

The Immunity of *Pseudococcus brevipes* (Ckll.) to Parasitism by *Coccophagus gurneyi* Compere*

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In October, 1931, the question arose as to whether the pineapple mealybug, *Pseudococcus brevipes* (Ckll.) could be parasitized by *Coccophagus gurneyi* Compere. This parasite is normally found attacking the Citrophilus mealybug, *Pseudococcus gahani* Green, in California. Permission was obtained from the California State Department of Agriculture to bring living specimens of the pineapple mealybug, obtained from pineapples in ship stores at San Pedro, to the quarantine rooms of the Citrus Experiment Station at Riverside, California, to make trials to determine whether *Coccophagus* would oviposit in the pineapple mealybug and whether the parasite would develop in them.

Trials consisted of putting several females in test tubes, each of which contained a single mature mealybug. As soon as the parasites were aware of the presence of the mealybugs they began to oviposit in them with such ardor that it was necessary to push them away with a small brush to prevent super-parasitism. Two days later one of these mealybugs was dissected and a single parasite egg was found in which it was possible to distinguish a developing embryo. The following day two more mealybugs were dissected. In these one could see small black spots through the derm of the host. These spots proved to be pellets remaining after the parasite eggs had been destroyed either by a phagocytic action of the host cells or by some reaction of the body fluids of the host. Examination of mealybugs at a later date failed to reveal even the black pellets. These observations showed definitely that the pineapple mealybug was immune to parasitism by *Coccophagus gurneyi*. Due to lack of host material it was impossible to determine whether the parasite could develop when a large number of eggs were laid in the mealybug.

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The observations of Compere and Smith have indicated that *Pseudococcus citri* (Risso) also exhibits a similar immunity to parasitism by *Coccophagus gurneyi*. The writer wishes to acknowledge the assistance of Mr. Harold Compere for his help in making these trials.

LITERATURE CITED

- Compere, H., and H. S. Smith. The control of the Citrophilus mealybug *Pseudococcus gahani* by Australian parasites. *Hilgardia* 6:585-618 (1932), pp. 600-601.