

SOME BEES FROM SAN MIGUEL COUNTY, NEW MEXICO.

By T. D. A. COCKERELL.

Sphecodes veganus, n. sp.

♀. Length about $9\frac{1}{2}$ mm.; head, thorax, legs, and antennæ black, the flagellum very faintly brownish apically, spurs rather light ferruginous; abdomen of ordinary form, bright ferruginous or chestnut-red, shining, the fifth segment hairy, black, slightly reddish basally. Mandibles stout, black stained with dark red, with a blunt inner tooth; labrum with a broad low transverse punctate ridge, not at all emarginate; antennæ with fourth joint short, broader than long; flagellum stout; face broad, covered with white hair; clypeus with very large strong punctures, averaging closer together than the diameter of one; front with close strong punctures; mesothorax shining, with strong and rather close punctures (closer than in *S. arvensis*), median and parapsidal grooves distinct; metathorax with the enclosure large, semilunar, distinct, with very strong vermiform longitudinal rugæ, partly connected by small transverse ones; sides of metathorax coarsely rugose; tegulæ large, pale testaceous with a dark spot; wings faintly dusky, stigma and nervures black or almost so; second submarginal cell very narrow; first longer than in *arvensis*; first abdominal segment with very sparse punctures on a shining ground; second and following segments with minute close punctures, except on the apical margins.

Hab. Las Vegas, New Mexico, September. This and the next species are superficially like *S. arvensis*, but are distinguished by many characters. The fine close punctures of the abdomen of *S. veganus* are very distinctive.

Sphecodes pecosensis, n. sp.

♀. Length slightly over 8 mm.; head, thorax, legs, and antennæ black, the flagellum longer than in *S. veganus*; spurs rufo-fuscous; abdomen of ordinary form, shining, bright chestnut-red, the fifth segment only slightly dusky at apex. Mandibles reddish only at tips, with a divergent inner tooth; labrum with a strong transverse ridge, not emarginate; antennæ with the fourth joint somewhat longer than broad, much longer than the third; face broad, rather thinly pubescent; clypeus with extremely large, almost confluent punctures; a raised vertical line between antennæ; front extremely densely punctured; a small transverse ridge behind ocelli; mesothorax with large confluent punctures all over, giving it a very rough (though not dull) appearance; median groove scarcely indicated; scutellum with sparse punctures on a shining ground; enclosure of metathorax semilunar but ill-defined, with very strong straight longitudinal rugæ, as Sichel describes for *S. metathoracicus*, only in our species the metathorax outside of the enclosure is coarsely cancellate; tegulæ with the anterior border hyaline, then a large black spot, and behind that ferruginous; wings dusky; stigma and nervures black or almost; second submarginal cell narrowed above; first and second abdominal segments

with very sparse punctures on a shining ground (closer at sides of second); third and fourth with closer, but by no means dense, punctures. The eyes are narrower than in *S. veganus*.

Hab. Pecos, New Mexico, June 25th, 1903 (*W. P. Cockerell*). The altitude of Pecos is about 6700 ft.

Colletes gilensis, Ckll.

Pecos, Aug. 7th, a female at flowers of *Melilotus alba* (*W. P. Cockerell*). In Europe the same plant is visited by *Colletes fodiens*, as is recorded by Loew.

Halictus ruidosensis, Ckll.

Pecos; two females at flowers of *Castilleia integra*, June 26th (*M. Grabham*). The usual visitor of this plant is *H. ovaliceps*.

Halictus clematisellus, Ckll.

Pecos; both sexes common on *Petalostemon oligophyllus*, Aug. 12th (*W. P. Cockerell*). Previously taken only on *Clematis*.

Andrena mellea, Cresson.

Pecos, rather common; taken in June at flowers of *Fallugia acuminata* (*Fallugia paradoxa* var. *acuminata*, Wooton, Bull. Torrey Bot. Club, 1898, p. 306). At Glorieta (Sta. Fé County) a female was taken in a flower of *Argemone intermedia*, August 23rd.

Andrena prunorum, Ckll.

Pecos; at flowers of *Fallugia*, June 24th (*W. P. Cockerell*).

Perdita affinis, Cresson.

Pecos; both sexes at flowers of *Grindelia inornata*, Aug. 24th (*W. P. Cockerell*). At Glorieta my wife took it on *Chrysopsis villosa*.

Perdita stottleri, Ckll.

♂. About 5 mm. long; similar to *P. townsendi*, but smaller, with the fifth black band on abdomen wanting, or represented by a mere shaded line.

The species was described from a single female taken on *Bigelovia*. It proves to be really a species of *Gutierrezia sarothrae*, which it visits in great numbers at Pecos, New Mexico, during the last half of August. Its rediscovery is due to my wife.

Perdita chrysophila, Ckll.

A male was taken at Pecos, New Mexico, at flowers of *Picradenia floribunda*, Aug. 21st, 1903 (*W. P. Cockerell*). It is a little smaller than the only specimen previously known, and the metallic tints of the head and thorax are dark blue, not at all green.

Melecta interrupta, Cresson.

Pecos ; at flowers of *Fallugia*, June 27th (*M. Grabham*).

Anthidium porterae, Ckll., var. *amabile*, n. var.

♂. Abdomen with the ground colour red instead of black ; the yellow markings rather more developed, the abdominal bands very little, some not, interrupted in the middle line. A very beautiful variation, but in no sense a subspecies.

Hab. Pecos, New Mexico, Aug. 29th, 1903.

Megachile emoryi, n. sp.

♀. Length 18 mm. ; black, with the pubescence arranged as in *M. latimanus*, but entirely orange ; the dorsum of thorax, except at sides, bare, and as closely punctured as is possible throughout. This looks like a gigantic *M. latimanus*, but in addition to its large size it offers the following differences : pubescence more highly coloured ; mandibles with the broad cutting edge presenting low crenulations in place of distinct teeth ; sides of vertex more closely punctured ; eyes in life black, with a broad green central band ; tegulae dark brown, with extremely close but shallow punctures ; wings yellowish grey. From *M. sapellonis*, which resembles it in size, *M. emoryi* is easily known by the straight and simple anterior edge of clypeus, orange abdominal hair-bands, and extremely broad basal joint of hind tarsi.

Hab. Pecos, New Mexico, on Kinkale Ranch, Aug. 31st, 1903. It visits the flowers of the larger yellow-rayed Compositae. Named after Lieut. Emory, who published an early account of the region it inhabits.

Megachile sapellonis, Ckll.

Pecos, Aug. 31st ; female. Eyes in life entirely black.

Megachile wootoni, Ckll.

Pecos, Aug. 31st ; female. Eyes in life entirely black. The specimen has black hair on vertex and mesothorax, breaking down the distinction between *wootoni* and *calogaster*.

Megachile monardarum, Ckll.

Pecos ; male at flowers of *Thelesperma gracile*, Aug. 7th (*W. P. Cockerell*) ; both sexes, Aug. 31st. This is the American representative of *M. willughbiella*, and in the male I cannot distinguish it from that species (*cf.* 'Psyche,' 1901, p. 283). Mr. Viereck (*Tr. Am. Ent. Soc.* 1902, p. 48) has declared this species to be identical with *M. vidua*, Smith. This is quite erroneous ; *M. vidua* is the American representative of *M. maritima*. *M. monardarum* has the eyes in life entirely black in the female ; but sea-green, with the anterior margin broadly, the posterior margin narrowly, and the upper third or fourth, black, in the male.

Megachile latimanus, Say.

Pecos; female at flowers of *Thelesperma gracile*, Aug. 7th (W. P. Cockerell). Eyes in life black, with a rather obscure greyish median band.

Megachile sayi, Cresson.

Pecos, Aug. 31st; male. Eyes in life black, the lower half strongly shaded with green.

Megachile cleomis, Ckll.

Pecos, Aug. 31st; three males. Eyes in life green in middle, black at sides. The length of the last antennal joint and of the second submarginal cell are variable, and sometimes the disc of thorax shows much black hair; it is possible that two or three species are included in my present conception of *cleomis*, but at present I cannot satisfactorily separate them.

Melissodes sphaeralceæ, Ckll.

Pecos, August; common. Visits flowers of *Sphaeralcea fendleri*. My wife has found it nesting in the ground; the entrance of the nest is without any structure such as is built by *Anthophora* and *Diadasia*. In life the eyes of the female are a beautiful grey-blue.

Melissodes obliqua, Say.

Pecos, Aug. 31st; female. Eyes in life very dark purplish, nearly black.

Melissodes pallidicincta, Ckll.

Pecos, June 12th. Dr. M. Grabham took a female of this and one of *Dianthidium parvum* asleep in *Pentstemon* flowers, in rainy weather.

Anthophora cleomis, Ckll.

Pecos, Aug. 31st; female. Eyes in life sea-green, blackish in front and on hind border.

Anthophora montana, Cresson.

Pecos, Aug. 31st; female at flowers of *Salvia lanceolata*. Eyes in life grey-blue, faintly purplish in front and on hind margin.

Bombus iridis, Ckll. and Porter.

Pecos; at flowers of *Fallugia*, June 24th (W. P. Cockerell).

Bombus sonorus, Say.

Pecos, Aug. 31st. The specimen has the bright yellow pubescence of *sonorus*, but differs in having the hair on the pleura partly yellow and partly black.

It seems advisable here to make some statement regarding the species of *Oxæa*, *Nomia*, &c., which Mr. Cameron has de-

scribed (Trans. Am. Ent. Soc.), purporting to come from the region about Santa Fé, New Mexico. The character of the species is Mexican, and I am quite confident that the locality assigned is entirely wrong. I wrote Mr. Cameron about it, and he kindly informed me that the material was collected years ago by a person who was known to have visited the Santa Fé region, but who might very well have obtained the insects elsewhere. The collection included some species of *Bombus* which might have come from near Santa Fé.

Colorado Springs, Colorado.

SOME ABERRATIONS OF COMMON MOTHS.

BY FRANCIS E. WOODBRIDGE.

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1. *Hecialus hectus*.—Male taken at Dunkeld in June, 1900. The markings on the fore wings are rather broader than usual, and there is a row of golden yellow spots along the hind margin between the nervules, increasing in size towards the hinder angle. The hind wings are beautifully dashed with golden yellow along the hind margin between the nervules, with a golden yellow blotch near the apex, and a similarly coloured dot near the costa. The photo shows the markings exactly.

2. *Melanippe rivata*.—Female taken at Uxbridge some years ago. The central band on the fore wings is reduced to a blotch on the costa, and towards the hinder angle there is a dusky cloud extending from the band on the hind marginal area across the usual white stripe towards where the central band should have been. Hind wings normal.

3. *Melanippe fluctuata*.—Female taken at Uxbridge in May, 1903. The blotch near the apex rather more flattened than