



# Asian Citrus Psyllid

## Taxonomy

Order: Hemiptera

Family: Liviidae

Species: *Diaphorina citri* Kuwayama

Synonym: *Euphalerus citri* Crawford

## Summary

A small sap-sucking insect native to Asia but now present in South and Central America. In the 1990's it spread to the southern US states and the Caribbean basin. It is the most serious pest of citrus worldwide due to its role as a vector for the bacterium highly destructive Asian huanglongbing or citrus greening disease.

## Biology

Restricted to feeding on wild and cultivated Rutaceae, especially *Citrus* spp. (lemon, orange and limes) and *Murraya* spp. (curry leaf). It has a short life cycle, high fecundity and may have up to 10 generations per year under favourable conditions. Females lay up to 800 eggs on the tips of growing shoots, in leaf crevices or at the base of buds. Nymphs feed on the new growth, this is when the population densities are highest.

## Distribution in Caribbean

Distributed throughout the Caribbean region, present in Anguilla but not currently known to occur in TCI.



*Diaphorina citri* adult feeding © Florida Department of Agriculture - Jeffrey Weston Lotz

## Pathway of Entry

Natural dispersal: Adults can fly several kilometres without wind assistance and many hundreds of kilometres with wind assistance

Accidental dispersal: They can be transported by air or sea freight on vegetables, fruit or herbaceous ornamentals.

## Impact

A significant economic pest as it is the most efficient vector of the bacterium which causes the disease huanglongbing (citrus greening), regarded as one of the most important threats to global commercial citrus production. Globally, more than 60 million trees were estimated to have been destroyed by the disease by the early 1990s.



## Further Information:

[www.cabi.org/isc/datasheet/18615](http://www.cabi.org/isc/datasheet/18615)

<http://entnemdept.ufl.edu/creatures/citrus/acpsyllid.htm>



*Diaphorina citri* nymph © Jeffrey W. Lotz, Florida Department of Agriculture and Consumer Services, Bugwood.org



*Diaphorina citri* eggs © David Hall, USDA Agricultural Research Service, Bugwood.org



*Trioza erytreae* adult © S.P. van Vuuren, Citrus Research International, Bugwood.org



Citrus greening (*Candidatus Liberibacter asiaticus*) © Jeffrey W. Lotz, Florida Department of Agriculture and Consumer Services, Bugwood.org

### Description

The eggs are approximately 0.10-0.15 mm long, elongate, almond-shaped, thicker at the base, and tapering towards the distal end. Newly laid eggs are pale, but then turn yellow and finally orange before hatching. There are 5 nymphal instars which are 0.25-1.7 mm long, light yellow to dark brown in colour with red eyes, and with well developed, large wing pads. The adults are 3.0-4.0 mm long with a mottled yellowish-brown body, light brown head and brown legs. The underside of the body is greenish-white. The abdomen of females turns bright yellow-orange when ready to lay eggs. The wings are transparent with white spots, or light brown, with a central beige band. Forewings are widest near tip. The body appears dusty due to a whitish, waxy secretion.

Adults adopt a distinctive stance when feeding, with head down sucking sap and body raised at an angle of about 35°.

### Similar Species

*Trioza erytreae*, the African citrus psyllid, is the only other known vector of the bacterium causing citrus greening disease. It occurs in Africa, the Middle East and parts of southern Europe, but not the Americas. Adult *D. citri* have a light brown head and the forewings are banded, mottled and broadest in the apical half; *T. erytreae* has a black head, and the forewing is broadest at the middle, its unspotted and transparent. Fifth instar nymphs of *T. erytreae* usually have two spots at the base of the abdomen, all instars have small wing-pads and a fringe of fine white filaments around the whole body; *D. citri* nymphs lack spots, all instars have large wing-pads and large filaments restricted to the apical plate of the abdomen. There are two *Heteropsylla* spp. two recorded from Anguilla that feed on Fabaceae and are morphologically distinct from *D. citri* due to their transparent wings and lack of wax.