FIRST ACCOUNT OF AN ADULT DEER BOT
(Diptera: Oestridae) FROM FLORIDA

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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. jeelisi, 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. phobia. No Cephenemyia were reported from Florida until Kellogg et al. (1977) reported larvae of C. phobia from deer. No specific location in Florida was given for their record. Nettles & Doster (1975) found larvae tentatively identified as C. phobia; 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. phobia.

Reported here for the first time is the finding of an adult Cephenemyia from Florida. The specimen is an adult female closely resembling C. phobia. 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. phobia or a new species.

Readers are urged to send any Cephenemyia collected in Florida to the author for identification and tabulation of collection data.
USE OF HETERORHABDITID AND STEINERNEMATID NEMATODES TO CONTROL BLACK VINE WEEVILS IN HOP

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The black vine weevil (BVW), Otiorhynchus sulcatus (Fab.) (Coleoptera: Curculionidae), is an important pest of a wide variety of plants (Warner & Negley 1976) including hops, Humulus lupulus L. Larvae are capable of substantially reducing the useful life of a yard by feeding on the rhizomes, roots, and crown of hop plants. Feeding wounds reduce plant vigor and provide access for opportunistic plant pathogens. Vines may also become girdled under heavy feeding pressure. No insecticides are currently registered in the United States for control of this pest in hops and as a consequence some growers have temporarily removed infested land from cultivation because of a lack of control options.

Entomogenous nematodes of the families Heterorhabditidae and Steinernematidae may offer a viable alternative to conventional insecticides for the control of BVW larva in hops. These nematodes have been reported as efficacious for the control of BVW larvae in potted plants (Bedding & Miller 1981, Rutherford et al. 1987), and in field crops such as strawberries (Georgis & Poinar 1983) and cranberries (Shanks & Agudelo-