

## Oriental fruit fly complex

### What is Oriental fruit fly complex?

Papaya fruit fly (*Bactrocera papayae*), Oriental fruit fly (*B. dorsalis*) and Carambola fruit fly (*B. carambolae*) are all part of the Oriental fruit fly complex. All three species look extremely similar 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% in unprotected fruit.

### What does it look like?

Fruit flies are about the same length as a common housefly but more slender. They grow 6-8 mm in length and have clear wings, generally black chests and paler abdomens with a distinctive black T-shaped marking. 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 flies such as Queensland fruit fly or Med 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, causing premature fruit drop.



Scott Bauer

The female has a long ovipositor for penetrating the skin of fruit



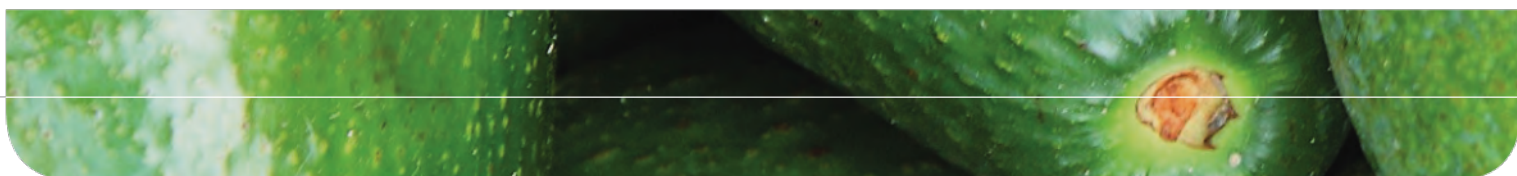
Division of Plant Industry Archive, Florida Department of Agriculture and Consumer Services, Bugwood.org

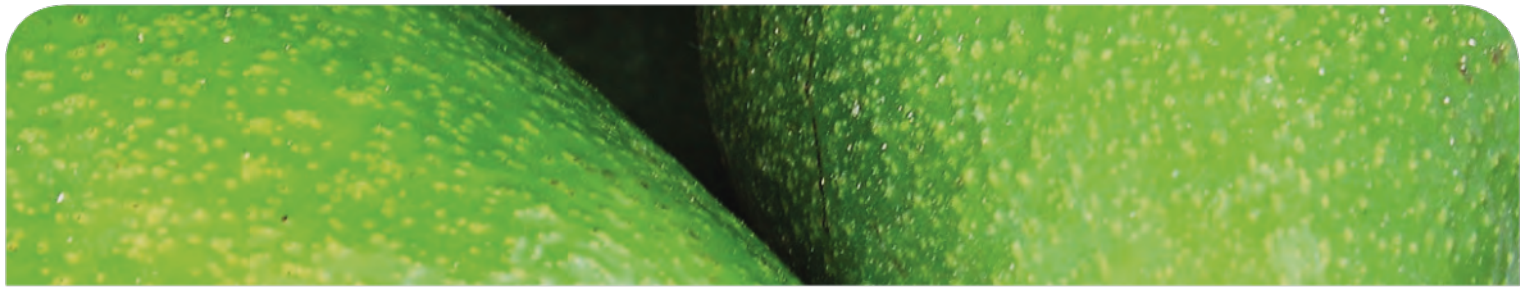
A T-shaped mark is often visible on the abdomen



Pest and Diseases Image Library, Bugwood.org

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





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 become distorted, callused and usually drop; 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 fruit flies?

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 avocado insect pests so you can tell if you see something different.



Adults grow up to 6-8mm in length

Marie Sheppard, Gerald R. Carner and P.A. C. Oo, Insects and their Natural Enemies Associated with Vegetables and Soybean in Southeast Asia, Bugwood.org



The thorax (chest) has yellow stripes on top and yellow marks on each side

Division of Plant Industry Archive, Florida Department of Agriculture and Consumer Services, Bugwood.org

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

EXOTIC PLANT PEST HOTLINE  
1800 084 881

Disclaimer: The material in this publication is for general information only and no person should act, or fail to act on the basis of this material without first obtaining professional advice. Plant Health Australia and all persons acting for Plant Health Australia expressly disclaim liability with respect to anything done in reliance on this publication.

For more information visit [www.planthealthaustralia.com.au](http://www.planthealthaustralia.com.au)