

**THE PECAN NUT CASEBEARER, *ACROBASIS CARYAE*  
(Lepidoptera: Pyralidae)  
ON MOCKERNUT HICKORY, *CARYA TOMENTOSA*<sup>1</sup>**

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ABSTRACT

The presence of an *A. caryae* (Grote) larva in the terminal portion of the petiole apparently prevents the three terminal leaflets from developing normally. Larvae were present in the petioles from early spring until May 29. Four hymenopterous parasites were reared.

The biology of the pecan nut casebearer on pecan was reported by Bilsing (1927) and Moznette et al. (1940). According to Bilsing overwintering occurs in the larval stage within a hibernaculum which is attached to a bud. In the spring the larva consumes buds and soon enters the young tender growth of branches at a point where a petiole is attached to the branch. It then hollows out the interior of the branch.

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FIG. 1. Petiole dissected to expose an *A. caryae* larva. Arrow points to silk and fecal pellets at tunnel entrance.

The biology of *Acrobasis caryae* on hickory is imperfectly known (Heinrich, 1926). Grote (1881) in his description of the species noted the damage by *A. caryae* to pignut hickory, *Carya glabra* (Mill.). He reported the larvae burrowing in the terminal portion of the branches.

In April 1967, at the University of Tennessee Oak Ridge Forest in Anderson County, peculiar foliar damage was noted on mockernut hickory, *Carya tomentosa* Nutt. Closer investigation disclosed a larva, *A. caryae* (reared to adulthood and identified by A. B. Klots, American Museum of Natural History), within the terminal portion of the petiole (Fig. 1). Only limited feeding occurred within the petiole as the tunnel was only large enough to accommodate the larva. Apparently the presence of the larva in the petiole caused an abortion (the leaflets were about  $\frac{1}{10}$  the size of normal leaflets, curled, and dark colored) of the three terminal leaflets (Fig. 2). A normal leaf is composed of three to seven leaflets with the size of the three terminal leaflets about equal to the others. Figure 3 illustrates the terminal portion of a normal leaf with the basal two leaflets not visible.

The diameter of the terminal portion of the petiole which contains the larval tunnel was about twice that of the undamaged portion. The

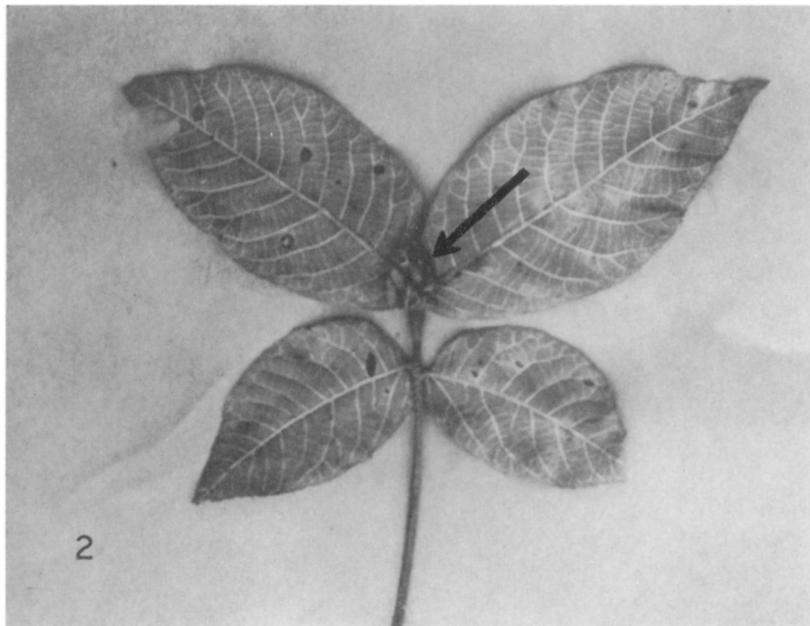


FIG. 2. Leaf with the terminal leaflets aborted (arrow).

tunnel entrance was beneath the partially developed leaflets and was externally surrounded with silk and fecal pellets (Fig. 1). The tunnel within the petiole was free of any webbing or fecal pellets.

By May 17, there were very few larvae present, most of the tunneled petioles being empty, and by May 29, all the tunneled petioles were empty. Pupae were never found and the pupal site was not determined.

Infested and non-infested petioles were tagged in May 1967, to determine whether the presence of larvae would result in early abscission. On October 22, 1967, there was no difference between infested and non-infested petioles.

Hickory nuts were collected on October 22, and examined in the laboratory to determine whether later generations feed on the nuts as they do on the pecan (Moznette et al., 1940). No casebearer larvae or damage could be found.

Nine parasites were collected from about 50 infested petioles which were returned to the laboratory. Four hymenopterous species (determined by B. D. Burks and P. M. Marsh, U.S.D.A., Beltsville, Maryland), all apparently parasites of larvae, were reared as follows:

*Meteorus* (Braconidae) sp.; 5 collected April 24–May 5, 1967; emerged prior to May 16, 1967.

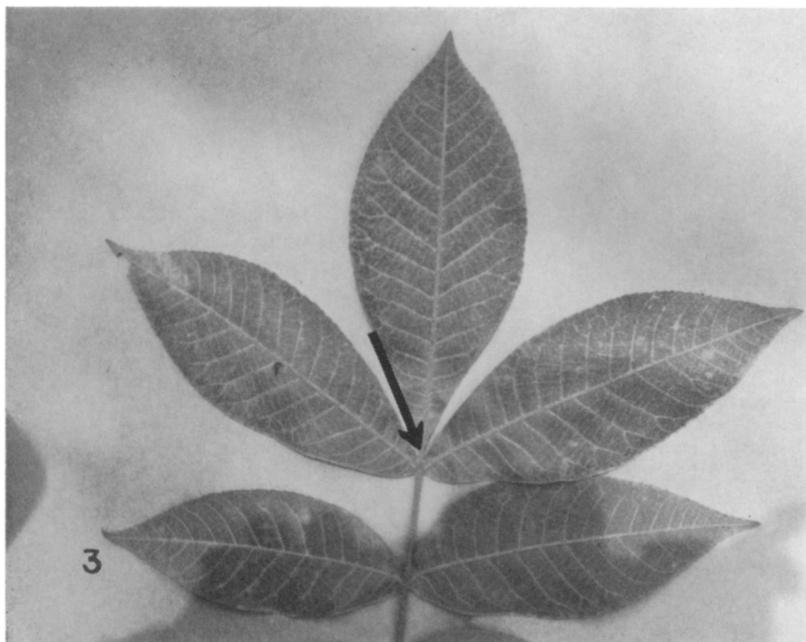


FIG. 3. Leaf with normal terminal leaflets (arrow). Basal two leaflets not visible.

*Phanerotoma tibialis* (Hald.) (Braconidae); 2 collected May 1, 1967; emerged prior to May 22, 1967.

*Apanteles epinotiae* Vier. (Braconidae); 1 collected April 24, 1967; emerged prior to May 1, 1967.

*Euderus* sp. (Eulophidae); 1 collected April 24, 1967; emerged prior to May 11, 1967.

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