

## CEDAR WAXWING, *BOMBYCILLA CEDRORUM*, FEEDS ON AVOCADO FLOWERS

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*Abstract.* The mystery of some of the injuries and losses of avocado leaves, flowers and very small fruits was apparently solved, in part by observing cedar waxwing birds. Substantiation of feeding was made by examination of crop contents where leaf and flower segments were observed.

Interrogations have come from avocado growers for years concerning mutilated and missing leaves, flowers and young fruit. What was responsible for missing or mutilated parts? Macroscopic examinations suggested that some insect, perhaps a rather large one, was responsible for injured and missing tissues through feeding activities. No insect was ever found, however, in numbers sufficient to have caused the amount of damages so common.

Many efforts were made in several groves during day and night hours to determine the causative factor. Mr. Fred T. Haile, Jr. reported having observed birds, in flocks, in the upper and outer parts of the crowns of avocado trees. "Could the wounds in the leaves we find be from birds?" he asked.

With the aid of binoculars Mr. Haile observed birds pecking at the leaves, buds, flowers, fruit or something on the avocado branch terminals. He recognized the birds as the cedar waxwing, *Bombycilia cedrorum* (Fig. 1).

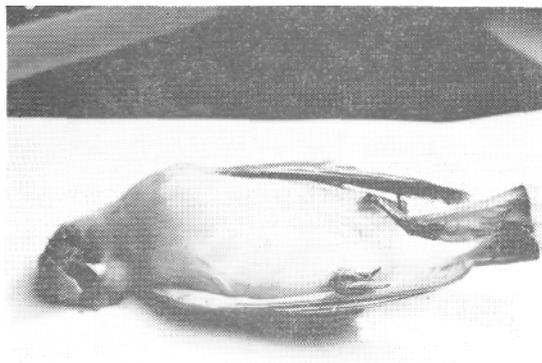


Fig. 1. Cedar waxwing, *Bombycilla cedrorum*.

The cedar waxwing is a "perching" bird of the order Passeriformes which is a medium to small land bird. This is a migratory bird, according to Bobbins, Brunn and Zim (1), for which Florida is its winter range. It is irregular in its wanderings and is sometimes

numerous in flocks. Its summer or breeding range is in the southern one third to one-half of Canada. Departure or northward migration is coincidental with some part of the avocado flowering period in Florida.

The birds generally forage on twigs and branches on the upper and outer parts of crowns of trees. It is here that injured leaves, and evidence of missing flowers or fruits may be seen. It is recognized however, that birds are not the only culprits that injure leaves, flowers and fruits. Common injuries with stubs as evidences of missing leaves, flowers and fruits were photographed (Figs. 2, 3).

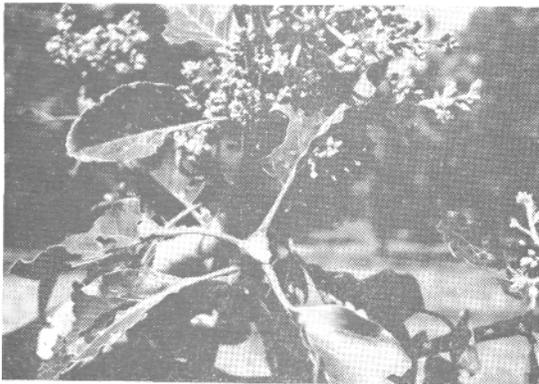


Fig. 2. Leaf injuries on a branch.

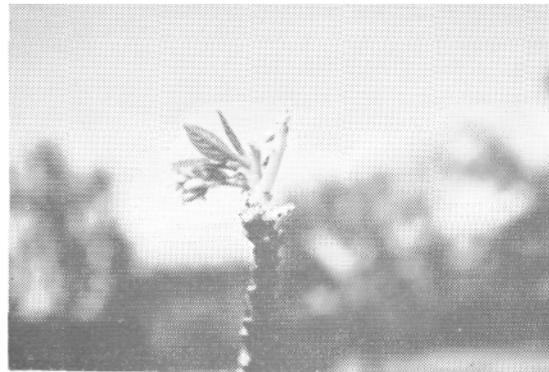


Fig. 3. Leaf, flower and fruit absences suggests insect feeding but may be accounted for by cedar waxwing birds.

Migration of birds occurred in 1971 before critical examination of birds could be made. On March 21, 1972, however, two birds were obtained for examination of crop contents.

Excisions of crops from the birds and macroscopic examination of contents revealed masses of green plant tissues to the practical exclusion of other materials (Fig. 4). Isolation of individual leaves, flowers or fruit was generally not possible. One individual flower, however, in one crop was almost entirely whole, having had almost no digestive action (perhaps recent ingestión could account for the wholeness) (Fig. 5). This flower was characteristically avocado in morphology.

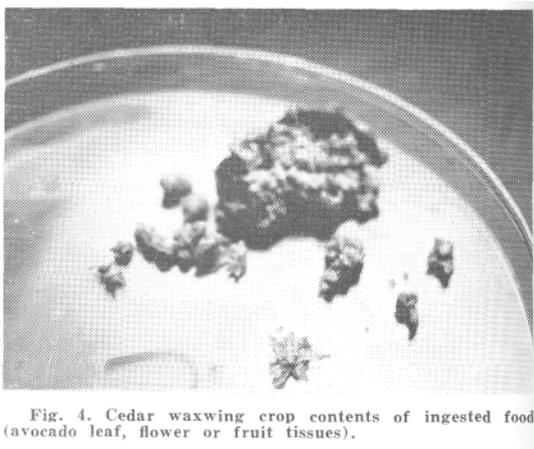


Fig. 4. Cedar waxwing crop contents of ingested food (avocado leaf, flower or fruit tissues).

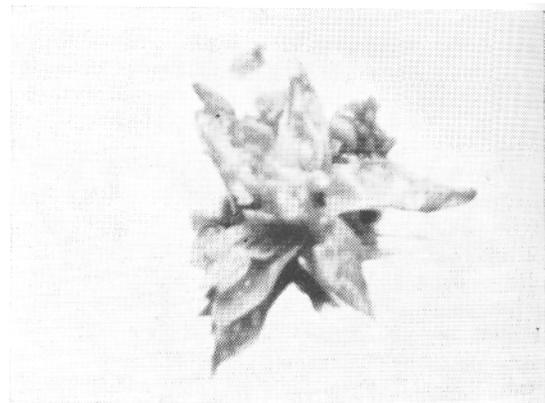


Fig. 5. Avocado flower from crop of cedar waxwing bird that was feeding in tree. Flower is in foreground of Fig. 4.

Contents of the crops were examined macroscopically and microscopically by Dr. S. E. Malo, Associate Horticulturist, AREC—Homestead, who confirmed the avocado tissues.

The birds may flock to one or more trees and destroy some leaves, flowers and very young fruit. Such destruction is apparently localized and is considered minor. Losses may be generally acceptable to growers as minimal and unimportant. Control efforts, therefore, appear generally unneeded.

#### **LITERATURE CITED**

1. Bobbins, Chandler S., Bertel Bruun and Herbert S. Zim. 1966. A guide to field identification, birds of North America. Golden Press. New York. 340 p.

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