

CONCERNING THE OCCURRENCE OF *ANASTREPHA OBLIQUA* (DIPTERA: TEPHRITIDAE,) IN FLORIDA

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Regulatory agencies worldwide take careful note of published literature that describes the distribution of various pests, which they take into account when establishing their quarantine rules for importing agricultural commodities from other countries. Thus, timely and accurate reporting of pest distributions is of great commercial importance.

The West Indian fruit fly, *Anastrepha obliqua* (Macquart) (Diptera: Tephritidae), a serious and highly polyphagous fruit pest, is documented as present in Florida in numerous publications, including some prominent and recent ones. The widely used CABI Distribution Maps of Pests (1988, citing Foote 1965) show *A. obliqua* present in Florida. Likewise, Foote et al. (1993) include the Florida Keys in their distribution map for *A. obliqua*. Weems (1970) wrote that *Anastrepha obliqua* (as *A. mombinpraeoptans*) "apparently . . . exists at a threshold level in Florida. Most recent Florida records are for several adult females in 1957 from Key West and one larva in mango from Ft. Lauderdale, June 25, 1963, which was identified by Dr. R. H. Foote as '*Anastrepha* species, possibly *mombinpraeoptans*.'" A similar comment, "the West Indian fruit fly . . . occurs in southern Florida" was uncritically repeated by Heppner (1991).

I believe that these publications do not correctly reflect the present situation in Florida, and they likely have been in error for several decades. This is based on an examination of the entire collection of this species from the Florida State Collection of Arthropods (FSCA, Gainesville), the official repository for insect specimens of regulatory importance in Florida, and the National Museum of Natural History (NMNH, Washington DC), plus all of the official identification records of the Division of Plant Industry (DPI) regarding detections of this species from 1915 to the present.

Briefly, the history of *A. obliqua* in Florida is as follows (see Clark et al. 1996 and references therein). It was first discovered in Florida in 1930. As a result of that discovery, a large fruit fly survey and eradication campaign was conducted from 1930 until 1936. Eradication actions began in 1934 and included widespread fruit removal and destruction, and biweekly insecticidal sprays. During this time, numerous *A. obliqua* specimens were collected, all from Key West, excepting a single specimen from mainland Florida. The FSCA has 63 specimens taken in Key West from 1931 to 1935 and one specimen from Redlands [Dade Co.] in 1935. The NMNH has 48 specimens from Key

West, which "either have dates from 1931-33 or (the majority) don't have a date other than 'Nov.', but the latter were reared by L. C. McAlister, so they should have originated from the same time period" (A. L. Norrbom, USDA-Systematic Entomology Laboratory, pers. comm.).

The 1957 record noted above by Weems (1970) is doubtful. DPI identification records show that R. H. Foote did identify three specimens of *A. obliqua* in 1957, but these were specimens that had been collected in Key West in 1935. There are no voucher specimens in the FSCA or NMNH to confirm presence of *A. obliqua* in Florida in 1957. Other DPI identification records indicate detection of fruit fly larvae in fruit which were identified as "*Anastrepha mombinpraeoptans*": (1) "Tampa, 1946, fruit?, det[ermination] A. Stone?"; (2) "Miami, hog plum, 1947, det Merrill and G.W. Dekle"; (3) "Miami, 1946, guava, det Dr. A. Stone?"; (4) "Miami, 1947, mango, det Merrill?"; (5) "Ft. Lauderdale, 1963, *Anastrepha* sp. (possibly *mombinpraeoptans* Sein), mango, det R. H. Foote". Fortunately, slide-mounted voucher specimens were retained for instances (1) through (4). Label data for each of these show that larvae were taken from intercepted fruit originating in Puerto Rico. The Ft. Lauderdale larva of instance (5) came from a residential address. Foote correctly left its identification as uncertain, as it is not possible to separate larvae of West Indian fruit fly from those of the Caribbean fruit fly, *Anastrepha suspensa* (Loew), and several other species of *Anastrepha* (Steck et al. 1991). In fact this larva may have been a harbinger of the large colonization by Caribbean fruit fly in south Florida, where adults were first detected in 1965. Unfortunately, the 1963 larva was not retained as a voucher in the FSCA. The final DPI identification record of *A. obliqua* was from two adult specimens trapped in Key West, 1971, determined by Weems. These specimens are in the FSCA. I have re-examined them, and found them to be mis-identified *A. suspensa*.

In summary, there is no confirmed evidence of the presence of *A. obliqua* in Florida since 1935. Apparently, the control actions of 1931-1936 indeed eradicated this pest from Florida as no adult *A. obliqua* has ever again been detected in the field, despite the presence of many thousands of fruit fly detection traps that have been run throughout the Keys and peninsular Florida continuously and year-round since 1956. I think it is safe to say that Florida is completely free of *Anastrepha obliqua* and probably has been so for the past 65 years.

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SUMMARY

A comparison of published and other documented identification records of West Indian fruit fly, *Anastrepha obliqua*, in Florida and their associated museum specimens shows that this pest has not re-established in Florida after its eradication in about 1935.

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