

AUSTRALIAN HYMENOPTERA CHALCIDOIDEA.—V.*

The Family Perilampidae with the Descriptions of One New Genus and Four Species.

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INTRODUCTION.

THIS family is a small one, represented commonly by a single cosmopolitan genus but in tropical countries there seem to be a number of gall-making genera which are just becoming known. Two of these are at present known to occur in Australia; the others occur in South America.

FAMILY PERILAMPIDÆ.

GENUS PERILAMPUS Latreille.

1. PERILAMPUS SALEIUS Walker.

Walker, 1839, p. 16.

“Sp. 1. *Peri. Saleius*. Mas. *Viridis aeneo-varius, abdomen-atrum, pedes fulvi, femora viridia, alæ limpidæ.*”

“*Viridis aeneo-varius; abdomen atrum; pedes fulvi; coxæ virides; femora viridia; ungues et pulvilli fuscii; alæ limpidæ; squamulæ piceæ; nervi proalis fuscii, metalis fuscii.* (Corp. long. lin. 4/5; alar. lin. 1½.)”

“March; King George's Sound, Australia.”

2. PERILAMPUS TASMANICUS Cameron. Female.

Cameron, 1912, pp. 646-647.

Dark blue, largely tinged with violaceous, especially on the head; a fiery red spot on apex of the mesonotum on each side and another at apex of mesopleura above the middle; apex of second and last segments of abdomen dark red. Legs dark blue to apex of femora, the hind tibiæ almost black; knees, each end of tibiæ and the tarsi testaceous. Wings hyaline, the veins fuscous. Antennæ black, fuscous beneath, pubescent. Head somewhat strongly striated, longitudinally so on vertex and front, curved on the former; occiput more closely, finely, transversely striate. Propodeum irregularly, obliquely striated. An oblique keel along the propleurum cephalad of middle, dividing the sclerite into two, of which the basal and smaller is irregularly striated, the apical smooth. Mesopleurum with a quadrate, smooth depression, longer than wide and at the upper basal half; rest of mesopleurum longitudinally striated.

Habitat: Tasmania (Hobart).

Type: Query.

* Contribution No. 16, Entomological Laboratory, Bureau of Sugar Experiment Stations, Bundaberg, Queensland.

3. PERILAMPUS TASMANIENSIS Girault. Female.

Bronze, the abdomen darker; legs concolorous, the tibiae greenish, the tarsi flavous; antennae dark metallic; wings hyaline, the postmarginal vein longer than the stigmal. Scutellum unarmed at apex. Mandibles with three acute teeth, the lateral one long. Vertex and face striated. Funicle joints transverse, the first cup-shaped, very much longer than the pedicel; thirteen antennal joints, one ring-joint. Dorsum of abdomen finely punctulate. Club with an apparent fourth, nipple-like joint at apex (not counted here as a true joint).

Habitat: Tasmania (King Island).

Type: No. I. 1247, South Australian Museum, Adelaide.

4. PERILAMPUS AUSTRALIENSIS Girault. Female.

Metallic *cyaneus*, tinged with green about the head and abdomen; tarsi light yellow; cephalic knees and tibiae brown; sculptured like *tasmaniensis* but the punctures on abdomen not quite so dense and the body is more robust. Club brown; funicle 1 longer than wide, 2 cup-shaped. Nipple-like apex of club absent.

Habitat: National Park, New South Wales.

Type: No. I. 1248, South Australian Museum, Adelaide.

5. PERILAMPUS MITTAGONGENSIS Girault. Male.

Metallic blue-green, the knees, venation and antennal club brown, the tarsi yellowish, the wings hyaline. Joints 1 and 2 of funicle subquadrate, subequal; postmarginal vein twice the length of the stigmal; smaller than *australiensis*; otherwise similar to the fourth species as listed here.

Habitat: Mittagong, New South Wales.

Type: No. I. 1249, South Australian Museum, Adelaide.

6. PERILAMPUS CAPENSIS Girault. Female.

Resembles *australiensis* and *mittagongensis* but smaller and the abdomen glabrous (dorsal aspect), with the fine sculpture on the last segment and lateral aspect of the others. Nearest to *mittagongensis* but somewhat smaller, the sculpture of head and thorax somewhat finer, the funicle brown, the head aeneous. From caudal aspect, the upper angles of the abdomen are not acute, the upper margin concaved, not straight as in *mittagongensis*; mesothorax brassy green.

Habitat: Capeville (Pentland), Queensland. Forest.

Type: No. Hy 1948, Queensland Museum.

7. PERILAMPUS CAIRNSENSIS Girault. Female.

Characterised by having all of the dorsal aspect of abdomen finely sculptured (rather dense pin-punctures). Differs from *australiensis* in being more robust, in having the flagellum and tarsi chocolate brown and in being dark aeneous green; from *mittagongensis* in the same details and also in that the femora are metallic green, not blue and the abdomen from caudal aspect is shaped differently; differs from *tasmaniensis* in being twice more robust, the abdomen more uniformly sculptured (in *tasmaniensis* being smooth and shining caudad of the second segment nearly to tip and coppery there) and the marginal vein is longer. Dark aeneous green, the legs concolorous.

Habitat: Cairns, Queensland.

Type: No. Hy 1948, Queensland Museum. Jungle or swamp?

8. *PERILAMPUS QUEENSLANDENSIS* new species.

Female:—Length, 2.00 mm.

Very dark metallic green, the abdomen shining black. Legs, scape and pedicel concolorous, the tarsi pale brown. Propodeum with a median carina, rugose, on each side of the median carina about the middle a large, subquadrate smooth area bounded by carinae. Occiput circularly striate. Postmarginal vein a third longer than the stigmal, the venation brown. Second segment of abdomen without sculpture, shining, the third with pin-punctures which are numerous but not dense. Vertex smooth and also all of the head. Funicle and club uniformly chocolate brown. Genal sulcus present.

Male:—Not known.

Described from one female captured by sweeping foliage in a jungle, June 7, 1913 (A. P. Dodd).

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1950, Queensland Museum, the above specimen on a tag.

TABLE TO THE AUSTRALIAN SPECIES OF *PERILAMPUS* LATREILLE.

Wings hyaline.

Mesothorax with several fiery red spots, dorsad and laterad.

Dark blue. Legs concolorous except articulations, ends of tibiae and tarsi, the tibiae darker; antennae black, fuscous beneath. Head striated, the occiput finely so; an oblique keel along the propleurum dividing it in two, the smaller sclerite of the two striated, the larger smooth. Mesopleurum longitudinally striated but with a subquadrate smooth depression at upper basal half.

tasmanicus Cameron.

Mesonotum without red spots.

Metallic green species.

All tibiae yellow.

Abdomen blackish.

saleius Walker.

All tibiae metallic and concolorous.

Dark aeneous green; all dorsal aspect of abdomen with uniform, rather dense, fine pin-punctures; flagellum and tarsi chocolate brown; head sculptured.

cairnsensis Girault.

The same but segment 2 of abdomen glabrous, the third with minute pin-punctures which are numerous but not dense; head smooth; funicle and club chocolate brown. Propodeum with a median carina, rugose but smooth on each side of median carina about the middle.

queenslandensis Girault.

(Compare *capensis*.)

Metallic blue species, tinged more or less with green.

Cephalic tibiae brown.

Cyaneous, tinged with green about the head and abdomen; sculptured like *tasmaniensis* but punctures on abdomen not quite so dense; antennal club brown; funicle 1 longer than wide, 2 cup-shaped, others shorter; club 3-jointed, no apparent fourth joint at tip. *australiensis* Girault.

All tibiæ metallic and concolorous.

Metallic blue-green; knees, venation and antennal club brown; tarsi yellowish; joints 1 and 2 of funicle subquadrate; postmarginal vein twice the length of the stigmal. Sculpture of abdomen as in *australiensis*.

mittagongensis Girault.

The same but the fine sculpture of the abdomen is only on the distal segment and lateral aspect of the others; head aeneous; smaller; funicle brown; mesothorax bronzy green.

capensis Girault.

Bronze species.

Tibiæ greenish, the abdomen darker bronze; tarsi flavous; antennæ dark metallic; vertex and face striated; funicle joints wider than long, 1 cup-shaped, much larger than the pedicel; club with an apparent fourth joint at apex; dorsum of abdomen finely punctate.

tasmaniensis Girault.

GENUS EPIPERILAMPUS Girault. = *Trichilogaster*

This genus is certainly very closely allied with *Trichilogaster* Mayr and is very probably a synonym of that genus. There is no doubt that it is a true member of this family. The same as *Perilampus* but the thorax not coarsely punctate, only with obscure scattered thimble punctures and transversely wrinkled and reticulated, the antennæ with two large ring-joints* and a well defined 3-jointed club, the distal joints of the funicle transverse; pedicel longer than funicle 1. Marginal, stigmal and postmarginal veins shortened yet moderately long, the postmarginal somewhat shortest of the three, the other two subequal. Antennæ inserted in the middle of the face. Scutellum simple. Axillæ barely separated inwardly. Second segment of abdomen occupying nearly half of the surface. The male is described beyond.

1. EPIPERILAMPUS XANTHOCEPHALUS Girault. Female. Genotype.

Orange yellow, the parapsides cephalo-mesad washed with metallic bluish, the propodeum and abdomen shining blackish or dark metallic bluish; at base, the abdomen with a conspicuous yellow marking which is incised medially on caudal margin; legs mostly dark metallic bluish, the cephalic tibiæ, the knees and tarsi brownish; submarginal vein brown, others lemon yellow. Fore wings lightly embrowned throughout and with a distinct smoky brown cloud under the apex of the submarginal vein, extending across but interrupted caudad of its middle by a clear, longitudinal streak. Discal cilia like minute pin-points, not dense. Scape yellow, dark above and at tip, the remainder of antenna brownish yellow washed with bluish; proximal joint of club equals distal funicle joint, both wider than long. Joints 2 and 3 of funicle subquadrate.

Habitat: Brisbane, Queensland.

Type: No. Hy 1194, Queensland Museum.

2. EPIPERILAMPUS CHANNINGI Girault. Female.

The same as the type species but the parapsides wholly concolorous and the stigmal vein is shorter, distinctly shorter than the marginal. Antennæ lighter.

Habitat: Quingilli (Cairns), Queensland.

Type: No. Hy 1953, Queensland Museum.

* Not true ring-joints but graduating in size with the funicle joints.

3. EPIPERILAMPUS SIGNIFICATUS new species.

Female:—Length, 2.25 mm.

The same as *xanthocephalus* but nearly the entire body is dark purplish blue except head, sides of scutellum at the middle, front tibiae, scape, sides of scutum and its caudal third and the marking on the abdomen which are orange yellow; also the postmarginal vein is a little shorter and the first funicle joint subequal to joints 2 and 3 which in both species are somewhat wider than long (funicle 1 in *xanthocephalus* is somewhat longer than wide, plainly longer than the next two joints). The wings are somewhat clearer.

Male:—What appears to be the male is wholly dark purplish except cephalic tibiae, the venation not pale brown but fuscous. Antennae filiform, 13-jointed, the club 3-jointed but not widened as in the female, the two ring-joints shorter, distinct, the funicle joints large, all somewhat longer than wide, the first much longer than wide, longest, much longer than the globular pedicel which is somewhat smaller than the distal funicle joint; scape wholly blue, short. Club joints somewhat shorter than the distal funicle joint. Abdomen depressed. A little smaller than the female, the postmarginal vein a little longer.

Described from a single pair mounted on a card from the collections of the Queensland Museum with a female of *xanthocephalus* and labelled "Gall No. 6. Brisbane. H. Hacker. 19.7.1911."

Habitat: Brisbane, Queensland.

Type: No. Hy 1951, Queensland Museum, the above pair on a tag, female antennae and a male antenna on a slide (together with an antenna of a female *xanthocephalus*).

I have re-examined the types of *xanthocephalus* for the third or fourth time. The axillae have a small bluish spot near centre of cephalic margin.

4. EPIPERILAMPUS DILUTIVENTRIS new species.*

Female:—Length, 2.40 mm.

Like *xanthocephalus* but the conspicuous orange yellowish, crescentic, thick cross-marking in centre of base of distal half of abdomen entirely wanting and the postmarginal vein is a little longer than the stigmal; also the scutellum is washed with more or less bluish centrally, the parapsides unmarked, the wings hyaline except for the usual stain from near apex of submarginal vein which is widely interrupted caudad. First two pairs of legs yellowish. The antenna differs in that only the third joint appears like a ring-joint, the next two or three much wider than long, the ninth joint large, subquadrate, much the largest (longest and widest) of the funicle (in *xanthocephalus*, 1 of the funicle is the longest, 6 the shortest and widest, not counting the two ring-joints of which the second is the wider). The ring joint is only a little over half the width of the joint following it. The scape is stouter. (Club not wholly seen.)

Male:—Not known.

Described from one female in the collections of the Queensland Museum, mounted on a card labelled "Bred from gall No. 14."

Habitat: Queensland (? Brisbane).

Type: No. Hy 1952, Queensland Museum, the above specimen and a slide bearing two broken antennae.

* The second species of *Melanosomella* Girault which belongs here. *Calocybella* Girault belongs here: see p. 313.

PERILAMPOIDES new genus. = *Terobiella*

Female:—Like *Epiperilampus* Girault but the antennæ only 12-jointed, there being but five joints in the funicle, the club 3-jointed; flagellum clavate. Also the axillæ are separated a short distance, the parapsidal furrows ending at middle of cephalic margin of each axilla. Scutum with a shallow median groove, the scutellum large, ovate, longer than usual but not extending over all of propodeum; abdomen large, globular, somewhat as in the Cynipidæ, the ovipositor very short, near apex. Thorax impunctate. Hind tibial spurs single. Mandibles bidentate, the inner tooth broadly truncate. Axillæ very long, triangular. Scutellum with a short median groove at base. In *Epiperilampus*, the axillæ are barely separated inwardly.

Male:—Not known.

Type: The following species.

1. PERILAMPOIDES BICOLOR new species.

Female:—Length, 3.75 mm.

Bright orange yellow, the face and mesal portion of pronotum, scutum a little at meson cephalad, propodeum and abdomen jet black; also mesoventer mesad and the vertex; antennæ and legs pale yellow; wings hyaline, the submarginal vein black, the others colorless, a rounded sooty spot on blade of fore wing just caudad of the apex of submarginal vein. Thorax finely shagreened (raised dots). Distal funicle joint largest, about as long as the pedicel, cup-shaped but wider than long; second club joint shortest. Antennæ suffused with dusky. Hind tibia more or less dusky.

• Described from two females reared from pupæ filling the entire cavity of small round isolated galls on the foliage of *Eucalyptus* in forest early in August, 1913 (A. P. Dodd).

Habitat: Nelson (Cairns), Queensland.

Type: No. Hy 1954, Queensland Museum, one of the above specimens on a tag, the hind leg and a head on a slide.

This genus is evidently a true gall-maker allied as is *Epiperilampus* with Mayr's three gall-making genera. *Epiperilampus*, indeed, seems to me to be the same as Mayr's *Trichilogaster* but I cannot tell because the original description of that genus is not available and there may be differences in the antennæ. These gall-making genera seem true perilampids in spite of the long scutellum in some of them and the longer, depressed abdomen. They have the habitus, in some cases, of the Encyrtid tribe Tancostigmini but there are no encyrtid characters. They are allied with the Cleonymidæ and Eurytomidæ.

LITERATURE REFERRED TO.

1839. Walker, Francis. Monographia Chalciditum, London, II.
 1912. Cameron, Peter. Proceedings Linnean Society of New South Wales for the year 1911, Sydney, xxxvi.