

Pacific Pests, Pathogens and Weeds - Online edition

Sweetpotato red leaf beetle (053)

Common Name

Sweetpotato red leaf beetle, red sweetpotato beetle

Scientific Name

Candezea (*Monolepta*) species. There has been a recent revision of the genus, so previous records are now in doubt. However, *Candezea palustris* has been recorded from Solomon Islands.

Distribution

It is recorded from Australia, New Caledonia, Solomon Islands, Papua New Guinea, and Vanuatu.

Hosts

Sweetpotato and kangkong (*Ipomoea aquatica*), and related *Ipomoea* species (plants in the morning glory family). The beetle is seen commonly on other crops, but does not appear to feed on them.

Symptoms & Life Cycle

Adult beetles (Photo 1) feed on leaves, chewing holes, especially in the middle of the leaf between the veins (Photos 2-4).

The biology and life cycle has not been studied for *Candezea palustris*. The following information is from a similar pest species in Australia (*Monolepta australis*).

Eggs are laid under the soil surface. The white cylindrical grubs or larvae feed on roots and pupate in the soil. The life cycle takes about 2 months. There may be three to four generations a year. If larval populations in the soil are high, the emerging beetles will form a swarm that migrates into crops nearby.

Impact

The impact is greatest to young plants and can delay establishment and early growth (Photo 5). Damage also occurs on flowers. The effect of the damage on storage root yields has not been determined. Probably, the impact is small as long as the plants recover from the initial attack after planting. There is also the possibility that *Candezea* damages the fine roots and stems and allows entry of other organisms, fungi and nematodes especially, but no studies have been done.

Detection & inspection

Look for red oval beetles, about 6 mm long, on the leaves and flying between them. They have a small black triangular spot at the base of the wing cases, and are black underneath. They are often seen in groups on young and old leaves. Look for numerous small holes in the leaves between the veins. Adults are strong fliers, and quickly take to the wing when disturbed.

The red pumpkin beetle, *Aulacophora*, is similar and often mistaken for *Candezea*. It has a groove across the base of the thorax - the part behind the head. By contrast, *Candezea* has a smooth thorax. Also, *Aulacophora* is larger than *Candezea* (see **Fact Sheet no. 40**).



Photo 1. Sweetpotato red leaf beetle, *Candezea palustris*.



Photo 2. Leaves eaten by sweetpotato red leaf beetle, *Candezea palustris*.



Photo 3. Only the veins remain on many leaves damaged by the sweetpotato red leaf beetle, *Candezea palustris*.



Photo 4. Leaves eaten by sweetpotato red leaf beetle, *Candezea palustris*.

Management

There is little known about the natural control of the sweetpotato red leaf beetle. There are no known predators or parasites effective against high populations. The beetles contain chemicals that visual predators (birds and lizards) do not like, and they avoid them. The bright colours of this beetle warn predators that they are distasteful.

RESISTANT VARIETIES

None known, but fast-growing varieties are more likely to outgrow the damage caused by the beetles after planting. Look for differences in damage between varieties.

CULTURAL CONTROL

Before planting:

- Avoid planting new crops next to those already infested with the beetles

During growth:

- Provide conditions for healthy rapid plant growth, especially for cuttings; these may include manures, mulches, commercial fertilizers, as well as adequate water.
- In the early morning or evening, it is possible to catch the beetles in flight; this is a useful control method in small gardens. Perhaps a game for children!

After harvest:

- Collect and destroy the vines, before planting a new crop.

CHEMICAL CONTROL

- Ash may be effective against sweetpotato red leaf beetle. Apply to the crop as soon as the pest is seen; do not wait until the population is high. (**See Fact Sheet no. 56**).
- Alternatively, add ½ cup of wood ash and ½ cup of lime in 4 L water; leave to stand for some hours; strain; test on a few infested plants first to make adjustment to the strength before going into large-scale spraying.
- Use plant-derived products, such as derris, pyrethrum or chilli (with the addition of soap).
- Note, a variety of *Derris*, brought many years ago to Solomon Islands from Papua New Guinea, is effective as a spray. It contains rotenone, an insecticide, so it should be used with caution. There may be varieties of *Derris* (fish poisons) in your country that can be tried (**see Fact Sheet no. 56**).
- Alternatively, synthetic pyrethroids are likely to be effective, but will also kill natural enemies.
- As infestations are often patchy, consider spot spraying or perimeter spraying where numbers are highest, leaving most of the crop unsprayed.

When using a pesticide (or biopesticides), 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 pesticide to use should always be sought from local agricultural authorities.



Photo 5. Severe damage on young sweetpotato by sweetpotato red leaf beetle, *Candezea palustris*.

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Information from Chris Reid (pers.comm.), Australian Museum, Sydney, and Business Queensland (2019) Leaf beetles in field crops. Queensland Government. (<https://www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/crop-growing/pests-field-crops/leaf-beetles>); and from DAF (2017) Red-shouldered leaf beetle. Queensland Government. (<https://www.daf.qld.gov.au/business-priorities/agriculture/plants/fruit-vegetable/insect-pests/red-shouldered-leaf-beetle>).

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