COLLECTING WILD BEES IN THE YOSEMITE

BY T. D. A. COCKERELL Boulder, Colorado

When our kind friend, Mr. Guy Haselton, the well-known photographer of Hollywood, offered to take us to the Yosemite, my wife and I were, of course, delighted to go with him, never having visited this famous valley. We were there from May 5 to 11, 1941, probably the best time of year to enjoy the extraordinary beauty of the place, which I will not pretend to describe. I will only refer to the great abundance of the western dogwood, its great white flowers conspicuous everywhere. This plant was named Cornus nuttalli by Audubon, who figured it with the band-tailed pigeon in his famous work on American birds. The bees recorded were taken on the floor of the valley (alt. approx. 4000 ft.), except a few from the Myers Ranch, 11 miles away, at a considerably higher altitude. I could not have prepared this report without the aid of Mr. P. H. Timberlake and access to the collection at the University of California Citrus Experiment Station at Riverside. Timberlake critically examined the specimens and gave me his determinations, which are certainly the most reliable to be had at the present time. Even in the case of species which I myself described, it frequently happens that I have not looked at them for a long time, perhaps a quarter of a century; and in addition, they now have to be differentiated from numerous related species, more recently made known.

My list of captures represents, of course, but a fragment of the actual bee fauna, but it is interesting as an introduction to the subject. Mr. Darwin Tiemann, of the Yosemite Museum, has been collecting bees, and has obtained many species (especially of *Osmia*) which I did not find. I make no further reference to these now, as I presume a list of his captures will eventually be published.

Where no locality is given, the floor of the valley, not far from Yosemite Lodge, is to be understood.

Annotated List of Species

Hylaeus verticalis Cresson. One male at Myers Ranch, visiting Ranunculus californicus Bentham, May 9.

Sphecodes sp. Male. Same as presumed new species found at Riverside.

Sphecodes sp. Females of two different species, believed to be

new. Timberlake has a long series of apparently new Sphecodes, which he will publish as circumstances may permit.

Halictus aspilurus Cockerell. Three females at flowers of Nemophila exilis Eastwood.

Halictus mellipes Crawford. At Cryptantha flaccida (Douglas), female (W. P. Ckll.), and at Ribes.

Halictus (Seladonia) tripartitus Cockerell. At Nemophila exilis, three females. This is the H. catalinensis Ckll., as generally understood in California, but we follow Miss Sandhouse in considering this and H. meliloti Ckll., as forms of H. tripartitus. It may be possible to define two or three subspecies, on careful study of a sufficient amount of material.

Halictus n. sp. Timberlake MS. A species related to H. bardus Cresson, taken by Timberlake on San Jacinto Mtn. He also has one from the Yosemite, collected by D. W. Clancey. I took one female at flowers of Ribes.

Agapostemon californicus vandykei (Cockerell). Three females at Nemophila maculata Bentham. This beautiful insect, with brassy tints on the abdomen, is apparently to be separated as a race of the common green species of California.

Andrena* sp. Male at Salix. Allied to A. placida and A. medionitens. Timberlake says that A. medionitens Ckll. occurs in this region in June.

Andrena sp. One at Salix (W. P. Ckll.). This is apparently identical with one from Ribes, which was seen by Viereck and labeled by him "near excellens."

Andrena albihirta (Ashmead). Two females at Salix, differing by the darker venation. A male from Salix should be this, but does not quite agree.

Andrena auricoma Smith. Not quite typical. At Salix, Oenothera, Montia perfoliata and Cryptantha flaccida.

Andrena nigrocaerulea Cockerell. One female at Nemophila exilis. Compared with the type it seems to be the same species, but there is some difference in the process of the labrum. A female from Oenothera has a more shining clypeus (approaching herein A. epileuca (Ckll.) but dullish abdomen.

Andrena monogonoparia Viereck, n. subsp. Timberlake MS. One female at Arctostophylos patula at Meyers Ranch. Timberlake got it in the San Bernardino and San Jacinto Mtns.

^{*}The genus Andrena is represented in California by very many species, a large proportion of them still undescribed.

- Andrena n. sp. Timberlake MS. Five females at Ribes. Timberlake also collected it at Ribes.
- Panurginus sp. Two females at Nemophila exilis. Probably P. atriceps Cresson, but the male is needed.
- Nomada erythraea Dalla Torre. At Arctostaphylos patula Greene. Nomada sp. Female at Arctostaphylos patula. It runs in my key (Proc. Acad. Nat. Sci. Phila., 1903, p. 559) to California
 - species to N. tintinnabulum Ckll., but it is 8 mm. long, and differs in many respects. It is probably new, and it is not in the collection at Riverside.
- Chelostomopsis rubifloris (Cockerell). A common species; twelve females and fifteen males were taken. It visits Cryptantha flaccida
- Bombomelecta pacifica Cresson. One at Myers Ranch, May 9 (W. P. Ckll.).
- Osmia lignaria Say. Very many nesting in the ground along a path. Females at Cercis and Nemophila exilis; males at apple, Ribes and Nemophila exilis. This species was originally described as nesting in wood, as the name implies. The ground nesting habit is surprising, and raises again the question as to the possible distinctness of the western O. propinqua Cresson.
- Osmia faceta Cresson. One male at Nemophila exilis. Tiemann gave me one he collected on Azalea.
- Osmia densa pogonigera (Cockerell). At Salix (W. P. Ckll.), and at Myers Ranch at Arctostaphylos patula. We also took nine males which are presumed to belong here, at Nemophila maculata and N. exilis, at Salix, and one taken by Tiemann on Azalea.
- Osmia coloradensis Cresson. One male at Nemophila maculata, May 11.
- Osmia californica Cresson. Five males, at Ribes, Arctostaphylos patula, and Nemophila. This is O. nassa Ckll., which according to Miss Sandhouse is the true O. californica, that species having been misunderstood.
- Osmia atrocyanea Cockerell. Male on yellow violet, and two at Myers Ranch, on Arctostaphylos patula.
- Osmia kincaidii Cockerell. At Nemophila exilis (W. P. Ckll.) and at Cryptantha flaccida.
- Osmia pusilla Cresson. One at Nemophila exilis (W. P. Ckll.). Osmia cyanella Cockerell. One, May 10.

- Osmia wheeleri Cockerell. At Cercis and Nemophila exilis. There has been much confusion as to the identity of O. brevis Cresson, and it may be that the species here recorded is the true O. brevis.
- Ceratina acantha submaritima (Cockerell). Both sexes. It was found on Cryptantha flaccida, Nemophila maculata, N. exilis and Oenothera.
- Ceratina nanula rigdenae Michener. One male at Nemophila maculata, May 11.
- Ceratina punctigena Cockerell (or possibly C. subpunctigena Michener). One male at Oenothera, May 10 (W. P. Ckll.).
- Xylocopa orpifex Smith. One male at Nemophila patula (W. P. Ckll.).

Psithyrus crawfordi Franklin. One, May 10.

Bombus vosnesenskii Radoszkowski. May 11. A variety with the light hair on head and thorax very pale.

A NEW SPECIES OF TIPHIA FROM CALIFORNIA (Hymenoptera, Tiphiidae)

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The following description of a new species of *Tiphia* is offered at this time so that a name will be available for some observations on the biology by Dr. E. G. Linsley and Dr. C. D. Michener. Dr. Linsley has been kind enough to permit the writer to place the type series in the collection of the United States National Museum except for a pair of paratypes which are to be deposited in the collection of the California Academy of Sciences.

Tiphia shastensis Krombein, new species

Female. 14.5 mm. long. Black; mandible in the middle castaneous; flagellum beneath and apex of pygidium ferruginous. Body inconspicuously clothed with grayish, suberect pilosity which is longer, more conspicuous, and tending toward yellowish at the apices and sides of the abdominal segments; hind tibial calcaria black; some of the tarsal spines fulvous. Wings brownish, somewhat infumated; stigma and basal veins dark brown, the apical veins lighter.

Head shining, moderately closely and coarsely punctured; mandible not denticulate along the superior or inferior margin; clypeus on basal half with several rows of subcontiguous punctures, apical half impunctate, apical margin broadly rounded;



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