State of Hawaii
DEPARTMENT OF AGRICULTURE

New Pest Advisory
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Figure 1. Glassy-winged sharpshooter adult.

Glassy-winged Sharpshooter

Homalodisca coagulata (Say)

(Homoptera: Cicadellidae)

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Introduction. In May 2004, several specimens of an unidentified leafhopper were collected in a residential area of Waiau (Pearl City), Oahu. The leafhopper was identified as the glassy-winged sharpshooter (GWSS), *Homalodisca coagulata* (Say), by Hawaii Department of Agriculture (HDOA) Insect Taxonomist B. Kumashiro, and confirmed by R. Gill, California Department of Food and Agriculture (CDFA).

The sharpshooter, native to southeastern USA, is also known in northern Mexico. It was first detected in California in 1989 (Calif. Farm Bur. Fed. 2004) and threatened the state's agricultural economy by its ability to vector a bacterial pathogen that affected the grape industry. In 1999, GWSS was found in Tahiti (SPC 2002) and has become a persistent nuisance to residents and tourists due to its habit of exuding a rain of watery droplets.

Description. The adult sharpshooter is just under one-half inch in length and is speckled dark brown with sides of the abdomen having whitish patches. The wings are clear to smoky-brown with reddish markings (Figure 1). The young nymphs have tiny wing pads and are dull gray (Figure 2). The eggs are laid in a row of 3-28 and are inserted under the epidermis of the lower surfaces of leaves (Conklin and Mizell 2003; Figure 3).

Figure 2. (left) GWSS nymphs.

Figure 3. (below) GWSS egg mass.

Hosts. GWSS has a very wide host range. According to the CDFA (1991), there are over 200 hosts listed. In Hawaii, GWSS hosts include hibiscus, gardenia, Tahitian gardenia, croton, monkeypod, crown flower, oleander, African tulip, mountain apple, plumeria, *Pittosporum tobira*, lime, pummelo, java plum, kou, bottlebrush, Caribbean trumpet, haole koa, papaya, and green/red ti leaf.

Distribution. Surveys conducted on Oahu uncovered GWSS infestations in Pearl City (Waimalu & Waiau) and in Honolulu (Tripler, Salt Lake, Mapunapuna, Shafter Flats, Keehi Lagoon, Makalapa, Honolulu International Airport, and Kalihi). No sharpshooter infestations have yet been found on the neighboring islands.

Damage. There are several problems that may be caused by GWSS:
(1) The sharpshooter has sharp piercing mouthparts that it uses to feed on plant and trees. It feeds in the xylem (water conducting channel of plants) and can withdraw plant fluid at 100-300 times its weight per day (Conklin & Mizell). As it feeds, a watery substance is excreted at the tip of its abdomen in the form of very tiny droplets. The constant dripping of the watery substance by a huge number of sharpshooters is called "leafhopper rain" which can be very unpleasant. After this watery substance dries out, a white-residue or white-washed appearance may occur on any plant or item that has been "rained" upon.
(2) The sharpshooter can remove a large amount of water from the xylem tissue. Consequently, if this water is not replenished, such as in drought conditions, plants may become weakened.
(3) The sharpshooter is a vector of the bacterium, *Xylella fastidiosa*, which causes disease in various plants, including grapes, citrus, coffee, oleander, and other ornamental plants. Fortunately, no disease symptoms have been observed on any of the hosts found in Hawaii. Apparently, the disease-causing bacteria did not enter the State along with the sharpshooter. Sharpshooter specimens sent to California after the initial discovery tested negative for the bacterium (R. Alameida, pers. comm.)

Biological Control. In the Southeast USA where GWSS is native, the sharpshooter does not pose much of a problem. However in California, it has become a major problem on grapes. In response to the sharpshooter infestations, California recently introduced a tiny wasp, *Gonatocerus triguttatus* Girault from Texas and Mexico for biocontrol of the pest insect. This wasp lays its eggs within the eggs of the sharpshooter (Triapitsyn and Phillips).

In July 2004, a GWSS egg mass with what appears to be parasite emergence holes was found on a monkeypod leaflet at Mapunapuna (Figure 4). This is the first find of a parasitized GWSS egg mass on Oahu. Additional collections are being conducted to obtain actual specimens of the parasite and determine its identity.

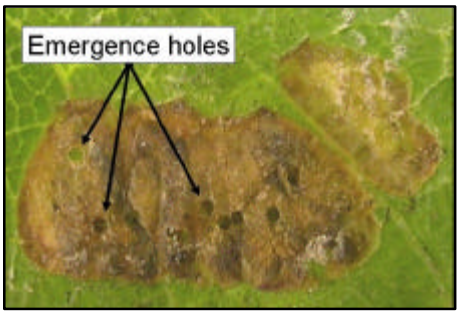

Figure 4. GWSS egg mass exhibiting suspect parasite emergence holes.

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