Asian Guava Fruit Fly

Bactrocera correcta (Bezzi)

Asian guava fruit fly is less well known than other economic fruit flies, because, in its native areas it usually occurs in mixed assemblages of more aggressive competitors, such as oriental fruit fly and peach fruit fly.

Hosts: Important hosts include mango, peach, orange, jujube and tropical almond. Its true host range may be found to be much larger than officially recorded should this fly colonize an area that is free of its usual major competitors.

Distribution: This pest overlaps with oriental fruit fly and peach fruit fly in large areas of south and southeast Asia. It occasionally appears in California and Florida, oftentimes simultaneously with oriental fruit fly.

Biology: It is presumed that the life cycle and biology of Asian guava fruit fly are similar to those of related economic pests such as oriental and peach fruit fly. Males of Asian guava fruit fly also are attracted to methyl eugenol, and all detections in Florida to date have been in fruit fly traps baited with this lure.

Taxonomy: The Asian guava fruit fly looks similar to the peach fruit fly, but has a somewhat smaller body and a darker thorax.

Peach Fruit Fly

Bactrocera zonata (Saunders)

The peach fruit fly is one of numerous fruit fly pests originating in south and southeast Asia that is highly polyphagous: able to infest many different kinds of fruits and vegetables. It has colonized other parts of the world in modern historical times.

Hosts: This pest is known to attack at least 50 different hosts. The most important of these include peach, mango, guava, apricot, fig and citrus.

Distribution: Native to tropical south and southeast Asia, invasive in the Middle Eastern countries, Arabian Peninsula, northeast Africa, Mauritius and Réunion.

Biology: The life cycle and biology of peach fruit fly are generally similar to those of its tropical relatives. Adults are active throughout the year in climates where temperatures exceed about 15ºC. Development time, longevity and reproduction rate are all variable depending on temperature, feeding resources and host plant availability. Males of peach fruit fly are highly attracted to methyl eugenol which is used as a bait in detection traps throughout much of Florida.

Taxonomy: The peach fruit fly and Asian guava fruit fly have nearly identical wing patterns with markings reduced to just a small spot near the wing tip. The peach fruit fly is somewhat larger bodied with a reddish-brown thorax.

Caribbean Fruit Fly

Anastrepha suspensa (Loew)

'Caribfly' massively colonized southern Florida beginning in 1965 and has since spread to over 30 counties throughout south, central and eastern seaboard portions of the state. It is a relatively minor pest compared to other fruit flies, but still causes considerable aggravation to commercial fresh fruit exporters and residential fruit growers.

Hosts: Field infestations are known from about 80 different hosts in Florida, but only a few support large breeding populations. These include loquat, Surinam cherry, tropical almond, guava and rose apple. Caribfly routinely attacks ripe citrus and mango, but damage is relatively small as typically only one or two larvae occur in each fruit.

Distribution: Islands of the Greater Antilles, and southern to central Florida.

Biology: The average life span of adult flies is about two months. Average reproduction rate is less than 200 eggs, much lower than that of its more serious pest relatives. Adults are present year round in Florida but with greatest abundance during April to July.

Protecting Florida from Exotic Fruit Flies

- The State/Federal cooperative fruit fly program monitors over 56,000 fruit fly traps across the state. The traps are checked every 7-21 days, depending on risk.
- The sterile insect technique is a biologically-based reproduction control method started in 1999. This cooperative program releases millions of sterile medflies throughout high-risk areas of the state.
- The Caribbean Fruit Fly Certification Program provides a method through which fresh Florida citrus fruit may be certified free of the Caribbean fruit fly and shipped to those domestic and foreign markets that have established regulations for this pest. Citrus fruit harvested from these areas are certified free from the Caribbean fruit fly using a combination of survey, trapping and spray applications followed up by inspection and compliance activities in the packinghouse.

Fruit Fly Economics

- Since 1929, Florida has battled infestations of exotic fruit flies. It is estimated that close to $70 million dollars has been spent on eradication efforts – that does not include the economic impact to the agricultural industry, the consumer or the backyard gardener.

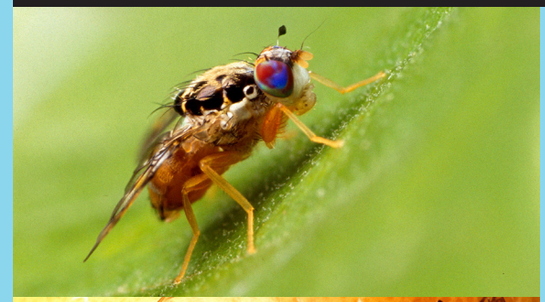
What you can do

- When traveling outside of Florida, do not bring agriculture products back to the state. These items may harbor harmful pests and diseases that threaten Florida's food supply, agriculture industry and backyard gardens.
- Be vigilant – if you see signs of plant disease or an unusual pest, call the helpline.
- When You Travel, Declare Agriculture Items and Don't Pack a Pest – **www.dontpackapest.com**

FDACS.gov
Helpline: **1-888-397-1517**

FDACS-P-00184 Rev. 01/20

Fruit Fly Pests



Florida Department of Agriculture and Consumer Services

Jack Kelly Clark

Mediterranean Fruit Fly

Ceratitis capitata (Wiedemann)

'Medfly' is considered the most serious of the world's fruit fly pests. It is an excellent colonizer with a broad host range and prolific breeding habits. Left uncontrolled, it can devastate many types of fruit crops.

Hosts: At least 250 different fruits, nuts and vegetables are documented as medfly hosts from field and laboratory data. Some important breeding hosts include stone fruits (peach, apricot, etc.), citrus, fig, guava, apple, loquat and mango. Many others may serve as major or minor hosts depending on ecological conditions; these include tomatoes, coffee, peppers, tropical almond, olives and prickly pear cactus. It is not safe to rule out many plants as potential hosts.

Distribution: Medfly is a pest of the tropics and subtropics. It began to spread from its probable ancestral home in equatorial Africa in the early 1800s, infesting first the countries surrounding the Mediterranean Sea, then later other regions of Africa, plus South America, Australia, Hawaii and Central America. It has spread more broadly than any other fruit fly pest.

Biology: Medfly breeds continuously when host fruits are available and temperatures are accommodating. Under optimal conditions, population growth may be explosive, as females are capable of producing 300-800+ eggs in their lifetime (often 2-3 months in the field) and population increases of over 100-fold per generation are possible. Females frequently lay batches of 1-14 eggs in a single fruit. Larvae can jump. Natural adult dispersal distances are small, normally much less than 1 mile. Males are attracted to Trimedlure, a synthetic sex attractant, over short distances, perhaps up to 100-200 meters.

Taxonomy: Medfly is the most widespread and pestiferous species of the genus *Ceratitis*. The genus comprises at least 88 species found in tropical and southern Africa. Another well-known pest in this group is the Natal fruit fly, *Ceratitis rosa.*

Jack Kelly Clark

Oriental Fruit Fly

Bactrocera dorsalis (Hendel)

Oriental fruit fly is a highly polyphagous pest that is able to infest many different kinds of commodities. The larvae travel widely in infested fruit. It is an active disperser and a very aggressive breeder that can displace medfly in some ecological zones.

Hosts: Over 400 host plants for oriental fruit fly have been listed, including most types of commercial fruits such as citrus, mango, peach, plum, apple, fig, banana and others. Additionally, it infests a wide variety of other agricultural products such as coffee, chili pepper, watermelons and also wild hosts. It is not safe to rule out many plants as potential hosts.

Distribution: Common from southern China to northern India; in Hawaii since 1945 and Guam since 1947. It is detected frequently in traps in California.

Biology: Oriental fruit fly breeds continuously in tropical conditions. Females are capable of producing 1,200-1,500 eggs in their lifetime (1-3+ months in the field), and population growth may be very rapid. Females lay batches of 1-20 eggs in a single fruit. Larvae can jump. Young males commonly disperse over several miles before they attain sexual maturity. They are very strongly attracted to and actively imbibe methyl eugenol, a sex attractant that occurs naturally in some tropical plants. An invading population can be forced to extinction through the use of male annihilation technique using ME with an insecticide and widely distributed as bait stations.

Taxonomy: *B. dorsalis* is one member of the oriental fruit fly complex which includes more than 68 species that are very closely related and difficult to identify. The genus *Bactrocera* includes nearly 600 species, many of which are pests of common commercial fruits. Another well-known of these pests is the Queensland fruit fly. Member species occur widely in Asia, Australia and the Pacific Islands.

Jack Kelly Clark

Melon Fly

Bactrocera cucurbitae (Coquillett)

Melon fly is the most destructive pest of melons and squashes in the Indo-Malayan region where it originated.

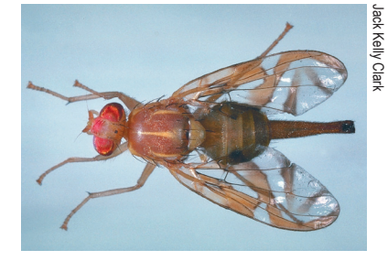
Hosts: Breeding hosts include major cucurbit crops such as cucumber, melons, squash, pumpkin and many types of gourds. Besides the fruit, it also attacks flowers, stems and roots. It can develop in many non-cucurbit plants, such as tomato, orange, mango, peach, avocado, garden bean and others, totaling 80 or more hosts.

Distribution: Widespread in India, throughout southeast Asia, Malaysia, Indonesia, Philippines, China and southern Japan. Also in East Africa, and islands of the Indian Ocean, New Guinea area, Hawaii and Guam.

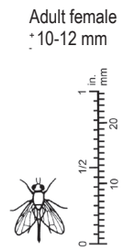
Biology: Development time from egg to adult may be rapid - as little as two weeks. Larvae can jump. Adult lifespan in the field is typically 1-5 months, during which females may lay 300-1,000 eggs. Sexually mature males are strongly attracted to Cuelure, a synthetic sex attractant. Male annihilation technique using Cuelure with an insecticide applied as bait stations may be useful in an eradication program.

Taxonomy: Melon fly is a member of the large subgenus *Zeugodacus* whose members are mostly associated with Cucurbitaceae hosts. In habits and appearance, they are very similar to species of the genus *Dacus*, which includes about 250 species, but are largely restricted to Africa.

Exotic fruit flies are considered some of the most serious of the world's agricultural pests due to their potential economic harm and threat to our food supply. They attack hundreds of different fruits, vegetables and nuts, including oranges, grapefruit, lemons, apples, guava, mango, tomatoes and peppers.



Jack Kelly Clark



Mexican Fruit Fly

Anastrepha ludens (Loew)

'Mexfly' is the most serious fruit fly pest in Mexico because of its wide distribution there, broad host range and prolific breeding habits.

Hosts: A major pest of citrus, mango and peach. As grapefruit is one of mexfly's preferred hosts, its economic impact in Florida could be very significant. It is a seed feeder in its native host, *Sargentia*, a citrus relative.

Distribution: Lower Rio Grande Valley of Texas south through Mexico and Central America to Costa Rica.

Biology: These are relatively large flies that are very long-lived, up to 11 months. Females may lay 1,500 eggs in their lifetime. Larvae cannot jump. There are no artificial sex attractants available for detecting mexfly. Detection is based on short-range attraction of female flies to protein-baited traps.

Taxonomy: There are about 250 species of the genus *Anastrepha*, and about 15 of these are major or minor pests. All are restricted to the Western Hemisphere, with various species ranging from Argentina to the southern United States.