service in ACTION

Colorado State University Cooperative Extension

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Aphids on shade trees and ornamentals: characteristics and control

Whitney S. Cranshaw[1]

Quick Facts

- Aphids commonly occur on almost all types of trees and shrubs. Most often the aphids do not cause damage to plants and are controlled by natural enemies such as ladybirds.
- Problems with aphids most commonly occur where aphids produce leaf curls, such as on ash, plum, honeysuckle and snowball viburnum.
- Always check for natural enemies of aphids before making insecticide treatment.
- Insecticides with systemic activity are particularly effective for aphid control, especially when aphids have curled the leaves.
- Contact insecticides and insecticidal soaps are useful for control of aphids that are exposed on leaves.

Dozens of species of aphids ("plant lice") may be found on shade trees and woody ornamental plants in Colorado. Aphids are small insects, typically less than 1/8 inch, although some aphids may be almost 1/4 inch long. Color of different aphids range from bright orange or red to dull gray. One common group, woolly aphids, produce an abundance of flossy, waxy threads that cover their bodies. Winged and wingless forms can be produced by all Colorado aphid species (Figure 1).

Aphids feed on plants by sucking plant sap from the leaves, twigs or stems of plants. When abundant, aphids remove large quantities of sap, reducing growth and vigor of the plant. This injury is most common with stem- or trunk-infesting aphids such as the woolly apple aphid and juniper aphid. Aphid feeding on developing leaves also can produce leaf curl injuries. This is most frequently observed on snowball viburnum, honeysuckle, plum and ash.

Most aphids also excrete large quantities of a sweet, sticky substance called honeydew. At times, excessive honeydew dropping from trees can be an extreme nuisance. Also, sooty mold fungus may grow on the honeydew, producing a gray, unattractive covering of the leaves. (Sooty mold is not damaging to the trees except when it covers leaves and temporarily reduces photosynthesis.)

Ants often are attracted to honeydew and feed on it. Ants may even "tend" aphids and other honeydew-producing insects (certain scales, leafhoppers, treehoppers), protecting them from natural enemies such as ladybird beetles and lacewings (see Service in Action sheet 5.550, *Beneficial insects and other arthropods in the yard and garden*). Often the presence of ants crawling up trees or over foliage indicates that large numbers of aphids or other honeydew producers also are on the plants.

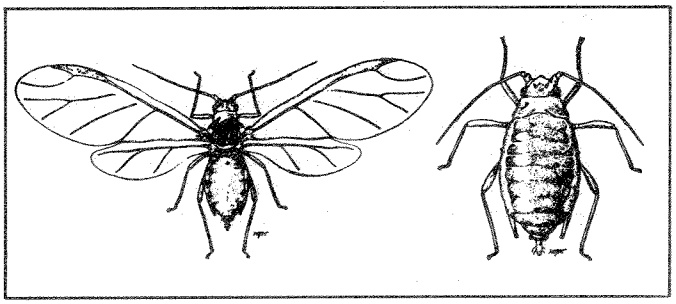

Figure 1: Winged and wingless forms of adult aphids.

Typical Aphid Life History

Most species of Colorado aphids overwinter as eggs on specific types of woody plants. Eggs hatch in the spring. The following spring and summer forms of the aphid sometime move from overwintering plants to other plant species.

[1]*Whitney S. Cranshaw, Colorado State University Cooperative Extension entomologist and assistant professor, entomology (11/88)*

Summer aphids consist entirely of females that give birth to live young at a rate of 1 to 20 per day.

The newly hatched aphids can complete their development within one to two weeks, after which they begin to produce more aphids. Consequently, aphid populations may increase rapidly with several generations occurring during the growing season. At the end of the summer, both male and female aphids are produced. They mate on the overwintering host plant and females lay eggs.

Control

Many kinds of insects naturally prey upon aphids. Most common are various species of ladybird beetles (ladybugs), green lacewings, syrphid flies and small parasitic wasps. Under many conditions, these beneficial insects provide very effective control of aphids. Before any insecticide application is made, check the plants to make sure that these natural controls are not already reducing aphid numbers. Sometimes ants interfere with these natural controls and exclusion of ants by sprays, sticky bands, etc., can allow biological controls to be effective.

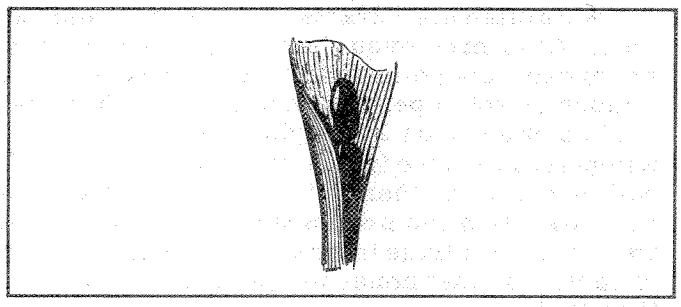

Figure 2: Aphid eggs deposited on a leaf (greatly enlarged).

When natural enemies are not abundant enough to provide aphid control, insecticides sometimes are needed to prevent plant injury. For most aphid problems, particularly those associated with leaf curls, insecticides that move systemically within the leaf or plant provide the best control. The most common systemic insecticide available to homeowners is Orthene (acephate). Cygon (dimethoate) also may be available as a spray for use on evergreens.

DiSyston is a systemic insecticide sold in granular form or as a plant food mixture, which can be mixed with soil and picked up by plant roots. Metasystox-R is a systemic insecticide used in soil injections by commercial pesticide applicators.

Most systemic insecticides are quite toxic to humans and should be used with extra caution. Some plants may be injured by certain systemic insecticides. **Carefully read and follow all label directions. None of the systemic insecticides available to homeowners can be legally used on food crops.**

Contact insecticides that do not move systemically in plants are useful for aphid control where aphids are exposed on the plants. Contact insecticides for aphid control include Malathion, Diazinon and Dursban. Application coverage of the plant must be thorough when using contact insecticides. (Note: Diazinon is extremely hazardous to birds, so use with extra caution on plants frequented by birds for nesting or feeding.)

On tolerant plants, insecticidal soaps or certain dilute dishwashing detergents (1 to 2 percent concentration) can provide aphid control. For more information, see 5.547, *Use of soaps and detergents for insect control.* Good plant coverage is very important when using soaps or detergents for aphid control. Since these products may injure plants, the soap or detergent always should be tested first on a small area of the plant.

Aphid problems originating from eggs that overwinter on the plant also can be controlled with dormant oils. These products are discussed in 5.569, *Spray oils for insect and mite control on woody plants.*

Where high water pressure is available, infested plants may be hosed with water to reduce aphid numbers. This also removes recently deposited honeydew.

Table 1: Some common species of aphids in Colorado.

Common name	Scientific name	Hosts
Ash leafcurl aphid	*Prociphilus fraxinifolii*	Ash
Giant willow aphid	*Lachnus salignus*	Willow
Giant conifer aphid	*Cinara* spp.	Conifers
Green peach aphid	*Myzus persicae*	Peach, plum
Honeysuckle witches broom aphid*	*Hyadaphis tartaricae*	Honeysuckle
Snowball aphid	*Neoceruraphis viburnicola*	Snowball viburnum
Woolly apple aphid	*Eriosoma lanigerum*	Apple, elm
Woolly aphid (various)	*Adelges* spp., *Pineus* spp.	Conifers

**Discussed in Service in Action sheet 5.546, Honeysuckle witches broom aphid.*

Table 2: Insecticides useful for control of aphids on shade trees and ornamentals.

Systemic insecticides	Contact insecticides	Oils
Orthene (acephate)	Malathion	Dormant oils
Cygon (dimethoate)	Diazinon	
Metasystox-R (soil treatment only)	Dursban	
DiSyston (soil treatment only)	Soaps, detergents	

Always carefully read and follow all label instructions; failure to do so can result in excessive exposure to humans, pets and wildlife, and leave damaging residue on plants.