

## LACE BUGS

Hemiptera: Tingidae

By Eric Day

**HOSTS:** Azalea, rhododendron, sycamore, broad-leaved evergreens, and many deciduous trees and shrubs.

**DESCRIPTION OF DAMAGE:** Lace bug damage is first noticed as yellow spots on the upper leaf surfaces of affected plants. Lace bugs actually feed on the undersides of leaves with their piercing-sucking mouthparts, but because they kill surrounding cells as they feed, they cause the yellow spots to appear on upper sides of the leaves. The first yellow spots that appear are very similar to mite damage, but the spots made by lace bugs are much larger. When feeding damage becomes severe, the leaves take on a gray, blotched appearance or can turn completely brown. As lace bugs feed they produce brown varnish-like droppings that spot the underside of the leaves. These droppings further distinguish lace bug damage from mite damage. When large numbers of lace bugs are present cast skins can be found attached to the leaves.



Azalea lace bug. Jim Baker, North Carolina State University. Bugwood.org.

**IDENTIFICATION:** Adult lace bugs are about 3 to 6 mm (1/8"- 1/4") long with a netlike pattern on the wings. In addition, the wings are dotted with brown and black. The immature stages, called nymphs, are similar except they are smaller and often have spines. The eggs are small but are easily distinguished by their elongate and cylindrical shape. They resemble small black smoke stacks attached to the undersides of the leaf. Lace bugs are in the order Hemiptera, family, Tingidae.

**LIFE CYCLE:** On deciduous plants, adult lace bugs overwinter in protective places on the host, such as bark crevices and branch crotches, or on the ground in leaf litter. They end their hibernation just as spring growth starts. They attach their eggs to the undersides of the leaves often along the mid-ribs, sometimes covering them with a black varnish-like coating. The eggs will stay attached to the leaves long after they have hatched and can be recognized by noting if the tops have openings. The nymphs complete their life cycles quickly and one to several generations can occur in one season; usually, there are two generations. Some lace bugs can complete a generation in as few as 30 days. Usually, by the end of the summer, all life stages can be found on a host.

On broad-leaved evergreens, lace bugs overwinter as eggs on the undersides of leaves. Eggs hatch in May in Virginia and two or more generations may occur during the growing season.



Adult lace bugs and nymphs on underside of leaf.

James Solomon, USDA Forest Service.

Bugwood.org.

**CONTROL:** Lace bug control requires careful monitoring early in the season. Control should be applied when insects are found on the foliage, either on adults on deciduous plants or on groups of nymphs on broadleaved evergreens. It is very important to spray the undersides of the leaves because this is where they feed. Check the Virginia Pest Management Guide for specific control recommendations.

**SOME IMPORTANT LACE BUGS IN VIRGINIA:** Azalea Lace Bug. Two generations of azalea lace bugs occur in Virginia per year. The second brood builds up to high populations in August and September and damage can be severe. In some cases, the leaves turn completely brown and are heavily spotted with droppings by the end of the summer. Try to control the

first generation from mid-May to mid-June; two sprays may be necessary.

**Rhododendron Lace Bug.** Rhododendrons growing in full sun may have a yellowish appearance from feeding by rhododendron lace bugs. Damage is not as pronounced as for azalea lace bugs, but treatment is sometimes needed. Treat in May or June to control the first generation.

**Sycamore Lace Bug.** This is an important pest of sycamore, especially on street and shade trees. Multiple generations occur each year and defoliation may occur in severe cases. Treat in June or when nymphs appear; a second treatment may be needed.



Lace bug damage on upperside of leaf. Whitney Cranshaw, Colorado State University.  
Bugwood.org.