



Figure 1. Enlarged photo of an adult Asian citrus psyllid. Actual length is 3-4 mm.

Asian Citrus Psyllid

Diaphorina citri Kuwayama

(Hemiptera: Psyllidae)

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Introduction. Specimens of an insect not previously known to occur in the State were found in a sample of navel orange tree foliage from Waiakea on the island of Hawaii on May 1, 2006, by a Hawaii Department of Agriculture staff member. The specimens, identified as the Asian citrus psyllid (ACP), *Diaphorina citri* Kuwayama, were confirmed as that species by the USDA Systematic Entomology Laboratory in Beltsville, Maryland, on May 5, 2006.

Adult ACP are small (3-4 mm) with mottled brown wings (Figure 1) and are active, jumping insects. The eggs are bright yellow and are deposited on newly emerging plant shoots. Nymphs are green or dull orange, and feed on young leaves and stems (Floyd & Krass, 2006).

Hosts and damage. According to Floyd and Krass (2006), the host range of ACP is restricted to citrus and closely related Rutaceae, such as mock orange (orange jasmine), *Murraya paniculata*. High populations of ACP cause stunting and twisting of young shoots, and severe curling of leaves.

Distribution. In January 2007, ACP infestations were also found at various locations on Maui. In early June 2007, ACP infestations were found on

Lanai near the airport. In late June, infestations were found on Oahu in Honolulu and Kaneohe. In May 2008, ACP was found on Kauai. In November 2008, it was confirmed to occur on Molokai. Elsewhere, ACP has been found in Florida, Texas, Louisiana, Alabama, Georgia, Mississippi, South Carolina, California, Puerto Rico and Guam (USDA, 2008). World-wide distribution includes Southeast Asia, Reunion, Mauritius, Saudi Arabia, Brazil, southern Iran, Pakistan, Venezuela, Argentina, and on the island of Guadeloupe in the Caribbean (Halbert & Manjunath, 2004).



Figure 2. Asian citrus psyllid nymph.

Vector of citrus greening. ACP is one of several known vectors of a bacteria-like organism which causes citrus greening disease (CGD). The other known vector is the African citrus psyllid, *Trioza erytreae* (del Guercio), not known to occur in Hawaii.

Citrus greening disease. Citrus greening disease (CGD), also known as Huanglongbing (or Yellow Dragon Disease) in Asia, has devastated citrus trees in Asia, Africa, and Brazil. The disease, caused by the bacteria, *Candidatus Liberibacter asiaticus* Garnier (Floyd & Krass, 2006), causes mottling and/or interveinal yellowing of citrus leaves and misshapen, green, and bitter-tasting fruit. Most citrus are susceptible to CGD. Mock orange is not a known host of the disease. There is no known cure for this disease and the only option is to destroy infected trees.

Samples of citrus leaves collected in May 2006 from Waiakea on Hawaii Island tested negative for the disease by the National Plant Germplasm and Biotechnology Laboratory in Beltsville, Maryland. In 2007, samples from other ACP-infested areas of the Big Island also tested negative for the disease by the USDA National Science Laboratory in Gastonia, North Carolina. In 2008, specimens of ACP adults from various locations in the State tested negative for CGD by the Molecular Diagnostics Laboratory in Beltsville, Maryland. Several samples of citrus cuttings with CGD-like symptoms were also submitted to the Department of Plant Pathology at Kansas State University and tested negative for the disease.

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