**DASIOPS PASSIFLORIS (DIPTERA: LONCHAEIDAE), A PEST OF WILD PASSION FRUIT IN SOUTH FLORIDA**

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**ABSTRACT**

*Dasiops passifloris* McAlpine (Diptera: Lonchaeidae) infests fruit of the corky-stemmed passion flower, *Passiflora pallida* L. in south Florida. The female oviposits from 1 to 4 eggs in a single fruit and the larvae feed on the seed pulp as well as its internal contents. Later, the mature larvae feed on the fruit pulp under the skin, and pupation takes place within the soil. *D. passifloris* occurs from Dade County southward to Key West, Florida.

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*Dasiops passifloris* was described by McAlpine (1964). McAlpine (personal communication, 30 May 1972) stated that *D. passifloris* is an adaption of *flos passiocius*, a translation of *flor della passione*, the popular Italian name applied to this plant. Another species, *Dasiops alveofrons* McAlpine (1961), infests apricot fruit in California. The adults of *Dasiops passifloris* are metallic blue-black, and the females have a long ovipositor resembling those of the families Otitidae and Tephritidae. Although McAlpine (1964) reported the species from the wild passion flower vine, *Passiflora pallida* L., no mention was made of the insect’s life history. The purpose of this paper is to contribute some information and observations on the biology from a study conducted on 1,040 fruit during 27 March 1968 through 19 May 1968. Except as indicated below, all collections and study were made on Mr. Klaus Sjogren’s farm in Hialeah, Fla., by the author with some help from his wife and son.

McAlpine (1964) recorded the distribution of *Dasiops passifloris* from Dade County southward to Stock Island, a locality near Key West, Florida. He cited 2 rearings: 2 females, 2 males from *Passiflora pallida* (as *Passiflora suberosa* L.), 6 miles N. Homestead, Fla., 9 Nov. 1948, C. D. Link; *Passiflora pallida*, 1 male, 7 females, Dade Co., F. G. Butcher. Steyskal (personal communication, 24 April 1968) stated that the only records of *D. passifloris* of which he and C. W. Sabrosky were aware consisted of the type series indicated by McAlpine (1964) and 9 specimens which were reared by W. T. Rowan and the author from *P. pallida*, Hialeah, Fla., 6 Feb. 1965.

Small (1933) reported that *Passiflora pallida* is known as the corky-stemmed passion flower. The mature fruits are blue-black and range in size from 6 to 10 mm. He reported the plant from hammocks and pinelands of peninsular Florida and it occurs in the West Indies, Central and South America. Small listed the following as synonyms: *P. suberosa*, *P. minimia* L., and *P. angustifolia* Sw. Lakela and Craighead (1965) reported *Passiflora pallida* from Dade and Monroe Counties of south Florida. My studies indicate that the mature fruit may contain from 4 to 17 seeds per fruit.

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Methods

A total of 1,040 wild passion fruits was collected from *P. pallida* vines growing on various shrubs, trees, and sometimes on the ground. Of this number, 701 fruits were individually dissected to determine the frequency of larvae per fruit. After dissection, the fruit was placed in water and examined under a microscope to locate first instar larvae. Some larvae were killed in hot water and preserved in 70% ethanol. A record was kept of all larval infestations.

Rearings were conducted on 2 occasions from a total of 333 immature and ripe passion fruits. From 5 to 10 immature or ripe fruits were placed in each of 26 small rearing containers. Each container was covered with fine mesh cloth secured with rubber bands; they were checked each day for pupal or adult emergence and for any parasites.

Life History

The female oviposits from 1 to 4 eggs in each fruit. Most eggs are deposited in the pulp of immature fruit. No information was obtained concerning the egg incubation period. After hatching, the larvae bore into the immature fruit and begin feeding on the internal portion of the developing seed and, in turn, feed upon the seed pulp of other maturing seeds. The maturing larvae then begin feeding on the fruit pulp immediately beneath the skin. The rasping away of the pulp makes it easy to detect larval infestations because each infested fruit becomes discolored or disfigured or perhaps both. Infested immature fruit takes on a dirty, whitish-green coloration, while infested ripe fruit becomes bluish-white. In about 12 days the larvae mature and drop to the ground, where they pupate within the soil or possibly beneath some refuse. The pupal period lasts 14 days. No parasites were reared from the immature stages during 1968.

Collection and Rearing Records

Seventeen larvae were found infesting 34 fruit 27 March 1968. From 118 fruit collected 3 April 1968 and held in rearing containers, 115 pupae were recovered and 91 adults were reared. In 264 fruit collected 28 April 1968 and dissected, only 27 larvae were found. On 14 May 1968, 215 fruit were collected and held in rearing containers. This sample contained 75 ripe and 140 immature fruit. One larva was found in the ripe fruit, while 48 larvae were found in the immature fruit; 48 adults were reared from these. Forty-nine immature and 375 ripe fruit were collected 19 May 1968; no larvae were found in this sample.

In all 139 adult flies were reared and 113 larvae were preserved. Adults, larvac, and puparia were deposited in the Canadian National Collection, Ottawa, Canada; United States National Museum, Washington, D. C.; Florida State Collection of Arthropods, Gainesville, Florida; and the Cornell University Collection, Ithaca, New York.

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LITERATURE CITED


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