BOHART Museum of Entomology University of California, Davis

INFORMATION

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Woolly Aphids

Woolly aphids in the family Eriosomatidae, occur on many hardwood and coniferous tree and shrub species. They are small, 2-4 mm (1/8 inch) insects. They are recognizable by the fluffy, white wax covering the body. The antennae have a banded appearance, and the veins of the wings (when present) are slightly darkened. There are many species of woolly aphids in California.

The woolly hackberry aphid was first discovered in Florida in 1997, and has since spread rapidly across the south and into California. It was first observed in northern California in 2002 and has become a major pest of ornamental hackberry trees (*Celtis occidentalis* also called sugarberry) since then. It is found on the underside of the leaves.

Most species of woolly aphids share a similar life cycle, Woolly aphids generally have two host plants, one that they overwinter on, and a second host which they feed on during the summer. They usually overwinter as eggs laid on bark of their winter host. In the spring the eggs hatch into parthenogenic (give birth without males) females, which can produce hundreds of wingless offspring very quickly, so populations can grow rapidly. After one or two generations on the winter host, winged females are produced, which disperse to the summer host plants. They remain on summer hosts for the remainder of the summer, producing several generations of aphids through parthenogenesis. In late summer or early fall, a different generation of winged females flies back to the winter host where they give birth to male and female aphids that mate. After mating, females deposit a single large egg (or eggs) into protected locations in the bark of the winter host and then die.

Woolly aphids feed on the sap of their host plants by inserting their tubular mouthparts into vascular tissue of the leaves, buds, twigs, and bark. Some species also feed on plant roots.

Because their diet consists of sugar rich sap they produce large volumes of a sticky, liquid secretion called honeydew, which coats surfaces below the aphid. The sugary honeydew produced by the aphids often encourages the growth of sooty mildew. Everything under infested trees, such as cars, picnic tables, houses, and plants, may get a sticky coating of honeydew. Fortunately, honeydew is water soluble, so it can be hosed off of surfaces.

Woolly aphid feeding causes twisted and curled leaves, yellowed foliage, poor plant growth, low plant vigor and branch dieback. Physical injury may result when large numbers of woolly aphids attack young trees or unhealthy, stressed trees. Fortunately, severe infestations only occur periodically. Spraying smaller trees with an insecticidal soap may serve double duty, by reducing the aphid population and cleaning the sticky surfaces. However, this control measure may have little effect on large infestations involving many trees or on a population on a large tree where it is difficult to spray every leaf. Natural enemies, such as ladybugs and lacewings may be more effective at reducing the aphid populations long term.

Hackberry woolly aphid infestation and honeydew on a leaf; photo by Jack Clark Kelley, UC IPM program.