

Asian citrus psyllid

What is an Asian citrus psyllid?

Like the African citrus psyllid, the Asian citrus psyllid (*Diaphorina citri* Kuwayama) is a sap-sucking insect that can transmit the lethal citrus disease, huanglongbing—also known as ‘citrus greening’.

While the insect itself is not known to be a major citrus pest, huanglongbing is a serious threat to citrus-producing areas worldwide. The Asian citrus psyllid, African citrus psyllid and huanglongbing are not found in Australia.

What does Asian citrus psyllid look like?

Adults

- Adults are small (3–4 mm), brownish, sap-sucking insects.
- The forewings are distinctively patterned with mottled brown patches.
- The abdomen has a pointed shape when viewed from above.
- Adults have a distinctive feeding posture, with the head down, almost touching the plant surface, and the body lifted at 45°.



Photo courtesy of A. Beattie, University of Western Sydney

Nymphs

- Nymphs are dull orange with red eyes.
- They can secrete white, string-like honeydew that may melt to form droplets at temperatures above 36 °C.
- They can be difficult to see because they are small, flat, and close to the surface of twigs and leaves.
- They are mainly found on buds, leaves and stems of young flushing growth less than 50 mm long.



Photo courtesy of A. Beattie, University of Western Sydney

Eggs

- Eggs are bright yellow-orange and almond-shaped.
- They are laid in groups on buds and young flush tips less than 10 mm long.



Eggs on young citrus flush

Photo courtesy of A. Beattie, University of Western Sydney

What symptoms does Asian citrus psyllid cause on plants?

- In the Americas, high numbers of nymphs distort the growth of leaves and stems and may cause death of new growth. Notching of leaves may also occur. These symptoms are not common in Asia.
- The honeydew produced by Asian citrus psyllid can lead to sooty mould growth on plants.

Which host plants are affected?

All citrus cultivars are hosts of the psyllid (e.g. orange, grapefruit, mandarin, tangelo, lemon, lime, kumquat, pomelo, trifoliolate orange and native citrus species). Some species and varieties are better hosts than others. *Murraya* spp. (native and ornamental forms of mock orange/orange jasmine) and *Bergera koenigii* (curry leaf) are also favoured hosts.

Asian citrus psyllid can also feed on *Afraegle* spp. (Gabon powder-flask, Nigerian powder-flask), *Atalantia buxifolia* (Chinese box-orange), *Balsamocitrus dawei* (Uganda powder-flask), *Citropsis* spp. (west African cherry-orange, Gillet's cherry-orange), *Limonia acidissima* (wood apple, elephant apple), *Merrillia caloxylon* (Malay lemon), *Naringi crenulata* (hesperethusa), *Pamburus missionis*, *Swinglea glutinosa* (tabog), *Triphasia trifolia* (lime berry), *Clausena* spp. (e.g. wampee), *Toddalia asiatica* (orange-climber, forest pepper) and *Vepris lanceolata* (white ironwood).



Adult Asian citrus psyllid laying eggs on *Murraya*

Photo courtesy of A. Beattie, University of Western Sydney

Where does Asian citrus psyllid occur?

Asiatic citrus psyllid occurs throughout Asia, and in parts of North, South and Central America, and some islands off Africa. Closer to Australia, it is found in Indonesia (including Papua), East Timor and north-western Papua New Guinea. The psyllid was detected near Darwin in 1915, but eradicated during eradication of an incursion of citrus canker. There have been no detections of the psyllid in Australia since then.

How does Asian citrus psyllid spread?

Long distance spread most commonly occurs via the movement of plant material infested with the psyllids. Ornamentals and food plants such as mock orange/ orange jasmine (*Murraya*) and curry leaf (*Bergera koenigii*), respectively, have been known to spread psyllids. Tropical storms and cyclones may also lead to long distance spread.

Asian citrus psyllid and huanglongbing could be introduced into Australia through the illegal importation of host plants, leaves such as kaffir lime leaves or curry leaves for cooking, or budwood. Government closely regulates approved imports of plant material and monitors for illegal plant movement.

How do I look for Asian citrus psyllid?

Regularly monitor common host plants, such as citrus, *Murraya* spp. and curry leaf:

- Inspect new flushing growth (from 5–50 mm long) for adults, nymphs and eggs, particularly in spring, within 14 days of flower buds opening.
- While adults can be found all year round, eggs and nymphs will only be found when plants are producing new flushing growth.
- Eggs will often be nestled in crevices of unfolded leaves.
- Look for the cause of sooty mould or honeydew on plants.
- Look for the cause of leaf distortion or brown shrivelled shoot tips.
- Look for adults on mature leaves, especially the underside of leaves in between flush events, particularly in regions with distinct winters.



Adults feeding, nymphs and eggs

Photo courtesy of A. Beattie, University of Western Sydney

How can I protect my farm from Asian citrus psyllid?

There are simple steps you can take to protect your farm:

- To avoid introducing Asian citrus psyllid onto your property, establish new plantings with reputable pest-free and disease-free nursery stock. On receipt of any new plants, check that they are free from pest and disease. If Asian citrus psyllid is detected, isolate the nursery stock from healthy plants until official checks are completed.
- Do not illegally import plant material from overseas.
- Make sure that you and your farm workers are familiar with all life cycle stages of the psyllid, its characteristic honeydew, and deformed flush growth. Regularly check your orchard and report any unusual or unfamiliar symptoms. Be conscious that the psyllid can transmit the lethal citrus disease, huanglongbing.

Have you seen Asian citrus psyllid?

In Queensland, the Asian citrus psyllid is a prohibited matter under the Biosecurity Act 2014. If you believe that you may have detected Asian citrus psyllid, you need to report it immediately to Biosecurity Queensland. You must also take all reasonable steps to minimize the risks of spreading the pest or making the situation worse.



Asiatic citrus psyllid nymphs on young citrus leaves

Photo courtesy of A. Beattie, University of Western Sydney

Further information

Call Biosecurity Queensland on **13 25 23** or visit our website at **www.biosecurity.qld.gov.au**

Be on the lookout for this pest and immediately report them to Biosecurity Queensland. Do not move any plant material off your property—this can spread the pest.

Call Biosecurity Queensland on 13 25 23 or the National Exotic Plant Pest Hotline on 1800 084 881.