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NEW PEST ALERT

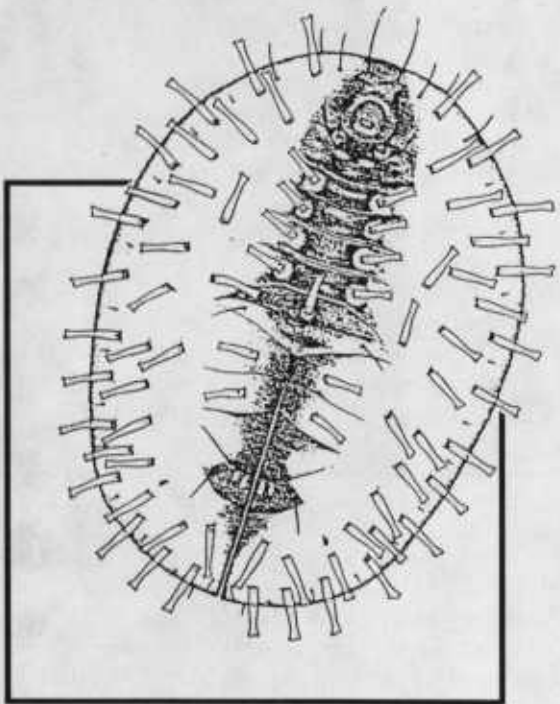
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ASH WHITEFLY

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Oregon State University
Extension Service
and
Oregon Department of Agriculture

New Pest Alert

Ash Whitefly

R.L. Westcott, G.C. Fisher, and J. DeAngelis

“New Pest Alerts” cover selected pests that very likely will have a major economic impact on Oregon’s agriculture. Either these pests are new to Oregon, or they may arrive within months or a few years.

Each publication presents information about damage potential, description, life history, host plants, injury symptoms, distribution, and control methods.

Rapid detection of a new pest’s entry into Oregon will greatly minimize its initial economic impact and long term effects on agricultural production. If you see a pest described in a “New Pest Alert,” contact your Extension agent or a representative of the Oregon Department of Agriculture.

Damage potential

The ash whitefly, *Siphoninus phillyreae*, an Old World species, was discovered in southern California during the summer of 1988, and it has become widespread there. Populations build to enormous numbers, and the insects may heavily infest practically every leaf of certain favored host plants.

Defoliation and occasional death of hosts have occurred. Clouds of adults pose a hindrance to outdoor activities, as they may be inhaled or get into the eyes. In Europe, severe damage has occurred to pear and apple; however, significant crop losses usually occur only:

- where the pest is introduced into areas that lack its natural enemies or
- where heavy use of pesticides disrupts these enemies.

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The host range for this insect—and its prolific and rapid reproduction—give it significant damage potential. In addition, it can spread quickly through infested nursery stock and regular traffic.

More temperate and northern climates, such as Oregon’s, may not have enough overwintering hosts to allow the large population buildups that cause problems elsewhere. But climate should not be the only factor in its actual survival in most of the Pacific Northwest.

Description

Ash whitefly adults superficially resemble adults of other species, such as the greenhouse whitefly (they look like tiny white moths). They can’t reliably be identified without slide mounting and microscopic examination. However, the pupa is unique: It has numerous long siphon tubes on its dorsal surface. These tubes secrete wax, causing a flocced appearance. In the middle, at both ends, there are tufts of white, asbestoslike fibrous wax. Slide-mounted pupae show the distinctive siphon tubes and a dark median stripe (figure 1).

Life history

Relatively little is known about this sap-sucking insect. Here’s what we *can* say:

- It has two or more generations a year, depending upon climate.
- It may breed continuously in warm regions if suitable overwintering hosts (broadleaved evergreens) occur.
- Populations can build to enormous levels during summer and autumn.
- It feeds during the four nymphal stages and as an adult.
- Unlike most other whiteflies, it can colonize and multiply on mature leaves—even those that are about to fall.

Host plants

Ash whitefly is known to feed on a variety of broadleaved deciduous and evergreen shrubs and trees, notably members of the olive family (for example, ash and lilac) and the rose family (pear, apple, hawthorn).

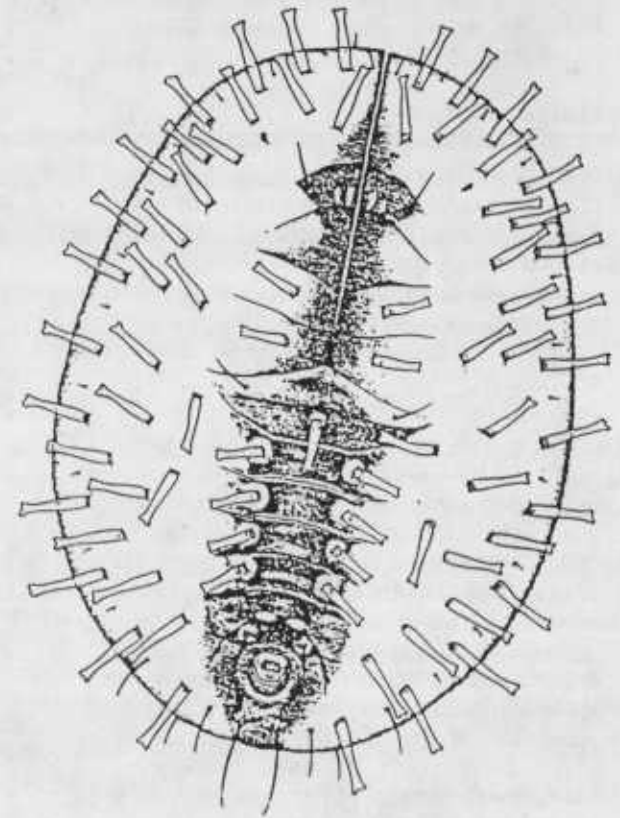


Figure 1.—Ash whitefly pupa: Note the distinctive tubelike structures.

In California, it has been recorded from many hosts in addition to those known in its native Old World haunts. In southern California, important overwintering hosts include toyon, Indian hawthorn (*Rhaphiolepis*) and various citrus species.

Injury symptoms

Severe attacks cause downward rolling of leaves, yellow discoloration, and premature leaf drop. Since the insect can readily use older leaves, the entire tree canopy may be subject to attack. Fruit smaller than normal can result. As

with other whiteflies and related insects like aphids and scales, problems result from production of honeydew and sooty mold.

Distribution

In the Old World, this species is known from the British Isles to the Soviet Union; in Morocco, Ethiopia, Saudi Arabia, and India; and in Cameroun. In the United States, it's known only in Phoenix, Arizona, and in California—widespread in the southwest part of the State, and it's found as far north as Sacramento.

Obviously, ash whitefly has the potential to live throughout much of the United States and other parts of the New World.

Control methods

California researchers report that chemical controls have had limited effect, largely because of rapid reinfestation from surrounding areas. They have applied chemical controls primarily to nursery stock.

In the Old World, chemical controls have disrupted the fly's natural enemies—and researchers believe these enemies usually keep ash whitefly populations in check. For this reason, entomologists at the University of California and the California Department of Food and Agriculture are developing biological control strategies against this pest.





NEIL GOLDSCHMIDT
GOVERNOR

Oregon Department of Agriculture

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