

## **Asian Citrus Psyllid: A New Pest Insect Threat to California Citrus and Citrus Greening: A Devastating Disease Spread by the Asian Citrus Psyllid**

The Asian Citrus Psyllid (scientific name: *Diaphorina citri*) is a pest of citrus and its relatives that causes damage to new shoot growth and, more importantly, transmits the disease, Citrus Greening. This disease could ruin California's citrus industry if it should become established. The psyllid (pronounced sillid) is native to Asia and it has spread to Central America, Mexico, Puerto Rico, and the Caribbean. The Asian Citrus Psyllid has made it to the U.S. in Florida, Texas, and Louisiana where it came on infested nursery plants. Recently, U.S. Department of Agriculture officials confirmed the presence of the Asian Citrus Psyllid in Tijuana, Mexico. The presence of this psyllid just across the border from the U.S. is of great concern and efforts are underway to monitor for this pest in San Diego County. Inspection of traffic at border stations for this insect and its host plants is also being intensified. In one case, Asian citrus psyllids were found in a bouquet that a woman was carrying across the border. We urge all Santa Barbara County citizens not to bring plants, especially citrus and orange jasmine, *Murraya paniculata*, from anywhere outside the county and to report any suspicious insects, infestations, and/or plant damage on citrus to the Agricultural Commissioner's Office.

### **What is a psyllid?**

Psyllids are tiny insects related to aphids, cicadas, leafhoppers, and whiteflies. They look like miniature versions of cicadas. They have needle-like mouthparts that they use to pierce and suck plant juices. Many different species of psyllids can be found in Santa Barbara County and most are specific to particular species of plants and trees. The Asian citrus psyllid feeds exclusively on citrus and related plants and is a threat because it can transmit the bacterium that causes citrus greening.

### **What the Asian Citrus Psyllid Looks Like:**

Adult psyllids are small insects measuring 1/16 to 1/8 of an inch long (3 to 4 mm), with mottled brown body and wings, and typically holds its body up at a 30° to 45° angle when feeding. They are usually found on the underside of the leaves. Young psyllids, called nymphs, are much smaller than the adults. They are flat and wingless with a yellowish-orange color. They feed in the new leaf flush of the plant. Nymphs also produce a white, tubular wax secretion which can be seen on the new growth.



Adult Asian Citrus Psyllid. Photo courtesy of the University of Florida.



Asian Citrus Psyllid nymphs. They go through 5 stages before becoming adults.  
Photo by David Hall, USDA-Agricultural Research Service.



Asian psyllid nymphs with wax on new growth. Photo by David Hall, USDA-Agricultural Research Service.

### **Damage to plants:**

From feeding: The saliva of the psyllid contains a compound that is toxic to the plant resulting in malformation of leaves, shoots, and buds. Asian citrus psyllids also ingest large quantities of plant sap resulting in the excretion of the excess in the form of honeydew. This honeydew coats the leaves and over time becomes moldy and dark, a condition known as sooty mold.

### **Citrus Greening:**

Although the psyllids themselves can damage plants when in large numbers, the real danger to citrus is from a disease that the psyllids vector during feeding. It is a bacterial disease called Citrus Greening, or Huanglongbing (meaning Yellow Dragon in Chinese). Citrus greening most likely originated in China, and has a characteristic symptom, a yellowing of some of the new shoots in the green canopy. As the symptoms of the disease progress, fruit from infected trees does not color up but instead remain green.



Symptoms of citrus greening, courtesy University of Florida



Symptoms of citrus greening, courtesy University of Florida



Pummelo fruit from infected tree. Photos Courtesy of FDACS/DPI

Citrus Greening is the most devastating of all citrus diseases. There is no cure for the infected trees which decline and die within a few years. The fruit produced by infected trees cannot be used for either the fresh market or juice processing because it's higher in acidity and has a bitter taste. Fruit appears misshapen and unripened and may drop prematurely.

Greening is not known to occur in California at this time, but since its discovery in Florida in 2005, and with the movement of the psyllids, the potential for its introduction has greatly increased. In areas where the disease is established, citrus production is virtually eliminated.

Citrus Greening disease affects most citrus cultivars, species, and hybrids, and some citrus relatives. Symptoms alone should not be used to diagnose a tree as infected with Greening because it resembles other diseases (such as stubborn disease and tristeza) and cultural conditions (such as zinc deficiency). Laboratory tests are available at no cost to homeowners and commercial citrus growers through the Santa Barbara County Agricultural Commissioner's Office.

**For more information:**

**Asian Citrus Psyllid.** A University of California publication with excellent photos and details of the pest and citrus greening:  
<http://citrusent.uckac.edu/psyllid/8205.pdf>

**University of Florida, Featured Creatures page on the Asian Citrus Psyllid.**  
Another excellent source of information, a little more technical than the UC publication: <http://creatures.ifas.ufl.edu/citrus/acpsyllid.htm>

**Host List for the Asian Citrus Psyllid:**

<http://www.doacs.state.fl.us/pi/chrp/greening/hostlist.pdf>

**More Information on Citrus Greening from UC and USDA**

<http://www.ipm.ucdavis.edu/NEWS/asiancitrus-news.html>

<http://ccpp.ucr.edu/news/CitrusCanker&HuanglongbingDiseaseJan07.pdf>

[http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/citrus\\_greening/index.shtml](http://www.aphis.usda.gov/plant_health/plant_pest_info/citrus_greening/index.shtml)

**More information on Citrus Greening from the American Phytopathological Society**

<http://www.apsnet.org/online/feature/HLB/>

<http://www.apsnet.org/online/feature/huanglongbing/>