

DESCRIPTIONS OF NEW SPECIES OF NEOTROPICAL HYMENOPTERA.

BY P. CAMERON.

SPHEGIDÆ.

Trypoxylon nigrispinis sp. nov.

Black, except for an obscure white spot on the base of the hind tibiæ; the face and clypeus thickly covered with silvery pubescence; the wings hyaline, very iridescent, the nervures and stigma black. ♀. Length 5 mm.

Front and vertex opaque, minutely, closely punctured, the former with an obscure furrow below the ocelli; the hind ocelli are separated from the eyes by half the distance they are from each other; the anterior is separated from the posterior by a greater distance than these are from each other. Clypeus not keeled. Apical half of mandibles brownish. Temples covered with silvery pubescence. Mesonotum closely, minutely punctured. The central area on the metanotum is not very clearly separated and is closely, finely, transversely striated and slightly depressed; the apex has an oblique slope, has a wide, shallow furrow above. Metapleuræ distinctly, closely obliquely striated; the others smooth and shining; the striated part is bounded below by a stouter keel. First abdominal segment of almost equal width, being only slightly narrowed towards the base; it is about one-third longer than the 2nd; the segments become slightly gradually thicker towards the apical; the basal 3 segments united are as long as the thorax. Legs slender, the hind tibiæ not dilated; the long spur of hind tibiæ reaches to the middle of the metatarsus. Apex of radial cellule lanceolate, gradually narrowed to a point; the apex of cubitus and lower part of transverse cubital nervure are roundly dilated outwardly. Mandibles unidentate. Pygidial area sharp-pointed.

Hab.—Mexico.

This little species comes nearest to *T. rugifrons* Cam. from Vera Cruz; the two may be separated thus:

Base of median segment strongly obliquely striated; calcaria pale; the transverse cubital nervure forming with the cubitus a straight oblique angle, the apical abscissa of the cubitus straight, oblique. **rugifrons** Cam.

Base of median segment weakly transversely striated; calcaria black; apex of cubitus and lower part of transverse cubital nervure broadly rounded, dilated outwardly, the apical abscissa rounded. **nigrispinis**.

The radial cellule in *rugifrons* is narrower and longer, the radius reaching close to the apex of the wings; the basal abscissa of the radius being about one fourth of the length of the apical; in *nigrispinis* it is slightly more than half the length.

Trypoxylon rufidens sp. nov.

Black, densely covered with silvery pubescence, opaque; mandibles, clypeus and labrum bright rufous; the labrum ending in 2 stout, slightly divergent teeth; metanotum not depressed, without a basal area; the basal part with a stoutish keel which extends shortly beyond the middle; the base has 2 or 3 oblique striæ on either side of the keel; the rest closely, transversely striated; the striæ distinct and slightly curved; the apical slope has 2 or 3 transverse keels on the top. Propleuræ weakly striated in the middle below; the metapleuræ strongly, closely and regularly striated; the lower basal half bordered by a stout, curved keel, which is slightly angled in the middle. Basal 3 segments of the abdomen roundly dilated at the apex above; the basal segment is as long as the 2nd and the half of the 3d. Tibial and tarsal spines whitish, tinged with fulvous. Radial cellule short, the apical abscissa of the radius straight, oblique, not quite twice the length of the basal; the recurrent nervure is received from the apex of the cubital cellule by slightly more than the length of the transverse cubital nervure. Hind ocelli separated from each other by double the distance they are from the eyes. From nearly opposite the middle of the eye incision a stout, curved keel runs to each antenna on the inner side; the antennæ are united by a strong transverse keel. Front tibiæ broadly testaceous at the apex in front. Length 7 mm.

Hab.—Mexico.

This species comes near to *T. nigrispinis* and *T. rugifrons*; these may be known from it by the depressed base of metanotum, without a longitudinal keel. Characteristic is the bidentate rufous labrum of *rufidens*.

Nyssus longispinis sp. nov.

Black, the tibiæ and tarsi rufo-testaceous, the hind tibiæ darker behind, the apices of the basal 5 abdominal segments and of the 3d and 4th below much more narrowly, rufo-testaceous, tinged with yellow; the thoracic spine from shortly beyond the middle rufo-testaceous. Wings hyaline, slightly suffused with fuscous; the nervures black. ♀. Length 11-12 mm.

Head and thorax densely covered with silvery pubescence; a band of pale golden pubescence on the base of the mesonotum and another down its centre. Front and vertex rugosely punctured, the front more closely than the latter; the keel above the antennæ stout, longish. Clypeus alutaceous, its apex depressed, brownish, not quite transverse. Middle of mandibles obscure testaceous. Mesonotum with shallow, moderately large punctures. Scutellum irregularly longitudinally striated, the parts between the striæ depressed. Post-scutellum broadly, roundly depressed in the centre, the sides being clearly, roundly raised and distinctly separated from the scutellum. Metanotal spines curved, long, diverging, about twice as long as they are wide at the base. Metanotum areolated; the basal area much longer than wide, the apical wider compared with their length, more irregular and with some striæ in the centre. Propleuræ above smooth, the centre below with stout, clearly separated keels. Mesopleuræ coarsely, irregularly reticulated-punctured, the metapleuræ more closely reticulated except at the base. Basal segment closely, distinctly, the 2nd less closely and more obscurely punctured, the other segments smooth. Pygidium finely rugose, irregu-

larly longitudinally striated; large, broad, rounded at the apex. Base of 2nd ventral segment broadly, gradually rounded. Sides of scutellum projecting above. Hind tibiæ serrate; there are at least 9 stout teeth, dark testaceous in color. The space between the ocelli is depressed, Lower edge of occiput margined, but not sharply. The upper part of the mesopleuræ before the apical depression projects into a longish tooth or tubercle. The cheeks below project into a distinct, sharply-pointed tooth, which is longer than it is wide at the base. Apices of abdominal segments depressed, covered with golden pile. The anal cellule in hind wings ends long before the origin of the cubital nervure.

Except on the sides behind the spine, where it is thickly covered with pale golden pubescence, the metanotum is almost bare, and is shining; the central keel bifurcates at the middle, forming an elongate area, roundly narrowed at the base; it bears a stout irregular keel in the centre of the apical half; in the centre of the apical slope is a large, somewhat pyriform area, the wide end of which is above.

Hab.—Mexico.

Comes nearest to *N. mexicanus* Cress., which agrees with it in having a tooth on the mesopleuræ. This tooth is described by Handlirsch in his Monograph (Sitzb. d. Kais. Akad. d. Wissen., Wien, xcv, p. 303) as "short, moderately pointed"; in the present species it is longish, longer than wide and bluntly rounded on the outside; in *mexicanus*, in the ♀, the 6th segment bears a large yellow spot; the middle area of the metanotum is covered with yellow hair, while in *N. longispinis* it is quite bare of pubescence, only the sides at the base being pilose.

TANYOPRYMNUS gen. nov.

Radial cellule long, lanceolate; 3 cubital cellules, the 3d along the radius about one-third longer than the 2nd which receives both the recurrent nervures; the 1st transverse cubital nervure roundly curved, except near the cubitus, where it emits a distinct nervure on the inner side. Eyes very large, strongly converging below, reaching to the base of the mandibles. Ocelli prominent, placed in a triangle. Face short, wider than long, its apex reaching to the middle of the eyes; clypeus twice longer than wide, its apex transverse. Labrum projecting. Legs long, slender, all the tarsi much longer than the tibiæ; the basal two joints of the hinder together as long as the tibiæ; tibiæ and tarsi sparsely spined; the middle tibiæ with 2 calcaria; claws long, simple. First abdominal segment broad at the base, becoming gradually wider towards the apex; the pygidium depressed, roundly incised at the apex. Sides of median segment broadly rounded. Last joint of antennæ normal,

not incised, depressed or hooked; the apical joints of the flagellum thickened. The transverse median nervure is received shortly beyond the transverse median. Cubitus in hind wings originating before the transverse median nervure. Prothorax very short.

The affinities of this genus are with the *Mellinini*, but it has not the appearance of a *Mellinus* or *Gorytes*. The very different neuration separates it from the former; from the latter the elbowed 1st transverse cubital nervure, with its distinct nervule, the very much longer clypeus, long tarsi and longer, narrower, lanceolate cellule, should readily separate it. It has more the appearance of a *Stizini* than of one of the *Mellinini*.

***Tanyoprymnus longitarsis* sp. nov.**

Black; the under side of antennal scape, face, clypeus to shortly below the middle, a line on the pronotum, tubercles, a line along the sides of the mesonotum, one on the post-scutellum, an interrupted line on the 1st abdominal segment and continuous broader ones on the others, yellow, these extending below on to the 3rd and following segments. Tibiæ behind and more or less of the basal joint of the tarsi in front, the 4 front tibiæ at the base behind and the calcaria, yellow. Wings hyaline, the nervures black. ♂. Length 9 mm.

Smooth, covered with a white down; the mesothorax sparsely punctured. Hind ocelli separated from the eyes by a distinctly greater distance than they are from each other. Third joint of antennæ about one-third longer than the fourth, shorter than the following two united. The 2nd ventral segment projects below the first. The hind legs, and especially the tarsi, are much longer than the anterior.

Hab.—Mexico.

***Anthophilus hirticeps* sp. nov.**

Black; face, clypeus, inner orbits narrowly to the top of the eye incision, an elongate large mark on the front, roundly narrowed and ending in a short point above, narrowed below and united to the yellow on the face, two marks, broader than long and obliquely narrowed on the outer side, on the sides shortly behind the eyes, a short line behind them, a broad band on the hinder edge of the pronotum, 2 short, elongated oval spots close to the base of the mesonotum, scutellums, tubercles, a large mark, roundly narrowed to a point on the top above, and slightly oblique below, a broad band on the base of the 1st abdominal segment, an equally broad, but more irregular one, occupying the greater part of the 2nd and narrower, trilobate bands on the apices of the following three, yellow. The apices of the femora broadly (the hinder more narrowly than the anterior), the tibiæ and the tarsi yellow. Basal five joints of the flagellum broadly yellow. Wings hyaline, the costa and stigma fulvous. ♂. Length nearly 7 mm.

Head and thorax thickly covered with longish, white pubescence; the latter above sparsely, the mesopleuræ more closely and strongly punctured. Front punctured and closely, finely, longitudinally striated. A deep triangular depression (the narrowed end behind) on the base of the metanotum, its centre and the

part behind finely transversely striated. First abdominal segment strongly and closely punctured, the others almost impunctate. Third cubital cellule along the radius distinctly longer than the 2nd; the 1st recurrent nervure is received shortly behind the middle of the cellule. Last ventral segment with a broad, semicircular incision. Apical half of scutellum deeply furrowed in the middle. Tarsal fringe long and white. Apex of clypeus broadly rounded; the hair pencil long, white. Abdominal segments hardly constricted at the sutures.

Hab.—Mexico.

Does not fit exactly into any of the genera of Dr. Ashmead's Synopsis, but comes as near to *Epiphilanthus* as any.

***Anthophilus melanaspis* sp. nov.**

Black; a large, somewhat triangular mark (the narrowed upper end is rounded, the lower transverse) on the clypeus, a broadish line on the lower half of the inner orbits, narrowest above, a mark on the lower part of the front, the top broad, irregular, the lower and longer part narrower and rounded, 2 oblique spots behind the ocelli, 2 short lines on the outer part of the orbits, behind the top of the eyes, a line on the hind edge of the pronotum, tegulæ, basal half of 2nd abdominal segment (the line of equal width) a narrow line on the apex of the 3d, the apical half of the 4th and 5th, a mark on the sides of the 6th and small marks on the sides of the 3rd to 5th segments, yellow. Tibiæ and base of tarsi yellow in front. Wings hyaline, the stigma fulvous, the nervures darker colored; the 3d cubital cellule along the radius distinctly longer than the 2nd; the 1st recurrent nervure received almost in the middle of cellule; the 3d transverse cubital nervure angled and emitting a short branch near the cubitus. Antennal scape yellow; the 2d joint of flagellum brownish below. ♀. Length 8 mm.

Hinder part of vertex strongly but not closely punctured, the rest of it and the front closely rugosely punctured, the punctures intermixed with striæ. Mesonotum strongly, irregularly punctured, the apex closely rugose. Scutellum smooth in the centre, the sides somewhat strongly punctured. Basal half of postscutellum smooth, the apical weakly punctured. Median segment closely strongly punctured; a deep, crenulated furrow of equal width on the basal half; the part surrounding the apex of this is raised and smooth. Propleuræ weakly, the mesopleuræ strongly punctured; the lower part of the former striated; the base of the metapleuræ closely obliquely striated, the rest closely punctured. Abdominal segments strongly, deeply but not closely punctured, their base smooth, pygidium smooth.

Hab.—Mexico.

***Anthophilus maculiventris* sp. nov.**

Black; the clypeus, a large triangular mark above, the narrow top reaching close to the eye incision, mandibles to shortly beyond the middle, a small transverse line in the centre of the face, a transverse mark on the front, roundly narrowed below, the sides obliquely dilated above, the top broadly, slightly depressed, two large oblique marks behind the ocelli, a longish mark, transverse behind, rounded before on the upper outer orbits, a line on the pronotum, tegulæ, two small marks below them, the anterior the smaller and rounder; postscu-

tellum, basal half of second abdominal segment, the apex of the third, the fourth and fifth almost entirely, the apices of the basal three ventral, of the fourth more broadly, the band dilated broadly laterally, and almost the whole of the fifth, yellow. The four front tibiæ yellow, black behind, the posterior for the greater part yellow. Wings hyaline, the stigma fulvous, the nervures paler colored. ♀. Length 10 mm.

Antennal scape yellow, the flagellum brownish at the base and apex below. Vertex strongly but not closely punctured, an oblique smooth space and a raised longitudinal one in the centre behind. Front closely rugosely punctured; the raised part above the antennæ smooth. Clypeus and cheeks very sparsely punctured. Basal half of mesonotum with large, deep, clearly separated punctures, the apical almost impunctate. Scutellum with a curved row of punctures in the middle. Postscutellum smooth. Metanotal area with a wide crenulated furrow in the centre; the part bordering it finely, closely, longitudinally striated, the outside punctured; the apical slope finely, distinctly, closely punctured; the central fovea large, deep, somewhat triangular. Propleuræ strongly, below finely punctured, the lower part being also striated. Mesopleuræ coarsely punctured, as is also the sternum; the metapleuræ less strongly punctured and striated in the middle. Basal 3 segments of abdomen strongly, deeply, but not very closely punctured. The 3rd cubital cellule, along the radius, distinctly shorter than the 2nd, the 1st recurrent nervure received almost in the centre of cellule.

Hab.—Mexico.

This species appears to belong to Dr. Ashmead's genus *Epiphilanthus*. Cf. *Canad. Ent.*, 1901, p. 294.

MUTILLIDÆ.

***Dimorphomutilla ? luatha* sp. nov.**

Black, densely covered with longish white hair; the calcaria and tarsal spines white; wings hyaline, the nervures black; radial cellule short, wide, the radius forming almost a semicircle; the 3rd transverse cubital nervure only distinct in front, the 2nd recurrent nervure with the lower half only distinctly defined; the 1st transverse cubital nervure straight, obliquely sloped; the 2nd roundly curved. Head wider than the thorax, the temples long, oblique, not much narrowed; the occiput almost transverse, the hind angles not acute but rounded. Mandibles longish, bidentate, the subapical tooth small. Front and vertex strongly, distinctly punctured, the former more closely than the latter. Face closely rugose, obliquely narrowed above to a point, forming a triangle. Antennal tubercles rufous. First joint of flagellum wider than long, the second longer than wide, longer than the third. Pro- and mesonotum somewhat strongly punctured; the former more closely than the latter, the punctures on it being clearly separated. Metanotum reticulated. The upper part of the metapleuræ is irregularly reticulated, and finely, closely, longitudinally striated. Abdominal petiole becoming gradually wider from the base to the apex, in length slightly more than the width at the apex; at the base is a stout spine on either side. The hair on the abdomen is long, but not forming bands; the pygidium punctured towards the apex; its apex rounded; epipygium punctured, depressed

at the apex in the middle. Apical half of ventral keel roundly dilated. ♂. Length 4.5 mm.

This little species appears to run into Dr. Ashmead's genus *Dimorphomutilla*. Cf. Canad. Ent., xxxv, 325.

ICHNEUMONIDÆ.

***Agrypon flaviceps* sp. nov.**

Luteous, the thorax paler, the head except the greater part of the front and vertex pale lemon-yellow, the ocellar region blackish; legs colored like the body, the four front coxæ and trochanters pale yellow; antennæ fuscous, longer than the body; wings short, clear hyaline, the nervures and stigma pale testaceous. ♂. Length 9; ovipositor 1 mm.

Smooth, shining, thickly covered with short pubescence. Scutellum flat, appearing almost depressed above. Base of metanotum areolated, the central area elongated, dilated in the middle, the lateral basal area wider than long, semicircular; the remainder irregularly reticulated, the reticulations wider than long. The transverse median nervure is received shortly beyond the transverse basal; the disco-cubital nervure is not quite interstitial; but the 3rd discoidal cellule is pointed at the base; the hind tibiæ are long, longer than their femora or tarsi. The transverse cubital nervure is long; half the length of the recurrent nervure.

This species agrees fairly well with the definitions given by authors, except that the "trochanter is not or little longer than the trochantellus" (cf. Schmiedeknecht, Zeit. f. Hymen., 1902, p. 361), but much longer than it, as in *Atrometus*. Neither the latter genus nor *Agrypon* has been recorded, so far as I know, from America.

This seems to be an *Agrypon* Foer., as defined by Dr. Ashmead (Bull. U. S. Nat. Mus., xxiii, 89), it having the disco cubital nervure interstitial with the discoidal, the 3rd discoidal cell being therefore pointed at the base; and the hind tibiæ are long; but according to Schmiedeknecht (Zeit. f. Hym. ü. Dipter., i, 1902, 361) these are the characters of *Atrometus* Foer., as given by the German author, the latter genus having also short tibiæ, with the basal joint of the trochanters only slightly longer than the apical; in *Agrypon* it is double the length of the 2nd, as it is in the species I have described. There is certainly some confusion in the definitions of the genera as given by the American and German authors.

I translate Schmiedeknecht's diagnostic characters so that they may be compared with Dr. Ashmead's:

Parallel nervure not interstitial. Hind tibiæ longish. Trochanter not or only little longer than the trochantellus. Antennæ somewhat of the length of the body	<i>Agrypon</i> Först.
Parallel nervure interstitial, the discoidal cellule narrowed to a point. Hind tibiæ short. Trochanter almost double the length of the trochantellus. Small species	<i>Atrometus</i> Foer.

VESPIDÆ.

Odynerus simplicipes sp. nov.

Black; a large squarish mark on the upper half of the clypeus, with the sides and apex rounded, a small mark on the top of the vertex close to the eyes, a line on the pronotum, dilated in front, a small round mark below the tegulæ, dilated downwards at the base, the hinder third of the tegulæ, a large crescent-shaped mark on the hinder half of the scutellum (the rounded end at the apex), the apices of the abdominal segments, the lines dilated laterally, the 1st line distinctly so, yellow; the tibiæ and tarsi yellow, the former black behind. Wings hyaline, the nervures black. ♂. Length 7 mm.

Form short and broad, the thorax oval, rounded before and behind, the sides of the median segment rounded, not angled. Head wider than the thorax, the temples roundly narrowed. Clypeus longer than wide, its apex ending in two triangular teeth, which are longer than they are wide at the base. Antennæ with the apical half distinctly thickened, flattened below, without a hook, and apparently not curled. Hind ocelli separated from each other by a slightly greater distance than they are from the eyes. Median segment short, a narrow furrow down the middle, the sides broadly rounded, not projecting much. Head and thorax closely punctured, the metapleuræ closely striated, coarsely above, finely, more closely below; both are covered closely with short silvery pubescence. Legs slender, the middle femora not denticulate. Basal segment of abdomen cup shaped, short, not separated by a constriction from the second. First recurrent nervure received shortly beyond, the 2nd shortly in front of the middle of the cellule; the radial cellule wide, short, rounded at the apex. Palpi small.

Hab.—Mexico.

This little species comes closest to the subgenus *Epiponus* and to the Division *Antepiponus*, Section 2 (cf. Saussure, Syn. of Amer. Wasps, 360), but is not quite typical, *e. g.* the antennæ can hardly be said to be "curled up into a spiral at the extremity;" and the femora are simple, not dentate as in the males of the typical *Epiponus*.

BRACONIDÆ.

Iphiaulax mamivænsis sp. nov.

Black; the basal five segments of the abdomen red, the legs pale testaceous; the mandibles rufous, black at the apex; palpi pale testaceous, wings hyaline, slightly tinged with yellow; the nervures and stigma yellow; a blackish cloud commences shortly behind the transverse basal nervure, wider in front than behind, extending to the apex of the basal abscissa of the radius and not extending much beyond the base of the 1st cubital cellule; there is a similar but larger cloud at the apex, commencing at the end of the stigma and shortly beyond the 2nd transverse cubital nervure; there is a wider cloud on the apex of the hind wings. ♀. Length 7; terebra 2 mm.

Smooth and shining; the 2nd abdominal segment in the middle and the 3rd punctured more distinctly all over; the furrows on sides of the 1st segment with some clearly separated, not very stout keels. Area on 2nd segment narrowed to

a sharp point, twice longer than it is wide at the base and continued as a stout spine to the base of the apical fourth of the segment; the sides stoutly keeled; the bordering furrows shallow, obscurely striated; the curved lateral furrows wide, deep. Suturiform articulation wide, finely striated in the middle. There is a smooth, moderately broad, not very prominent keel on the basal two-thirds of the 3rd segment, which has, shortly behind the middle, a smooth curved furrow; there being another on the 4th. Face alutaceous, opaque, the rest of the head and the thorax smooth and shining; there is a narrow, finely margined furrow in the centre of the front. Wings long; apical abscissa of radius distinctly longer than the basal two united; the recurrent nervure is received in the apex of the 1st cubital cellule, clearly separated from the transverse cubital. Temples wide, obliquely roundly narrowed. Palpi yellow. The hind femora bear an interrupted black line below; the hind coxæ are black. Tegulæ luteous. The thorax is sparsely haired. Parapsidal furrows fine, rufous colored towards the apex. First abdominal segment as long as it is wide at the base.

Hab.—Mamiva; Rio Purus (Prof. I. W. H. Trail).

***Iphiaulax juthaensis* sp. nov.**

Black; the sides of the middle segments and their apices narrowly rufous, the stigma entirely pale ochraceous, the base of the radius testaceous, the wings light fuscous, the base of the radial cellule, the first cubital and a narrow cloud outside the recurrent nervure hyaline. Plate on 2nd abdominal segment triangular, ending in a short point; its length, without the apical point, as long as the width at the base; it reaches close to the apex, from which it is clearly separated. ♀. Length 12 mm.; terebra 3 mm.

Face and median segment thickly covered with longish grey pubescence; the pleuræ not so thickly with similar but shorter pubescence; the upper and lower part of the propleuræ more broadly bright red. Smooth and shining, except the face, which is opaque, not smooth; the clypeus above is bordered by a moderately wide and deep furrow, bordered by distinct ridges. Frontal furrow narrow, deep, reaching to shortly beyond the middle. Mandibles dark rufous to shortly beyond the middle. Palpi black at the base, the apical joints dark testaceous. Middle lobe of mesonotum distinctly separated. Middle lobe of first abdominal segment clearly separated, bounded laterally by a distinct furrow, which bears at irregular intervals, some transverse keels; in the centre of the apex is a short, stout, longitudinal keel, bordered by a furrow, wider than itself. The furrow bordering the keel on the 2nd abdominal segment is stoutly, obliquely crenulated, the oblique furrow distinct, narrow, smooth; suturiform articulation closely but not strongly striated. Underside of hind tarsi thickly covered with pale pubescence; the spines dark testaceous; the calcaria dark rufous. Apical abscissa of radius about as long as the basal two united.

Hab.—Amazonia; Rio Jutaha (Prof. I. W. H. Trail).

This species is easily separated by the much broader (compared with the length) plate on the 2nd abdominal segment. The furrows on the 3rd and 4th abdominal segments are wide, almost smooth.

Iphiaulax Trailii sp. nov.

Black; the sides and apical slopes of the abdominal segments rufous; wings dark fuscous, the stigma, except at the apex, pale ochraceous; as is also the base of radius; the apical abscissa of radius shortly but distinctly longer than the basal two united. Area on 2nd abdominal segment elongated, extending almost to the apex and becoming gradually narrowed to a sharp point; it is bordered by a shallow furrow bearing nine or ten stout, longish oblique striæ. ♂. Length 11 mm.

Except at the base, apex and a narrow keel down the centre, the raised central part of the 1st abdominal segment is irregularly punctured, the central smooth keel being bordered by 3 elongated irregular foveæ; the lateral furrows wide, deep and bearing 9 stout, more or less oblique keels; the apex and the basal parts between the foveæ are more deeply depressed. Area on 2nd segment bordered by stout, more or less oblique keels; the oblique lateral area wide and with 3 or 4 keels at the base. Suturiform articulation wide, irregularly closely striated; the furrows on the 3rd, 4th and 5th segments are distinct, moderately deep and closely striated; the striation on the 5th being weaker than on the others. Head and thorax thickly covered with grey pubescence, more sparsely on the mesonotum and more thickly on the median segment than on the rest; smooth, shining. Frontal furrow not reaching to the apex, wide, deep. Legs thickly covered with grey pubescence; that on the coxæ being longer and denser than on the rest; the calcaria black. The 3rd abdominal segment is closely, somewhat strongly longitudinally striated-reticulated, the 4th in the centre striated-punctured.

Hab.—Amazonia, Mamiva (Prof. I. W. H. Trail).

Iphiaulax Schrottkyii sp. nov.

Similar in size and coloration to *I. Trailii*, described above, but easily separated by there being a distinct, smooth triangular plate on the base of the 3rd abdominal segment, and by the apex of the 1st bearing a stout keel, bordered by a depression. Lateral furrows on 1st abdominal segment wide, the keels stout, irregular, widely separated. Plate on 2nd segment smooth, long, becoming gradually narrowed to a point; the bordering keels are stout, longish, irregular, forming almost reticulations; the oblique keel wide, smooth, except for 2 or 3 short striæ at the base; the part outside its apex is finely, closely, longitudinally striated. Suturiform articulation closely striated, as is also, but somewhat more strongly, the oblique lateral furrow; the furrow on the 3rd is distinct, deep, closely striated. Mandibles dark rufous in the middle. Palpi black. Length 11 mm. ♂.

Hab.—Amazonia; Cararamer (Prof. I. W. H. Trail).

Iphiaulax javaryensis sp. nov.

Black; the basal 5 segments of the abdomen bright red (like the color of red sealing-wax); the entire body, except the face, which is granular, smooth, impunctate, shining; the wings dark fuscous, the stigma, except at the apex, pale ochraceous; the 3rd abscissa of the radius longer than the basal two united; tegulæ black. ♀. Length 10–11; terebra 5 mm.

Head and thorax covered with grey pubescence; longest and thickest on face,

malar space and metanotum. Lateral furrows on 1st abdominal segment stoutly, irregularly, somewhat closely striated. Plate on 2nd segment reaching to shortly beyond the base of the apical third of the segment, it is gradually narrowed to shortly beyond the middle, then continued as a stout keel; it is bordered by deep, smooth, moderately wide furrows; the oblique lateral ones are almost smooth, narrow, distinct. The suturiform articulation and the furrow on the 3rd segment almost smooth; there is a narrower, similar furrow on the 4th; the apical segments black above, red below. Calcaria black. Malar space slightly longer than usual. Temples wide, rounded, not oblique.

Hab.—Rio Javary. December. (Prof. I. W. H. Trail).

Comes near apparently to *I. Bugueti* Spin. The abdomen is not quite so broad as usual.

***Iphiaulax Harperi* sp. nov.**

Head and antennæ black, thorax castaneous, the abdomen reddish castaneous, legs dark castaneous, the tibiæ and tarsi darker colored than the femora. Wings almost hyaline to the transverse basal nervure in the anterior, to shortly beyond the middle in the posterior, the rest fuscous, lighter colored in the 1st cubital cellule and along the recurrent nervure; the stigma pale ochraceous throughout as is also the base of the radius. ♀. Length 12; terebra 3 mm.

Temples obliquely narrowed. Frontal furrow wide, extending to shortly beyond the middle, slightly narrowed and rounded at the apex. Parapsidal furrows distinct, becoming wider and shallower towards the apex. The head and median segment densely covered with long pale fulvous hair. Abdomen smooth and shining; the furrows on the sides of 1st segment wide, smooth, except for a few broken striæ on the inner side. Area on second segment longish, reaching to shortly beyond the middle; gradually narrowed to shortly beyond its middle, then continued as a keel; the furrows narrow, deep, crenulated; the lateral furrows smooth, wide, shallow. Sutriform articulation wide, shallow, crenulated, as are also the furrows on the 3rd and 4th segments; that on the latter is about half the length of that on the 3rd. The apical abscissa of the radius is distinctly longer than the basal two united; the radial cellule is long, sharp pointed at the apex.

Hab.—Demerara. (Rev. Mr. Harper).

***Iphiaulax Watertoni* sp. nov.**

Black; the abdomen red, darker at the apex, the upper half of the propleuræ and the middle of the mesonotum of a darker red; the median segment thickly covered with white pubescence; wings dark fuscous, the stigma with slightly more than the basal two-thirds, pale ochraceous. Length 8; terebra 3 mm.

Temples roundly narrowed. Front not much depressed, its furrow reaching to the middle. Mandibles dark red, black at the apex. Palpi black. Middle area of the 1st abdominal segment narrow, compared with the sides; the lateral depression wide, with 7 widely separated keels of moderate thickness; the outer border, at the apex, is as wide as this depression, and is divided into two by a longitudinal keel. Basal area on 2nd segment an elongated triangle, with a short apical keel, not reaching to the apex of the segment, and bordered by a

moderately wide, stoutly crenulated furrow; lateral furrows wide, deep, smooth. Sutureform articulation and the following 2 furrows closely crenulated; the 4th furrow almost smooth. Facial furrow wide, deep, reaching to the middle.

Hab.—Demerara. (Rev. Mr. Harper).

***Iphiaulax Mathewi* sp. nov.**

Black; entirely smooth and shining, the basal 4 segments of the abdomen and the base of the 5th narrowly, vermillion red; the wings uniformly dark fuscous, with black stigma and nervures. ♀. Length 8 mm.; terebra 2 mm.

Face, cheeks and malar space thickly covered with long white pubescence; the face shagreened. Palpi black, covered with white pubescence. Temples oblique, rounded behind, the occiput almost transverse in the middle. Abdomen smooth and shining; central part of 1st segment longer than wide, rounded at the base and apex; the lateral furrows wide, with 3 stout abbreviated keels on the inner-side in the centre. All the furrows are wide, deep and smooth; the area on the 2nd segment forms an elongated triangle—longer than its width at the base—and ending in a distinct keel, which ends shortly beyond the middle of the segment; it is surrounded by a wide furrow, with three stout, oblique keels in the centre; the lateral depression on the segment is wide and deep. Sutureform articulation smooth, wide and deep. Third abscissa of radius slightly curved upwards, a little longer than the basal two united. Calcaria white. The oblique furrow on the mesopleuræ is distinctly defined and extends to the middle. The abdomen forms an elongated oval. Frontal furrow distinct, deep, reaching to the antennæ.

Hab.—West Coast of Mexico. (G. F. Mathew, R. N.)

***Iphiaulax occidentalis* sp. nov.**

This species agrees so closely in size and coloration with *I. Mathewi*, described above, that it might easily be mistaken for its male. It may be readily known from it by structural characters, as follows:

Plate on second abdominal segment with the terminal spine as long as it; a short but stout keel issuing from the middle of the sutureform articulation; lateral furrows on first abdominal segment with six short, broken, transverse keels. ***occidentalis.***

Plate on second abdominal segment with the spine much shorter than it; no keel issuing from the sutureform articulation; the keels on the sides of the first abdominal segment not broken, stout. ***Mathewi.***

Head and thorax densely covered with long white hair (in *Mathewi* the pubescence is short and sparse). Face alutaceous, opaque. Temples straight, obliquely narrowed, if anything longer than the antennal scape. Frontal furrow clearly defined, extending from the antennæ to the ocelli. Malar space furrowed, shorter than the antennal scape. Pleural furrow wide, shallow, extending from the base to the apex. The furrow surrounding the plate on the 2nd abdominal segment is wide and deep, and bears 3 stout, longish, oblique keels; the apex of the depression is broadly rounded. Sutureform articulation wide, smooth and

deep; the following 3 furrows being also smooth and deep, but narrower. Calcaria fuscous. Legs densely covered with white hair, much more densely than in *I. Mathewi*. The apical abscissa of the radius is shorter compared with the basal, than it is in *Mathewi*. Length 7 mm. ♂.

Hab.—West Coast of Mexico. (G. F. Mathew, R. N.)

***Rhogas aztecus* sp. nov.**

Ferruginous, the flagellum of the antennæ and the tips of the mandibles black; the wings hyaline, the stigma dark, the nervures light fuscous. Palpi dark testaceous, covered with white pubescence. ♂. Length 7 mm.

Head alutaceous, almost punctured. Eyes coarsely faceted. Thorax finely, closely, distinctly punctured. Scutellar depression deep, the base and apex with oblique straight slopes, meeting in the centre below. Median segment more rugosely punctured than the rest; there is a distinct keel extending from the base to the top of the apical slope; in the centre of the latter, at the apex, are 2 short, fine keels; on the apex of the sides is a short, stouter keel. The 1st, 2nd and 3rd abdominal segments to shortly beyond the middle are closely, longitudinally striated, and all are keeled down the centre; the apex of the 3rd and the following segments are smooth and shining. The second cubital cellule is narrowed towards the apex; the 3rd abscissa of the radius is twice the length of the 2nd; the transverse median nervure is received shortly behind the middle of the cellule.

The propleuræ are more or less striated; the centre of the mesopleuræ shining. First abdominal segment slightly longer than the second, which is longer than wide, and is distinctly margined, almost keeled, along the sides. Legs densely covered with white pubescence. Malar space nearly as long as the antennal scape. Eyes clearly converging above. Temples as long as the top of the eyes.

Hab.—Mexico.

This species cannot well be mistaken for any of the few recorded species of *Rhogas* from Central America.

***Agathis ? tricarinata* sp. nov.**

Black; the basal segment of the abdomen entirely, the 2nd above to shortly beyond the middle, entirely below, as is also the base of the 3rd ventral segment of the metanotum, bright red; wings dark fuscous, a hyaline cloud, broadest behind, on the fore wings, commencing near the apex of the stigma; the hind wings entirely fuscous. ♀. Length 7; terebra 4 mm.

Smooth, impunctate, the mesonotum with 3 distinct keels in the centre, placed nearer the base than the apex. From the sides of the anterior ocelli (but not touching them) two stout keels run to the antennæ where they unite; opposite their base a similar keel runs to the eyes. The 5-jointed maxillary palpi are pale testaceous, except at the base. Mandibles pale testaceous at the base. Malar space not quite half the length of the eyes. Scutellum keeled above on the sides and apex. Sides of metanotum keeled; in the centre are 2 not very distinct keels close together, which unite with a stouter keel bordering the top of the apical slope. Apex of mesopleuræ dilated on the upper half; the depression widened below and with 3 stout teeth. Base of first abdominal segment dilated

above. Areolet triangular; the cubitus ends, or becomes faint, shortly beyond it; there is no branch on the transverse cubitus which is largely bullated below; the transverse basal nervure is interstitial. The middle lobe of the mesonotum clearly separated. Claws slender, simple.

Hab.—Amazonia; Rio Mauhes. (Prof. I. W. H. Trail.)

This is not a typical *Agathis*. It might be a *Cremnops*, if it were not for the small simple claws.

***Agathis Trailii* sp. nov.**

Black; the metanotum, basal 4 segments of the abdomen and the legs luteous; a pale yellow band round the apex of the scutellum; the outer side of posterior coxæ, apex of hind tibiæ and the hind tarsi black; the labrum and palpi pale yellow. Wings yellowish hyaline, a narrow fuscous cloud at the base of the stigma and a broader one at the apex. Length 10 mm. ♀.

Smooth and shining; the breast and legs at the base covered with long white hair, the tibiæ much more thickly with stiffer fulvous hair; the tarsi with black hair. Head shining, the face and clypeus shining, punctured, somewhat thickly covered with longish black hair. Areolet triangular; the transverse cubital nervure without a branch; transverse median nervure interstitial. All the claws cleft, the inner claw much shorter than the outer, especially the posterior. Malar space somewhat more than half the length of the eyes. Front above bordered by a stout, roundly curved keel, which reaches to the eyes. Ovipositor not projecting. Metanotum without keels. Scutellum large, flat, not keeled, its apex rounded. Hind legs long and stout, their coxæ about 4 times longer than wide, the long spur of the black hinder calcaria reaches to shorter beyond the middle of the metatarsus. Wings longer than the body.

Hab.—Amazons; Rio Juruá. (Prof. I. W. H. Trail.)

This species belongs to the *Agathidini* as defined by Dr. Ashmead (Proc. U. S. Nat. Mus., xxiii, 127), and in his table would come into *Agathis*, if the claws were not cleft; and a keel on the front; it is not a *Troticus*, as the palpi are normal. In the table given by Szépligeti (Termés. Fuzetek, xxv, 64) it agrees best with *Agathis*, but the head, viewed from the front, is shorter.

***Agathis erythrogastra* sp. nov.**

Black; the median segment, abdomen and hind legs, except the trochanters, red; the hind tarsi black above; the calcaria reddish; wings uniformly fuscous, the stigma and nervures black. ♂. Length 7 mm.

Antennæ much longer than the body. Smooth and shining; the head covered with blackish, the pleuræ with white pubescence. Scutellum roundly convex, narrowed towards the apex, the sides not keeled. Parapsidal furrows only indicated at the base. Area on centre of median segment distinct, narrowed sharply at the base, the keels stout and waved; in the centre are 2 stout, twisted keels. First segment of abdomen twice longer than wide; there is an elongated, deep fovea in the centre near the apex; the depressions at the base of the 2nd and 3rd segments are deep; they have also a transverse furrow shortly beyond the mid-

dle; that on the 2nd is deeper and more clearly defined than that on the 3rd. Palpi black. Areolet small, triangular; the nervures thick; the recurrent nervure is dilated backwards in front. Mesopleural furrow narrow, not very deep, smooth.

Hab.—Mexico.

Comes nearest, of the known Central American species, to *A. tibialis* Cam.

***Cenostomus trichiosomus* sp. nov.**

Black; densely covered all over with white pubescence; the 2nd abdominal segment testaceous, the base of the 4 front tibiæ narrowly and the hinder tibiæ to shortly beyond the middle, pale yellow; the latter with a black mark near the base. Wings hyaline, slightly suffused with fuscous towards the apex, the costa and stigma black, the nervures testaceous. ♀. Length 8; terebra 1 mm.

Antennæ 37-jointed, densely covered with short black pubescence. Face closely and strongly punctured; the clypeus is more strongly, less closely punctured, except narrowly in the centre and more broadly at the apex, where it is smooth. Front and vertex closely punctured, except round the ocelli and a triangular space below them, where they are smooth and shining. Pronotum and mesonotum weakly punctured; their pleuræ, except at the base, smooth and shining. The scutellum roundly convex, weakly punctured. Median segment closely, rugosely punctured; it is more densely and longly covered with white hair than the mesonotum; there is a smooth keel down the apical half in the centre. Pleural sutures stoutly crenulated. Abdomen smooth, the apical segments densely pilose; the suturiform articulations smooth, narrow, curved. Areolet triangular, the nervures touching in front. Legs stout, the calcaria pale at the base.

Hab.—Mexico.

The maxillary palpi, so far as I can make out without extraction, appear to be 4-jointed, and this, with the triangular areolet and that the parapsidal furrows do not extend much beyond the middle, makes me refer the species to *Cenostomus* Foerster. Foerster says of his genus "Das Gesicht ist hier zwar verlängert, aber aus dem Munde ragt kein rüsselförmiger oder konischer Zapfen hervor, wie man ihn so höchst charakteristisch bei den Agathidoiden findet." In my species there is a distinct malar space, in length about two-thirds of the antennal scape; but the face is not so much lengthened—rostriform—as in *Agathis*.

CYNIPIDÆ.

***Heptamerocera azteca* sp. nov.**

Black; smooth and shining, the antennæ, tegulæ and legs bright red; wings clear hyaline, the nervures pale testaceous. Abdominal hair fringe rufous. Apex of scutellum with a deep, longer than broad, cup; the keels bordering the

sides of the apex are pale; in the centre, along the sides, are 3 foveæ in a row; the sides and apex of the scutellum project roundly beyond the cup and are strongly rugosely punctured; the rounded apex projects roundly over the metanotum, which is bare in the middle; this bare part is bordered by 2 curved keels, which converge slightly below; it has a steep, slightly oblique slope; the lower apical part projects clearly out from the upper and larger; it has a slightly oblique slope and is bordered laterally by a keel; the sides are covered with a narrow band of woolly hair; the metapleuræ bare. Mandibles red, their teeth black. Areolet obsolete. There are no parapsidal furrows. Antennæ much longer than the body; 15-jointed; the 3rd joint shorter than the 4th. Marginal cellule large, open along the fore margin. Cubitus obsolete. ♂. Length 3 mm.

Hab.—Mexico.

In Dr. Ashmead's table of the Eucoilinæ (*Psyche*, 1903, pp. 60-73), this ♂ would run into the neighborhood of *Heptamerocera*.



Cameron, Peter. 1905. "Descriptions of new species of Neotropical Hymenoptera." *Transactions of the American Entomological Society* 31, 373–388.

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