

NEW MEGACHILID BEES.¹

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The species which are described below were found in two series of unidentified material, one in the collection of Professor W. M. Wheeler at the Bussey Institution, and the other in the collection of the Museum of Comparative Zoology at Cambridge.

Lithurgus bruesi n. sp.

♂. Head broader than long, the eyes converging slightly below, pubescence entirely greyish-white; supraclypeal plate shining, almost impunctate medially, with scattered punctures laterally; clypeus impunctate medially except for a few scattered punctures, but closely punctate laterally, practically rugoso-punctate, the apical margin smooth and entire; labrum very peculiar and distinctive, having a deep longitudinal impunctate channel or concavity, which has on either side midway a strong triangularly pointed spine, the distance from the bottom of the concavity to the tip of the spine being equal to about half the length of the labrum; mandibles ordinary, with three subequal teeth; cheeks about as broad as width of eye, the posterior margin above quite sharp but hardly carinate, closely and finely punctured; vertex slightly rounded, closely and rather finely punctured, the punctures between the eyes and ocelli large, deep and distinctly separated; lateral ocelli very slightly nearer edge of vertex than to nearest eye; antennæ shining above, dark, the joints more ferruginous apically, dull brownish-red below, the joints slightly longer than broad, the first joint of the flagellum and the basal half of the second joint, below, blackish.

Thorax with pubescence entirely greyish-white, longer at sides and behind; mesonotum and scutellum extremely densely and quite finely punctured, the punctures of the pleura also

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being very close and quite fine; propodeum with minute close punctures laterally, more sparse behind, the surface tessellate, basal triangle not definitely demarked; tegulae ferruginous, impunctate, white pubescent anteriorly; wings lightly and rather uniformly fuliginous, slightly paler apically, nervures piceous to black, basal nervure well beyond transverse median, the recurrent nervures entering the second submarginal cell at about equal distances from base and apex; legs black, with long white pubescence, the tarsi tinged with red, the metatarsi very long and slender; spurs pale testaceous; claws ferruginous, darker apically, deeply cleft, pulvilli distinct.

Abdomen black, tinged with red basally, the basal segments almost impunctate, the apical segments finely punctured, segment 6 quite closely so; pubescence pale on segments 1 and 2, short and fuscous on segments 3-5, long and fuscous on 6 and 7; segments 2-6 with apical fasciae of white pubescence, widely interrupted on 2 and 3, slightly so on 4, entire on 5 and 6; ventral segments 2-5 also with distinct entire white apical fasciae and with long white pubescence on the discs. Length 12 mm.

Type: Male (Type No. 15710, Mus. Com. Zool.); Austin, Texas (C. T. Brues, collector).

With the mandibles closed this would be easily mistaken for *L. echinocacti* Ckll., but with the labrum exposed it is easily distinguished. This distinguishes this species at once from all the other North American species.

***Megachile austinensis* n. sp.**

♀. Head broad, eyes subparallel; supraclypeal plate shining, very sparsely punctured medially, closely so at sides and above; clypeus almost impunctate in center, with a few widely scattered minute punctures, the surface polished, punctures coarse and quite close on extreme sides, apex entire, deeply impressed just before the edge which is slightly grooved; mandibles reddish above, black on the three inner teeth, with scattered, coarse, striate punctures above, 4-dentate, the two outer teeth broadly rounded, the third one acute and the inner one subacute; cheeks quite broad, finely and closely punctured, the punctures

rather shallow below, deeper above, pubescence quite thin and short, white; vertex quite finely punctate, the punctures well separated, surface finely tessellated between the punctures, pubescence long and thin, pale, with some short inconspicuous black hairs intermixed; lateral ocelli about equally distant from eyes and edge of vertex; front below ocelli well punctured, but the punctures not crowded; antennæ apparently reddened (both are broken, only the stub of one flagellum left); pubescence below anterior ocellus white and quite dense, clypeus nearly bare, with some inconspicuous yellowish hairs at sides.

Thorax white pubescent except above, mesonotum with at least some dark pubescence (rubbed), and apparently also the scutellum; mesonotum rather dull, punctures quite small, close laterally and somewhat so anteriorly, sparse in center, the surface finely tessellated; scutellum with fine, widely separated punctures; pleura with crowded, rather fine punctures above, becoming coarser below; propodeum tessellate, with numerous fine and indistinct punctures, basal triangle granular; tegulae dark ferruginous, minutely but fairly closely punctured; wings faintly infuscated, darker apically, nervures piceous to brownish, second recurrent nervure entering second submarginal cell slightly nearer apex than the first does to base; legs dark red, white pubescent, yellow on tarsi beneath, middle and hind metatarsi not quite as broad as their tibiae, the middle ones with rather long stiff whitish pubescence exteriorly, front metatarsi with a thin but long fringe posteriorly; spurs reddish-testaceous; claws reddish-testaceous basally, brighter red apically, with short and sharp basal setae, almost toothed.

Abdomen cordate, apical segments shining, punctures fine, quite close on basal segments, rather sparse on apical ones except the sixth; pubescence short and black, entirely white on segment 1 and white basally on segment 2; segments 1-5 with entire conspicuous apical white fasciae, narrow on segments 1 and 2, broader on 3-5; segments quite deeply impressed apically at sides, but slightly so medially; segment 6 quite broad, closely and finely punctured, slightly but distinctly concave at sides when viewed from above, straight in profile, with an obscure median longitudinal ridge on which the pubescence is black and

appressed and best seen in profile, on either side of this the the surface is covered with subappressed white pubescence, while the extreme tip is clothed with dense appressed fuscous pubescence, segment with erect black hairs across the base, conspicuous at sides; scopa yellowish-white, black on segment 6, and with a small tuft of black hairs at extreme sides of segment 5. Length 13 mm.

Type: Female (Type No. 15707, Mus. Comp. Zool.); Austin, Texas, May 8, 1901 (C. T. Brues, collector).

***Megachile wheeleri* n. sp.**

♀. Head broad, eyes subparallel, pubescence greyish-white on face, thin and white on cheeks, long and black or fuscous on vertex, extending down on cheeks for a short distance; supra-clypeal plate quite closely punctured, shining spaces between the punctures medially; clypeus with punctures close above and laterally, more separate in middle where the surface is shining, apex entire, smooth and impunctate, thickened on the edge which is slightly grooved; mandibles broad, reddened apically, sparsely punctate above, 4-dentate, the three apical teeth subequal in size and rounded, the inner one acute, a slightly incurved bevelled edge between the two inner teeth; cheeks about as broad as eye, shining, the punctures rather large but shallow, quite close, finer, closer and deeper above; vertex shining, nearly flat, with punctures well separated in general, close along edge behind ocelli; lateral ocelli slightly nearer edge of vertex than to nearest eye; front below ocelli densely punctured; antennæ black above, obscurely reddened below, middle joints but slightly longer than broad.

Thorax white pubescent at sides and behind, largely black on mesonotum and scutellum, whitish on mesonotum anteriorly and on scutellum posteriorly; mesonotum quite deeply and closely punctured, but the punctures well separated in center where the surface between them is shining; scutellum closely and finely punctate; pleura very closely and finely punctate above, the punctures larger and not so much crowded below; sternum with large, rather close punctures; propodeum with

minute indistinct punctures, closer posteriorly, surface rather shiny, basal triangle tessellate; tegulæ ferruginous, yellowish in front, rather closely punctured, the punctures small but distinct; wings subhyaline, clouded apically, nervures piceous to brownish, second recurrent nervure entering second submarginal cell slightly nearer apex than first does to base, but both rather distant; legs black, white pubescent, yellowish on tarsi beneath; middle metatarsi almost as broad as the tibiæ, densely yellowish-white pubescent without; hind metatarsi almost as broad as the tibiæ also; spurs pale yellow; claws pale ferruginous basally, somewhat deeper red apically, basal teeth distinct.

Abdomen ovoid, shining; segments 1 and 2 entirely white pubescent, and segment 3 narrowly white pubescent at base; segments 3-5 with rather long erect black pubescence on discs; segments 1-5 with dense, entire, white, apical fasciæ, very broad on the apical segments, narrow on the first two; punctures fine, close on basal segments, very sparse on the fifth which is highly polished; segment 6 rounded apically and straight at the sides in dorsal view, straight in profile, shining, finely and rather closely punctured, with white appressed pubescence which is dense apically, thinning out basally, and with numerous long, erect, stiff black hairs; scopa white with a very faint yellowish tinge, black on segment 6 and on the apex of segment 5 medially. Length 12 mm.

Type: Female (Type No. 15708, Mus. Comp. Zool.); Alta Meadow, California, altitude 9000 ft., Aug. 23, 1917 (W. M. Wheeler, collector). Paratypes: 4 females, topotypical; 2 females, Calgary, Alberta, Aug. 26, 1925 (Geo. Salt, collector).

This is very close to *M. chrysothamni* Ckll., but in the latter the punctures of the mesonotum are much closer and there are no black hairs on the scutellum. The fifth abdominal segment is much more closely punctured also than in this species. Both of the species described here may be separated from *chrysothamni* by the following key:

1. Clypeus almost impunctate in the center, with very minute widely scattered punctures, but deeply punctate at sides. *austinensis*
- Clypeus closely and strongly punctured throughout. 2.

2. Pubescence of scutellum entirely light; punctures of mesonotum very close throughout. *chrysothamni*
 Scutellum with some long black hairs; punctures of mesonotum distinctly separated in center. *wheeleri*

Megachile inimica jacumbensis n. subsp.

♂. This resembles *M. sayi* Cress. except that the front tarsi are much shorter, the first joint being definitely shorter than the tibia and inclined to blackish along the anterior border; the lateral ocelli are about equally distant from the eyes and from each other; the clypeus has a quite definite though small median emargination; the legs except the front tarsi are black and the pubescence is white.

Type: Male (Type No. 15709, Mus. Comp. Zool.); Jacumba, California, Aug. 17, 1917 (Coll. W. M. Wheeler). Paratypes: 6 males, topotypical; 1 male, Warren, San Diego Co., California, Aug. 13, 1917.

This has been made a subspecies of *inimica* rather than of *sayi* because of the fact that *inimica* was described in 1872 (Trans. Am. Ent. Soc. Vol. 4), and *sayi*, which has been considered the typical form, was not described until 1878 (Trans. Am. Ent. Soc. Vol. 7). In *sayi* s. str. the tarsal scale is much more produced above than in the form here described, and the scale at the anterior margin is fully as long as the tibia. There is also a tendency in *sayi* toward shortening the distance between the lateral ocelli, this being usually somewhat shorter than the distance from the ocelli to the nearest eye or to the edge of the vertex, and the clypeus is not so definitely emarginate medially in the specimens which have been compared.

Megachile spokaneensis n. sp.

♂. Head broad, eyes subparallel, pubescence entirely pale ochraceous, with no black hairs, nearly white on cheeks; clypeus closely and finely punctured, apex entire, completely covered with long dense pubescence; mandibles 3-dentate, the middle tooth small, outer margin rounded in the dorsal view, inferior

tooth very large, occupying about two-thirds of the inferior margin of the mandible, the outer margin of the tooth long, the inner margin from the apex of the tooth to the base of the mandible much shorter, fringed with short yellowish pubescence, the apex being submedian with reference to the upper surface of the mandible; cheeks fairly broad, shining, finely punctured, the punctures close below, well separated above, lower angle with a rather small bare concavity, but with a robust tooth which is densely pubescent on the apex; vertex slightly rounded, closely and quite finely punctured, the punctures deep, pubescence long and erect, much thinner than on face; lateral ocelli about equally distant from eyes and edge of vertex; antennæ piceous above, somewhat paler below, rather short, the middle joints but slightly longer than broad, the apical one flattened and considerably dilated.

Thorax with pubescence entirely pale, ochraceous above fading to white below, quite long and dense on mesonotum, but not hiding the surface which is deeply and closely punctured throughout; scutellum closely and rather more finely punctured pleura also finely and closely punctured; mesosternum concave, shining, almost impunctate, with two anterior, broad, transversely flattened spines which are rounded apically, one behind each front coxa; propodeum finely punctate, with long, rather dense pale pubescence; tegulæ pale ferruginous, finely and rather closely punctured, pubescent anteriorly; wings subhyaline, clouded apically, nervures brownish, basal nervure slightly beyond transverse median, second recurrent nervure entering second submarginal cell nearer apex than first does to base.

Legs black to piceous, pubescence white, pale yellowish on four posterior tarsi beneath; front coxæ broad, bare, polished, with long, very broad and much flattened spatula-like spines, these incurved on inner apex, the apex narrowed and rounded, no red bristles on the coxæ, the spines long white pubescent behind; anterior femora very strongly keeled, the posterior face being very wide, dark, rather closely and finely punctate, but nearly bare of pubescence, upper face also dark, the antero-inferior face polished testaceous, ferruginous basally and along upper margin; outer face of front tibiæ dark, punctate and white

pubescent, testaceous apically, the two inner faces polished ferruginous, the margin between them with a very thin fringe of long pale hairs directed posteriorly; front tarsi moderately dilated, pale yellow, the first joint very deeply hollowed out in front, the outer anterior margin with a short yellowish fringe, the inner one with a longer, more brownish fringe, the scale produced apically over the second joint, looking like the bow of a boat from without, the second joint narrowly produced apically, extending slightly beyond the apex of joint 1, the third joint but very slightly dilated, the fourth not at all, fifth joint somewhat reddened apically, tarsal fringe white, rather yellowish within and tipped with fuscous or black, this evident at the edge of the fringe without; middle and hind legs entirely dark, the middle tarsi not much modified, with basal joint densely white pubescent exteriorly and with a long white hair fringe, middle tibiæ with a bare impunctate area on outer face apically; hind tarsi rather peculiar, the basal joint short and thick, the following ones parallel-sided, hardly at all narrowed at base or widened apically, outer surface strongly convex, the inner surface flat; spurs pale testaceous; claws reddish testaceous basally, piceous apically, rather deeply cleft on the four anterior legs, not so deeply on the hind legs.

Abdomen quite broad, pubescence pale ochraceous, with no black hairs, segments 2-5 with dense apical fasciæ of somewhat more whitish pubescence, punctures fine and close on basal segments, more sparse on the apical segments, which are shining; segment 6 shining, rugoso-punctate above the carina, neither emarginate nor produced medially, but the margin coarsely irregularly and rather sharply denticulate, a median rather deep concavity on the lower surface of the segment, rather coarsely rugoso-punctate on either side of this, the apical margin with two large teeth, one on either side of the middle, these widely separated, sublateral in position, close to the inconspicuous angles which represent the true lateral teeth; segment 7 large and conspicuous, closely and finely punctured, rather evenly rounded, but the apex drawn out into a rather long slender spine; four ventral segments visible, these finely and closely punctured along their bases, the margins shining and impunctate, the fourth segment

broadly membranous and transparent on the apical margin. Length 11 mm.

Type: Male (Type No. 15717, Mus. Comp. Zool.); Little Spokane, W. T., Washington Territory July 26, 1882 (Samuel Henshaw, collector). Paratypes: 1 male, Camp Umatilla, W. T. (across the Columbia River from Umatilla, Ore.), June 26, 1882; 2 males, Alta Meadow, California, altitude 9000 ft., Aug. 23, 1917 (W. M. Wheeler, collector).

This is quite near *M. manifesta* Cress. but in the latter species there are no spines on the mesosternum, the apical spine of segment 7 is much longer, and the hind tarsi are more nearly normal. The inferior mandibular teeth, the front tarsi, and the carina of segment 6 are almost exactly alike in the two species. It is quite possible that this is the male of *M. wheeleri*, since two of these males were caught in the type locality of that species.

***Megachile pseudonigra* n. sp.**

♀. Head broad, eyes parallel, pubescence fuscous, hardly black; supraclypeal plate finely punctured, somewhat sparsely so in center; clypeus very finely and closely punctured above, sparsely and more coarsely so on apical two-thirds, apex entire, with a raised or thickened impunctate edge; mandibles broad, black, obscurely reddish apically, with a very few scattered punctures above, doubly punctate on outer face at base, distinctly 4-dentate, the two apical teeth truncate, the third and fourth acute, a bevelled cutting edge between the latter; cheeks fairly broad, closely punctured above and below, shining above; vertex slightly rounded, punctures close medially, rather widely separated laterally; lateral ocelli about equally distant from eyes and edge of vertex; front below ocelli densely and finely punctured; antennæ black above, obscurely reddish below, middle joints but slightly longer than broad.

Thorax with fuscous pubescence, apparently blacker on surface of mesonotum (specimen somewhat rubbed); mesonotum sparsely punctate medially, closely so laterally and behind, the surface finely tessellated; scutellum closely and finely punctate, and the pleura very finely and closely punctate above, more

coarsely so below; propodeum with numerous fine indistinct punctures, tessellate, the basal triangle tessellate or granular; tegulæ bronze-piceous, minutely punctured; wings subhyaline, faintly clouded apically, nervures brownish-testaceous, basal nervure beyond transverse median, second recurrent nervure entering second submarginal cell nearer apex than the first does to base; legs black, pubescence fuscous, tinged with red beneath tarsi and on middle metatarsi without, black on the outer faces of the tibiæ, middle and hind metatarsi fully as broad as their tibiæ; spurs yellowish-brown; claws reddish-testaceous basally, darker apically, with indistinct basal teeth.

Abdomen cordate-ovoid, shining, finely punctate, closely so on basal segments, sparsely so on the apical ones except the sixth, pubescence black, entirely fuscous on segment 1, and segments 2-5 with inconspicuous apical fuscous fasciæ; segment 6 very slightly, if at all, concave at sides in the dorsal view, straight in profile, shining, finely and rather closely punctured, with subappressed fuscous pubescence and numerous erect black hairs; scopa fuscous, shorter and deeper black on segment 6. Length 10.5 mm.

Type: Female (Type No. 15718, Mus. Comp. Zool.); Umattilla, Oregon, June 24, 1882 (Samuel Henshaw, collector).

This would appear to be near *M. vandykei* Ckll., but in that species the pubescence is entirely black, and the clypeus is described as being "densely rugoso-punctate, with a polished shining spot at middle of upper edge, and a median band in which the surface is shining between the punctures, lower margin thickened, slightly emarginate in middle." The clypeus in this species does not answer to that description at all, and the pubescence is fuscous rather than black, with definite though inconspicuous fuscous fasciæ. It may be possible that this is a melanistic form of some light haired species.

***Megachile mendica snowi* n. subsp.**

♀. Head with eyes slightly converging below; supra-clypeal plate shining, sparsely punctate medially; clypeus closely and rather coarsely punctured in general, but with the punctures well separated in the center, apical margin entire, the edge

thickened and slightly grooved; mandibles black, broad, with a few scattered punctures above, 4-dentate, but the margin between the two inner teeth with a slight angular protuberance, approaching the 5-dentate condition; cheeks quite narrow and quite closely punctured, with short, rather dense, white pubescence; vertex very slightly rounded, the punctures distinct and well separated, surface shining between the punctures, pubescence black, erect, and quite long; lateral ocelli about equally distant from eyes and edge of vertex; front below ocelli densely punctate; antennæ piceous below, somewhat darker above, length of middle joints about one and a half times their breadth; pubescence of face below anterior ocellus white, slightly mixed with black above antennæ, very thin on clypeus.

Thorax with pubescence largely white, but mostly black on mesonotum posteriorly, mixed with white in the middle, and largely replaced by white anteriorly, with some shorter whitish pubescence in the scutello-mesothoracic suture, but this not conspicuous; mesonotum with punctures quite close, more or less separated in center, the surface between them tessellate; scutellum closely punctured, the punctures separated medially, with long black hairs and shorter, softer, white pubescence; pleura with punctures fine and crowded above, larger and distinctly separated below; propodeum tessellate, the punctures very fine and indistinct, basal triangle tessellate below, granular or subrugose above; tegulæ piceous, obscurely testaceous anteriorly, with fine shallow punctures; wings subhyaline, faintly clouded apically, nervures yellowish-ferruginous, second recurrent nervure entering second submarginal cell very near the apex, the first rather far from base; legs piceous to dark red, white pubescent, yellow on tarsi beneath; middle tarsi slightly narrower than the tibiæ, densely pale pubescent without, the following joints but slightly narrowed; hind metatarsi slightly narrower than the tibiæ; spurs pale yellow; claws with distinct basal teeth, darker apically, pale basally.

Abdomen cordate, short black pubescent, but the pubescence entirely white on segments 1 and 2, and segments 2-5 with white apical fasciæ, these entire but rather narrow; segment 6 slightly concave at sides viewed from above, the apex rather evenly

rounded, slightly concave in profile also, but so slightly as to be hardly noticeable, with no erect hairs visible in profile, finely and closely punctured, pubescence appressed, yellowish-white, more or less reddened medially to apex, hiding the surface on apical half, thin basally, with scattered inconspicuous erect black hairs at sides; scopa entirely yellow, but with a few lateral dark hairs on segment 6. Length 13 mm.

Type: Female (Type No. 15719, Mus. Comp. Zool.); Oak Creek Canyon, Arizona, 6000 ft. altitude, Aug. (F. R. Snow, collector). Paratype: 1 female, topotypical.

In *mendica* s. str. the pubescence of segment 2 is black on the disc, and that on segment 6 is entirely dark, while in this form the pubescence of segment 2 is pale, and segment 6 is covered over most of its surface with whitish appressed pubescence. Otherwise the two forms are very similar.

***Megachile laurita* n. sp.**

♀. Head broad, eyes subparallel; supraclypeal plate closely and finely punctured, with some shining impunctate spaces medially; clypeus rather coarsely punctured, the punctures more separate medially, crowded above and at sides, apex thickened medially, the upper margin slightly but broadly produced medially; mandibles broad, reddish apically, coarsely striately punctate above, very closely and finely punctate on outer face at base, striately punctate medially, 3-dentate, the apical tooth bluntly rounded (apparently worn), the subapical tooth subacute, the cutting edge long, with an upper and an under carinate margin, but not much hollowed out between the two, the upper one broadly incurved, the under one more nearly straight; cheeks broad, closely punctured above, sparsely so below where the surface is finely tessellated; vertex slightly rounded, punctures mostly well separated, very fine and close between ocelli; lateral ocelli about equally distant from eyes and edge of vertex; front below ocelli densely punctured; antennæ dark above, reddish below, somewhat flattened, short, the middle joints fully as broad as long; pubescence fuscous on cheeks and vertex, some pale hairs intermixed on the vertex, and occiput largely fringed

with pale hairs, pubescence of front and of inner orbits largely whitish with some black hairs intermixed, pubescence entirely black on clypeus and on orbits below.

Thorax with pubescence whitish above, at sides, and behind, fuscous on sternum and on pleura below; mesonotum with punctures well separated, almost sparse medially, close laterally and behind; scutellum closely punctured except for an indefinite median longitudinal impunctate line; pleura with punctures close and fine above, rather coarse and well separated below; propodeum with scattered, fine, indistinct punctures laterally, basal triangle finely granular; tegulæ somewhat bronze colored, varying in different reflections, closely punctate anteriorly and posteriorly, sparsely so medially; wings subhyaline, faintly dusky apically, nervures brownish, basal nervure beyond transverse median, second recurrent nervure entering second submarginal cell nearer apex than the first does to base; legs piceous, with fuscous pubescence, purplish ferruginous on tarsi beneath; apical projections of front and middle tibiæ piceous, of the same general color as the legs, quite prominent; spurs testaceous; claws testaceous basally, ferruginous to piceous apically, with no basal teeth.

Abdomen ovoid, shining, punctures very sparse and fine apically, closer basally, pubescence black, white on basal segment and slightly so at base of second; segments 1-5 narrowly white fasciate, the fasciæ somewhat thinner medially but conspicuous because of the otherwise black pubescence; segment 6 short and broad, shining, sparsely punctate, but very slightly concave at the sides when viewed from above, and straight in profile, pubescence entirely black and erect, subappressed apically; scopa entirely black. Length 11.5 mm.

Type: Female (Type No. 15711, Mus. Comp. Zool.); Umattilla, Oregon, June 24, 1882 (Samuel Henshaw, collector).

***Megachile laurita semilaurita* n. subsp.**

♀. Very close to the preceding species, and answers to the description except for the following differences:

Much larger (14 mm.); mandibles but slightly reddish above;

clypeus thickened apically, but hardly produced medially, the thickened edge grooved; cheeks sparsely punctate below and polished between the punctures, not tessellate, the pubescence mostly white, with short black pubescence around the posterior orbits; tegulæ rather closely punctate throughout; pubescence on outer faces of tibiæ pale; abdominal fasciæ broader, more dense and more conspicuous.

Type: Female (Type No. 15712, Mus. Comp. Zool.); Utah

***Megachle laurita sublaurita* n. subsp.**

♀. Very close to the preceding two forms from which it differs only in the following characters:

Smaller than *laurita* (10 mm.); clypeus with a broad, rather prominent median produced area on apical margin, which is shining and impunctate; lateral ocelli considerably nearer the edge of the vertex than to the nearest eye (distance subequal in the two preceding forms); cheeks with pubescence largely white, black around posterior orbits, punctures on lower cheeks shallow, not widely separated, somewhat shining, but hardly tessellate; some black hairs in center of the mesonotum (apparently entirely white in the two preceding forms, but *laurita* is somewhat rubbed); tegulæ rather sparsely punctured medially; pubescence of hind tibiæ more whitish, of the front and middle tibiæ rather ochraceous; fasciæ broad dense and conspicuous.

Type: Female (Type No. 15713, Mus. Comp. Zool.); Utah.

These three forms closely resemble *M. anogræ* Ckll. in form and structure but are totally different in color of pubescence, the entirely black scopa at once distinguishing them. They were at first taken to be the same species but the disparity in size made this seem somewhat doubtful, and there seems to be enough difference other than size to separate them at least into subspecies. The males would possibly show even greater differences. The study of additional material may show whether or not these should be separated as distinct species. The following key will serve to distinguish them:

1. Hair of cheeks entirely blackish. *laurita*
 Hair of cheeks white in part. 2.

2. Larger (14 mm.); apex of clypeus thickened and shallowly grooved. *semilaurita*
 Smaller (10 mm.); apex of clypeus with a broad median produced area which is shining and impunctate. *sublaurita*

Megachiloides umatillensis n. sp.

♂ Head broader than long, eyes somewhat converging below, densely covered with ochraceous pubescence in front, of the same general color but thinner above, short, thin and white on the cheeks, somewhat longer below; clypeus closely punctured, apex beneath beard entire; mandibles obscurely reddish apically, strongly 3-dentate, rather thickly covered with whitish-ochraceous pubescence, inferior tooth subbasal, slender, acute, the pointed apex curved slightly back; cheeks broad, only slightly narrowed above, very closely and uniformly punctate throughout, the lower angle with a very slight hollow and tooth, these largely obscured by the pubescence; vertex very slightly rounded, punctures close between ocelli and along the posterior margin, rather widely separated between eyes and ocelli; lateral ocelli about equally distant from eyes and edge of vertex; antennæ black above, piceous below, the middle joints hardly twice as long as wide, the terminal joint longer, somewhat flattened but not dilated; tongue extremely long, the second joint of the labial palpus almost three times as long as the first.

Thorax with entirely light pubescence, ochraceous above fading to whitish below; surface of mesonotum almost hidden by the pubescence, punctures fine and indistinct, the surface between the punctures coarsely tessellate or granulate; scutellum densely pubescent, punctures close and fine; pleura very closely punctate, with long dense pubescence; propodeum largely bare laterally, with long dense pubescence behind, punctures fine any indistinct; tegulæ piceous, densely pubescent anteriorly, closely and minutely punctate; wings subhyaline, faintly clouded apically, nervures testaceous, basal nervure beyond transverse median, second recurrent nervure entering the second submarginal cell very near the apex, the first rather distant from the base.

Legs with entirely pale pubescence, yellowish on middle and

hind tarsi beneath; front coxæ dark, with stout spines, the apices of which are rounded and with a small patch of golden pubescence, a patch of reddish bristles at the base of the spines on the outer side; front femora somewhat keeled apically, posterior face very closely and finely punctured along the edge of the keel, densely pubescent, that and the upper face reddish-piceous, antero-inferior face polished testaceous; front tibiæ dark on outer face, testaceous apically, punctate and white pubescent, the other two faces reddish-testaceous, the ridge between them with some short dense pubescence and a long, thin, posteriorly directed fringe of white hair; front tarsi dilated but not widely so, ivory-yellow, dark along posterior border of the first three joints, this more noticeable beneath, the first joint hollowed out in front and both anterior margins fringed with short yellowish pubescence, the second and third joints less widely dilated, the fourth not at all, the fifth joint yellow basally, ferruginous apically, tarsal fringe fairly long, white exteriorly, dark brown beneath; middle and hind femora considerably swollen, the mid tarsi not much modified, but with a white posterior fringe and densely white pubescent without on the first joint; spurs reddish-testaceous, those on the front legs somewhat paler; claws reddish-testaceous basally, ferruginous apically, deeply cleft, without basal teeth.

Abdomen broad, gradually narrowed apically, pubescence entirely ochraceous except for some short black hairs on disc of segment 5, segments 1-5 with dense broad whitish apical fasciæ, that on segment 1 narrow and inconspicuous; punctures very fine and close on basal segment, more coarse and well separated on apical segments; segment 5 with a median longitudinal ridge at base; segment 6 very closely punctured above carina, broadly triangular, and somewhat downcurved in profile, very coarsely punctured beneath and with a ventral longitudinal furrow, around and in which the punctures are very fine and close, apical margin of the segment conspicuously carinate on either side of the middle, each carina narrowing to the lateral minute teeth, abrupt on the inner side; segment 7 quite conspicuous, very closely and finely punctured, somewhat excavated above, triangularly pointed apically; four ventral segments visible, these

shining and sparsely punctate, the fourth with a broad membranous margin. Length 13 mm.

♀. Head broad, eyes subparallel, pubescence entirely ochraceous except for some short black hairs on the vertex, intermixed with long pale pubescence, that on the cheeks whitish; supraclypeal plate sparsely punctured medially, closely so laterally; clypeus with punctures rather sparse apically, closer and finer laterally and above, apical margin entire, smooth and impunctate; mandibles bright ferruginous apically, upper face rather coarsely striately punctate, outer face at base closely and finely punctate, polished and impunctate in region of the teeth, 4-dentate, the apical tooth very long and acute, the second tooth shorter but acute, the third minute, the upper margin of the mandible strongly and rather broadly incurved between the two inner teeth, the lower margin or cutting edge nearly straight; cheeks fairly broad, closely and finely punctate above and along the posterior orbits, more coarsely and sparsely punctate below, rather shining; vertex almost flat, the punctures close medially, well separated laterally, becoming close again on cheeks; lateral ocelli about equally distant from eyes and edge of vertex; antennæ piceous above, more reddish below, middle joints slightly longer than wide; tongue as in the male, the second joint of the labial palpus being fully three times the length of the first.

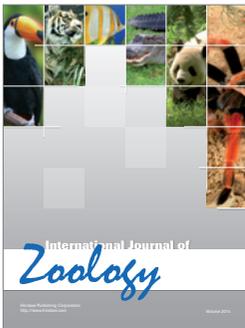
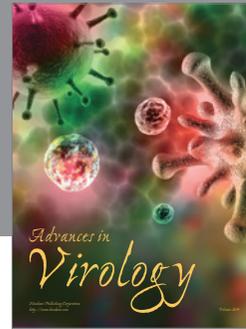
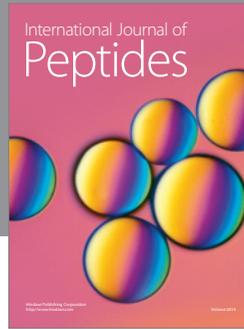
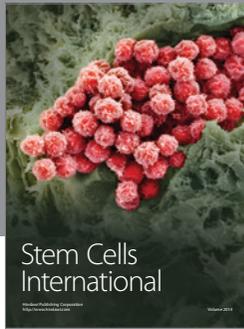
Thorax with pubescence entirely pale, ochraceous above fading to whitish below; mesonotum dull, tessellate, the punctures small, separated medially, close elsewhere; scutellum closely and finely punctured; pleura closely punctured, the punctures fine above, coarser below; propodeum rather bare and shining laterally, with long dense pubescence posteriorly where it has fine and rather close indistinct punctures, basal triangle granular; tegulæ ferruginous, closely and minutely punctate, densely pubescent anteriorly and rather thinly covered with short pubescence elsewhere; wings subhyaline, faintly clouded apically, nervures brownish-testaceous, basal nervure beyond transverse median, second recurrent nervure entering second submarginal cell almost at extreme apex, the first being rather distant from the base; legs piceous, pubescence whitish, reddish-brown on tarsi beneath, the middle and hind tarsi not greatly

broadened, the middle tarsi densely whitish pubescent without; spurs reddish-testaceous; claws testaceous basally, ferruginous apically, without distinct basal teeth.

Abdomen broad, sides subparallel, rather suddenly narrowed apically, pubescence ochraceous except for some short inconspicuous black pubescence on discs of segments 4 and 5; segments 1-5 with entire, dense, whitish apical fasciæ, broad on apical segments, narrowed medially on the basal segments; punctures fine and close in general, well separated on discs of segments 4 and 5; segment 6 slightly concave at sides viewed from above, straight in profile, closely punctured, pubescence entirely light, largely subappressed, with scattered erect hairs basally; scopa white with a faint yellowish tinge, entirely black and short on segment 6. Length 13 mm.

Type: Male (Type No. 15714, Mus. Comp. Zool.); Camp Umatilla, W. T., Washington Territory June 26, 1882. Allotype; topotypical. Paratypes: 3 males, topotypical; 1 male, Little Spokane, W. T., July 26, 1882 (Samuel Henshaw, collector).

This interesting species is quite similar to the type species of the genus, *M. ænotheræ* Mitch., but is considerably larger and the pubescence is almost entirely ochraceous. In *ænotheræ* the pubescence is white, with a patch of black hair on the mesonotum and the length is 9-10 mm. *M. ænotheræ* ♀ was described as being 3-dentate, with a notch on the inner side of the second tooth. In *umatillensis* this notch is represented by a distinct though small tooth, and the apical tooth is much longer than in *ænotheræ*. In the male the front tarsi are more dilated and hollowed out in this species and are distinctly pale in color, whereas in *ænotheræ* they are but slightly dilated and hollowed out and are black in part.



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