

*IPOMOEA HEDERIFOLIA*, A NEW HOST RECORD  
FOR THE SWEETPOTATO WEEVIL, *CYLAS FORMICARIUS*  
*ELEGANTULUS* (COLEOPTERA: CURCULIONIDAE)

RICHARD K. JANSSON,<sup>1</sup> ADRIAN G. B. HUNSBERGER,<sup>1</sup> SCOTT H. LECRONE,<sup>1</sup>  
DANIEL F. AUSTIN,<sup>2</sup> AND G. WILLIAM WOLFE<sup>3</sup>

<sup>1</sup>University of Florida

Institute of Food and Agricultural Sciences  
Tropical Research and Education Center

18905 S. W. 280 St., Homestead, FL 33031

<sup>2</sup>Department of Biological Sciences

Florida Atlantic University, Boca Raton, Florida 33431

<sup>3</sup>Department of Entomology

Cook College, Rutgers University  
New Brunswick, New Jersey 08903

The sweetpotato weevil, *Cylas formicarius elegantulus* (Summers), is one of the most important pests of sweet potato, *Ipomoea batatas* (L.) Lam., worldwide (Sutherland 1986). Low level infestations reduce both quality and marketable yield, primarily because terpenoid production is induced in roots in response to weevil feeding that may make even slightly damaged roots unpalatable (Akazawa et al. 1960, Uritani et al. 1975).

Sweetpotato weevil infestations in commercial sweet potato fields can originate from several sources, such as nearby volunteer sweet potato fields (Gonzalez 1925, Boyden 1927, Cockerham et al. 1954, Jansson et al. 1989), infested planting material (Rolston et al. 1983), and wild hosts (Reinhard 1923, Gonzalez 1925, Boyden 1927, Cockerham et al. 1954). Over 30 wild hosts of sweetpotato weevil have been reported (Sutherland 1986 and references therein), most of which are species of *Ipomoea* (Convolvulaceae). In Homestead, Florida, at least ten known wild host plants of this weevil are present (Jansson, personal observation). We have found weevil larvae, pupae, or adults, or damage on most of these host plants. We also have found weevils and their damage on a plant not reported as a host, Texas red morning glory, *I. hederifolia* L.. This note reports data to confirm that sweetpotato weevil feeds and develops on this plant species.

On 21 September 1987, *I. hederifolia* was found growing adjacent to a commercial sweet potato field near Homestead. One plant was removed, dissected, and examined for weevils. Characteristic weevil damage was observed. On 1 October, *I. hederifolia* was found growing over many lime and avocado trees in a poorly managed grove in Homestead. Eighty plants were randomly sampled, dissected, and examined for weevils. The number and location within the vine (distance above or below the crown [i.e., vine/soil surface interface]) of all sweetpotato weevils were recorded. The following year we returned to the same grove and sampled 90 *I. hederifolia* plants on 15 and 16 September as previously described. Sweetpotato weevil larvae were collected and positively identified as *C. f. elegantulus* by G. W. Wolfe.

In 1987, weevils were found on 35% ( $n = 80$ ) of all plants sampled. Samples averaged  $0.5 \pm 0.1$  weevil immatures per plant. More larvae ( $0.4 \pm 0.1$ ) than pupae ( $0.1 \pm 0.0$ ) were found. Weevils were more abundant above the crown (76% of all weevils found with a mean of  $0.4 \pm 0.1$  per plant) than below the crown (24% of all weevils found with a mean of  $0.1 \pm 0.0$  per plant) ( $\chi^2 = 11.02$ ;  $df = 1$ ;  $P < 0.005$ ). All but one weevil were found within 15 cm of the crown. Weevil damage was observed on 69% ( $n = 80$ ) of all plants sampled and several adult exit holes were found.

In 1988, weevils were found on 32% ( $n = 90$ ) of all plants sampled. Samples averaged  $0.5 \pm 0.1$  weevils per plant, all of which were larvae. No pupae nor adults were found.

As in 1987, weevils were more abundant above the crown (81% of all weevils found [ $n = 43$ ] with a mean of  $0.4 \pm 0.1$  per plant) than below the crown (19% of all weevils found [ $n = 43$ ] with a mean of  $0.1 \pm 0.0$  per plant) ( $\chi^2 = 8.48$ ;  $df = 1$ ;  $P < 0.005$ ). Almost half (43%) of all plants samples ( $n = 90$ ) were damaged by weevils. Hence, *I. hederifolia* is a host plant of sweetpotato weevil. This plant is an annual, herbaceous vine with slender stems which may often exceed 10-15 m (Austin 1982). It is generally found growing in disturbed habitats or as a weed in cultivated sweet potato fields (Jansson, personal observation), and has a worldwide distribution (Austin 1982). Unlike cultivated sweet potato, however, the roots of *I. hederifolia* are fibrous. This may help to understand the atypical within-plant distribution of sweetpotato weevil found on *I. hederifolia*; on cultivated sweet potato, most weevils (between 82-91% of the total population) were found below the soil surface (Jansson et al. 1990), and 54 to 92% of the total population is found within 15 cm of the crown (Jansson et al. 1987, 1990). On *I. hederifolia*, 77% of all weevils found in both years ( $n = 88$ ) were located in above-ground vine tissues. The lack of fleshy root tissues on *I. hederifolia* probably limited the within-plant distribution of weevils to above-ground tissues. However, as found in cultivated sweet potato, most weevils (98%,  $n = 88$ ) on *I. hederifolia* were found within 15 cm of the crown ( $n = 84$ ).

This research was supported by the U.S. Department of Agriculture under CSRS Special Grant Nos. 87-CSRS-2-3107 and 88-34135-3571 managed by the Caribbean Basin Advisory Group (CBAG). Florida Agricultural Experiment Stations Journal Series No. 9393.

Voucher specimens of *C.f. elegantulus* are located at the University of Florida, Institute of Food and Agriculture Sciences, Tropical Research and Education Center, Homestead and at Rutgers University, Department of Entomology Museum, New Brunswick, New Jersey.

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## FIRST ACCOUNT OF AN ADULT DEER BOT (DIPTERA: OESTRIDAE) FROM FLORIDA

THOMAS P. COGLEY

Independent Laboratory of Veterinary Parasitology

P. O. Box 1016

Gainesville, Florida 32602

Five species of deer bot flies, *Cephenemyia* Latreille, are known to occur in the new world. The adults are free-living bumble-bee like flies. Their short life span primarily involves mating and infesting artiodactylid hosts with infective first stage larvae. Two *Cephenemyia* species attacking deer are known to deposit larval packets on the muzzle of the host (Cogley & Anderson 1981). Larvae enter the host and complete development in the naturally occurring retropharyngeal recesses. Growth of larvae causes tremendous distension of the recesses and significant tissue disturbances (Cogley 1987).

The zoogeography of *Cephenemyia* was reported during a major taxonomic work on the group (Bennett & Sabrosky 1962). One species, *C. trompe*, is found in Canada and Alaska, whereas *C. apicata*, *C. jellisoni*, and *C. pratti* are primarily found in the western and midwestern United States. The latter three species all occur in Texas along with the eastern species, *C. phobifera*. No *Cephenemyia* were reported from Florida until Kellogg et al. (1977) reported larvae of *C. phobifera* from deer. No specific location in Florida was given for their record. Nettles & Doster (1975) found larvae tentatively identified as *C. phobifera*; examination of their map suggests that Levy and Collier counties contained the infective deer. Some larvae found by Nettles & Doster (1975) were atypical, and they suggested a new species or sub-species of *C. phobifera*.

Reported here for the first time is the finding of an adult *Cephenemyia* from Florida. The specimen is an adult female closely resembling *C. phobifera*. The fly was found in a collection made by Dr. R. H. Roberts (a Research Associate, Florida State Collection of Arthropods, Division of Plant Industry, Florida Department of Agriculture and Consumer Services, Gainesville, Florida). The specimen had been caught in a flight trap (without carbon dioxide) on 27 or 28 April 1985, in Manatee Springs State Park, Levy County. The fly contained fully formed first stage larvae numbering 94 with 19 of these in its vagina. Since the uterus normally contains 500 to 1000 larvae the low number suggests that the fly had larviposited previously.

First stage larvae extracted from the uterus of the specimen did not conform to the key of nearctic *Cephenemyia* developed by Bennett & Sabrosky (1962). Further studies are being conducted to determine whether this is a subspecies of *C. phobifera* or a new species.

Readers are urged to send any *Cephenemyia* collected in Florida to the author for identification and tabulation of collection data.