

Article XXX.—DESCRIPTIONS OF NEW PARASITIC HYMENOPTERA FROM BRITISH GUIANA.¹

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The present paper is based on a very interesting collection of Parasitic Hymenoptera secured by Prof. H. E. Crampton and Dr. F. E. Lutz of the American Museum of Natural History. The collection includes a number of species with which we have not dealt at the present time on account of the great difficulty of determining many of the described species in certain genera. For this reason the material belonging to such genera as *Hemiteles*, *Bracon* and *Iphiaulax* (*sens lat.*) is not considered.

As indicated in the text, all types are in the American Museum and we are indebted to Prof. Crampton and Dr. Lutz for the opportunity of examining the specimens from this interesting and little-known region.

Family ICHNEUMONIDÆ.

Subfamily ICHNEUMONINÆ.

Microjoppa lutzii sp. nov.

♂. Length 15 mm. Wings 13 mm. Head flavous; antennæ except the scape, which is flavous, black; vertex including a space around the ocelli and a median extension behind reaching to the posterior margin of occiput, black, shining. Thorax flavous; mesonotum and scutellum black, shining, a small black spot at the base of the hind coxæ. Fore and middle legs flavous with a brown-black spot covering about two-thirds of the distal part of the femora above; tibiæ and tarsi somewhat darkened with brown. Hind legs flavous, heavily marked with black which covers the coxæ and proximal joints of the trochanters, the distal two-thirds of the femora and the entire tarsi except for a small spot proximally. Both pairs of wings subhyaline, their apices with a fuscous band; venation including stigma black. First segment of abdomen flavous, changing to ferruginous posteriorly; second segment ferruginous with a basal black band; the remaining segments black, subopaque. Clypeus and face smooth, shining; clypeal foveæ deep, each slightly less in diameter than an ocellus. Eyes not emarginate. Face just below antennæ raised with angular lateral ridges. Antennæ 43-jointed; flagellum with joints subequal, each constricted

¹ Contributions from the Entomological Laboratory of the Bussey Institution, Harvard University. No. 70.

medially on the outside, except at the extreme tip. Vertex and occiput smooth, shining. Genæ with a very few punctures, shining. Entire head sparsely pubescent. Mesonotum smooth, pubescent; parapsidal furrows deep and narrow anteriorly; broad, shallow and quite indefinite posteriorly. Scutellum sloping posteriorly, with about seven large furrow-like longitudinal striations; anterior depression with umbilicate punctures. Metanotum rugose, pubescent, raised abruptly anteriorly; supero-median areola indicated in front but open behind; baso-lateral areolæ also indicated in front; pleural carina complete; a large shallow median depression posteriorly; metathoracic spiracles linear. Pleuræ shining, with sparse, coarse punctures. Petiole of abdomen apically much wider than high, longitudinally striate; second and third segments striated medially, heavily punctate on sides; the striae of the third segment not reaching the apex; the second segment with large transverse gastrocœli and serrated lateral edges; remaining segments smooth. Abdomen pubescent. Wings with the areolet pentagonal, not quite meeting above; submedian cell longer than median by half the length of the transverse median nerve.

Type: one male (Am. Mus. Nat. Hist.) from Kaieteur, British Guiana, July 21, 1911. Collector, H. E. Crampton.

This species approaches *Microjoppa antennata* (Fabricius) from which it differs in having the basal cell subhyaline, not infuscated, and in the possession of a large and prominent black band on the dorsum of the second abdominal segment. It is distinguished from *M. larvata* Kriechbaumer, which it resembles also, by having the pleuræ entirely flavous, unspotted, a much narrower infuscated band on the apices of the wings and very prominent striations on the scutellum.

Subfamily CRYPTINÆ.

Protocryptus femoratus sp. nov.

♀. Length 13 mm. Wings 11.5 mm. Ovipositor about 4 mm. Antennæ black, with the apical half of the sixth and the following segments to the twelfth, white above. Head and thorax fulvous, almost ferruginous; eyes and ocelli black; apex of femora of hind legs darkened; tibiæ black; first tarsal joint black with the distal half white (other hind tarsal joints missing); apical tarsal joints of fore and middle legs darkened; legs otherwise colored like the thorax. Wings slightly infuscated; darker toward the apex; venation brown-black. Petiole of abdomen ferruginous, darker dorsally; second segment dull black with a ferruginous posterior border; remaining segments black, covered with a short silvery pile. Ovipositor black, its sheaths of the same color, but lighter proximally. Head as seen in front triangular, about twice as wide as thick; face transversely aciculated; clypeus raised into an obtusely pointed process, rugoso-punctate; maxillary palpi with the second joint expanded apically; a deep excavation with raised lateral edges between antennæ and ocelli, and a short keel extending forward from the anterior ocellus; first three joints of flagellum of antennæ subequal, other joints rapidly diminishing in length and becoming quadrate apically; vertex rugose; genæ punctulate. Entire head pubescent; eyes bare. Mesonotum punctulate, without parapsidal furrows and sparsely pubescent. Scutellum raised, bluntly pointed, with strong antero-lateral

ridges; aciculate-punctate; pubescent. Metanotum rugoso-striate with two anterior cross ridges, the first one extending well down on to the metapleura of each side and interrupted medially, the second continuous, but failing to reach the metapleural suture on each side; metathoracic spiracles elongate, slit-like. Mesopleuræ finely punctate-aciculate, pubescent, metapleuræ more coarsely aciculate. Petiole of abdomen smooth, shining, remaining segments punctulate, finely pubescent. Areolet pentagonal, receiving the second recurrent nervure before the middle; nervulus interstitial. Nervellus of hind wing broken at the middle.

Type: one female (Am. Mus. Nat. Hist.) from Kaieteur, British Guiana, August 6, 1911. Collector, F. E. Lutz.

This is the smallest *Protocryptus* yet described and may be separated from the other known species as follows:

Dull black species; large (about 18 mm. in length), with the first two abdominal segments somewhat shining (Peru).....*P. tricoloripes* Schmiedecknecht.

Reddish species.

Large species (20-24 mm. in length); hind femora black. (Peru)

P. grandis Schmiedecknecht.

Smaller species (about 13 mm. in length); hind femora reddish, only slightly darkened distally. (British Guiana).....*P. femoratus* sp. nov.

***Ophionocryptus nigrans* sp. nov. (Fig. 1.)**

♀. Length 12 mm. Wing 9 mm. Ovipositor about 7 mm. Antennæ black, opaque, first three joints of the flagellum above and a post-median annulus, yellowish

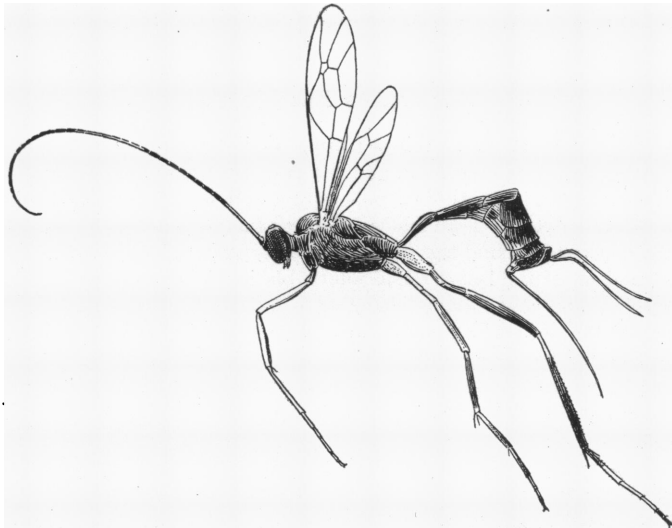


Fig. 1. *Ophionocryptus nigrans* sp. nov., female.

white. Mandibles black; palpi gray. Thorax black, opaque, with a fine silvery pubescence. Abdomen black, a dull yellow band on the anterior margin of the second

segment and another, narrower and somewhat broken medially, on the posterior margin of the same segment; sheath of ovipositor with a yellowish white band covering about its apical $\frac{1}{4}$; fore legs fulvous; coxæ black; last two tarsal joints darkened; middle legs fulvous with the tibiæ darkened above and a dull yellow band at its base; basal $\frac{2}{3}$ of the first tarsal joint yellowish white; remaining joints darkened; hind legs with coxæ and first joint of each trochanter fulvous; second trochanters and femora black; tibiæ black with basal fulvous annuli; almost the proximal half of first and all of the last two tarsal joints black; others yellow-white. Wings subhyaline; venation black. Face and clypeus punctulate and pubescent. Mandibles punctulate almost to the tips, bidentate; vertex and occiput punctulate, very sparsely pubescent; genæ punctulate; antennæ 44-jointed; first joint of flagellum longer than scape and pedicel, proximal joints of flagellum long, becoming much shorter apically. Collar well defined, punctulate; mesonotum punctulate, with weakly indicated, parallel parapsidal grooves. Scutellum elevated, rounded, punctulate with shallow, weakly striate; lateral depressions. Metanotum finely punctate; anterior carina V-shaped, with the apex of the angle touching the anterior mesothoracic suture; posterior carina short, transverse; a faint median rugosity. Pleuræ finely punctate like the metanotum, pubescent; metathoracic spiracles linear. Petiole of abdomen slender not much flanged at apex. Abdomen punctulate and finely pubescent. Areolet pentagonal submedian cell considerably longer at its base than the median; nervellus of hind wings broken below the middle.

Type: one female (Am. Mus. Nat. Hist.) from Tukeit, British Guiana, July 18, 1911. Collector, F. E. Lutz.

One paratype from Kaieteur resembles the type very closely but has the first three and half of the fourth flagellar joints yellowish white above.

Ophionocryptus hastulatus sp. nov.

♀. Length about 11 mm. Wings 8 mm. Ovipositor 3 mm. Antennæ black, the first three joints of the flagellum and the post median annulus yellowish white. Head black, palpi gray. Prothorax, mesonotum and scutellum black, opaque, the rest of the thorax fulvous. Fore and middle legs fulvous, the last two apical joints of their tarsi darkened. Hind legs fulvous with the apical $\frac{2}{3}$ of the tibiæ, the basal $\frac{1}{3}$ of the first, and all of the last 2 tarsal joints, black. Wings subhyaline; venation black. Petiole of abdomen fulvous, changing to dark brown apically; a fulvous band at the base of the second segment; other segments black, shining. Antennæ 43 jointed; metanotum with definite transverse wavy striations. Depth of thorax at middle equal to one-half its length. Otherwise as in *O. nigrans* described above.

Type: one female (Am. Mus. Nat. Hist.) from Chenapowa to Saveritik, British Guiana, August 21, 1911. Collector, H. E. Crampton.

This species bears a close similarity to *Ophionocryptus nigrans*, described above, but is smaller, especially in the length of the ovipositor, has a different sculpturing on the mesonotum, and exhibits a different style of coloration.

The following key will separate these two from the other known species:

Key to the species of Ophionocryptus.

1. Head, thorax and abdomen black. 2.
- Head, thorax and abdomen black, marked with reddish. 3.
2. Large species (18 mm. or over in length). Black, with the first joint of the flagellum white above; a broad white annulus on the flagellum; hind tarsi and the tip of the ovipositor sheath white, wings evenly infuscated (lighter than in *O. bicolor* Schmiedeknecht); males with the outer surface of the fore tibiæ and the fore tarsi in part whitish. (Brazil; Peru.)

O. luctuosus Schmiedeknecht.

Small species (length about 12 mm.). Black, with the first three segments of the flagellum white above; fore and middle legs fulvous; hind legs with femora, tibiæ, except the basal two-thirds which are fulvous, black; tarsi yellowish white, the proximal half of the first tarsal joints and all of the last two black; ovipositor nearly as long as the abdomen. (British Guiana.) *O. nigrans* sp. nov.

3. Large species (18 mm. or over in length). 4.

Small species (length about 11 mm.). Red; head, prothorax and abdomen beyond the petiole black; fore and middle legs fulvous, the last two joints of their tarsi darkened; hind legs fulvous with the apical two-thirds of the tibiæ, the basal two-thirds of the first, and all of the last two tarsal joints, black; ovipositor about one-fourth the length of the body. (British Guiana.) *O. hastulatus* sp. nov.

4. Black; face, thorax and legs red; basal joints of the flagellum streaked with white above; flagellum with a wide white annulus; femora, tibiæ, first and two apical tarsal joints of the hind legs, black; second and third tarsal joints white; middle tibiæ and tarsi somewhat browned; wings uniformly infuscated; stigma and venation dark brown; last abdominal segment on its distal border above with triangular white spots. The ♂ agrees with the ♀ in color. Length 18–22 mm. (South America.) *O. bicolor* Schmiedeknecht.

Red, only the head black. Scape brown, the following segments up to the sixth, yellow, segments 7 to 11 black, 12 to 22 yellow; the remaining segments black; wings tinged with yellowish; stigma and venation blackish; middle joints of the hind tarsi and tip of ovipositor yellowish. Length 18–20 mm. (Brazil.) *O. rufus* Schmiedeknecht.

Crypturopsis dilaticornis sp. nov.

♀. Length 17 mm. Wing 13 mm. Antennæ, head and thorax dull black, the antennæ with a submedian, incomplete, whitish annulus on joints 7 to 11. Fore and middle legs, including their coxæ and trochanters, fulvous; apical joints of tarsi darkened; hind femora and tibiæ black, opaque, their coxæ and trochanters fulvous; the first hind tarsal joint black on the basal third, yellowish white beyond; the next three joints yellowish white; the apical joint black. Abdomen fulvous, ovipositor fuscous, sheath black. Wings subhyaline. Head slightly wider than the thorax, three times as wide as thick; clypeus pubescent; face with a slight eminence which is polished medially, coarsely rugose and pubescent on the sides above, and punctulate below. Mandibles fulvous at the base, pubescent, with black tips; genæ punctulate, pubescent; palpi fulvous. Antennæ 36-jointed, scape and pedicel shorter than first joint of flagellum, the two succeeding joints subequal; beyond the

yellowish white annulus the joints become dilated and flattened in front, convex behind (fig. 2), finally tapering to a small size at the apex of the flagellum. Mesonotum anteriorly finely punctate on sides and medially, with a rugoso-aciculate area medially. Scutellum raised, knob-like, its lateral basal depressions with broad punctures. Metathorax reticulate-rugose, but slightly depressed medio-posteriorly; basal carina definite on sides but obscured medially; metathoracic spiracles oblong-ovate; spines acutely pointed. Mesopleuræ finely punctulate, smooth above, with a horizontal impression at middle; just before the hind margin with a series of deep depressions separated by fine raised lines; metapleuræ irregularly striate, the striæ converging toward the middle coxa. Thorax twice as long as wide when seen from above. Petiole of abdomen slender, wider than high and flanging apically; all the abdominal segments smooth, shining; ovipositor as long as abdomen, exclusive of the petiole.

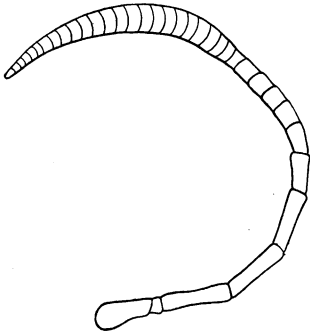


Fig. 2. *Crypturopsis dilaticornis* sp. nov., antenna of female.

Areolet very small, open behind; median and submedian cells of equal length on the externo-median nervure; disco-cubital vein broken slightly at the middle; transverse median vein in hind wing broken at its lower sixth.

Type: one female (Am. Mus. Nat. Hist.) from Tumatumari, British Guiana, July 12, 1911. Collector, H. E. Crampton.

***Crypturopsis grandis* sp. nov.**

♀. Length 15 mm. Wing 12–13 mm. Head and thorax including the antennæ, which have an incomplete whitish annulus near the middle, black, opaque, very sparsely pubescent; fore and middle legs, including their coxæ, and trochanters, fulvous, somewhat darkened toward the tips of the tarsi; hind legs black, opaque, their coxæ, and trochanters fulvous; abdomen dull black, except the proximal dorsal part of the petiole, which is fulvous; wings uniformly and slightly infuscated; venation black. Faint yellowish-white markings are distributed as follows: inner orbits below the ocelli interrupted at the insertion of the antennæ, a spot covering the labrum and clypeus; a small spot at base of mandibles and an adjacent one on each cheek; collar white; a triangular spot on the scutellum and one covering each metathoracic spine; tegulæ with a whitish stripe at the middle. Head broader than thorax, three times as broad as thick; eyes not emarginate; face irregularly rugose, with a slightly raised prominence just below the antennæ; vertex punctate; genæ and clypeus punctulate. Antennæ 33-jointed; flagellum swollen toward the distal third; scape and pedicel shorter than the succeeding three joints, the former swollen; joints of distal half of flagellum becoming quadrate. Mesonotum closely punctulate, opaque; parapsidal grooves absent, their position occupied by a number of longitudinal striæ. Scutellum raised, conical and finely punctulate, its basal depressions crenulate. Metathorax irregularly aciculate, depressed medially, with a basal carina which curves forward almost to the anterior metathoracic suture; metathoracic spiracles oval; spines obtuse. Mesopleuræ obliquely, microscopically aciculated;

metapleuræ coarsely aciculated. Thorax seen from above hardly more than twice as long as wide. Petiole of abdomen wider than high; apex scarcely flanged; the following two segments longer than the terminal five; ovipositor three-fourths the length of the abdomen. Areolet open behind, small; submedian cell slightly longer than the median; disco-cubital vein angularly bent well above the middle; transverse median vein in the hind wing broken beyond its lower fourth.

Type: one female (Am. Mus. Nat. Hist.) from Kaieteur, British Guiana, August 14, 1911. Collector, F. E. Lutz.

One paratype from the same locality, August 4, 1911, agrees essentially with the type specimen. Collector, F. E. Lutz.

Key to the described species of Crypturopsis.

1. Thorax distinctly spotted on the sides (small species hardly exceeding 11 mm. in length) 2.
Thorax on sides immaculate (large species, 15 mm. or more in length) 3.
2. Head and thorax with rufous markings 4.
Head and thorax with white or very light yellow markings 5.
3. Abdomen black; hind legs beyond the trochanters black. (British Guiana).
C. grandis sp. nov.
Abdomen fulvous; femora and tibiæ black; tarsi white except for a black basal annulus and the black apical joint. (British Guiana.)
C. dilaticornis sp. nov.
4. Legs rufous; hind tibiæ except at base, and their tarsi, black; tibial spurs red, wings hyaline. (Texas.) *C. texanus* Ashmead.
Legs ferruginous except the hind pair which are black beyond the trochanter; abdomen banded with fulvous; wings infuscated at the tip. (Brazil)
C. minor Brues.
5. Coxæ white with black markings; second joint of hind trochanters, tips of hind femora and apical two-thirds of their tibiæ, black; their tarsi white, except extreme base of first joint and more or less of the last joint, which are black. (Michigan) *C. albomaculatus* Ashmead.
Anterior coxæ and trochanters white, hind tibiæ, except at base, their spurs and tarsi, entirely black, their femora not tipped with black. (North America.)
C. dyari Ashmead.
Anterior and middle coxæ yellow-white, marked with fulvous; hind legs beyond the first joint of the trochanters entirely ferruginous, tip of petiole darkened; small black stigmal spots on segments 2-6. (Brazil.)
C. brasiliensis Brues.

***Neomesostenus caieteurensis* sp. nov.**

♀. Length 11 mm. Black; palpi, small median spot beneath antennæ, annulus on antennæ above, metathoracic spines, median third of seventh abdominal segment, and hind tarsi from tip of first joint, white; tip of anterior coxæ, their trochanters, line on their femora and tibiæ, apical margin of second abdominal segment and spot at posterior angle of second segment, brownish yellow; four hind coxæ and

their trochanters ferruginous. Wings yellowish hyaline. Head behind nearly smooth, face microscopically punctulate laterally, the median third densely punctulate; front opaque. Palpi short, slender. Antennæ, 30-jointed, as long as the body; first four joints of flagellum very long, the following rapidly growing shorter, those near the apex shorter than broad. Mesonotum opaque, but not punctate, the parapsidal furrows distinct, but finely impressed; scutellum very closely and finely punctate. Metathorax finely rugoso-punctate; basal transverse carina complete; apical one wanting, but the spines are well-developed and slender; basal lateral areola complete, enclosing the broadly oval spiracle; pleural carina present though weak. Propleura nearly smooth below, aciculate at the middle and finely roughened above; mesopleura finely roughened below and anteriorly; behind with a smooth space along the margin and before the upper half this space with some short horizontal striations. Metapleura microscopically rugulose. Abdominal petiole smooth, moderately shining, the surface subshining and smooth; spiracular teeth well-developed, one-half further from the posterior angles than the width of petiole at apex; with a post spiracular carina extending to the tip of the petiole; behind the spiracles with a shallow, elongate median depression. Second and third segments subopaque, the following ones becoming sub-shining. Ovipositor extending beyond the tip of the abdomen for two-thirds the length of the latter. All legs long and slender. Wings yellowish-hyaline; costa and stigma black, veins dark fuscous; areolet small, open apically; median and submedian cells of equal length; cubito-discal vein with a slight swelling or stump just below the middle, but not distinctly angulated; subdiscal nervure in anterior wing broken somewhat above the middle; submedian vein in hind wing, broken distinctly below the middle.

Type: one female (Am. Mus. Nat. Hist.) from Kaieteur, British Guiana, Aug. 10, 1911. Collector, F. E. Lutz.

***Neomesostenus gracilipes* sp. nov. (Fig. 3.)**

♀. Length 12 mm. Thorax, most of legs and abdominal petiole fulvous; head and remainder of abdomen black, except for apical white bands on the segments; wings hyaline. Head much broader than the thorax, twice as broad as thick, subshining above on the vertex and occiput, the face dull and minutely punctulate. Face rather flat, the clypeus strongly protuberant, its lateral foveæ elongated, oblique and prolonged upward to the lower part of the face. Inner orbits white just above the antennæ and again very narrowly so opposite the ocelli; clypeus, except for a round black portion above, mandibles, except tips, and palpi yellowish white. Antennæ black, with the first joint rufous below and with an incomplete white annulus extending from the middle of the fourth flagellar joint to the middle of the tenth joint; first flagellar joint much elongated, equal to the eye-height, second shorter, third two-thirds as long as the first; white joints about three times as long as thick; antennæ beyond the annulus distinctly thickened, the joints but little longer than wide. Mesonotum finely roughened, sub-opaque, the parapsidal furrows fine, but quite deeply impressed. Scutellum finely margined laterally on its basal half, with a crenulated furrow across the base. Metanotum long, slightly sloping and gently arcuate when seen from the side; minutely roughened on its anterior half, beyond this regularly transversely aciculate; with a complete straight transverse carina that is only slightly raised above the aciculations which begin at this point; no metathoracic spines; spiracle small, round. Pleuræ sub-opaque, the mesopleura

with a small foveate impression behind near the middle; its posterior margin raised and preceded by a fine crenulate furrow; metapleura without aciculations. Petiole of abdomen very slender, gradually expanded behind and evenly arcuate when seen in profile; its spiracles scarcely tuberculate and situated but little behind the middle; second segment the longest, one half longer than wide at tip; third segment quad-

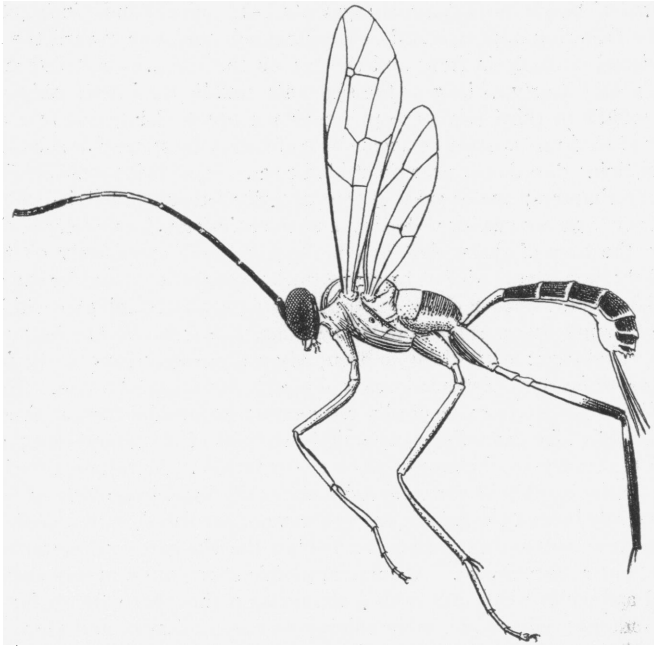


Fig. 3. *Neomesostenus gracilipes* sp. nov., female.

rate; fourth one-half wider than long; following shortening rapidly and narrowing beyond the base of the fifth. Petiole fulvous or dull ferruginous, following segments black, with white apical bands widened medially and produced triangularly forward on the seventh segment; lateral margins and venter also white; ovipositor two thirds as long as the abdomen. Legs very long and slender, fulvous, with the second trochanter and basal half of the femora of the hind legs ferruginous; remainder of hind femora black; their tibiae black, with a narrow pale yellow annulus near the base. Spurs of four posterior tibiae black. Fore tibiae much swollen except at the extreme base which is very strongly contracted and the apex which is slightly so. Wings hyaline, with a yellowish tinge; submedian cell as long as the median; cubito-discoial vein broken at its middle by a short stump of a vein. Areolet completely closed, of characteristic shape, but rather large for the genus; subdiscoial vein broken above the middle. Transverse median vein in hind wing broken well below the middle.

Type: one female (Am. Mus. Nat. Hist.) from Kaieteur, British Guiana, August 14, 1911. Collector, F. E. Lutz.

Neomesostenus tuheitensis sp. nov.

♀. Length 10 mm. Head, antennæ, abdomen and legs black, varied with white; thorax rufo-ferruginous; wings subhyaline. The white markings are as follows: upper and inner orbits to middle of face; clypeus; mandibles, except tips; incomplete annulus on upper side of antennal joints 6-13; metathoracic spines; complete apical bands on abdominal segments 1-2; apical bands, incomplete laterally, on the following segments and becoming much narrower toward the apex, the fourth widened medially in front and the one on the seventh produced medially in front into a spot nearly as long as the segment; middle tarsi from middle of metatarsus to middle of third joint, except for brown tips to joints one and two; first four joints of hind tarsus except extreme base of metatarsus; narrow sub-basal annulus on hind tibia; dorsal spot near tip of hind coxæ. In addition most of the anterior coxæ and trochanters; under sides of four anterior femora and tibiæ and apices of four posterior coxæ are pale or yellowish, and the rufo-ferruginous color of the thorax extends to the base of the middle and hind coxæ, more extensively on the latter. Head slightly more than twice as broad as thick; vertex finely and irregularly rugulose-aciculate below, smooth above, occiput impunctate, subshining; ocelli in a small equilateral triangle, twice as far from the eye margin as from one another; face finely irregularly roughened: clypeal foveæ deep; clypeus strongly convex, the face somewhat excavated for some distance on each side above the clypeal foveæ. Mesonotum and scutellum opaque, microscopically roughened; parapsidal furrows fine, but distinct, the middle lobe extending considerably in front of the lateral ones; scutellum at base with a transverse, longitudinally striated furrow. Metathorax finely rugoso-striate, the striæ tending to run longitudinally at the base, irregularly at the middle and transversely behind the spines; metathorax not areolated, with a single complete basal transverse carina that passes just behind the elongate-oval spiracles; spines prominent, but rather obtuse. Abdominal petiole stout, quite evenly curved, without lateral spiracular teeth, but with a spiracular carina that extends for its entire length. Abdomen subopaque, more shining at base and apex and more distinctly opaque on the second segment. Ovipositor extending beyond the apex of the abdomen for one-third the length of the latter. Legs long and rather slender. Wings with the stigma and the anterior and basal venation black, other veins fuscous; areolet, small, open apically; cubito-discoidal vein evenly curved, without swelling or stump of vein; submedian cell considerably shorter than the median; subdiscoidal vein broken well above the middle; submedian vein in hind wing broken at its lower third.

Type; one female (Am. Mus. Nat. Hist.) from Tuheit, British Guiana, July 19, 1911. Collector, F. E. Lutz.

These three species of *Neomesostenus* are very distinct, differing in color and in the sculpturing of the metathorax. In *N. caieteurensis* the thorax is black, in *N. tuheitensis* it is rufo-ferruginous and the hind coxæ each bear a single white spot, while in *N. gracilipes* the thorax and legs for the most part are fulvous. The metathorax in *caieteurensis* is rugoso-punctate while in *tuheitensis* it is rugoso-striate, in *N. gracilipes* it is minutely roughened anteriorly, transversely aciculated posteriorly.

Parophionellus nom. nov.

Pharsalia CRESSON, Trans. Am. Ent. Soc., Vol. 4, 1872, p. 177, *nec* Thoms. 1864 (Coleoptera).

Mr. Nathan Banks has called our attention to the fact that the genus *Pharsalia* Cress. is a homonym of *Pharsalia* Thoms.,¹ and at his suggestion a substitute for Cresson's name is here proposed. This change is expedient since one of us (Brues)² has recently shown that *Ophionellus* Westw. and *Pharsalia* Cresson are generically distinct.

Subfamily PIMPLINÆ.

Epimeces neotropica sp. nov.

♀. Length 13-14 mm. Wing 11 mm. Ovipositor 5.5 mm. Bright pale ferruginous, the head, antennæ, hind legs and apex of abdomen black; wings yellowish hyaline bifasciate with fuscous; median fascia of forewing occupying the area between the nervellus and the junction of the radius with the stigma; only a median fascia on the hind wings. Head seen from above scarcely wider than thick, strongly narrowed behind to less than half its width at the eyes. Front, vertex and occiput smooth and shining; ocelli large, the lateral ones removed from the eye by more than their diameter; face smooth and shining, depressed but bearing a broad median convex raised portion; clypeus semicircular, testaceous along margin; palpi pale yellow, slender. Antennæ slender, tapering, somewhat shorter than the body, with about 39 joints, the first flagellar joint as long as the eye-height, second joint two-thirds as long, the following becoming shorter till those at the middle of the flagellum are but little more than twice as long as thick; malar space very short, but the cheeks descend much lower and have a widely reflexed margin behind which extends upwards over the occiput; mandibles with three teeth, pale at middle. Prothorax smooth and shining, black anteriorly, shading into the general color of the thorax at the middle; produced forward into a narrow neck. Mesonotum shining, impunctate, the middle lobe much produced anteriorly; parapsidal furrows fine, and not very distinct behind. Scutellum raised, smooth, shining, without lateral ridges; depression in front of scutellum smooth. Metanotum and pleuræ smooth, shining, the latter clothed with long, yellowish hair. Metathoracic spiracles oval, slightly longer than wide. Claws of fore and middle legs toothed; (apical joints of hind tarsi missing). Petiole of abdomen equal in length to the second segment, its width at base about one-half that at the apex; spiracles of petiole situated nearer the base than the apex. Second and third segments of abdomen subequal, longer than wide; segments 2-5 with a swollen area antero-laterally. Abdomen smooth, pubescent; sheaths of ovipositor pubescent. Radial vein entering the stigma at about the middle; nervulus interstitial; discocubital vein with a stump near the middle. Nervellus of hind wing broken below the middle.

Type: one female (Am. Mus. Nat. Hist.) from Tukeit British Guiana, July 26, 1911. Collector, F. E. Lutz.

¹ System. Ceramb., 86, 1864.

² Ann. Ent. Soc. Am., Vol. 5, 1912, p. 202.

This species appears to be quite close to *E. heteropus* Kriechbaumer, but has the black area of the abdomen much more restricted and is somewhat larger in size.

There seems to be some confusion in regard to certain characters in the genus *Epimeces*. Schmiedecknecht¹ states that the claws in *Epimeces* are simple, but Brullé² describes them as being provided with a large projection at the base as in *Ephialtes*. In the specimen of *E. neotropica* sp. nov., described above, the claws on the fore and middle legs are distinctly toothed. The apical tarsal joints of the hind legs are missing.

Ashmead,³ in his key to the genera of Pimplini makes the statement that the second abdominal segment of the female is transverse or quadrate, seldom a little longer than wide. In *E. neotropica*, as described above, it as well as the third segment, is distinctly longer than wide.

It may be well, at this time to make some remarks concerning the tarsal claws in the genus *Xanthepihialtes* Cameron,⁴ which is closely related to *Epimeces*, but, however, has the areolet present and the cubito-discoidal vein simple. In this genus they are evidently toothed as Cameron mentions this in his diagnosis and the type species, *Ephialtes oculatus* Brullé is described by Brullé as having toothed claws. Tosquinet⁵ in redescribing Brullé's species says that the tarsal claws are simple, bent and hardly or little lobed at the base. There may be some question whether he had the same species before him.

Subfamily OPHIONINÆ.

Enicospilus fuscipennis Szépligeti.

A single female specimen taken at Tumatumari, British Guiana on August 18, 1911 agrees very well with Hooker's description⁶ except that in this individual the discocubital cell possesses only a single large macula. The wings are very slightly infuscated and the stigma is of a pale fuscous color, which are known variations within this species.

Enicospilus fernaldi Hooker.

We have one specimen, a female, which agrees very closely with the description of this species.⁷ It has the first two segments of the abdomen

¹ Genera Insectorum, fascicle 62, 1907, p. 53.

² Hist. Nat. Ins. Hymenopteres, Vol. IV, 1846, p. 112.

³ Proc. U. S. Nat. Mus., Vol. 23, 1900, p. 54.

⁴ Annals So. African Mus., Vol. V, 1906, p. 118.

⁵ Mem. Soc. Ent. Belgique, Vol. 5, 1896, p. 278.

⁶ The Ichneumon flies of America belonging to the tribe Ophionini. Trans. Am. Ent. Soc., XXXVIII, Nos. 1-2, 1912, p. 59.

⁷ Loc. cit., p. 63.

fulvous, the remaining ones dark fuscous becoming almost black toward the tip, while the types are said to have the first four segments fulvous, the remaining ones black. The maculæ are, in shape and position, like those of the types.

The types of this species came from the San Francisco Mountains, Santo Domingo. Our specimen is from Tumatumari, British Guiana, August 18, 1911.

***Athyreodon cyaneiventris* sp. nov. (Fig. 4.)**

♂. Length 25 mm. Wings 22 mm. Antennæ 18 mm. Fulvous; antennæ fulvous, flagellum darker basally; wings flavous, the apex fuscous; hind legs and entire abdomen black, the latter with a bluish refulgence. Head and thorax

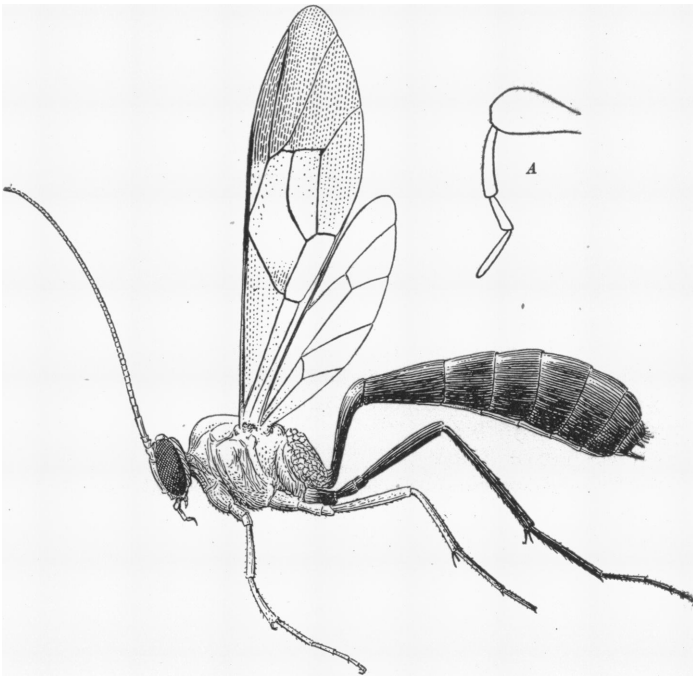


Fig. 4. *Athyreodon cyaneiventris* sp. nov., male. A, maxillary palpus.

fulvous, pubescent; face, clypeus and mandibles of a deeper reddish color; face densely and finely punctured, clypeus more sparsely so; eyes emarginate; ocelli very large, in an equilateral triangle, separated from each other by two-thirds their own diameter and occupying completely the vertex and almost all of the occipital region; antennæ 56-jointed, fulvous, darker on the basal half of flagellum and of a deeper color throughout than the thorax; first joint of flagellum as long as the scape

and pedicel together, following joints gradually decreasing in length and becoming quadrate near the middle of the flagellum; head behind and cheeks finely punctulate; first joint of maxillary palpi, subtriangular thickened (Fig. 4a). Mesonotum punctulate, shining, with a distinct raised median line extending its entire length; parapsidal furrows prominent, converging slightly behind; scutellum raised, oval, polished, basal depression with several raised longitudinal lines; metathorax opaque, distinctly reticulated laterally, less so near median line; pleuræ punctulate, shining, like the mesonotum; fore and middle legs fulvous like the thorax; hind legs including almost all of the coxæ, black; abdomen elongate, strongly compressed, shining black with a bluish lustre; wings flavous with an apical fuscous spot 8 mm. wide, extending basally to second section of the radial vein; a small fuscous spot near basal vein in the discoidal cell; submedian, discoidal and cubito-discoidal cells except the base of the latter, hyaline; discocubital vein arcuate; nervulus interstitial; nervellus broken above the middle; first recurrent vein one-half the length of the second.

Type: one male (Am. Mus. Nat. Hist.) from Tumatumari, British Guiana, August 31, 1911. Collector, H. E. Crampton.

This species is quite distinct from any of the hitherto recognized forms. It is readily distinguished by the swollen first palpal joint which apparently is not so modified in any of the other described species.

The following table remodeled from Hooker's recent key will aid in placing this new addition to the South American fauna.

- | | |
|---|----------------------------------|
| Abdomen black, with a cyaneous reflection | 2. |
| Abdomen not black | 5. |
| 2. Flagellum of antennæ black | 3. |
| Flagellum of antennæ fulvous. (British Guiana.) | <i>A. cyaneiventris</i> sp. nov. |
| 3. Legs and mesonotum entirely black. (Brazil.) | <i>A. fenestratus</i> (Tasch). |
| Legs and mesonotum not entirely black, four anterior legs more or less flavous. | 4. |
| 4. Wings with apical fuliginous bands in both. (Peru.) | <i>A. apicalis</i> (Szépl.). |
| Wings with apical fuliginous bands; radial and median cells more or less black. (Mexico to Southern Brazil) | <i>A. atriventris</i> (Cress). |
| 5. Apex of wings fuscous (Cuba) | <i>A. fulvescens</i> (Cress). |
| Part of radial and marginal cells and stripes along basal vein black. (Santo Domingo) | <i>A. armstrongi</i> Hooker. |

Family BRACONIDÆ.

Subfamily SPATHINÆ.

Spathius maculiceps sp. nov.

♀. Length 11 mm. Black, with a brownish white spot on each side of the head just above the insertion of the mandible and a broad whitish yellow subapical annulus on the sheaths of the ovipositor. Head, thorax and legs and especially the pleuræ with sparse, stiff grayish pubescence. Antennæ as long as the body, very slender, setaceous. Head almost as long as broad, the temples rounded behind the prominent eyes. Front and vertex strongly transversely striate, but smooth and shining behind the occipital margin. Ocelli forming a very small triangle. Face

convex, rather finely punctate, with delicate transverse striæ intermixed, especially below on the sides; just below the antennæ with a small, nearly smooth space. Cheeks and temples smooth, impunctate. Palpi yellowish white, very slender, the maxillary pair reaching as far as the middle coxæ. Pronotum with a reflexed margin before and behind; its surface coarsely rugose; the anterior angles produced into small, but sharp teeth. Mesonotum depressed medially and on the sides anteriorly at the position of the parapsidal furrows; these depressions are rugose except the anterior part of the median one, and toward the scutellum a few longitudinal striæ fill the depression. Remainder of mesonotum transversely aciculate. Tegulæ shining black. Scutellum finely punctulate, with a series of four large foveæ across the base. Metathorax rugoso-reticulate, more coarsely so behind, and smooth at the extreme base; not areolated, but with a complete median carina, stronger basally, and a much finer lateral and pleural carina. Propleuræ with a deep oblique impression extending from the pronotum to the mesopleural line; below this with fine aciculations perpendicular to the impression. Mesopleuræ with some coarse striæ above, punctulate below; pectus smooth impunctate. Metapleuræ rugose reticulate. Abdomen one-half longer than the head and thorax combined, gradually broadening to the tip of the third segment, and more sharply narrowed beyond the fourth segment. First four segments longitudinally aciculate, the basal half of the first more or less rugose and the fourth much more finely aciculate than the third; fifth and sixth segments microscopically shagreened on the basal half, their apical portions and the following segments, smooth and polished. First segment as long as the thorax, four times as long as broad at tip, its spiracles not prominent, placed at the basal third; second segment two-thirds as long as the first, twice as long as broad; third segment as long on the sides as broad at apex, the posterior margin deeply arcuately emarginate so that the hind angles are produced backward; fourth segment a little shorter, but of similar shape. Ovipositor not perceptibly shorter than the body. Legs entirely black, polished except on the tarsi, and clothed with stiff grayish hairs; hind coxæ coarsely transversely striate externally. Wings distinctly infuscated, the stigma and nervures black. Submedian cell slightly longer than the median; recurrent nervure interstitial with the first transverse cubitus; first section of the radius half as long as the second which is as long as the first transverse cubitus and nearly twice as long as the second transverse cubitus.

Type: one female (Am. Mus. Nat. Hist.) from Tukeit, British Guiana, July 16, 1911. Collector, H. E. Crampton.

This species is readily recognizable by its uniformly black body, with the pale spots on the lower portion of the head.

Subfamily MICROGASTERINÆ.

Promicrogaster gen. nov.

Head small, transverse, much elongated below. Malar space two-thirds as long as the eye, with a distinct line. Mandibles when closed not approaching the clypeus, but leaving a space similar to that in certain cyclostomes. Maxillary palpi 5-; labial palpi 3-jointed. Labium exerted as long as the malar space. Mandibles long, edentate. Clypeus not separated from the face. Antennæ 18-jointed. Mesonotum without parapsidal furrows. Mesopleuræ with a smooth impressed space.

Metanotum very short. Abdomen as long as the thorax; ovipositor barely shorter than the entire body, its sheaths extremely narrow and finely pubescent. Anterior legs very small; middle legs of normal size; hind legs enormously enlarged, their coxæ two-thirds as long as the abdomen; spine on hind tibiæ half the length of the first tarsal joint. Wing with the two cubital cells present, closed, but so small as to be scarcely noticeable at first sight. Marginal cell indicated by a complete nervure showing as a fuscous streak, but not thickened like the other veins. Submedian cell longer than the median by almost the width of the stigma.

Type *P. terebrator* sp. nov.

This is a unique genus having undoubted relations with both the Microgasterinæ and the Agathidinæ. It resembles the latter in the elongate mouth parts and long ovipositor, but evidently belongs in the former subfamily because of its general habitus and venation.

Promicrogaster terebrator sp. nov. (Fig. 5.)

♀. Length, 6.5 mm. Wings, 7 mm.; ovipositor about 6 mm. Head including antennæ and all of the thorax black, covered with a silvery pile except for the depres-

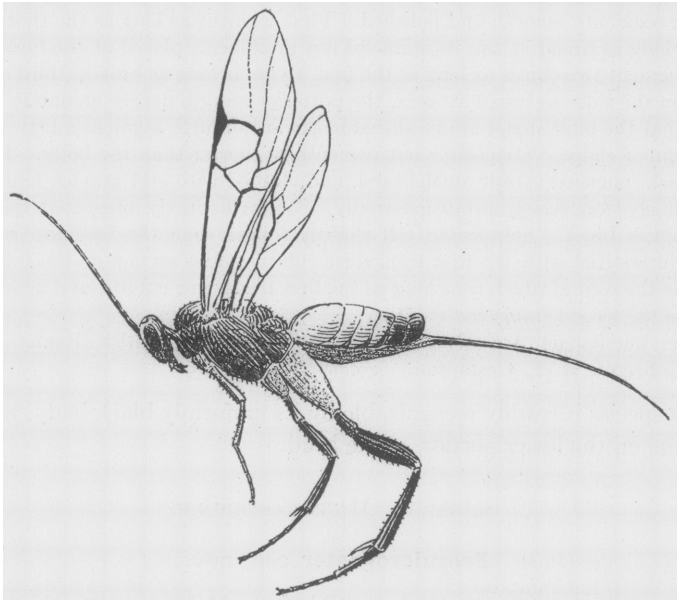


Fig. 5. *Promicrogaster terebrator* sp. nov., female.

sion on each mesopleura which is smooth, shining. Palpi flavous. Fore legs flavous, the apical tarsal joints darkened. Middle legs with coxæ and first trochanter joint fulvous; second trochanter joint and femora brown-black, tibiæ flavous, spines whit-

ish, tarsi flavous, darkened slightly toward the apex; hind legs with coxæ and first trochanter joint fulvous, remaining joints black, tibial spines whitish. All the legs are pubescent. Wings hyaline; tegulæ and extreme base of wings flavous; otherwise the venation is piceous. Abdomen fulvous, shining, except the apical three joints, which are blackened; ovipositor sheath black. The abdomen is only weakly pubescent. Face long, convex; eyes not emarginate; antennæ scarcely tapering, joints of flagellum subequal; scape small, only about one-third the length of the pedicel, which is somewhat swollen and larger than the succeeding joints; entire head punctulate. Collar greatly constricted. Mesonotum without parapsidal furrows, rounded, about as broad as long; punctulate. Scutellum low, flatly convex and triangular in shape. Metanotum short, about half the length of the mesonotum, with a median longitudinal carina; punctulate. Metathoracic spiracles oval, about twice as long as wide. Mesopleuræ punctulate in front; above with a large median oblique depression which is smooth. Hind legs enormously developed, much longer and more bulky than the other two pairs. Submarginal cell longer on its base than the marginal; cubital and discoidal cells subequal.

Type: one female (Am. Mus. Nat. Hist.) from Chenopowu, British Guiana, July 31, 1911. Collector, H. E. Crampton.

Subfamily AGATHIDINÆ.

***Disophrys cramptoni* sp. nov.**

♀. Length 9.5. mm. Wings 9 mm. Head black, except clypeus, labrum, palpi and genæ which are fulvous; antennæ dark brown. Thorax fulvous; fore and middle legs fulvous; coxæ and trochanters of hind legs fulvous, their femora darkened apically, their tibiæ and tarsi black. Abdomen fulvous, darkened apically; sheaths of ovipositor black. Fore wings yellowish hyaline, with a fuscous band extending across from the stigma, and a wider apical infuscated area; hind wings with similarly placed but weaker markings. Head as seen in front triangular, wider than thick, clypeal foveæ deep, about the size of the ocelli; fossæ above the antennæ reaching to the ocelli; entire head punctulate, pubescent. Antennæ 43-jointed, slightly longer than body; pubescent; mesonotum punctulate, with distinct parapsidal furrows. Middle lobe of mesonotum with two shallow furrows. Scutellum flatly convex punctulate, with a depression in front crossed by two cross furrows. Metanotum with definite areolæ; 4 areolæ in front, the median one small and closed anteriorly, three behind; metathoracic spiracles linear, about three times as long as wide. Mesopleuræ sparsely punctulate, with a wide shallow furrow. Entire thorax sparsely covered with yellow hair. Abdomen smooth, sparsely pubescent. Radial cell long and narrow, its width about one fourth less than the greatest width of the stigma; areolet about the width of the stigma; cubital vein reaching the apical margin of the wing.

Type: one female (Am. Mus. Nat. Hist.) from Tumatumari, British Guiana. Collector, H. E. Crampton.

This species may be readily separated from *Disophrys pilipes* Cameron from British Guiana, by its dark brown instead of black antennæ and the absence of black on the clypeus, mesopleuræ mesosternum and the middle legs.

Subfamily MACROCENTRINÆ.

***Zele melanotus* Cameron.**

A female from Tumatumari, August 18, 1911, agrees very well with this recently described species.¹ The original description reads, "head yellow, the orbits paler in tint." The present specimen has dark brown orbits distinctly darker than the head. The length is about 9 mm.; wings 10 mm.

Subfamily OPIINÆ.

***Opius levinotum* sp. nov.**

♀. Length 5.5 mm. Wings 6.5 mm. Ovipositor 1.5 mm. Head, thorax and abdomen pale fulvous, almost flavous; antennæ black with a pale fulvous annulus near the tip, occupying 13 joints; eyes dark; mandibles tipped with black. Fore and middle legs pale fulvous with tip of apical tarsal joints darkened; hind legs pale fulvous, except tibiæ and tarsi, which are piceous; sheaths of ovipositor black. Wings uniformly infuscated; venation piceous. Opening above mandibles half the width of the mandibles at base. Mandibles not toothed. Clypeal sutures distinct; a clypeal fovea at either side. Antennæ 54-jointed; scape and pedicel about equal to the first two joints of the flagellum; flagellum tapering to a point, the joints gradually diminishing in size, longitudinally striated and heavily pubescent. Entire head sparsely punctulate, shining, pubescent. Mesonotum without parapsidal furrows; sparsely pubescent, shining. Scutellum flatly convex, with a crenulate depression in front. Metanotum very hairy, with a prominent median longitudinal carina; metathoracic spiracles round. Pleuræ pubescent. First section of the radius entering the stigma slightly in front of the middle, radial cell large, extending to the tip of the wing; submedian cell longer on its base than the median. Abdomen pubescent, shining; petiole short and broad, with two dorsal carinæ converging and disappearing posteriorly; other abdominal segments not distinctly marked off from each other; sheath of ovipositor covered with sparse long hairs.

Type: one female (Am. Mus. Nat. Hist.) from Kaieteur, British Guiana, August 14, 1911. Collector, F. E. Lutz.

This species appears to be very distinct from any heretofore described from South or Central America. The following key will aid in its recognition:

Key to the known Species of Opius inhabiting South and Central America.

- | | |
|--------------------------------------|------------------------------|
| 1. Yellow-red species..... | 2. |
| Black species, marked with reddish. | |
| Body punctate, opaque. (Brazil)..... | <i>O. paraënsis</i> Spinola. |

¹ Timehri; Journal Royal Agric. and Commercial Society of British Guiana, Vol. I (3rd series), No. 3, 1911, p. 317.

Body smooth, shining (small; length about 1 mm.)

Mesopleuræ with a furrow; antennæ much longer than body, rufo-testaceus at base. (Nicaragua.) *O. iridipennis* Cameron.

Mesopleuræ without a furrow; antennæ stouter, not rufo-testaceus at base; 1st transverse cubital nervure curved. (Nicaragua.)

O. forticornis Cameron.

2. Wings hyaline. 3.

Wings infuscated or suffused with brown.

Flagellum of antennæ black with a lighter colored annulus.

Parapsidal furrows distinct; metanotum keeled. (Brazil).

O. brasiliensis Szépligeti.

Parapsidal furrows wanting; metanotum keeled. (British Guiana.)

O. levinotum sp. nov.

Flagellum of antennæ black without an annulus;

Metanotum areolated; parapsidal furrows distinct. (Brazil)

O. areolatus Szépligeti.

Metanotum transversely striated; antennæ not longer than the body. (Argentina.) *O. obscuripennis* Schrottky.

Metanotum weakly keeled medially; antennæ distinctly longer than body; parapsidal furrows obscure. (Mexico.)

O. mexicanus Cameron.

3. Antennæ black, stigma of wings present. 4.

Antennæ testaceous, stigma of wings wanting. (Chili.)

O. choristigma Spinola.

4. Entire body including legs testaceous.

Without spots on the mesothorax. (Chili.) *O. affinis* Spinola.

With three elongate black spots on the mesothorax. (Chili.)

O. trimaculatus Spinola.

