MEGACHILID BEES FROM BOLIVIA COLLECTED BY THE MULFORD BIOLOGICAL EXPEDITION, 1921-22

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At the request of Mr. S. A. Rohwer I have prepared the following report on the bees of the family Megachilidae, obtained by the Mulford Biological Expedition in Bolivia, 1921-22. As might be expected, the collection is rich in novelties; but so far as it consists of known species, they are of the great Amazonian Basin, and in part of Ecuador. Some of the species reach the coast at Guayaquil, but there is no resemblance to the fauna of the dry Pacific slope of Peru.

Genus ANTHIDIUM Fabricius

ANTHIDIUM VARIEGATIPES, new species

Female.—Length about 10.5 mm., anterior wing 8 mm. Robust, black, with light yellow markings, as follows: Mandibles except the sexdentate apex, very broad lower margin of clypeus semicircularly excavated by black above, short lateral marks not reaching level of antennae, four separate stripes along upper margin of head (that is, a narrow band three times interrupted), oblong spot at each side of anterior margin of mesothorax, narrow lateral marginal stripes on mesothorax, large spots on axillae, interrupted band on hind margin of scutellum, short lines on bases of tibiae, and on middle and hind pair another line farther down, narrow bands on abdominal segments 1 to 5, excavated at sides and middle, on first segment interrupted at these points and on second narrowly interrupted in middle, sixth segment with two large transverse patches; anterior femora and tibiae bright ferruginous in front; middle femora red with two black stripes, and their tibiae with a red stripe in front; hind tibiae red with a large median black saddlelike area; venter of abdomen largely red, fifth segment black with a red margin, sixth with a median longitudinal red stripe; hair of face, cheeks, sides of thorax, metathorax, ventral seopa, and legs white; hair of vertex dark fuscous; thorax above with gray hair, black or almost on posterior disk of mesothorax and disk of scutellum; elypeus densely punctured, the middle obtusely elevated and ridgelike; antennae black; mesothorax very densely

granular-punctate; middle of scutellum with shining surface showing between the punctures; tegulae black, with two pale yellow spots; wings dilute fuliginous; basal nervure going basad of nervulus; outer recurrent practically meeting outer intercubitus; tarsi densely covered with white hair on outer side, but with red hair on inner; no pulvilli; abdomen dullish.

Canamina, Bolivia, July (W. M. Mann). Described from one female. Larger than A. peruvianum Schrottky, and also known by the variegated legs and broad band on clypeus. Seen from behind, there is a rather strong superficial resemblance to the European A. diadema

Latreille.

Type.—Cat. No. 29073, U.S.N.M.

Genus DIANTHIDIUM Cockerell

Holmberg in 1903 proposed a subgenus Anthodioctes, to contain two new species from Argentina. The name had appeared in print many years earlier, but without definition or described species. Schrottky referred A. megachiloides Holmberg (which may be regarded as the type of the subgenus) to Dianthidium, but Holmberg did not place such species as Dianthidium confusum (Smith) = jenseni Friese) and D. bicoloratum (Smith) in his new genus. The venation of Anthodioctes resembles that of Dianthidium, but the proportions of the joints of the labial palpi are rather those of true Anthidium. In the labial palpi, D. chrysurum agrees rather closely with A. megachiloides, the joints measuring in μ about as follows: (1) 960, (2) 545, (3) 95, (4) 103. D. quadrimaculatum, which seems to be of the same general alliance, differs rather conspicuously in the labial palpi, the joints measuring about as follows in μ : (1) 370, (2) 320, (3) 95, (4) These measurements were made from the protruding mouth parts without mounting, but are sufficiently accurate for the present purpose. The whole series of Bolivian Dianthidium now before me may apparently be referred to Anthodioctes, which may be regarded as a subgenus. These bees, with certain species of Psaenythia (as P. collaris Schrottky and P. facialis Gerstaecker) and the wasps of the genus Nectarinia appear to constitute a case of Müllerian mimiery. Nectarinia is spread over the Neotropical region and gets as far north as San Benito, Tex., where my wife took N. lecheguana (Latreille) at flowers of Koeberlinia spinosa.

The following key separates the species belonging to or resembling Anthodioctes. In the case of several species not seen by me, it is impossible to be sure that they are Anthodioctes, since it is possible for Hypanthidium (H. taboganum Cockerell) to present a superficially similar appearance. H. beniense, described below, also resembles this

series, and the wings fold longitudinally as in a wasp.1

portoi (Friese).

	KEY TO SPECIES BELONGING TO, OR RESEMBLING, ANTHODIOCTES
Sci	itellum entirely black; ventral scopa white or whitish1
Scu	itellum all or partly yellow 7.
1.	Wings fulvous or ferruginous basally, fuliginous or dark apically 2
	Wings not fulvous basally, but usually strongly infuscated, especially in
	upper part 3.
$^{2}.$	10 mm. long; with fulvous hair; male clypeus with a reversed T in yellow
	female face dark, its abdomen with four yellow bands (Brazil)
	nectarinioides (Schrottky).
	7 to 8 mm. long; without fulvous hair; male clypeus orange-yellow; female
	face dark except obscure lines along orbits, and second segment with no
	yellow band (Argentina)megachiloides (Holmberg).
	(D. portoi nigritulum Friese might perhaps be sought in this couplet, near to
9	D. nectarinioides, but it is smaller, the mandibles with a basal tooth.)
ο.	Third abdominal segment with only linear lateral spots; smaller than D psaenythioides (7 mm. or a little over, psaenythioides 9 mm.) (Paraguay)
	vernoniae Schrottky.
	Third abdominal segment with an orange-yellow band4
4.	Middle of face polished and impunctatemanni, new species.
	Face densely punctured5
5.	Male; clypeus black with a broadly interrupted yellow band on lower margin,
	sometimes reduced to a pair of small spotsmapirense, new species.
	Female; clypeus entirely black, or (holmbergi) very obscurely spotted 6.
6.	Tegulae black; sixth abdominal tergite with a broad yellow band
	holmbergi, new species.
	Tegulae with a light spot; sixth abdominal tergite with little yellow (Prov-
	ince Salta, Argentinapsaenythioides (Holmberg).
7.	Ventral scopa yellow or yellowish (antennae yellow in male D. buyssoni the
	female of which is unknown)
0	Ventral scopa white (or male only known) 10.
8.	Scape (female) red beneath; male with margin of clypeus yellow (Brazil;
	said by Ducke to be identical with <i>D. lunatum</i> Smith)duckei (Friese). Scape (female) black, or red only at exteme base9.
0	Abdominal segments 1 and 2 all black (Brazil)albopilosum (Friese).
9.	Abdominal segments 1 and 2 with a yellow line on each side (Brazil)
	lunatum (Smith).
10	Very small, about 5 mm. long, or (D. quadrimaculatum) somewhat larger 11.
10.	Larger, 7 mm. or over (except D. indescriptum, 6.5 mm., but differs from
	pygmaeum, arcnarium, and quadrimaculatum by abdominal segments 1 to
	3 all dark) 13.
11.	Head and thorax less coarsely punctured (Brazil; seen in British Museum,
	and noted Dianthidium venation and pulvilli present)arenarium (Ducke)
	Head and thorax more coarsely punctured12.
12.	Anterior and middle legs of female red (Brazil)pygmaeum (Friese).
	Anterior and middle legs of female with much black; female with lower part
	of clypeus not yellow, and scape clear red in front; male clypeus yellow,
	space between antennae black quadrimaculatum, new species.
	Male; legs black and yellow; clypeus yellow; two large curved yellow stripes
	between antennaecallorhinum, new species.
13.	Female mandibles with a stout basal tooth; clypeus with a little tooth (Brazil)

Female mandibles unarmed at base_____

14. Legs black; females15.
Legs marked with yellow 17.
15. Abdomen with only segments 4 and 5 narrowly margined with pale yellow;
wings almost hyaline, with very dark costal margin (Brazil)
indescriptum (Dalla Torre).
Segments 4 to 6 with yellow bands; clypeus with only two spots (an inter-
rupted band in indescriptum)nitidipes, new species.
Segments 3 to 6 with broad yellow bands16.
16. Smaller; mesothorax more finely sculptured; two conspicuous yellow lines on
frontundecimale, new species.
Larger; mesothorax more coarsely sculptured; yellow marks on front much
reduced (female)chrysurum, new species.
17. Head mainly yellow (Venezuela)buyssoni (Pérez).
Head black marked with yellow18.
18. Lower half of male clypeus yellowchrysurum, new species.

Margin of female clypeus and inner orbits broadly yellow

H. beniense, new species,

DIANTHIDIUM MANNI, new species

Male clypeus all yellow; female face black (Cayenne) ___ bilineatum (Spinola).

Female.—Length about or a little over 9 mm. Robust, black, the head and thorax above with much glistening red hair, sides of face and of thorax with a little white hair; face, mandibles, and antennae black, the flagellum obscurely brownish beneath at base; occiput with an interrupted clay-yellow band; thorax all black, tegulae black; wings dilute fuliginous, with a darker streak in apical part of marginal cell; second recurrent nervure going almost as far beyond second cubital cell as first beyond first intercubitus; abdomen with first segment black, second with a yellow stripe at each side, third to sixth with broad lemon-yellow bands; ventral scopa white; legs black, tarsi hairy, middle tarsi stout; middle of supraclypeal area broadly, and median band on clypeus, narrowing below, polished and impunctate; front densely punctured, vertex shining between the large punctures; mesothorax and scutellum very densely punctured and entirely dull; cheeks shining, with a large raised keel behind; mesopleura coarsely punctured; mesothorax dull, the basal area a biarcuate band; basal abdominal segments very minutely and densely punctured; hind coxae elevated above.

Huachi, Beni, Bolivia, September (W. M. Mann). Described from one female.

Type.—Cat. No. 29074, U.S.N.M.

DIANTHIDIUM HOLMBERGI, new species

Female.—Length 7.5 mm. Similar to D. manni in most respects, but easily distinguished thus: Face densely and coarsely punctured, with a narrow smooth band on supraclypeal area; lower corners of clypeus and inner orbits obscurely marked with reddish (or orange altered by cyanide); flagellum reddish brown beneath; occipital band narrow but entire; cheeks not very broad, coarsely but irregularly

punctured; head and thorax above without red hair, very little hairy; wings dilute reddish fuliginous, nearly uniform; first two abdominal segments coarsely punctured and entirely black (broad orange bands on segments 3 to 6). The ventral scopa is white.

Rurrenabaque, Beni, Bolivia, October (W. M. Mann). Described

from one female. Allied to D. psaenythioides (Holmberg).

Type.—Cat. No. 29075, U.S.N.M.

DIANTHIDIUM MAPIRENSE, new species

Male.—Length, 5.5 to 6 mm. Black, robust, head and thorax with large punctures, the surface showing between on clypeus and sides of mesothorax; hair of thorax above scanty, whitish; mandibles, tegulae, and entire thorax black; lateral third of lower margin of clypeus (or reduced to spots), narrow stripe up orbits to a little above antennae, a short mark mesad of each antenna, and slender but entire occipital band, light yellow; antennae black; prothorax projecting laterally, so as to appear spiniform seen from above: wings strongly dusky, very dark in the region of the marginal cell; first recurrent nervure not going as far beyond first intercubitus as second beyond second cubital cell; legs entirely black; first two abdominal segments very minutely and densely punctured, entirely black, except a minute dot at extreme sides of second; apex broadly rounded, without teeth; venter banded with white hair.

Type locality.— Near mouth of Rio Mapiri, Bolivia, September (W. M. Mann). Also obtained by the same collector at Huachi, Beni, Bolivia, September, this specimen having the yellow clypeal band more nearly complete. Described from three males. I had to consider whether this could be the male of D. holmbergi, but it is much smaller, the wings are very different, and both locality and date are different.

Type and one paratype.—Cat. No. 29076, U.S.N.M.

Paratype in collection of author.

DIANTHIDIUM NITIDIPES, new species

Female.—Length hardly 8 mm. Robust, black, head and thorax strongly and closely punctured; an imperfectly indicated line down the middle of the strongly punctured clypeus; mandibles and tegulae black; small spot at each extreme side of clypeus, narrow stripe along orbits (becoming lines above and ending about halfway up front), curved band mesad of each antenna, and continuous narrow occipital stripe (going nearly to lower end of eyes) all yellow; cheeks very coarsely punctured, keeled behind; antennae dark, third joint red beneath; mesothorax dull, densely punctured, a yellow stripe, not conspicuous, at each side of anterior margin; scutellum and axillae bright orange; area of metathorax longitudinally sulcate in middle, its lower part shining; wings subhyaline; deeply stained with fuscous

in marginal and cubital cells, about basal nervure, and widely on each side of nervulus; first recurrent nervue more distant from first intercubitus than second from second intercubitus; legs black, shining, basitarsi silky with pale hair; abdomen dull, extremely finely and closely punctured, at sides with coarse punctures; first three segments with hind margins obscure reddish, third segment with a small yellow mark at each extreme side; segments 4 to 6 with even entire yellow bands, the first narrow, the others successively broader; ventral scopa white.

Cavinas, Rio Beni, Bolivia, February, 1922 (W. M. Mann). De-

scribed from one female.

Type.—Cat. No. 29077, U.S.N.M.

DIANTHIDIUM CALLORHINUM, new species

Male.-Length, 5 to 6 mm. Rather robust, black, with bright lemonyellow markings; pubescence extremely scanty; head and thorax densely punctured, but shining spaces latered of the ocelli; mandibles yellow except apex; clypeus, two large curved bars between antennae (shaped something like a tadpole with tail upward), bands along anterior orbits to summit of eye (narrowing above), and rather broad entire occipital band (going halfway down cheeks), all yellow; scape dark, with a yellow stripe in front; third antennal joint with a light spot; flagellum black above, obscure reddish beneath; antennae verv much shorter than in D. quadrimaculatum, when extended backward reaching about middle of mesothorax; mesothorax dull, lateral third of anterior border and more than half of lateral borders margined with yellow; scutellum and axillae orange, the former sulcate in middle; mesopleura with strong, well-separated punctures, a yellow spot posteriorly; tegulae black; wings dusky, upper part darker but not very dark; second cubital cell more contracted above than in D. quadrimaculatum; femora black, knees narrowly ringed with yellow, anterior and middle femora ferruginous in front; anterior tibiae red in front, yellow on outer side, black behind; middle tibiae the same except that the yellow fails basally; hind tibiae black, largely yellow on apical half; tarsi reddish, very pale yellow on outer side; small joints of hind tarsi dark; abdomen finely but distinctly punctured and shining; first segment with a large yellow spot on each side and a pair of obscure dots between; second with a rather narrow vellow band, the broad margin beyond brown; third with yellow band much broader and brown margin less; segments 4 to 6 with very broad yellow bands, and apical segment yellow; apex broadly rounded.

Type locality.—Near mouth of Rio Mapiri, Bolivia, September (W. M. Mann). Also from Huachi, Beni, September (Mann). Described from two males. Close to D. bilineolatum (Spinola), but that is con-

siderably larger (8 mm.), with different markings on mesothorax, and first abdominal segment without yellow spots.

Type.—Cat. No. 29078, U.S.N.M. Paratype in collection of author.

DIANTHIDIUM UNDECIMALE, new species

Female.—Length, about 7 mm. Robust, black, with yellow markings; blade of maxilla entirely pale ferruginous; eyes pale lilac-gray; clypeus very strongly and densely punctured, a very small smooth space in middle of upper margin; supraclypeal area with a smooth round median space; front very densely punctured, vertex shining between the punctures, a small smooth space next to each lateral ocellus; cheeks shining, rather sparsely punctured, sharply bounded behind; cheeks much narrower than in D. manni; face black, except narrow stripes along the whole length of inner orbits, a little wider above than below; a conspicuous pair of stripes, like a figure 11, between antennae; antennae black, with scape in front and third joint beneath dull red; mesothorax with yellow stripes along lateral third of anterior margin, but not on lateral margins; axillae and scutellum (the latter sulcate in middle) orange; mesothorax dull and excessively densely punctured, with extremely short brown hair, giving a velvety appearance; base of metathorax with a biarcuate groove, crossed by ridges; mesopleura very strongly punctured, the intervals shining; wings dusky gray, darker above basal nervure and in costal region; first recurrent ending more distant from first intercubitus than second from second intercubitus; legs black, tarsi with much pale hair; first two abdominal segments shining, finely and closely punctured (but not so finely and closely as in D. manni), hind margin of first rather broadly dull reddish, second with a yellow linear mark at each extreme side; segments 3 to 6 with broad lemon-vellow bands; ventral scopa white.

Near mouth of Rio Mapiri, Bolivia, September (W. M. Mann). Described from one female.

Type.—Cat. No. 29079, U.S.N.M.

DIANTHIDIUM CHRYSURUM, new species

Male (type).—Length, about 7 mm. Robust, black, with yellow markings; head and thorax above with abundant rather long rufous hair; spot on mandibles, very broad band on lower part of clypeus (its upper margin irregular, with a sharp median upward projection), short lines mesad of antennae, lateral face marks (broad below, linear above, ending some distance below top of eye), occipital band (narrowly broken in middle and not extending down cheeks), line at each side of anterior border of mesothorax, lower half of axillae and

scutellum, except base, all yellow; clypeus strongly punctured, with a smooth median line, supraclypeal area with a large smooth space; mesothorax dull and excessively densely punctured; area of metathorax with a biacruate groove, crossed by strong ridges; mesopleura very coarsely punctured; tegulae black; wings strongly dusky, with a dark streak in apical part of marginal cell; first recurrent nervure not quite as remote from first intercubitus as second from second; legs black, middle and hind basitarsi pale yellow on outer side; first two abdominal segments very finely and closely punctured, with large yellow marks at sides, that on second much longer and narrower than that on first; segments 3 to 6 with broad lemon-yellow bands and apical segment yellow; apex broadly rounded, slightly truncate. In one specimen the first abdominal segment is all black and the second has an entire slender yellow band.

Female.—Length, about 8 mm. Face all black, except a small mark mesad of each antenna, and a hardly noticeable line along orbits; supraclypeal area coarsely punctured all over; narrow occipital band extending about halfway down eyes; tarsi black; first abdominal segment all black, second with a slender line on each side; segments 3 to 6 with yellow bands, 4 and 5 brown beyond the band; ventral scopa white. The venation, with the second recurrent nervure going far beyond the second cubital cell, indicates that this rather than D. undecimale is the female of D. chrysurum. The locality also is the same as that of type D. chrysurum.

Huachi, Beni, Bolivia, September (W. M. Mann). Described from five specimens.

Type and two paratypes.—Cat. No. 29080, U.S.N.M. Two paratypes in author's collection.

DIANTHIDIUM QUADRIMACULATUM, new species

Female (type).—Length, about 6 mm. Rather slender, black, with pale yellow and ferruginous markings; pubescence extremely scanty, dorsum nude, head and dorsum of thorax dull and extremely densely and coarsely punctured, pleura shining between the punctures; eyes pale lilac-gray; clypeus and supraclypeal area densely punctured all over; clypeus with a round reddish-yellow spot at each extreme side; rather broad pale orange bands along anterior orbits, not reaching top of eye; occipital band reddish yellow, very narrowly interrupted in middle, not going far below top of eye; scape clear ferruginous; flagellum red beneath, dark above, third antennal joint red on both sides; mesothorax dull, more than lateral third of its anterior margin with a yellowish-red band; scutellum and axillae reddish orange, except at base; tubercles with a red spot; a broad, coarsely wrinkled area (not at all biarcuate) at base of metathorax; tegulae clear ferruginous; wings dilute fuliginous, apical margin paler; recurrent

nervures about equally distant from the transverse cubitals; hind legs black, with slightly reddened knees, hair on inner side of basitarsi pale yellowish; anterior and middle femora black, with the apical part largely red; anterior tibiae and tarsi ferruginous, but middle tibiae black behind; abdomen shining, well punctured, with very pale yellow markings, consisting of large spots at sides of first two segments (on first rounded, on second elongate and curved) and entire bands on segments 3 to 5; margin beyond the segments and sixth segment black; ventral scopa white.

Male.—Very similar, but flagellum extremely long, reaching well beyond scutellum; mandibles, clypeus, lateral face marks (broadly dilated and angular mesad below), and markings of thorax lemon yellow; yellow on scutellum only a band, interrupted in middle; anterior and middle tibiae behind with a clear yellow stripe or bar on a black ground; abdomen with four yellow bands, but apex black; apex pointed; venter with white hair. The scape may be dark at base in front and the band on scutellum entire.

Huachi, Beni, Bolivia, September (W. M. Mann). Described from six specimens. Related to *D. gualanense* Cockerell, from Guatemala, but that has the scutellum entirely black.

Type and two paratypes.—Cat. No. 29081, U.S.N.M.

Three paratypes in collection of author.

Genus HYPANTHIDIUM Cockerell

HYPANTHIDIUM BENIENSE, new species

Female.—Length about 7 mm. Robust, black, with clay-yellow markings on head and thorax and lemon yellow on abdomen; hind margins of abdominal segments broadly reddish brown, but base of first and second segments black; mandibles with yellow basal patch; clypeus yellow with two inverted black triangles, touching basally, on upper part; broad lateral bands, reaching to level of middle ocellus; occipital band entire, extending two-thirds way down cheeks; face and front very densely punctured, with no smooth line; cheeks narrow, not distinctly keeled behind; scape light red; flagellum dusky reddish above, clay yellow beneath, pallid, darkened apically; thorax dull and densely punctured, dorsally with short inconspicuous red hair; spot on tubercles, lateral margins and lateral third of anterior margin of mesothorax, continuous band on axillae and hind margin of scutellum yellow; area of metathorax not defined; tegulae large, ferruginous, fuscous in middle; wings fuliginous, very dark above bassal nervure and about end of marginal cell; the wings fold longitudinally after the manner of Nectarinia; femora black, anterior ones broadly striped with red apically in front and with a pale yellow stripe behind; middle femora with the same light stripe, but only the

knees narrowly red; anterior and middle tibiae broadly light ferruginous in front, black behind; hind tibiae black with a light yellow stripe at base in front; anterior tarsi ferruginous, the others dark, hind basitarsi with red hair on inner side; abdomen shining, strongly and not very densely punctured; a broad entire yellow band on first segment, large transverse spot on each side of second, and broad bright yellow bands on 3 to 6; ventral scopa dull white.

Cavinas, Beni, Bolivia, January (W. M. Mann). Described from one female. This is quite distinct from the previously described species, being especially known by the entire bands on the abdominal segments except the second, and the marking of the clypeus. There is some affinity with *H. ecuadorium* (Friese), in which, however, the band on first segment is interrupted. There is also some resemblance to *H. flavomarginatum obscurior* Schrottky, which differs by the large yellow spot on the mesopleura, and other conspicuous characters. It has been claimed that *H. guttatum* (Latreille), *H. flavopictum* (Smith), *H. flavomarginatum* (Smith), and *H. elegantulum* (Smith) are all phases of one species, but this seems improbable. It is very probable that *H. elegantulum* and *H. flavopictum*, both from Santarem, are the sexes of one species.

Type.—Cat. No. 29082, U.S.N.M.

The one previously known Bolivian Anthidiine (Anthidium boliviense Friese, from Mapiri) is not in the collection. It is a species allied to A. rubripes Friese, with black ventral scopa, and red legs and tegulae. Its affinity is with Argentine species to the southward.²

The Anthidiines from the Beni Basin, described above, are almost totally unlike those of Peru. Not only do we lack all of the known Peruvian species, but the nine known from that country (deceptum Smith, garleppi Schrottky, cuzcoense Schrottky, nigerrimum Schrottky, peruvianum Schrottky, matucanense Cockerell, atricaudum Cockerell, simulans Cockerell, and paitense Cockerell) are true Anthidium. did not find, nor have others found, any Dianthidium or Hypanthidium. But as might be expected, the Brazilian Anthidiine fauna much more closely resembles that of the Rio Beni though the recorded species are different. Of the 28 or 29 species and varieties reported from Brazil, 15 are certainly or almost certainly Dianthidium, while 6 are Hypanthidium. Anthidium latum Schrottky = (codoense Ducke) and the introduced A. manicatum (Linnaeus) are typical Anthidium. The others are more or less uncertain and require more critical examination. The Paraguayan forms (17 species and varieties recorded) are like those of Brazil, in being nearly all Dianthidium and Hypanthidium. The 24 Argentine forms include species of

²Since this was written Friese has published Anthidium bizonatum from Oruro. It is a species with black hair and red legs, of the group of A. philippii Friese and A. euzona Perez.

Dianthidium and Hypanthidium, but also several true Anthidium, occurring near the eastern base of the Andes and in Patagonia. Dianthidium steloides (Spinola) occurs all the way from Chile to the Province of Buenos Aires in Argentina, according to Holmberg. Ecuador (5 species) has true Anthidium, but also a species of Hypanthidium (H. ecuadorium Friese). Chile (12 species) includes at least some true Anthidium, but several of the species are only known to me from descriptions. The Anthidiines of northern South America are few or else not collected; Spinola described two from Cayenne and Pérez one from Caracas, Venezuela.

Genus COELIOXYS Latreille

In contrast with the Anthidiines, four out of five were previously known, two extending to the lowlands of Brazil, two to the coast of Ecuador.

COELIOXYS EXCISA Friese

Female.—Riberalta, Bolivia, January (W. M. Mann). This agrees so closely with the description of *C. excisa* that I can only consider it identical, although the legs, instead of being brown with yellow hair, are mainly black, with knees, tibiae at apex, and posterior femora behind rufous, the tarsi obscurely rufescent, and the hair mainly white, but yellow on inner side of tarsi. Friese records it from Para, Praincha, and Rio Arayollos.

COELIOXYS BILOBATA Friese

Female.—Ivon, Beni, Bolivia, February (W. M. Mann). Friese records it from Tarata, Bolivia; also from Para and Leopoldina.

COELIOXYS SPATULIVENTER, new species

Female.—Length about 9 mm. Black, including mandibles (except a faint reddish spot in middle), antennae, and legs; eyes warm red, with transverse pale crimson stripes; tegulae black, with a large rufous spot; wings fuliginous, with dark stigma and nervures; spurs Hair of eyes so short as to be hardly visible with a lens; face and sides of front densely covered with pale fulvous tomentum, suffused with brown over upper part of face, but long fringe below clypeus warm light ochreous; clypeus so covered as to entirely hide sculpture and margin, but apical margin with three large rounded pits, the intervals between them appearing dentiform under the dense appressed pubescence; flagellum long; cheeks sharply keeled, entirely covered with hair; mesothorax and mesopleura bounded in front and behind with bands of pale fulvous hair, the posterior band on thoracic dorsum broken on each side; mesothorax dullish, with very large sparse punctures; scutellum coarsely and very densely punctured, with a median smooth keel; axillar spines short and broad; mesopleura with

very large punctures; sternal region with white hair; second recurrent nervure joining second cubital cell very near end; legs with white hair, but pale golden on inner side of tarsi; abdomen polished. with fine punctures; hind margins of segments 1 to 5 with linear entire vellowish-white hair bands; sixth segment weakly keeled only on the narrowed apical portion, which is thick and obtuse, not turned upward at end; first ventral segment with white hair in middle and a smooth bare dark red area on each side; segments 2 to 4 with distinct, well-separated punctures, and broad white hair bands; segment 5 greatly prolonged at end, spatuliform, broadly rounded, the broadly truncate end inclined to be emarginate; last ventral segment broad, obtusely pointed, not hairy or notched at side, extending a short distance beyond last dorsal; in profile the end of the abdomen resembles a bird's head, the last dorsal and fifth ventral being the beak, and the last ventral an extended tongue. The under surface of the fifth ventral is weakly keeled and has a gray pruinescence.

Ivon, Beni, Bolivia, February (W. M. Mann). Described from one female. A very distinct species, probably nearest to *C. alatiformis* Friese, but the last dorsal is shaped more as in *C. foersteri* Morawitz, though the basal part is not so broad and the apical is broader. Also, it is not curved downward as in *C. foersteri*.

Type.—Cat. No. 29083, U.S.N.M.

COELIOXYS OCULARIS Friese

Male.—Pongo de Quime, Bolivia, July (W. M. Mann). Remarkable for the exceedingly long brown hair on eyes. It differs from typical *C. ocularis* (from Guayaquil) by the entirely black mandibles and largely black femora, but the species is evidently the same.

COELIOXYS LEUCOCHRYSEA Cockerell

Male.—Reyes, Bolivia, October (W. M. Mann); Covendo, Bolivia, August (W. M. Mann). Compared with typical C. leucochrysea from Guayaquil, the upper apical spines of the abdomen are somewhat shorter. From C. triodonta Cockerell, also from Guayaquil, it is easily known by the eyes not strongly converging below.

Genus MEGACHILE Latreille

THE SPECIES IN THE COLLECTION MAY BE SEPARATED BY MEANS OF THE FOLLOWING KEY

Females

2. Small species with strongly orange-tinted wingsmicrosoma Cockerell.		
Much larger; wings not orange3.		
3. Pleura with black hairhypecrita Smith.		
Pleura with light hairvirescens Cockerell.		
4. Tegulae blacktergina Vachal.		
Tegulae clear red 5. Clypeus convex, ordinary 6.		
Clypeus more or less flattened or concave in middle, with a more or less dis-		
tinet ridge on each side of median area		
6. Larger; middle tarsi broad, with clear red hair on outer side; middle tibiae		
ending in a very broad subtruncate red lobemariannae Dalla Torre.		
Smaller; middle tarsi slender; middle tibiae with the apical red lobe emargi-		
nate or bidentateivonensis, new species.		
7. Larger; wings strongly orange; closely resembles M. mariannae except as to		
clypeusscapularis Vachal.		
Smaller; wings not orange8.		
8. Supraclypeal area well punctured; eyes redconstructrix Smith.		
Supraclypeal area polished, smooth; eyes not redlenticula Vachal.		
Males		
Legs red1.		
Legs not red, or only in small part red2.		
1. Anterior tarsi modifiedpolyodonta, new species.		
Anterior tarsi simpleanodonta, new species.		
2. Anterior tarsi modified 3.		
Anterior tarsi simple4.		
3. Larger; anterior basitarsus with a long projecting lobecrassipes Smith.		
Smaller; anterior basitarsus without a projecting lobefumicosta Strand.		
4. Hind femora clear light red behind; sixth abdominal segment not emarginate or toothedlenticula Vachal.		
Hind femora dark red or black behind		
5. Sixth abdominal segment emarginate, the margins red; wings suffused with		
orangeivonensis, new species.		
Sixth abdominal segment otherwise6.		
6. Sixth segment irregularly multidentatebrasiliensis Dalla Torre.		
Sixth segment otherwise 7.		
7. Smaller; sixth segment dentate or emarginate8.		
Larger; sixth segment entire or (tricosa) shallowly emarginate11.		
8. Sixth segment with two widely separated sharp teeth9.		
Sixth segment emarginate		
9. More robust; tegulae redmicrosoma Cockerell. Less robust; tegulae blackmicrodontura, new species.		
10. Face covered with bright yellow hairbeniensis, new species.		
Face without yellow hairleucostomella, new species.		
11. Face covered with yellow or yellowish hair; tegulae light ferruginous 12.		
Face without yellow hair, or else tegulae dark13.		
12. Mesothorax dull and closely punctured all overlenticula Vachal.		
Mesothorax shining and more sparsely punctured on disk		
sejuncta, new species.		
13. Face with orange hair; thorax above without black hair		
tricosa, new species.		
Face with hair not orange; thorax above with a good deal of black hair		
semota, new species.		

MEGACEILE ATRICOMA Vachal

Female.—Near mouth of Rio Mapiri, Rio Beni, Bolivia, September (W. M. Mann). Vachal's type was from Mapiri, Bolivia. The specimen differs from the description in having the long hair fringing the basin of first abdominal segment pale in middle. The robust hind tibiae are covered on inner face with fine feltlike hair which appears white in certain lights. Margin of clypeus uneven, subdenticulate; flagellum bright ferruginous beneath; upper part of clypeus and supraclypeal area polished, sparsely punctured.

MEGACHILE FYRRHOTRICHA Cockerell

Female.—Near mouth of Rio Mapiri, Rio Beni, Bolivia, September (W. M. Mann). Described from Guayaquil, Ecuador.

MEGACHILE XANTHOLEUCA, new species

Fencile. Length about 10 mm., anterior wing 8 mm. Black, robust, with broad cordiform abdomen; face and front entirely hidden by long golden-yellow hair; vertex with long black hair, cheeks with long, pure white hair; lower edge of clypeus straight; mandibles black; flagellum long, basal half reddish beneath; fourth antennal joint at least twice as long as third; vertex densely punctured; mesothorax dull and densely punctured, scutellum more shining, but finely and closely punctured; dorsum of thorax with erect black hair, scanty on mesothorax, long on hind part of scutellum; there is also short, thin, whitish hair, and a band of fulvous on each lateral margin, next to the tegulae; pleura and metathorax with dull white hair; tegulae very dark reddish; wings dusky hyaline, darker at apex, stigma and nervures fuscous; legs black, claws red with apex black; hair of legs dull white, pale reddish on inner side of basitarsi; spurs pale reddish; abdomen densely punctured, with only traces of white hair bands at sides, on first segment forming large spots; sixth segment in profile gently concave, with thin, long, dark hair; ventral scopa white, a little black hair at extreme apex.

Cavinas, Rio Beni, Bolivia, January (W. M. Mann). Described from one female. In Schrottky's table of Brazilian species goes near to M. ventralis Smith, but is quite distinct; or it could run near the wholly dissimilar M. bertonii Schrottky. In Friese's table it falls next to M. hypocrita Smith, which is quite different.

Type, Cat. No. 29084, U.S.N.M.

MEGACHILE MICROSOMA Cockerell

Female.—C. Esperanza, Rio Beni, and Tumupasa, December; male, Rurrenabaque, Rio Beni, October. All in Bolivia (W. M. Mann). The female is almost exactly like M. aurantipennia Cockerell, from Guatemala, but the mesothorax is not so thickly haired. M. microsoma was described from Brazil.

MEGACRALE HYPOCHIJA Smiti

Female.—Ivon, Beni, Bolivia February W. M. Mann Described from Para.

MAGACEILE VILLECENS Cuckerell

Female.—Espia, Rio Bopi, Bolivia W M Mann. Described from Brazil.

MEGACEILE TERGINA Vacinal

Female.—Near mouth of Rio Mapiri, Bolivia. September W. M. Mann). Described from Hualaga, Peru, and Mapiri. Bolivia.

MEGACEILE MARIANNAE Dalis Torre

Female.—Ivon, Beni, February W. M. Mann. This is M. moderata Smith, the name preoccupied. It was described from Ega. Brazil.

MEGACETLE IVONENSIS, nev species

Female (type).-Length about 11.5 mm, anterior wing 9.3 mm. Black, robust, with moderately long but not narrow abdomen apical portion of mandibles dark ruious; clypeus strongly convex shining, finely and closely punctured, no smooth line, upper part appearing granular and dull, lower margin abruptly depressed the edge straight; supraclypeal area shining, with stronger punctures. running in rows, a small, smooth space in middle of apical part; vertex granular from very dense minute punctures; flagellum clear ferruginous beneath, the sutures dark; sides of face and most of front with vellowish white hair; cheeks with thin white hair at each side of upper part of front is an oblique band of long inlyons hair, these bands meeting at an angle behind anterpor occurs; vertex with pule fulvous hair; mesothorax dullish, closely punctured, sentellum more shining; thorax with vellowish white hair, thin above, more falvous about region of wings, becoming white below; regular bright ferruranous; wings dilute vellowish, the apex dusky; stigms and nervares ferruginous; femora obscurely reddish above; legs with scanty pale hair, dense and pale fulvous on outer side of anterior and middle basitarsi, red on inner side of basitarsa; tarsi ru escent apicaly; spurs very pale; abdomen shining, finely punctured the segments with outire narrow cream-colored hair bands, sixth segment gently concave in lateral profile, heary with fine, pale hair; venter with tegrament red at base; ventral scopa mostly white, but your long and conspicuous black hair at sides of segments 4 and 5.

Male. Longth about 11 mm, anterior wing 95 mm. Robust, broad, black, with small joints of tarsi vollowish ferroginous: face with pale vellowish or vollowish white hair; long outstanding black

[&]quot;Now called Wife War a ver good secount of this locality, see ? H. T. Tewsend, Brazilian American, Nov. 1, 1824

hairs on clypeus, but it also has recumbent pale hair, apically forming a conspicuous white or yellowish white beard; surface of clypeus finely granular, no smooth line; mandibles black, an obscure red spot at base of outer tooth; vertex dull and finely granular-punctate; flagellum slender, simple, light ferruginous beneath; mesothorax dull, minutely granular-punctate; scutellum convex, shining, with few weak punctures; hair of head and thorax above pale yellowish, fulyous above tegulae (which are clear ferruginous); pleura with long white hair; wings strongly tinged with orange, dusky at apex; anterior coxae with only very short pointed spines, easily overlooked; anterior femora beneath and tibiae in front largely rufous; anterior and middle tibiae with a red spot on outer side at apex; anterior tarsi with a rather short fringe of white hair, middle tarsi with a much longer fringe; hind basitarsi with reddish black hair, on inner side deep red; abdomen shining, with narrow white hair bands, sometimes abraded and lost; keel of sixth segment broadly and deeply emarginate, the borders of the emargination ferruginous; base of venter broadly black in middle, light ferruginous at sides.

Type locality.—Female, Ivon, Beni, Bolivia, February (W. M. Mann); male, Cavinas and Blancaflor, Bolivia, January (W. M. Mann). Distinguished from M. rubricata Smith by the dark legs, and from M. guaranitica Schrottky by the margin of clypeus not crenulate. It is really allied to M. leucocentra Schrottky (which I have from Schrottky), for which it might be taken on superficial examination, but M. leucocentra has the abdominal bands much broader and bright yellow, and the middle tarsi, with broad joints, are very different. The male runs in Schrottky's table near M. exaltata Smith, but is

very different.

Type and one paratype.—Cat. No. 29085, U.S.N.M.

Two paratypes in collection of author.

MEGACHILE SCAPULARIS Vachal

Female.—Ivon, Beni, Bolivia, February (W. M. Mann). Described from Mapiri, Bolivia and (male) Pachitea, Peru. I will designate the female from Mapiri as the type. This is closely allied to *M. mariannae*, showing that the peculiar facial structure must have arisen in this immediate group, and apparently indicating that other species more or less similarly formed are not necessarily closely related. It seems to me that this female must belong with *M. crassipes* Smith, owing to the very close general resemblance, the black hair at base of clypeus, and the first recurrent nervure nearer first intercubitus than in *M. mariannae*. Vachal's description of the male also agrees well with my identification of *M. crassipes*; a point to be added is that the second joint of middle tarsus has a little tooth on inner side. *M. crassipes* was described from Sao Paulo on the Amazon.

MEGACHILE CRASSIPES Smith

Male.—Tumupasa, Bolivia, December (W. M. Mann). As mentioned above, I believe this to be the male of M. scapularis, and if this is confirmed, Smith's name has many years' priority.

MEGACHILE CONSTRUCTRIX Smith

Female.—Ivon, Beni, Bolivia, February (W. M. Mann). Described from Villa Nova, Brazil. M. fumicosta Strand is related, or at all events superficially similar, but surely not its male, the wings being so much darker.

MEGACHILE LENTICULA Vachal

Female, male.—Riberalta, January; males Cavinas, Rio Beni, and Blancaflor, Beni, January. All in Bolivia (W. M. Mann). I have specimens from Brazil, but Vachal described it from Mapiri, Bolivia.

In a series the legs of the male will vary from black to red. A description of the male is given here as none is available in English.

Male.-Length about 11 mm. Rather robust, black, including mandibles, antennae, and legs, but tegulae clear ferruginous; head broad, eyes reddish, face and front densely covered with long tawnyvellow hair; upper part of clypeus with a shining space; cheeks with long dull white hair below; vertex with thin pale hair and some dark hairs intermixed; mesothorax dullish, with very close shallow punctures; scutellum more shining; thorax above with very sparse whitish hair, long black hairs on posterior part of scutellum; sides of thorax with abundant long pale fulvous hair, becoming dull white below; posterior face of metathorax shining; wings dusky hyaline, darker apically, nervures and stigma dark; recurrent nervures ending very near base and apex of second cubital cell; anterior coxae without spines; anterior tarsi simple, except that both anterior and middle tarsi are fringed behind with long dull white hair; abdomen dullish, with broadly interrupted white hair bands; keel of sixth segment entire, subtruncate; venter black, with white hair bands.

In Schrottky's table runs to M. urbana Smith, but differs by the

dark anterior tarsi and other characters.

MEGACHILE FUMICOSTA Strand

Male.—Huachi, Beni, Bolivia, September (W. M. Mann). According to Schrottky's label on a specimen received from him, M. vernoniae Schrottky is a synonym. My specimens are from Puerto Bertoni, Alto Parana.

MEGACHILE BRASILIENSIS Dalla Torre

Male.—Cavinas, January, and Ivon, February, Rio Beni, Bolivia (W. M. Mann). This is M. denticulata Smith (name preoccupied), from Rio Tapajos, Brazil.

MEGACHILE POLYODONTA, new species

Male.—Length about 8.5 mm. Slender and parallel-sided, black, with the femora, tibiae, and tarsi bright ferruginous; face and front covered with long pale yellow hair; eyes pale red; mandibles black; cheeks with long white hair; vertex nearly bare, broad, closely punctured; mesothorax and scutellum shining, with weak delicate punctures; area of metathorax dull; flagellum long, entirely dark, with the faintest brown tinge beneath; hair of sides of thorax long and white; dorsum with extremely thin erect black hair, longest on scutellum; tegulae shining ferruginous; anterior wings with upper part fuliginous, lower part dusky hyaline, stigma and nervures dark; anterior coxae with short stout dark spines, rather easily overlooked; anterior tarsi with first three joints broad, yellowish white, without any projecting process, the hind margin with a long white fringe, and the usual black spot on inner surface; middle basitarsi with a long white fringe behind, and part of this fringe on the apex of tibia; abdomen highly polished; a deep sulcus at base of second and third segments; segments 1 to 5 with white hair bands, broadly failing in middle; segment 6 directed downward, the margin of the transverse keel jagged, with five or six irregular teeth; nearly all of venter shining light ferruginous, with two white hair bands. The middle joints of hind tarsi are black.

Huachi, Beni, Bolivia, September (W. M. Mann). Described from two males. In Schrottky's table falls near *M. lobitarsis* Smith, but is not similar.

Type.—Cat. No. 29086, U.S.N.M. Paratype in collection of author.

MEGACHILE ANODONTA, new species

Male.—Superficially just like M. polyodonta, with the same size, slender form, red legs, yellow hair on face, etc., but quite distinct by the following characters: Subapical region of mandibles broadly red; mesothorax and scutellum more distinctly punctured; a band of yellowish hair in scutello-mesothoracic suture; wings not so dark; anterior coxae not spined; anterior tarsi simple; anterior and middle femora larger, more expanded; extreme bases of abdominal segments 2 to 4 rufescent; keel of sixth segment red, broadly rounded, entire, not denticulate; red of venter stained with blackish in middle.

Reyes, Bolivia, October (W. M. Mann). Described from one male. The close resemblance to *M. polyodonta* surely indicates affinity; hence a grouping of species by the character of the front legs would be artificial, the legs being apparently independently modified in different series. In Schrottky's table this falls near *M. giraffa* Schrottky, which has a much broader abdomen.

Type.—Cat. No. 29094, U.S.N.M.

MEGACHILE MICRODONTURA, new species

Male.—Length, 7.3 mm. Black, slender, width of abdomen slightly over 2 mm.; mandibles, eyes, antennae, tegulae, and legs black; eyes converging below; clypeus convex, finely punctured, the lower margin with a long dense creamy white fringe; cheeks broad, sharply keeled behind, little hairy, except beneath, where there is abundant long pure white hair; front completely dull, vertex shining, with distinct punctures; top of head with some erect dark hairs; mesothorax shining in front, dull behind, minutely punctured; scutellum finely punctured; metathorax obliquely sloping, shining; dorsum of thorax anteriorly with yellowish pile, changeable in various lights, but scutellum posteriorly with erect black hair; wings dusky, the middle clear, stigma and nervures dark brown; anterior coxae unarmed, anterior tarsi simple; tarsi with white hair; abdomen rather long and narrow, minutely granular, basin of first segment deep, polished, apex of first segment with pale fulvous hair, third and fourth segments with tegument rufous at base; apex of fourth and fifth segments, and whole of sixth, covered with golden pile; keel of sixth segment with two rather short sharp black teeth; venter with much creamy white hair.

Rurrenabaque, Bolivia, October (W. M. Mann). Described from one male. Allied to *M. microsoma* Cockerell, but more slender, with black tegulae. It is also allied to *M. bertonii* Schrottky to which it runs in Schrottky's table, and *M. xanthura* Spinola, to which it runs in Friese's table.

Type.—Cat. No. 29087, U.S.N.M.

MEGACHILE BENIENSIS, new species

Male.—Length 8 mm. Rather broad, black, with light rose-red eyes; face densely covered with long yellow hair; mandibles and antennae black; flagellum long simple; cheeks with white hairs; vertex shining, finely punctured, with long black hair; mesothorax dull, extremely finely and closely punctured, scutellum about the same; hair of thorax above thin, on mesothorax white and black, on scutellum black, longer and denser; other parts of thorax with white hair, and a conspicuous white band in scutello-mesothoracic suture; tegulae extremely dark brown; wings hyaline, dusky at apex, nervures and stigma brown; legs black, the anterior femora with a large reddish clay-colored patch on apical half within, extending also to lower margin, and the hind tibiae with a pale reddish stripe on outer side; hair of legs white, spurs pale; anterior coxae with long slender spines, anterior tarsi simple; abdomen short, moderately shining, finely and closely punctured; pale ochreous hair bands on segments 1 to 4, thin or interrupted in middle; on 1 developed only at sides; fifth segment covered with creamy or pale ochreous hair, with small black hairs

interspersed; sixth densely covered with ochreous hair; keel of sixth segment produced, broadly emarginate, with two salient angles; venter black.

Huachi, Beni, Bolivia, September (W. M. Mann). Described from one male. In Schrottky's key runs to *M.* (denticulata Smith) brasiliensis Dalla Torre, but is not that species, which is also in the collection.

Type.—Cat. No. 29088, U.S.N.M.

MEGACHILE LEUCOSTOMELLA, new species

Male.—Length about 7 mm. Black, broad, the wings dusky (not at all orange), becoming dark fuliginous in costal region, including marginal cell; clypeus convex, polished, with well-separated punctures, bare, the lower margin with a long pure white fringe; cheeks with a sharp elevated margin posteriorly; a large tuft of pure white hair behind each mandible; mandibles, antennae, and tegulae black; vertex dull and very densely punctured, more sparsely at sides; mesothorax dull, with silky pale ochreous hair, changeable in different lights; anterior coxae without spines; anterior femora with a reddish clay stripe on inner face; anterior tarsi simple; the tarsi outwardly hoary with white hair; abdomen dull (except polished basin of first segment), the hind margins of segments more shining; hind margin of third segment with rudiment of ochreous band at each extreme side, fourth with a very thin hardly evident band, fifth with a distinct narrow band, sixth densely covered with ochreous hair; keel of sixth emarginate, with two salient rather obtuse angles; venter with four conspicious broad hair bands, the first white and not reaching sides, the others pale yellowish, extending right across.

Huachi, Beni, Bolivia, September (W. M. Mann). Described from three males. Closely related to *M. bertonii* Schrottky, but that has a broader face, fringe on elypeus not white, tegulae largely red, etc.

Type.—Cat. No. 29089, U.S.N.M.

Two paratypes in collection of author.

MEGACHILE SEJUNCTA, new species

Male.—Length about 9.5 mm., anterior wing 7.5 mm. Black, rather robust, with short abdomen; mandibles, legs, and the long antennae black, but tegulae shining ferruginous; sides of face, supraclypeal region, and most of front covered with long pale yellowish hair and lower part of clypeus with a long dense fringe of the same; the rest of clypeus bare, with thin overlapping hairs, densely punctured at sides, but with a median broad, smooth, and polished band; cheeks beneath with dull white hair; vertex well punctured but shining, some black hair about the ocelli; mesothorax polished, with well-separated punctures; scutellum convex, shining; mesopleura

coarsely punctured; hair of thorax above scanty, pale in front and in scutello-mesothoracic suture, a little black on mesothorax, and more on scutellum; sides of thorax with dull white, faintly yellowish hair; anterior coxae without spines; anterior tarsi simple, with only a short fringe behind; anterior femora and tibiae red beneath; middle and hind femora reddish black, their tibiae with an obscure red spot at end; middle tarsi with only a short fringe (contrasting with the very long fringe of M. lenticula); spurs very pale; wings brownish, darker apically, dilute fuliginous in marginal cell and beyond; stigma and nervures dark; abdomen short and broad, shining, with white hair bands at sides of segments only, that on fifth segment thinly continuous; keel of sixth segment entire, hardly produced, not truncate; first ventral segment with a broad stramineous margin.

Cavinas, Beni, Bolivia, January (W. M. Mann). Described from two males. Also runs to M. urbana Smith in Schrottky's table, but is quite distinct. Another from Huachi, Beni, has darker tegulae.

Type.—Cat. No. 29091, U.S.N.M. Paratype in collection of author.

MEGACHILE TRICOSA, new species

Male.—Length about 9 mm. Black, robust, with rather short abdomen; hair of head and thorax pale fulvous, very scanty on thorax above and with no black on scutellum; eyes pale brownish, blackened in front; mandibles and antennae black; tegulae and legs black with a more or less reddish tint; anterior femora and tibiae, and middle femora largely, red beneath; face with orange-fulvous hair, not very bright, clypeus exposed except lower margin, shining but rather closely punctured, with no median smooth line; vertex shining but well punctured, its hair fulvous, very thin; mesothorax with smaller, dense punctures, but shining between them; scutellum with very small and dense punctures; anterior coxae with short spines, anterior tarsi simple; fringes of anterior and middle tarsi short; hind basitarsi with pale orange hair on inner side; wings dusky, dilute fuliginous in marginal cell and beyond; nervures and stigma dark; abdomen dullish, excessively minutely and closely punctured, reddish black, hind edge of first segment shining; a little pale ochreous hair at sides of segments 2 and 3, an entire thin band on margin of 4, and also a thin band in the transverse sulcus; fifth and sixth segments covered with dull pale ochreous hair; keel of sixth segment shining, shallowly emarginate in middle, without salient angles or teeth; first ventral segment with a broad hyaline margin.

Tumupasa, Bolivia, December (W. M. Mann). Described from one specimen. Falls in Schrottky's table as near to M. bertonii Schrottky as anything, and really is somewhat allied. It could also be run near M. hilaris Smith, but is not allied.

Type.—Cat. No. 29092, U.S.N.M.

MEGACHILE SEMOTA, new species

Male.—Length 9 to 10 mm. Robust, shining black, with short abdomen; eves pale pinkish grav; mandibles black; flagellum dull red beneath, the sutures darker; tegulae dark red with a black semicircle; legs black, with anterior femora red beneath, and middle ones obscurely so; abdomen reddened at each side basally; hair of face and front white, with an admixture of black, most of clypeus and supraclypeal area exposed; clypeus shining, densely punctured, but with a broad, smooth median line, and a subapical pit; supraclypeal area well punctured but shining; cheeks with white hair, but on under side of head, below mandibles, it is reddish fuscous; cheeks broad, sharply keeled behind; vertex broad, shining, closely punctured, with thin black hair, smooth areas next to the ocelli; mesothorax and scutellum shining, with strong, well-separated punctures; mesothorax almost hairless, but scutellum with much black or dark fuscous hair; other parts of thorax with partly pale and partly reddish sooty or fuscous hair; anterior coxae with small protuberances, hardly spines; anterior tarsi simple, the basitarus with a black fringe behind; ends of tarsi obscurely rufescent; abdomen short and broad, shining, with fine punctures, white hair bands reduced to rudiments at sides, but entire band on fifth segment, and surface of sixth, with gray hair; keel of sixth broadly rounded, entire.

Type from Huachi, Beni, Bolivia, September (W. M. Mann). Also from near mouth of Rio Mapiri, September (W. M. Mann). Described from four males. In Schrottky's table runs nearest to

M. lamnula Vachal, which has red legs.

Type and one paratype.—Cat. No. 29093, U.S.N.M.

Two paratypes in author's collection.