

Capsicum *Aleurotrachelus* whitefly (168)

Common Name

Aleurotrachelus or Solanum whitefly

Scientific Name

Aleurotrachelus trachoides

Distribution

South and Central America, and the Caribbean, with limited distribution in Africa. It is recorded from Guam, Federated States of Micronesia, Fiji, Nauru, French Polynesia, and Tonga.

Hosts

Wide. Common on plants in the Solanaceae family, e.g., capsicum, chilli, eggplant and relatives, tobacco, tomato. Also, brassicas, citrus and cucurbits are hosts. In the Federated States of Micronesia, it is severe on capsicum, kava, *Ixora* and other ornamentals, and also on the vine, *Merremia*. In Palau, it is common on *Duranta erecta* (golden bush or pigeonberry).

Symptoms & Life Cycle

The adult is similar to the more widespread spiralling white, *Aleurodicus dispersus*, measuring about 2-3 mm in body length (Photo 1). Eggs are laid in a circle on the lower surface of young leaves (Photo 2). The larvae pass through four stages; the first ones walk short distances (or are blown in the wind), and are called 'crawlers'. These then settle, and the remaining three larval stages remain in the same place. The larvae are at first brown and then black and partly covered by thick cottony white filaments. (Photos 3,4&5).

The final larval stage is important for identifying whiteflies.

Impact

Damage is caused by the whitefly piercing the leaf and sucking the sap; this leads to early death of the leaf when whitefly numbers are high. Damage is also caused by build-up of sooty mould. Sooty moulds (fungi) grow on the honeydew produced by the whiteflies and their nymphs as they feed. The mould weakens the leaves, as they cannot get sunlight for normal growth (**see Fact Sheet no. 51**).

Detection & inspection

Look for the white winged adults on the underside of the leaves, and the circular egg masses. Look for the oval-shaped larvae, which are at first brown and later black. Look for the curly strands of wax produced by the larvae.

Management

NATURAL ENEMIES

A minute wasp, *Encarsia formosa*, is well known as a biological control agent for this whitefly, and has been widely distributed. Other parasitoids are also possibilities for biocontrol, e.g., *Delphastus catalinae* and *Eretmocerus* sp. Where the whitefly exists and is not being controlled, introduction of the parasitoids should be considered, following the guidelines of the UN/FAO. Fungi also attack the larval stages of *Aleurotrachelus trachoides*. The fungus, *Aschersonia* (probably *Aschersonia aleyrodis*), is common on the larvae of the whitefly in the Federated States of Micronesia (Photos 5-8). This fungus is easy to grow on artificial media and could be

CHEMICAL CONTROL

While waiting for the introduction of parasitoids, as well as tests to make sure that they are effective and safe in the environment, an insecticide may need to be used. Soap, white or horticultural oil (**see Fact Sheet no. 56**), or a synthetic pyrethroid can be used. The treatments are best done when the whiteflies have hatched from the eggs or when still in the early larval stage, as they have soft bodies and are easily killed by insecticides. Synthetic pyrethroid insecticides are likely to kill natural enemies, so should be used with caution.

When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval. **Recommendations will vary with the crop and system of cultivation. Expert advice on the most appropriate pesticides to use should always be sought from local agricultural authorities.**

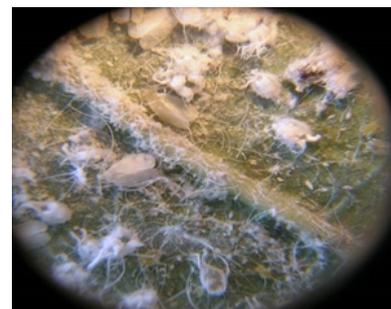


Photo 1. Adult *Aleurotrachelus* whitefly. Note the curly strands of wax.

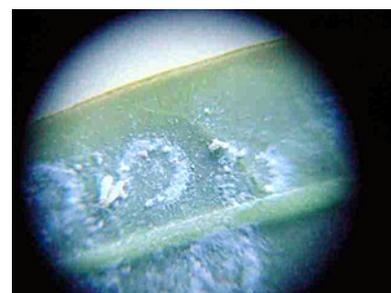


Photo 2. Adult *Aleurotrachelus* whitefly and the circular egg mass characteristic of this insect.



Photo 3. Larvae of the *Aleurotrachelus* whitefly at an early stage.



Photo 4. Late stage larvae of *Aleurotrachelus* whitefly which are now black.



Photo 5. The late stage of the larvae are black. In this photograph an orange ring of the fungus *Aschersonia aleyrodis* is present.



Photo 6. Fungus, probably *Aschersonia* sp. growing on pupae of the whitefly, *Aleurotrachelus trichoides*. As it produces spores so it becomes orange.



Photo 7. Complete colonisation of the pupae of *Aleurotrachelus trichoides* on the underside of a kava leaf by the fungus, *Aschersonia* sp.



Photo 8. Magnified pupae of *Aleurotrachelus trichoides* showing that the fungus, *Aschersonia* sp., has formed a crust over them.

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Information from Kumar TR *et al.* (2016) *Aleurotrachelus trichoides* Back. Featured Creatures, Entomology & Nematology, UF/IFAS, University of Florida. (http://entnemdept.ufl.edu/creatures/veg/Aleurotrachelus_trichoides.htm); CABI (2019). *Aleurotrachelus trichoides*. Crop Protection Compendium. (<https://www.cabi.org/cpc/datasheet/4410>). Photos 1-8 Konrad Engelberger, Pohnpei, Federated States of Micronesia.

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