

- 3 (2). Scutellum ending in processes which are as long as the abdomen. Antennæ in male flabellate.
- 4 (5). The third joint of antennæ as long as all the succeeding joints together. *Lirata*.
- 5 (4). The third joint not much longer than fourth *Kapala*.

LIRATA.

Antennæ 10-jointed, simple, pilose; the third joint nearly as long as all the succeeding together; all the joints thicker at the apex than at the base. Scutellum hollowed in the centre above, and having at the apex two thickish curved spines, which reach nearly to the apex of the abdomen, and not projecting beyond the wings when these are folded along the sides. Metathorax simple, without tubercles. Petiole nearly as long as the abdomen, stout, cylindrical.

The very long third joint of the antennæ enables this genus to be known from *Thoracantha* and *Kapala*.

1. *Lirata luteogaster*. (*Schizaspidia luteogaster*, Tab. V. fig. 16; 16 a, antenna.)

Nigra; pedibus scapoque antennarum flavis; abdominis apice læte luteo; alis hyalinis. Long. 6 millim.

Hab. PANAMA, Island of Taboga (*Champion*).

The antennæ are nearly as long as the abdomen, become slightly thickened towards the apex, and are covered with closely pressed hairs. The apical joints are shorter and more distinctly separated than the basal; the last joint is double the length of the preceding. Head covered with waved reticulations; the vertex in the middle is depressed, opaque, and obscurely reticulated. Thorax covered with more or less waved reticulations all over, and sparsely with longish black hairs; at the base, in the centre, the mesonotum is depressed, the depression being smooth and shining, much longer than broad, and narrowest at the apex. Scutellum broadly depressed in the centre, finely aciculated. The processes of the scutellum converge slightly at the apex; they are thick, closely and coarsely transversely striated, and are longer than the head and thorax together, being as long as the antennæ. Petiole thick, transversely striated, and somewhat longer than the rest of the abdomen, which is strongly compressed, a little longer than broad, and, if anything, longer than the abdomen. Coxæ black, obscurely striated.

KAPALA.

Chirocerus, Brullé, Hist. Nat. des Ins., Hym. iv. p. 571 (non Latr.).

In this genus the antennæ are 11-jointed; the joints short, the third and fourth subequal, scarcely longer than the others; the joints of the flagellum in the male bear

long rami. The scutellum ends in two long curved processes, which reach to the apex of the abdomen. Petiole nearly as long as the abdomen. Metathorax without tubercles, and reticulated.

1. **Kapala furcata.** (Tab. V. figg. 17 & 17 *d*, ♀; 17 *a*, antenna ♀; 17 *b*, head; 17 *c*, antenna ♂.)

Eucharis furcata, Fabr. Syst. Piez. p. 158, ♀.

Eucharis flabellata, Fabr. *l. c.*, ♀; Walker, Entomologist, t. P. fig. 2.

Chirocerus furcatus, Brullé, Nat. Hist. des Ins., Hym. iv. p. 571, t. 38. fig. 5.

Hab. COSTA RICA, Cache (*Rogers*); GUATEMALA, Cerro Zunil 4000 to 5000 feet, Cotepeque 1500 feet, San Isidro 1600 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—SOUTH AMERICA.

Apparently a common species. Walker (List of Chalcididæ, p. 22) records it from Sierra Leone, Africa; but this is no doubt an error.

LOPHYROCERA.

In this genus the antennæ in the female are serrated; the joints are broader than long and of nearly equal size; the third joint is not much longer than the following, and is not so much produced above; the scape is not longer than the third and fourth together. In all, there are apparently ten joints; but possibly there may be more, as the last joint in the only specimen I have does not look like a terminal joint. The scutellum is large, broad at the base, narrowing towards the apex, which ends in two blunt teeth, and which are double as long as broad. The petiole is more than double as long as broad, and is shorter than the short abdomen. The metathorax immediately below the projecting scutellum projects into a blunt tooth-like process, which curves down to the sternum, forming a rib-like border on either side. In the male the antennæ are simple, the joints longer than broad, the third joint one half longer than the fourth.

The antennæ in this genus are serrated, as in *Schizaspidia*, but they are not quite identical otherwise; and in the males of the last genus they are flabellate. *Schizaspidia* had better be reserved for the Old-World species.

1. **Lophyrocera stramineipes.** (Tab. V. fig. 18, ♀; 18 *a*, antenna.)

Nigro-viridis; scapo antennarum pedibusque pallide testaceis; petiole abdomineque subtus et apice brunneo-testaceis; alis hyalinis, nervis albis.

Long. 4 millim.

Hab. PANAMA, Volcan de Chiriqui 2500 to 4000 feet (*Champion*).

The head is distinctly metallic bluish green, and bears below the antennæ a few waved transverse striations; the vertex is also striated, but the striations there run towards the mouth and are indistinct. Thorax covered with large deep punctures; the

breast is finely punctured. Abdomen smooth, shining, twice as broad, or rather high, as long; the ventral surface and the sides are obscure brownish testaceous.

2. *Lophrocera nigromaculata*. (Tab. V. fig. 19, ♂; 19 a, metathorax; 19 b, scutellum.)

Brunneo-testacea; capite maculisque thoracis nigris; petiole et pedibus flavo-testaceis; alis hyalinis. Long. $5\frac{1}{2}$ millim.

Hab. NICARAGUA, Chontales (*Janson*).

The vertex is longitudinally and the face transversely striated. From each antenna a broad and deep groove runs to the clypeus; the head has a distinct border behind. Antennæ long and of nearly uniform thickness; scape very short, being scarcely double the length of the ring; third joint double the length of the fourth. Thorax, and the sternum and mesopleuræ to near the top, covered with large and deep punctures. Two longish, large, disk-shaped marks over the posterior legs, a mark in front of the mesonotum, two large marks behind this uniting in the centre, a roundish small mark outside of them, and touching them at their apex a somewhat triangular mark (which is prolonged as a broad line to the end of the scutellum, where it becomes broad), all black; the lower side of the metanotum is also black. The scutellum ends at the apex in two blunt teeth, which are twice as long as broad. The metapleuræ bear five or six large longitudinal striations, and at the side project into large blunt processes. Petiole long and slender, longer than the hind femora. On the back the abdomen is obscure black, and the rest of it is browner and darker in tint than the thorax.

ORASEMA.

Antennæ 13-jointed, longish; third and fourth joints subequal. Scutellum simple, a transverse groove at the apex. Metathorax without tubercles. Petiole thickish, cylindrical, three times longer than broad.

The ovipositor (which is not exerted) is quite remarkable for its size and breadth, the spiculæ being as broad as in *Cephus* and many other sawflies. The borer is toothed or indented at the apex (fig. 18 c), and the support becomes dilated towards the apical part, the apex itself, however, being sharply pointed, much sharper than the borer (fig. 18 e). The maxillary and labial palpi are both three-jointed, the middle joint being in both cases the shortest (figs. 18, 18 a).

In its simple scutellum this genus agrees with *Psilogaster* and with some of the species of *Stilbula* (if *S. volusus*, Walker, is to be regarded as a *Stilbula*, for the typical species has the scutellum bifid); but from *S. volusus* it differs in its simple antennæ in the male. The ovipositor is stronger built and broader than in any other genus of Chalcididæ known to me.

The only species known was found by Mr. Champion on fallen timber near the holes of xylophagous beetles.

1. *Orasema stramineipes*. (Tab. V. figg. 20, 20 *a*, ♀; 20 *b*, scutellum; 20 *c*, antenna: Tab. VI. figg. 18, 18 *a*, *b*, trophi; 18 *c*, *d*, *e*, ovipositor.)

Nigra; scapo antennarum pedibusque flavis; alis hyalinis, nervis pallidis.
Long. fere 5 millim.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).

Antennæ slender, nearly as long as the thorax, densely covered with depressed hair; third joint a little longer than fourth. Head closely punctured all over. Antennal groove moderately broad, dilated suddenly at the bottom. A narrow furrow, slightly curved in the middle, runs down from each of the antennæ, then curves round the clypeus to the base of the mandibles, which are testaceous. Clypeus somewhat triangular, transverse at the apex. The furrow is deepest round the clypeus. Thorax more strongly punctured than the head, the lower and posterior portion of the pleuræ striated. A narrow transverse furrow runs across from the tegulæ, and from this two much broader sutures proceed to the pronotum, thus dividing the mesonotum into two somewhat triangular lateral areas and a larger area in front. From the centre of the transverse furrow a short broad longitudinal one runs to the scutellum. Metanotum coarsely rugose, almost reticulated in the centre; there is a central area bordered by keels which converge sharply at the top. Petiole rugose-punctured, thick, shorter than ventral surface of the abdomen. Coxæ blackish or greenish, closely punctured. Abdomen not laterally compressed, triangular as seen laterally, dilated at the apex.

Subfam. *TORYMINÆ*.

This group contains some of the most elegant forms among the Chalcididæ. All or nearly all have the ovipositor long, and are parasites on Gall-flies, Aculeate Hymenoptera, or Lepidoptera. The group is very numerous in species, especially in temperate climates; but little is known about the tropical species.

DIOMORUS.

Diomorus, Walker, Ent. Mag. ii. p. 159 (1834); Mayr, Verh. z.-b. Ges. Wien, xxiv. p. 73.

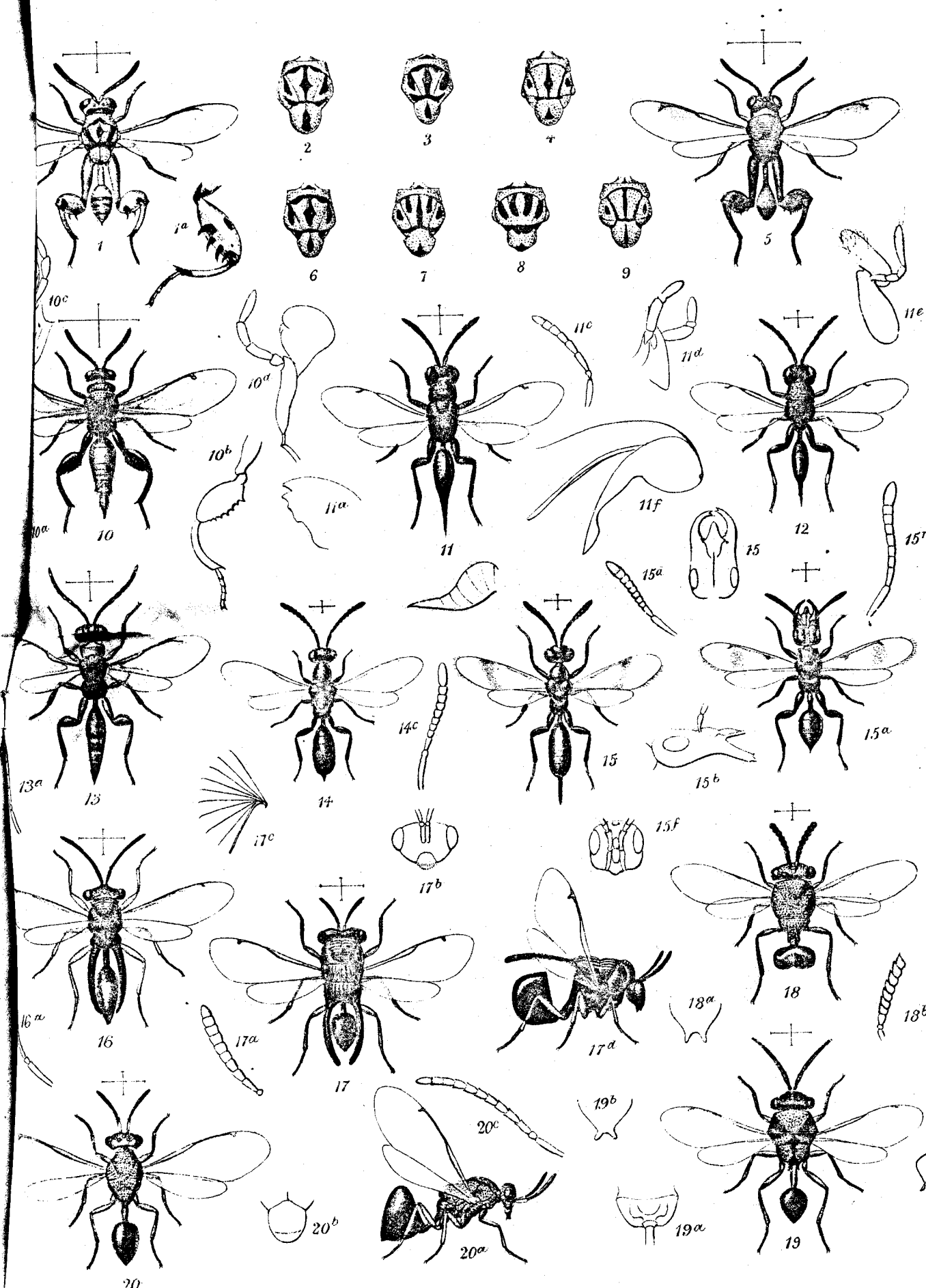
This is a genus of small extent, only two European species being known. They are parasites on the Aculeate Hymenoptera living in bramble-stems.

1. *Diomorus rufipes*.

Viridis, cupreo variegatus; scapo pedibusque rufis; antennarum flagello nigro, subtus testaceo; alis hyalinis.
Long. 3 millim.

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet (*Champion*).

The mesonotum, metanotum, and head are for the most part of a golden coppery tint; the apex of the abdomen is also coppery. The scape is narrow compared to the



1 MICRA CHAMPIONI
 2 DORSIVITTATA
 3 PANAMENSIS
 4 GENICULATA
 5 CARDINALIS
 6 CENTRALIS
 7 MACULICOLLIS

8 SMICRA OCTOMACULATA
 9 NIGRIFRONS
 10, 10a-d PHASGONOPHORA RUFITARSIS
 11, 11a-f EURYTOMA AURIFRONS
 12 PETIOLIVENTRIS
 13, 13a BEPHRATA RUFICOLLIS

14, 14a SPALANGIA CHONTALENSIS
 15, 15a-f PARALÆSTETHIA MANDIBULARIS
 16, 16a SCHIZASPIDIA FLAVIVENTRIS
 17, 17a-d FURCATA
 18, 18a, b IOPHYROCERA STRAMINEIPES
 19, 19a, b NICROMACULATA
 20, 20a, c ORASEMA FLAVIPES

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