A NEW INSECT-HOST RELATIONSHIP

R. A. MORSE AND S. H. KERR

For many years, the tunneling of hymenopterous adults into the pith of cut or damaged rose stems to construct cells in which to lay eggs has been a serious problem in Florida. Insects often appear soon after roses are pruned and may begin tunneling within a half-hour. They begin at the cut end and tunnel rapidly into the pith of the stem. Rose stems which have been hollowed out may outwardly appear healthy for weeks or even months, but eventually they die back. Once micro-organisms have invaded the canes, the healthy stem tissue may be attacked, too, unless the affected area is pruned.

A complex of hymenopterous insects bores into the stems of roses, but the most commonly noted borer in the Gainesville area is Ectemnius (Hypocrabro) texanus ais Pate. This species was described from specimens taken in Florida over ten years ago, but not until recently was it identified as being prominent among the insects which tunnel into rose stems.

Records from the State Plant Board collection at Gainesville for Ectemnius (Hypocrabro) texanus ais Pate are as follows: Key West, Fla., Dec. 28, 1953, on flowers of Flaveria linearis Lag., H. V. Weems, Jr.; Haines City, Fla., Sept. 17, 1954, on flowers of Didyma bipinnata L., H. V. Weems, Jr.; Gainesville, Fla., October 1, 1956, working on rose stem, S. H. Kerr; Gainesville, Fla., Oct. 15, 1956, in rose stem, S. H. Kerr and R. A. Morse. Collection records from the United States National Museum are as follows: Grassy Key, Fla., Jan. 3, 1951, H. V. Weems, Jr.; Key Largo, Fla., March 26, 1954, K. V. Krombchin; Ft. Pierce, Fla., April 2, 1954. Collection records by the describer (Pate, 1946) are as follows: Indian River (type, no date or collector given in Pate’s description); Cocoa (allotype and nine para
types), July, 1944, G. E. Bohart; and St. Augustine (no further information given).

It would thus appear that the wasp is active the year around in Florida and possibly has more than one generation per year although Ectemnius species which have been studied farther north have but one. In correspondence, Mr. K. V. Krombchin of the United States National Museum stated that he felt the range of E. texanus ais did not extend north of Florida, while the typical species, E. texanus texanus (Cresson), was found as far south as Gainesville, Florida, and had been recorded from New York to Florida and west to Texas and Kansas.

The genus Ectemnius belongs to the family Sphociidae, subfamily Crabroninae, a group sometimes referred to as the wood wasps. Wasps in the genus Ectemnius are distinguished by their large cubical head. E. texanus ais is about one-half inch long and black with two transverse yellowish-red stripes on the thorax and three on the abdomen. According to Pate (1946), it is “distinguished from the nominate form of texanus by its deep fuliginous wings, reddish livery, and more strongly punctured and sculptured body.”

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1 Florida Agricultural Experiment Station Journal Series, No. 600.
2 Waltham Field Station, Waltham, Mass.
3 Assistant Entomologist, Florida Agricultural Experiment Station.
Fig. 1.—Four rose stems infested by *Ectemnius (Hypocrabro) texanus* aiss Pate. The stems in the left and right show only the entrance hole made by the adult wasps. The stem which is the second from the left had an over-all length of 16.8 cm. The length of the bore is 9.3 cm, and this nest contains three cells. The stem second from the right has an over-all length of 20 cm, a bore length of 11.5 cm, and contained only one cell.
The accompanying photograph shows some rose stems collected in Gainesville. It will be noted that the individual cells are not well differentiated. The maximum number of three cells was found per stem in ten which were closely examined. The length of completed tunnels was 9-15 centimeters; bore diameter was 0.4-0.45 centimeters.

The female wasp provisions the cells with small flies. About 20-30 flies per cell appear to be the usual number. Dr. H. V. Weems, Jr., of the Florida State Plant Board, has identified the flies from four of cells of E. texanus ais and found the following:

Cell 1. All *Euxesta nitidimentris* Lw. (Otididae)

Cell 2. Almost all *Aciura insecta* Lw. (Trypetidae)
   One or two *Paroxyyna sorocula* (Wd.) (Trypetidae)
   One or two Chloropidae sp.

Cell 3. Almost all *Paroxyyna sorocula* (Wd.)
   A few *Aciura insecta* Lw.
   A few Chloropidae sp.

   Half *Paroxyyna sorocula* (Wd.)

Rau and Rau (1918) and Pockham and Pockham (1898) list about 15 other species which they found in cells of *E. stirpicaola* Packard. It seems likely that *Ectemnium* species provision their nests with whatever small fly species are available.

Other hymenopterous insects which bore into the pith of roses in Florida include leaf-cutter bees of the family Megachilidae. A cephid wasp, *Hartigia trimaculata* (Say), is recorded as economically important on roses in Florida by Muesebeck et al. (1951), and it is presumed this insect burrows into the stems of roses after the fashion of *H. cressoni* (Kirby) in California (Butterfield, 1950). *H. trimaculata* has not been taken in collections made by Experiment Station or Florida State Plant Board personnel and it would appear to be relatively uncommon here. There are a number of other insects recorded as rose stem borers in other states.

Several other species and subspecies of *Ectemnium* have been collected in Gainesville by Mr. H. E. Bratley of the Agricultural Experiment Station. They are similar in appearance to *E. texanus ais*, but their habits are not known.

An account of the nest-building activities of *Ectemnium* (*Crabro*) *stirpicaola* Packard by Peckham and Peckham (1898) stated that the adult female bites out pith pellets. The pellets are passed back between the legs and when a quantity has accumulated above the abdomen, the female walks backward up the burrow to push out the mass. After the cells are completed, *Ectemnium* females do not plug up the entrance to the burrow as is usual with some Hymenoptera of more or less similar habits.

A satisfactory method of control is to treat the cut end of pruned canes immediately with a tree wound paint. Homeowners who have only a few canes to treat may resort to the use of a thumbs tack to cover the wound.

**Literature Cited**

Two Changes of Name in Hemiptera (Aneuridae and Miridae).—

Aneurus tenuicornis Champion, 1898 (Biol. C.-Amer., Hem.-Het. 2: 116), is a junior primary homonym of Aneurus tenuicornis Signoret, 1860 (Ann. Soc. Ent. France (3) 8: 958), and I therefore propose Aneurus leptocerus, new name, to replace it.

In his Heteroptera of Eastern North America, published October 18, 1926, Blatchley described as new three species of the mirid genus Phytocoris which were credited to "Knight MS." Descriptions of these three species (P. albitylus, P. angustifrons, and P. rubellus) had already appeared, however, in a paper by Knight (1926, Bull. Brooklyn Ent. Soc. 21: 168-168) published about two weeks earlier than Blatchley's book (cf. Knight, 1927, Bull. Brooklyn Ent. Soc. 22: 101).

Blatchley's descriptions of P. albitylus and P. rubellus were correctly applied to the proper species. He misunderstood P. angustifrons, however, redescribing it (page 113) as Phytocoris megalopsis, n. sp., and using the name "angustifrons Knight M.S." (page 727) for a species which falls in a different species group within the genus. Knight (1927 loc. cit.) placed megalopsis Blatchley as a synonym of angustifrons Knight. Blatchley (1928, Bull. Brooklyn Ent. Soc. 23: 15) tacitly acknowledged this synonymy and admitted that he "had described what proved to be another species as angustifrons." He failed, however, to identify this latter species by name, nor can I find that anyone else has done so, though it is a common Phytocoris in central and northern Florida. I therefore propose Phytocoris pseudonymus, new name, to replace Phytocoris angustifrons Blatchley, 1926, (Het. E. N. Amer. p. 727), nec Phytocoris angustifrons Knight, 1926, (Bull. Brooklyn Ent. Soc. 21: 164).—Roland F. Hussey, Biology Department, University of Florida.