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Cockerell, 1918

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## NEOTROPICAL BEES, PRINCIPALLY COLLECTED BY PROFESSOR BRUNER IN ARGENTINA

BY T. D. A. COCKERELL

Many years ago Professor L. Bruner visited Argentina to report on the injury caused by locusts in that country, and while there, took occasion to collect bees. Most of his material came from Carcaraña, which is, as I learn from Professor Bruner through Professor Swenk, twenty or thirty miles west of Rosario, on the main railroad line. It is, therefore, not in the western part of the country, as I had supposed, but is over 400 miles east of Mendoza, the locality made famous by the collections of Jörgensen and others.

At the time when Professor Bruner made his collection, probably not less than eighty or ninety per cent of the species were new, but since that time many bees from Argentina and Paraguay have been described, principally by Holmberg, Friese, Jörgensen, Schrottky, Brethes and Strand. It appears, however, that no one has collected extensively, if at all, in the Carcaraña district, and consequently many new species are still to be found among Professor Bruner's captures. These species are probably for the most part very local, or confined to particular plants, just as we find to be the case in our own southwestern country. Travelling from New Mexico through Arizona into California we meet with several different bee-faunæ, with often representative but quite distinct species. Some species, of course, range over the whole area. The same seems to be true in Argentina, and the Carcaraña fauna resembles (and differs from) that of Mendoza much as that of New Mexico does that of Southern California.

The species of bees may spread over large areas, and then break up into races and eventually species as they become adjusted to local conditions, especially to particular plants. A wide-spread species has better chances for survival, *as a species*, than a local one, but it is of no advantage to an individual bee to belong to a wide-spread species. Its problem is rather adjustment to the immediate surroundings, and in this respect it may be

less fit than a local or endemic form. Yet, if it becomes oligotrophic, and anything happens to the necessary plant or plants, the species is in danger, whereas a loosely adapted form suffers no inconvenience.

Dr. J. C. Willis has recently written much on the distribution of flowering plants, urging that the most local species are generally those of most recent origin, whereas the older they are, the wider will be the range. Naturally there are many exceptions, such as that of the *Sequoia* species in California. Among the bees, it is doubtless true that the precinctive species are nearly always endemic,—that is, they have arisen in the general region where we find them, and have not been formerly much more wide-spread. Whether the wide-spread species are necessarily old, may well be another matter. A species with strong flight or migratory instincts may spread over a very large area in a short time, as we see in the case of introduced insects. The evolution, or as it were liberation, of a species capable of spreading widely from a relatively local type may well follow the natural lines of advantage at the boundaries of the original species-area; but it is probably more common for the new adaptations to lead to other species just as specialised, but living different lives. Doubtless the very resistance to modification, the stability of type seen in such butterflies as *Euvanessa antiopa*, *Pyrameis cardui* and *atalanta*, has had something to do with their wide range. They could not follow the path of local adaptation, being without the necessary variability; hence there was no conflict between the two different tendencies. Thus it appears that the range of a species has more to do with its variability than its age. There are, indeed, especially among the bees, some species said to be very wide-spread and very variable. Whenever I have been able to get good series of such forms from different localities (e. g. in *Crocisa* and *Xylocopa*) I have found that they were composite, and consisted in fact of numerous local species which had been lumped together. In the older collections, with frequently slight indications of localities, the long series gathered together from many places give the impression of single species showing an enormous range of variation.

The Bruner collection of Argentine bees was divided, a set going to the U. S. National Museum, and one remaining at the University of Nebraska. It is the National Museum set which is here described, and I have added a certain number of other neotropical forms, also in the National Museum, the types of all the new species being in the collection of that institution.

***Dasiapis tropicalis*** new species

Female. Length, 10 mm., anterior wing, 7.2 mm.; clypeus black; mandibles largely creamy white; flagellum bright ferruginous beneath; mesothorax and scutellum entirely dull; tegulae testaceous; wings dusky hyaline; abdomen covered with appressed pale ochraceous hair, margin of fifth segment and apex with pale yellowish-ferruginous hair; scopa of hind legs very pale ochreous; hind basitarsi with hair on inner side ferruginous.

Pueblo Viejo, Vera Cruz, Mexico, Dec. 8, 1909 (F. C. Bishopp). Differs from *D. olivacea* Cresson by being larger, and having pale red hair (instead of fuscous) at apex of abdomen. Very close to *D. ochracea* Cockerell, but with shorter, dusky wings, redder hair on tarsi; and abdomen not quite so densely hairy. The third and fourth joints of maxillary palpi are fringed with long hair. It is possibly a subspecies of *D. ochracea*, but intermediates are not at present known.

***Xenoglossa rhodophila*** new species

Female. Length, 14 mm., anterior wing, 10.3 mm.; robust, black; eyes dark brown; facial quadrangle broader than long; mandibles simple, curved, reddish at tip; clypeus densely rugosopunctate, elevated in middle; antennae dark, joints six to eleven with suffused red spots or areas on outer side; third antennal joint as long as next two combined; ocelli in a line; hair of head white (very long on cheeks) except on vertex and front where it is thin and dark grey; mesothorax shining, well punctured; scutellum with extremely dense small punctures; hair of sides of thorax and metathorax white; dorsum of thorax with a broad band of black hair across mesothorax, bounded in front and behind by dull white; middle of scutellum with dark hair; tegulae piceous; wings dusky subhyaline; first recurrent nervure joining second submarginal cell near end; legs with pale hair, fuscous on inner side of tarsi; abdomen with hind margins of segments testaceous (narrowly on first); first segment hairy at base, but otherwise bare; second bare, with minute punctures; remaining segments covered with pale fulvous hair, the fourth with a beautiful golden fringe. The type has collected a quantity of deep red pollen.

Mexico (Baker coll. 2386). Allied to *X. fulviventris* (*Tetralonia fulviventris* Smith), but distinguished by the bare second abdominal segment, white hair on head and thorax, etc. The blade of maxilla is much larger than in *fulviventris*. The venation is not that of typical *Xenoglossa*.



***Thygater bifasciata buccosa* (Vachal)**

Female. Carcaraña, Argentina (Bruner, 20). The thorax above has bright fox red hair. The abdomen has three broad shining golden bands; these are due to white tomentum at bases of segments three to five, overlapped by the broad hyaline margins of segments two to four, on which are appressed golden hairs. The mesopleurum is black haired. The third joint of maxillary palpus is a little larger than second. In this species the hair of the thorax above varies from fuscous (typical *bifasciata* Smith) to fuscous in front and fulvous behind (var. *nigricollis* Vachal) or entirely fulvous (var. *buccosa* Vachal). The variety *chryso-phora* (Holmberg) is like *bifasciata*, but has three bands on the domen instead of two.

***Thygater bruneri* new species**

Female. Length, 12 mm., anterior wing, 9.5; black, robust, the mandibles reddish beyond base, and with a broad orange stripe on apical part; labrum black; maxillary palpi three-jointed, the last two joints about equal in length; clypeus strongly punctured, not at all keeled; facial quadrangle broader than long; face and region of antennae with dull white hair, the narrow cheeks also with white hair, but occiput, vertex and sides of front with black hair; flagellum bright ferruginous beneath, the apical margins of joints blackened above; third antennal joint 610 microns long; hair of thorax above largely bright fox-red, but a narrow black fringe anteriorly, posterior disc of mesothorax and anterior half of scutellum with black hair; mesopleura with black hair, but sides of metathorax with pale fulvous; tegulae clear rufotestaceous; wings dusky; second submarginal cell oblique, receiving first recurrent nervure about half-way between middle and end; third submarginal very abruptly angled on outer side; legs black, the small joints of tarsi dull ferruginous; anterior and middle legs with mainly black hair, but some white hair on outer side of base of anterior tibiae, hair on inner side of anterior tibiae and tarsi red, middle basitarsi with pale hair basally in front; hind tibiae and basitarsi with long plumose white scopa, but basitarsi with black hair at apex and on inner side; abdomen with hind margin of first segment very narrowly pallid, but the other segments dark to apex; first segment with loose fulvous hair, lacking on apical part; second with pale fulvous appressed hair, lacking on apical margin, and divided by a transverse narrow median hairless band; third and fourth segments each with a very broad band of pale fulvous tomentum, not covering margin on third; apex and fifth segment with black hair.

Carcaraña, Argentina (Bruner 13). Known by the dark margins of abdominal segments from *T. bifasciata* of the same region. According to Bertoni and Schrottky, *Melissodes nigro-aenea* Smith sometimes has three-jointed maxillary palpi, and a

specimen determined as *nigroaenea* by Schrottky is very similar to *T. bruneri*, differing, however, by the shorter face, the light hair of mesopleura, and the deeper marginal cell. Neither *T. bruneri* nor the Schrottky specimen agree with Smith's description of *M. nigroaenea* from Brazil, though that description does suggest a *Thygater*. *Ecplectica tintinnans* Holmberg, which has been regarded as a synonym of *M. nigroaenea*, has the maxillary palpi four-jointed, the second joint much longer than the third. Bruner's 64, 29 and 89 I regard as *M. nigroaenea tintinnans*; it is quite distinct from *T. bruneri*.

**Thygater pygialis** (Buysson)

Males from Colombia (Baker collection). It was described from Venezuela. The flagellum is black, and the thoracic dorsum has the hair mainly pale fulvous or whitish, but blackish or grey anteriorly. The yellow hair on apical part of abdomen shines golden.

**Temnosoma smaragdinum** Smith

Cordoba, Vera Cruz, Mexico, Jan. 20. (F. Knab.)

**Anthophora paranensis** Holmberg

Carcaraña, Argentina (L. Bruner 11).

**Centris nigriventris** Burmeister

Carcaraña, Argentina (Bruner 7).

**Xylocopa melanura** new species

Female. Robust, black, with black pubescence; outer side of middle and hind tarsi, and apex of hind tibiae, with cream-colored hair; wings brown, only moderately dark, scarcely metallic; second recurrent nervure joining third submarginal cell not far from base; length of anterior wing, 13.5 mm.; antennae dark; clypeus closely and strongly punctured; abdomen with a weak median carina beneath.

Mexico (no other particulars known). I do not describe this more fully, as it has the structure of *X. tabaniformis* Smith, of which it is perhaps only a local race. It is easily distinguished from *tabaniformis* by the absence of light hair-bands on the abdomen. It looks like a large Anthophorid.

**Melissodes bimaculata morrilli** new subspecies

Female. Differs from *M. bimaculata* by having the broad depressed apical parts of second and third abdominal segments dullish (not polished), with very minute and remote punctures; tegulae with a ferruginous spot posteriorly.

Tlahualilo, Durango, Mexico, at flowers of squash, Sept. 2, 1904 (A. W. Morrill). Also one from Mexico (Baker coll. 2320). The first mentioned is the type. The black hair of the head readily distinguishes this from *M. atrata* Smith, which is otherwise very similar.

**Melissodes albocollaris** new species

Male. Length, about 13 mm.; very robust; black, including tegument of clypeus and labrum; mandibles with an orange band on apical part; antennae reaching to base of abdomen, flagellum very bright ferruginous beneath; third antennal joint much longer than broad; eyes greenish, prominent; facial quadrangle distinctly longer than broad; vertex shining; mesothorax and scutellum polished, with coarse punctures; spurs ferruginous; tegulae black, with pale hair; wings dilute fuliginous; second submarginal cell very broad, receiving first recurrent nervure well beyond middle; hair of head white or pale ochreous, but black on vertex and occiput; hair of thorax black, but creamy white on upper margin of prothorax, tubercles, broad anterior border of mesothorax and long fringe along posterior margin of scutellum; abdomen with thin black hair, but with some inconspicuous pale hair at sides, more abundant and forming large thin patches on segments four and five; venter with black hair.

Mexico (Baker coll. 2154). Related to *M. atrifera* Cockerell, but very robust, with hair of pleura and metathorax black.

**Melissodes atramentata** new species

Female. Length, about 14.5 mm., anterior wing, 10.2 mm.; robust, black, with black (very dark chocolate) hair all over body and legs, except that there is a small inconspicuous patch of white hair on each side of face, close to eyes; eyes brown; facial quadrangle broader than long; clypeus rugulose, with scattered punctures, and a very strong median keel, not reaching lower margin; mandibles with an orange mark near apex; ocelli in a line; mesothorax shining on disc posteriorly; tegulae piceous; wings fuliginous, not violaceous; first recurrent nervure meeting second transversocubital; second submarginal cell quadrate, a little broader above than below; abdomen finely punctured, thinly hairy; at each extreme side of ventral segments three to five is a very long tuft of black hair.

Colombia (Baker coll.). Possibly the female of *M. aethiops* Smith, of which only the male is known, but apparently distinct by the uniformly dusky wings. The dark wings also separate it from *M. melaena* Spinola and *M. corvina* Friese. *Tetralonia mephistophelica* Schrottky, known only in the male, is too large, and has the wings with bluish or violet reflections. There is a close general resemblance to the North American *M. caliginosa*.



Cresson; superficially the two insects are almost exactly alike, except for the light red hair on hind tibiae of *caliginosa*. The venation is different, however, and the second and third abdominal segments of *atramentata* are finely punctured all over, which is not true of *caliginosa*. The eyes of *atramentata* distinctly converge above, but this is not true of *caliginosa*. *M. atramentata* also differs by the pointed hind knee-plate, and less copious scope of hind legs. I have not attempted to extract the mouth-parts of the unique type of *M. atramentata*, so its reference to *Melissodes* is provisional.

**Melissodes nigroaenea** (Smith)

Carcaraña, Argentina (Bruner). 64 is a male; 29 a female with black hair at sides of metathorax, 89 a female with this hair all pale. The hair of the mesothorax above is gray, with a transverse black band. Maxillary palpi in both sexes four-jointed, joint four considerably shorter than three. These insects differ appreciably from typical *nigroaenea* described by Smith; they should probably stand as subsp. *tintinnans* (Holmberg).

**Melissodes svastrina** new species

Male. Length, about 11 mm., anterior wing, 9.5 mm., flagellum, 9.2 mm.; black, small joints of tarsi ferruginous; clypeus (except a spot on each side, not marginal) and large spot at base of mandibles lemon yellow; labrum cream-color; mandibles ferruginous in middle, and with an orange band on apical part; maxillary palpi very small, three-jointed, the two last joints very short and stout; paraglossae reaching beyond middle of second joint of labial palpi; first joint of labial palpi about 1280 microns long, second about 770; facial quadrangle about square; malar space linear; scape black, flagellum bright ferruginous beneath and dusky above; third antennal joint very short, broader than long; hair of head and thorax pale ochreous, becoming rich fulvous on vertex and dorsum of thorax, and white on cheeks and under side of thorax, while on scutellum anteriorly it is reddish-fuscon; tegulae ferruginous; wings dusky hyaline, nervures and stigma ferruginous; second submarginal cell large, receiving first recurrent nervure not far from end; legs with mainly pale hair, but stained with sooty on hind tibiae posteriorly; spurs pale ferruginous; abdomen with long ochreous hair on basal part of first segment; second segment with a straight broad entire band of cream-colored tomentum at base; third with a very broad band of the same; fourth with a weak grayish band beyond middle, and before this are long black hairs; fifth like fourth; apical plate very broadly truncate; the abdomen seems to have a very faint metallic tint.

Carcaraña, Argentina (Bruner 31). On account of the three-jointed palpi this is related to *M. melochiae* and *M. minarum* of

Bertoni and Schrottky, but it is much larger. The ornamentation of the abdomen is like that of the genus *Florilegus*. The general appearance of the insect is exactly like *Svastra bombylans* Holmberg, but it is easily distinguished by the dark scape and other characters.

***Melissoptila pulchricornis* new species**

Male. Length, about 8 mm., antennae reaching to end of first abdominal segment; black with the knees, tibiae at apex, and all the tarsi ferruginous; clypeus strongly punctured, the lower part pallid or wholly black, labrum pallid or black; mandibles with a large yellow basal patch, beyond which is a red patch; maxillary palpi two-jointed, the joints subequal in length, the second broad, but with slender pale base; flagellum bright ferruginous beneath, except the last three joints and apex of the one before, which are black; eyes green; hair of head and thorax dull white, strongly stained with fuscous on scutellum and hind part of mesothorax; mesothorax shining, with scattered punctures; tegulae dark fuscous; wings dusky, nervures rufo-fuscous; second submarginal cell very broad; basal nervure falling short of transversomedian; legs with white hair, ferruginous on inner side of tarsi; abdomen with very broad bands of appressed yellow hair on segments two to five, and a narrow one on first; apical plate very broad.

Carcaraña, Argentina (Bruner 52). The condition with pallid labrum and margin of clypeus may be due to immaturity. One specimen is pinned on the same pin as a *Diadasia callura*. The insects are very much alike in general appearance, and were evidently taken for sexes of one species. *M. pulchricornis* differs from *M. bonaerensis* Holmberg by the wholly or mainly dark clypeus. By the color of the flagellum it recalls the much larger *M. richardiae* Bertoni and Schrottky.

***Xenoglossodes lusor* new species**

Male. Length, about 10.5 mm., anterior wing, 7.5 mm.; black, robust, covered with long ochraceous hair, fulvous on thorax and abdomen above, that on abdomen erect, except on narrow margins of second and following segments; eyes brown; facial quadrangle broader than long; clypeus, labrum and base of mandibles bright lemon yellow; maxillary palpi five-jointed, second thick but cylindrical, third long, slender, and cylindrical, fourth very long and slender, fifth slender, measurements in microns: (3.) 176, (4.) 130, (5.) 80; scape black; flagellum very long, bright orange-ferruginous, dusky above; third antennal joint about as long as apical width; mesothorax shining, the disk almost impunctate; tegulae dark fuscous; wings hyaline, faintly dusky, nervures fuscous, only two submarginal cells, the second transversocubital nervure missing; tarsi elongated, ferruginous; legs with fulvous hair; venter of abdomen with deep red hair-bands.

Carcaraña, Argentina (Bruner 36). In general appearance resembles *Tetralonia gilva*, *Leptometria pereyrae*, etc., but easily distinguished by the palpi and other characters, including the apparently normal two submarginal cells.

***Xenoglossodes manca*** new species

Male. Length, about 10 mm., anterior wing, 7 mm., flagellum very long, 7.3 mm.; black, covered with pale ochraceous hair, much shorter on abdomen than in *X. lusor*; eyes brown; facial quadrangle about square; clypeus, labrum and base of mandibles creamy white; apical part of mandibles with an orange patch; maxillary palpi five-jointed, second joint very long and stout, third long, slender and cylindrical, fourth very short, fifth longer than fourth, measurements in microns: (3.) 145, (4.) 40, (5.) 65; scape black; flagellum very slender, bright fulvo ferruginous beneath, dusky above; fourth antennal joint hardly longer than third; mesothorax highly polished, sparsely punctured; tegulae rufotestaceous; wings hyaline, nervures ferruginous; three submarginal cells, but first transversocubital represented only by a stump on one side; knees, tibiae at apex, and tarsi more or less ferruginous; legs with ochreous hair; hind margins of abdominal segments hyaline, but covered with fine hair; apex rufous.

Carcaraña, Argentina (Bruner 55). Resembles the last, but quite distinct.

***Xenoglossodes mimetica*** (Brethes)

Female. Length, about 11 mm., anterior wing, 9 mm.; robust, black, covered with reddish-fulvous tomentum, paler on face and under side of thorax; labrum black, with white hair; mandibles with a broad orange stripe on apical half, and with a small inner tooth remote from the blunt apex; clypeus black, densely and coarsely rugosopunctate; flagellar joints obscurely reddish apically; mesothorax shining and strongly punctured; tegulae rufotestaceous; wings slightly dusky, nervures fuscous; small joints of tarsi ferruginous; abdomen densely covered with bright fulvous tomentum, suffusedly redder on apical margins of segments; first ventral segment emarginate. The joints of maxillary palpi measure in microns, (2.) 176, (3.) 160, (4.) 95, (5.) 40.

Like *Leptometria*, with the same venation (see especially short broad marginal cell and venation of hind wings), but maxillary palpi five-jointed, first joint stout, second slender, third broader, broadening apically, fourth very stout, fifth minute, fourth and fifth bristly at end, no lateral hair-fringes. Omitting the last joint, the palpi may be said to be clavate.

Carcaraña, Argentina (Bruner 62). This was described as a *Svastra*, but it is probably nearer to *Leptometria*, notwithstanding the character of the palpi. It may well go in the North American genus *Xenoglossodes*.

**Svastra leucostoma** new species

Male. Very close to *S. bombylans* Holmberg, differing as follows: fulvous hair of head and thorax not quite so red; hair at base of abdomen dull whitish, not covering so much of first segment; a white hair-band at base of second segment, but third and following segments entirely black; clypeus, labrum and base of mandibles pale cream-color (lemon yellow in *bombylans*), the yellowish color of clypeus with a rectangular incision on each side; scape in front entirely black (yellow in *bombylans*); third antennal joint much shorter; flagellum shorter, deep ferruginous beneath; nervures fuscous throughout; second submarginal cell broader; hair of hind femora and middle tibiae black in front, of hind tibiae black except a white streak at base behind, of middle and hind tarsi black. The maxillary palpi are five-jointed, joints one and two large and subequal in length, three much smaller, four and five minute.

Carcaraña, Argentina (Bruner 12). *Tetralonia flavitarsis* Spinola has much longer antennæ.

**Svastra sapucacensis** new species

Female. Length, about 15 mm., anterior wing, 10.7 mm.; very robust, black, including clypeus, labrum, tegulae and legs; mandibles very broad, simple, with a large orange patch on apical part; malar space linear; blade of maxilla not much attenuated; paraglossae long and slender, fully as long as labial palpi; maxillary palpi five-jointed, the last joint long, looking like two coalesced, first three joints large and thick, the others narrow, measurements of joints in microns (3.) 176, (4.) 80, (5.) about 160; labrum covered with chocolate-colored hair; clypeus very strongly and densely punctured, with no median ridge or line; facial quadrangle about square; antennal joints five to ten bright ferruginous beneath, eleven and twelve dusky reddish, but one to four black; hair of face and round antennae white, but black on vertex, occiput and cheeks posteriorly; mesothorax shining, strongly and closely punctured, but scutellum more closely; area of metathorax extremely densely punctured, with an impunctate median band; hair of upper border of prothorax, tubercles, lateral margins of metathorax, a fringe along hind margin of scutellum, tuft behind wings and sides of metathorax, white, but other parts of thorax, such as mesopleura, have black hair; wings dusky translucent; nervures fuscous; second submarginal cell nearly square, receiving first recurrent nervure beyond middle but not near end; third submarginal cell very long; legs mainly with black hair, but in certain lights the stiff hair of outer side of hind tibiae and tarsi is brilliant shining silver, and the same occurs at base of middle tibiae; abdomen broad, the first two segments finely and closely punctured, with little hair, but the second with a fulvous apical band; segment three covered at base and apex with bright fulvous hair; the remaining segments entirely covered with very rich reddish-fulvous tomentum; apical plate pale brown; venter with bright ferruginous hair.

Sapucay, Paraguay, March (W. T. Foster). Not a typical *Svastra*, but it falls better here than elsewhere. The venation disagrees with *Xenoglossa*. There is a close general resemblance to *Xenoglossa apiculata* (Cresson.)

**Svastra carcaranensis** new species

Female. Length, about 12 mm., anterior wing, 9 mm.; robust, coal black, with black hair throughout, except that the fourth abdominal segment has a large pure white patch at each extreme side, and the fifth smaller ones, while the third and fourth ventral segments have a long black fringe, which at extreme sides gives way to pure white. Mandibles with a long bright orange stripe; clypeus rugose and punctate; flagellum bright ferruginous beneath, except at extreme base; facial quadrangle considerably broader than long; posterior disc of mesothorax polished, with only scattered minute feeble punctures; tegulae black; wings dusky hyaline, rather dark; first recurrent nerve meeting second transversocubital; abdomen shining, without distinct punctures; hind femora dark reddish.

Carcaraña, Argentina (L. Bruner 10). This is easily known from *Tetralonia zebra* Friese by the venation, and from *T. corvina* Friese by the color of the antennae.

**Svastra reductior** new species

Female. Like *S. carcaranensis*, but smaller, length, 10.5 mm., anterior wing, 8 mm.; mandibles dark chestnut red in middle, but without any orange stripe; tegulae reddish. Perhaps only a variety of the last, but it looks distinct, and is probably adapted to a different flower. Mr. J. C. Crawford mounted the mouth-parts, and the following measurements are in microns: maxillary palpi, joints (1.) 192, (2.) 128, (3.) 128, (4.) 64, (5.) 80; labial palpi, joints (1.) 1150 long and 224 broad near apex, (2.) 608 long. The measurements of the maxillary palpi are not quite exact, as the palpi do not lie in a plane precisely parallel with that of the slide.

Carcaraña, Argentina (L. Bruner).

**Tetralonia gilva** Holmberg

Both sexes from Carcaraña, Argentina (L. Bruner, 14, 54).

**Tetralonia brethesi** Jörgensen

Female. Carcaraña, Argentina (Bruner 41). It differs only from the description in the shorter wings, which are 7.5 mm. long. The labrum has a long tuft of rufous hair at apex. Maxillary palpi slender, six-jointed, no lateral hair-fringes; joints two and three subequal, four and five shorter and subequal (together 250 microns), six much shorter (about 80 microns). Paraglossæ as long as labial palpi. Its nearest relative is the following species:

**Tetralonia eophila** new name

*Tetralonia orientalis* Bertoni and Schrottky, Zool. Jahrb., 1910, p. 569 (not *Tetralonia orientalis* Friese, 1896, described under *Eucera*).



**HOLMBERGIAPIS** new name

*Scirtetica* Holmberg, 1903 (not Saussure, 1884). Type *Holmbergiapis antarctica* (*Scirtetica antarctica* Holmberg). Brethes regards this as part of *Tetralonia*, but it is at least a valid subgenus.

**TELEUTEMNESTA** Holmberg

*T. fructifera* Holmberg, the first species, is herewith designated as the type.

**Diadasia callura** new species

Female. Length, 8 to 9.5 mm.; black, with the small joints of tarsi ferruginous; head and thorax with white hair, short on thorax above; mandibles with a subobsolete inner tooth; maxillary palpi six-jointed, joints three and four with long lateral hair-fringes, joints quite broad and of about equal width; blade of maxilla neither hairy nor suddenly narrowed apically; paraglossae much shorter than first joint of labial palpi; clypeus shining, strongly punctured, but with a smooth median band; flagellum short and thick, dusky reddish beneath; mesothorax shining, strongly punctured; tegulae black; wings slightly dusky; second submarginal cell narrowed above, receiving first recurrent nervure beyond middle; basal nervure meeting transverso-median; outer side of tibiae and tarsi with pale yellowish hair, the scape of hind legs entirely pale, on inner side of basitarsi ferruginous; hind spur very long, pale testaceous, not hooked at end; first abdominal segment with white hair, the apical margin broadly pallid; segments two to four very broadly covered apically with felt-like bright ochreous hair, its limits not sharply defined, the bases of segments appearing dark, but with short erect hair; apex covered with fulvous hair, no dark patch.

Carcaraña, Argentina (Bruner 53, 51). In Friese's table of Argentine species this runs to *nigriceps* Friese = *distincta* Holmberg, but it is quite distinct from this, and from other species more recently described, especially by the white hair of thorax. The feet have well-developed pulvilli, and the hind wings have the *Diadasia* venation.

The following key will facilitate the separation of the above Anthophoridae. They are from Carcaraña unless the contrary is stated.

- Black species, without conspicuous pale hair, or it is confined to very limited areas.....1
- Species not appearing prevalingly black, the light or reddish hair conspicuous.....5
- 1. Male; clypeus dark. (Mexico).....**Melissodes albocollaris** Cockerell
- Females.....2

2. Abdomen without white hair-marks on apical part. (Colombia)  
*Melissodes atramentata* Cockerell  
 Abdomen with white hair-marks or band on apical part. . . . . 3
3. Wings very dark; abdomen with an interrupted white band on fourth segment. (Mexico) . . . . . *Melissodes bimaculata morrilli* Cockerell  
 Wings not so dark; abdomen with only lateral quadrate white patches. . . 4
4. Larger, mandibles with bright orange stripe.  
*Svastra carcaranensis* Cockerell  
 Smaller, mandibles without orange stripe.  
*Svastra reductior* Cockerell
5. Females . . . . . 6  
 Males . . . . . 14
6. Clypeus marked with yellow . . . . . *Tetralonia gilva* Holmberg  
 Clypeus without yellow marking . . . . . 7
7. Hair of thorax above bright fulvous . . . . . 8  
 Hair of thorax above pale gray or white; species smaller . . . . . 9  
 Hair of thorax above with at least some black or fuscous . . . . . 10
8. Abdomen with three golden bands.  
*Thygater bifasciata buccosa* (Vachal)  
 Abdomen covered with fulvous hair. *Xenoglossodes mimetica* (Brethes)
9. Second abdominal segment uniformly covered with pale hair. (Mexico)  
*Dasiapis tropicalis* Cockerell  
 Second abdominal segment appearing dark basally.  
*Diadasia callura* Cockerell
10. Second abdominal segment uniformly covered with pale fulvous hair.  
*Tetralonia brethesi* Jörgensen  
 Second abdominal segment not thus covered. . . . . 11
11. Sides of metathorax with red hair; pleura with black hair.  
*Thygater bruneri* Cockerell  
 Sides of metathorax with hair not red . . . . . 12
12. Fringe on fifth abdominal segment red or fulvous . . . . . 13  
 Fringe on fifth abdominal segment black.  
*Melissodes nigroaenea* (Smith), var.
13. Apical margin of second abdominal segment broadly pallid. (Mexico)  
*Xenoglossa rhodophila* Cockerell  
 Apical margin of second abdominal segment not pallid. (Paraguay)  
*Svastra sapucacensis* Cockerell
14. Clypeus wholly or mainly black. *Melissoptila pulchricornis* Cockerell  
 Clypeus yellow or cream-color . . . . . 15
15. Flagellum black . . . . . *Tetralonia gilva* Holmberg  
 Flagellum red beneath . . . . . 16
16. Second abdominal segment covered with fulvous hair . . . . . 17  
 Second abdominal segment not thus covered . . . . . 18
17. Two submarginal cells; clypeus lemon yellow.  
*Xenoglossodes lusor* Cockerell  
 Three submarginal cells; clypeus creamy white.  
*Xenoglossodes manca* Cockerell

18. Hair of abdominal segments three and four black.

**Svastra leucostoma** Cockerell

Some pale hair on segments three and four . . . . . 19

19. Hair of thorax above bright fulvoferruginous.

**Melissodes svastrina** Cockerell

Smaller; hair of thorax above not thus bright.

**Melissodes nigroaenea** (Smith), var.

