

Exotic fruit flies

What are exotic fruit flies?

Fruit flies are major agricultural pests, recorded on over 200 types of fruit and vegetables with the potential to cause losses of up to 100% in unprotected fruit. Major economic impacts are also experienced through restrictions on local trade and international market access. There are many fruit flies not currently present in Australia that would present a major risk to the viticulture industries if they entered and became established. Some of these species include the Natal fruit fly (*Ceratitis rosa*), and the Oriental fruit fly (*Bactrocera dorsalis*).

What do they look like?

Oriental fruit fly 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. 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.

The Natal fruit fly does not have a T-shaped marking on its back but instead has a black and yellow striped abdomen.

For help with identifying fruit flies, go to fruitflyidentification.org.au

What can they be confused with?

There are several species of fruit fly already present in Australia. These include Mediterranean fruit fly, present in parts of Western Australia, and Queensland fruit fly which is widespread throughout Queensland and has a limited distribution in the Northern Territory and south-eastern Australia. Natal fruit fly can be confused with the Mediterranean fruit fly and the Oriental fruit fly can be confused with other *Bactrocera* species. Any fruit fly that looks different to those regularly encountered should be reported and further examined by an entomologist.



Adult Oriental fruit fly (*B. dorsalis*) fruit flies have a narrow, brown band along the edge of their wings

Mark Schutze and Jane Royer, Department of Agriculture and Fisheries, Queensland



Bactrocera sp. larvae infesting a developing melon

Centre for Overseas Pest Research, London, Centre for Overseas Pest Research, London, Bugwood.org



The Natal fruit fly has bands of yellow-brown on its wings

Mark Schutze and Jane Royer, Department of Agriculture and Fisheries, Queensland

What should I look for?

As well as looking for adults, look for larvae in suspect fruit which are the typical white colour and cylindrical shape of maggots and at full size measure about 7 mm. These appear following the laying of white banana shaped eggs beneath the skin of ripening fruit. Emerging larvae tunnel into the fruit to feed and contaminate it with frass. They leave holes when exiting to the ground to pupate in soil.

Fruit should be inspected for symptoms of infestation, such as puncture marks and black or brown lesions resulting from the associated decomposition of fruit. Infested fruit appears water-soaked or distorted, and considerable damage can occur inside the flesh before obvious signs of infestation can be seen on the fruit. Premature fruit drop may also occur.

How do they spread?

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

Where are they now?

The Oriental fruit fly is widely spread throughout Africa, Asia and parts of the South Pacific. The Oriental fruit fly (formerly called the papaya fruit fly) was detected in Cairns, Australia, in October 1995 and was subsequently eradicated.

The Natal fruit fly is present in some African countries.

How can I protect my vineyard from exotic fruit flies?

Check your vineyard frequently for the presence of new pests and unusual symptoms. Make sure you are familiar with common grape pests so you can tell if you see something different and if you suspect something unusual report it to the **Exotic Plant Pest Hotline** on **1800 084 881**.



Adult Oriental fruit fly showing reddish-brown scutum (back surface of fly behind head and between the wings) and yellow scutellum (the triangle on the bottom edge of the scutum)

Florida Department of Agriculture and Consumer Services, Bugwood.org



Oriental fruit fly females have a long ovipositor for penetrating the skin of fruit

Scott Bauer, USDA Agricultural Research Service, Bugwood.org

**IF YOU SEE ANYTHING UNUSUAL,
CALL THE EXOTIC PLANT PEST HOTLINE**

1800 084 881

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