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NOTES ON FIVE SPECIES OF MEGACHILE.

BY T. D. A. COCKERELL, EAST LAS VEGAS, N. M.

I have spent more time than I like to think about identifying bees of the genus Megachile, so I have no apology to make for offering some notes which will, I hope, make the process easier for others:

Megachile frugalis, Cresson.—This species was described from the male. I have before me a female collected by Dr. Davidson at Lancaster, California. It practically agrees with the description of M. zaptlana, Cresson, ♂, except that it has no lines of white pubescence on the thorax. M. occidentalis, Fox, ♂, is very similar, and has the lines of white pubescence, but it has a different clypeal margin, and the very scanty hair on the disc of the clypeus is white. In M. frugalis, ♂, the clypeus has long black hair; the ventral scopa is creamy white, black on the last segment. These bees are all of the elongate narrow type. The anterior margin of the clypeus in frugalis, ♂, can hardly be called excavated, but presents three gently-rounded prominences, the margin between them being slightly concave.

Megachile montivaga, Cresson.—At flowers of Tourerea decapetala (Sims), Raton, N. M., Aug. 27, one ♀ (W. P. Cockerell). Length nearly 14 millim. An Illinois sample is smaller (about 12½ millim.), and has the thorax more densely punctured. The species resembles M. relativata, Cr., but is larger and less shining, and the abdominal bands are pure white. A variety of M. montivaga, with more conspicuous black hair on the dark parts of the abdomen, was taken by Prof. Townsend at flowers of Potentilla Thurberi, on the Rio Ruidoso, N. M., about 6,500 ft., Aug. 1.

Megachile inimica, Cresson.—Las Vegas, N. M., one male at flowers of Verbena Macdougali, Aug. 9 (W. Porter). This is Sayi, Cresson, said by Robertson to be a synonym of inimica. In our specimen the tegulae are very dark brown. The insect has a long, narrow abdomen, and looks superficially like M. occidentalis, Fox. Upon closer study it is seen to be really nearer to M. pugnata, Say, from which it is easily distinguished by the hollow process on first tarsal joint being fringed along its whole length with dark fuscous hair; in pugnata the basal two-fifths is densely fringed with black hair, and the portion beyond has a short fuscous comb.

Megachile pruina, Smith.—Chaves, N. M., Aug. 6, two males (Townsend); Mesilla Park, N. M., one male at flowers of Isocoma Wrightii, Sept. 11 (Porter and Cockerell); near Los Angeles and August, 1903.
Catalina Island, California (A. Davidson). This gives the species a very wide range in the south-west, and while it must be confessed that the specimens are not all alike, I am unable to detect anything more than individual variation.

*Megachile mendica*, Cresson.—♀. Length about 12–13½ millim.; abdomen shovel-shaped; ventral scopa orange, including last segment; white on basal half of second segment.

Gallinas River, at Las Valles, N. M., Aug. 6 (Porter and Cockerell). Another is from flowers of *Verbascum thapsus*, Rio Ruidoso, White Mts., N. M., 6,900 ft., July 23 (Townsend). The scopa of the latter is full of orange pollen.

The New Mexico specimens agree with an Illinois ♀ from Robertson. *M. mendica* looks like a small *M. latimanus*, having the same form and general coloration. In *latimanus* the scutellum is covered with pale ochreous hair, and the mesothorax broadly bordered with the same, so that the black hair is confined to the central part. In *mendica* the light hair of the head and thorax is white, and the scutellum and mesothorax (except the margins of the latter narrowly) are thinly clothed with black hair. In both the thorax, though closely punctured, is shining. In *latimanus* the vertex is mostly, or wholly, clothed with pale hair, in *mendica* it is clothed with black. In both the basal joint of the hind tarsi is broad, and clothed on the inner side with orange hair. The mandibles are similar in both, except that they are less produced in *mendica*. In *mendica* the first recurrent nervure enters the second submarginal cell much further from its base than the second does from its apex; this is not usually the case in *latimanus*.

*M. mendica* resembles *M. relativa* in the colour and arrangement of the hair on the head and thorax, but *relativa* is a narrower bee, with a conspicuously narrower face. The abdominal bands in *relativa* are yellowish, in *mendica* they are white.

The Mediterranean Flour Moth, *Ephestia kuehniella*, has been sent to me recently from Seattle, Washington, and Honeoye Falls, N. Y. As far as I know, this is the first time the pest has been recorded from the State of Washington. I have specimens of matted flour and larvae from Arthur, Ont., Canada. In each case reports are made that the insect is doing serious damage to the milling business by matting and clogging up spouts and elevators with flour. The moth seems to be slowly and steadily spreading over the U. S. and Canada.