

Research Note

IDENTITY AND ECONOMIC IMPORTANCE OF FRUIT FLIES ATTACKING MANGO IN PUERTO RICO: A TWO-YEAR SURVEY¹.

Recently, an old controversy has surfaced concerning the number of fruit fly species of the genus *Anastrepha* Schiner attacking mango (*Mangifera indica* L.) in Puerto Rico. At present, only two economically important species occur in Puerto Rico: *A. obliqua* (Macquart) and *A. suspensa* (Loew), both of which have been studied here in detail since the beginning of this century.^{2,4,5} Resident entomologists working on the subject have found no species other than *A. obliqua* attacking mangoes^{2,4,5} in Puerto Rico. Meanwhile, regulatory agencies have insisted on the possibility that both species may occur in mango. Their insistence is based on conjecture³ and extrapolation from data obtained elsewhere. Three major factors have historically contributed to fuel the present controversy: 1) the presence of adults, particularly *A. suspensa* in mango groves⁴; 2) the finding in the state of Florida of *A. suspensa* feeding on mangoes⁶; and 3) the lack of an intensive study specifically designed to identify fruit fly species using mango as a host in Puerto Rico.

To address this problem a total of 22,323 mangoes belonging to 27 varieties were sampled during the 1986 and 1987 harvest season. Only mature-green or ripe fruits

were surveyed. Fruits were placed inside wire baskets over moist sand trays. Larvae and pupae were collected from trays every 3-4 days and placed in plastic cups with moist vermiculite (80 vermiculite: 20 water w/w). Adults were identified upon emergence.

A total of 5,491 larvae were obtained from this survey. All emerging adults were unequivocally identified as *A. obliqua*. No specimen of *A. suspensa* was ever recorded from the 22,323 mangoes sampled to date. This result confirms the findings of past resident entomologists,^{2,4,5} and strongly indicates that *A. suspensa* does not attack mango in Puerto Rico.

Most larvae (66.5%) were recovered from local varieties like: Mayagüezano, Rosita and Cubano. Infestation rate in these mangoes was highest with 1,560 larvae per thousand mangoes.

On the other hand, the commercially important varieties Keitt, Irwin, Parvin, Palmer and Haden, had an average infestation rate of 27 larvae per thousand mangoes. This low infestation rate is responsible for the general lack of concern by the farmers about this fruit fly.

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²Hooker, C. W., 1913. Report of the entomologist. Annu. Rep. P. R. Agric. Exp. Stn. 1912: 34-6.

³Marlatt, C. L., 1925. In: Public hearing to consider the advisability of restricting or prohibiting the entry from Puerto Rico of fruits and vegetables in the raw or unmanufactured state on account of the West Indian fruit fly, the bean pod borer and other injurious insects. Report. J. Agric. Dep. P. R. 8: 5-46.

⁴McAlister, L. C., 1941. A study of the adult populations of the West Indian fruit fly in citrus plantings in Puerto Rico. USDA-P. Exp. Stn. Bull. 41. Mayagüez, P. R.

⁵Sein, F., 1933. *Anastrepha* (Trypetidae, Diptera) fruit flies in Puerto Rico. *J. Agric. Univ. P. R.* 17: 183-96.

⁶von Windeguth, D., W. H. Price and L. F. Steiner, 1973. Infestations of *Anastrepha suspensa* in fruit on Key West, Florida and adjacent islands. *Fla. Entomol.* 56: 127-31.