

margins on third and fourth segments are plumose. First segment, as viewed from above, long trapezoidal, coarsely rugoso-punctate, lateral tubercles large, its length less than twice breadth at apex, with plumose hairs on basal margin only, rather strongly constricted at juncture with second segment, ventral median ridge with a stout tooth near the basal end; the last two dorsal segments darkened; the last dorsal segment as long as wide at base, opaque, the disc broadly longitudinally depressed on either side, minutely punctured near the subtruncate blackened tip, on either side of which is a tuft of fine golden hair.

The type of this species was taken in Ormsby county, Nevada.

ON SOME HYMENOPTERA COLLECTED BY PROF. C. F. BAKER
IN NICARAGUA. BY P. CAMERON.

MUTILLIDAE.

3427 *Sphaerophthalma anthracia* Cam.

Biol. Cent. Amer., Hymen. II, 352. Chinandega.

1708 *Sphaerophthalma caroli* sp. nov.

Black, the front, the vertex broadly—the mark rounded and narrowed behind, the thorax above, except for a triangular black mark in the centre at the base, the mark occupying the entire base of the thorax and with its apex rounded, the apical mark broadly rounded above extending to the middle of the metanotum which has the apical half entirely black, two moderately large oval marks on the base of the second abdominal segment and two double their size nearer their apex, of reddish orange pubescence; the sides of the third, fourth, and fifth segments broadly covered with silvery pubescence, darkened slightly with a golden tint; the pygidium covered with long dark fulvous pubescence and transversely striated; the hair on the sides of the head, thorax, and ventral surface silvery. Female. Length 12 mm.

The third joint of the antennae is as long as the following two united; the fourth and fifth are brownish beneath. Head wider than the thorax, the temples as long as the eyes; the occiput almost transverse, not keeled, the sides rounded. Thorax fiddle-shaped, the anterior and larger part wider than the posterior, rounded, the sides without distinct teeth. Mesonotum rugosely punctured, the metanotum reticulated, the sides in the middle with three or four small teeth. Pleurae smooth, the apex with a punctured band, which is dilated in the middle. Calcaria and tarsal spines bright rufous. Abdomen sessile, as long as the head and thorax united.

Comes near to *S. phedyma* Cam., and to *S. verticalis* Sm., with which it agrees very closely in the arrangement of the pubescent markings. The former may be known from it by the occiput being clearly transverse and with the sides projecting into a keel, the orange on the metanotum too, is not continuous but divided broadly into two parts; the latter has a stout, longish central tooth with a shorter rounded

one at its base and apex, on the sides of mesonotum at the base, and the sides of the occiput are more broadly roundly narrowed. San Marcos. 3430 **Ephuta chinandegae** sp. nov.

Black, thickly covered with longish silvery hair and with silvery pubescence; the two basal abdominal segments with a broad band of silvery pubescence on the apex; the coxae, tibiae, and tarsi thickly covered with silvery pile; the femora sparsely haired, the calcaria and tarsal spines white; wings fuscous, highly iridescent, the nervures and stigma black. Male. Length 6 mm. Chinandega.

Antennae stout, the flagellum covered with a pale pile; the scape more shining, sparsely covered with white hair, hollowed beneath, the sides stoutly keeled; the first joint of flagellum narrowed at the base, about one-half longer than the second.

Front and vertex strongly punctured, the punctures clearly separated. Eye incision large; face and clypeus smooth; mandibles with a broad rufous band near the middle, their base thickly covered with white pubescence. Mesonotum coarsely rugosely punctured, almost reticulated, the reticulations in the middle near the apex longer than the others. Scutellum closely rugosely punctured, thickly covered with white pubescence, longer than it is wide at the base, the sides straight, the apex rounded. Central area on base of metanotum large, about three times longer than wide, of equal width, with the apex rounded; the apex of the segment has a straight, oblique slope. The abdominal petiole nearly as wide at the base as it is at the apex, the latter clearly separated from the second segment, its ventral keel blunt, not dilated, clearly separated at the base. Pygidium irregularly punctured, the third and following dorsal segments keeled in the middle, the keel on the third and fourth shorter, not extending near to the base of the segment. The fourth abscissa of the radius slightly shorter than the basal and more steeply sloped, the third is not as long as the first and second united, the first recurrent nervure is received shortly, but distinctly beyond the middle, the second in the middle.

This is an "Ephuta" as defined by Dr. Ashmead, *Canad. Ent. XXXVI*, page 7.

TIPHIDAE.

3437 **Paratiphia fuscipennis** sp. nov.

Black; the mandibles and apical joint of the tarsi rufo-piceous, the calcaria white, the tarsal spines bright red; the pubescence white, on the last abdominal segment fulvous; wings and nervures fuscous. Female. Length nearly 7 mm. San Marcos, Nicaragua.

Flagellum of antennae brownish below, covered with a microscopic pile. Head above the antennae strongly punctured, more closely and with the punctures smaller and more closely pressed together on the lower part of the front than on the vertex. Pronotum except at the apex covered with large, deep, roundish punctures; the mesonotum

with the punctures larger and more widely separated; the scutellum has them smaller; the postscutellum is almost impunctate. The lateral keels of the middle area on the metanotum are roundly curved outwardly and do not unite at the apex; the central one does not quite reach to the apex outside it; on the basal half is a shorter less distinct keel; the space between this and the outer keel is finely, irregularly, transversely striated; the segment, outside the area, closely striated, the striae oblique, curved, and becoming stouter towards the apex. Upper part of propleurae strongly punctured, the lower obscurely rugose, with some scattered punctures; except at the base the mesopleurae are strongly but not very closely punctured and shining; metapleurae obliquely, distinctly striated, the striae clearly separated and weaker below the middle. Basal segments of abdomen sparsely, the apical more closely and strongly punctured; pygidium closely, finely punctured, except round the sides and apex; the central part obscure red; the hypopygium smooth in the centre, the sides punctured.

3434 *Tiphia marcosensis* sp. nov.

Black; the underside of the flagellum of antennae and the fore tibiae and tarsi rufo-testaceous; wings hyaline, the nervures and stigma black; palpi fuscous; vertex and front closely and strongly punctured, a smooth space below the ocelli and a short smooth line in the centre of the front. Face closely rugose; the clypeus distinctly punctured, its apex in the centre clearly defined, not quite transverse; the vertex at the sides of the ocelli smooth, bare, and shining. The whole head thickly covered with white hair. Pronotum, except for a smooth curved band on the apex, strongly, but not very closely punctured. Mesonotum more strongly punctured, the punctures widely separated, the lateral furrow smooth, moderately narrow and deep, and slightly curved. Scutellum much more closely punctured, if not quite so strongly; there is a small triangular smooth space in the middle at the apex. Basal half of postscutellum punctured distinctly and closely, the apical half smooth. Metanotum with three keels, the lateral slightly converging towards the apex, smooth and shining, the base of the lateral part obscurely punctured. First abdominal segment shining, rather strongly punctured; the apical transverse furrow narrow and smooth. The furrow on the base of the second segment distinct, strongly striated; the second segment is obscurely punctured, the third and fourth at the basal half smooth, the apical smooth; the others closely, strongly punctured. Wings hyaline, iridescent, the basal and apical abscissae of the radius roundly curved; the first transverse cubital nervure straight, not oblique; the second shaped like a reaping hook, the "handle" on the lower side, about one-fourth the size of the rest. The first recurrent nervure is received shortly beyond the middle of the cellule, the second near the base of the apical fourth. Calcaria and tarsal spines white. The metanotum appears shorter than usual, being only as long as the scutellum. Male. Length 7.5 mm. San Marcos.

3433 *Tiphia granadaensis* sp. nov.

Black, rather densely covered with white hair; the flagellum of antennae rufo-testaceous; centre of metanotum with two keels which converge slightly at the apex; wings clear hyaline, the nervures and stigma black. Male. Length 5 mm. Granada, Nicaragua.

Lower part of front, face, clypeus and base of mandibles densely covered with silvery pubescence; the front and vertex punctured, the former more closely and not so strongly punctured, its base bordered by a stout keel. Mesonotum sparsely punctured, most strongly in the centre, the apex in the middle with an oblique slope. Scutellum sparsely indistinctly punctured. The central area on the metanotum is smooth, the two keels at the base are slightly curved outwardly; in the basal half is a stout keel, with a minute one on either side; on the sides, inside the spiracles, is a double curved keel. Pleurae sparsely pilose; the metapleurae bare, shining, irregularly longitudinally striated. Across the apex of the petiole is a crenulated furrow; the base of the second segment is depressed and striated; the apical segments are densely covered with longish white hair. The fore tibiae and tarsi are testaceous. The basal abscissa of the radius has a short basal and a longer straight apical curve; it is not much shorter than the second, the third is the shortest and is roundly curved at the apex; the second transverse cubital nervure is broadly roundly curved. The furrow on the sides of the mesonotum is narrow and roundly curved. Palpi dark testaceous. Mandibles blackish. The scutellum is distinctly punctured, except the sides in the middle; the postscutellum is more uniformly punctured.

Comes close to *T. testaceipalpis* Cam. (Invert. Pacifica, I, p. 69), having like that species two keels on the metanotum, if we do not count the half length keel on the basal half.

ICHNEUMONIDAE - MESOSTENINI

3465 *Mesostenoides bakerianus* sp. nov.

Black, the face, clypeus, inner orbits, the lower half of the outer orbits entirely, malar space, the base of the prothorax, a broad band on the edge of the pronotum, tegulae, a conical mark—the base transverse—the apex narrower and rounded, scutellum except on the basal slope, its keels, postscutellum, the sides of the metanotum broadly, the marks covering the spines, tubercles, the lower half of the mesopleurae, the mesosternum except the furrow, a large mark below the hind wings, the lower half of the metapleurae and the apices of the abdominal segments—the bands on the second and third broader than the others—yellow. Legs pale yellow; all the femora broadly black above, the trochanters spotted with black; the fore coxae black below, the two posterior broadly black in the middle above; the apical joints of the four fronttarsi black. Wings hyaline, the stigma and nervures black. Antennae broadly ringed with white. Female. Length 12 mm.; terebra 4 mm. Chinandega, Nicaragua.

Shining. There is a stout keel down the middle of the front, with short irregular ones on either side of it close to the ocelli. Face and clypeus with some scattered punctures, the former with some irregular striae on the dilated centre above. Pronotum dilated near the base. Mesonotum strongly, but not very closely punctured, the base of the three lobes almost smooth, the sides of the central striated near the base. Base of scutellum strongly, but not closely punctured, the apex almost smooth; the centre, between the spines, irregularly obliquely striated, the apical slope more strongly transversely striated. Upper part of metapleurae strongly, closely, obliquely striated, the striae interlacing in the middle; the lower part punctured and striated. Apex of propleurae above the middle rather strongly striated, the top punctured. Mesopleurae punctured below, the base striated; the apex below strongly, obliquely striated, almost reticulated. Abdomen smooth. Tarsi closely spinose.

MESOLEPTINI.

3467 *Neleothymus* (?) *rufo-ornatus* sp. nov.

Black; face, clypeus, the eye orbits (more broadly before than behind), mandibles except at the apex, palpi, two lines obliquely dilated on the outside on the basal half of the mesonotum, tegulae, scutellum and tubercles, lemon-yellow; the apices of the third, fourth, and fifth abdominal segments rufo-testaceous; the upper half of the propleurae and the apical half of the middle lobe of the mesonotum sanguineous. The four front legs testaceous, paler, more yellowish in front, their coxae and trochanters lemon-yellow; the hind coxae and trochanters black, yellow at the apex; the femora red, their tibiae blackish, broadly yellow in the middle above, the tarsi blackish. Wings hyaline, the costa fuscous, the nervures and stigma darker colored; the recurrent nervure is received shortly beyond the only transverse cubital nervure, there being no areolet. Male. Length 8.9 mm. Chinandega.

Face and cheeks punctured, thickly covered with silvery pile, the clypeus more shining, obscurely punctured only above, clearly separated from the face. Thorax closely, distinctly punctured, thickly covered with a silvery pile. Scutellum flat, punctured, keeled laterally at the base. Median segment regularly areolated, the areola longer than wide, five-angled, the base sharply pointed, the apex transverse; the spiracles minute, oval. The metasternum bordered by a stout keel. Fore tibiae very long, the basal two joints united being longer than the tibiae. Wings short, the stigma large, the radius leaving it shortly beyond its middle; the transverse median nervure interstitial. Antennae shorter than the abdomen, black, the basal two joints yellowish below. Fifth tarsal joint longer than the fourth.

In the absence of a female I am not quite certain as to the generic position of this species in the Foersterian-Ashmeadian system.

VESPIDAE.

3446 *Eumenes nicaraguaensis* sp. nov.

Black, the greater part of the eye incision, a narrow line on the top of the outer orbits, a line on the sides of the clypeus above, the basal third of the mandibles, a conical mark above the antennae, its narrow end above, a line along the base of the propleurae, one along the upper edge of the pronotum all round, uniting in the middle with the lower oblique line, a narrow line on the base of the scutellum, post-scutellum, a line on the centre of the narrowed base of the first abdominal segment, a narrow line on its apex, with a mark touching the base of the line on the sides and a broader more irregular line on the apex of the second, bright yellow. Wings fuscous, highly iridescent, the nervures and stigma black, the latter shining. The lower part of the front, eye incision, face and clypeus pale golden, the pubescence on the rest of the body silvery. Male. Length 6 mm. to end of second abdominal segment. Chinandega.

Front and vertex strongly but not closely punctured except at the sides of the antennae. Antennae stout, a narrow yellow line on the apical half of the scape; the claw stout, slightly longer than the apical joint. Clypeus smooth, indistinctly punctured in the middle, the apex distinctly projecting in the middle, the projection twice wider than long, its apical half roundly incised. Thorax strongly and moderately closely punctured, except at the base of the metapleurae. Median segment broadly rounded, the apex with a steep slope and not furrowed. The oblique furrow on the mesopleurae is deep and clearly defined. Abdominal petiole clearly longer than the head and thorax united, its dilated pyriform apex about one-fourth shorter than the narrowed basal part, its lower surface is for the greater part sordid yellow, and there is a distinct transverse furrow close to the apex; the second segment campanulate, clearly longer than its width at the apex. Legs black, the knees and apex of fore tibiae testaceous. Body shining, polished, the thorax short, cubital in front, globular behind, more than twice the length of the "pear" of the petiole. Ocelli almost in a straight line. The second cubital cellule is narrowed in front, not quite half the length it is behind; the third is large and is clearly wider in front than behind.

Belongs to Saussure's Division Omicron (Syn. of Amer. Wasps, p. 70). It seems to be sufficiently differentiated from "regulus" by the longer clypeus compared with its width, it being also wider above. not so clearly narrowed and its apex is clearly bidentate. Judging by Saussure's figure (Pl. I, f. 7 b) the abdominal petiole is longer compared with the head and thorax; in *regulus* it is shorter than the head and thorax; in the present species clearly longer than the two combined. The second recurrent nervure is not interstitial as it is in *E. totonus*; in that species, too, the antennal hook is "very small." *E. aviculus* should, *inter alia*, be known by its strongly punctured abdomen.



Cameron, Peter. 1905. "On some Hymenoptera collected by Prof. C.F. Baker in Nicaragua." *Invertebrata pacifica* 1, 99–104.

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