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Honeysuckle witches' broom aphid

S. E. Halbert, D. J. Voegtlin, and L. E. Sandvol

Fig. 1. Honeysuckle witches' broom aphids cause distorted terminal growth on most ornamental varieties of honeysuckle.

Fig. 2. Honeysuckle witches' broom aphids are covered with gray wax. They can be found inside folded leaves.

Description

The honeysuckle witches' broom aphid (*Hyadaphis tataricae* (Aizenberg)) is a new pest in Idaho. It causes unsightly witches' broom distortions on many ornamental varieties of honeysuckle (fig. 1). Terminal leaves and branches are greatly reduced in size, and leaves fold along the midvein to enclose the aphid colonies on their upper surfaces. Bushes can be severely damaged and occasionally die.

The aphids are small (less than $\frac{1}{12}$ inch long), pale army green, and covered with fuzzy gray wax (fig. 2). Because aphids are hidden inside folded leaves and covered with wax, the witches' brooms have sometimes been mistaken for plant disease symptoms.

Distribution

The honeysuckle witches' broom aphid is probably native to central Asia where its host plant originates. It was accidentally introduced into North America in the mid 1970s and was reported for the first time in the United States in 1980.

The University of Idaho's aphid suction trap survey system monitors aphid flights throughout the state. It has enabled us to detect aphid species new to Idaho and to track their establishment throughout the state. Honeysuckle witches' broom aphid was first discovered in Idaho in July 1986 when one was collected in a suction trap at Parma. Since then, this new pest has been collected at most trapping locations in Idaho, including sites across the Snake River plain as well as at Moscow and Lewiston in the north. Colonies have also been found on honeysuckle plants in several Idaho locations.

Biology

The life cycle of the honeysuckle witches' broom aphid is complex. Aphids overwinter as eggs in the witches' brooms. The eggs hatch in early spring to produce colonies consisting entirely of live-bearing females

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that develop on the new plant growth. Several other aphid species also overwinter on honeysuckle, and mixed colonies are common in the spring.

By early summer, the other aphid species will have migrated to summer hosts, leaving only honeysuckle witches' broom aphids on the plants. At that time, colonies consist of both wingless and winged females.

Idaho trapping records indicate that flights of witches' broom aphids begin in mid-May and continue through June and July. Occasional specimens have been collected in early August in Moscow. Another period of flight activity occurs in mid-September to October. At that time, winged migrant females occur that can redistribute the population. They produce wingless, egg-laying females that mate with winged males to produce overwintering eggs.

Control

Cultural control

Adequate control of the honeysuckle witches' broom aphid can usually be achieved by pruning. Witches' brooms should be removed after spring aphid flights and thereafter as they are observed. Place the prunings into a plastic garbage bag and seal it carefully to prevent aphids from escaping. Because eggs are laid in the witches' brooms, destruction of prunings should prevent significant overwintering; however, research in the Midwest indicates that winter pruning also induces vegetative growth, resulting in more suitable sites for aphid colonization.

Plant resistance

A few honeysuckle varieties appear to be resistant to the pest because they are slow growing and thus do not produce attractive succulent growth. Because most varieties in the *Lonicera tatarica* complex are susceptible, selection for resistant varieties has focused upon resistant hybrids that mimic the desirable characteristics of *L. tatarica*. Currently available resistant cultivars include *Lonicera tatarica* cv. Nana, *L. tatarica* cv. Arnold Red, *L.* × *amoena* cv. Arnoldiana, *L.* × *xylosteoides*, and *L. korolkawii* cv. Floribunda. All these cultivars should grow in Idaho.

Biological control

As is the case with most introduced pests, this one came to North America without effective natural enemies. Predaceous syrphid fly larvae are the most commonly reported natural enemies in the Midwest, but they are not effective in controlling populations. Pathogens and parasites are apparently rare. Indigenous natural enemies evidently are unable to find the majority of the aphids, which are in tightly folded leaves. Until adapted natural enemies are imported from the pest's native range or native parasites and predators adapt, biological control can be expected to give little relief.

Chemical control

Summer infestations can be very difficult to control with insecticides because of the difficulty of getting good insecticide coverage inside folded leaves. Of the registered materials, systemics provide the best and longest-lasting control. Control of overwintering eggs with dormant oil has been inconsistent, probably because it is difficult to get good coverage inside witches' brooms. Contact the Extension agricultural agent in your county for currently labelled products.

The authors — Susan E. Halbert, aphid survey coordinator, Aberdeen Research and Extension Center, Department of Plant, Soil, and Entomological Sciences, University of Idaho; David J. Voegtlin, associate taxonomist specializing in aphids, Illinois Natural History Survey; and Larry E. Sandvol, Extension entomologist and superintendent of the Aberdeen Research and Extension Center, Department of Plant, Soil, and Entomological Sciences, University of Idaho.

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