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1949

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Recommended Citation

Bohart, George E. 1949. Record of a Fungus Outbreak Among Adult Bees of the Genus *Andrena*. *Pan-Pac. Ent.* 25(2): 82.

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The Pan-Pacific Entomologist (Vol. XXV, No. 2, April, 1949)

RECORD OF A FUNGUS OUTBREAK AMONG
ADULT BEES OF THE GENUS ANDRENA
(Hymenoptera, Andrenidae)

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On May 19, 1934, near Trinity Center, Trinity County, California, various wild bees were observed collecting pollen from a dense stand of the buttercup, Ranunculus californicus Benth. It was the densest population of bees on flowers that I have ever observed, each flower seeming to have one or more visitors. A few sweeps of the net often collected fifty or more specimens. Andrena complexa Viereck was the dominant bee, but a species of Panurginus was also quite abundant. A Nomada, presumably parasitic on the Andrena, was likewise common.

Subsequently for a few days the weather was cool and showery, but cleared by May 23 to the extent that bees reappeared in their former abundance. A few A. complexa bees were seen to be dead and still clinging in life-like position to flowers and stems of the buttercup. Resemblance of these bees to syrphid flies killed on plants and to house flies killed on walls by the entomophagous fungus Empusa was at once apparent. The clinging posture and swollen abdomens showing white beneath the intersegmental membranes were unmistakable. Within two days living bees were rare, but on every Ranunculus plant there were several to many bees that had been killed by the fungus. Remarkably, the other species of bees appeared to be immune. Syrphid and emiid flies, the latter often seen feeding upon various small bees, were likewise unaffected.

I am unaware of previous reports of fungus epidemics in the field among adult bees. At the time of observation, however, I did not realize that the situation was unusual and made only the superficial observations given above. It would be interesting to know whether others have observed similar outbreaks among bees.

¹ Bureau of Entomology and Plant Quarantine, Agr. Res. Admin., U.S.D.A.