

Insect Vector of Citrus Greening Disease

by

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An insect known as citrus psyllid is a vector of the citrus greening disease which is a devastating disease of citrus.

Its identification is as follows:

Citrus psyllid, *Diaphorina citri* Kuwayama

Order: Hemiptera

Sub Order: Stenorrhyncha

Super family: Psylloidea

Family: Psyllidae

Other name: Citrus psylla, Asian citrus psyllid, Oriental citrus psyllid, Asiatic citrus psyllid

Description of psyllid and its life stages

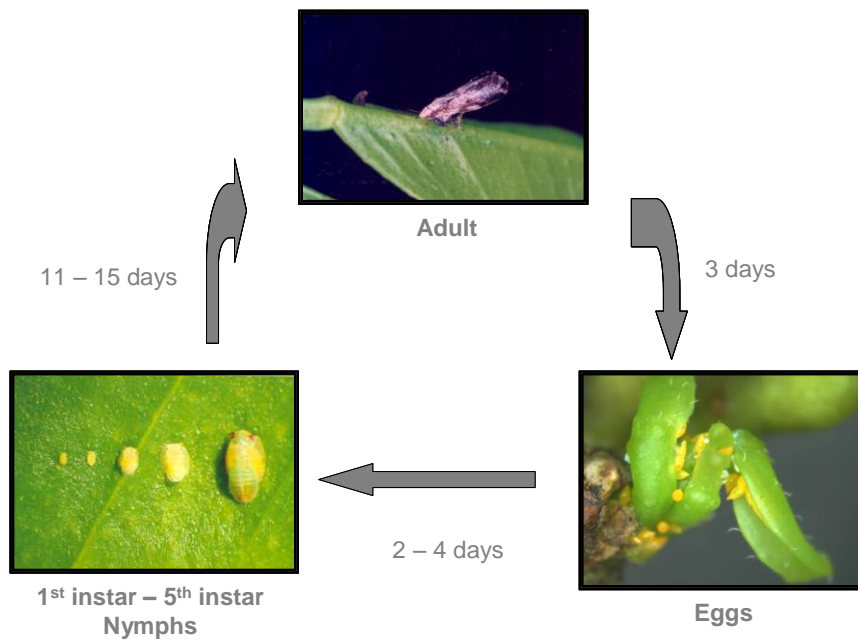
The adults are very active jumping small insect with sizes of 2.5 to 3.5 mm long and grey brown in colour. Their wings are held roof-like over the body. They are usually found on the underside of leaves and while at rest, their heads are down and body raised upwards. Their life span is about 3 to 6 months.



Eggs are bright yellow and 0.3 mm long. They are elongated, football shaped, 200 to 800 eggs are laid in a female life span. They are laid on the tips of growing shoots.



One life cycle takes about 16- 22 days.



Damage and its symptoms

Disease transmission is via infective psyllid transmission of the pathogen, *Candidatus Liberobacter asiaticum*. This bacterium is found in the haemolymph of the psyllids. Direct feeding is caused both nymph and adult, which suck plant sap from the buds and leaves resulting in leaf distortion and curling, waxy leaves, honey dew secretion, sooty mold. In low number, it is an inconspicuous pest of citrus. In high number, damage is more obvious.

Ecology

Population density of eggs and nymphs is dependent on the presence of young shoots and flushes of citrus plants. 4 – 7 days old flushes (0.3 – 0.9 cm in length) are most preferred for oviposition and nymphal development. There are two major and two minor peaks of flushing cycles of citrus plants in a year. The major peaks are in January to March and September to November.

Host plants

Rutaceae family: Citrus spp., Murraya spp.
Non-rutaceous plants: periwinkle, dodder

Integrated management of the psyllid

- Pest monitoring
 - Monitoring of vector population to decide on timing of spraying
 - Use of yellow sticky traps is effective
- Cultural practices
 - Remove diseased parts of plants and affected trees
- Chemical control
 - Timing of spraying of insecticides is critical
 - Spray during flushing period, at 4 – 7 days old young flushes (0.3 – 0.9 cm in length)
 - Biweekly interval during peak flushing period
 - Recommended insecticides are Imidacloprid and Dimethoate.