

Oriental fruit fly

What is Oriental fruit fly complex?

Papaya fruit fly (*Bactrocera papayae*), Oriental fruit fly (*Bactrocera dorsalis*) and Carambola fruit fly (*Bactrocera carambolae*) are all part of the Oriental fruit fly complex. All three species look extremely similar, but are all exotic, and can only be distinguished by a fruit fly expert.

Fruit flies are major pests and have been recorded on over 200 types of fruit and vegetables and can cause losses of up to 100% of unprotected fruit.

What do they look like?

Fruit flies are about the same length as a common housefly, but more slender. They grow to 6-8 mm in length and have clear wings, generally black chests and paler abdomens with a distinctive black T-shaped marking on the back. The Queensland fruit fly, by comparison, is much the same size but is an overall reddish-brown colour. An expert eye is needed to identify Oriental fruit flies under a microscope.

Pupae are white to yellow-brown in colour and barrel shaped, whilst larvae are about 10 mm long and creamy white. Eggs are white, elongate and elliptical measuring about 0.9 x 0.2 mm.

What can they be confused with?

Symptoms are similar to those caused by endemic fruit flies, such as the Queensland fruit fly. Papaya, Oriental and Carambola fruit flies look very similar to each other. Any fruit flies that look different from those regularly encountered should be reported and further examined by an entomologist.

What should I look for?

Adult female flies have exceptionally long ovipositors, allowing them to lay their eggs just under the skin of fruit, depositing fruit decaying bacteria at the same time. Within one to two days, the eggs hatch into maggots (larvae) which feed on the decaying fruit,



Scott Bauer

The female has a serrated-tip ovipositor for penetrating the skin of fruit



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A T-shaped mark is often visible on the thorax



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Adult flies have a narrow brown band along the edge of their wings





causing premature fruit drop. Considerable damage can occur inside the flesh before obvious signs of infestation can be seen on the fruit. The most obvious signs of infestation are small discoloured patches on the skin, which develop from punctures or stings made by the female as she lays her eggs.

Infested young fruit becomes distorted, callused and usually drop, while mature fruit develop a water soaked appearance. The larval tunnels provide entry points for bacteria and fungi that cause the fruit to rot.

How does it spread?

Adult flies can disperse over long distances through flight, while the transport of larvae in infested fruit can result in global movement.

Where is it now?

Papaya fruit fly is native to and widespread in south-east Asia (Thailand, Malaysia, Borneo, Singapore, and Indonesia). It is present in most provinces of mainland Papua New Guinea. It was detected in Cairns, Australia in October 1995 and was eradicated. Oriental fruit fly is widely spread throughout Asia and in the north of South America and parts of the South Pacific. Carambola fruit fly is found in South America.

How can I protect my orchard from Oriental fruit fly?

Source plant material only from clean, accredited suppliers, and preferably material that is certified. Check your orchard frequently for the presence of new pests and unusual symptoms. Make sure you are familiar with common mango pests so you can tell if you see something different.

If you see anything unusual, call the Exotic Plant Pest Hotline

**EXOTIC PLANT PEST HOTLINE
1800 084 881**



Adults grow up to 6-8mm in length

Merle Shepard, Gerald R. Carner and P.A.C. Ooi, Insects and their Natural Enemies Associated with Vegetables and Soybean in Southeast Asia, Bugwood.org



The thorax has yellow stripes on top and yellow marks on each side

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