the generic position of this species, owing to my not being able to make out, with certainty, if the eyes are pilose or bare. If pilose, the species might be referred to *Trichoglenes* Thomas."

TRIBE RAPHITELINI.

GENUS NASONIA Girault and Sanders.

1. NASONIA BREVICORNIS Girault and Sanders.

This species is parasitic upon the house or typhoid fly and may be found in Australia. So far it has not been found out of the United States of America except, perhaps, at Honolulu. *Muscidifurax raptor* should also be looked for here.*

TRIBE ROPTROCERINI.

GENUS ORMYROMORPHA Girault.

Hind tibiae with the spur very long and stout. Antennæ with three ring-joints, the club solid, eleven joints, the funicle joints wider than long and subpetiolate, shorter than the pedicel. Abdomen subsessile, stout, conic-ovate, somewhat longer than the rest of the body, densely sealy and with scattered thimble punctures. Fore wings banded, the stigmal and postmarginal veins rather long and subequal, each about two thirds the length of the marginal. Propodeum with a median carina two thirds complete from base; no other carinae, no sulci. Parapsidal furrows incomplete. Both mandibles tridentate. Pubescence of mesonotum somewhat like that of *Catolaccus*.

* Later, a specimen was found from Brisbane.

1. ORMYROMORPHA TRIFASCIATIPENNIS Girault. Female. Genotype.

Dark metallic blue-green, the flagellum brownish. Head and thorax finely shagreened, the incisions of abdominal segments smooth. Fore wings with the middle black stripe longest, the first across from base of marginal vein, the middle from whole of postmarginal vein, the third around the apex; of the two white stripes between the three bands, the first is longest (proximo-distad). Funicle 2 longer than 1.

Habitat: Port Lincoln, South Australia; Sydney, New South Wales.

Type: No. I. 1264, South Australian Museum, Adelaide.

2. ORMYROMORPHA TRIFASCIATA Girault. Female.

Same as the type species but larger, the stigmal and postmarginal veins longer; the middle stripe of fore wing is longer, the third stripe shorter, just around apical edge, the white stripes between the three, subequal; scape and pedicel brown. Funicle 1 longer than 2.

Habitat: Hobart, Tasmania.

Type: No. I. 1265, South Australian Museum, Adelaide.

GENUS PARURIELLA Girault.

Like *Uriella* Ashmead but the mandibles tridentate, the lateral carinæ distinct, also the median, the hind tibial spur long and slender. Antennæ 12-jointed with two ring- and three club joints, the five funicle joints subquadrate. Postmarginal vein longer than the stigmal, the latter less than half the length of the marginal. Scutellum simple. Parapsidal furrows complete. Abdomen only slightly longer than the thorax, depressed.

1. PARURIELLA AUSTRALIENSIS Girault. Female. Genotype.

Bright aeneous green, the wings hyaline; knees, tips of tibiae and tarsi yellow-brown; venation dark brown. Antennæ black, the pedicel only slightly longer than funicle 1. Densely punctate including propodeum; abdomen scaly. Cephalic tibiae sometimes paler.

Habitat: Mittagong, New South Wales; Brisbane, Queensland.

Type: No. I. 1346, South Australian Museum, Adelaide.

A female of this species was captured by Mr. H. Hacker at Brisbane on flowers of *Bæckea*, April 22, 1913. It is in the Queensland Museum on a tag (a slide with the head and cephalic and hind legs).

GENUS URIELLOIDES Girault.

Like *Uriella* Ashmead but the antennæ bear three ring-joints, the mandibles 3- and 4-dentate, the propodeum tricarinate, the lateral carinæ grooved interiorly; spiracle of propodeum small, oval. Parapsidal furrows incomplete. Somewhat like *Neocatolaccus* Ashmead. Antennæ inserted close together. Club 3-jointed.

1. URIELLOIDES FULVIPES Girault. Female. Genotype.

Dark metallic blue-green, the legs (except coxæ) lemon yellow, the wings hyaline; scape pallid, suffused with dusky, the flagellum reddish brown, subelavate, the first three

funicle joints subquadrate and subequal, distinctly shorter than the pedicel, the others widening and slightly shortening. Punctate, the propodeum practically smooth. Scape long, cylindrical.

Habitat: Cairns, Queensland.

Type: No. I. 1345, South Australian Museum, Adelaide.

ROPTROCEROPSEUS new genus.

Female:—Head normal, the antennæ inserted below the middle of the face, about on a line with the ventral ends of the eyes, 12-jointed with two ring-joints, the club 3-jointed. Both mandibles 4-dentate. Parapsidal furrows complete. Scutellum with a transverse suture before apex. Propodeum short, polished, with a distinct median carina, the cephalic and posterior margins foveate, the lateral carinæ absent. Second abdominal segment occupying somewhat over a third of the surface, the others much shorter. Postmarginal vein a little longer than the stigmal, the marginal still longer but moderately short. Somewhat like *Paruriella* Girault but the mandibles with more teeth, the scutellum not simple, the propodeum without lateral carinæ, the hind tibial spur normal.

Male:—Not known.

Type: The following species.

1. ROPTROCEROPSEUS ALBICORNIS new species.*

Female:—Length, 1.50 mm.

Dark metallic blue and punctate, the wings hyaline, the propodeum and abdomen blue-green, the antennæ and legs (excepting the concolorous coxæ) yellowish white. First funicle joint longest, subequal to the pedicel, the distal one a little wider than long, shortest, the club somewhat wider than the funicle, without a nipple or terminal seta; scape long and slender.

Described from one female captured by sweeping near and along a forest streamlet clothed with more or less jungle growth, August 17, 1913.

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1957, Queensland Museum, the above specimen on a tag, the head and hind legs on a slide.

A second female was captured in the forest at Nelson, September 6, 1913.

TRIBE MERISINI.

GENUS AMICROMELUS Girault.

This genus was referred to the Pteromalidæ by mistake. It belongs to the Miscogasteridæ, tribe Trydymini, near *Metastenus* Walker. The type has been re-examined and additional specimens seen.

TRIBE BRACHYSCOLIDIPHAGINI.

GENUS CELOCYBA Ashmead.

Nonmetallic; mandibles dentate; antennæ short, strongly clavate, inserted near the mouth border, the pedicel large; stigmal vein as long as the marginal, clavate. Pronotum short. Parapsidal furrows well defined. Axillæ widely separated. Abdomen sessile, conic ovate, depressed. Hind coxæ large, compressed.

* This and all descriptions made with $\frac{3}{8}$ -inch objective, 1-inch optic, Bausch and Lomb.

1. *COELOCYBA NIGRICINCTA* Ashmead. Female. Genotype.

Brownish yellow; shagreened; ocelli in a triangle, black; occiput, cephalic face of pronotum, parapsidal furrows, the sutures of scutellum, metathorax and broad bands at base of all dorsal segments of abdomen, black; wings hyaline, the venation pale yellowish. All joints of funicle very short, transverse-linear. Propodeum short smooth. Postmarginal vein very long, longer than the stigmal, the marginal shorter than the stigmal. Abdomen a little longer than the head and thorax combined.

Habitat: Sydney, New South Wales. Forest; associated with an agromyzid gall on *Eucalyptus corymbosa*.

Type: Cat. No. 4898, United States National Museum, Washington, D.C., U.S.A.

2. *COELOCYBA ACINCTA* new species

Female:—Length, 1.45 mm.

Honey yellow, the wings hyaline, the legs and antennæ concolorous; all of centre of axillæ, two stripes down scutum, one on each side of meson, cephalic ends of parapsides and portions of scutellum obscurely (meson broadly and a stripe down each side of it), faintly reddish brown. Tip of valves of ovipositor black. Both mandibles tridentate. Hind tibial spur stout but not especially long, the front and hind femora compressed. Thorax finely densely scaly, the scutum with scattered short, black pubescence; parapsidal furrows delicate but distinct and complete. Scape compressed, the enlarged, ovate club obliquely truncate from one side. Antennæ 13-jointed, the funicle joints all transverse-linear, widening distad, the club *apparently* solid (here counted as of three joints; first two or three funicle joints like ring-joints). Scutellum flattened.

Male:—Not known.

Described from one female captured by sweeping the foliage of shrubs (mostly lantana) in an open field near town, October 21, 1911.

Habitat: Mackay, Queensland.

Type: No. Hy 1958, Queensland Museum, the above specimen on a tag (the head accidentally destroyed following examination).

This genus closely resembles some of the Taneostigmini of the Encyrtidæ, more especially *Taneostigma* Howard but the divided mesopleurum at once points to its proper family where I think Ashmead has correctly placed it. The parapsidal furrows are quite normal for its family. It also closely resembles *Cœlocybomyia* Girault MS. of the Cleonyminæ whose type species is also colored much like Ashmead's *nigricincta*.

GENUS TEROBIELLA Ashmead.

Mandibles acute, edentate; nonmetallic; abdomen short, globose, depressed above; marginal vein not or scarcely longer than the stigmal vein; metathorax very short. Stigmal vein ending in a small knob; abdomen with the first dorsal segment occupying half or more of the surface. Postmarginal vein a half longer than the marginal, the latter slightly shorter than the stigmal. Antennæ inserted near the middle of the face; funicle joints wider than long. Parapsidal furrows complete. Propodeum abrupt, smooth mesad, punctate lateral aspect, the spiracle small, rounded. Abdomen broadly oval.

1. TEROBIELLA FLAVIFRONS Ashmead. Female. Genotype.

Mostly black, polished, impunctate; vertex and temples black; face ventrad of cephalic ocellus, cheeks, mandibles, palpi, antennæ and tegulæ brownish yellow; thorax and abdomen entirely black. Legs yellow, the coxæ fuscous. Wings hyaline. Scape short, subcompressed; pedicel subglobose; cephalolateral angles of funicle joints acute.

Habitat: Sydney, New South Wales. Gall on *Eucalyptus*.

Type: Cat. No. 4897, United States National Museum, Washington, D.C., U.S.A.

GENUS BRACHYSCOLIDIPHAGA Ashmead.

Differs from *Terobiella* Ashmead in having the stigmal knob moderately large, the dorsal segments of the abdomen short. Marginal and postmarginal veins about equal, a third of the length of the submarginal, the stigmal vein a little shorter than the marginal. Flagellum clavate, all funicle joints wider than long.

1. BRACHYSCOLIDIPHAGA FLAVA Ashmead. Female. Genotype.

Yellow, smooth or nearly, the wings hyaline; occiput, pronotum on cephalic face, a spot on scutum, one on inner angle of parapside, a large spot on middle of scutellum, sutures surrounding the latter and the propodeum brown-black. Abdomen dusky or brownish except second segment. Pedicel almost twice longer than thick at apex, much longer and stouter than first three funicle joints combined; funicle 1 very small, as long as thick, joint 2 also small, a little wider than long, the following gradually widening and lengthening.

Habitat: Sydney, New South Wales. Associated with *Brachyscelis pileata*.

Type: Cat. No. 4896, United States National Museum, Washington, D.C., U.S.A.

GENUS ISOPLATOIDES Girault.

Antennæ inserted slightly above the ventral ends of the eyes, 13-jointed, with two ring-joints, the club 3-jointed; funicle 2 longest. One mandible tridentate. Metallic. Marginal, postmarginal and stigmal veins long, the postmarginal three fourths the length of the marginal, a fourth longer than the stigmal which is slender. Propodeum short, the lateral carinæ present. Wings fasciate. Parapsidal furrows shallow. Abdomen conic-ovate, flat dorsad. Propodeal spiracle round. Scutellum simple.

1. ISOPLATOIDES BIFASCIATUS Girault. Female. Genotype.

Dark metallic green, the scape and tarsi fulvous, rest of legs and antennæ black or nearly. Knees and tips of tibiae lighter; first fuscous stripe of fore wing from base of marginal vein, the second from the postmarginal vein, the first lengthening caudad; the second stripe extends nearly to apex. Head and whole thorax densely punctate. Funicles 3-6 quadrate, 6 slightly wider than long; proximal club joint equal to half of that region.

Habitat: Port Lincoln, South Australia.

Type: No. I. 1267, South Australian Museum, Adelaide.

2. ISOPLATOIDES BIPUSTULATUS Girault. Female.

The same as the type species but the legs reddish brown, the antennæ suffused with brown; median carina of propodeum distinct, complete, also the lateral carinæ; fore wings

with two fuscous dots, the first reniform and from the apex of the submarginal vein, the second rounded and much smaller, in the centre of the blade, caudo-proximad of the knob of the stigmal vein.

Habitat: Mount Wellington, Tasmania.

Type: No. I. 1268, South Australian Museum, Adelaide.

ISOPLATA new genus.

This genus was proposed by Arnold Foerster in 1856 for *Isoplata geniculata* Foerster a *nomen nudum* because of nondescription. I adopt the name for both the genus and species following. The species fits the Foersterian generic description as given by Ashmead, 1904. The antennæ are inserted near the middle of the face, 13-jointed; scutellum with a delicate cross-furrow. Stigmal vein about half the length of the marginal, the postmarginal somewhat longer than the stigmal. Both mandibles 4-dentate.

The following type species.

1. ISOPLATA GENICULATA new species.

Female:—Length, 1.45 mm.

Metallic brassy grass green, the wings hyaline, the legs straw yellow except the hind coxa, the antennæ yellow, the club darker, the first funicle joint narrower than the others, all of them slightly longer than wide and subequal to the short pedicel. Parapsidal furrows deep. Whole thorax polygonally reticulate, the cross-suture of scutellum emarginate at the meson, the propodeum without carinæ. Second abdominal segment somewhat the longest, the abdomen conic-ovate, short.

Male:—Not known.

Described from four females captured by sweeping *Leptospermum*, April 16, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. Hy 1959, Queensland Museum, two specimens on a tag, three heads on a slide with a hind leg.

CCELOCYBOIDES new genus.

Female:—Differing from *Cælocyba* Ashmead in having the hind tibial spur very stout, curved and long, half the length of the hind tarsi, in having a transverse suture across the scutellum, in bearing antennæ which are only 11-jointed, in having the very long stigmal and postmarginal veins subequal and distinctly shorter than the marginal, the fore wings banded and with a dense clump of stiff black bristles upon the bend of the submarginal vein. First abdominal segment no longer than the second, both together occupying about a fourth of the surface. Mandibles tridentate. Club solid.

Male:—Not known.

A genus resembling *Erotolepsiella* Girault of the Miscogasteridæ.

Type: The following species.

1. CŒLOCYBOIDES PAX new species.

Female:—Length, 2.00 mm.

Ochreous or reddish yellow, the first two segments of the abdomen pale yellowish, rest of abdomen dark brown; fore wings with a narrow brownish band across from the clump of black setæ and another large one, oval in shape, across from apex of the marginal vein and all of stigmal. Thorax densely shagreened, the propodeum rather long and with a neck, rugulose. Coxæ and tarsi concolorous, rest of legs brownish, the hind femora and tibiæ blackish, the latter white at tip. Antennæ dusky yellowish, the first two funicle joints small and subequal like ring-joints, the others (there are eight) widening, all much wider than long; club short and stout, more or less obliquely truncate at apex.

Male:—Unknown.

Described from one female captured by sweeping in forest, December 2, 1911.

Habitat: Australia—Nelson (Cairns), North Queensland.

Type: No. Hy 1960, Queensland Museum, the above specimen on a tag, the hind tibiæ, a fore wing and the head on a slide.

GENUS CŒLOCYBELLA Girault.

Noticing a discrepancy between the position of this genus and its original description, I have re-examined the type, finding the mesepimeron large, the hind tibial spurs double, short and stout, the front femora swollen but simple, the hind femora less swollen and simple; also there is a sulcus on the propodeum between the spiracle and the meson but not a spiracular sulcus. It belongs to the Perilampidæ, allied with the tropical gall-making genera which are anomalous.

SUBFAMILY EUNOTINÆ.

GENUS AMUSCIDEA Girault.

Differing from *Muscidea* Motschulsky in bearing 11-jointed antennæ with one very short ring-joint, the club 3-jointed. Mandibles tridentate. Parapsidal furrows complete, the scutum with thimble punctures; scutellum with a transverse suture before tip; propodeum very short, apparently with a weak pair of median carinæ, no others. Abdomen ovate. Marginal vein short, about twice the length of the moderate stigmal which is somewhat longer than the postmarginal. Segment 2 occupying a third of the abdomen. Hind tibial spur moderately long.

1. AMUSCIDEA NIGRIPES Girault. Female. Genotype.

Dark aeneous green, the wings hyaline; proximal four tarsal joints yellowish. Antennæ nearly black. Tip of scutellum bluish, the thorax polygonally scaly. Funicle joints all longer than wide, 1 very slightly shorter than the short pedicel. Scape longer than the club.

Habitat: Mount Tambourine, Queensland. Jungle?

Type: No. I. 1347, South Australian Museum, Adelaide.

SUBFAMILY SPHEGIGASTERINÆ.

TRIBE ASAPHINI.

GENUS TOMOCERA Howard.

1. **TOMOCERA CALIFORNICA** Howard. Female, male. Genotype.

Howard, 1881, p. 368. Ashmead, 1900, p. 345.

Ashmead records *Moranila testaceipes* Cameron described from Oahu, Hawaii as a synonym of this species; also that there is a specimen of this species in the collections of the United States National Museum, Washington, D.C., from Australia. The species is an associate of commercial crops.

Habitat: North America (California). Sandwich Islands. Australia.

Host: *Lecanium oleæ*

Type: Probably in the United States National Museum, Washington, D.C., U.S.A.

GENUS OPHELOSIA Riley.

Riley, 1890, p. 249.

"Closely resembles in habitus *Dilophogaster* Howard (see Ann. Rept. Dept. Agr., 1880, p. 368, where it is described as *Tomocera*, subsequently changed to *Dilophogaster* on account of the preoccupation of *Tomocera* in *Thysanura*), with which it agrees in many characters, but from which it is sharply defined. The antennal peculiarities are identical in the two forms, viz.: The simple, clavate, 10-jointed female antennæ, and the compressed, serrate, hairy, 9-jointed male form. The wings in *Ophelosia* differ markedly, as follows: The sub-marginal vein is not curved downward; the marginal is more than twice as long as the stigmal; just below the bend of the sub-marginal in the female is a broad patch of very stout bristles arising from the wing surface. The petiole of the abdomen is nearly as long as the width of the metascutum; the fimbriæ of the callus are very dense, but short. The tufts of hair at base of abdomen are sparse. The hind tibiæ are furnished at tip with a long, slender, slightly-curved spine, nearly as long as the first tarsal joint, while in *Dilophogaster* it is entirely unarmed."

1. **OPHELOSIA CRAWFORDI** Riley.

"*Female*.—Length, 2 mm.; expanse, 4 mm. General color honey-yellow, somewhat darker dorsally than ventrally. Head: face and vertex strongly transverse-rugose; ocelli concolorous; eyes darker; antennæ with club more dusky and with joints 2-6 of flagellum paler than the rest. Thorax: pronotum and mesonotum plainly shagreened, ~~with~~ sparse, appressed concolorous pile; mesocutellum faintly striate; lateral parts of mesoscutum strongly rugose, the centre faintly so; the four mesoscutellar piliferous tubercles as also the hairs, black, a small spot behind each tegula and the lateral parts of the mesoscutum black or blackish; fimbria of metascutum white; wings with a narrow curved transverse dusky band reaching from the bend of the submarginal vein to hind border of wing including the patch of wing bristles; also with a large nearly circular dusky shade below stigma and reaching nearly across wing; legs uniformly honey-yellow with the coxæ sometimes brownish above. Abdomen with basal joint dark brown, and more or less brown at sides and near tip.

"*Male*.—Slightly smaller; sculpture identical throughout. Pile very inconspicuous, dark. General color black, shining; all legs honey-yellow; the upper sides of the hind femora and tibiæ somewhat darkened; hind coxæ black; front and middle coxæ honey-yellow at tip; antennæ with the scape honey-yellow, and the funicle brownish; wings perfectly hyaline.

"Described from four female and two male specimens reared by F. S. Crawford, at Adelaide, from specimens of *Icerya purchasi* received from S. Australia, 50 miles south of Adelaide."—Riley, *ib.*, pp. 249-250.

The figure given with the original description of this insect shows a solid club in the female and thus I am inclined to think the following species are congeneric with it though both Riley and Ashmead state the antennæ to be 10-jointed which would make the club 3-jointed. In the original description the propodeum is mistaken for the petiole. Ashmead, 1900, p. 345, records it from Sydney. The types are probably in Washington.

2. *OPHELOSIA SAINTPIERREI* new species.

Female:—Length, 1.60 mm.

Like *Asaphomorphella* Girault but the antennæ with a distinct ring-joint, the first funicle joint a little longer than wide, the second quadrate, the last or next two a little wider than long; also the propodeum is large, long at the meson, a little longer than wide and produced into a neck; ovipositor not exerted. Hind femora subsimple, the front femora subcompressed. Mandibles tridentate. Propodeum rugulose. Ochreous, the abdomen brownish, the legs concolorous, the hind tibia more or less dusky; antennæ dusky pallid, the solid club dusky. Fore wing with a clump of dark hairs at the break of the submarginal vein and a narrow transverse fuscous stripe which, however, does not reach the caudal margin; a broad fuscous stripe across from the apical third of the marginal and all of the stigmal veins. Thorax scaly, with distinct aeneous tinges on scutum and scutellum.

Male:—Not known.

Described from a single female captured by sweeping in forest, February 16, 1911 (A. M. Lea and A.A.G.).

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1961, Queensland Museum, the above specimen on a tag, the head and legs on a slide.

3. *OPHELOSIA PINGUIS* new species.

Female:—Length, 1.50 mm.

Like *Asaphomorphella rousseaui* Girault but the ovipositor not exerted, the propodeum apparently the same but subconical and rugose with interlacing carinæ, the antennæ with a true ring-joint. First funicle joint longer than wide. Postmarginal vein a little longer than the stigmal. First femora swollen. Reddish brown, the distal parts of scutum and scutellum washed with metallic greenish. Cross-stripe from bend of submarginal vein not complete and there is a rather broad brown stripe across the wing from end of marginal and all of stigmal veins. Thorax finely scaly. Distal half of abdomen fuscous. Tarsi whitish, the hind tibia exteriorly fuscous. Antennæ yellow-brown, the club fuscous, the three distal funicle joints subquadrate.

Male:—Not known.

Described from one female captured from a window, November, 1912.

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1962, Queensland Museum, the above specimen on a tag, the head, fore and hind legs on a slide.

The antennæ of *saintpierrei* and *pinguis* are identical; *pinguis* is much darker in general color and the two species seem to differ in the details of the sculpturing on the propodeum but which is not describable. Upon comparison I could not detect other differences. Both species resemble the figure given of the genotype by Riley.

GENUS ASAPHOMORPHELLA Girault.

Antennæ 8-jointed, the club solid, no ring-joint but the first funicle joint transverse, only half the length of the second; hind tibial spur very long and stout; mandibles tridentate; propodeum very short, transverse, but medially broadly produced beyond the insertion of the hind coxæ as in *Lelaps*; abdomen short, stout, its petiole short and stout, the second segment occupying three fourths of the surface, the ovipositor exerted for over half the length of the abdomen. Hind femur swollen. Wings fasciate, the marginal vein a little over twice the length of the stigmal which is a third longer than the postmarginal. No carinæ on metathorax. Funicle joints wider than long, the club large, ovate.

1. ASAPHOMORPHELLA ROUSSEAU Girault. Female. Genotype.

Honey yellow, the distal two thirds of abdomen and hind tibiæ fuscous, also the flagellum, the club black. Fore wing with a large subspherical smoky area across it from the stigmal vein and a transverse smoky stripe at the bend of the submarginal vein where there is also a dense clump of black bristles.

Habitat: Port Lincoln, South Australia.

Type: No. I. 1342, South Australian Museum, Adelaide.

ASAPHOIDEUS new genus.

Female:—Agreeing with *Asaphes* Walker but the antennæ only 11-jointed with one ring-joint, the club 3-jointed, the funicle joints transverse, the flagellum clavate. Mandibles strongly tridentate. Marginal vein twice the length of the stigmal, the latter a third shorter than the postmarginal. Pronotum large, as long as the scutum, and quite as in the Eurytomidæ. Scutellum with a foveate cross-furrow at proximal two thirds, beyond that polished. Propodeum with median and lateral carinæ, the former forking at apex and joining the distal ends of the lateral carinæ. Petiole long, the abdomen conic-ovate, the fifth segment occupying over half the surface. Thorax finely lined. Hind tibial spur normal. Antennæ inserted at the mouth border.

Male:—Not known.

This genus resembles a nonpunctate genus of the Eurytomini but I think I have correctly allied it with the Asaphine Sphegigasterini.

Type: The following species.

1. ASAPHOIDEUS NIGER new species.

Female:—Length, 1.50 mm.

Black, the wings hyaline; abdomen polished. Knees, tibiæ and tarsi yellowish brown. Antennæ yellow.

Described from one female labelled "No. 12 Stapleton, N.T. 1.5.13. G. F. Hill."

Habitat: Stapleton, Northern Territory.

Type: No. Hy 1963, Queensland Museum, the above specimen on a tag, the head and a hind leg on a slide.

TRIBE SPHEGIGASTERINI.

GENUS SYNTOMOPUS Walker.

1. SYNTOMOPUS AUSTRALIENSIS Girault. Female.

Very dark metallic green, the legs except the coxæ and antennæ pale straw yellow, the wings hyaline; scutellum without a cross-furrow. Venation very pale, the long postmarginal vein nearly equal to the marginal, the stigmal long but shorter than the postmarginal. Both mandibles 4-dentate, the two inner teeth equal. Most of the funicle joints longer than wide. Pronotum long but not especially so. Antennæ 13-jointed with two ring-joints. Vertex not narrow.

Habitat: Kuranda and Nelson, Queensland. Jungle.

Type: No. Hy 1964, Queensland Museum.

GENUS PTEROSEMELLA Girault.

Differing from *Pterosema* Foerster in bearing three ring-joints in the antennæ. Mandibles 4-dentate. Pronotum transverse. Scutellum simple. Propodeum tricarinate, reticulated. Petiole of abdomen not quite as long as the hind coxæ, the second segment very long, occupying three fourths of the surface, its distal margin straight; segment 3 much shorter. Postmarginal vein three fourths the length of the marginal, the stigmal two thirds the length of the long postmarginal. Clypeus bidentate.

1. PTEROSEMELLA VIRIDIS Girault. Male. Genotype.

Bright metallic green, the abdomen black suffused with brownish, the legs straw yellow, the coxæ more or less metallic greenish laterad. Polygonally reticulate-punctate, the abdomen smooth and shining, finely reticulated distad. Wings hyaline.

Habitat: Queensland.

Types: No. Hy 1965, Queensland Museum.

Host: Eggs of *Antherea simplex*.

GENUS SPHEGIGASTEROIDES Girault.

Differing from *Pterosema* Foerster in having but one ring-joint, the mandibles only bidentate, the second tooth broad, the hind tibiae compressed toward tip, the body nonmetallic and particolored, the fore wings colored. Petiole of abdomen short and stout, the second segment not occupying more than a third of the surface, its caudal margin incised at meson. Propodeum rugulose, the spiracle oval, tricarinate, the median carina also with two irregular carinae on each side of it. Stigmal and postmarginal veins subequal, about half the length of the marginal. Funicle 1 subequal to the pedicel.

1. SPHEGIGASTEROIDES RUFINOTUM Girault. Female. Genotype.

Shining black, the pro- and mesothorax and the head rufous, also the scape. Fore wings with a large smoky blotch under the marginal vein which extends more than half way across the wing and conically distad beyond the stigmal vein. Head and thorax finely punctate.

Habitat: Sydney, New South Wales.

Type: No. I. 1250, South Australian Museum, Adelaide.

GENUS PARURIOS Girault.

Wings very small, with a very long marginal vein, the stigmal and postmarginal veins short, subequal, the hind wings perfect. Parapsidal furrows nearly meeting caudad. Propodeum with a median carina whose middle is crossed by a semicircular carina and whose apex is forked. Second segment of abdomen over a third of the length of that region. Antennæ 12-jointed, no ring-joint, the first funicle joint longest but not as long as the pedicel. Scutum conical, the scutellum with a cross-line of foveæ at distal third. No true lateral carina on propodeum. Differing from *Urios* Girault from North America in lacking a ring-joint in the antennæ, the median groove and the sulci of propodeum and in the shape of the mesothoracic sclerites, the lower antennal insertion (here at the ventral ends of the eyes), the infuscated wings and ringed antennæ and the slight and short parapsidal furrows. With a distinct lelapine habitus. Mandibles tridentate.

1. PARURIOS AUSTRALIANA Girault. Female.

Shining reddish brown, the legs concolorous, also the scape and pedicel; first two funicle joints and the club whitish, the rest of the funicle nearly black. Abdomen with a broad darker stripe across base, a narrower one across the middle and with the conical distal third of the same dark color but dorsad also washed with more or less metallic green. A broad band of opaque black across the mesonotum at the base of the fore wings. Disc of fore wings with a large fuscous cloud from distal third of the marginal vein, the whole blade light brown, densely pubescent distad and nearly truncate at apex. Petiole of abdomen longitudinally striate. Thorax alutaceous, a few punctures in the cross-band of black and the scattered, long, black bristles.

Habitat: Ourimbah, New South Wales.

Type: No. I. 1266, South Australian Museum, Adelaide.

GENUS PTEROSEMOIDEA Girault.

Like *Pterosema* Foerster but the antennæ with three ring-joints; propodeum long, with lateral carinæ and an obscure, obtuse median carina at base only, the neck distinct. Post-marginal vein long, nearly as long as the marginal which is a third longer than the well-developed stigmal. Abdominal petiole short. At least one mandible 4-dentate. Differs from *Pterosemella* in lacking the complete median carina on the propodeum. Segment 3 of abdomen only half the length of the second, the abdomen acutely convexed beneath at middle.

1. PTEROSEMOIDEA FLAVIPES Girault. Female. Genotype.

Metallic grass green, the abdomen darker; punctate, including the propodeum; scape and legs except tarsi brownish yellow; rest of antennæ dusky yellowish. Wings hyaline. Scape long and slender; pedicel somewhat shorter than the first funicle joint which is subequal to the next two joints, the distal joint only slightly wider than long. Club somewhat wider than the funicle, 3-jointed, ovate.

Habitat: Port Lincoln, South Australia.

Type: No. I. 1339, South Australian Museum, Adelaide.

GENUS APTEROSEMOIDEA Girault.

Differs from *Pterosemoidea* Girault in having the abdomen flat, not convexed beneath nor sunken above, the second and third segments long and subequal, together occupying over half of the surface; neck of propodeum much less distinct. Petiole nearly as long as the hind coxæ.

1. APTEROSEMOIDEA NIGRIVIRIDIS Girault. Female. Genotype.

Nearly black, the abdomen dark metallic bluish; coxæ and most of femora concolorous, the rest of the legs yellowish; wings hyaline; scape dark fuscous, the flagellum black. Mandibles 3- and 4-dentate. Propodeum with very obscure lateral carinæ but no median, long, punctate; abdomen depressed, the segments following 2 and 3 a third shorter and subequal. Head and thorax coarsely punctate, the abdomen smooth. Propodeal spiracle minute, round. Funicle joints all somewhat longer than wide.

Habitat: Mittagong, New South Wales.

Type: No. I. 1340, South Australian Museum, Adelaide.

GENUS EURYDINOTELLA Girault.

Like *Eurydinota* Foerster but the antennæ with three ring-joints, the joints of the funicle all longer than wide, the second longest, the first somewhat shorter than the pedicel. Propodeum only with lateral carinæ, with a distinct neck. Mandibles 3- and 4-dentate. Segment 2 of abdomen occupying over a third of the surface, subequal to the long segment 3. Postmarginal vein slightly longer than the stigmal. Parapsidal furrows nearly half complete. Petiole of abdomen nearly as long as the hind coxa.

1. EURYDINOTELLA PRIMA Girault. Female. Genotype.

Dark aeneous green, the wings hyaline, all of each leg reddish brown, the tarsi pallid; abdomen darker, smooth. Head and all of thorax densely punctate. Scape and pedicel fuscous, the former paler proximad, the flagellum black. Joints 2-4 of funicle subequal, longest, the first and last joints subequal. Distal club joint terminating in a small nipple. Ring-joints increasing in size distad.

Habitat: Murray Bridge, South Australia.

Type: No. I. 1343, South Australian Museum, Adelaide.

2. EURYDINOTELLA VIRIDICOXA Girault. Female.

Differs from *prima* in bearing concolorous coxæ, the femora fuscous proximad and the pedicel is colored like the funicle. Joint 4 of funicle is distinctly shorter than joint 2. Pronotum impunctate, very minutely scaly.

Habitat: Capeville (Pentland), Queensland. Forest.

Type: No. Hy 1966, Queensland Museum.

GENUS APTEROSEMOIDELLA Girault.

This genus is allied with *Pterosemoidea* and *Apteroosemoidea* but differs in abdominal, mandibular and wing characters. Both mandibles are 4-dentate, the stigmal vein is long, the fore wing infuscated, the abdomen is slightly convexed beneath, its second and third segments together not occupying over a third of the surface.

1. APTEROSEMOIDELLA BIOCULATA Girault.

Dark aeneous green, the abdomen darker; legs concolorous, the tibiae brown, the tarsi paler. Antennæ brownish, the third ring-joint largest, the first funicle joint slightly longer than the pedicel. Stigmal vein long and slender, but not as long as the postmarginal; the fore

wing with two distinct fuscous spots, the distal one round and just under the knob of the stigmal vein, the proximal one larger, crescentic and originating from the base of the marginal vein. Abdominal petiole very short, the second segment only slightly longer than the third, longest. Median carina of propodeum apparently absent.

Habitat: Port Lincoln, South Australia.

Type: No. I. 1341, South Australian Museum, Adelaide.

GENUS EURYDINOTOMORPHA Girault.

Differs from *Eurydinotella* Girault in having the abdomen long, pointed conic-ovate, the second segment occupying about a fifth (or slightly more) of the surface, the abdomen longer than the head and thorax united. Postmarginal vein very long, over twice the length of the stigmal. Propodeum with abbreviated median and lateral carinæ. Parapsidal furrows about half complete. Segment 2 of abdomen about four times the length of the third; segment 4 nearly twice the length of 3; segment 7 subequal to 2. Petiole short. With the habitus of *Sympiesus* of the Eulophidæ.

1. EURYDINOTOMORPHA PAX Girault. Female. Genotype.

Metallic shining blue, the abdomen aeneous green, the wings hyaline, the venation, tarsi, tips of tibiæ and scape pale yellow, the femora and tibiæ reddish brown, the coxæ concolorous. Pedicel and first ring-joint more or less pallid. First club joint forming over half the club, subequal to funicle 3 which is a fourth longer than the pedicel. Pubescence on scutum somewhat as in *Catolaccus*. Reticulated, the propodeum more densely so, the abdomen finely so. Funicle and club black, funicle 1 longest. Abdomen above purple.

Habitat: Babinda, Queensland. Jungle.

Type: No. Hy 1967, Queensland Museum.

2. EURYDINOTOMORPHA FUSCIVENTRIS new species.

Agreeing with the type of the genus in all structures but the short median carina on the propodeum is absent and the marginal and postmarginal veins are shorter, the latter very long but not extending nearly to apex. Dark aeneous green, the abdomen chestnut brown, the legs also brown, the wings hyaline; propodeum conical, reticulate-punctate like the rest of the thorax; abbreviated lateral carinæ present; abdomen slender, cylindrical, the second segment glabrous. Thorax with pubescence somewhat as in *Catolaccus*; segments of abdomen beyond the second, very finely transversely lineolated. Coxæ slightly washed with metallic. Antennæ 13-jointed (three ring-joints, the five funicle joints all longer than wide); distal club joint distinctly shorter than the proximal one. Ring-joints increasing in size distad. Mandibles 3- and 4-dentate.

Male:—Not known.

Described from one female captured by sweeping the foliage of lantana and other plants in a field near the town, October 21, 1911.

Habitat: Mackay, Queensland.

Type: No. Hy 1968, Queensland Museum, the above specimen on a tag, the head and hind legs on a slide.

GENUS MERISMOMORPHA Girault.

Like *Acroclisis* Foerster but the antennæ with three ring-joints, segment 2 of the abdomen occupying only a fourth of the surface, a fourth longer than segment 3 and somewhat shorter than segment 4 which is longest; segments 2 and 3 notched at the meson caudad, and occupying half of the surface. Propodeum along the meson with a rounded or obtuse ridge which terminates at the apex in a moundlike elevation; lateral carinæ and a distinct, complete spiracular sulcus are present. Petiole of abdomen slightly longer than the hind coxa. Mandibles 3- and 4-dentate. Otherwise like *Pterosemoidea*, especially in venation.

1. **MERISMOMORPHA ACUTIVENTRIS** Girault. Female. Genotype.

Dark metallic green, the legs except coxæ, light yellow-brown, the wings hyaline; scape, pedicel and first two ring-joints concolorous with the legs, the rest of the antennæ dusky black. Head and thorax with a dense scaly sculpture, the abdomen smooth (at least segments 2-4, or nearly two thirds). Third ring-joint twice the length of the others, the pedicel a little longer than any of the funicle joints which are subquadrate but the last (fifth) wider than long. Ventral margin of clypeus with a tongue-like projection at meson.

Habitat: Kuranda, Queensland. Jungle.

Type: No. Hy 1969, Queensland Museum.

2. **MERISMOMORPHA FULVICOXA** new species.

Female:—Length, 1.65 mm.

Like the type species but the coxæ also concolorous with the rest of the legs, the pedicel dusky, the somewhat longer (distinctly longer than the hind coxa) abdominal petiole bright yellow-brown like the legs and the last two funicle joints wider than long (at least one mandible 4-dentate). Median ridge of propodeum obscure.

Described from one specimen captured August 1, 1913, by sweeping jungle along a forest streamlet.

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1970, Queensland Museum, the above specimen on a tag, the head and hind legs on a slide.

3. **MERISMOMORPHA NIGRA** new species.

Female:—Length, 1.35 mm.

Black, the abdomen dark metallic green including the petiole which is yellowish toward tip; mandibles 3-dentate; coxæ concolorous, the femora fuscous, rest of legs yellowish brown and also the scape; antennæ black, the funicle joints subquadrate, the first ones a little longer, all shorter than the pedicel. Body densely punctate. Petiole longer than the hind coxa, slender. Postmarginal vein much longer than the stigmal.

Male:—Not known.

Described from one female captured by sweeping in forest, April 20, 1913.

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1971, Queensland Museum, the above specimen on a tag.

GENUS POLYCYSTOIDES Girault.

Differing from *Polycystus* Westwood in having 11-jointed antennæ, the club solid; moreover the petiole of the abdomen is short and stout, the median carina of propodeum is intersected by a distinct transverse carina from side to side and the cephalic margin of the propodeum is carinated, the propodeum reticulated, with a distinct neck and spiracular sulci; between the median carina and the spiracle along the cephalic margin is a large fovea. Mandibles strongly tridentate. Transverse suture of scutellum faint. Segment 2 of abdomen occupying about a fourth of the surface, the abdomen stout, conic-ovate, somewhat longer than the thorax, the caudal margin of the segments straight. Thorax inflexed at the scutellum. Head very large, wider than long. Postmarginal vein longer than the stigmal. Distal margin of scutellum carinated. Antennæ with two ring-joints. Parapsidal furrows incomplete, the axillæ widely separated.

1. POLYCYSTOIDES TENNYSONI Girault. Female. Genotype.

Dark blue, opaque, and punctate, the wings hyaline, the abdomen shining, aeneous green; legs and antennæ yellowish brown but the coxæ dark blue and the club (which is enlarged) and distal funicle joint is black. Ring-joints stout; first three funicle joints distinctly longer than wide, 2 and 3 longest, subequal, each a little shorter than the pedicel; joint 4 only a little longer than wide, joints 5 and 6 shortening, 6 distinctly much wider than long. Club about half the length of the funicle. Scape long and cylindrical. Tarsi pale.

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1972, Queensland Museum.

GENUS PSEUDOSPHEGIGASTERUS Girault.

Antennæ 11-jointed with three ring-joints, the club solid and terminating in a short nipple. Propodeum noncarinate, rather long and with a distinct neck; from beneath this is appended the short petiole of the abdomen (the petiole hidden from above). Abdomen pointed conic-ovate, a little longer than the rest of the body, the second segment occupying about a third of the surface. Scutellum simple. Parapsidal furrows present cephalad only. Postmarginal and stigmal veins well developed, the former somewhat the longer. Mandibles with at least three teeth.

1. PSEUDOSPHEGIGASTERUS GROTIUSI Girault. Female. Genotype.

Black, the wings densely clothed, subhyaline, the abdomen with its petiole and proximal two thirds brownish yellow, the distal third black; legs and tegulæ brown, the tarsi lighter. Antennæ black, the first ring-joint whitish, funicle 5 shortest, more or less subequal to 1, joints 2-4 longest, subequal, each somewhat longer than 1 which is subequal to the pedicel. Club much longer than any of the funicle joints. Head and thorax roughly reticulated, the lines raised.

Habitat: Thursday Island, Torres Strait. Forest.

Type: No. Hy 1973, Queensland Museum.

2. PSEUDOSPHEGIGASTERUS AENEUS new species.

Female:—Length, 1.85 mm.

Differing from *grotiusi* in being brassy metallic green, the coxæ concolorous, the legs reddish brown, the abdomen uniformly concolorous with the thorax. Antennæ yellowish brown,

funicle 1 a little longer than 5, 2 a little longer than 1 and longest, 5 quadrate. Thorax densely punctate. At least one mandible 3-dentate, the other apparently 4-dentate.

Male:—Not known.

Described from female captured by sweeping a forest streamlet edged with jungle growth, December 2, 1912 (A. P. Dodd).

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1974, Queensland Museum, the above specimen on a tag, the head and a hind leg on a slide.

3. *PSEUDOSPHEGIGASTERUS VARIVENTRIS* new species.

Female:—Length, 1.50 mm.

Almost exactly similar to *aeneus* but characterized by having the abdominal segments nearly of equal length, all moderately long, the second not occupying more than a fifth of the surface and not much longer than the third but equal to it. In *aeneus* the second abdominal segment occupies a third or more of the surface and is much longer than the third which is short, the following still shorter. Also in *variventris* the femora and antennæ are darker, dark brown, the funicle joints all shorter, all subquadrate. The venation is darker. At least one mandible 4-dentate, the second probably so but not plainly seen. Compared with type of *aeneus*.

Male:—Not known.

Described from one female captured in forest, September 16, 1913 (A. P. Dodd).

Habitat: Kuranda, Queensland.

Type: No. Hy 1975, Queensland Museum, the above specimen on a tag, the head and hind legs on a slide.

GENUS *SPHEGIPTEROSEMA* Girault.

Antennæ 13-jointed with two ring-joints, the club 3-jointed. Parapsidal furrows complete; propodeum without a median carina; scutellum with a cross-furrow before apex. Abdomen with the petiole nearly as long as the hind coxæ, slender, segments 3 and 4 caudad notched at the meson, segment 3 as long as 2, both together occupying not quite half of the surface, segments 4 and 5 subequal, each not quite half the length of 3. Propodeal spiracle long-oval. Otherwise as in *Sphegipterosemella* Girault. (See table of genera).

1. *SPHEGIPTEROSEMA FERALIS* Girault. Female. Genotype.

Dark aeneous green the wings subhyaline, the legs pallid yellowish including the second coxæ, the hind coxæ dusky, the first coxæ brownish and submetallic greenish. Antennæ concolorous with the body (scape not seen). Thorax with a coarse scaly sculpture, the axillæ finer. Funicle joints nearly subequal, the first slightly the longest, barely longer than wide. Mandibles 3- and 4-dentate.

Habitat: Nelson (Cairns), Queensland. Jungle.

Type: No. Hy 1976, Queensland Museum.

GENUS SPHEGIPTEROSEMELLA Girault.

Differs from *Sphegipterosema* in having the scutellum simple, the propodeum with a median carina, the petiole of the abdomen much shorter, the second segment of abdomen longer, its caudal margin slightly convexed, the third segment much shorter than it. Propodeum tricarinate and with a distinct neck, the spiracle small, oval. Vertex wide. Mandibles 3- and 4-dentate. Segment 2 of abdomen occupying a third of the surface.

1. SPHEGIPTEROSEMELLA UNICOLOR (Girault). Female. Genotype.

Pterosema unicolor Girault.

Dark metallic green, the wings hyaline, the antennæ, tegulæ, legs (except coxæ) and venation fuscous, the scape fulvous. Femora and tibiæ (except cephalic tibiæ) washed more or less with metallic purplish. Head and thorax densely polygonally reticulated, the areæ nearly deep enough for punctures, the clypeus longitudinally striate, the abdomen finely reticulated, including its short but distinct petiole. Lateral ocelli very distant from the eye margins. Pedicel slightly longer than the first funicle joint which is slightly wider than long and longest of the funicle. Marginal vein slender, moderate in length, subequal to the long postmarginal. The stigmal vein slender, curved but a fourth shorter. Segments 3 and 4 of abdomen combined equal in length to segment 2.

Habitat: Brisbane, Queensland.

Type: No. Hy 1977, Queensland Museum.

EURYDINOTELLEUS new genus.

Female:—Like *Eurydinotella* Girault but the propodeum without carinæ, punctate, with a distinct neck and the parapsidal furrows are complete but shallow and not very distinct. Also the antennal club is only 2-jointed, the distal joint somewhat the longer and with a slight nipple. Mandibles 3- and 4-dentate.

Male:—Not known.

Type: The following species (*silvensis*).

1. EURYDINOTELLEUS SILVENSIS new species.

Female:—Length, 1.10 mm.

Black and punctate, the wings hyaline, the legs yellowish brown (including the coxæ); abdomen shining; scape concolorous with the legs, the antennæ black, the funicle joints cylindrical, 2-4 longest, subequal, 1 and 5 subequal to each other and to the pedicel, each slightly shorter than 2; scape long and slender, projecting beyond the vertex; club long, not enlarged, its proximal joint about equal to joint 4 of the funicle. Third ring-joint longest.

Male:—Not known.

Described from one female captured by sweeping in jungle. November 4, 1911.

Habitat: Kuranda, Queensland.

Type: No. Hy 1978, Queensland Museum, the above specimen on a tag, the head and hind legs on a slide.

2. EURYDINOTELLEUS ULIGINOSUS new species.

Female:—Length, 1.40 mm.

Like *silvensis* but the joints of the funicle all distinctly shorter and hardly differing in length, the terminal nipple of the club longer and more distinct, the second funicle joint only a fourth longer than wide (in the type species plainly twice longer than wide) and equal to the pedicel or nearly. The legs are paler and the general body color is dark metallic green, the thorax polygonally scaly, the propodeum with its neck very distinct and prominent.

Male:—Not known.

Described from one female captured by sweeping in jungle, June 10, 1913 (A. P. Dodd).

Habitat: Little Mulgrave River (Cairns), Queensland.

Type: No. Hy 1979, Queensland Museum, the above specimen on a tag, the head and a hind leg on a slide.

POLYCYSTELLA new genus.

Female:—Like *Polycystus* Westwood but the metathorax reticulated, the second abdominal segment occupying only about a fifth of the surface and with a slight sinus at meson of caudal margin, the antennæ 13-jointed with three ring-joints. Propodeum with a complete median carina, the lateral carinæ distinct but short and curved mesad, then abruptly continuing directly caudad or nearly, to the apex, the spiracle large, elliptical-reniform.* Both mandibles 4-dentate. Parapsidal furrows extending two thirds the way to caudal margin of the scutum. Scutellum simple. Petiole of abdomen about as long as the hind coxæ. Segments 3 and 4 of abdomen nearly equal, longer than 2, 5 shorter than 2. Pronotum transverse. Postmarginal vein somewhat longer than the stigmal.

Male:—Not known.

Type: The following species.

1. POLYCYSTELLA FASCIATIVENTRIS new species.

Female:—Length, 1.85 mm.

Bright metallic green, the wings hyaline, legs white except the concolorous coxæ; hind coxæ yellow interiorly; abdomen black-green, crossed by three brown bands. Thorax densely punctate, the axillæ and propodeum smoother, scaly. Antennæ yellowish brown, the scape and pedicel pale yellow; funicle joints subquadrate except the first which is longer.

Described from a single female captured by sweeping in jungle, July 26, 1913.

Habitat: Meerawa and Nelson (Cairns), Queensland.

Type: No. Hy 1980, Queensland Museum, the above specimen on a tag, the head, first and last pairs of legs on a slide.

POLYCYSTELOIDES new genus.

Type: The following species (*cuprea*).

1. POLYCYSTELOIDES CUPREA new species.

Female:—Length, 3.50 mm. Robust.

Metallic copper-colored, the wings hyaline, the venation and legs reddish brown, the trochanters, tarsi, distal three fourths of hind femur and distal half of intermediate femur,

* Propodeum also with a not very distinct cross carina.

white; scape reddish brown, rest of antenna coppery. First funicle joint long, twice the length of the pedicel, nearly as long as the club, the distal (fifth) joint subequal to the pedicel in length; third club joint shortest. Postmarginal and stigmal veins long, the first longer, nearly as long as the marginal. Abdomen conic-ovate, the second segment longest, the seventh next longest, the second with a straight caudal margin and occupying only about a fifth of the surface. Propodeum rather short, the lateral carinae regularly curved, forked a little beyond the middle. Thorax all closely, densely punctate. Petiole of abdomen very short, slender. Otherwise as in the type species of *Polycystella*. Coxæ concolorous with thorax.

Male:—Not known.

Described from one female captured by sweeping in a jungle pocket, September 3, 1913 (A. P. Dodd).

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1981, Queensland Museum, the above specimen on a tag, the head and hind legs on a slide.

The genus differs from *Polycystella* Girault in its more robust form, the long post-marginal and stigmal veins, the shorter third and fourth segments of the abdomen, the straight caudal margin of the second segment, the short abdominal petiole and the forked lateral carinae. There is a depression just back of the spiracle.

2. POLYCYSTELOIDES NIGRAENEUS new species.

Female:—Length, 3.15 mm.

Differs from the genotype in having a cross carina on the propodeum proximal of middle of the median carina. Also, the neck of the propodeum is more distinct, the petiole less so. Very dark blackish green, the wings hyaline, the tibiae and tarsi white, the femora reddish brown with more or less metallic, the coxæ concolorous. Scape and pedicel reddish brown, rest black; fifth or distal funicle joint subequal to the pedicel, somewhat over a third shorter than funicle 1, which is longest of the funicle. Median carina of propodeum terminating at base (cephalic end) of neck where it forks weakly. Compared with type of genotype. Both mandibles strongly 4-dentate.

Male:—Not known.

From one female captured by sweeping in forest, September 13, 1913 (A. P. Dodd).

Habitat: Kuranda, Queensland.

Type: No. Hy 1982, Queensland Museum, the above specimen on a tag, the head and hind legs on a slide.

PARACROCLISIS new genus.

Female:—Like *Acroclisis* Foerster but the second abdominal segment is much shorter, occupying somewhat less than a fourth of the surface, segment 3 half its length and with its caudal margin deeply concaved, segment 4 longest, twice the length of 2 and occupying nearly half of the surface. Head large, mandibles 4-dentate. Pronotum transverse; parapsidal furrows distinct, complete. Propodeum with a long median carina, the spiracles moderate, long-oval, the spiracular sulcus present, the lateral carina distinct only at distal half, just mesad of the sulcus. Petiole slender, one and a half times or more the length of the hind

coxæ. Median and lateral carinæ of propodeum joined around caudal margin. Postmarginal and stigmal veins short, the former longer of the two, only about a half or less the length of the marginal. Scutellum near tip abruptly truncated but without a true cross-suture. Propodeum with a short neck, reticulated-sealy. Antennæ 13-jointed with two ring-joints.

Male:—Not known.

Type: The species described herewith.

1. PARACROCLISIS WASHINGTONI new species.

Female:—Length, 2.20 mm.

Opaque dark blue, the abdomen polished black, the wings hyaline, the coxæ concolorous, the legs otherwise reddish brown, the tarsi white. Flagellum black, the first funicle joint longest, slightly longer than wide, the others shortening in succession, the sixth very slightly wider than long; joint 1 of club longest but wider than long. Thorax densely reticulately punctate.

Described from one female captured by sweeping in forest, September 6, 1913.

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1983, Queensland Museum, the above specimen on a tag, the head and hind legs on a slide.

LOMONOSOFFIELLA new genus.

Female:—Like the description of *Trigonogastra* Ashmead (1904) but the lateral folds are present and half complete, the abdominal petiole is very long and slender, over twice the length of the hind coxæ, the scutellum with a cross-suture a short distance before tip, distad of this polished, the mandibles 3- and 4-dentate, the parapsidal furrows two thirds complete. Second abdominal segment occupying only about a fourth of the surface, its caudal margin straight or with a very slight sinus at meson, the fourth segment longest, a little longer than 2, while 3 is somewhat shorter than 2; abdomen ovate, its body a little shorter than the thorax, polished. Antennæ 13-jointed with two ring-joints, the club 3-jointed. Postmarginal vein somewhat longer than the stigmal, the wings hyaline. Whole of thorax densely, reticulately punctate except the polished portion of scutellum which is finely reticulated. A spiracular sulcus just mesad of each spiracle.

Male:—Not known.

The genus is dedicated with great respect to Michael Lomonosoff.

Type: The following species.

1. LOMONOSOFFIELLA ALBIPES new species.

Female:—Length, 2.00 mm.

Dark metallic green, the scutellum dark coppery, the abdomen deep blue; legs white except cephalic aspect of cephalic coxæ; scape and pedicel whitish, the rest of the antenna black; club with a minute nipple; first joint of funicle a little longer than wide, somewhat shorter than the pedicel, the distal funicle joint a little wider than long.

Described from one female captured by sweeping in a jungle pocket, July 30, 1913 (A. P. Dodd).

Habitat: Nelson and Kuranda, Queensland.

Type: No. *Hy* 1984, Queensland Museum, the above specimen on a tag, the head and hind legs on a slide.

• A second female specimen of this species was captured at Kuranda, jungle, September 12, 1913. It differed as follows: Front and hind coxæ concolorous except at tip, the legs more yellowish, the other coxæ yellowish brown; the propodeum had a very delicate obscure median carina and its distal end dorsad was glabrous (less distinctly so in *albipes*); the abdomen was dark metallic green. Compared with type specimen.

GENERIC TABLE OF THE AUSTRALIAN SPHEGIGASTERINI.

The Australian genera seem characterised, as in most Eulophidæ, by a greater number of ring-joints in the antennæ, the European and North American genera usually bearing two, the Australian genera usually three.

1. Antennæ without ring-joints, 12-jointed.

Wings vestigial but perfect, the marginal vein long. Parapsidal furrows nearly meeting caudad. Antennæ 12-jointed. Scutellum with a cross-furrow before apex. Mandibles tridentate. Nonmetallic.

Parurios Girault (Type: *P. australiana* Girault).

2. Antennæ with but one ring-joint, 13-jointed.

Parapsidal furrows complete. Mandibles bidentate. Nonmetallic. Petiole of abdomen shorter than the hind coxa, the second segment not occupying more than a third of the surface, its caudal margin incised at meson.

Sphegigasteroides Girault (Type: *S. rufinotum* Girault).

3. Antennæ with two ring-joints.

Antennal club solid; antennæ 11-jointed.

Parapsidal furrows incomplete; petiole of abdomen short and stout; median carina of propodeum intersected by a transverse carina, the propodeum with a distinct neck and spiracular sulci. Mandibles tridentate. Scutellum with a faint cross-suture before apex.

Polycystoides Girault (Type: *P. tennysoni* Girault).

Antennal club 3-jointed; antennæ 13-jointed.

Parapsidal furrows complete.

Petiole of abdomen slender, distinctly longer than the hind coxæ.

Segment 2 of abdomen very large, occupying full two thirds of the surface, the following very short; pronotum large quadrate; vertex narrow.

Syntomopus Walker (Type: *S. thoracicus* Walker.)

Segment 2 of abdomen occupying less than a fourth of the surface, segment 3 half as long, 4 longest, twice the length of 2 and occupying nearly half the surface; pronotum transverse; mandibles 4-dentate.

Paracroclisis Girault (Type: *P. washingtoni* Girault).

Petiole of abdomen no longer than the hind coxæ.

Scutellum with a cross-furrow before apex; petiole of abdomen nearly as long as the hind coxæ; segments 3 and 4 of abdomen notched at meson of caudal margin, segments 2 and 3 subequal, combined occupying not quite half of the surface. Propodeum without a median carina.

Sphegipterosema Girault (Type: *S. feralis* Girault).

Scutellum simple; petiole of abdomen shorter than hind coxa; segment 2 of abdomen much longer than 3, 3 and 4 not notched; propodeum with a median carina.

Sphegipterosemella Girault (Type: *S. unicolor* Girault).

Parapsidal furrows incomplete.

Petiole of abdomen twice or more longer than the hind coxæ; scutellum with a cross-suture before apex.

Propodeum with incomplete lateral carinæ, the median absent; mandibles 3- and 4-dentate; segment 2 of abdomen occupying only a fourth of the surface, its caudal margin with a very slight sinus at meson, segment 4 longest, a little longer than 2. Postmarginal vein a little longer than the stigmal.

Lomonosoffiella Girault (Type: *L. albipes* Girault).

Antennæ with three ring-joints.

Antennal club solid; antennæ 11-jointed; club with a short nipple.

Propodeum rather long, with a distinct neck, noncarinate; petiole of abdomen short, segment 2 occupying about a third of the surface, longer than 3, which is short. Parapsidal furrows incomplete.

Pseudosphegigasterus Girault (Type: *P. grotiusi* Girault).

Antennal club 2-jointed; antennæ 12-jointed.

Propodeum noncarinate, with a distinct neck; petiole of abdomen nearly as long as the hind coxæ; parapsidal furrows complete but not very distinct; segments 2 and 3 of abdomen long and subequal.

Eurydinotelleus Girault (Type: *E. silvensis* Girault).

Antennal club 3-jointed.

Parapsidal furrows complete.

Second segment of abdomen longest or as long as segment 3; petiole not longer than hind coxæ.

Propodeum without a complete median carina, the lateral carinæ present, the median carina obtuse, obscure and at base only.

Segment 2 of abdomen about twice the length of 3; postmarginal vein nearly as long as the marginal. Abdomen convexed ventrad, its petiole short.

Pterosemoidea Girault (Type: *P. flavipes* Girault).

Segment 2 of abdomen subequal to 3, together occupying over half of the surface, the petiole nearly as long as the hind coxæ. Mandibles 3- and 4-dentate.

Apteroosemoidea Girault (Type: *A. nigriviridis* Girault).

Segment 2 of abdomen only slightly longer than 3, together the two occupying less than a third of the surface; mandibles 4-dentate; stigmal vein long. Petiole of abdomen very short.

Apterosemoidella Girault (Type: *A. bioculata* Girault).

Propodeum tricarinate.

Segment 2 of abdomen occupying three fourths of the surface, its caudal margin straight, the petiole not quite as long as the hind coxæ. Mandibles 4-dentate.

Pterosemella Girault (Type: *P. viridis* Girault).

Second segment of abdomen not as long as segment 4; petiole longer than hind coxæ.

Segment 2 of abdomen occupying only a fourth of the surface, a little longer than 3 and somewhat shorter than 4; segments 2 and 3 notched at the meson caudad; propodeum without a median carina, mound-like at apex; mandibles 3- and 4-dentate.

Merismomorpha Girault (Type: *M. acutiventris* Girault).

Parapsidal furrows not complete, only cephalad.

Segments 2 or 3 of abdomen longest, their caudal margins straight (entire).

Segments 2 and 3 of abdomen long and subequal occupying half the surface.

Petiole of abdomen nearly as long as the hind coxæ.

Mandibles 3- and 4-dentate; propodeum with a distinct neck and lateral carinæ. Abdomen not long. Postmarginal vein slightly longer than the stigmal.

Eurydinotella Girault (Type: *E. prima* Girault).

Segments 2 and 3 of abdomen unequal, 2 longer, combined occupying much less than half of the surface.

Petiole of abdomen much shorter than the hind coxæ.

Propodeum with abbreviated median and lateral carinæ; abdomen long, pointed conic-ovate, longer than the rest of the body; postmarginal vein twice the length of the stigmal; segment 2 of abdomen occupying a fifth of the surface, four times the length of 3. Mandibles 3- and 4-dentate.

Eurydinotomorpha Girault (Type: *E. pax* Girault).

Propodeum tricarinate, often with a cross-carina, the lateral carinæ forked; mandibles 4-dentate; segment 2 of abdomen occupying about a fifth of the surface, abdomen conic-ovate; postmarginal and stigmal veins long, the former the longer, nearly as long as the marginal.

Polycysteloides Girault (Type: *P. cuprea* Girault).

Segments 2 or 3 of abdomen not longest.

Petiole of abdomen nearly as long as the hind coxæ.

Propodeum tricarinate, the lateral carinæ irregularly curved; mandibles 4-dentate; segments 3 and 4 of abdomen nearly equal, longer than 2, which bears a slight sinus at meson of caudal margin. Postmarginal vein somewhat longer than the stigmal.

Polycystella Girault (Type: *P. fasciiventris* Girault).

TRIBE PACHYNEURINI.

GENUS PACHYCREPOIDEUS Girault and Sanders.

1. PACHYCREPOIDEUS DUBIUS Girault and Sanders.

One female on a window, Nelson, North Queensland, March 29 and April 13, 1912. This is a parasite of the cosmopolitan, omnipresent *Musca domestica* Linnæus, so that it is not surprising to find it in Australia. It was described from North America. Later, another female was found in a vial labelled "From window, Cooktown, Q., Feb. 6, 1912," and another from a window at Herberton, December 28, 1911.

GENUS *PACHYNEURONELLA* Girault.

Differing from *Pachyneuron* Walker in bearing but eleven antennal joints with two ring-joints, the funicle 4-jointed; petiole of abdomen extremely short; flagellum short and clavate, the funicle joints transverse; scutellum simple. Propodeum very short, noncarinate. Mandibles tridentate, the third tooth broadly concavely truncate. Marginal vein about twice longer than wide, the postmarginal vein a mere spur, the stigmal also very short, merely a minute knob on a very short petiole, not half the length of the marginal which widens distad. Abdomen conic-ovate, convexed ventrad near base.

1. *PACHYNEURONELLA VIRIDIS* Girault. Female. Genotype.

Dark metallic green, the abdomen very dark; wings clear; legs concolorous, the tibiae dusky, the tarsi pale. Body with very fine velvety sheening as in *Tetrastichus*. Pedicel short but longer than any of the funicle joints; proximal club joint equal to half of the club.

Habitat: Adelaide, South Australia.

Type: No. I. 1338, South Australian Museum, Adelaide.

SUBFAMILY DIPARINÆ.

GENUS *PANSTENON* Walker.1. *PANSTENON AUSTRALIS* Girault. Female, male

Brown-black, the head and thorax washed with metallic green, the abdomen and all of legs brownish; fore wings slightly embrowned; antennae concolorous with the head. Head and thorax with a fine polygonal sculpture, the propodeum with a network of interlacing carinae; a long, irregular carina laterad of the spiracle.

The male is the same but the pronotum is brownish, the distal two thirds of abdomen dusky.

Habitat: Cairns, Queensland. Forest bog.

Types: No. Hy 1985, Queensland Museum.

2. *PANSTENON AUSTRALIENSIS* new species.

Female:—Length, 1.25 mm. Slender.

Somewhat like *australis* but smaller and more slender, the wings hyaline and the body dark shining metallic black-green suffused with brownish, the legs pale brownish including the coxae, much of the femora concolorous. Antennae wholly black, scape and pedicel somewhat lighter. Thorax reticulated, the propodeum rugose. Antennae with all the funicle joints subequal and longer than wide. Both mandibles 4-dentate. Propodeal spiracle exceedingly minute, round, the carina laterad of it obscure or absent.

Male:—Not known.

Described from one female specimen captured by sweeping jungle growth along a forest stream, June 29, 1913.

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1986, Queensland Museum, the above specimen on a tag, the head and hind legs on a slide.

3. PANSTENON BELlicosus new species.

Female:—Length, 2.10 mm.

Like the preceding but longer and dark metallic purple, the scutellum aeneous; legs including coxæ and ventral abdomen excepting at tip yellow-brown; centre of abdomen above at proximal half or more yellow-brown except at extreme base. Antennæ as in the preceding but the scape yellow. Vertex broad; pronotum large, subquadrate, the parapsidal furrows incomplete. Head black-blue or else purple.

Male:—Not known.

Described from one female captured by sweeping jungle along a forest streamlet, May 6, 1913.

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1987, Queensland Museum, the above specimen on a tag, the antennæ and hind legs on a slide.

A second female was captured August 23 by sweeping in forest.

4. PANSTENON GRACILIS new species.

Female:—Length, 1.50 mm.

Almost exactly similar to *bellicosus* but the vertex is much thinner, the abdominal petiole and cephalic two thirds of pronotum and propleura yellowish brown and the head and thorax are wholly dark metallic green, the abdomen more broadly black across base and with a small round spot at the meson in the yellow just proximad of the metallic black-green distal fourth. Also the marginal vein is shorter, the body still more slender.

Male:—Not known.

Described from one female captured by sweeping in the forest, August 20, 1913 (A. P. Dodd).

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1988, Queensland Museum, the above specimen on a tag, the head and hind legs on a slide.

SUBFAMILY SPALANGIINÆ.

GENUS SPALANGIA Latreille.

1. SPALANGIA GROTIUSI new species.

Female:—Length, 2.20 mm.

Like *australiensis* Girault, which is subaeneous black, but the pronotum has a line of foveæ across it just before tip (caudal margin) and the abdomen is glabrous. Also the antennæ are slightly different, the second funicle joint a little longer in this species. Neck of pronotum scabrous in both species. Abdominal petiole (*grotiusi*) longitudinally striate; face with a median line of small foveæ from about the cephalic ocellus to near a point opposite the ventral ends of the eyes; also two other similar lines but shorter and originating apparently at each antennal insertion and running dorso-mesad to a point a little dorsad of the ventral end of the median foveate line; face otherwise glabrous. In *australiensis*, the pronotum is alutaceous and not as rough as the surface of the abdomen.

Male:—Not known.

Described from one female captured by sweeping partly cleared forest, second growth, July 2, 1912. Respectfully dedicated to Hugo Grotius.

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1989, Queensland Museum, the above specimen on a tag, the antennæ on a slide (with the type of *Prospaltella seminigriclava*).

2. SPALANGIA AUSTRALIENSIS new species.

Female:—Length, 1.70 mm.

Shining black, the wings hyaline; legs concolorous, the tarsi white. Antennæ 10-jointed, the club somewhat enlarged and shorter than usual, the pedicel elongate, the funicle joints all short, wider than long but the first subquadrate, not half the length of the pedicel which is nearly as long as the club. Mandibles bidentate. Abdomen very finely densely reticulated, the fourth segment longest. Propodeum glabrous, margined nearly all around with foveæ and with lateral foveate lines, at the meson a pair of these which touch beyond the middle and are separated by a carina, proximad. Scutellum glabrous, at distal third crossed by a faint line of minute pin-punctures; just back (caudad) of this on each side at lateral margin is an isolated, distinct puncture-fovea, round. Suture between axillæ and scutellum foveate. Axillæ with several scattered pin-punctures discally. Cephalad of the transverse line of scutellum on each side, a short longitudinal line of foveæ (3 or 4) and on each side of the meson about two foveæ caudad in a longitudinal line. Scutum finely alutaceous, together with the head bearing obscure scattered setigerous punctures. Parapsidal furrows foveate. Pronotum densely sculptured like the abdomen.

Male:—Not known.

Described from two females captured from windows, December 28, 1911.

Habitat: Herberton, Queensland.

Type: No. Hy 1990, Queensland Museum, one of the above specimens on a tag, the head on a slide.

2. SPALANGIA VIRGINICA new species.

Male:—Length, 1.50 mm.

Differs from the preceding in being a little more brassy and in lacking the cross-line of foveæ at distal third of the scutellum. Also the abdomen is smoother while the impunctate areas of the thorax show a very minute reticulation like that of the abdomen. First funicle joint as long as the next two combined.

Female:—Not known.

Described from one male captured by sweeping in a jungle, June 24, 1913 (A. P. Dodd).

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1901, Queensland Museum, the above specimen on a tag.

GENUS SPALANGIOMORPHA Girault.

Antennæ 8-jointed, the club solid, no ring-joint. Fore wings naked, with long marginal cilia, resembling those of *Signiphora* but the stigmal vein is normal. Cephalic and posterior femora swollen but simple. Mandibles 4-dentate. Head simple. Funicle joints subquadrate. Postmarginal vein very short but distinct. Fore wings with a dense tuft of black bristles at the bend of the long submarginal vein. Hind wings as in *Signiphora*. Abdomen robust. With the subfamily characters.

1. SPALANGIOMORPHA FASCIATIPENNIS Girault. Female. Genotype.

Reddish brown, the abdomen black, the fore wing with a brownish stripe across it from the distal half of the marginal and the stigmal veins, the band not crossing to the cephalic margin at the stigmal vein; also beneath (against) the tuft of setæ a small brownish spot. Longest marginal cilia equal nearly to a third of the greatest wing width. Scutum and scutellum metallic purplish black; petiole of abdomen (which is short) and the legs yellowish. Glabrous, the propodeum finely transversely lineolated. Face more yellowish about the clypeus. Club black, the distal funicle joint fuscous, rest of antenna yellowish brown; pedicel somewhat longer than the first funicle joint which is slightly longer than wide, the distal joint of funicle wider than long. Pedicel not long. Ovipositor slightly exerted.

Habitat: Port Douglas, Nelson and Cooktown, Queensland; Port Darwin, Northern Territory.

Type: No. Hy 1992, Queensland Museum.

This species is rather commonly met with on the windows of grocery stores and Mr. G. F. Hill has sent me specimens from the Northern Territory, where he reared it from a "grain moth."

2. SPALANGIOMORPHA FRATER new species.

Female:—Length, 1.35 mm., excluding ovipositor.

Very similar to *fasciatipennis* but the first funicle joint wider than long, the thorax wholly reddish brown (scutum and scutellum tinged with purplish); in the type species, the pronotum is washed with metallic purple in addition to the scutum and scutellum which are metallic purple; the brownish abdominal petiole is longer as is also the exerted portion of the ovipositor (whitish at base in both species). The propodeum is finely, transversely lineolated in both species, the rather long second abdominal segment deeply incised at meson caudad. In *frater*, the stripe across the fore wing appears to project distad at centre far beyond the stigmal vein; the exerted portion of the ovipositor is over a fourth the length of the abdomen.

Male:—Not known.

Described from one female captured by sweeping in a jungle pocket, September 8, 1913 (A. P. Dodd).

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1993, Queensland Museum, the above specimen on a slide (with the type appendages of *Polycysteloides cuprea* Girault).

LITERATURE REFERRED TO.

- 1839. Walker, Francis. Monographia Chalciditum, London, II.
- 1881. Howard, Leland Ossian. In John Henry Comstock. Rep. Ent. f. 1880, U. S. Dep., Agric., Washington, D.C., U.S.A.
- 1890. Riley, Charles Valentine. Insect Life, Division Ent., U. S. Dep. Agric., Washington, D.C., U.S.A., II.
- 1900. Ashmead, William Harris, Proceedings Linnean Society of New South Wales f. 1900, Sydney.
- 1912. Cameron, Peter. Proceedings Linnean Society of New South Wales f. the year 1912, Sydney, XXXVII.