

BEEES FROM SOUTHERN CALIFORNIA, VISITING FLOWERS
OF ERIOGONUM AND RHUS.

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Southern California has its dry season in the summer, and comparatively few flowers are to be seen. Among those that remain, and are attractive to insects, the bushy species of *Eriogonum* are especially noteworthy, and I was fortunate in obtaining from them several bees.

Eriogonum fasciculatum was determined for me by Mrs. K. Brandegee. The Mt. Lowe species, which look very distinct from *fasciculatum*, is kindly identified by Miss Susan G. Stokes as *E. fasciculatum polifolium*, "one of the intermediate forms." This is the *E. polifolium* of Bentham.

Prosopis polifolii, n. sp.—♂. Agrees with the description of *P. Nevadensis* (Psyche Suppt., June, 1896, p. 32) except in the following particulars: Clypeus and lateral marks very pale primrose yellow; the lateral marks rather narrow, triangular, not or hardly notched by the antennal sockets, terminating above at a very acute angle with the orbital margin, though the apical point is rounded, the inferior inner side of the triangle at least not longer than the superior, sometimes visibly shorter; flagellum ferruginous beneath; wings clear, strongly iridescent. There is no vestige of a supraclypeal mark; clypeus much longer than broad, punctured and minutely roughened.

Hab.—Alpine Tavern, Mt. Lowe, Calif., about 5,000 ft., Aug. 12, 1901, on flowers of *Eriogonum polifolium*; La Jolla, Calif., about 150 ft., August, 1901, on flowers of *Eriogonum fasciculatum*. The first-mentioned locality is to be regarded as typical. The species, having no supraclypeal mark, can only be confused with *P. Nevadensis*.

Ceratina Arizonensis, Ckll., 1898—♀. Similar to the ♂, but the face is black, with a broad longitudinal white stripe on the clypeus.

Hab.—Alpine Tavern, Mt. Lowe, Calif., about 5,000 ft., Aug. 12, on flowers of *Eriogonum polifolium*. New to California.

Perdita Claypolei, n. sp.—♀. Length, 5 mm.; head and thorax dark brassy green, with moderately abundant white hair; abdomen piceous, with broad straight transverse chrome-yellow bands at bases of

segments two to four, none of them reaching the lateral margins of the segments; ventral surface dark. Head rather large, transversely oblong, broader than thorax; *face wholly dark*; front microscopically tessellate, with sparse distinct punctures; occiput with abundant white hair; antennæ short, dark, flagellum ferruginous beneath towards tip; anterior margin of prothorax above, and tubercles, cream-colour; mesothorax and scutellum shining but microscopically lineolate, with very sparse punctures; base of metathorax minutely roughened; tegulæ tinged with brown; wings short, reaching about to middle of fourth abdominal segment, the apical veinless field large; nervures dark brown; stigma centrally pale; marginal cell obliquely truncate, its post-stigmatal portion largest; second submarginal cell large, narrowed about one-half to marginal; third discoidal cell distinct; legs piceous; anterior knees and anterior tibiæ in front, cream-colour; apex of abdomen ferruginous, acutely pointed.

Hab.—Alpine Tavern, Mt. Lowe, Calif., about 5,000 ft., Aug. 12, three on flowers of *Eriogonum polifolium*. The hind femora carry great masses of yellow pollen. In my tables this runs to *P. sphaeralcea*, but *P. Claypolei* is a smaller insect, with darker nervures and a much more shiny mesothorax.

A few hundred yards from the spot where this species was taken, one comes to a point which commands a splendid view of the lowlands, with the City of Pasadena, the scene of the last labours of Prof. E. W. Claypole, in the distance. The bee is accordingly named after the inspiring teacher and able naturalist who has so recently been taken from us.

Colletes Americana, Cresson, 1868. — Four males at flowers of *Eriogonum fasciculatum*, La Jolla, Calif., Aug., 1901.

I take this opportunity to describe another new Californian *Perdita*, not found on *Eriogonum*: —

Perdita rhois, n. sp. — ♀. Length, 5 mm.; head and thorax dark bluish-green, base of metathorax decidedly blue; pubescence short and scanty; abdomen piceous, with broad straight transverse yellow bands on bases of segments 2 to 5 (rarely absent on 5), all but the first produced to the lateral margins of the segments, though narrowed a short distance before the margin; ventral surface of abdomen yellow. Head ordinary, nearly circular seen from in front; clypeus not in the least concealed by hair; clypeus (except two minute dots) and lateral

marks chrome-yellow; lateral marks small, nearly equilateral triangles, not reaching up to antennæ; no supraclypeal or dog-ear marks; mandibles yellow at base, ferruginous in middle, dark at tips; labrum dark, with a central depression; labial palpi with the first joint a trifle longer than the other three united; antennæ dark brown above, chrome-yellow beneath, including scape; front microscopically tessellate and with sparse minute punctures; mesothorax shining, but microscopically tessellate and sparsely punctured; tubercles yellow, but no other part of prothorax; tegulæ transparent, with a yellow spot; wings milky-hyaline, iridescent; nervures white; *stigma very large*, colourless, with a light brown margin; marginal cell rather obliquely truncate, the post-stigmatal portion the shortest; third discoidal cell distinct; legs dark, anterior knees, anterior tibiæ except a stripe behind, and middle tibiæ beneath, yellow; anterior tarsi yellowish.

Mut. *reducta*.—♀. Clypeus with two very broad black median bars, between which is left only a small yellow streak or triangle; lateral marks wanting or represented by two or three small spots; tubercles wholly dark; scape without the yellow stripe; abdominal bands narrow, not reaching lateral margins, sometimes only the first two bands well developed; venter of abdomen dark.

Hab.—San Diego, Calif., Aug. 4, 1901, at flowers of *Rhus laurina*, Nuttall, in the immediate vicinity of the Brandegee Herbarium. The plant was kindly identified by Mrs. K. Brandegee. There were taken four of the type, and three of mut. *reducta*, all from the same shrub. The dichroism of the species is quite remarkable.

In my tables, *P. rhois* runs to *P. bigeloviæ*, and is especially to be compared with *P. Crawfordi*, from which it differs by its large stigma and other characters.

While on the subject of *Perdita* the following may be placed on record:—

Perdita callicerata, Ckll.; Mesilla Park, N. M., June 9, 1898, one ♂ at flowers of *Atamosco longifolia* (*Zephyranthes longifolia*, Hemsley).

MR. E. S. G. TITUS wishes mention to be made that his recent articles on Bees in this magazine, Vol. XXXII., page 303, and Vol. XXXIII., pages 133 and 257, are to a large extent portions of a thesis for the Degree of M. Sc. placed on file with the Secretary of the State Agricultural College of Colorado, May 1st, 1901.