DESCRIPTIONS OF NEW SPECIES OF WASPS IN THE COLLECTIONS OF THE UNITED STATES NATIONAL MUSEUM.

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Many of the following new species were received by the Bureau of Entomology, for determination, from Dr. W. E. Britton, of New Haven, Connecticut, and from Prof. Guillermo Gandara, of Mexico. The last lot contained a specimen of each species, with a number attached.

Some of the descriptions of the Mutillidæ may be considered too short, but as the genera are well defined and the species always placed in the species-group to which they belong, it is believed that they are of sufficient length to enable any one who is familiar with the group in question to satisfactorily determine the insect.

Superfamily VESPOIDEA.

Family BETHYLIDÆ.

Genus PARASIEROLA Cameron.

PARASIEROLA CELLULARIS (Say).

In view of the fact that Ashmead was the first reviser of this species his determination should stand as the type. The following notes taken from specimens reared from wheat stubble in Oxford, Indiana, and now in the National Museum, may be useful:

Female.—Length 3.75 mm. Mandibles tridentate; median carina smaller above the antennal hump and only about three-fourths as long as below the hump; antennal joints cylindrical, scape about one-third longer than the third joint, much shorter than the third and fourth, the third joint a trifle longer than the fourth; head granular, with distinct punctures sparsely interspread; pronotum widening posteriorly, the cephal-caudal length subequal with the posterior width; length of the meso- and metanotum subequal; propodeum shorter than the pronotum, dorsal aspect convex basally; dorsal and posterior aspects separated by a fine carina; thorax

granular, with a few large punctures interspread; abdomen polished, impunctate.

Specimens from the same rearing vary from black to piceous. The wings vary from clear hyaline to somewhat fuscous in the stigmal area.

PARASIEROLA DISTINGUENDA Kieffer.

This is at once distinguished from *cellularis* by the quadridentate mandibles and different antennæ. (Kieffer[1] describes the antennæ of *distinguenda* thus: "Schaft etwas länger als das 2. und 3. Fühlerglied, diese nur wenig länger als dick, die folgenden wenigstens so lang als dick.") Specimens which have been determined as this species have the pronotum anteriorly wider than the length. These specimens come from Texas and have been bred from *Bruchus prosopidis* (Hunter number 1410 of Bureau of Entomology) and an unknown *Bruchus* (number 1700).

Kieffer's variety *gracilicornis* has been taken at Los Angeles, California, by Mr. D. W. Coquillett; Mesilla Park, New Mexico, and "Ckll., 2704 on *Sisymbrinum*," by Prof. T. D. A. Cockerell. The character of the antennæ is perhaps great enough to consider this a species.

Family EUMENIDÆ.

Genus ODYNERUS Latrielle.

ODYNERUS (STENODYNERUS) CANAMEXICUS, new species.

Belongs to *Stenodynerus* of Saussure's "Synopsis of American Wasps" and runs in his table to the species of this group to *huastecus* Saussure, but differs from the description of that species in a number of points; superficially separated by the red legs.

Vertex bituberculate; second ventral segment sharply perpendicular anteriorly, the dorsal and ventral apical margins reflexed.

Male.—Length, to apex of second segment, 10 mm. Clypeus much broader than long, apex broadly rounded, middle arcuately emarginate, the emargination bounded by a small tubercule laterally surface with separate, distinct punctures; front with close, distinct punctures; vertex and posterior orbits with separated punctures of the same size; ocelloccipital line subequal with the first two flagellar joints; first joint of flagellum distinctly longer than the second, but not as long as the second and third; flagellar joints irregular; anterior angles of the pronotum subdentate; thorax with distinct, rather close punctures; metanotum perpendicular posteriorly, but not sharply so, slightly impressed medially; propodeum laterally and dorsally punctured like the rest of the thorax, posteriorly separated into two large, oval, shining areas by carinæ; legs normal; first segment but little

[1] Berliner Ent. Zeit., vol. 50, 1905, p. 254.

smaller than the second; suture between the first and second ventral segments not foveolate; first two dorsal segments punctured like the mesoscutum, the apex of the second densely so and reflexed; second ventral segment rather more sparsely so except at the apex, where it is closely punctured. Black; clypeus pale yellow; scape, pedicellum, nasal orbits to and filling emargination, oblique line from superior orbits nearly meeting in middle, spot on posterior orbits, pronotum, except a triangular lateral spot, spot below tegulæ, tegulæ, two small spots on scutellum, line on metanotum, legs below trochanters, two nearly confluent spots on first and second dorsal segments and lateral spots on second ventral (these spots are confluent with the apical band) *rufous;* apex of all the segments narrowly yellow; clypeus, thorax and basal abdominal segments with appressed white pubescence, that of the clypeus somewhat silvery; head (dense on face) and thorax with erect black hairs; wings strongly dusky, apically with a violaceous tinge, basally with a yellowish tinge; venation dark brown.

Federal District of Mexico. One male from Prof. Guillermo Gandara.

Type.—Cat. No. 14176, U.S.N.M.

Genus ANCISTROCERUS Wesmeal.

ANCISTROCERUS (STENANCISTROCERUS) CEANOTHI, new species.

Superficially very like *sæcularis* Saussure, but has the tubercles between the lateral ocelli well developed. Very close to *fulvipes* Saussure, but differs from that species thus:

A. fulvipes Saussure.	*A. ceanothi*, new species.
FEMALE.	FEMALE.
1. Anterior lateral angles of the pronotum dentate.	1. Anterior lateral angles of the pronotum not dentate.
2. Clypeus truncate.	2. Clypeus emarginate, bidentate.
3. Femora mostly rufo-ferruginous.	3. Femora mostly black.
4. Second dorsal segment without a free pale spot.	4. Second dorsal segment with a free pale spot.
MALE.	MALE.
5. Clypeus distinctly longer than wide, the emargination shallower and broader.	5. Clypeus but little longer than wide, the emargination narrow and deep, the teeth sharp.
6. Color characters of female.	6. Color characters of female.

Glencarlyn, Virginia. Female and two males collected June 8 on flowers of *Ceanothus*. Also a female collected June 14 on flowers of *Ceanothus* at Falls Church, Virginia. All collected by Mr. N. Banks.

Type.—Cat. No. 14183, U.S.N.M.

If Robertson's interpretation[1] of *sæcularis* Saussure is incorrect, this may prove to be Saussure's species, as it agrees well with his description.

[1] Trans. Amer. Ent. Soc., vol. 27, April, 1901, p. 196.

Family MASARIDÆ.

Genus PSEUDOMASARIS Ashmead.

PSEUDOMASARIS PHACELIÆ, new species.

Belongs in with *texanus* (Cresson), but is separated at once by the eyes being separated at the vertex by a distance slightly greater than the postocellar line (in *texanus* they are separated by much less than the length of postocellar line).

Male.—Length about 13 mm. Labrum obtusely pointed; clypeus strongly uniformly convex, arcuately emarginate in apical middle, finely punctured; front with rather large, separate punctures; scape not one and a half times as long as broad, third joint distinctly shorter than fourth; anterior ocellus large, subreniform; pronotum polished, with well-separated small punctures; mesonotum with distinct, well-separated punctures, which are somewhat closer in the depressed area; mesopleuræ and scutellum similarly punctured; propodeum normal; abdomen polished, with widely separated punctures which become smaller posteriorly; seen from above the first dorsal is arcuately emarginate anteriorly; second, third, and fourth dorsal segment depressed basally by about one-third the length of the entire segment; processes of the third ventral and apical segments essentially as in *texanus;* second cubital on the radius slightly longer than the distance between the recurrent veins. Black except where mentioned; apical half of scape, flagellum (except apical spots on fourth and fifth joints and greater part of club), face above level of antennæ (the lower margin has three indentations of black), most of clypeus, pronotum, large circular spot below tegulæ, tegulæ, spot above, two fan-shaped spots on anterior part of mesoscutum and a small spot in front depression, spot on scutellum and angles of propodeum yellow; abdomen with broad dorsal and ventral bands on apex of all segments reddish yellow (due in part to potassium cyanide?); legs reddish-yellow, knees yellowish; wings vitreous, hyaline, slightly yellowish in stigmal region; venation pale brown.

Female.—Length about 12 mm. Labrum broadly rounded apically; clypeus slightly convex, broadly arcuately emarginate teeth bounding emargination large, very finely granular, with large punctures intermingled; front with large, distinct punctures, which are more widely separated on the eye margins and vertex; postocellar line subequal with the ocellocular line; scape short, third joint of antennæ as long as the three following; pronotum with well-separated large punctures; mesoscutum with punctures the size of those of pronotum, but they are much closer and especially so in the depressed area; mesopleuræ more closely punctured than the mesoscutum; scutellum punctured like mesopleuræ, with an indistinct

carina medially; angles of propodeum nearly cylindrical, long; abdomen with well separated, distinct punctures, which become smaller posteriorly; first dorsal segment slightly emarginate anteriorly when seen from above; second and third dorsal segments depressed basally for about one-third; apical ventral segment with the large punctures well separated; second cubital cell on the radius as long as two-thirds of the distance between the recurrent veins. Black except where mentioned; antennæ rufo-piceous; posterior orbits dorsally, narrow line on inner orbits up to and filling the eye emargination, large spot on clypeus, spot above, posterior margin of pronotum narrowly, and an elongate lateral spot, large spot below tegulæ, tegulæ, spot above, large spot in front of depression on mesoscutum, most of scutellum, angles of propodeum, dorsal and ventral (except first) abdominal segments apically yellow; pronotum (except where mentioned), band on scutellum, elongate spots on second, third, and fourth segments rufous; legs rufous; wings dusky, especially near the veins; stigma and costa reddish-brown, veins dark brown.

The second female has more red on the three abdominal segments.

The female will fall next to *texanus*, from which it will easily be separated by the depression of the second and third dorsal segments.

If the sexes prove to be wrongly associated, the species should stand with the male as type.

New Mexico, Albuquerque. One male on flowers of *Phacelia neomexicana* May 13, 1910, collected by Mr. J. R. Watson. Mesilla, one female collected May 29 at flowers of *Phacelia* by Prof. T. D. A. Cockerell (Cockerell No. 5368). Filmore Canyon, one female collected August 28 by Prof. T. D. A. Cockerell.

Type.—Cat. No. 14143 U.S.N.M.

PSEUDOMASARIS ALBIFRONS, new species.

Male.—Length about 12 mm. Very like *texanus* (Cresson), from which it may be separated by the following characters: Very few large punctures on the front and these not sharply defined; posterior part of mesoscutum uniformly punctured (in *texanus* the depressed area is more closely punctured); punctuation of abdomen finer; second dorsal segment depressed by fully half its entire length (in *texanus* it is hardly depressed); third segment hardly depressed (in *texanus* it is depressed by fully one-third); punctures of the apical dorsal segment more widely separated; second cubital cell on the radius longer, being in the type greater than the distance between the recurrent veins (in *texanus* it is much less); markings whitish; clypeus except apical part pale; wings slightly yellowish in stigmal area, otherwise hyaline.

New Mexico. One male from Las Cruces, collected "on plum," March 25, 1896, by Prof. T. D. A. Cockerell. A male from Utah,

collected by Palm, from C. F. Baker collection, differs slightly in the venation and in having the third dorsal segment more depressed basally.

Type.—Cat. No. 14144 U.S.N.M.

PSEUDOMASARIS ZONALIS NEOMEXICANUS, new subspecies.

Female.—Length 10 mm. Separated from the typical form by the large, separate punctures of the head, thorax and abdomen; legs below the coxæ red; large spot on clypeus; only a narrow line on superior posterior orbits, and the emargination; spot on side of pronotum not connected with the posterior pale margin; small pale spot above tegulæ; flagellum black.

Aztec, New Mexico. One female collected May 4, 1899, at flowers of *Astragalus*. From C. F. Baker collection.

Type.—Cat. No. 14145 U.S.N.M.

PSEUDOMASARIS ZONALIS BASIRUFUS, new subspecies.

Female.—Length 9 mm. Differs from the typical form in the larger and separate punctures of the pronotum; a distinct depression in front of the anterior ocellus; legs below coxæ mostly red; wings nearly hyaline; three basal dorsal segments mostly red; orbits with a small spot in the emargination and a line on superior posterior margin; and lateral spot of pronotum not connected with the dorsal posterior margin.

From the subspecies *neomexicanus* it may be separated by the depression in front of anterior ocellus, closely punctured abdomen and red on the basal segments.

Death Valley, California. One female collected April, 1891, by Mr. A. Koebele.

Type.—Cat. No. 14146, U.S.N.M.

Family TIPHIIDÆ.

Genus TIPHIA Fabricius.

The following three species of *Tiphia* do not agree with the descriptions of any of the described species. The species of this genus, although as a rule possessing good characters, have in America not been described with sufficient accuracy to make their determination certain.

TIPHIA CANAMEXICA, new species.

Female.—Length 10.5 mm. Clypeus rounded anteriorly, not dentate; nasal margin of the eyes diverging to the clypeus; head with large, distinct, rather close punctures which are closer on the front; a glabrous streak from anterior ocellus; postocellar line distinctly shorter than the ocellocular line; ocelloccipital line and ocellocular line of approximately the same length; third antennal joint slightly shorter than the fourth, apical joint slightly tapering much longer

than the preceding joint; posterior margin of pronotum biarcuately emarginate; pronotum with close, small punctures; meso-scutum with large, rather close punctures; scutellum shining, very sparsely punctured; side of pronotum finely striate, the striæ stronger below; mesoepisternum with small well-scattered punctures; mesoepimeron and metapleuræ shining, practically impunctate; mesosternum punctured like the mesoepisternum, except the lateral posterior lobes which are practically impunctate; sternellum about one-fourth longer than greatest width, uniformly punctured, and with a complete longitudinal furrow; dorsal aspect of propodeum dull, irregularly, finely punctured, enclosure as in figure 1; not foveolate in front of the posterior carina; posterior face sharply defined; laterally obliquely striate; legs normal; abdomen shining with a few weak, scattered punctures; first dorsal without a transverse suture or carina; basal, transverse suture of second dorsal finely foveolate; pygidium coarsely punctured basally, apically finely granular, apex obtusely triangular; last ventral segment rounded to the truncate apex. Black; pubescence long, white; wings slightly dusky, vitreous; venation pale brown, stigma black.

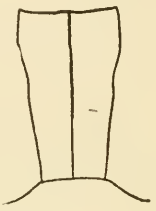

FIG. 1.—PROPODEAL ENCLOSURE OF TIPHIA CANAMEXICA ROHWER.

Federal District of Mexico. One female received from Prof. G. Gandara.

Type.—Cat.—No. 14181, U.S.N.M.

TIPHIA MEXIANA, new species.

Female.—Length 6 mm. Clypeus rounded apically, slightly broadly produced in the middle, not dentate; nasal margin of eyes distinctly diverging to the clypeus; head with median-sized well-separated punctures, somewhat closer on vertex and posterior orbits; postocellar line a little more than half as long as the ocellocular line; ocellocular line longer than ocelloccipital line; basal joints of flagellum carinate beneath, the first joint subequal with the second, apical joint distinctly longer than the preceding; posterior margin of pronotum biarcuately emarginate, surface punctured somewhat closer than the head; mesoscutum with rather larger, separated punctures; scutellum impunctate medially; side of pronotum very finely striate, striæ stronger below; mesoepisternum and sternum (except the impunctate posterior lobes) with well-separated, distinct punctures; mesoepimeron and metapleuræ very finely granular; sternellum one-fourth longer than apical width uniformly sculptured, with a deep longitudinal furrow; dorsal aspect of propodeum dull, inclosure as in

FIG. 2.—PROPODEAL ENCLOSURE OF TIPHIA MEXIANA ROHWER.

figure 2; anterior to the posterior carina very sparsely foveolate; posterior face sharply defined; sides finely striate; abdomen as in *canamexica* but more sparsely punctured; pygidium punctured basally, longitudinally striate in middle, shining apically, broadly rounded apically; last ventral plate rounded apically, very slightly emarginate medially. Black; pubescence white; wings clear hyaline, vitreous; venation dark brown, stigma black.

Federal District of Mexico. One female received from Prof. G. Gandara.

Type.—Cat. No. 14182, U.S.N.M.

TIPHIA FULVITARSIS, new species.

Male.—Length 5 mm. Clypeus somewhat depressed laterally, medially with a short, produced truncate process, surface with irregular, sometimes confluent, punctures; head transverse, with scattered distinct punctures; ocelli in a low triangle; postocellar line subequal with ocellocular line; scape rather short, much broader apically; pedicellum but little longer than broad, third joint subequal in length with the fourth, antennæ beyond the sixth joint wanting; pronotum carinate anteriorly notched in the middle, posterior margin produced in the middle, biarcuately emarginate, anterior part with large, separate punctures, posteriorly practically impunctate; nautali wanting; mesoscutum depressed medially where the punctures are closer, with large, separate punctures; scutellum punctured like the sides of mesoscutum; metanotum with close, small punctures; dorsal aspect of propodeum finely, subgranular, inclosure sharply defined, trapezoidal in outline, broader basally, with an indistinct median carina; sides of propodeum with strong longitudinal carinæ dorsally, ventrally finely striatopunctate; propodeal spiracle oval in outline, slightly basad of middle; sternellum acutely triangular, without a median sulcus; first dorsal without a medial transverse carina, very sparsely punctured, posterior margin with a punctate furrow; second dorsal polished, very sparsely punctured; apical part of third and the following dorsal segments with close, distinct punctures; posterior trochanter subangulate posteriorly; posterior calcaria slender, but little shorter than the basitarsis; stigma broadly rounded apically, broader apically; radial cell distinctly shorter than the first cubital, angulate at the first transverse cubitus; transverse median slightly basad of basal. Black; anterior tibiæ rufo-piceous; tarsi ferruginous; hairs white; wings hyaline, beyond stigma dusky.

Puira, Peru. One male collected November 1, 1910, by Mr. C. H. T. Townsend.

Type.—Cat. No. 14142, U.S.N.M.

Family MUTILLIDÆ.

Genus PYCNOMUTILLA Ashmead.

This includes Fox's groups *waco* and *asopus*. It is closest to *Dasymutilla* Ashmead, being separated by the tridentate mandibles and normally different conformation of the pygidium. The male have the tarsi with fewer spines.

PYCNOMUTILLA HARMONIA (Fox).

A pair, supposed to be taken in copula, brings to the light the male of this species known, heretofore, only from the female. The specimens were taken by Mr. A. H. Manee, Southern Pines, South Carolina, September 1, 1907.

The male belongs to group *asopus* of Fox, and in his table runs to *bexar* (Blake), but may at once be distinguished from that species by the absence of a carina on the second ventral segment, and the larger and (seen from side) more strongly nodose petiole. The carina of the first ventral segment is nearly straight, being only slightly arcuate.

Superficially the male is like *Dasymutilla castor* (Blake), but as Mr. Fox places this in the group of bidentate mandibles it can not be that.

The female, which is rather rubbed, differs from the typical form in the markings of the second dorsal segment being wanting and the absence of black hair on same segment.

PYCNOMUTILLA HARMONIIFORMIS, new species.

Male.—Length 12 mm. Differs from *harmonia* (Fox) in the carina of the first ventral segment being produced into a sharp tooth beneath; and the first segment (seen from the side) not nodose. The first segment is rufo-ferruginous.

Lyme, Connecticut. One male collected July 31, 1910, by Mr. A. B. Champlain.

Type.—Cat. No. 14123, U.S.N.M.

PYCNOMUTILLA BOULDERENSIS (Rohwer).

Ephuta boulderensis ROHWER, Tran. Amer. Ent. Soc., vol. 35, 1909, p. 133.

Type.—Cat. No. 14120, U.S.N.M.

PYCNOMUTILLA SPARSIFORMIS (Cockerell and Rohwer).

Ephuta sparsiformis COCKERELL and ROHWER, Psyche, 1908, p. 4.

Genus DASYMUTILLA Ashmead.

This is Fox's[1] group *occidentalis*.

[1] Trans. Amer. Ent. Soc., vol. 25, 1899, p. 230–249.

Group FERRUGATARUM.

[=Fox catagories 22 to 27, pp. 232 and 233.]

Unless otherwise stated the pygidium is strongly longitudinally striated, and well defined laterally.

DASYMUTILLA FERRUGATA, var. BALABETEI, new variety.

Female.—Length 11.5 mm. Differs from the typical form in having red legs.

Crescent City, Florida. One female collected by Mr. Hubbard.

Type.—Cat. No. 14124, U.S.N.M.

DASYMUTILLA GEORGIANA, new species.

Separated from *ferrugata* by the very prominent eyes.

Female.—Length 8 mm. Head seen from in front with the outer margins of cheeks subparallel, cheeks not expanding beyond the inner margin of the eyes; length of the second and third joints of antennæ beneath subequal with the length of fourth and fifth; dorsulum more coarsely punctured than the head or sides; metapleuræ and sides of propodeum with large, separate punctures; carina of first ventral as in *ferrugata;* legs rather feebly spinose; second dorsal with nearly uniform, small, separate, irregular punctures. Antennæ and legs piceous; apex of second dorsal with a small, medial patch of white pubescence; otherwise colored as *ferrugata,* except appressed pubescence is not as dense.

Georgia.

Type.—Cat. No. 14125, U.S.N.M.

DASYMUTILLA PLESIA, new species.

Mutilla ferrugata CRESSON, Trans. Amer. Ent. Soc., vol. 4, 1872, p. 198 (part).

Separated from *ferrugata* by the second and third joints of antennæ being distinctly shorter than the fourth and fifth.

Female.—Length 10 mm. Eyes prominent, but not as distinctly so as in *georgiana;* cheeks and vertex sparsely punctured, front closely so; dorsulum more coarsely sculptured than the sides or head; metapleuræ and sides of propodeum with large separate punctures; legs strongly spined for group, apical spines of penultimate joint of posterior tarsi subequal with the length of untimate joint; ventral carina of first segment as *ferrugata;* first dorsal sparsely punctured medially; second dorsal with lateral basal area and sides sparsely punctured, the rest with uniform small punctures. Rufo-ferruginous; antennæ piceous; legs, apex of second and all the following segments black or very dark piceous; head, thorax and most second dorsal with appressed golden pubescence; head most of thorax and the greater part of second dorsal with sparse erect golden hair; posterior face of propodeum and first dorsal with scattered, erect, black hairs;

apex of first dorsal with black hair; quadrate spot of black hair at basal middle of second dorsal; apex of second dorsal, except at extreme sides with black hair; apex of third and following and lateral apical margin of second with white hair; apical ventral margin of second and following segments with white hair.

Ocean Beach (opposite Miami), Florida. Eight females collected November 8 by Mr. C. H. T. Townsend. One female from Texas (Belfrage) and two females from Washington, District of Columbia.

Type.—Cat. No. 14126, U.S.N.M.

The largest specimen is 14 mm., the smallest one 8 mm.

DASYMUTILLA ERRANS, new species.

Mutilla ferrugata CRESSON, Trans. Amer. Ent. Soc., vol. 4, 1872, p. 198 (part).

Female.—Length 11 mm. Differs from *plesia* as follows: Metapluræ without large punctures; apex of first dorsal segment with white hair; apex of second dorsal with band of white hair narrowly interrupted in middle; appressed black pubescence at base of second dorsal poorly defined or wanting; posterior tarsi feebly spined.

Texas (Belfrage); Brownsville, Texas, August 30,1896, collected by Mr. C. H. T. Townsend.

Type.—Cat. No. 14127, U.S.N.M.

DASYMUTILLA BOSQUENSIS, new species.

Superficially like *errans*, but differs widely in structure as will be seen by the following description.

Female.—Length 10.5 mm. Fourth antennal joint distinctly narrowed below, the third joint subequal in length with the fourth and fifth ventrally; head with distinct separate punctures, but little closer on the front; metapleuræ without large punctures; sides of propodeum with large separate punctures; carnia of first ventral broadly arcuate, anterior tooth larger; second dorsal coarsely punctures, punctures sometimes confluent; legs not strongly spinose. Colored like *errans* except the black spot in basal middle of second dorsal is better defined.

Waco, Bosque County, Texas. One female from the Belfrage collection.

Type.—Cat. No. 14128, U.S.N.M.

DASYMUTILLA BLAWA, new species.

Female.—Length 9 mm. Fourth antennal joint distinctly narrowed below, the third subequal in length with the fourth and fifth ventrally; cheeks sparsely punctured, vertex and front more closely so; punctures of the dorsulum not very compact, and of the same size as those of the pleuræ; metapleuræ without large punctures; carina of first ventral segment strongly bidentate, the anterior tooth

not as robust as the posterior one; first dorsal with large punctures in middle, second dorsal with uniform, rather close, and large punctures; tarsi not very strongly spined. Rufo-ferruginous; antennæ, legs, apex of the second and the following segments black or piceous; appressed, short, reddish-golden pubescence on head, thorax and most of second dorsal segment; insect generally with sparse, erect black hair; legs, apex of second and following segments, broadly interrupted laterally on the second and third with silvery pubescence; apex of second and a more or less defined basal middle of second dorsal segment with black hair.

Ames, Iowa, one female (type); Riley County, Kansas, July and September, two females, collected by Mr. C. L. Marlatt; and one female from Colorado, C. F. Baker collection.

Type.—Cat. No. 14129, U.S.N.M.

The specimen from Colorado has the basal spot on the second dorsal more sharply defined and the anterior tooth of the carina of the first ventral segment is larger than the posterior.

Except for some minor points this agrees well with the description of *sparsa* (Fox). It may eventually prove to be a variety of Fox's species.

DASYMUTILLA FERRUGATELLA, new species.

Superficially like *ferrugata*, but the carina of the first ventral segment and the relation of antennal joints are different.

Female.—Length 7 mm. Fourth joint of antennæ not or scarcely narrowed below, third joint much shorter than the fourth and fifth; cheeks more sparsely punctured than the front; dorsulum more coarsely punctured than the front; metapleuræ without large punctures; sides of propodeum with large, scattered punctures; first dorsal with a few large punctures in middle; second dorsal uniformly, sparsely punctured; carina of first ventral bidentate, teeth of equal size. Colored like *ferrugata*.

Pennsylvania (type) one female, C. F. Baker collection; Louisiana, one female, C. F. Baker collection.

Type.—Cat. No. 14130, U.S.N.M.

DASYMUTILLA COLORADELLA, new species.

Female.—Length 10 mm. Fourth antennal joint not, or scarcely, narrowed beneath, the third joint distinctly shorter than four plus five; cheeks more sparsely punctured than the front; dorsulum with large, close punctures; sides of propodeum more sparsely punctured; metapleuræ with appressed, whitish pubescence, with a few large punctures; carina of the first ventral segment bidentate, the anterior tooth robust, and rounded, the posterior one slender, acute, triangular; first dorsal with large punctures; second dorsal with sparse, elongate punctures (basally the punctures are circular); legs rather

feebly spined. Colored like *ferrugata* except the erect hairs of head and thorax are black.

Boulder, Colorado (type), one female collected May 3, 1909, by S. A. Rohwer; Florissant, Colorado, one female collected July 4, 1907, by S. A. Rohwer; three females from Colorado (C. F. Baker collection).

Type.—Cat. No. 14131, U.S.N.M.

Legs black or piceous.

DASYMUTILLA COLORADELLA VIRGINICA, new subspecies.

Female.—Length 11 mm. Differs from the typical form in having the erect hairs of the head and thorax sparse and reddish-golden. The propodeal spiracle is more elongate and it may prove to be a distinct species.

Woodstock, Virginia. One female collected June 9, 1898, by Mr. F. C. Pratt.

Type.—Cat. No. 14132, U.S.N.M.

DASYMUTILLA COLORADELLA KAMLOOPSENSIS, new subspecies.

Female.—Length 9 mm. Differs from the typical form in having the posterior tooth of the carina of the first ventral segment hooked posteriorly. (In the typical form this is straight.)

Kamloops, British Columbia. One female collected by Professor Wickham.

Type.—Cat. No. 14133, U.S.N.M.

DASYMUTILLA SEGREGATA, new species.

Female.—Length 10.5 mm. Fourth antennal joint not narrowed below, the third joint subequal with four plus five ventrally, joints four and five carinate beneath; cheeks punctured much like the front; dorsulum with rather small, sometimes confluent punctures; sides of propodeum with well separated punctures; metapleuræ with small, well-defined punctures; carina of first ventral segment bidentate, teeth rounded, the anterior one slightly larger; first dorsal without large punctures medially; second dorsal with close, rather small punctures, the lateral basal area impunctate, shining; legs rather strongly spined. Colored like *ferrugata;* metapleuræ without appressed pubescence.

Pennsylvania. One female from C. F. Baker collection.

Type.—Cat. No. 14134, U.S.N.M.

DASYMUTILLA SEGREGATA FINNI, new subspecies.

Female.—Length 9 mm. Differs from the typical form in the absence of a spot of black pubescence at base of second dorsal segment; red antennæ and legs; and larger anterior tooth carina of first ventral segment.

Egypt, Georgia. One female from Mr. W. H. Finn, for whom the form is named.

Type.—Cat. No. 14135, U.S.N.M.

The specimen is somewhat rubbed and in fresh specimens there may be a pale spot of pubescence in apical middle of the second dorsal segment.

DASYMUTILLA BRUNERI, new species.

Female.—Length 9 mm. Fourth antennal joint not or scarcely narrowed below, third joint distinctly shorter than the fourth and fifth; cheeks more sparsely punctured than the front; dorsulum with separate, well-defined punctures; sides of propodeum more sparsely punctured; metapleuræ shining, with very fine, separate punctures and a few larger ones interspread; middle of first dorsal with large punctures; second dorsal rather small, irregular, punctures uniformly distributed; carina of first ventral segment bidentate, the anterior tooth smaller and sharper; tarsi feebly spined. Ferruginous; antennæ, legs, margin of second and the entire following segments rufo-piceous; head, thorax and second dorsal with subappressed golden pubescence; erect hairs sparse, yellowish; legs with whitish hairs; apex of the second (dorsally interrupted to form three spots) and the following segments with yellowish hairs; metapleuræ without appressed pubescence.

Bismarck, North Dakota. One female collected August 9, 1895, by Prof. L. Bruner, for whom the species is named.

Type.—Cat. No. 14136, U.S.N.M.

DASYMUTILLA TEXENSIS, new species.

Female.—Length 8 mm. Fourth antennal joint not narrowed below, third joint distinctly shorter than the fourth and fifth; head with rather large distinct punctures, those of the front close, those of the cheeks separate; dorsulum with larger punctures than the front, sides of the propodeum with separate punctures; metapleuræ with appressed white pubescence, without large punctures; first dorsal with large punctures in the middle; second dorsal with nearly uniform, elongate, somewhat separate punctures; carina of the first ventral segment nearly straight, with a triangular-shaped median tooth; tarsi rather feebly spined. Ferruginous; antennæ and legs rufo-piceous; apex of second and the entire following segments blackish; head, thorax and second dorsal with appressed yellowish pubescence; erect hairs of head and thorax white; legs with white hairs; apex of the first and following segments with white hair, that of the second slightly interrupted medially.

Texas. One female.

Type.—Cat. No. 14137, U.S.N.M.

DASYMUTILLA MESILLÆ, new species.

Closest to *texensis* Rohwer, but distinct as the following description will show.

Female.—Length 8 mm. Fourth joint of antennæ scarcely narrowed below, third joint distinctly shorter than the two following; cheeks punctured almost as coarsely as front; dorsulum closely punctured, punctures small and sometimes confluent; sides of propodeum reticulate; metapleuræ with appressed white pubescence, without large punctures; first dorsal segment with large medial punctures; second dorsal with elongate close punctures, somewhat separated laterally; carina of first ventral segment with a small tooth posteriorly; legs feebly spined. Color differs from *texensis* as follows: Flagellum black; legs color of body; erect hair of head and thorax black; apex of first dorsal except laterally, large spot on base of second and wide apical middle of second dorsal with black pubescence.

Mesilla, New Mexico. One female collected June 17 by Prof. T. D. A. Cockerell.

Type.—Cat. No. 14138, U.S.N.M.

The first segment is short.

DASYMUTILLA BLAWANA, new species.

Very like *Dasymutilla blawa* Rohwer, but may be separated from that species by the following characters: Erect hairs of head and thorax white; carina of first ventral segment tridentate; teeth low, rounded apically, the distance between the middle and posterior one greater than the distance between the middle and anterior one; second dorsal more sparsely punctured laterally; pygidium granular.

Female.—Length 9 mm.

Texas, two females from Befrage collection; and one female from C. H. T. Townsend, collected September 4, 1896.

Type.—Cat. No. 14139, U.S.N.M.

Superficially like *Pycnomutilla harmonia* (Fox).

DASYMUTILLA CHAMPLAINI, new species.

Female.—Length 9 mm. Fourth antennal joint not, or scarcely, narrowed below; third joint subequal in length with the fourth and fifth; front with confluent punctures, cheeks with separate punctures; dorsulum punctured similar to the front; sides of propodeum with somewhat finer, separated punctures; metapleuræ without appressed pubescence or large punctures; first dorsal with the middle area without appressed pubescence, dull; second dorsal with uniform (except an impunctate basal area) somewhat separate punctures which are basally circular, apically elongate; carina of first ventral segment tridentate, the middle tooth largest; tarsi rather strongly spined. Rufo-

ferruginous; antennæ, legs, apex of second and the entire following segments black; head, thorax, and second dorsal with appressed ferruginous pubescence with some erect black hairs intermingled; legs with shining white hairs; apex of first dorsal, second dorsal apically (except lateral spots) and a spot in basal middle clothed with black hair; second ventral (and dorsal laterally) and the following dorsal and ventral segments with slightly yellowish hair.

Paratopotypes indicate that the species may vary as follows: Smallest 7 mm. sides of second dorsal with separate punctures; ventral carina with the posterior tooth nearly as large as the middle, which makes the carina appear bidentate, but in reality the anterior tooth is present, although small; and first dorsal may be shining medially.

Lyme, Connecticut. Six females collected May 20, 1910, by Mr. A. B. Champlain and five females collected September 26 and 30, 1909, by Mr. A. B. Champlain from P. R. Myers' collection.

Type.—Cat. No. 14140, U.S.N.M.

Named for Mr. A. B. Champlain.

DASYMUTILLA CAROLINA, new species.

Female.—Length 11 mm. Differs from *coloradella virginica* Rohwer in having a broad, poorly defined laterally, pygidium, which has fine irregular, longitudinal striæ.

Columbia, South Carolina. One female received from Mr. G. F. Atkins.

Type.—Cat. No. 14141, U.S.N.M.

Group CYPRIDES.

DASYMUTILLA MUTATA MIAMENSIS, new subspecies.

Female.—Length 8 mm. Differs from *mutata mutata* as follows: Rufopiceous; second dorsal segment sparsely punctured laterally and without pale spots; calcaria black; legs black.

Miami, Florida. One female collected by Mr. H. C. Herricksen.

Type.—Cat. No. 14119, U.S.N.M.

DASYMUTILLA SCROBINATA, new species.

Runs in Fox's table[1] to *cypris*, but may be separated from the species of this group (*cyprides*) by having the scrobes defined by a carina above.

Female.—Length, 9 mm. Antennæ tapering, third joint distinctly longer than the fourth, but shorter than the fourth and fifth; scrobes punctate above, bounded by a carina dorsally; tubercle of the posterior lateral margin of the head subcircular in outline; posterior and dorsal aspect of propodeum more coarsely punctato-reticulate than the rest of the thorax; sides of the propodeum shining, with a

[1] Trans. Amer. Ent. Soc., vol. 25, 1899, p. 232.

few scattered punctures; calcaria long, slender, pallid; carina of the first ventral segment not toothed, slightly higher at the rounded anterior end; punctures of the second dorsal segment close and sometimes confluent; apical part of pygidium granular, basal part longitudinally striate. Rufo-ferruginous; apex of mandibles, antennæ, legs, apical margin of the second and the entire following segments black; second dorsal segment with *two* large ferruginous spots; fourth and fifth dorsal and ventral segments beyond the second with rather dense, slightly yellowish pubescence; base and apex of second (connected by a narrow longitudinal medial line), and the third dorsal segments with black pubescence; part of first and second dorsal segments, head, and thorax with short appressed golden pubescence and with sparse black hairs; legs with white hairs.

Lyme, Connecticut. One female collected July 31, 1910, by Mr. A. B. Champlain.

Type.—Cat. No. 14117, U.S.N.M.

A metatype from Lake Forest, Illinois, July 24, 1899, differs only in having the posterior femora rufous beneath.

DASYMUTILLA ALLARDI, new species.

Belongs to group *cyprides*, but may be separated from the other species of the group by the bidentate carina of the first ventral segment.

Female.—Length, 10 mm. Differs from the above description of *serobinata* in the following points: Scrobes not defined above; tubercules of the head elongate; sides of propodeum more closely punctured; calcaria shorter, more robust and brownish; carina of first ventral segment bidentate; pygidium nearly completely longitudinal striate; second dorsal segment with but little black, basal pubescence and with four pale spots; long hairs of head and thorax sparser and yellowish.

Thompsons Mills, Georgia. One female collected October, 1909, by Mr. H. A. Allard, for whom the species is named.

Type.—Cat. No. 14118, U.S.N.M.

DASYMUTILLA FORMICALIA, new species.

Belongs near *californica* (Radoszkowski), but may readily be distinguished by the spot of black pubescence at the base and apex of the second dorsal segments.

Female.—Length, 11 mm. Head distinctly narrower than the thorax anteriorly; clypeus truncate, rounded laterally; scrobes not defined above; head coarsely irregularly, sometimes confluently punctured; malar space greater than the diameter of the eye; scape punctured; third antennal joint slightly concave beneath, not as long as the two following joints; thorax hexagonal, but little longer than

the greatest width, sharply truncate posteriorly, punctured similar to the head; first segment much narrower than the second; second segment large, much higher than the first, subtruncate anteriorly, punctures large, not confluent; carina of the first ventral large, triangular, apex rounded; second ventral with large, distinct punctures; pygidium not strongly defined laterally, truncate apically surface coriaceous. Black; head, thorax and abdomen (except where mentioned) with long matted scarlet pubescence; cheeks, clypeus, scape, sides and venter of thorax, venter of abdomen and legs with white pubescence; first dorsal, a triangular spot at basal and apical middle of second dorsal segment with black pubescence.

Federal District of Mexico. One female from Prof. Guillermo Gandara.

Type.—Cat. No. 14175, U.S.N.M.

Superfamily SPHECOIDEA.

Family AMPULICIDÆ.

Genus RHINOPSIS Westwood.

RHINOPSIS CANICULATUS (Say).

Ampulex caniculata Say, West. Quart. Rep. Cincinnati, vol. 2, 1823, p. 76.
Rhinopsis abbottii Westwood, Arcan. Ent., vol. 2, 1844, p. 68.
Ampulex pennsylvanicus Haldeman, Proc. Acad. Nat. Sci. Phila., vol. 4, 1849, p. 203.

A proxytype (Rohwer) in the Museum collection, and figured on plate 6, figure 2, Howard's Insect Book, 1904, agrees with the original description accompanying the above three names. The synonymy established by Cresson is again confirmed.

Male.—Length, 6 mm. Not as strongly sculptured as the female and the basal part of the wings without a fuscous area. Clypeus with a single apical tooth.

RHINOPSIS MELANOGNATHUS, new species.

Separated from *caniculatus* by the following:

Clypeus not carinate apically, apical middle margin quinquedentate, the sides of the production sinuate; mandibles rufo-ferruginous; head uniformly sculptured; pronotum finely transversely striato-granular posteriorly; mesoscutum without large lateral punctures; notauli not foveolate; mesoepisternum granular with a few large punctures dorsally.....*caniculatus* (Say).

Clypeus with a carina in apical middle with one apical tooth, sides of production not sinuate; mandibles, except the piceous apices, black; front striato-punctate, rest of the head finely granular, with large scattered punctures; pronotum coarsely, transversely striato-reticulate; notauli foveolate; sides of mesoscutum with large punctures; mesoscuto-scutellar suture strongly foveolate; mesoepisternum with large, dorsally confluent, punctures; entirely black, wings marked as in *caniculatus*. Female. Length 10 mm.....*melanognathus* Rohwer

Manchester, Connecticut. One female collected September 13, 1910, by Mr. A. B. Champlain.

Type.—Cat. No. 14075, U.S.N.M.

Family SPECIDÆ.

Genus PODIUM Fabricius.

PODIUM (PARAPODIUM) CAROLINA (Rohwer).

Podium carolina ROHWER, Proc. U. S. Nat. Mus., vol. 40, No. 1837, 1911, p. 556.

This may be only a subspecies of *Podium* (*Parapodium*) *biguttatum* Taschenberg. It differs from the original description in the following points: Scape black; all the tibiæ and tarsi rufous; tegulæ in part black. From Kohl's description of this species it also differs in some minor points. Compared with his figure [1] of the wing the following differences are to be noted: The second cubital smaller, its first abcissa on the cubitus not strongly bent; third cubital not so distinctly narrowed above, the third transverse radius not bent; stigma truncate apically; radial cell with a narrow, truncate apical portion. The petiole is twice as long as the posterior coxæ and trochanter united; apical joint of antennæ slightly shorter than the preceding.

SPHEX (SPHEX) NIGROPILOSUS, new species.

Of the Central American species this seems to be nearest to *Sphex* (described as *Ammophila*) *zanthoptera* (Cameron), but differs from the description of that species in a number of characters, being readily separated from it by the wings beyond the stigma being strongly dusky, no bluish reflection to body, and the black pubescence.

The figures cited in the following description are those of Kohl's "Monographie der Gattung Ammophile W. Kirby." [2]

Female.—Length 22 mm. Habitus much as *zanthoptera* as figured by Cameron. Clypeus hardly produced, broadly truncate, lateral angles sharp, subdentate; inner eye margins subparallel, slightly closer together at the clypeus, similar to figure 117; ocelli in a low triangle, the lateral ones on the supraorbital line, see figure 113; occiput, seen from above concave; impressed frontal line strong; head, except lower posterior orbits shagreened; clypeus polished, with well separated punctures; flagellum filiform, the first joint subequal to the two following, apical joint truncate; pronotum short, rounded anteriorly, separated from the mesoscutum by a deep furrow; thorax except where mentioned, finely granular; scutellum rather deeply impressed, posteriorly finely longitudinally striate; suture of

[1] Abhand. k. k. zool. bot. Ges. Wien, vol. 1, fig. 4, p. 45.

[2] Ann. k. k. naturhist. Hofmus. Wien, vol. 21, 1906, p. 228, etc.

mesoepisternum distinct, not foveolate, gently curved; propodeum subequal in length with the mesonotum and metanotum combined, spiracle place at the approximate middle, posterior face oblique, sides as rest of thorax, dorsal aspect finely transversely striate; fore tarsi differing *scabrosa* (see fig. 133) in that the apex of the basal joint is strongly produced within and armed with a short spine, apex of second joint somewhat produced; claws with two small inner teeth, see figure 45; abdomen finely aciculate; shape of cubital cells nearer figure 108 but the second recurrent is received near the apex and the first well in the second cubital; first and second abcissæ of second cubital cell on cubitus subequal; radial cell similar to figure 102. Black; second, third and base of fourth segments red; very little appressed pubescence this as well as the erect hairs black; tibiæ with silvery pile; wings basad of base of stigma yellow, apical part and wing dusky; venation color of wings.

In Kohl's table to the Palæarctic species this runs out at catagory 26, but is near those species running to 29, and if sought for in this group would run to *lateritia*.

Federal District of Mexico. One female received from Prof. Guillermo Gandara.

Type.—Cat. No. 14174, U.S.N.M.

Family BEMBICIDÆ.

Genus BEMBYX Fabricius.

Type.—*Apis rostrata* Linnæus [designated Latrielle 1810].

Fabricius originally spelled his genus *Bembyx*, not *Bembex*, and as far as known never changed this spelling. *Bembex* Oliver et auctorum will have to fall as a synonym of *Bembyx* Fabricius.

BEMBYX PRIMAÆSTATE Johnson and Rohwer.

Male.—Sufficiently like the female to be easily associated with it. The nearest ally of this species is *spinolæ* Lepeletier, but the male may be distinguished by the different outline of the gentalia stipes, pale markings of the pleuræ, and from Handlirsch's figure of the antenna in having the seventh joint with a sharp spine in the middle. The markings are more yellow than is usually the case in *spinolæ*. The intermediate femora are dentate.

FIG. 3.—APEX OF GENITALIA STIPES OF BEMBYX PRIMAÆSTATE JOHNSON AND ROHWER.

There is some variation in the extent of the pale markings to the pleuræ, and the apical dorsal segment may be black or pale. The accompanying figure is made from the darker of the specimens.

Two males from Springfield, Idaho, collected July 30, 1906, by Mr. A. J. Snyder.

BEMBYX CAMERONI, new species.

Related to *spinolæ* Lepeletier. Differs from the original description of this species in some minor points of coloration, viz, anus with a pale spot. From Handlirsch's interpretation of *spinolæ* the shape of the gentalia stipes and dentation of the antennæ will separate it.

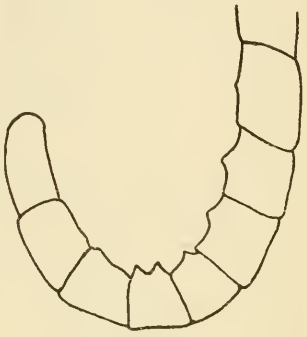

FIG. 4.—APICAL JOINTS OF THE FLAGELLUM OF BEMBYX CAMERONI ROHWER.

Male.—Length 17 mm. Labrum not depressed; vertex, seen from in front, biemarginate; head with very sparse, irregular punctures; apex of flagellum dentate beneath, as in figure 4; the first joint slightly longer than the two following; thorax finely granular; legs practically as in *spinolæ*, except that the anterior femora are more robust and slightly flattened beneath; second and seventh ventral segments with large, simple processes; eighth dorsal segment sharply angled laterally, slightly, broadly produced in the middle; eighth ventral segment with the spine long, slender, acute; stipes as in figure 5. Black; clypeus labrum, mandibles (except piceous apices), inner orbits broadly to near vertex, supraclypeal area, scape in front, tubercules, tegulæ, legs below bases of femora, large spots on first dorsal, sinuate bands on the second, third, fourth, and fifth dorsal segments, continuous band on sixth and a spot on seventh dorsal, small lateral spot on second and following ventrals, *yellow;* wings clear hyaline, vitreous; venation rather dark brown; head, thorax, and first abdominal segment with white pubescence.

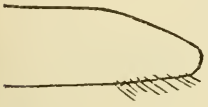

FIG. 5.—APEX OF GENITALIA STIPES OF BEMBYX CAMERONI ROHWER.

Federal District of Mexico. One male from Prof. Guillermo Gandara.

Type.—Cat. No. 14177, U.S.N.M.

Named for Mr. P. Cameron, the writer on this group of insects in "Biologia Centrali-Americana."

BEMBYX OBSOLETA Howard.

Bembex obsoleta HOWARD, Insect Book, 1904, pl. 4, fig. 36.

This species has never been described, but the figure is enough to hold it, and the type must be the actual specimen figured, which is in the U. S. National Museum definitely labeled as such.

Type.—Cat. No. 14178, U.S.N.M.

Runs in Fox's table to North American *Bembex*[1] to *pruniosa* Fox,

[1] Proc. Acad. Nat. Sci. Phila., 1895, p. 354, etc.

but that species is marked much more strongly with greenish markings (in *obsoleta* the markings are yellow), the stipes are much different, the second and sixth ventral segments are simple (the same segments of *obsoleta* have ventral processes). Disregarding the character of the seventh ventral plate *obsoleta* runs to *amœna* Handlirsh which is very different.

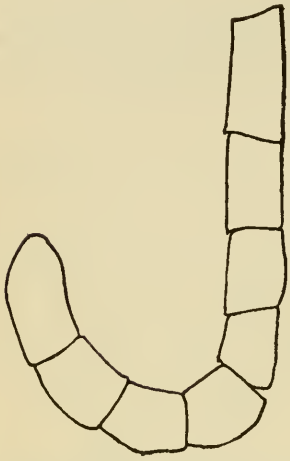

FIG. 6.—APICAL JOINTS OF THE FLAGELLUM OF BEMBYX OBSOLETA HOWARD.

Male.—Length 19 mm. Labrum not depressed; vertex seen from in front slightly biemarginate, the middle portion below the top of eyes; flagellum carinate beneath, the joints subdentate apically, first joint slightly longer than the two following; thorax finely granular; legs normal, intermediate femora simple; seventh dorsal segment rather narrowly truncate apically; second ventral segment with a low, median process which is truncate apically; sixth ventral segment with the process bidentate apically; seventh ventral segment with a long, median spine, the apex of which is bidentate; gentalia stipes as in figure 8. Black; clypeus, labrum, mandibles (except piceous apices), inner orbits almost to vertex, small spot on supraclypeal area, scape in front, legs from below near middle of femora (except tibiæ above), lateral spots on first to fifth dorsal and second to fifth ventral segments inclusive bright yellow. Wings clear hyaline, vitreous; venation pale brown; head, thorax, and base of first segment with white pubescence.

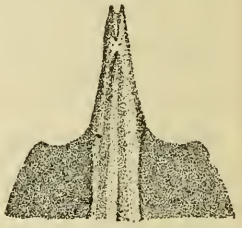

FIG. 7.—APICAL VENTRAL PLATE OF BEMBYX OBSOLETA HOWARD.

FIG. 8.—APEX OF GENITALIA STIPES OF BEMBYX OBSOLETA HOWARD.

Los Angeles County, California. Five males collected by Mr. D. W. Coquillett.

Family GORYTIDÆ.

Genus GORYTES Latrielle.

GORYTES NIGRIFRONS Smith.

Gorytes nigrifrons SMITH, Cat. Hym. Brit. Mus., vol. 4, 1856, p. 368.
Gorytes (*Gorytes*) *neglectus* ROHWER. Proc. U. S. Nat. Mus., vol. 40, 1911, p. 567.

In this connection it will be well to call attention to some errors of numbering in Fox's table[1] of American *Gorytes*.

[1] Proc. Acad. Nat. Sci. Phila., 1895, pp. 517-539.

Page 518 under category 8 change 12 to 11 and under category 9 change 11 to 10.

PARAMELLINUS, new genus.

Euspongus ASHMEAD, Can. Ent., vol. 31, 1899, p. 200.

Genotype.—Gorytes bipunctatus Say.

Closest to *Hapalomellinus* Ashmead from which it may be separated by the inner orbits diverging below antennæ; pronotum very short, perpendicular anteriorly; transverse median of hind wings at right angles with the median and much before the cubitus; and other points. *Ammatomus* A. Costa is also related but has different venation, abdomen and head.

Sternauli wanting; first abdominal segment coarctate, subpetiolate; eyes strongly converging to level of antennæ, where they diverge; space between bases of antennæ greater than the space between one of them and the orbits; lateral ocelli on the supraorbital line; pronotum transverse, perpendicular anteriorly, but little lower than the mesoscutum; legs robust; stigma large, radius arising from near middle; first recurrent in first cubital cell or interstitial with first transverse cubitus; second recurrent near apex of second cubital cell; transverse median nearly interstitial with the basal.

ARIGORYTES, new genus.

Genotype.—Gorytes coquillettei Fox.

Sternauli present; first abdominal segment sessile with the second; eyes strongly converging to the clypeus; antennæ closer together at bases than the distance from their bases to eye margin; lateral ocelli on the supraorbital line; pronotum short, transverse and sharply perpendicular anteriorly; propodeal inclosure strongly striate; transverse median of fore wings much beyond basal; transverse median of hind wings and cubitus interstitial or nearly; abdomen without dense pile; mesoepisternum with a cephal-caudad dorsal suture; female with a tarsal comb; stigma small, the radius leaving at the apex.

TRICHOGORYTES, new genus.

Genotype.—Trichogorytes argenteopilosus Rohwer.

Similar to *Arigorytes* Rohwer, from which it may be known by the following characters. Nasal margin of eyes subparallel; lateral ocelli below the supraorbital line; pronotum long (for group), rounded anteriorly; propodeal inclosure smooth; cubitus of hind wings originating much beyond the transverse median; abdomen with dense pile; sternauli wanting; and in having the prepectus like *Mellinus*.

TRICHOGORYTES ARGENTEOPILOSUS, new species.

In Fox's table to North American *Gorytes* this species would run to *pictifrons* Fox, but is not closely allied to that species.

Female.—Length 7 mm. Slender; anterior margin of clypeus slightly emarginate anteriorly; head with rather large, distinct, separate punctures; antennæ slender, nearly filiform, third joint distinctly longer than fourth, apical joint acuminate; thorax finely sculptured; mesoscuto-scutello scuture foveolate; abdomen very finely granular; pygidium but little longer than the basal width, rounded apically, with a raised glaberous, medial line; radial cell obtusely rounded apcially; legs feebly spined, tibiæ with only three or four spines. Black: antennæ beneath (apical joints almost entirely), tegulæ and anterior knees yellow; abdomen dull red; legs below coxæ fulvo-ferruginous, four anterior femora black; entire insect (including legs) except bases of second and following abdominal segments densely clothed with appressed, silvery pubescence; wings clear hyaline, iridescent; venation yellowish brown, costa black.

Hot Springs, Arkansas. One female collected June 26 by Schwarz and Barber.

Type.—Cat. No. 14169, U.S.N.M.

Family PHILANTHIDÆ.

Genus CERCERIS Latrielle

CERCERIS GANDARAI, new species.

Related to *Cerceris occipitomaculata* Packard, but may be distinguished from that species by the different sculpture of the propodeal inclosure, the lower part of mesoepimeron shining and practically impunctate, black first dorsal segment, etc.

FIG. 9.—EMARGINATION OF THE APICAL VENTRAL PLATE OF CERCERIS GANDARAI ROHWER.

Propodeal inclosure well defined, slightly foveolate laterally, with small, separate, uniform punctures.

Male.—Length 8 mm. Clypeus subconvex medially, apex truncate, lateral angles subdentate; head and thorax with separate, distinct, median-sized punctures; postocellar line distinctly shorter than the ocellocular line, subequal with the ocelloccipital line; antennal joints short, the third distinctly longer than fourth, apical joint not hooked, obliquely truncate apically; lower half of mesoepisternum smooth, shining, practically impunctate; metapleuræ finely granular; legs normal; abdomen dorsally more sparsely punctured than the thorax, ventrally practically impunctate; pygidium punctured like abdomen dorsally, sharply defined, truncate apically; apical ventral plate emarginate as in figure 9. Black; face to a little above the antennæ, mandibles (except piceous apices), four anterior legs below apices of femora, posterior trochanters, femora except apex, base of tibiæ and

basitarsis, bands on second to sixth dorsal segments inclusive (narrowed medially and nearly of uniform size), lateral spots on second and third ventral segments, bright *yellow;* pubescence long and gray; wings subhyaline viterous; costa and stigma yellowish, rest of venation brown.

Federal District of Mexico. One male from Prof. G. Gandara, for whom the species is named.

Type.—Cat. No. 14180, U.S.N.M.

CERCERIS FLAVOTROCHANTERICA, new species.

Judging from the description this species is related to *mexicana* Saussure, but the propodeal inclosure and markings are different. There is some affinity with *sexta* Say, but the different colored legs readily separate it from that species.

Propodeal inclosure obliquely striate laterally, shining, with a medial, longitudinal furrow.

Male.—Length, 12 mm. Clypeus convex medially, tridentate apically, the middle tooth the largest and truncate apically; head with large, rather close, distinct punctures, those of the clypeus more separated; postocellar line distinctly shorter than the ocellocular line; nasal margin of eyes slightly converging to clypeus; third antennal joint distinctly longer than the fourth, apical joint not hooked, obliquely truncate apically; pronotum rounded anteriorly; mesosternum subangulate in front of intermediate coxæ; thorax more sparsely punctured than the head; legs normal; abdomen dorsally punctured like the thorax, ventrally finely granular; pygidium sharply defined, truncate apically, slightly narrowed basally, with large separate punctures; emargination of apical ventral plate as in figure 10. Black; face to just above level of antennæ (excluding the usual black, narrow apex of clypeus and supraclypeal foveæ), mandibles (except piceous apices), two spots on pronotum and scutellum, bands on second to sixth inclusive dorsal segments, narrowed medially and of uniform width, and lateral spots on second and third ventral segments, bright *yellow;* legs black; four anterior tibiæ and tarsi, posterior trochanters, posterior tibiæ (except a spot exteriorly) and two basal tarsal joints *yellow;* pubescence slightly yellowish; wings subhyaline darker in radial area, viterous; venation dark brown, stigma and costa yellowish brown.

FIG. 10.—EMARGINATION OF THE APICAL VENTRAL PLATE OF CERCERIS FLAVOTROCHANTERICA ROHWER.

Federal District of Mexico. One male received from Prof. G. Gandara.

Type.—Cat. No. 14179, U.S.N.M.

Family CRABRONIDÆ.

Genus STENOCRABRO Ashmead.

STENOCRABRO PLESIUS, new species.

Readily separated from the other males placed in *Stenocrabro* by the cylindrical anterior tarsi. In Fox's table to North American Crabroninae it runs to *ater*, to which it has no close relationship. If the apical segment is more distinctly punctured than the preceeding it goes to *minimus*, but is larger and has different colored legs than that species. May easily be recognized by the entirely black four posterior legs and long white hair on the anterior femora beneath and mesosternum.

Male.—Length, 6 mm. Clypeus with a strong median carina, the apical middle tridentate, the middle tooth broad and rounded; impressed line from the anterior ocellus only indicated; postocellar line slightly longer than the ocellocular; a shallow, shining depressed area outside of each lateral ocellus; head with distinct, separate, fine punctures; third antennal joint distinctly longer than fourth, the following joints somewhat rounded beneath; pronotum neither carinated nor dentate, sharply defined, elevated; mesonotum punctured like the head; mesoscuto-scutellar suture foveolate; mesoepisternum punctured like the notum, the suture strongly foveolate; propodeum with the convexities finely striate, dull; posterior and lateral faces finely striate; the median furrow and basal area foveolate; anterior femora very stout basally; apical segment somewhat more coarsely punctured than the preceding one. Black; mandibles piceous; spot on mandibles, palpi, calcaria and anterior femora and tibiæ beneath yellowish-white; wings hyaline, iridescent, venation black; abdomen with white pile.

New Haven, Connecticut. One male collected April 17, 1910, by Mr. A. B. Champlain.

Type.—Cat. No. 14074, U.S.N.M.

Family TRYPOXYLONIDÆ.

Genus TRYPOXYLON Latrielle.

Group POLITUM.

Group characteristics.—Large (17 to 25 mm.); black except for the white, at least in the greater part, hind tarsi; wings very dark, with a purplish or bronzy reflection; eyes but little if any narrower at the clypeus; third antennal joint much longer than fourth, the male has the apical joint subequal in length with the four preceding, and the flagellum thickened apically (see fig. 11); ocelli in an equilateral triangle; clypeus much produced in the female, produced and variously

dentate in the male; thorax polished, finely sparsely punctured or impunctate; dorsal aspect of propodeum without sulci, smooth; posterior face of propodeum with a deep median channel; posterior femora somewhat flattened in female, more strongly so in male and beneath apically with a broad, flattened projection, more evident in some species; posterior tibiæ strongly thickened apically, the longer calcarium strongly curved; posterior trochanter of male not dentate; first ventral segment (second of some authors) in the male with a large hook; pygidium fringed with long, fine hairs.

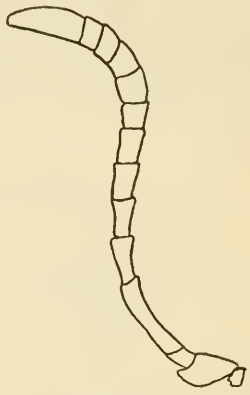

FIG. 11.—ANTENNAE OF TRYPOXYLON POLITIFORME ROHWER. MALE.

This group has long gone under the name *albitarse* Fabricius, but inasmuch as the type of Fabricius's species may still be in existence and his brief description would apply equally well with all the species discussed below, it has been deemed advisable to treat *albitarse* as an undetermined species. Fabricius says the posterior tarsi are white. In all Neotropical species discussed here the apical joint of the posterior tarsi is blackish.

TRYPOXYLON ALBITARSE Fabricius.

Trypoxylon albitarse FABRICIUS, Syst. Piez., 1804, p. 180, No. 1.

"T. atrum tarsis posticis, niveis.

"Habitat in America meridionali Dom. Smidt. Mus. Dom. Lund.

"Reliquis majus. Caput, thorax, abdomen, alæ atra, nitida, immaculata.

"Pedes nigri tarsis posticis niveis." (Original description.)

What *albitarse* Saussure, Taschenberg, Cameron, is no one can say; but the name *mexicanum* (Saussure) described as a variety of *albitarse* is used for one of the species here treated.

Trypoxylon palliditarse Saussure (described from Argentina and Brazil) is another species which can not be determined with certainty. It undoubtedly belongs to this group and may be one of the species here treated.

Trypoxylon fuseipenne Fabricius is another species which can not be satisfactorily determined. It was also described from Brazil.

TRYPOXYLON POLITUM Say.

Trypoxylon politus SAY, Bost. Journ. Nat. Hist., vol. 1, pt. 4, 1837, p. 373, No. 1.—LECONTE, Writ. Th. Say Entom., vol. 2, 1859, p. 756, No. 1.—PACKARD, Proc. Ent. Soc. Phila., vol. 6, 1867, p 413.

Trypoxylon albitarse WALSH and RILEY, Amer. Ent., vol. 1, 1869, p. 133, fig. 107.—FOX, Trans. Amer. Ent. Soc., vol. 28, 1891, pp. 136 and 138, No. 1.—FOX,

Proc. Acad. Nat. Sci. Phila., 1893, p. 472.—HOWARD, Insect Book, 1904, pl. 6, fig. 6.

Trypoxylon neglectum KOHL, Verh. zool. bot. Ges. Wien., vol. 33, 1883, p. 340, No. 1, pl. 18, fig. 3.—FOX, Trans. Amer. Ent. Soc., vol. 28, 1891, pp. 137 and 138, No. 2, pl. 3, figs. 1 and 12.

Fifteen specimens (4 females, 11 males) were bred in June (emerging from 15 to 18), 1894, by the Bureau of Entomology from material

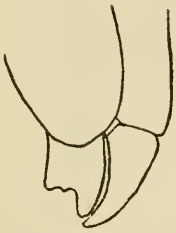

FIG. 12.—LATERAL VIEW OF THE LOWER PART OF THE HEAD OF TRYPOXYLON POLITUM SAY. MALE.

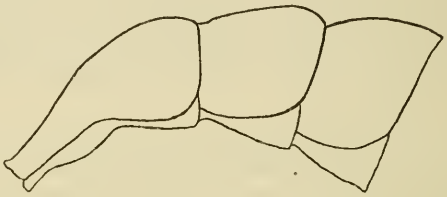

FIG. 13.—LATERAL VIEW OF THE BASAL ABDOMINAL SEGMENTS OF TRYPOXYLON POLITUM SAY. FEMALE.

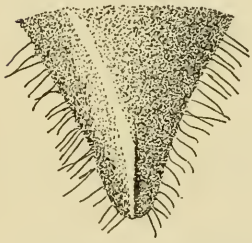

FIG. 14.—PYGIDIUM OF FEMALE OF TRYPOXYLON POLITUM SAY.

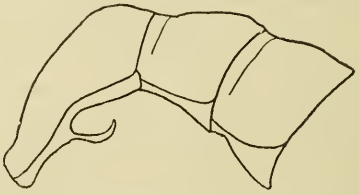

FIG. 15.—LATERAL VIEW OF THE BASAL ABDOMINAL SEGMENTS OF TRYPOXYLON POLITUM SAY. MALE.

received from Haverhill, Massachusetts. Pupation began May 31, 1894, the material having been received in March of the same year.

Say's type is no longer in existence, but a proxytype of this species is in the Museum collection. There can be but little doubt that this is the species Say had, as it is apparently the only one which occurs in northern United States. That Kohl's species is a synonym of this species (through the proxytype) there can be but little doubt, as the male agrees exactly with the figure and description given by Kohl.

TRYPOXYLON BASILE, new species.

Tryporylon politum HOWARD, Insect Book, 1904, pl. 6, fig. 9, male.

Male.—Length 21 mm. Clypeus differs from *politum*[1] as follows: Broader, the lateral tooth falling well inside of a line drawn tangent to the inner orbit, middle tooth much broader and rounded; vertex flat, not depressed behind lateral ocelli; front with rather close distinct punctures; pronotum strongly transversely sulcate; scutellum medially and basal middle of dorsal aspect of propodeum slightly impressed; posterior face of propodeum striato-punctate, where striate the striæ are dorsad-ventrad; first four abdominal segments as figure 16; the broad depression at base of third and the transverse suture near base of fourth dorsal segments make this species easily recognized. Color as usual, face with silvery pubescence, the rest of the pubescence black.

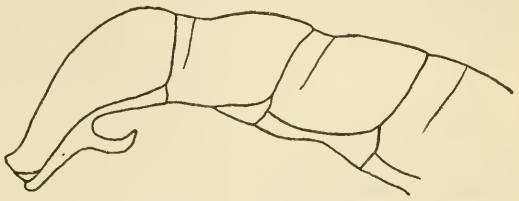

FIG. 16.—LATERAL VIEW OF THE BASAL ABDOMINAL SEGMENTS OF TRYPOXYLON BASALE ROHWER. MALE.

Female.—Length 25 mm. Produced portion of clypeus truncate, lateral angles sharp; third antennal joint nearly as long as the fourth and fifth, apical joint strongly tapering, distinctly longer than the preceding; vertex slightly depressed behind lateral ocelli; thorax as in male; abdomen long; first segment of the elongate type, second and third dorsal segments depressed basally; pygidium narrow, similar to figure 19. Colored as male.

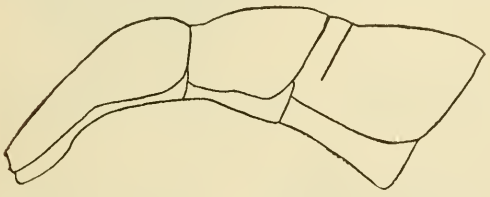

FIG. 17.—LATERAL VIEW OF THE BASAL ABDOMINAL SEGMENTS OF TRYPOXYLON BASALE ROHWER. FEMALE.

Utica, Mississippi, one male collected in August. Florida, one female without definite data.

Type.—Cat. No. 14170, U.S.N.M.

[1] For those who do not have *politum* see Kohl's figure of *neglectum* in Verh. zool. bot. Ges. Wien, vol. 33, 1883, pl. 18, fig. 3.

TRYPOXYLON POLITIFORME, new species.

Male.—Length 21 mm. Agrees well with *basale* from which it may be separated by the abdomen, which is very like *politum*. The abdomen differs from *politum* in the segments not being depressed basally; the first and second dorsal segments are narrowly depressed apically. Wings with a bronzy-purple reflection. Except where mentioned the description of *basale* will apply well here.

FIG. 18.—APICAL MARGIN OF THE PRODUCED PORTION OF THE CLYPEUS OF TRYPOXYLON POLITIFORME ROHWER. FEMALE SEEN FROM ABOVE OBLIQUELY.

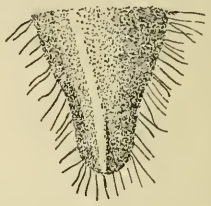

FIG. 19.—PYGIDIUM OF THE FEMALE OF TRYPOXYLON POLITIFORME ROHWER.

Female.—Length 23 mm. The description of *basale* would do well for this species except the abdomen which is like *politum* (excepting the first segment is more elongate and not ungulate ventrally). The pygidium is like *basale*, see figure 19.

Berwick, Louisiana. Many males and females collected May 3 and 8 by Mr. E. G. Titus. Florida, one male; Georgia, one male.

Type.—Cat. No. 14171, U.S.N.M.

TRYPOXYLON MEXICANUM (Saussure).

Trypoxylon albitarse, var. *mexicana* SAUSSURE, Reise d. *Novara*, Zool., vol. 2, 1867, p. 77 not *Trypoxylon mexicanum* SAUSSURE, same reference, p. 78, No. 4, pl. 4, fig. 45.

Specimens which agree well with Saussure's description of *albitarse* and have rufous mandibles, characteristic of his variety *mexicanum*, have been determined as that species. They are from the following localities: Mexico (C. F. Baker collection); Cordova, Mexico (collected by Dr. L. O. Howard, May 10); Guanajuato, Mexico (collected by A. Duges); San Antonio, Nicaragua, collected May, 1899.

FIG. 20.—APICAL MARGIN OF THE PRODUCED PORTION OF THE CLYPEUS OF TRYPOXYLON MEXICANUM (SAUSSURE). FEMALE SEEN FROM ABOVE OBLIQUELY.

FIG. 21.—LATERAL VIEW OF THE BASAL SEGMENT OF TRYPOXYLON MEXICANUM (SAUSSURE). MALE.

This species is easily separated by the following table. In the specimens mentioned above there is very little variation. The apical joint of posterior tarsi is black.

TRYPOXYLON GANDARAI, new species.

Male.—Length 22 mm. Median produced portion of clypeus broadly rounded apically, lateral teeth small and obtusely rounded apically; head and thorax very like *basale;* tooth of the first ventral segment near basal third, not as strongly hooked as *mexicanum*, but otherwise similar; first and second dorsal segments narrowly depressed apically, but not at all basally; second dorsal subequal in length with

the third; wings with a strong purplish reflection; apical joint of the posterior tarsi black; head and thorax (except that of the face which is silvery) with black pubescence; mandibles black.

Federal District of Mexico. One male received from Prof. Guillermo Gandara, for whom the species is named.

Type.—Cat. No. 14172, U.S.N.M.

TRYPOXYLON LEUCOTRICHIUM, new species.

Male.—Length 18 mm. Clypeus like *gandarai;* front near the orbits with large separate, distinct punctures, in the middle and at the vertex with closer and smaller punctures; lateral ocelli slightly larger than the anterior one; mesoscutum with fine, separate, distinct punctures, anteriorly with two impressed, longitudinal lines; scutellum not impressed; posterior aspect of propodeum punctured laterally, the furrow deep; process of the first ventral segment near base,

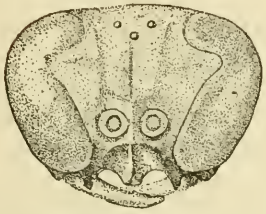

FIG. 22.—HEAD OF TRYPOXYLON LEUCOTRICHIUM ROHWER. MALE.

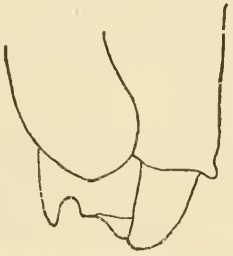

FIG. 23.—LATERAL VIEW OF THE LOWER PART OF THE HEAD OF TRYPOXYLON LEUCOTRICHIUM ROHWER. MALE.

FIG. 24.—LATERAL VIEW OF THE BASAL SEGMENT OF TRYPOXYLON LEUCOTRICHIUM ROHWER. MALE.

and not strongly curved; first and second dorsal segments not depressed apically. Mandibles rufous; wings with purple reflections; apical joint of the posterior tarsi black; head and thorax with white pubescence; abdomen with white pile.

Female.—Length 22 mm. Produced portion of clypeus subtruncate apically, the lateral angles rounded; third antennal joint subequal with the fourth and fifth, apical joint tapering and subequal with the preceding; mesoscutum without impressed lines anteriorly, and not as closely punctured as the male; dorsal aspect of propodeum polished; third dorsal segment narrowly depressed basally; pygidium of the narrow type, see figure 19.

Colored like the male with which it in general agrees.

Chanchamayo, Peru. Fifteen specimens (five females and 10 males) from Mr. N. F. H. Rosenberg. Also one female from Ancon, Canal Zone, Panama, collected by Mr. A. H. Jennings.

Type.—Cat. No. 14173, U.S.N.M.

Synopsis of foregoing species of Trypoxylon.

Males.....1.
Females.....6.
1. Clypeus with a narrow produced medial portion, which, when seen from the side, is at an acute angle with the face, see figure 23; Neotropical species.....2.
Clypeus without a narrow produced medial portion, see figure 12; Nearctic species.....4.
2. Process of the first ventral segment very near base and not strongly hooked, see figure 24; hair of head above emargination of eyes and the thorax white.....*leucotrichium* Rohwer.
Process of first ventral segment not as near base and strongly hooked, see figure 21; pubescence of head and thorax black.....3.
3. Apex of medial process of clypeus broadly rounded, process not carinate to the apex; mandibles black.....*gandarai* Rohwer.
Apex of medial process of clypeus sharply angulate laterally and carinate nearly to the apex; mandibles rufous.....*mexicanum* (Saussure).
4. Second and third dorsal segments broadly depressed basally, the fourth dorsal with a transverse suture at basal fourth; process of the first ventral segment robust and at the middle of segment.....*basale* Rohwer.
Second and third dorsal segments not broadly depressed basally, the fourth dorsal without a transverse suture; process of the first ventral segment distinctly basal of middle and more slender.....5.
5. Produced part of the clypeus very broad, so the lateral tooth falls well outside of a line drawn tangent to the inner orbits; the lateral tooth of clypeus not as large or as sharp; wings with a strong purplish reflection.....*politiforme* Rohwer.
Produced part of clypeus not as broad, the lateral tooth falling well inside of a line drawn tangent to the eyes; the lateral tooth large and sharp; wings with a bronzy-purplish tinge.....*politum* Say.
6. Pygidium broader, see figure 14; first segment rather shorter and ventrally slightly produced basally so to be undulating.....*politum* Say.
Pygidium narrower, see figure 19; first segment longer and only uni-emarginate ventrally near the base.....7.
7. Third dorsal abdominal segment broadly depressed basally.....*basale* Rohwer.
Third dorsal abdominal segment not depressed basally, although somewhat constricted in some cases.....8.
8. Anterior lateral margin of clypeus so sharply angled at the side as to appear dentate, see figure 18; mandibles black; posterior tarsi with the apical joint white.....*politiforme* Rohwer.
Anterior lateral margin of clypeus not sharply angled, rounded, see figure 20; mandibles rufous; posterior tarsi with the apical joint black; Neotropical species...9.
9. Head above the emargination of the eyes and the thorax with black or blackish pubescence.....*mexicanum* (Saussure).
Head above the emargination of the eyes and the thorax with white pubescence.....*leucotrichum* Rohwer.

TRYPOXYLON SAUSSUREI, new name.

Trypoxylon mexicanum SAUSSURE, Reise d. *Novara*, Zool., vol. 2, 1867, Hym., p. 78, No. 4, pl. 4, fig. 45, not *Trypoxylon albitarse* var. *mexicana* SAUSSURE, same reference, p. 77.