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Canadian Bees in the British Museum

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Ips pilifrons, n. sp.—Length, $4\frac{1}{2}$ –5mm.; width, $1\frac{7}{8}$ mm. Larger and stouter than *pini*, with the sutures more strongly angled, the elytral striae impressed, the elytral interspaces punctured, the front with a dense mass of short hairs, and the declivital armature of the *pini* type. Color, dark reddish to nearly black.

The front of the female is convex, granulate above and in front of the eyes, punctured on the sides, with a swollen area in front presenting a flat, oblique, anterior surface, which is covered with a circular, dense mass of short, yellow or brownish hairs. The front of the male has the pubescent area of the female replaced by a convex densely granulated area, moderately pubescent, with long yellowish hairs. The antennal club has the first suture bisinuate, the second sharply angled in front, not prolonged, the third suture angled but often indistinct, and the sutures strongly recurved at the sides.

The *pronotum* is shorter than the elytra, 2: $2\frac{1}{2}$; longer than wide, $2:1\frac{2}{3}$; broadly rounded behind; slightly rounded on the sides, and gradually narrowed cephalad or subparallel for over three-fourths the length, then rapidly narrowed and rounded in front; with the disc rather coarsely roughened in front; coarsely and deeply punctured behind, but not very densely except on the sides, and clothed with light slender hairs on the sides and in front.

The scutellum is very small and distinctly channelled. The elytra are punctate-striate, with the striae distinctly impressed and wider on the disc; the punctures of the discal striae large, deep, subquadrate, and usually closely placed; the punctures of the lateral striae usually distinctly smaller than those of the disc, and near the lateral margin sometimes easily confused with those of the interspaces, which are there small, numerous, and irregular; the sutural striae deep, variably widened towards the declivity; the interspaces convex, with setigerous punctures, smaller than those of the striae, usually extending from the base to the declivity; the punctures of the first two interspaces rather closely placed; those of the third, fourth and fifth more distant, except near the declivity; the first two interspaces with granules which become much larger near the declivity, with smaller granules intermixed; the remaining interspaces from the sixth outward confusedly punctured and granulate at the declivital margin. The declivity is deeply excavated, coarsely and confusedly punctured, not pubescent, with the sutural interspaces raised and the elytra dehiscent at the tip. The declivital teeth are coarser than in *pini*, and the acute apical margin is usually more strongly produced. The elytra are clothed with light, soft hairs, rather dense along the sides, around the margin of the declivity, along the base and along the suture, but sparse on the central areas of the elytra.

The type is from the Cornell University Collection. Colorado; ♀.

Cockfield, TDA

over →

CANADIAN BEES IN THE BRITISH MUSEUM

BY T. D. A. COCKERELL, BOULDER, COLORADO.

The bees in the British Museum are now being rearranged by Mr. G. Meade-Waldo, who has sent me for determination a number of species, some of them Canadian. In recording them, I give the accession numbers, which show when they were received at the museum. Thus, 99-303 means accession 303 of the year 1899. It will be seen that the three species of *Osmia* here introduced as new were received at the museum in 1844, more than 20 years before the birth of their describer. Other species were received at the museum long before they were described in this country.

Megachile femorata Smith.—♂, Canada, pres. by Mrs. Farren White, 99-303. ♂, Canada, 59-130. Smith's *femorata* is usually regarded as a synonym of *M. latimanus* Say, but Titus has treated it as a distinct species. If it is to be separated, the form with hardly any dark color on the anterior tibiae, and the coxal spires stout, must be referred to *femorata*, while *latimanus* male has approximately the basal half of anterior tibiae on outer side black and the coxal spines more slender. According to this separation, the usual Rocky Mountain insect is *latimanus*, but I have a male *femorata* from as far south as Las Vegas, New Mexico (at flowers of *Asclepias verticillata*; W. Porter). It seems probable that the two insects do not represent distinct species.

Megachile latimanus Say.—♂, British Columbia (Miss Ricardo) 1903-134. ♂, Calgary, Canada (Miss Ricardo), 1902-55. These females differ from the ordinary form by the distinctly longer black hair on the dorsal surface of the abdomen. They look a little like *M. vidua*, but are readily separated by the densely punctured mesothorax and the light hair of last dorsal abdominal segment.

Megachile wootoni Ckll.—♀, Calgary (Miss Ricardo), 1902-55. ♂, Calgary, with same data. ♂, Arctic America, 55-42.

Megachile melanophaea Smith.—♂, Hudson's Bay, 44-17.

Megachile relativa Cresson.—♂, Chulukwayuk trail, British Columbia, Aug. 1859.

Megachile versonensis, n. sp.—♀, Length, about 11 mm.; black, with long dull white hair; antennae not enlarged at apex; eyes green; anterior coxae with short but well-formed spines, largely hidden by hair; anterior femora broad, smooth, concave and ferruginous beneath, above with a rather obscure red patch; hair on inner side of tarsi pale orange; sides of vertex with black hair, but none on thorax above; apical carina of sixth abdominal segment with a large rounded (semicircular) emargination, the margin on each side of it jagged with short irregular teeth;

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Hymenoptera - Apoidea - Megachilidae. Megachilinae - Megachilini: *Megachile*

Osmia

Anthidiini - *Dia*

morphological apex of sixth segment with four short dentiform projections, the middle ones not quite so near to one another as to the lateral, the margin between the middle ones convex. Almost exactly like the male of *M. cleomis* Ckll., but differing in the apex of sixth segment (*cleomis* has the middle teeth considerably nearer to one another than to the lateral, and the margin between them concave), and in having the densely granular concave upper surface of sixth segment so feebly white-tomentose that the tomentum is only visible in lateral view (*cleomis* has this part densely tomentose); the hair of the face has a creamy tint, instead of being clear white as in *cleomis*. The lateral ocellus is a trifle nearer to edge of vertex than to nearest eye.

♀.—Length, 11 mm.; mandibles 4-dentate, reddish apically; eyes light green, narrow; clypeus shining, closely punctured, its lower margin straight, a transverse depression above the margin; vertex with brown hair; abdomen with white hair-bands; sixth segment sloping (not concave) in profile, with coarse black hair, its apical third with very fine white tomentum; ventral scopa white, entirely black on last two segments. Very like a small *M. cleomis*, but distinguished by the wholly black hair on last two ventral segments, the narrower eyes, and the last dorsal abdominal segment as described. Also near to *M. generosa* Cress., but considerably smaller, and with the same distinctive characters as those separating it from *cleomis*. *M. anograe* Ckll., another similar species, is at once separated by its brilliantly shining sixth abdominal segment, with coarse black hair to the apex.

In Friese's table (Das Tierreich) the female runs nearest to *M. addenda*, but Robertson describes *addenda* as having the margin of clypeus denticulate, while only the last ventral segment of abdomen has black hair. The male runs best to *M. texana*, i.e., Cresson's male *texana* which appears to be *cleomis*.

Hab.—Vernon, British Columbia (Miss Ricardo). The type (male) taken July 7, 1902; the female, Aug. 18, 1902. This is possibly to be considered a subspecies of *M. generosa*, but with the evidence available it seems a distinct species.

Megachile montivaga Cresson.—♂, N. Ontario, Canada (H. Edwards), 89-113.

Megachile vidua Smith.—♂, British Columbia, 60-112. The specimen is unusually large.

Dianthidium pudens (Cresson).—♀, British Columbia, 60-112. Described from Nevada.

Osmia novaescotiae, n. sp.—♀, Length, about 9 mm.; head rather large, dark steel-blue, densely, punctured; mesothorax and scutellum more tinged with greenish but pleuræ and metathorax dark blue; abdomen short, broad-oval, shining steel-blue; hair of

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thidium

head greyish-white, pale fuscous on middle of face; hair of thorax white, with a creamy tint above, and no dark hair intermixed; tegulae piceous, with a greenish spot in front; wings dusky hyaline, reddish, distance from base of first s.m. to insertion of first r.n. as great as length of first t.c.; b.n. going just basad of t.m.; legs reddish black, not at all metallic, with pale pubescence, reddish on inner side of tarsi; abdomen closely but rather shallowly punctured, the punctures going nearly to the margins of the segments; sub-lateral region with quite long black hair; ventral scopa black. The clypeal margin is entire, and the mandibles are 3-dentate; the area of metathorax is densely granular basally, but more shining apically.

Hab.—Nova Scotia (Ent. Club), 44-12. I have been much perplexed to decide whether this could be the female belonging to the male from Nova Scotia described as *O. simillima* by Smith. This may indeed be the case, but the type of *simillima* must be considered to be the female, which may not be conspecific with the male. Smith says that the female *simillima* is so like the European *O. caerulescens* that it is difficult to distinguish; but *novaescotiae* is easily separated from *caerulescens* by the broader, less deeply punctured abdomen, without white marginal fringes or bands. In our fauna it is *O. purpurea* Cresson, which closely resembles *caerulescens*.* In my brief notes on Smith's types, I observed that according to Robertson's tables the female type of *simillima* was an *Osmias* str., while the male was a *Monilosmia*. Dr. Graenicher has, however, obtained at Milwaukee, Wisconsin, what he regards as true *simillima*, and has both sexes from the nest. The male of this species is a *Monilosmia*, but the female has a black ventral scopa and clypeus with entire margin, quite contrary to Robertson's definition of *Monilosmia*. The Milwaukee females are larger than *novaescotiae*, with a dark greenish abdomen, and the hind margins of the segments more broadly smooth. They are very unlike *O. caerulescens*. They have the hair on inner side of middle tibiae black; in *novaescotiae* it is pale, with a reddish tint. The b.n. goes more broad of the t.m. than in *novaescotiae*. There is no doubt, I think, that the Milwaukee "*simillima*" is distinct from *novaescotiae*, but I find that except for the smaller amount of dark hair on the head (a variable character) it is scarcely or not to be separated from the western *O. densa* Cresson. This probably explains why we have never been able to find a male for *densa*;

*Can it be that *O. purpurea* is *caerulescens*? From the British Museum I have a female marked North America, 40, 4-2, 484, and it is quite impossible to distinguish it from European *caerulescens*, while, at the same time, it agrees with Cresson's description of *purpurea*. It has the shiny metathoracic area of *caerulescens*, which Smith expressly says is wanting in *simillima*.

it is doubtless of the *Monilosmia* type. *Osmia chlorops* Ckll. and Titus, which occurs in the same localities as *densa* (e.g., at Florissant), and like it visits *Pentstemon*, is doubtless the male of *densa*. It is hardly different from the Milwaukee "*simillima*."

O. novaescotiae, compared with a number of species which have white hair on the pleura in the female, differs (1) from *albolateralis* by the deep blue (not green) abdomen, total absence of black hair on vertex, etc.; (2) from *coloradella* by the non-metallic legs, abdomen seen from above showing black hair projecting at sides, etc.; (3) from *densa* by absence of black hair on front, blue abdomen, etc.; (4) from *dubia* by the shining middle of mesothorax, largely pale hair on legs, and blue abdomen; (5) from *faceta* by the simple clypeus, etc.; (6) from *felti* by the much smaller size, dorsal abdominal segments sculptured almost to apex; (7) from *melanotricha* by the blue, more densely sculptured abdomen, and absence of black hair on vertex; (8) from *pentstemonis* by absence of coarse black hair on head and vertex; (9) from *phaceliae* by absence of black hair on vertex and scutellum, and blue abdomen.

Osmia subarctica n. sp.—♀, Length, nearly $7\frac{1}{2}$ mm.; dark steel-blue, the femora and tibiae metallic, the tarsi piceous; head rather large, densely punctured, clypeus and sides of face a fine dark blue; clypeal margin entire; mandibles tridentate; flagellum obscure ferruginous beneath; hair of clypeus black, but of sides of face white; hair of vertex pale, but front with a slight intermixture of fuscous hairs; hair of thorax entirely rather dull white; mesothorax and scutellum closely punctured, but shining; area of metathorax dull and granular; tegulae dark rufopiceous, blue in front; wings dusky hyaline; b.n. exactly meeting t.c.; hair of legs largely black, brown-black on inner side of tarsi; abdomen moderately shining, with shallow sculpture, dorsally with extremely short and scanty hair, white at sides; no hair-bands; ventral scopa black, with coppery tints.

Hab.—Hudson's Bay, 44-17. Closely related to *O. pentstemonis* Ckll., but separated by the absence of dark hairs on thorax above, and the less shining abdomen. It is perhaps not more than a subspecies of *pentstemonis*, but I have a series of the latter, all looking different from *subarctica*. *O. subarctica*, compared with other species having white hair on the pleura of the female, differs thus: (1) From *albolateralis* by the metallic legs, much smaller size, etc.; (2) from *coloradella* by dark hair of middle of face, etc.; (3) from *densa* by the metallic legs and much smaller size; (4) from *dubia* by the metallic legs, etc.; (5) from *faceta* by the much smaller size, simple clypeus, etc.; (6) from *felti* by the much smaller size and metallic legs; (7) from *melanotricha* by the metallic legs, absence of long black hair in sublateral region of abdomen, and narrower head;

(8) from *phaceliæ* by the metallic legs, absence of black hair on scutellum, and narrower head.

Osmia atriventris Cresson.—♂. Ent. Club, 44-12. The accession number is the same as that of *O. novæscotiæ*, but there is no locality label.

Osmia tersula, n. sp.—♂, Length about $8\frac{1}{2}$ mm.; head and thorax densely granular-punctate, very dark green, with abundant long, wholly pale hair, slightly creamy-tinted on thorax above and head; mandibles stout, strongly curved, bidentate, the teeth subequal; face narrowing below; antennæ entirely dark, moderately long, not moniliform; area of metathorax blue-black, dull, granular; tegulæ piceous, punctured; wings dusky hyaline, b. n. meeting t.m.; second s.m. unusually long and low; legs brown-black, the femora and tibiæ not metallic, their hair long and pale, yellowish on inner side of tarsi; middle tarsi simple; hind basitarsi toothed; abdomen shining, very dark blue-green, the hind margins of the segments obscurely reddish; basal segment with long, pale hair; apical segments with conspicuous, long hair, wholly pale; middle segments almost hairless; no hair bands; venter with pale hair; margin of sixth segment with a shallow notch; seventh emarginate, hardly bidentate; first ventral entire; third ventral with an orange tuft or pencil of hair on each side of emargination.

Hab.—Hudson's Bay, 44-17. Distinguished especially by its dark color and toothed hind basitarsus. In Schmiedeknecht's table of European species it runs close to *O. panzeri*, but differs entirely in the antennæ and the pubescence. It may also be compared with *O. angustula*, which is smaller, with quite different pubescence. In our fauna there is closer resemblance to several species of the Rocky Mountains. The following table separates it from some of these:

Hair of vertex partly dark.....	1
Hair of vertex wholly pale.....	2
1. Scutellum with a median smooth line; teeth of mandibles subequal.....	<i>pulsatillæ</i> Ckll.
Scutellum without a smooth line; apical tooth of mandibles very long.....	<i>vallicola</i> Ckll.
2. Abdomen shining blue; seventh segment very strongly bidentate.....	<i>wheeleri</i> Ckll.
Abdomen dark greenish; seventh segment emarginate.....	<i>tersula</i> Ckll.

From *O. tersula*, *O. amala* Ckll. differs at once by the bright blue abdomen and much larger antennæ; *O. enena* Ckll. by the blue abdomen, strongly bidentate seventh abdominal segment, and broader face; *O. seneciophila*, by the abundant black hair on apical part of abdomen.