



## Pacific Pests and Pathogens - Fact Sheets

### Citrus rust mite (344)



Photo 1. Citrus rust mite, *Phyllocoptura oleivora*, damage on an orange.

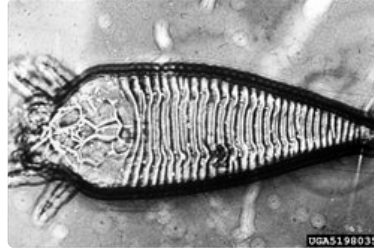


Photo 2. Adult citrus rust mite, *Phyllocoptura oleivora*.

#### Common Name

Citrus rust mite

#### Scientific Name

*Phyllocoptura oleivora*; previously known as *Eriophyes oleivorus*.

#### Distribution

Worldwide. Asia, Africa, North, South and Central America, the Caribbean, Europe, Oceania. It is recorded from Australia, Cook Islands, Fiji<sup>1</sup>, and New Zealand.

#### Hosts

*Citrus* species.

#### Symptoms & Life Cycle

A microscopic mite does the damage; it feeds on the rind of fruit killing the cells causing the fruit to become slightly rough, and turn silvery (grapefruit and lemons), reddish or black (oranges) (Photo 1). The fruit may be smaller than usual, and do not store well. In heavy infestations, leaves and green twigs bronze, and trees are less vigorous. The mites prefer the side of the fruit facing the sun; consequently, fruit damage is greater on the outside of the tree.

Eggs are laid singly in pits or depressions in the leaves and fruit, or in cracks in the bark. The nymphs are similar to the adults, but paler and slimmer. The adults are yellow to yellow-brown, wedge or spindle-shaped, with two pairs of legs (Photo 2). The female is about 0.15 mm long, slightly longer than the males, and too small to be seen with the unaided eye. The life cycle is from 7 to 10 days depending on the temperature. The mites prefer warm, humid weather.

Spread occurs locally in rain splash, and over greater distances on wind currents, birds, insects, machinery, and clothing of human beings. It also spreads with the trade in plants and plant parts, both domestically and internationally.

#### Impact

Considered an important pest in some countries (e.g., Australia, Argentina, China, Egypt) as it can reduce size, weight and quality of fruit, juice content, and increase fruit drop.

#### Detection & Inspection

Look for the mites using a hand lens (x10 or higher magnification). Examine small fruit on inside of the canopy,

looking at the stem end of the fruit, in particular. Look to see if the mites are all over the fruit; if so, numbers of mites are high. If damage is seen, that means that large numbers of mites are present already, and it may be too late to spray.

## Management

### NATURAL ENEMIES

Predatory mites, *Amblyseius* species, keep population of the citrus rust mite in check. They are off-white, much larger than the citrus rust mite, up to 0.4 mm, and can be seen with the naked eye along the side of veins, or under the calyx of the fruit (leaves at the stalk end). Predators, such as ladybird beetles are less effective until numbers of mites are large.

### CHEMICAL CONTROL

Only consider using a pesticide before there are large infestations. But note, spraying will kill predatory mites and may upset biological control and make the situation worse. Only spray those trees where the infestation needs to be brought under control, not every tree if there is no need.

If pesticides are needed consider the following:

- Use lime sulphur (polysulphide sulphur) or wettable sulphur; leave at least 30 days between spraying lime sulphur and sprays of oil. Take care to following manufactures instructions as sulphur can burn the leaves.
- Alternatively, use white oil (made from vegetable oils), soap solution, or horticultural oil (made from petroleum) (see **Fact Sheet no. 56**).
  - White oil:
    - 3 tablespoons (1/3 cup) cooking oil in 4 litres water.
    - ½ teaspoon detergent soap.
    - Shake well and use.
  - Soap:
    - Use soap (pure soap, not detergent).
    - 5 tablespoons of soap in 4 litres water, **OR**
    - 2 tablespoons of dish washing liquid in 4 litres water.
- Commercial horticultural oil can also be used. White oil, soap and horticultural oil sprays work by blocking the breathing holes of insects and mites causing suffocation and death. Spray the undersides of leaves; the oils must contact the mites. A second application of soap or oils may be necessary after 3-4 weeks.
- Alternatively, use abametin, a miticide/insecticide, made from a soil bacterium.

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<sup>1</sup>Information from Swaine G (1971) *Agricultural Zoology in Fiji*. Her Majesty's Stationery Office, London; and CABI (2017) *Phyllocoptrata oleivora* (citrus rust mite) Crop Protection Compendium ([www.cabi.org/cpc](http://www.cabi.org/cpc)); and Mite pests of citrus (1983) Agfacts NSW Agriculture ([http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0006/138705/mite-pests-citrus.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0006/138705/mite-pests-citrus.pdf)); and from Citrus rust mite (silver mite) UC/IPM University of California Agriculture & Natural Resources ([http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0006/138705/mite-pests-citrus.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0006/138705/mite-pests-citrus.pdf)). Photo 1 Don Ferrin, Louisiana State University Agricultural Center, Bugwood.org. Photo 2 Florida Division of Plant Industry, Florida Department of Agriculture and Consumer Services, Bugwood.org.

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