

Schoepfia Fruit Fly, *Anastrepha interrupta* Stone (Insecta: Diptera: Tephritidae)¹

H. V. Weems, Jr. and J. B. Heppner²

The Featured Creatures collection provides in-depth profiles of insects, nematodes, arachnids and other organisms relevant to Florida. These profiles are intended for the use of interested laypersons with some knowledge of biology as well as academic audiences.

Introduction

The schoepfia fruit fly, *Anastrepha interrupta* Stone, is native to southern Florida and is one of six *Anastrepha* species which occur in, or have been established in, Florida at some time. This species was described from southern Florida (Stone 1942) and is thus far known only from coastal counties of southcentral Florida to Key West. The schoepfia fruit fly is only known to feed on fruit of the flowering plant *Schoepfia chrysophylloides* (Weems 1967).

While populations of *Anastrepha interrupta* fluctuate greatly in different years and at different times of the year, this is the most common of the so-called native species, and it has been taken by traps in every month of the year. Only the [Caribbean fruit fly](#), *Anastrepha suspensa* (Loew), believed to be a recent re-introduction into Florida, is more abundant and widespread in Florida.

Distribution

This species is recorded in the following south Florida counties: Brevard, Broward, Collier, Lee, Martin, Miami-Dade, Monroe (including Key West), Palm Beach, and St. Lucie. The type locality is Jensen, Florida.

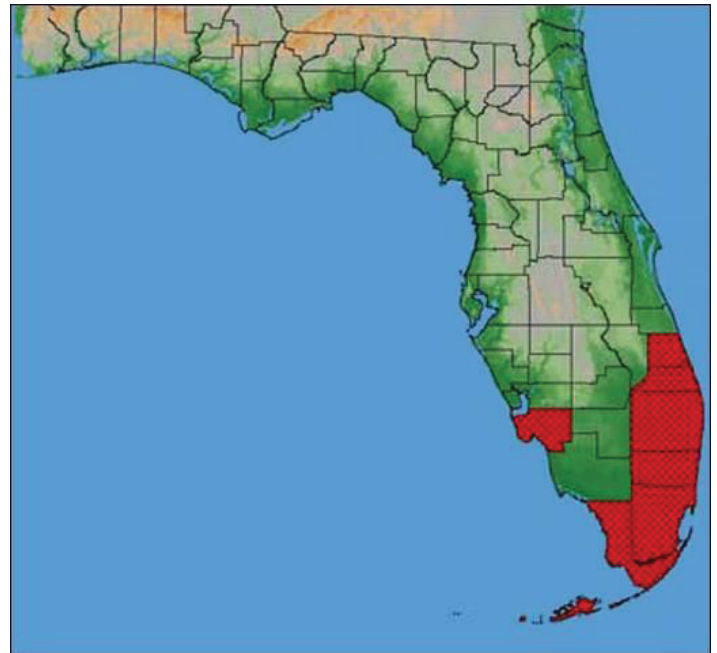


Figure 1. Distribution in Florida of the schoepfia fruit fly, *Anastrepha interrupta* Stone.

Credits: G. J. Steck and B. D. Sutton, Division of Plant Industry

1. This document is EENY267 (originally published as DPI Entomology Circulars 61 and 327), one of a series of the Department of Entomology and Nematology, UF/IFAS Extension. Original publication date January 2002. Revised March 2012, May 2021, and October 2024. Visit the EDIS website at <https://edis.ifas.ufl.edu> for the currently supported version of this publication.

2. H. V. Weems, Jr. (retired) and J. B. Heppner (retired), Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Gainesville, FL 32611.

Description

Adult

This is a small yellowish fruit fly, approximately the size of a house fly, with rather long, patterned wings. Except for *Anastrepha suspensa*, *Anastrepha interrupta* may be distinguished readily from other members of the genus which occur in Florida by the presence of a black scutoscuteellar spot.

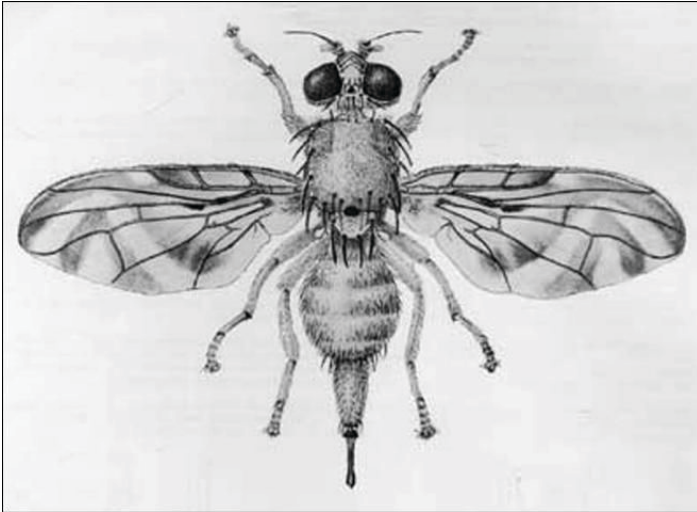


Figure 2. Adult female schoepfia fruit fly, *Anastrepha interrupta* Stone.
Credits: Division of Plant Industry

Anastrepha interrupta may be distinguished from *Anastrepha suspensa* by the shape of the ovipositor of the female. The tip of the ovipositor of *interrupta* is short and broad, with many fine serrations, whereas that of *suspensa* is long and tapering, with larger, rounded serrations occupying the apical two-thirds of the tip.

The thoracic spines of *interrupta* are yellowish brown, while those of *suspensa* are dark brown to black. The wing patterns of the two species, while similar, show characteristic difference. The wing pattern of *interrupta* is mostly yellowish with much less infuscation than that of *suspensa*, and the V band is not connected at its apex with the bands on the anterior portion of the wing, whereas in *suspensa* the V band is distinctly to narrowly connected with the S band on the anterior portion of the wing.

Anastrepha interrupta is closely related to *Anastrepha spatulata* Stone, which has been recorded from the Rio Grande Valley in Texas, Tamaulipas and Baja California in Mexico, and in Panama; but the difference in the wing pattern is so constant that there is little difficulty in distinguishing the two. Furthermore, the two species occupy widely separated geographical ranges, having no endemic host species in common.

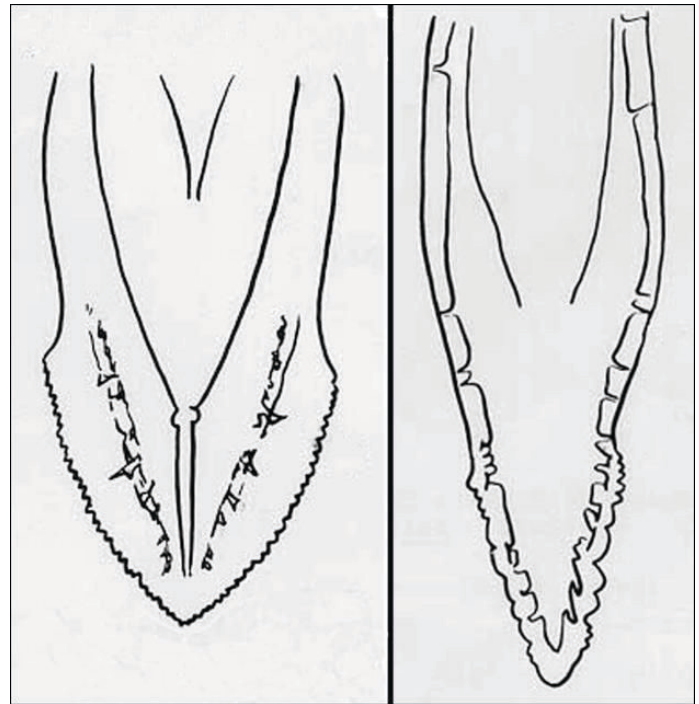


Figure 3. Comparison of the ovipositors of the schoepfia fruit fly, *Anastrepha interrupta* Stone (left), and the Caribbean fruit fly, *Anastrepha suspensa* (Loew) (right).
Credits: Division of Plant Industry

Larva

The larva is white with the typical fruit fly shape: cylindrical-maggot shape, elongate, anterior end narrowed and somewhat curved ventrally, with anterior mouth hooks, ventral fusiform areas, and flattened caudal end. The last instar larvae range in length from 7.5–9.4 mm (~ $\frac{1}{2}$ in). The venter with fusiform areas on segments 2 through 10. The anterior buccal carinae are usually 14–19 in number. The anterior spiracles are nearly straight in lateral view but with ends somewhat curved, and with tubules averaging 10–12 in number.

The cephalo-pharyngeal skeleton has a large pointed convex mouth hook on each side, with rounded dorsal lobe, and each hook is about 2.5 times the hypostome length. The hypostomium possesses an extended elongate subhypostomium. The posthypostomial plates are curved to the dorsal bridge and fused with the prominent sclerotized rays of central dorsal wing plate. The parastomium is broadly elongate. The dorsal wing plate has several prominent rays and a small posterior ray split. The dorsal bridge is relatively evenly sclerotized, with a prominent hood on pharyngeal plate.

Caudal end with paired dorsal papillules (D1 and D2) angled about 45 degrees from each spiracular plate; intermediate papillules 4 in number, with I1-2 in a nearly equidistant triangle with I4, and I3 distant dorso-laterally;

L1 on dorso-lateral edge of caudal end; V1 about equidistant from I4 and anal lobes; posterior spiracles as 3 elongated peritremes (length = 4X width) on each spiracular-plate, with dorsal 2 peritremes angled to center from dorsal direction and remaining peritreme angled from venter; interspiracular processes (hairs) relatively few in number, at 4 sites on each plate, and tips sometimes bifurcate to trifurcate; anal lobes entire.

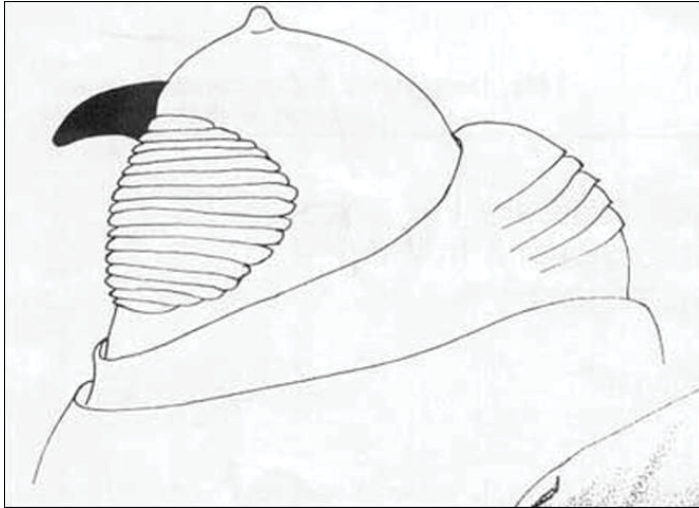


Figure 4. Larval head and buccal carinae of the schoepfia fruit fly, *Anastrepha interrupta* Stone.
Credits: Division of Plant Industry

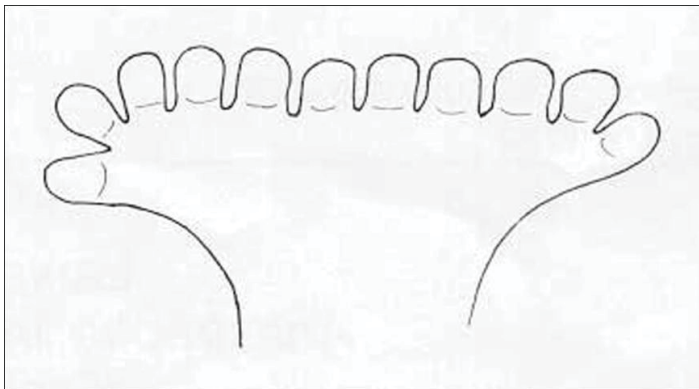


Figure 5. Larval anterior spiracles of the schoepfia fruit fly, *Anastrepha interrupta* Stone.
Credits: Division of Plant Industry

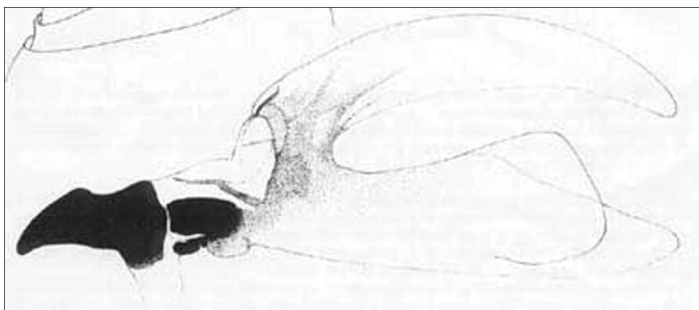


Figure 6. Larval cephalo-pharyngeal skeleton (left side) of the schoepfia fruit fly, *Anastrepha interrupta* Stone.
Credits: Division of Plant Industry

The schoepfia fruit fly larva is particularly distinctive in relation to known *Anastrepha* larvae by the prominent depression of the entire caudal spiracular plate arrangement, together with the pattern of papillules, particularly the four intermediate pairs; This can be compared to an earlier publication on the [Mexican fruit fly](#), *Anastrepha ludens* (Loew), and the [Caribbean fruit fly](#), *Anastrepha suspensa* (Loew) (Heppner 1984).

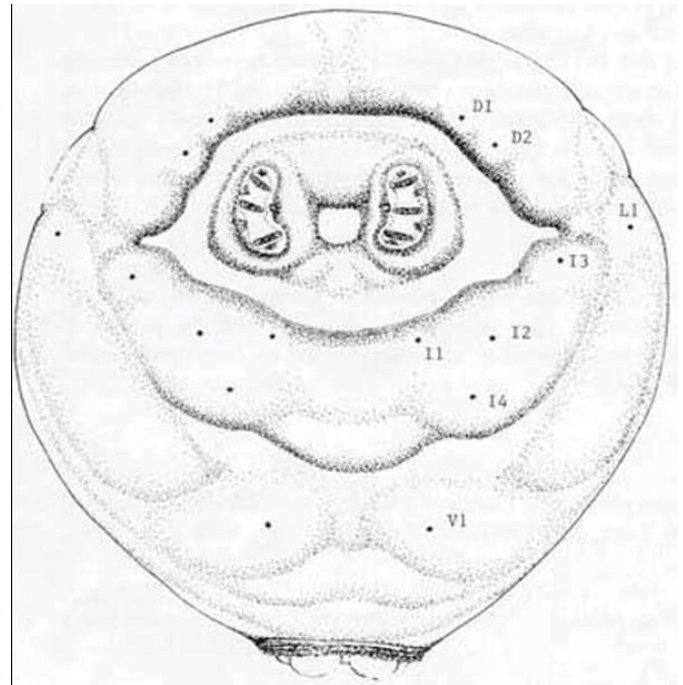


Figure 7. Caudal end of the last instar larva of the schoepfia fruit fly, *Anastrepha interrupta* Stone.
Credits: Division of Plant Industry

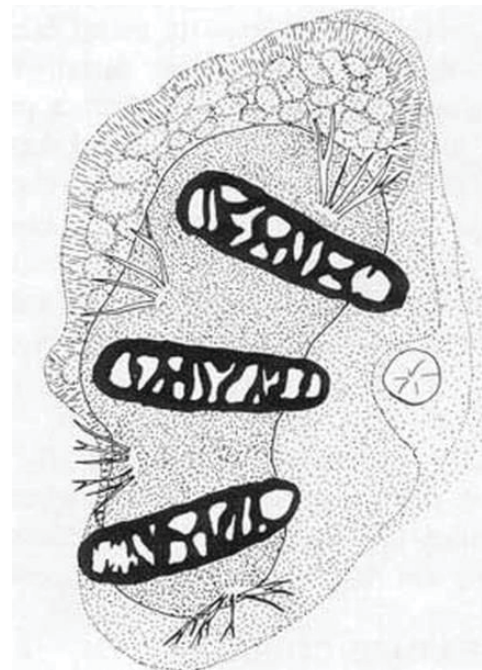


Figure 8. Posterior spiracles (left side) of the schoepfia fruit fly, *Anastrepha interrupta* Stone, with details of one peritreme.
Credits: Division of Plant Industry

Life Cycle

The life history of *Anastrepha interrupta* has not been ascertained, although adults have been reared several times from the fruit of *Schoepfia chrysophylloides* (A. Rich.) Planch. (Schoepfiaceae), a flowering plant indigenous to southern Florida.

Selected References

Heppner JB. 1984. Larvae of fruit flies I. *Anastrepha ludens* (Mexican fruit fly) and *Anastrepha suspensa* (Caribbean fruit fly) (Diptera: Tephritidae). Florida Department of Agriculture and Consumer Services, Division of Plant Industry Entomology Circular 260. 4 pp.

State Plant Board of Florida Eleventh Biennial Report for the period July 1, 1934–June 30, 1936. Jan. 1937. P. 19–20. *Anastrepha*, n. sp. “E” Brown.

Stone A. 1942. The Fruit Flies of the Genus *Anastrepha*. U.S. Department of Agriculture Miscellaneous Publication 439: 1–112.

Weems HV Jr . 1965. *Anastrepha suspensa* (Loew) (Diptera: Tephritidae). Florida Department of Agriculture and Consumer Services, Division of Plant Industry Entomology Circular 38. 4 pp.

Weems HV Jr . 1967. *Anastrepha interrupta* Stone (Diptera: Tephritidae). Florida Department of Agriculture and Consumer Services, Division of Plant Industry Entomology Circular 61. 2 pp.