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## Hymenoptera Texana

Ezra Townsend Cresson

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# HYMENOPTERA TEXANA.

BY E. T. CRESSON.

The present memoir is intended to contain a list of all the species of hymenoptera known to me from Texas, excepting those belonging to the families Chrysididæ, Formicidæ and the smaller Chalcididæ, which have not been studied.

Besides the material in the collection of this Society, I have had placed at my disposal for determination and study, the splendid collection of Mr. G. W. BELFRAGE, made in Bosque Co., the fine collection in the Museum of Comparative Zoölogy at Cambridge, Mass., made by Mr. J. Boll, in Dallas Co., and a small collection of Mr. L. HEILIG-BRODT, made in Travis and Bastrop Counties. To these gentlemen, and also to Dr. H. HAGEN, of the Cambridge Museum, I feel greatly indebted for the valuable assistance they have rendered me in the preparation of this work.

Of the nineteen families studied in this paper, over six hundred species are enumerated, nearly three hundred of which appear to be new, and are herein described.

Unless otherwise indicated, the types of the new species are to be found in the collection of the American Entomological Society, which has been considerably enriched by liberal donations made by the above named gentlemen.

## TENTHREDINIDÆ.

### *Cimbex americana*, var. *Ulmi*.

*Cimbex americana*, Leach, Zool. Miscel. iii. p. 104; Norton, Trans. Am. Ent. Soc. i., p. 40.

One ♂ specimen. (Boll.)

### *Abia Kennicotti*.

*Abia Kennicotti*, Norton, Trans. Am. Ent. Soc. i., p. 47; iv. p. 77.

One ♂ specimen. (Belfrage.)

laterally and slightly interrupted medially, and an irregular spot on each side, largest on second segment, yellow; beneath ornamented much as above. Length .75 inch.

♂.—Face and clypeus flat, as usual, and yellow as far up and on a line with emargination of eyes, cheeks beneath broadly yellow; antennæ long, yellowish beneath, apex curled and black; sides of prothorax, and pleura anteriorly and beneath pale yellow; thorax without any ferruginous color; scutellum sometimes with only a lateral yellow dot at base; lateral stripes of metathorax sometimes wanting; coxæ and all the legs beneath pale yellow, femora more or less black above; abdomen darker than in ♀, sides of second segment with a large ferruginous blotch enclosing a yellow spot, lateral margin of first segment yellow; disk of second, third and fourth ventral segments with a large triangular yellow mark, apical margins also yellow. Length .75 inch.

Six specimens. (Belfrage; Boll.)

**Polistes americanus.**

*Vespa americana*, Fabr. Ent. Syst. ii., p. 276.

Nine ♀ specimens. (Belfrage; Boll.)

**Polistes minor.**

*Polistes minor*, Beauv. Ins. p. 207, pl. 8, fig. 3.

Five ♀ specimens. (Belfrage; Boll.)

**Polistes annularis.**

*Vespa annularis*, Linn. Syst. Nat. ii., p. 950.

Ten ♂ ♀ specimens. (Belfrage; Boll; Heiligbrodt.)

**Vespa sulphurea.**

*Vespa sulphurea*, Sauss. Mon. Guêpes Soc. p. 137.

Five ♀ specimens. (Boll; Heiligbrodt.)

**Vespa germanica.**

*Vespa germanica*, Fabr. Ent. Syst. ii., p. 256.

Four ♂ specimens. (Boll.)

**Vespa cuneata.**

*Vespa cuneata*, Fabr. Syst. Piez. p. 258.

Three ♂ ♀ specimens. (Belfrage; Heiligbrodt.)

ANDRENIDÆ.

**Colletes valida.**

*Colletes valida*, Cress. Proc. Bost. Soc. Nat. Hist. xii., p. 165.

Three ♂ ♀ specimens. (Boll.)

**Colletes inæqualis.**

*Colletes inæqualis*, Say, Bost. Journ. Nat. Hist. i., p. 391.

Two ♀ specimens. (Belfrage; Boll.)

**Colletes americana.**

*Colletes americana*, Cress. Proc. Bost. Soc. Nat. Hist. xii., p. 167.

Three ♂ ♀ specimens. (Belfrage; Boll.)

**Colletes texana**, n. sp.

♀.—Robust, black, shining, head and thorax clothed with a short dense whitish cinereous pubescence, very sparse on clypeus, which is shining and sparsely punctured; thorax strongly, rather coarsely punctured, the pubescence on mesothorax and scutellum more sparse and mixed with black, basal edge of metathorax very coarsely reticulated; tegulae pale piceous; wings short, hyaline; legs clothed with cinereous pubescence, longer on femora behind and dense on posterior legs; abdomen broad, convex, as long as head and thorax, shining, minutely punctured, base and sides of first segment with a white downy pubescence, apical margins of segments 1—5 with a narrow, even fascia of snow-white pubescence; apical segment small, obtusely pointed, clothed with short black pubescence. Length .35 inch.

One specimen from Comal Co. The abdominal fasciae are very even and conspicuous.

**Colletes consors**.

*Colletes consors*, Cress. Proc. Bost. Soc. Nat. Hist. xii., p. 168.

One ♂ specimen. (Belfrage.)

**Colletes albescens**.

*Colletes albescens*, Cress. Proc. Bost. Soc. Nat. Hist. xii., p. 168.

Three ♀ specimens. (Belfrage.)

**Prosopis affinis**.

*Prosopis affinis*, Smith, Brit. Mus. Cat. i., p. 24.

One ♀ specimen. (Belfrage.)

**Sphecodes texana**, n. sp.

♀.—Black, shining, thinly clothed with a short cinereous pubescence, longer and more dense on cheeks, scutellum, metathorax and pleura; clypeus sparsely punctured, fringed anteriorly with long yellowish hairs, which cover the labrum; mandibles tinged with rufous; scape long and slender, flagellum brown beneath, paler towards apex; thorax very minutely and delicately punctured; basal space of metathorax finely granulated, becoming smooth on posterior edge; tegulae honey-yellow; wings large, clear hyaline, subiridescent, nervures and stigma honey-yellow; legs slender, tibiae and tarsi pale brownish, thickly clothed with pale yellowish hairs; abdomen large, smooth and polished, sides of three basal segments and apical segments entirely clothed with a short cinereous pubescence, bright honey-yellow, three apical segments dusky and sericeous. Length .35 inch.

♂.—Slender, more closely and densely punctured; apex of clypeus, labrum, and spot on mandibles white; antennae longer, stouter, and scape much shorter than in ♀; knees, anterior tibiae, base and apex of four posterior tibiae and all the tarsi yellowish-white; abdomen more slender than in ♀, narrowed towards base, and less dusky at apex. Length .30 inch.

Four specimens. (Belfrage.)

**Sphecodes dichroa**.

*Sphecodes dichroa*, Smith, Brit. Mus. Cat. i. p. 36.

One ♀ specimen. (Belfrage.)



***Sphecodes mandibularis*, n. sp.**

♀.—Black, shining, closely and finely punctured, thinly clothed with glittering whitish hairs, more dense on face, cheeks, scutellum and sides of thorax, and long on scutellum; mandibles ferruginous, tips black; antennæ short, stout, apex of flagellum pale testaceous beneath; mesothorax sparsely punctured; basal space of metathorax slightly excavated, coarsely rugose, the posterior edge subcarinate; basal sides of metathorax with a patch of white downy pubescence; tegulæ pale testaceous, darker at base; wings hyaline, subiridescent, nervures and stigma blackish; tibiæ and tarsi with rather dense glittering pubescence, tarsi pale; abdomen oblong-ovate, smooth and polished, bright rufo-ferruginous, base, sides and apex with a thin pale glittering pubescence, apex slightly dusky. Length .22 inch.

Two specimens. (Belfrage.)

***Halictus occidentalis*, n. sp.**

♀.—Black, opaque, finely punctured; head not wider than thorax; face with rather dense pale ochraceous pubescence; clypeus shining, sparsely punctured, apex fringed with long golden hairs; mandibles reddish medially; cheeks with appressed whitish pubescence, fringed beneath with long yellowish hairs; vertex and occiput with short erect pale ochraceous pubescence; antennæ brownish beneath, pale at apex; mesothorax and scutellum with a finely impressed central longitudinal line, clothed with a very short pale pubescence: upper lateral margin of prothorax, patch before tegulæ, narrow lateral and posterior margins of metathorax, postscutellum, sides of metathorax and pleura clothed with dense ochraceous pubescence; base of metathorax finely subgranulated; tegulæ pale testaceous; wings yellowish, apical margin fuliginous; legs fulvous, with golden pubescence, coxæ, trochanters and base of femora more or less blackish; abdomen broader than thorax, oblong-ovate, very finely and closely punctured, shining towards apex, first segment clothed with erect pale pubescence, apical margins of segments 1—4 with an even fascia of dense white pubescence, and rima pale ochraceous. Length .55 inch.

♂.—Narrower than ♀; clypeus except two black spots at base, labrum and middle of mandibles pale yellow; antennæ long, pale fulvous beneath; sides of mesothorax and of metathorax and disk of first abdominal segment sometimes tinged with ferruginous; apex of wings but slightly dusky; knees, tibiæ and tarsi more or less tinged with yellow; abdomen narrower than in ♀ and more strongly punctured, anal segment more or less tinged with ferruginous or fulvous. Length .45 inch.

Four specimens. (Belfrage; Boll.)

***Halictus armaticeps*, n. sp.**

♀.—Black, head and thorax rather thickly clothed with griseous pubescence; head slightly broader than thorax, very densely punctured, opaque; clypeus shining, very sparsely punctured, slightly depressed on anterior middle, apex fringed with long golden hairs; mandibles piceous; cheeks beneath with a subacute tubercle or spine on each side; antennæ short, flagellum brown beneath, paler at tips; thorax above closely punctured and thinly pubescent, scutellum flat, shining, sparsely punctured, postscutellum, sides of metathorax, sides of thorax in front of tegulæ and pleura densely pubescent; base of metathorax finely longitudinally rugose, sometimes almost striated; tegulæ rufo-

testaceous; wings hyaline, nervures honey-yellow; legs more or less tinged with brown and clothed with ochraceous pubescence; abdomen oblong-ovate, very finely and densely punctured, sericeous, base and sides of first segment and apex with griseous pubescence, apical margins of segment 1-4 with a narrow even fascia of short dense whitish pubescence, anal rima pale ochraceous. Length .30—.35 inch.

Eight specimens. (Belfrage; Boll.) The stout tubercle or spine on each side of head beneath, found also in ♀ of *texanus*, varies considerably in length and acuteness, being sometimes long and acute, sometimes short and blunt.

***Halictus texanus*, n. sp.**

♀.—Black, very closely and finely punctured; head not wider than thorax, clothed with a short cinereous pubescence, more dense on face and cheeks and long and thin on cheeks beneath; clypeus and middle of face shining, very sparsely punctured, the former fringed at apex with long golden hairs; mandibles tinged with red; cheeks beneath with a stout obtuse tubercle; antennæ short, brown, flagellum pale beneath; prothorax tinged with ferruginous; upper lateral margin of prothorax, anterior margin of mesothorax, post-scutellum, sides of metathorax and of pleura clothed with dense griseous pubescence; metathorax and pleura except a blotch beneath wings, pale ferruginous; base of metathorax finely granulated; tegulæ honey-yellow; wings hyaline, faintly dusky at tips, nervures and stigma honey-yellow; legs pale ferruginous or fulvous, with pale yellow pubescence, four anterior femora more or less black; abdomen oblong-ovate, densely and minutely punctured, sericeous, segments 1-4 each with an apical fascia of white pubescence, anal rima cinereous, first, second and basal margin of third segments pale fulvo-ferruginous. Length .30 inch.

♂.—Smaller, narrower than ♀, more densely pubescent, that on sides of face dense and silvery-white; clypeus except base, labrum and middle of mandibles lemon-yellow; cheeks unarmed; antennæ long, flagellum yellow with a brown streak above not reaching apex, apex of scape beneath pale; sides of metathorax above and nearly the whole of pleura black; knees, tibiæ and tarsi more or less lemon-yellow; abdomen more convex than in ♀, narrower, more thickly pubescent, two basal segments strongly tinged with fulvous. Length .25 inch.

Two specimens. (Coll. G. W. Belfrage.)

***Halictus similis*.**

*Halictus similis*, Smith, Brit. Mus. Cat. i., p. 69.

Six ♀ specimens. (Belfrage.)

***Halictus bardus*, n. sp.**

♀.—Deep black, closely punctured, head and thorax rather thickly clothed with a griseous pubescence; head not wider than thorax; middle of face and clypeus shining, sparsely punctured, the punctures on clypeus large, apex fringed with long golden hairs; antennæ entirely black; scutellum smooth and shining, sparsely punctured; base of metathorax finely irregularly longitudinally wrinkled; on postscutellum, sides of metathorax and pleura the

pubescence is long; tegulæ piceous-black; wings hyaline, apical third faintly dusky, nervures and stigma fuscous; legs blackish with griseous pubescence, changing to pale yellow in certain lights; abdomen smooth and shining, very minutely punctured, base of first segment and extreme sides of all the segments with pale pubescence, which is also thinly scattered over apical segments, basal margin of segments 2—4 with a narrow fascia of short dense white pile, anal rima brown. Length .35 inch.

Two specimens. (Belfrage.) Closely allied to *similis*, but the punctures on head and thorax are more dense, the pubescence paler, the base of metathorax more finely sculptured, the tegulæ black, the wing nervures fuscous, the pubescence of legs paler and the abdomen less shining and more closely and finely punctured.

***Halictus ornatipes*, n. sp.**

♂.—Narrow, black, closely and finely punctured, thickly clothed with griseous pubescence; sides of face and base of clypeus with short dense white pubescence; clypeus produced, lemon-yellow, base black; labrum and mandibles except tips also lemon-yellow; cheeks with long white pubescence; flagellum yellow-testaceous beneath; scutellum smooth and shining, sparsely punctured; base of metathorax finely rugulose, sides closely punctured; tegulæ pale yellow, with a dusky pupil; wings hyaline, subiridescent, nervures and stigma honey-yellow; legs black with white pubescence, knees, tibiæ, except elongate blackish spot on each side, and tarsi lemon-yellow; abdomen elongate, subconvex, with scattered pale pubescence, apical margin of all the segments with a fascia of whitish pubescence more dense laterally, apical margins of all the segments narrowly dull rufo-testaceous. Length .30—-.35 inch.

Four specimens. (Belfrage; Boll.) This may prove to be the ♂ of *armaticeps*.

***Halictus impurus*, n. sp.**

♀.—Blue-green, shining, clothed with a short erect or suberect pale pubescence, very dense on the face; head densely and finely punctured; clypeus squarely produced at tip, which is margined with testaceous; labrum, tips of mandibles and flagellum beneath also testaceous; mesothorax and scutellum smooth and polished; metathorax rugose, the basal space with radiating striæ; tegulæ and tubercles testaceous; wings hyaline, iridescent, nervures fuscous, stigma paler; legs shining black, with pale pubescence, knees, tibiæ and tarsi pale testaceous, tibiæ with a dusky mark on outer middle; abdomen elongate, convex, smooth and shining, with a short thin pale pubescence, rufo-testaceous, more or less blackish at base and apex; venter paler than above. Length .32 inch.

Two specimens. (Belfrage.)

***Halictus lusorius*, n. sp.**

♀.—Black; head and thorax closely and finely punctured, thinly clothed with a griseous pubescence; head small; clypeus produced, shining, with large scattered punctures, apex fringed with long yellowish hairs; mandibles rufo-piceous at tips; mesothorax with a well-impressed central line; base of metathorax finely longitudinally rugose; tegulæ dull testaceous; wings long,

ample, yellowish-hyaline, nervures and stigma pale honey-yellow; legs brown-black, with pale hairs; abdomen ovate, smooth and polished, impunctured, base, sides and apex with pale pubescence, apical margins of the segments broadly testaceous, anal rima pale fulvous. Length .30 inch.

Two specimen. (Belfrage.) Easily distinguished by the broad testaceous apical margin of abdominal segments.

***Halictus connexus*, n. sp.**

♀.—Robust, head and thorax dark green, thinly clothed with short pale pubescence; head broad, closely and minutely punctured, more sparsely so on face and clypeus, apex of latter purplish-black and fringed with long yellowish hairs; mandibles sometimes rufo-piceous; flagellum pale brown towards apex; thorax very finely not closely punctured, the mesothorax with the central longitudinal line generally deeply impressed anteriorly; scutellum sparsely punctured, faintly impressed centrally; base of metathorax with more or less irregular radiating elevated lines generally not reaching posterior margin of the enclosure; pubescence on postscutellum, sides of metathorax and pleura long; tegulae pale honey-yellow; wings clear hyaline, iridescent, nervures and stigma very pale; legs brown, black at base, clothed with pale pubescence; abdomen ovate, convex, black, smoothed and polished, imperceptibly punctured, sides of first and second and the remaining segments clothed with a short pale pubescence, becoming more dense at apex, apical margin of the segments narrowly testaceous. Length .23—.27 inch.

Seventeen specimens. (Belfrage.) The thorax is very finely and sparsely punctured, differing in that respect from the other species.

***Halictus disparilis*, n. sp.**

♀.—Head and thorax brassy-green, thinly clothed with a pale pubescence; head not broad, densely punctured; clypeus sparsely punctured, apex purplish-black and fringed with long pale ochraceous pubescence; mandibles more or less tinged with ferruginous; flagellum more or less pale beneath towards apex; pubescence of thorax above erect and slightly tinged with ochraceous; mesothorax sparsely punctured, with a central and lateral impressed longitudinal lines; scutellum finely and densely punctured on the disk; base of metathorax more or less distinctly rugulose, with irregular radiating elevated lines, sometimes quite obsolete; tegulae testaceous; wings hyaline, iridescent, nervures pale fuscous or pale testaceous; legs brown-black, with pale pubescence, tarsi more or less pale; abdomen short ovate, convex, smooth and shining, impunctured, black, with an æneous tinge or reflection, base, sides and apex clothed with a short whitish pubescence, thinly scattered over disk of the segments except first and second which are nude and polished, apical margin of the segments subtestaceous. Length .20—.25 inch.

Eight specimens. (Belfrage.) This is allied to *connexus*, but differs by the brassy-green color of head and thorax, by the more dense pubescence, which is tinged with ochraceous or yellow on vertex and thorax above, and by the narrower head.

***Halictus coactus*, n. sp.**

♀.—Green, abdomen dark æneous, clothed with a short pale pubescence; head very densely and finely punctured; clypeus slightly produced, with large sparse punctures, apex broadly purplish and fringed with long yellow hairs; flagellum pale brown beneath, especially at tips; mandibles tipped with ferruginous; thorax much less closely punctured than the head; base of metathorax finely, somewhat longitudinally, rugose; tegulæ brown; wings hyaline, iridescent, nervures and stigma pale honey-yellow; legs brown-black, clothed with pale pubescence; abdomen ovate, convex, very minutely punctured, sides and apex thickly clothed with short pale pubescence, apical margin of first and second segments deeply impressed or constricted, especially that of first segment. Length .20 inch.

Four specimens. (Belfrage.) Easily recognized by the constricted segments of abdomen.

***Halictus stultus*, n. sp.**

♀.—Small, head and thorax dull dark green, sometimes tinged with brassy, thinly clothed with a short griseous pubescence; head not broader than thorax, closely and minutely punctured, face broad, clypeus short, sparsely punctured, purplish-black towards apex which is fringed with long pale yellowish hairs; mandibles piceous, sometimes tinged with rufous; antennæ short, black, flagellum more or less pale beneath towards apex; mesothorax very minutely and sparsely punctured, sometimes almost imperceptibly so, a deeply impressed central longitudinal line; scutellum slightly impressed centrally; base of metathorax with radiating elevated lines which are sometimes more or less abbreviated; on postscutellum, sides of metathorax and pleura the pubescence is longer than elsewhere; tegulæ testaceous; wings hyaline, iridescent, nervures and stigma pale testaceous; legs pale brown or fuscous, blackish at base, clothed with pale pubescence, anterior knees and all the tarsi rufo-testaceous; abdomen smooth and shining, impunctured, more or less thickly pubescent towards apex, the base and sides thinly pubescent, color variable, being sometimes entirely brown-black, sometimes fuscous with the segments testaceous at apex, sometimes more or less testaceous at base, shading into brown or fuscous at apex, sometimes entirely testaceous or dull honey-yellow. Length .16—.20 inch.

Ten specimens. (Belfrage.)

***Halictus albitarsis*, n. sp.**

♂.—Dark bronzed-green, sometimes slightly brassy, clothed with a whitish pubescence; head not broader than thorax, densely and finely punctured, sides of face and clypeus densely clothed with an appressed silvery-white pile; mandibles piceous; antennæ long, black above, brown or pale fuscous beneath; mesothorax and scutellum with sparse minute punctures and generally with a distinct impressed longitudinal line on disk and over tegulæ; pubescence of thorax above erect, longer on postscutellum, sides of metathorax and, pleura; metathorax generally tinged with blue, the base more or less longitudinally rugose, sometimes with well-defined and distinct radiating elevated lines or wrinkles; sides of metathorax and pleura finely roughened; tegulæ testaceous, sometime dull; wings hyaline, iridescent, nervures and stigma pale testaceous; legs black or piceous, shining, clothed with pale pubes-



cence, knees, tips of tibiae and tarsi pale yellow or whitish; abdomen elongate, sometimes slightly clavate, convex, shining, less green than head and thorax, sides of three basal segments and the apical segments clothed with a short thin pale pubescence, longer at apex, the second and third segments slightly constricted at base, apical margin of the segments sometimes subtestaceous. Length .15—.25 inch.

Twenty-six specimens. (Belfrage; Boll.) Easily recognized by the pale tarsi.

**Augochlora lucidula.**

*Augochlora lucidula*, Smith, Brit. Mus. Cat. i., p. 81.

Two ♂ ♀ specimens. (Belfrage.)

**Augochlora sumptuosa.**

*Augochlora sumptuosa*, Smith, Brit. Mus. Cat. i., p. 82.

Four ♀ specimens. (Boll.)

**Augochlora pura.**

*Halictus pura*, Say, Bost. Journ. Nat. Hist. i., p. 395.

Ten ♂ ♀ specimens. (Belfrage; Heiligbrodt.)

**Agapostemon tricolor.**

*Halictus tricolor*, St. Farg. Hym. ii., p. 289.

Six ♂ specimens. (Belfrage; Boll; Heiligbrodt.)

**Agapostemon æruginosus.**

*Agapostemon æruginosus*, Smith, Brit. Mus. Cat. i., p. 86.

One ♀ specimen. (Heiligbrodt.)

**Agapostemon texanus, n. sp.**

♀.—Bright green, tinged with blue in certain lights, clothed with a pale ochraceous pubescence; head finely, very densely punctured, strongly tinged with blue, middle of face transversely wrinkled; clypeus rather sparsely punctured, apex purplish-black; labrum with dense pale ochraceous hairs; mandibles pale yellow, piceous at tips; flagellum pale brown beneath; mesothorax more or less tinged with golden, extremely minutely and closely punctured, interspersed with larger sparse punctures; scutellum sparsely punctured, base of metathorax longitudinally wrinkled, the enclosed base with radiating wrinkles, the surrounding carina sharply defined, the flanks strongly tinged with blue; pleura densely, rather coarsely and confluent punctured; tegulae pale testaceous, with a yellow spot anteriorly; wings hyaline, faintly dusky at apex, nervures and stigma pale honey-yellow; legs brown-black, clothed with ochraceous pubescence, four anterior knees yellowish; abdomen green, changing in certain lights, densely and finely punctured, clothed with a very short fine pale sericeous pile, base and sides of the first, the two or three apical and sides of intermediate segments, clothed with tolerably long pale pubescence, the apical segment clothed with a dense black pubescence, apex of the segments depressed, the disk with a more or less obvious bluish or purplish band. Length .40—.45 inch.

Six specimens. (Belfrage; Boll.) Allied to *æruginosus*, Smith,

which is, however, more golden and less blue, with the mesothorax uniformly punctured; the abdomen is much alike in both species.

**Nomia Nortoni.**

*Nomia Nortoni*, Cress. Trans. Am. Ent. Soc. i., p. 385.

Eight ♂ ♀ specimens. (Belfrage; Boll.)

**Nomia? heteropoda.**

*Nomia heteropoda*, Say, Long's 2d Exped. ii., p. 349.

Three ♂ ♀ specimens. (Boll.)

**Andrena reflexa**, n. sp.

♂.—Broad, robust, black, shining; head slightly broader than thorax, face broad, clypeus dull yellowish-white; face, clypeus, labrum, occiput and cheeks thickly clothed with a long fulvo-ochraceous or pale ochraceous pubescence; vertex sparsely and finely punctured, naked, smooth and polished; mandibles long, piceous or black, antennæ brown-black, flagellum rufo-testaceous beneath; thorax clothed with a rather long, dense fulvous or pale ochraceous pubescence, paler on metathorax and pleura; tegulæ testaceous; wings subhyaline, apex pale fuliginous, with a slight violaceous reflection; legs fuscous, with pale yellowish or ochraceous pubescence, tarsi fulvous; abdomen short, broad ovate, finely and closely punctured, thinly clothed with a fulvo-ochraceous or pale ochraceous pubescence, apical margin of the segments much depressed, broadly pale testaceous and thickly fringed with pale pubescence, the extreme apical edge of the three or four basal segments more or less strongly reflexed, sides of the segments and apex more thickly pubescent. Length .45 inch.

Three specimens. (Belfrage.) One specimen differs only in the head being much larger, and may prove to be a distinct species.

**Andrena Belfragei**, n. sp.

♀.—Black, shining; head not broader than thorax, face, occiput and cheeks clothed with long, rather dense fulvous pubescence, clypeus with a short fulvous pubescence, large, closely punctured with a smooth median longitudinal impressed line; antennæ short, flagellum brown beneath towards apex; mesothorax, scutellum and space beneath tegulæ clothed with a dense deep fulvous pubescence, that on metathorax long and ochraceous, that on pleura pale ochraceous; tegulæ rufo-piceous; wings yellowish-hyaline, apex rather broadly fuscous, subviolaceous; legs brown-black, with pale pubescence, tarsi brown, the pubescence on tibiae and tarsi dense and pale yellowish; abdomen broad, depressed, oblong-ovate, shining, first segment sparsely and finely punctured, polished, thinly clothed at base and sides with pale pubescence, remaining segments densely punctured with apical margin depressed, smooth and polished, sides of second, third and fourth segments, and apical margin of fourth segment with a thin pale pubescence, anal fimbria fulvous. Length .55 inch.

One specimen. (Coll. G. W. Belfrage.) A very pretty species, the pubescence of thorax above being deep fulvous, or somewhat of a saffron color, and the abdomen shining and almost entirely naked above, except apex which is fulvous.



***Andrena permitis*, n. sp.**

♀.—Black; head as wide as thorax, sides of face and of clypeus, occiput and cheeks clothed with long, rather dense, pale yellowish pubescence; clypeus closely punctured, with a smooth central line; mandibles piceous or rufopiceous; flagellum brown beneath, pale towards apex; thorax clothed with a long dense bright lemon-yellow pubescence, paler on metathorax and pleura; tegulae testaceous; wings subhyaline, apical margin fuliginous; legs brown-black or brown, with pale yellowish pubescence, tibiae and tarsi pale brown; abdomen densely punctured, apical margin of the segments pale testaceous, having a band of dense pale ochraceous pubescence, sides of first segment with long ochraceous pubescence, anal fimbria tinged with fulvous; ventral segments fringed at apex with long pale pubescence. Length .52 inch.

Four specimens. (Belfrage.)

***Andrena melliventris*, n. sp.**

♀.—Black; head as broad as thorax, sides of face, occiput and cheeks clothed with rather dense yellowish pubescence; clypeus large, closely punctured, shining, yellowish-testaceous, thinly pubescent, with two long yellowish setae on apical middle; mandibles piceous; flagellum brownish beneath; thorax above clothed with a very dense, short, bright fulvous pubescence, which on metathorax and pleura is long and paler; tegulae testaceous; wings yellowish-hyaline, apical margin dusky; legs black, tinged with brown, clothed with pale yellowish pubescence, which on four posterior tibiae and tarsi is fuscous, changing to yellowish in certain lights; abdomen elongate ovate, flattened, opaque, minutely, not closely punctured, clothed with a very short yellowish pubescence more dense on sides of the segments, first segment with a long thin yellowish pubescence at base and sides, and with two testaceous spots on the disk, apical margin of the segments yellowish testaceous and fringed with short dense ochraceous pubescence, anal fimbria ochraceous; venter honey-yellow, stained with fuscous on apical third, the segments clothed with long yellowish pubescence towards apex. Length .55 inch.

One specimen. (Coll. G. W. Belfrage.) A pretty and distinct species.

***Andrena verecunda*, n. sp.**

♀.—Black; head and thorax clothed with a dense, rather long, cinereous pubescence; head not wider than thorax, pubescence on clypeus short; antennae short, flagellum brown beneath towards apex; tegulae piceous; wings hyaline, apical margin dusky, nervures fuscous; legs black, more or less tinged with brown, with pale or cinereous pubescence, tarsi brown; abdomen oblong-ovate, shining, sparsely and minutely punctured, thinly clothed with a short cinereous pubescence, first segment, extreme sides and depressed apical margin of segments 2—4 and the anal fimbria, of rather dense cinereous pubescence; venter more or less tinged with rufo-testaceous, the segments fringed with cinereous pubescence. Length .45—.50 inch.

Two specimens. (Belfrage.)

***Andrena imitatrix*, n. sp.**

♀.—Black; head not broader than thorax, sides of face and of clypeus, occiput and cheeks with long rather dense cinereous pubescence; flagellum brown beneath towards apex; thorax above sparsely punctured, clothed with a rather dense cinereous pubescence, slightly tinged with ochraceous; sides of metathorax and pleura with long cinereous pubescence; base of metathorax more or less coarsely reticulated; tegulae piceous; wings hyaline, faintly tinged with yellowish; legs black, with cinereous pubescence, tarsi brown; abdomen oblong-ovate, depressed, shining black, closely and finely punctured, first segment polished, base, sides and lateral apical margin with cinereous pubescence, apical margin of segments 2—4 depressed and with a fascia of dense white pubescence, anal fimbria whitish, sometimes tinged with ochraceous; ventral segments fringed at apex with long pale pubescence. Length .40 inch.

Three specimens. (Belfrage.) Rather smaller than *verecunda*, with the pubescence of head and thorax less dense and the abdomen less pubescent and with the fasciae conspicuous and white.

***Andrena hirticeps*.**

*Andrena hirticeps*, Smith, Brit. Mus. Cat. i. p. 116.

Four ♂ specimens. (Belfrage.)

***Andrena brunniventris*, n. sp.**

♂.—Black, head and thorax thickly clothed with a long pale ochraceous pubescence, very dense and paler on clypeus; head broader than thorax, face broad; mandibles long, piceous, reddish towards tips; flagellum brownish beneath; pubescence on thorax above, especially on scutellum tinged with yellowish; tegulae dull testaceous; wings pale yellowish-hyaline, apex pale fuscous; legs blackish, tinged with brown, clothed with ochraceous pubescence, tarsi rufo-testaceous; abdomen ovate, convex, shining, chocolate-brown, clothed with a short scattered pale pubescence, which is dense and ochraceous at apex. Length .43 inch.

One specimen. (Coll. G. W. Belfrage.) Differs from *hirticeps* principally by the color of the abdomen.

***Andrena texana*, n. sp.**

♂.—Black; head as wide as thorax; face, clypeus, occiput, cheeks, thorax, legs and basal segment of the abdomen clothed with a long, more or less dense yellow ochreous pubescence; antennae long, flagellum brown beneath; base of metathorax rugulose; tegulae pale piceous; wings hyaline, apex broadly dusky, second submarginal cell narrower than usual; legs piceous, tibiae and tarsi brown, the latter pale brown; abdomen oblong-ovate, shining, minutely not closely punctured, clothed with a very short dense dull yellowish pubescence, apical margin of the segments subttestaceous and with a band of short dense yellow ochreous pubescence, apex with dense ochraceous pubescence; venter fusco-testaceous, the segments fringed at apex with ochreous pubescence. Length .40 inch.

Ten specimens. (Belfrage.) A very distinct little species, with the pubescence quite dense and of a uniform yellow ochreous color.

***Andrena miserabilis*, n. sp.**

♀.—Black; head not broader than thorax; face, occiput and cheeks clothed with long yellow ochreous pubescence; clypeus large, shining, almost naked, sparsely punctured, disk impunctured; flagellum brown beneath; thorax thickly clothed with a long yellow ochreous pubescence, not quite hiding the surface of mesothorax and scutellum; tegulæ dull testaceous; wings yellowish-hyaline, iridescent, faintly dusky at tips, nervures and stigma honey-yellow; legs black or piceous, clothed with ochraceous pubescence, tarsi paler; abdomen oblong-ovate, depressed, shining, extremely minutely punctured, base and sides of first segment, apical margin of all the segments clothed with an ochraceous pubescence, anal fimbria of same color. Length .32 inch.

♂.—Smaller, more slender; clypeus with a long dense pale ochraceous pubescence, that on head and thorax longer than in ♀; antennæ long; base of metathorax coarsely reticulated; anterior tarsi rufo-testaceous, four posterior tarsi pale honey-yellow, and sometimes also the posterior tibiae; abdomen more convex than in ♀. Length .30 inch.

Eight specimens. (Belfrage.)

***Andrena bipunctata*, n. sp.**

♂.—Black; head slightly broader than thorax, face, occiput and cheeks with long griseous pubescence; clypeus broad, whitish, smooth and shining, with a small black spot on each side, apex fringed with long pale pubescence; mandibles piceous at tips; flagellum testaceous beneath; thorax clothed with a long, not dense, griseous pubescence; base of metathorax with a few short radiating elevated lines; tegulæ piceous; wings hyaline, iridescent, faintly dusky at apex, nervures and stigma honey-yellow; legs black or piceous, with pale pubescence, tarsi subtestaceous at apex; abdomen elongate, shining, with a short scattered pale pubescence, apical margin of the segments narrowly pale testaceous, apex with long pale pubescence. Length .35 inch.

Two specimens. (Belfrage.) Easily recognized by the broad white clypeus with two conspicuous black dots.

**APIDÆ.*****Panurgus æthiops*, n. sp.**

♀.—Robust, deep black; head not broader than thorax, closely and coarsely punctured, finer and more dense on face and clypeus, which have a scattered yellowish pubescence, as well as cheeks and posterior margin of head; clypeus not produced; mandibles piceous; antennæ short, black; mesothorax shining, with large sparse punctures, those on scutellum and pleura closer and coarser, those on postscutellum dense and confluent; mesothorax deeply impressed on anterior middle; metathorax rounded very densely and rather finely punctured, basal depressed margin narrow, with short crenulated striæ, behind which on each side is a smooth shining space; tegulæ dull testaceous; wings uniformly dark fuliginous, with subhyaline blotches at tip of second submarginal cell and beneath; legs black, tibiae and tarsi brownish, the latter paler, densely clothed with yellow pubescence, long on posterior pair, extreme base of four anterior tibiae with a pale yellow spot; abdomen broad ovate, depressed, closely and finely punctured, apical margin of the segments

rather broadly smooth and polished, narrowed laterally, extreme sides of segments 2-4, apex of fifth segment and the apical segment except disk, with dense ochraceous pubescence, otherwise the abdomen above is naked, disk of apical segment triangular, base of first segment deeply indented centrally; ventral segments with an apical band of long erect ochraceous pubescence. Length .45 inch.

♂.—Narrower than ♀; face not quite up to antennæ, clypeus, scape beneath, knees, tibiæ and tarsi, all lemon-yellow; the pubescence on legs short and sparse; abdomen narrow, convex, the segments slightly constricted at base, extreme apex of abdomen with short, dense pale ochraceous pubescence; venter fuscous, with short pale ochraceous pubescence at apex of segments. Length .40 inch.

Ten specimens. (Belfrage.)

***Panurgus albitarsis*, n. sp.**

♀.—Black, shining, sparsely punctured, clothed with griseous pubescence, which is long on vertex, cheeks, postscutellum and pleura; clypeus with large scattered punctures; labrum with golden hairs; antennæ short, brownish at tips; sides of metathorax finely and densely punctured, basal enclosed longitudinally striated; tegulæ testaceous; wings hyaline, iridescent, nervures and stigma testaceous, marginal cell truncate at tip; legs brown-black, with pale pubescence, four anterior tarsi pale brown with pale yellowish pubescence, posterior pair dull white or yellow, posterior tibiæ with a floccus of long whitish pubescence; abdomen oblong-ovate, flattened, shining, finely punctured, the apical margins broad, smooth and polished, piceous, tinged with dull testaceous at apex, sides of second and third segments and apex of remaining segments clothed with long pale pubescence, extreme apex with short, dense pale ochraceous pubescence; ventral segments with a band of erect pale pubescence. Length .28 inch.

♂.—Narrower than ♀ and more closely punctured; sides of face and clypeus lemon-yellow; knees, line on anterior tibiæ in front and all the tarsi yellowish-white; abdomen narrower, second and third segments slightly constricted at base. Length .25 inch.

Four specimens. (Belfrage.)

***Panurgus ornatipes*, n. sp.**

♂.—Black, closely and finely punctured; head and thorax clothed with a short dense pale pubescence, tinged with brownish on mesothorax; face, clypeus, labrum, mandibles except tips, and scape beneath more or less, lemon-yellow; flagellum brownish beneath; mesothorax closely punctured, the pubescence short, erect and dense; metathorax sparsely pubescent, closely and finely punctured, narrow basal enclosure crenulated, behind which is a narrow smooth space; tubercles lemon-yellow; tegulæ brown testaceous; wings hyaline, iridescent, apical margin dusky, marginal cell truncate at tip; legs black with pale pubescence, knees, tibiæ and tarsi lemon-yellow, an elongate central black spot on each side of the tibiæ; abdomen elongate, closely and finely punctured, apical margin of the segments broadly depressed, smooth and polished, subtestaceous at apex, sides of three basal segments, and the remaining segments clothed with pale pubescence, tinged with yellowish on apical

segments, all the segments have at base a very short brownish-sericeous pile, more obvious in perfectly fresh specimens; first segment deeply notched at base, the second and third segments slightly depressed at base. Length .25 inch.

Four specimens. (Belfrage.)

***Panurgus picipes*, n. sp.**

♂.—Deep black, with large sparse punctures and clothed rather thickly with a short griseous pubescence; sides of face and clypeus lemon-yellow; mesothorax with a well-impressed central line; metathorax sculptured as in *ornatipes*; tubercles black; tegulae brown, paler on outer margins; wings hyaline, iridescent, very faintly dusky at apex, marginal cell truncate at tip; legs piceous, with pale pubescence, knees and tarsi brownish-testaceous; abdomen as in *ornatipes*, except that there is no brown sericeous pile and the depressed polished apical margin of the segments are piceous, the second, third and fourth segments are constricted at base, the pubescence pale. Length .26 inch.

Two specimens. (Belfrage.)

***Perdita? albipennis*.**

*Perdita? albipennis*, Cress. Trans. Am. Ent. Soc. ii., p. 386.

One specimen. (Belfrage.)

***Osmia lignaria*.**

*Osmia lignaria*, Say, Bost. Journ. Nat. Hist. i., p. 399.

Three specimens. (Boll.)

***Osmia chalybea*.**

*Osmia chalybea*, Smith, Brit. Mus. Cat. i., p. 143.

One ♀ specimen. (Belfrage.)

***Osmia texana*, n. sp.**

♂.—Dark green or blue-green, head and thorax densely and strongly punctured, clothed with pale pubescence; head rather large, subquadrate, face, clypeus, occiput and cheeks clothed with long pale pubescence, very dense on clypeus; thorax thinly clothed with a long pale pubescence; scutellum sparsely punctured; tegulae piceous; wings subhyaline, dusky at apex, upper half of marginal cell fuliginous; legs black, punctured, clothed with pale pubescence; abdomen dark green, shining, rather closely, finely punctured, clothed with a short scattered pale glittering pubescence, long and more dense on basal segment, apical margin of sixth segment reflexed and subsinuate medially, apical segment bidentate at apex. Length .40 inch.

Two specimens. (Belfrage.)

***Osmia subfasciata*, n. sp.**

♀.—Dark blue, closely and strongly punctured; head large, subquadrate sides of face and cheeks clothed with long pale pubescence, apex of clypeus and mandibles with short ochraceous pubescence; thorax above thinly clothed with a short, pale pubescence, that on metathorax and pleura longer and more dense; tegulae piceous; wings subhyaline, pale fuscous at apex and in marginal cell; legs black, clothed with pale pubescence; abdomen convex, the three basal segments more finely and less closely punctured than thorax, the

apical segments coarsely punctured and thickly pubescent, apical margin of the segments fringed with a short pale pubescence more or less interrupted medially; ventral scopa pale ochraceous. Length .35 inch.

♂.—Smaller; head smaller, the face and clypeus more densely pubescent, antennæ longer, apical bands of abdomen less obvious, and the apical segment bidentate. Length .30 inch.

Three specimens. (Belfrage.)

✓ **Megachile fortis**, n. sp.

♂.—Black, opaque, densely clothed with a pale yellowish pubescence; face with long, dense yellowish-white pubescence, that on vertex and cheeks thin, that on cheeks beneath short, dense, and white; head broad, densely and finely punctured; antennæ entirely black, with apical joint compressed and dilated; pubescence of thorax nearly hiding the surface, that on metathorax long, less dense and paler in color; tegulæ rufo-piceous; wings fusco-hyaline, faintly tinged with violaceous; legs black, with a short yellowish pubescence, each anterior coxa with a long black spine, their femora honey-yellow with a blackish stripe behind where the pubescence is dense and pale yellowish, their tibiae tinged with honey-yellow within, densely pubescent on outside, the pubescence golden-yellow at tip, their tarsi broadly dilated and fringed posteriorly with dense long yellow pubescence, mixed with brown within, that on upper surface snow-white, first joint nearly as long as tibiae, of equal width, concave within, and with a line of snow-white pubescence, the anterior edge sharply carinate and blackish, fringed with short dense brown pubescence, second joint as broad as first joint and about one-fourth as long, slightly narrowed towards apex, fringed like preceding joint, third and fourth joints gradually smaller, apical joint as long as two preceding combined, honey-yellow, claws cleft, black at tip; four posterior legs formed alike, the tarsi flat, not much dilated, and fringed with long yellowish pubescence, joints of intermediate tarsi more deeply lobed at apex than those of posterior pair; abdomen about as long as head and thorax, subquadrate, as broad as thorax, densely and finely punctured, first segment deeply and broadly excavated at base, the sides with long yellowish pubescence, apical margin of each segment except last, fringed with a short dense yellowish pubescence, apical segment subtruncate above, not emarginate, beneath tridentate, the lateral teeth rounded, the central one subacute. Length .60 inch.

Two specimens. (Belfrage.) More robust than *femorata*, Smith, the pubescence less dense and paler, the head larger, the apex of antennæ dilated, the anterior legs differently formed and the apex of abdomen not emarginate.

**Megachile comata**, n. sp.

♂.—Same form as *fortis*, with the pubescence paler, being of a very pale yellowish-white with a faint greenish tinge, except on face where it is pale yellowish-white as in *fortis*; on the cheeks beneath there is a patch of dense snow-white pubescence, and on upper part of cheeks a thin white sericeous pile; apex of antennæ pointed, not dilated; wings hyaline with apical margin pale fuliginous; anterior coxæ each with a long black spine, their femora honey-yellow, with the posterior apical margin black and fringed with a dense



snow-white pubescence, slightly mixed with brownish within, on inner side are two slender oblique blackish streaks, apical margin black, their tibiæ honey-yellow, blackish at base on outer side where the pubescence is pale golden, on the anterior apex there is a small tuft of blackish pubescence and on posterior apex beneath a tuft of long snow-white pubescence, their tarsi pale yellowish-white, with much the exterior appearance of those of *fortis*, with the posterior fringe paler, and black at extreme base beneath, the first joint more convex outwardly and very deeply and longitudinally excavated or hollowed out beneath, the edge fringed with dense blackish pubescence, except on apical anterior edge, second joint rather narrower than first and less than one-fifth in length, third and fourth joints gradually less dilated, claws black at tips; intermediate coxæ each with a black acute spine shorter than those on anterior pair, their femora much swollen, their tibiæ fulvous anteriorly, their tarsi simple and densely clothed with whitish pubescence, posterior legs with pale pubescence, tips of their tibiæ reddish, their tarsi with fulvous pubescence beneath; abdomen shaped as in *fortis*, the pubescence pale greenish-yellow, whitish when viewed laterally, the short, dense apical fringe on second to fifth segments whitish, apex deeply notched centrally, with two or three indentations on each side, beneath the edge is bisinuate on each side; venter with long pale pubescence. Length .55 inch.

One specimen. (Coll. G. W. Belfrage.)

**Megachile xylocopoides.**

*Megachile xylocopoides*, Smith, Brit. Mus. Cat. i., p. 189.

One ♂ specimen. (Belfrage.)

**Megachile albitarsis, n. sp.**

♂.—Black, very densely and minutely punctured; head large, rather broader than thorax, clothed with pale yellow pubescence, very dense and lemon-yellow on face as far up as ocelli, paler on clypeus, on the cheeks it is short and white, very dense beneath, flagellum slightly tinged with brown, apical joint compressed and dilated; thorax with whitish pubescence, dense on pleura and long on sides of metathorax; two spots on mesothorax anteriorly, one behind each tegulæ, and a sutural line before scutellum, of dense pale pubescence; tegulæ dull testaceous on outer half; wings yellowish-fusco-hyaline, dusky on apical margin; anterior legs pale fulvous, their coxæ and trochanters behind black, the former each with a long subacute black spine, their femora behind with long white pubescence, posterior apical margin and two short stripes at apex within black, their tibiæ with short pale golden pubescence, lower edge fringed with long pale pubescence, inner apical margin black, their tarsi dilated, pale yellowish-white, fringed posteriorly with long dense whitish pubescence tipped with black within, first joint as long as tibiæ, dilated at anterior apex, the anterior basal margin fringed with blackish pubescence, three following joints gradually less dilated, the fourth small, apical joint long, of nearly equal width, claws long, tips truncate and black; intermediate coxæ each with a short acute tubercle beneath, their femora anteriorly and at tips beneath, as well as their tibiæ except beneath, fulvo-ferruginous, their tarsi pale yellowish-white, with short snow-white pubescence and fringed behind with long hairs, the first joint flattened, broadly dilated posteriorly, narrowed at base and apex especially the latter, three following



joints small, scarcely dilated, terminal joint long, narrowed towards base, claws cleft and black at tip; posterior tibiæ tinged with reddish outwardly, their tarsi pale yellowish-white, first joint as long as remaining joint combined, of equal width, smooth and shining, fringed on both sides with long pale hairs, remaining joints small, strongly lobed at tip, claws tipped with black; abdomen subquadrate, nearly as wide as thorax, first segment broadly and deeply excavated at base and fringed laterally and posteriorly with long pale yellowish hairs, three following segments with a narrow apical fringe of pale ochraceous pubescence, base of fourth and fifth segments with a band of dense pale ochraceous pile, the apical segment covered with a very dense whitish pile, apical margin emarginate centrally, not deeply so. Length .50 inch.

Two specimens. (Belfrage.) Easily recognized by the whitish tarsi and by the remarkable form of the intermediate pair.

***Megachile pollicaris.***

*Megachile pollicaris*, Say, Bost. Journ. Nat. Hist. i., p. 406.

Nine ♂ specimens. (Belfrage; Boll.) This may not be the true *pollicaris*, as Say says nothing about the long, prominent, yellow scale-like process, tipped with honey-yellow, at base of anterior tarsi, and of the intermediate legs being red; otherwise the insects accords well with the description given by Say.

***Megachile pugnata.***

*Megachile pugnatus*, Say, Bost. Journ. Nat. Hist. i., p. 408.

Four ♂ ♀ specimens. (Belfrage.)

***Megachile disparilis*, n. sp.**

♂.—Black; face and clypeus clothed with a long, dense whitish pubescence, slightly tinged with yellowish, vertex and cheeks with long, thin, white pubescence, slightly mixed with short black pubescence behind ocelli; head large, as broad as thorax, densely and finely punctured; antennæ black, the terminal joint compressed and slightly dilated; thorax closely punctured, clothed with a long, not dense, cinereous pubescence, longer on metathorax and pleura and slightly mixed with black pubescence on mesothorax; tegulæ dull piceous, pubescent; wings subhyaline, dusky on apical margin; legs black, with short yellowish pubescence, that on coxæ and femora beneath long and white; anterior coxæ with a long, subacute blackish spine, before which is a much shorter, slender, acute reddish double spine, their femora within and their tibiæ at tips tinged with honey-yellow, their tarsi whitish, broadly dilated, with a long dense fringe of white pubescence tipped with yellowish posteriorly, first joint with a long pale yellow scale like process anteriorly, hollow within, the tip of which extends beyond tip of second joint, the tip of which is also prolonged nearly to tip of third joint, posterior margin of the joints narrowly black, the apical angles acute, fourth joint small, scarcely dilated, last joint slender, claws cleft and tipped with black; four posterior tarsi simple, densely clothed with yellowish hair, tips more or less tinged with ferruginous; abdomen rather broader than thorax, sides subparallel, shining, minutely punctured, clothed with very short black pubescence, apical margins fringed with a short white pubescence, first segment deeply excavated at base,

clothed with cinereous pubescence, long and more dense laterally, short and slightly mixed with black at apex, the fourth and fifth segments have pale pubescence mixed with the black and the apical fringe on the fourth segment is long, sides of the segments with long white pubescence; apex deeply excavated centrally, the apical edge notched in the middle, with the edge on either side finely denticulated. Length .50 inch.

Two specimens. (Belfrage.)

***Megachile amica*, n. sp.**

♂.—Black; face and clypeus with long very dense white sericeous pubescence, that on vertex long, thin and greenish-cinereous, that on cheeks short and snow-white, longer beneath; head smaller than usual; antennæ black, apex subcompressed and slightly dilated; thorax above clothed with a long, dense greenish-cinereous pubescence, longer posteriorly, and long and white on pleura; tegulæ with long cinereous pubescence; wings hyaline, slightly dusky at tips; legs with whitish sericeous pubescence, long on femora beneath, each anterior coxa with a short blunt spine, their femora and tibiæ within more or less, and the latter at tips, yellowish, their tarsi pale yellowish, flattened, not much dilated, fringed posteriorly with long snow-white pubescence, that within shorter, coarse, black and dilated at tips, first joint about as long as the three following combined, which are short and decrease gradually in length, claws cleft and tipped with black; intermediate tarsi slender, simple, the basal joint posteriorly with a long snow-white fringe of white hairs, posterior trochanters with a tuft of long white pubescence; abdomen as broad as thorax, slightly narrowed posteriorly, shining, feebly punctured, clothed with a short black pubescence, interspersed with a longer cinereous pubescence, longer and more dense at base, apical margin of the segments with a narrow fringe of dense snow-white pubescence, much longer laterally, apex beneath with long, dense white pubescence, above the segment is gradually rather obtusely pointed, beneath the edge is broadly concave, the lateral angles rather prominent. Length .40 inch.

Two specimens. (Belfrage.)

***Megachile exilis*, n. sp.**

♂.—Small, black, densely and strongly punctured; head large, broader than thorax, face, clypeus and cheeks beneath clothed with long, dense, snow-white pubescence, on the vertex it is very sparse and on cheeks above short, on middle of face and base of clypeus the pubescence is less dense and slightly mixed with dusky; antennæ slender, black, pointed at tip; prothorax, metathorax and pleura beneath with long white pubescence; tegulæ piceous; wings hyaline, more or less dusky at tips; legs clothed with short white pubescence, long on femora beneath, anterior tarsi pale ferruginous, three basal joints flat, dilated, fringed with pale pubescence, second joint shorter than first and rather broader, the anterior margin rounded, third joint much smaller, fourth slender, apical joint long, slender, claws cleft, tipped with black; four posterior tarsi slender, simple, fringed posteriorly with long white pubescence; abdomen convex, sides parallel, not narrowed posteriorly, strongly, not very closely punctured, segments transversely depressed at base, clothed with a very short pale subsericeous pubescence, first segment with a deep shining concavity at base, apex with a marginal fringe of snow-white pubescence, more dense laterally, apical margin of four following segments narrowly

smooth, polished and dull testaceous, with a narrow band of short, dense snow-white pubescence at base, apex broadly rather deeply emarginate, with lateral angles prominent. Length .35 inch.

Four specimens. (Belfrage.)

**Megachile facunda**, n. sp.

♂.—Robust, black, clothed with a short, rather dense, pale ochraceous pubescence, very dense and whitish on face, clypeus, cheeks beneath and on pleura beneath; head large, broad; antennæ slender, simple; thorax very densely sculptured, pubescence thin on mesothorax, long on metathorax; tegulæ rufo-testaceous; wings hyaline, slightly dusky at tips; legs with pale pubescence posteriorly, smooth and shining anteriorly, four anterior femora and tibiæ within more or less tinged with ferruginous, tarsi slender, simple, fringed behind with long pale pubescence, beneath with short dense yellow pubescence; abdomen broad, about as long as head and thorax, depressed, the segments with an apical fringe of short, dense, pale ochraceous pubescence, long on sides of first segment which is broadly concave at base, basal margin of second and following segments with a band of short dense pale ochraceous pile, which covers the apical segment, the tip of which is deeply notched centrally, the angles acute and directed inwardly, beneath the edge has two short, stout, acute incurved teeth on each side; venter with a long tolerably dense pale pubescence. Length .50 inch.

Four specimens. (Belfrage.) In general appearance this somewhat resembles *comata*, but that species is stouter and has the anterior tarsi dilated.

**Megachile frugalis**, n. sp.

♂.—Black, opaque; head large, closely punctured, face and clypeus with a long, dense white pubescence, mixed with black on middle of face and base of clypeus, cheeks with long white pubescence, that on vertex long, sparse and mixed with blackish; antennæ slender, black, pointed at tip; thorax opaque, indistinctly punctured, on mesothorax and scutellum the pubescence is cinereous strongly mixed with black and not so dense as to hide the surface, while on the metathorax and pleura it is long, rather dense and white; wings subhyaline, faintly tinged with yellowish, apex fuliginous, slightly violaceous; legs slender, simple, clothed with white pubescence, long on femora behind and dense on tarsi, the anterior pair of which have a long fringe posteriorly; abdomen convex, shining, closely and finely punctured, clothed with short cinereous sericeous pubescence, the segments with a narrow apical fringe of short, dense snow-white pubescence, first segment deeply concave at base, apical segment irregularly concave, the posterior edge compressed, deeply notched centrally leaving a subacute tooth on each side, the lateral edge very irregular, with a short tooth on each extreme side, beneath the edge has a single obtuse central tooth. Length .45 inch.

One specimen. (Coll. G. W. Belfrage.) A very distinct species. The pubescence of the face is curiously arranged, that on the sides is directed laterally, that on the middle upwardly, that on the clypeus except base downwardly, while the black pubescence on base of clypeus is erect and conspicuous.

**Megachile gentilis**, n. sp.

♂.—Small, black, closely and finely punctured; head large, transverse, broader than thorax; the face as far up as lower ocellus and the clypeus clothed with a long dense pale yellow pubescence, that on cheeks white and long beneath, that on vertex thin and brownish-yellow; antennæ slender, black, pointed at tip; thorax clothed with rather dense cinereous pubescence, long on scutellum, metathorax and pleura where it is white, and short and thin on mesothorax scarcely obscuring the surface; wings hyaline, faintly dusky at tips; legs slender, simple, clothed with white pubescence, long and dense on anterior femora and tarsi behind; abdomen shining, segments 1—4 with an apical fringe of snow-white pubescence, first segment broadly deeply concave at base, clothed posteriorly and laterally with long cinereous pubescence, near basal margin of segments 3—5 a narrow band of whitish pile, sometimes indistinct, apical segment more or less clothed centrally with a patch of dense white pubescence, the apex deeply notched, the sides sometimes more or less denticulated; venter banded with whitish pubescence. Length .40 inch.

Seven specimens. (Belfrage.)

**Megachile brevis**.

*Megachile brevis*, Say, Bost. Jour. Nat. Hist. i., p. 407.

Four ♂ specimens. (Belfrage.)

**Megachile inimica**, n. sp.

♀.—Long, narrow, parallel, black, opaque, densely punctured; head large, subcubical, broad behind eyes, face with dense yellowish pubescence, sparse on clypeus, cheeks beneath with long yellowish pubescence; prothorax, lateral margin of mesothorax, scutellum posteriorly, metathorax and pleura clothed with a more or less dense yellowish pubescence; mesothorax with short sparse blackish pubescence, longer on scutellum; tegulæ rufo-testaceous; wings yellowish-fuscous, darker and subviolaceous on costal tip; legs ferruginous, fringed with yellowish pubescence; abdomen elongate, narrow, obtusely pointed at tip, the segments with a narrow apical fringe of dense short yellow pubescence, otherwise the pubescence above is very short and black; ventral scopa yellow, brown on last segment. Length .55—.60 inch.

Two specimens. (Belfrage.)

**Megachile lucrosa**, n. sp.

♀.—Same form as *inimica*, with the head more cubical, and cheeks broader; black, clothed with cinereous pubescence; vertex very densely and finely punctured, cheeks with large sparse punctures; face and cheeks beneath with dense cinereous pubescence, which on vertex is sparse and mixed with black; clypeus short, transverse, anterior edge tuberculated; mandibles large, rugose, fringed beneath with long golden hairs; thorax above with short cinereous and black mixed pubescence, on collar, metathorax and pleura it is long, dense and white; tegulæ black, wings pale fusco-hyaline, much darker on apical margin; legs black, the femora with whitish pubescence, long on anterior pair behind, the tibiae and tarsi with golden pubescence; abdomen shorter than in preceding species, the segments, except last, with a narrow apical fringe of snow-white pubescence which is dense on sides of first segment; ventral scopa pale yellow. Length .55 inch.

One specimen. (Coll. G. W. Belfrage.)

**Megachile grandis**, n. sp.

♀.—Large, robust, opaque black; head large, transverse, densely punctured; face as far up as ocelli, and cheeks with dense white sericeous pubescence, that above antennæ faintly tinged with yellowish; clypeus with thin cinereous and black pubescence, the truncate tip fringed with yellow hairs, also the mandibles beneath, the vertex has a short sparse black pubescence; thorax very densely punctured, prothorax, mesothorax and pleura clothed with a rather dense white sericeous pubescence, that on mesothorax very short and strongly mixed with black, as well as on scutellum where it is longer; wings more or less tinged with fuliginous, apex darker; legs slender, clothed with short white pubescence, much longer on trochanters and femora beneath, that on tarsi beneath dense and yellow; abdomen about as long as head and thorax, broad at base, slightly narrowed posteriorly, the tip obtuse, the segments above with a very short black pubescence, the first to fifth with a narrow apical fringe of white pubescence, first segment broadly concave at base, sides and apex with rather long cinereous pubescence, apical segment entirely black, the tip with a compressed rounded projection; ventral scopa generally white, sericeous sometimes tinged with yellowish, at extreme apex black. Length .50—.65 inch.

Fourteen specimens. (Belfrage; Boll; Heiligbrodt.) In fresh specimens the ventral scopa is silky white, the yellow tinge being caused by admixture of pollen.

**Megachile pruina**.

*Megachile pruina*, Smith, Brit. Mus. Cat. i., p. 190.

Fourteen ♀ specimens. (Belfrage; Boll; Heiligbrodt.)

**Megachile optiva**, n. sp.

♀.—Short, robust, black, opaque, closely punctured; head transverse, broader than thorax, sides of face and cheeks beneath with long whitish pubescence, above antennæ and on vertex it is long, sparse and black, on clypeus it is thin, white and appressed; prothorax, sides of metathorax and pleura with long, dense whitish pubescence, on mesothorax it is short and black, on scutellum longer and black; wings dusky at tips; legs with short cinereous pubescence, long on femora behind, tarsi beneath with short dense yellow pubescence; abdomen short, broad, obconic, deeply and broadly concave at base, sides and apex of first segment clothed with rather long cinereous pubescence, apical margins of segments 2—5 with a narrow fringe of white pubescence, apical segment obtusely pointed, obscurely pale sericeous, with sparse black hairs; ventral scopa pale yellowish-white. Length .45 inch.

Two specimens. (Belfrage.)

**Megachile nupta**, n. sp.

♀.—Short, robust, black, clothed with pale ochraceous pubescence; head broad, transverse, the face as far up as ocelli, cheeks beneath and apical corners of clypeus with dense whitish pubescence, on vertex the pubescence is short, sparse and yellowish; clypeus strongly and rather sparsely punctured, shining, with short sparse yellowish pubescence, except on apical corners where it is long and whitish; on prothorax, lateral margin of mesothorax, scutellum, sides of metathorax and pleura the pubescence is dense, long and pale



ochraceous, on mesothorax it is very short and sparse, except in front where it is longer and more dense; wings dusky at tips; legs with short pale pubescence, on tarsi beneath dense and yellow; abdomen broad, obconic, deeply concave at base, sides of first segment and narrow apical margin of segments 1—5 with pale ochraceous pubescence; ventral scopa pale yellowish-white. Length .45 inch.

Three specimens. (Belfrage.) Same size as *optiva*, but less broad, with the pubescence of a different color.

**Megachile languinosa.**

*Megachile languinosa*, Smith, Brit. Mus. Cat. i., p. 190.

Twelve ♀ specimens. (Belfrage; Boll.) This is probably the ♀ of *brevis*, Say.

**Megachile studiosa**, n. sp.

♀.—Small, narrow, parallel, opaque black, head and thorax closely and strongly punctured; head large, not broader than thorax, face and cheeks beneath with dense whitish pubescence; clypeus coarsely punctured, with short sparse whitish hairs; mandibles large; vertex and cheeks with very sparse pubescence; mesothorax and scutellum with very short and sparse black pubescence; a small tuft on each side behind tegulae, another in front and another beneath, of dense snow-white pubescence, on sides of metathorax, prothorax and pleura the pubescence is long and whitish; wings slightly dusky at tips; legs slender, with short pale pubescence; abdomen as long as head and thorax, sides parallel, above convex, shining, sparsely punctured, clothed with short black pubescence, base broadly concave, apical margins of segments 1—5 with a narrow fringe of snow-white pubescence, that on first segment dilated laterally, apex obtuse; ventral scopa white. Length .38 inch.

Three specimens. (Belfrage.)

**Megachile osmoides**, n. sp.

♀.—Small, narrow, parallel, black, closely and rather coarsely punctured; head very large, nearly as large as thorax, very full behind eyes, the vertex being unusually long; face and cheeks beneath with dense white pubescence, on clypeus it is short and sparse, while on vertex it is still more so; middle of vertex smooth and shining, with a few large scattered punctures; prothorax, mesothorax anteriorly, a line over tegulae, scutellum posteriorly, metathorax, and pleura anteriorly and posteriorly, more or less densely clothed with long white pubescence; tegulae smooth and polished, black; wings hyaline; legs with thin whitish pubescence; abdomen convex, shining, finely punctured, sides parallel, base broadly concave, apical margins of segments 1—4 with a narrow fringe of snow-white pubescence, dilated on sides of first, apex with a very short dense pale sericeous pile, very dense on apical margin of last segment, which is obtusely rounded; ventral scopa pale yellowish. Length .33—.36 inch.

♂.—Head less enlarged behind eyes; face, clypeus and thorax laterally and posteriorly more densely pubescent; apex of abdomen with four broad, prominent, equidistant teeth, the two central ones truncate at tip. Length .33 inch.

Four specimens. (Belfrage.) This resembles certain species of *Osmia* very much in form.

**Megachile variolosa**, n. sp.

♀.—Very small, long, parallel, much the general form of *osmoides*, but much smaller and more coarsely punctured, head smaller, not unusually enlarged behind eyes; punctures of thorax large, the pubescence much as in preceding species; wings faintly dusky, darker at tips; legs with thin white pubescence; abdomen shaped and clothed as in *osmoides*, except that the apex is not clothed with a pale pile, first and second segments with fine, rather close punctures, on third and fourth segments the punctures are suddenly large, being double the size of those on the two preceding segments, on fifth segment they are smaller and on apical segment small and very dense; ventral scopa white. Length .20—.25 inch.

Two specimens. (Belfrage.)

**Anthidium zebratum**, n. sp.

♂.—Differs from ♂ *occidentalis*, Cress., only as follows:—Large and more robust, the pubescence on head and thorax more yellowish; pro- and mesothorax immaculate; scutellum with two pale yellowish spots; abdominal fasciæ broad laterally and gradually narrowed in the middle, not at all emarginate. Length .55 inch.

One specimen. (Heilighbrodt.) This also occurs in Colorado.

**Anthidium interruptum**.

*Megachile interrupta*, Say, Long's 2d Exped. ii., p. 352.

*Anthidium curvatum*, Smith, Brit. Mus. Cat. ii., p. 215.

Two ♂ ♀ specimens. (Belfrage.)

**Anthidium concinnum**, n. sp.

♀.—Black, densely punctured; sides of face, narrow anterior orbits and a short line behind summit of eyes, yellowish; sides of face clothed with a pale ochraceous pubescence; thorax more densely punctured than head, finely so on the middle which has a well impressed longitudinal line; a spot on each side of mesothorax anteriorly, a spot on each basal corner of scutellum, its posterior margin slightly interrupted medially, and the tubercles, yellow; postscutellum, sides of metathorax and pleura clothed with a pale ochraceous pubescence, short and pale on pleura; tegulæ ferruginous, with a large yellow spot anteriorly; wings fuliginous, paler centrally and at extreme base, a dark streak through marginal cell; legs entirely fulvo-ferruginous, sericeous with pale hairs, tarsi with short yellow hair, tibiæ yellowish at extreme base; abdomen marked as in *simile*, Cress., the markings being less heavy, and of a pale lemon-yellow color, and the surface more closely punctured; ventral scopa fuscous. Length .35 inch.

♂.—Clypeus and mandibles yellow; basal segment of abdomen tinged with ferruginous, fifth segment with a band similar to that on preceding segment, disk of sixth segment stained with yellowish ferruginous, apical segment pale yellowish, trilobate at apex, middle lobe small. Length .35 inch.

Three specimens. (Belfrage.) Much like *simile*, Cress. (Proc. Ent. Soc. Phil. ii., p. 378), differing principally by the color of the legs.



**Anthidium notatum.**

*Anthidium notatum*, Latr. Ann. Mus. Hist. Nat. 13., p. 48, 231.

One ♀ specimen. (Belfrage.)

**Ceratina dupla.**

*Ceratina dupla*, Say, Bost. Journ. Nat. Hist. i., p. 397.

Five ♂ ♀ specimens. (Belfrage.)

**Nomada texana, n. sp.**

♀.—Black; head densely punctured, thinly pubescent; sides of the face and short line behind summit of eyes yellow; labrum, mandibles and three or four basal joints of antennæ ferruginous; thorax densely and coarsely punctured; collar, two spots on scutellum, postscutellum, tubercles, transverse subarcuate mark on pleura and the tegulae, lemon-yellow; collar prominent especially on each side; scutellum obtusely bituberculate; metathorax not distinctly punctured, the upper surface except the basal triangular space clothed with a dense appressed silvery-sericeous pile; wings subhyaline, the apical two-thirds of costa broadly fuscous, clear at tip of third submarginal cell; legs entirely fulvo-ferruginous, with a pale pubescence, extreme apex of posterior tibiae more or less yellow, four posterior coxae with a small yellow spot; abdomen closely and finely punctured, first segment shining, very minutely punctured, each segment, except the last, with a subapical lemon-yellow band, narrow and tolerably even on first segment, broad and much narrowed medially on second segment, very narrow on third and fourth segments, broader laterally, and broad on fifth segment, apical segment with black pubescence; venter varied with ferruginous, the third segment generally with a yellow spot on each side. Length .35 inch.

♂.—Face, clypeus, spot above, labrum and base of mandibles lemon-yellow; abdomen clothed with a pale sericeous pile, apical segment narrow and emarginate at tip. Length .35 inch.

Fourteen specimens. (Belfrage; Boll.)

**Nomada lepida.**

*Nomada lepida*, Cress. Proc. Ent. Soc. Phil. ii., p. 288.

One ♂ specimen. (Belfrage.)

**Nomada maculata.**

*Nomada maculata*, Cress. Proc. Ent. Soc. Phil. ii., p. 303.

Three ♀ specimens. (Boll.)

**Epeolus remigatus.**

*Melecta remigata*, Fabr. Syst. Piez., p. 387.

*Epeolus remigatus*, Fabr. Cress. Proc. Ent. Soc. Phil. ii., p. 393.

Two ♀ specimens. (Belfrage; Boll.)

**Epeolus lunatus.**

*Epeolus lunatus*, Say, Long's 2d Exped. ii., p. 354. Cress. Proc. Ent. Soc. Phil. ii., p. 394.

Fourteen ♂ ♀ specimens. (Belfrage; Boll.)

**Epeolus fumipennis.***Epeolus fumipennis*, Say, Bost. Journ. Nat. Hist. i., p. 403.

One ♀ specimen. (Belfrage.)

**Cœlixys texana**, n. sp.

♀.—Black, head and thorax opaque, covered with large coarse punctures; face and clypeus clothed with a short appressed whitish pubescence, more dense on anterior orbits and anterior margin of clypeus; anterior ocellus placed in the middle of a prominence, on each side of which is a tuft of fuscous pubescence; cheeks clothed with a white scale-like pubescence, the punctures of vertex more or less filled in with whitish scales; two basal joints of antennæ more or less red; thorax with large, close, not confluent punctures, scutellum rounded posteriorly with a rather long robust tooth on each side at base; a line of yellow or whitish scale-like pubescence on anterior margin of mesothorax more or less interrupted into spots on the middle, generally continued narrowly over the tegulæ to posterior margin and sometimes connected with the band in suture at base of scutellum, sometimes there is a longitudinal line of similar pubescence on anterior middle of mesothorax; sides of mesothorax, pleura and under side of scutellum clothed more or less densely with pale cinereous pubescence, a tuft on each side above behind, tegulæ and two transverse lines on pleura, the anterior one margining the sides of prothorax and in front of tubercles, of dense white pubescence; tubercles tinged with ferruginous; tegulæ fulvous; wings hyaline, apical margins narrowly fuliginous; legs ferruginous, covered with white scales, tarsi black, clothed within with yellowish pubescence; abdomen long, polished, sparsely punctured, those on four basal segments large, close laterally, those on the two apical segments much smaller and closer, narrow basal margin of first segment, narrow apical margins of segments 1—5 and a short subbasal line on each side of segments 2—4, of dense white or pale ochraceous scales, apical segment short, obtusely pointed at tip, the apical margin depressed and rough and fringed with erect black hairs, inferior plate a third longer, broad, of equal width, the apex broadly rounded and fringed with black hairs; ventral segments more or less tinged with ferruginous, the apical margins with white pubescence. Length .40—.60 inch.

♂.—Face and clypeus more densely pubescent; abdominal segments 2—5 each with a subbasal lateral band of dense white scales; apical segment deeply concave above, with a short acute tooth on each side at base, the apex with six short more or less irregular teeth, the upper tooth of lateral pair sometimes obsolete. Length .48 inch.

Ten specimens. (Belfrage; Boll.) Resembles *alternata*, Say, from which it is distinguished by the ferruginous legs, black tarsi, and broadly rounded inferior plate of abdomen.

**Cœlixys edita**, n. sp.

♂.—Black, densely, coarsely and confluent punctured; face, as high up as ocelli, and clypeus clothed with a short dense white or pale ochraceous pubescence; anterior ocellus surrounded by a radiating fringe of pubescence; anterior, lateral and middle of posterior margin of mesothorax covered with white or pale ochraceous scales, that on anterior margin dilated into two spots on middle; scutellum beneath, metathorax and pleura clothed with white or

pale ochraceous pubescence, that on pleura short and arranged in two narrow transverse bands meeting beneath and in front of tegulæ; scutellum broadly rounded behind, with a stout subacute tooth on each side at base; tegulæ dull testaceous; wings hyaline or subhyaline, apical margins pale fuliginous; legs entirely ferruginous or fulvo-ferruginous, clothed with pale pubescence, tips of tarsi dusky; abdomen robust, deeply, closely punctured, the second and following segments with a deeply impressed median transverse line, first segment broadly and deeply concave at base, sometimes tinged with ferruginous, the basal margin more dense laterally, the apical margins of segments 1—5, basal margins of segments 5 and 6 and sometimes the transverse impressed lines laterally, covered with a white or pale ochraceous scale-like pubescence; apex with eight short teeth, one on each side of fifth and sixth segments and two pair at apex; venter more or less stained with ferruginous, and banded with white pubescence. Length .35—.45 inch.

Six specimens. (Belfrage.)

***Cœlioxys insita*, n. sp.**

♀.—Black; head and thorax with large coarse punctures, and cheeks and mandibles covered with a short appressed cinereous scale-like pubescence, more dense on face and clypeus, anterior margin of the latter fringed with yellowish pubescence, a tuft of long cinereous pubescence on each side of anterior ocellus; posterior margin of occiput, anterior margin of mesothorax continued beneath tegulæ and narrowly over them, spot behind tegulæ and two spots at base of scutellum covered with a whitish pubescence; scutellum beneath and metathorax clothed with a long dense cinereous pubescence, the pleura has two bands of pubescence as in preceding species; scutellum broadly rounded posteriorly, with a long, blunt, slightly incurved tooth on each side at base; tegulæ dull testaceous; wings hyaline, more or less fuliginous at apex; legs ferruginous, with whitish pubescence; abdomen shining, closely and strongly punctured, sparsely so on posterior middle, first and second segments with a deeply impressed median transverse line, basal sides of first segment, and narrow, even, apical margins of segments 1—5 fringed with short white pubescence, apical segment densely and finely punctured, convex at base, depressed and acuminate at tip which is acute, inferior plate long, narrow, obtusely pointed at tip, much longer than superior; venter banded with white pubescence. Length .40—.45 inch.

Four specimens. (Belfrage.)

***Cœlioxys 8-dentata*.**

*Cœlioxys 8-dentata*, Say, Long's 2d Exped. ii., p. 353.

Three ♂ specimens. (Belfrage.)

***Cœlioxys scitula*, n. sp.**

♀.—Small, black, shining; head and thorax with large, not close, punctures; face, clypeus, cheeks and posterior margin of occiput clothed with a short dense white pubescence; mandibles tinged with ferruginous; anterior margin of mesothorax, interrupted medially and continued down on each side of pleura, another line on posterior part of pleura, a spot on each side behind tegulæ, suture at base of scutellum and base and sides of metathorax clothed with white pubescence, that on metathorax long; scutellum broadly rounded

posteriorly, with a sharp tooth on each side; tegulae fulvo-testaceous; wings fuliginous, violaceous, basal half hyaline; legs fulvo-ferruginous, with whitish pubescence, tips of tarsi dusky; abdomen long, polished, sparsely punctured, especially on the middle, transversely rather deeply impressed on each side of segments 2—4, basal margin of first segment, and apical margins of segments 1—5 narrowly fringed with white pubescence or scales, apical segment much depressed at tip which is obtusely pointed and clothed with black pubescence, inferior plate uniformly broad to apex which is rounded laterally, fringed with fuscous or black pubescence and with a small acute tubercle on extreme apex; venter sometimes tinged with ferruginous and banded with white pubescence. Length .35—.40 inch.

♂.—Abdomen with eight short teeth at apex, one on each side of fifth and sixth segments and two pairs at apex the lower ones longer and acute, the segment deeply incised above at tip. Length .35 inch.

Five specimens. (Belfrage.)

***Stelis costalis*, n. sp.**

♀.—Black; head densely and coarsely punctured, face and clypeus clothed with a short, thin whitish pubescence; anterior orbits, broader on each side of face, and a short line behind ocelli, yellow; anterior margin of clypeus fringed with yellowish pubescence; mesothorax and scutellum with large rather close punctures, a line on anterior margin of mesothorax, broadly interrupted medially, and continued narrowly on lateral margin, posterior margin of scutellum and a spot on each basal corner, lemon-yellow; prothorax, sides of metathorax and pleura clothed with white pubescence; metathorax abruptly truncated, the basal margin coarsely crenulated; tubercles and stain beneath tegulae honey-yellow; tegulae honey-yellow, with a pale fuscous pupil; wings subhyaline, the costa broadly fuscous from basal fourth to apex, the second recurrent nervure received beyond apex of second submarginal cell; legs entirely fulvo-ferruginous, with short pale pubescence; abdomen elongate, convex, not wider than thorax, three basal segments with large, not close punctures, the apical segments more closely punctured and clothed with a short golden pubescence, first segment with a narrow subapical pale yellowish band squarely indented on each side posteriorly, second segment with a short lateral apical pale yellowish line, third and fourth segments with a narrow subapical band of same color, that on the third squarely indented on each side anteriorly, that on the fourth somewhat undulated, apex broadly rounded, apical margins of the segments narrowly subtestaceous, smooth and shining; venter sparsely clothed with pale hairs, apical segment broadly rounded and clothed with short dense fulvous pubescence. Length .35 inch.

♂.—Clypeus tinged with brown, with a pale yellowish spot on each side; mandibles tinged with ferruginous; a narrow interrupted obscure yellowish line behind ocelli; second abdominal segment with two small distinct yellow spots on apical middle on a line with lateral spot, third, fourth and fifth segments each with a tolerably broad yellow subapical band, indented on each side anteriorly and slightly notched in the middle, the sixth segment tinged with ferruginous, with a transverse apical yellow spot, apical segment black, with a short central tooth, sides not lobed. Length .30 inch.

Two specimens from Bosque and Comal Counties. This has much the appearance of an *Anthidium*, but the ♀ venter is only sparsely pubescent.

***Stelis lateralis*.**

*Stelis lateralis*, Cress. Proc. Ent. Soc. Phil. ii., p. 410.

Two ♀ specimens. (Belfrage.)

***Melecta interrupta*, n. sp.**

♀.—Large, very robust, black, densely and finely punctured; the face about insertion of antennæ and posterior margin of occiput, the later interrupted medially by black, clothed with long ochraceous pubescence; anterior half of mesothorax, except two black patches on anterior middle, sides of metathorax and upper half of pleura clothed with a dense ochraceous pubescence, remainder of mesothorax and scutellum nude, the latter depressed on posterior middle, with a short obtuse tubercle on each side; a small smooth polished spot on each side of the disk of mesothorax opposite tegulæ; wings dark fuscous, with two hyaline spots at tips of third marginal and discoidal cells and subhyaline streaks in the cells; legs black, the coxæ, knees and tibiæ with more or less whitish pubescence; abdomen robust, convex, velvety-black, impunctured, each segment with a broad apical band of dense appressed pale ochraceous pubescence, broadly interrupted medially, especially on apical segments, and dilated laterally. Length .55 inch.

♂.—Smaller, less robust; a tuft of ochraceous pubescence at base of clypeus; antennæ not longer than in ♀ but much more robust, being unusually thickened; the two patches on anterior middle of mesothorax sometimes obsolete; legs brown-black, the outer side of intermediate tibiæ covered with a short dense ochraceous pile; abdomen as in ♀, except that the bands are more confluent laterally. Length .45 inch.

Two specimens from Dallas and Comal Counties. — *Texas*.

***Melissodes atripes*, n. sp.**

♀.—Large, robust, deep black; face, clypeus and cheeks clothed with a dense ochraceous pubescence, the occiput with a long yellow pubescence; tips of mandibles fulvous; flagellum beneath brown; thorax above and triangular patch beneath tegulæ clothed with a short very dense yellow pubescence, longer and paler on metathorax, remainder of pleura clothed with a dense jet-black pubescence; tegulæ testaceous; wings uniformly dark fuliginous, darker along costa; legs entirely black, with jet-black pubescence; abdomen shining, basal half of first segment and narrow basal margin of second segment clothed with a short appressed ochraceous pubescence; on each side of third segment an oblique line of white pubescence; sides of the fourth and the two apical segments clothed with a jet-black pubescence; disk of apical segment broad, rounded at apex, covered with a golden pile, sides reflexed. Length .75 inch.

One specimen. (Coll. G. W. Belfrage.)

***Melissodes obliqua*.**

*Macrocera obliqua*, Say, Bost. Journ. Nat. Hist. i., p. 403.

Seven ♂ ♀ specimens. (Belfrage; Boll; Heiligbrodt.)

**Melissodes Comanche, n. sp.**

♀.—Black; face, clypeus, labrum and cheeks clothed with a short dense ochraceous pubescence, the occiput with a long pale fulvous pubescence; tips of mandibles fulvous; flagellum beneath except two basal joints fulvo-testaceous; thorax clothed with a very dense bright fulvo-ochraceous pubescence, darker on mesothorax, longer and paler on postscutellum, metathorax and pleura beneath; a round patch on posterior middle of mesothorax and the scutellum clothed with a dense black pubescence; tegulae brown; wings pale fuliginous and violaceous at apex, yellowish at base; legs piceous-brown, tibiae and tarsi densely clothed with a fulvo-ochraceous pubescence, reddish brown within, short on two anterior pairs, long on posterior pair, tarsi ferruginous; abdomen shining, very minutely punctured, basal two-thirds of first segment and sides of apical third clothed with an ochraceous pubescence, narrow basal margin of second segment, and oblique line on each side of second and third segments, and a broad apical band on fourth segment, of short, dense, appressed pale ochraceous pubescence, almost white in certain lights, lateral basal margin of third segment, and basal margins of three following segments of black pubescence, apical margins of two apical segments fringed with long fulvo-ochraceous pubescence, disk of apical segment as in *atripes*; venter piceous-brown, the segments fringed with brown pubescence. Length .80 inch.

♂.—More slender than ♀; clypeus, labrum and spot at base of mandibles yellowish-white; antennae as long as head and thorax, flagellum fulvo-testaceous beneath; abdomen narrower, less distinctly marked than in ♀, second segment with a broad band of appressed ochraceous pubescence at base and the third and fourth each with a subbasal narrow, arcuate band of ochraceous pubescence, sometimes interrupted on basal middle, leaving only an oblique spot on each side, apical segments clothed with black pubescence; venter clothed entirely with black pubescence. Length .75 inch.

Five specimens. (Belfrage; Boll.) The ♀ of this species closely resembles that of *obliqua*, but the latter species has the pubescence of the pleura and four anterior legs entirely black, the patch of black pubescence on posterior middle of mesothorax is very broad and quadrate, and the second abdominal segment is entirely black except basal margin. The males of the two species are entirely different.

**Melissodes texana, n. sp.**

♀.—Black; face and clypeus clothed with a short dense pale ochraceous pubescence, occiput and cheeks with dense ochraceous pubescence; clypeus sometimes tinged with brown; labrum with golden yellow hair; mandibles with a fulvous spot or line near apex, sometimes obsolete; antennae short, black or brown above, more or less varied with brown or testaceous beneath; thorax clothed with a dense ochraceous pubescence, longer and paler on metathorax and pleura, posterior disk of mesothorax and the scutellum more or less nude; tegulae varies from testaceous to piceous; wings subhyaline, more or less dusky at apex, base sometimes tinged with yellowish; legs vary from piceous to fulvo-testaceous, clothed with ochraceous pubescence when free from pollen which makes the pubescence sometimes ferruginous, sometimes bright yellow; abdomen shining, very minutely punctured, basal half of first segment



clothed with a long appressed ochraceous pubescence; basal margin of second segment, an oblique line on each side dilated laterally, a broad band on third and fourth segments, that on third interrupted in the middle and somewhat oblique laterally, clothed with short dense whitish pubescence; apical segments clothed with black or fuscous pubescence, more or less mixed with yellowish laterally; disk of apical segment rather broad, rounded at apex. Length .55—.75 inch.

♂.—Clypeus, labrum and spot at base of mandibles yellowish white; antennæ not as long as head and thorax, brown or testaceous beneath; posterior disk of mesothorax and scutellum thinly clothed with a short black or fuscous pubescence; anterior part of pleura more or less stained with rufo-testaceous; abdomen more densely pubescent than ♀, a double band on second segment confluent laterally, the apical one slightly interrupted medially, and a sub-basal band on three following segments, also slightly interrupted medially, that on fifth segment narrow, the color of these bands varies from white to ochraceous. Length .60 inch.

Seven specimens. (Belfrage; Boll.) Smaller than either of the two preceding species, and while the ♀ more closely resembles that of *Comanche*, the ♂ is more nearly allied to that of *obliqua*. The three species are, however, quite distinct.

**Melissodes rivalis**, n. sp.

♂.—Black, head and thorax clothed with a dense whitish pubescence, that on occiput and thorax above slightly tinged with pale ochraceous; clypeus yellowish-white; tips of mandibles honey-yellow; antennæ as long as head and thorax, brown or pale fulvous beneath, sometimes entirely fulvous; posterior disk of mesothorax and scutellum very thinly clothed with pubescence which is short and generally slightly mixed with black; tegulæ fuscous; wings hyaline, apical margin faintly dusky; legs clothed with short pale pubescence, dense on tibiæ and tarsi and yellowish on latter; abdomen oblong-ovate, convex, shining, minutely punctured, thinly clothed with a short pale pubescence, first segment at base and sides clothed with a rather long, sub-erect pale pubescence, each segment with a subapical fascia of short appressed whitish pubescence, generally more or less interrupted medially on basal segments, quite narrow on first segment, moderately broad on remaining segments, lateral margin of fourth and following segments carinate, ending in a prominent tooth on fifth and following segments, that on the sixth large and subacute. Length .45—.55 inch.

Five specimens. (Belfrage; Boll.) Nearly allied to the ♂ of *menuachus*, but with shorter antennæ and more distinctly banded abdomen.

**Melissodes menuachus**.

*Melissodes menuachus*, Cress. Trans. Am. Ent. Soc. i., p. 388.

Twenty ♂ ♀ specimens. (Belfrage; Boll.)

**Melissodes intorta**, n. sp.

♂.—Black, clothed with a rather dense cinereous pubescence, short on clypeus and labrum and on mesothorax, where it is slightly mixed with black; antennæ shorter than usual, scarcely reaching to scutellum, flagellum testaceous beneath; thorax deeply, rather coarsely punctured; mesothorax posteriorly and scutellum very thinly pubescent, almost nude, shining; the pubescence on metathorax and pleura long and pale; tegulæ piceous; wings hyaline, apical margin faintly dusky; tibiæ and tarsi densely clothed with short pale pubescence, yellowish on tarsi within; abdomen elongate, subconvex, shining, thinly pubescent with short pale glittering hairs which fringe the submargins of the segments, more dense laterally, sparsely punctured, the apical margin of the segments depressed, smooth, impunctured, and narrowly edged with pale testaceous, first segment clothed at base and sides with a suberect pale pubescence; apical segments armed laterally as in *rivalis* except that the teeth on the sixth segment is longer and larger. Length .50 inch.

Two specimens. (Belfrage.) Easily distinguished from the two preceding species by the black clypeus, the short antennæ, the paler pubescence and absence of bands on the abdomen.

**Melissodes Belfragei**, n. sp.

♀.—Robust, black, clothed with a dense white pubescence, cinereous on occiput and thorax above and short on clypeus which is rather coarsely and confluent punctured; labrum covered with dense ochraceous hairs; mandibles tinged with yellowish at tips; disk of mesothorax thinly pubescent and sparsely punctured; tegulæ fuscous; wings hyaline, faintly dusky at tips; legs with pale ochraceous pubescence, that on tibiæ and tarsi within yellowish or brownish; abdomen broad, depressed, velvety-black, first segment thickly clothed with a suberect cinereous pubescence, second, third and fourth segments each with a rather broad, even, continuous, subapical band of short, dense, appressed, snow-white pubescence, their apical margins smooth and polished, apical margins of two terminal segments with cinereous pubescence, disk of apical segment broad and broadly rounded at apex; ventral segments fringed with long pale ochraceous pubescence. Length .53 inch.

One specimen. (Coll. G. W. Belfrage.) This lovely species is distinguished at once by the three beautiful, rather broad, snow-white bands on abdomen.

**Melissodes intermedia**, n. sp.

♀.—Short, robust, black; head thickly clothed with pale cinereous pubescence, long on face and occiput on which latter it is ochraceous and slightly mixed with black; clypeus almost nude, rather coarsely and confluent punctured; labrum covered with dense ochraceous hairs; mandibles tinged with yellowish at tips; thorax clothed with a very dense yellowish-ochraceous pubescence, longer and pale on metathorax and pleura, shorter and thin on posterior disk of mesothorax and scutellum where it is more or less mixed with black; tegulæ piceous; wings hyaline, dusky at apex; legs clothed with pale ochraceous pubescence, that on tips of four posterior tibiæ and on all the tarsi within brownish; abdomen short, broad, subconvex, shining, closely and

finely punctured except on apical margins which are smooth, subdepressed; basal half and sides of first segment with suberect pale ochraceous pubescence, base of second segment and apical margins of second, third and fourth segments with a narrow band of short, dense, appressed, white pubescence, more dense at the extreme apical edge of the segments, two apical segments fringed with pale pubescence, disk of apical segment as in *Belfragei*; venter with brown pubescence, whitish at extreme sides. Length .45 inch.

One specimen. (Coll. G. W. Belfrage.) This seems intermediate between *Belfragei* and *honesta* and may be the ♀ of the latter. The abdomen has four whitish bands, there being two on second segment.

***Melissodes honesta*, n. sp.**

♂.—Black, shining; head with long pale pubescence, dense and whitish on cheeks, and more or less yellowish on vertex and occiput; clypeus prominent, punctured, shining, pale yellow, apical margin black; labrum densely pubescent; mandibles tinged with yellowish at tips; antennæ long, reaching beyond apex of first abdominal segment, entirely black; thorax clothed with a dense, rather long pubescence, yellowish fulvous above, and pale on metathorax and pleura, on disk of mesothorax and on scutellum it is thin; tegulæ fuscous; wings hyaline, dusky at apex; legs with whitish pubescence, yellowish on tarsi within; abdomen ovate, convex, shining, finely punctured, apical margins of the segments smooth and polished, first segment clothed with rather long cinereous or pale ochraceous pubescence, the basal half of second segment with very short cinereous pubescence, the second and four following segments each with a rather broad subapical band of short, dense, appressed, whitish pubescence, sides of apical segments unarmed and with long scattered pale hairs. Length .45—.52 inch.

Five specimens. (Belfrage; Boll.)

***Melissodes pygmæa*, n. sp.**

♀.—Small, black, shining, sparsely and finely punctured; face and cheeks with dense whitish pubescence, thinly scattered over clypeus; occiput with long dense ochraceous pubescence; antennæ brown toward tips, the flagellum brown-testaceous beneath; thorax clothed with a rather dense, short, ochraceous pubescence, not entirely hiding the shining surface of mesothorax and scutellum, on postscutellum the pubescence is long and dense, on metathorax and pleura it is pale; tegulæ pale fuscous; wings short, hyaline, nervures and stigma honey-yellow; legs clothed with pale ochraceous pubescence, that on posterior tibiæ and base of tarsi long, dense and more or less tinged with brown, tips of tarsi honey-yellow; abdomen oblong-ovate, first and second segments smooth and polished, the former clothed at base and sides with a suberect pubescence, remaining segments at base with a very short dense brown sericeous pubescence and at apex with a broad band of very short dense appressed whitish pubescence, becoming long on lateral margins. Length .30 inch.

Two specimens. (Belfrage.) This is the smallest species of this genus known to me.

**Melissodes enavata**, n. sp.

♀.—Robust, black, head and thorax clothed with a dense ochraceous pubescence; vertex smooth, shining, impunctured; clypeus and labrum with coarse shallow punctures; antennæ very short, flagellum brownish beneath; disk of mesothorax and scutellum smooth, shining, impunctured, entirely nude (probably rubbed); tegulæ piceous; wings subhyaline, slightly tinged with yellowish, apical margins dusky; legs thickly clothed with ochraceous pubescence, long and very dense on posterior tibiæ and base of tarsi, tips of the latter ferruginous; abdomen broad, depressed, thinly covered with a short appressed ochraceous pubescence, longer and more dense laterally and especially dense on lateral margins, base and sides of first segment with erect pubescence, apical margin of fifth segment with dense ochraceous pubescence, disk of apical segment narrow, cuneiform, pointed at apex; ventral segments with an apical band of long, dense ochraceous pubescence. Length .54 inch.

Two specimens. (Belfrage.) The pubescence is of a uniform ochraceous color, the antennæ shorter than usual, and the disk of apical segment of abdomen unusually narrow and pointed at apex.

**Melissodes spissa**, n. sp.

♀.—Robust, black, closely punctured; face and cheeks with rather long, not dense pale pubescence, that on sides of clypeus short and scattered, that on occiput long and yellowish; clypeus densely punctured; labrum with dense ochraceous pubescence; mandibles fringed beneath with long yellowish hairs; flagellum dull testaceous beneath; thorax densely punctured, clothed with a dense yellow-ochraceous pubescence, longer and paler on metathorax and pleura; tegulæ honey-yellow; wings short, hyaline, nervures and stigma blackish; legs clothed with ochraceous pubescence, long and dense on posterior tibiæ and tarsi, apex of the latter pale ferruginous; abdomen shining at base, finely punctured, first segment clothed at base with long ochraceous pubescence, the second and three following segments with very short yellowish-brown pubescence, pale in certain lights and longer on the sides, apical margin of these segments with a rather broad band of short dense appressed pale ochraceous pubescence, in some specimens, where the segments are more distended, the third and fourth segments have each a narrow band of pubescence of same color at base, apical segment with longer dense ochraceous pubescence, the disk broad and flat, rapidly narrowed to apex which is rounded; ventral segments with a band of dense yellowish-ochraceous pubescence. Length .45 inch.

Five specimens. (Belfrage.) Rather smaller than *enavata*, with longer antennæ, punctured head and thorax, and differently ornamented abdomen, with the disk of the apical segment much broader and rounded at apex.

**Melissodes pennsylvanica**.

*Macrocera pennsylvanica*, St. Farg. Hym. ii., p. 97.

Four ♂ ♀ specimens. (Belfrage.)

**Melissodes brevicornis**, n. sp.

♂.—Black, densely punctured; head clothed with a dense ochraceous pubescence, paler on face and cheeks, short on clypeus and labrum which, with base of mandibles, are pale yellow; antennæ short, scarcely reaching beyond tegulæ, pale fulvous, more or less dark above, scape beneath pale yellow; thorax clothed with a very dense fulvo-ochraceous pubescence, paler on metathorax and thin on disk of mesothorax and scutellum; tegulæ pale fulvous; wings rather short, hyaline, slightly tinged with yellowish, apex faintly dusky, nervures and stigma fulvous; legs brown black, clothed with yellowish-ochraceous pubescence, tibiæ and tarsi more or less fulvous; abdomen closely and finely punctured, first segment except apex thickly clothed with a long ochraceous pubescence, narrow basal margin of second segment, sometimes obsolete, and broad apical margins of second to fifth segments clothed with a short, dense, appressed, pale ochraceous pubescence. Length .38—.46 inch.

Three specimens. (Belfrage.) A handsome species, remarkable for the short antennæ.

**Melissodes albata**, n. sp.

♀.—Robust, black; head and thorax clothed with a dense white pubescence, slightly tinged with yellowish on thorax; clypeus densely punctured, almost entirely nude; antennæ short, flagellum pale brown beneath; tegulæ honey-yellow; wings remarkably short, hyaline, nervures fuscous, costa honey-yellow; legs clothed with white pubescence, that on coxæ beneath and tips of tibiæ yellowish, that on tarsi within fulvous, tip of the latter pale ferruginous; apical margin of abdominal segments dull testaceous, the first segment except apex clothed with a moderately long erect white pubescence, the remaining segments covered with a dense, appressed, satiny-white pubescence, apex tinged with fulvous, disk of apical segment broad and rounded at apex; venter clothed with brown-fulvous pubescence. Length .48 inch.

♂.—Closely resembles the ♀, but is smaller, narrower, the face densely pubescent, the clypeus, labrum and base of mandibles pale yellow, and the antennæ longer than head and thorax; otherwise like the ♀ except the usual sexual characters. Length .35 inch.

Three specimens. (Belfrage.) Very distinct by the white pubescence, that on abdomen having a satiny or silky lustre.

**Melissodes ? ursina**, n. sp.

♂.—Black, shining, clothed with a dense ochraceous pubescence; vertex smooth, shining, impunctured; antennæ short, not reaching beyond tegulæ, entirely black; thorax very densely pubescent, that on mesothorax tinged with fulvous; tegulæ piceous; wings subhyaline, apical margins broadly dusky, neuration as usual in *Melissodes*; tibiæ and tarsi densely clothed with ochraceous pubescence, long on two posterior pairs, the femora and tibiæ of which are incrassate; abdomen oblong, convex, shining, thickly and uniformly clothed with ochraceous pubescence, which is longer on basal and apical segments and on lateral margins of segments 2—6. Length .48 inch.

Four specimens. (Belfrage; Boll.) Differs from *Melissodes* by the dense villosity of the whole body, by the short antennæ of ♂ and by

the incrassate legs, the posterior pair of which in ♂ have the pubescence nearly as long and dense as in the ♀ of a true *Melissodes*.

***Melissodes? densa*, n. sp.**

♂.—Differs from the preceding species only by the pubescence being of a pale ochraceous color, and that on abdomen less dense. Length .45 inch.

Five specimens. (Belfrage.) It may be that these will prove to be merely faded specimens of *ursina*, although the color is very different and constant in each species.

***Melissodes? marginella*, n. sp.**

♂ ♀.—Robust, black; head clothed with a dense fulvo-ochraceous pubescence, pale on cheeks and slightly mixed with black on vertex and occiput; mandibles narrow, piceous; antennæ alike short in both sexes, the flagellum brownish beneath; mesothorax, postscutellum, metathorax and sides of pleura immediately beneath wings clothed with short dense cinereous pubescence slightly tinged with ochraceous anteriorly; an arcuate line of black pubescence extending from tubercles, around in front of tegulæ, to lateral middle of mesothorax where it is broad or dilated; postscutellum and pleura beneath also clothed with black pubescence; tegulæ piceous; wings subhyaline, neuration as usual in *Melissodes*; legs clothed with sooty pubescence, pale on anterior pair, long on posterior tibiæ and base of tarsi of ♀, posterior femora and tibiæ of ♂ incrassate, tips of tarsi pale ferruginous; abdomen short, broad, clothed with a very short black pubescence, that on base and sides of first segment pale, that on apical margins of segments 2—4 of ♀ and 2—6 of ♂ narrowly and evenly ochraceous, apex of ♀ with longer black pubescence, the disk of apical segment narrow and obtusely pointed at apex. Length .45—.50 inch.

Eight specimens collected in Comal Co. This species in congeneric and closely allied to the *Anthophora taurea* of Say, from which it is distinguished by the pubescence of the head being fulvo-ochraceous instead of cinereous, and by the narrow apical bands of the abdomen being ochraceous instead of white; the thorax of the two species are similarly ornamented. *Marginella* is also found in Mexico.

***Anthophora Smithii*.**

*Anthophora Smithii*, Cress. Trans. Am. Ent. Soc. ii., p. 290.

Two ♀ specimens. (Belfrage.)

***Anthophora texana*, n. sp.**

♀.—Black; sides of face and cheeks clothed with long dense white pubescence, that on vertex and occiput ochraceous, slightly mixed with black about ocelli; clypeus closely punctured, with a smooth central ridge; mandibles yellowish toward apex; thorax clothed with a long dense pubescence, that on mesothorax and scutellum ochraceous and slightly mixed with black, that on metathorax and pleura white; tegulæ testaceous; wings short, hyaline; legs brown, clothed with whitish pubescence, tarsi testaceous, claws black; abdomen broad ovate, thinly clothed with a pale pubescence, long and dense on sides of first segment, apical margins of segments 1—4 rather narrowly white,



slightly sinuate on each side anteriorly, apex of fifth segment clothed with a dense black pubescence, the sides with long white hairs. Length .45 inch.

One specimen. (Coll. G. W. Belfrage.) Allied to *californica*, Cress.

***Anthophora bomboides*.**

*Anthophora bomboides*, Kirby, Faun. Bor. Am. iv., p. 271.

One specimen. (Belfrage.)

***Anthophora abrupta*.**

*Anthophora abrupta*, Say, Bost. Journ. Nat. Hist. i., p. 409.

*Anthophora sponsa*, Smith, Brit. Mus. Cat. ii., p. 339.

One ♂ specimen. (Boll.)

***Xylocopa virginica*.**

*Apis virginica*, Drury, Exot. Ins. i., p. 96, pl. 43, fig. 1.

*Centris carolina*, Fabr. Syst. Piez. p. 357.

Two ♂ ♀ specimens. (Heiligbrodt.)

***Xylocopa texana*.**

♂.—Black; clypeus, spot above, and labrum yellowish-white, vertex clothed with black pubescence, cheeks with, and a tuft between insertion of antennæ of pale pubescence; thorax tinged with blue or green, clothed with a short dense pale ochraceous pubescence; tegulæ æneous; wings dusky, subviolaceous, fuscous on apical margins; legs blue or bluish-green, clothed with pale pubescence, posterior pair and tibiæ and tarsi of intermediate pair clothed with black pubescence, basal joint of posterior tarsi long, narrow, with a broad deep groove on outer side; abdomen green or blue-green, shining, finely punctured, subsericeous, first segment clothed with a short, rather dense pale ochraceous pubescence, two apical segments with rather long black pubescence, more or less mixed with pale ochraceous laterally, sometimes the apical margin of fourth segment is fringed with a short ochraceous pubescence. Length .80—.85 inch.

♀.—Black, the head broad, tinged with blue, clothed with short black pubescence, face and clypeus densely punctured, apical margin of the latter depressed, tinged with rufous, vertex and cheeks with large sparse punctures, a short, prominent, blunt tubercle between insertion of antennæ; thorax tinged with green or blue, clothed with a dense pale ochraceous pubescence, more or less mixed with black around the smooth polished disk of mesothorax; pleura beneath clothed with black pubescence; wings darker than in ♂; pubescence of legs entirely black; abdomen blue-green, polished, sparsely punctured, apex clothed with black pubescence, first segment and sides of apex with pale ochraceous pubescence. Length .80—.85 inch.

Five specimens. (Belfrage; Boll.) Quite distinct from *virginica* by the blue or green color and by the pale pubescence at apex of abdomen. In color it approaches *micans*, St. Farg., which is otherwise very different.

***Xylocopa purpurea*, n. sp.**

♀.—Black, with a strong purple reflection, changing to blue and sometimes green in certain lights, especially on thorax and legs, the abdomen more strongly purple, the pubescence short, thin and black; face and clypeus closely punctured, the vertex sparsely so, especially at summit of eyes where there is an oblique indentation, frontal tubercle almost obsolete; cheeks with dense black pubescence; disk of thorax impunctured; wings smoky, dark at apex; pubescence of legs black; abdomen naked above, sparsely punctured, more closely so laterally, apex with black pubescence, having a tuft of white pubescence on each side. Length .75 inch.

Two specimens. (Heiligbrodt.)

***Centris lanosa*, n. sp.**

♂.—Black; head, thorax and basal segment of abdomen clothed with a dense, rather long, ochraceous pubescence, whitish on face and cheeks; clypeus labrum and scape beneath yellow or yellowish-white, clypeus shining, feebly punctured; tegulae pale testaceous; wings hyaline; legs robust, black, with black pubescence, the anterior pair and sometimes the four posterior tibiae on outside with pale pubescence; abdomen shining, minutely punctured, with a slight bluish reflection, the segments except first, clothed with a short black pubescence. Length .50 inch.

Three specimens. (Belfrage.)

***Apathus laboriosus*.**

*Bombus laboriosus*, Fabr. Syst. Piez., p. 352.

One ♀ specimen. (Boll.)

***Apathus variabilis*, n. sp.**

♀.—Black, shining, clothed with short black pubescence; a triangular patch on vertex, mesothorax except posterior disk, scutellum except base and patch in front of tegulae, clothed with dense citron-yellow pubescence; a slight admixture of yellowish pubescence before ocelli; wings dark fuscous, darker at base and along costa; legs and abdomen clothed with black pubescence, more dense at base of abdomen which is smooth and polished, being very minutely punctured, apex incurved and obtusely punctured. Length .75 inch.

♂.—The pubescence of head and thorax longer and brighter in color, that on thorax above interrupted by a band of black pubescence between the wings, dilated centrally, the yellow pubescence sometimes extending down on each side of pleura; legs sometimes tinged with ferruginous; abdomen sometimes entirely black except a few yellowish hairs on lateral margins of third and fourth segments, sometimes the third and fourth segments except disk and sides of fifth segment are yellow, sometimes the first and sides of fourth segments are more or less yellow and sometimes the first and third entirely, the second except sides, and the sides of fourth and fifth segments are yellow. Length .70 inch.

Five specimens. (Belfrage.) The ♀ differs from *laboriosus* ♀, by the black pleura and black band between the wings. The ♂

varies greatly in the coloration of abdomen, varying from almost entirely black to almost entirely yellow. It is allied to *insularis*, Smith.

**Apathus elatus.**

*Apis elata*, Fabr. Ent. Syst. Suppl. ii., p. 274.

Three ♂ specimens. (Belfrage; Boll.)

**Bombus virginicus.**

*Apis virginicus*, Oliv. Encyc. Méth. Ins. iv., p. 66.

Two ♀ specimens from Comal Co.

**Bombus fervidus.**

*Bombus fervidus*, Fabr. Syst. Piez., p. 352.

One ♀ specimen. (Belfrage.)

**Bombus pennsylvanicus.**

*Apis pennsylvanicus*, De Geer, Mém. iii, p. 575.

*Bombus americanorum*, Fabr. Syst. Piez. p. 346.

Sixteen ♂ ♀ specimens. (Belfrage; Boll; Heiligbrodt.)

**Bombus scutellaris.**

*Bombus scutellaris*, Cress. Proc. Ent. Soc. Phil. ii. p. 96.

Three ♀ specimens.

**Apis mellifica.**

*Apis mellifica*, Linn. Syst. Nat. ii., p. 955.

Six ♀ specimens. (Boll; Heiligbrodt.)

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ERRATUM.

Page 174, line 19, before "large," insert "stigma."