Pest Alert: Ash Whitefly
Siphoninus phillyreae

IPPM Insect Pest Prevention & Management

Oregon Department of Agriculture

Introduction

Ash whitefly (*Siphoninus phillyreae*; Hemiptera: Aleyrodidae) is a newly introduced exotic pest in Oregon. Ash whitefly is native to Europe and northern Africa. It was first found in the United States in California in 1988. It has since been found in Arizona, Florida, Georgia, Nevada, New Mexico, North Carolina, Oregon, South Carolina, and Texas. It was discovered in Oregon in 2014, reaching nuisance levels in the Portland Metro area in the late summer of 2015. The highest populations of ash whitefly it has also been found in Multnomah and Clackamas counties, but have also been found in Polk, Columbia, Marion, and Benton and Lane Counties.

Ash whitefly adult. Adults can be found on the undersides of leaves, often in groups where they have recently molted.

Ash whitefly nymphs (left) and adult.

A threat to agricultural and nursery industries

Ash whitefly feeds upon numerous trees and shrubs, causing leaf wilt, early leaf drop and discoloration. Pupal cases are visible on leaves and in high numbers can cause the leaves to be sticky. In Oregon, ash whitefly has been found overwintering on plants in retail nurseries and colonies have disrupted shipments from production nurseries. The potential for this pest to be spread throughout Oregon, the United States, and internationally through exports is substantial.

An unprecendented nuisance pest

Although whiteflies are well-known pests in agricultural systems and greenhouses, whitefly populations rarely cause problems for the general public. In the summer of 2015, Oregon Department of Agriculture received multiple reports from homeowners complaining of ash whiteflies covering their cars and houses and disrupting outdoor activity. Newspapers and television news reported on problems the whiteflies had caused in the northern Willamette Valley.

Ash whitefly colonies on hawthorn (left) and *Pyracantha* found in Corvallis in during late summer 2015.

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ash whitefly nymph


ash whitefly adult

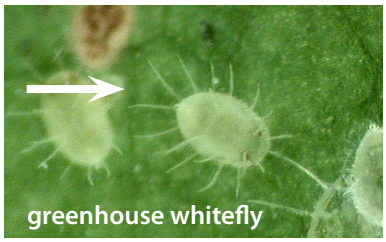
greenhouse whitefly

Image: Robin Rosetta, Oregon State University

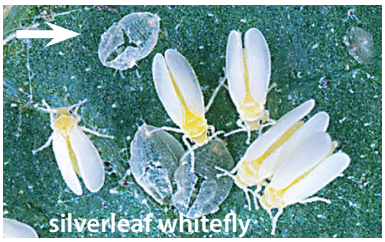
silverleaf whitefly

Image: Scott Bauer, USDA-ARS

Identification

Whiteflies are most easily identified in the nymphal stages. Ash whitefly nymphs can be distinguished by filaments with sticky droplets that ring their body, along with the dark central line that is covered with wax. Nymphs of other whiteflies in Oregon are much different, such as the silverleaf whitefly (*Bemisia argentifolii*), which lacks filaments, and the greenhouse whitefly (*Trialeurodes vaporariorum*), which has very long and distinctive filaments around its base (see images with arrows to the left). Mature ash whitefly nymphs measure about 0.8 to 1mm in length. Adult ash whitefly are larger, around 1.3mm.

Known host plants

- *Chaenomeles X speciosa*, quince
- *Citrus* spp., lemon, orange
- *Crataegus* spp., hawthorne
- *Fraxinus latifolia*, Oregon ash
- *Lagerstroemia indica*, crape myrtle
- *Liriodendron tulipifera*, tulip tree
- *Magnolia stellata*, star magnolia
- *Malus* spp., apple
- *Photinia* spp., photinia or red claw
- *Pyrus calleryana*, ornamental pear
- *Pyrus kawakamii*, flowering pear
- *Pyracantha* spp., firethorn

Management through biological control

After pesticide applications failed to control ash whitefly populations, two biological control agents were released in California in the early 1990s - *Encarsia inaron* (Hymenoptera: Aphelinidae), a parasitic wasp, and *Clitostethus arcuatus* (Coleoptera: Coccinellidae), a predatory lady beetle. Ash whitefly populations were reduced to nearly undetectable levels following these releases. Both of these agents were recovered in the Portland Metro area of Oregon in 2015. ODA is working on a limited scale program for release of the wasp in selected areas.


Clitostethus arcuatus

For more information:

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Encarsia inaron (left), a parasitoid predator of ash whitefly, and dead ash whitefly nymphs, with exit holes created by parasitoid wasps.

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