

Lace Bugs

Lace bugs are small, inconspicuous, plant-feeding bugs. Most pest species are about three-sixteenths of an inch in length when mature. Three species are common shrub pests: the Azalea Lace Bug, Andromeda Lace Bug, and the Rhododendron Lace Bug. Several species also attack shade trees. These include the Sycamore, Hawthorn, Elm, Walnut, Oak, Willow, Poplar, Birch, Basswood, Hackberry, Buckeye, Cherry, and Alder Lace Bugs. Of these, the Hawthorn and Sycamore Lace Bugs are particularly damaging in Maryland. The Hawthorn Lace Bug also attacks pyracantha, quince, and cotoneaster.

Appearance and Habits

Lace bugs are so named because the wings are formed of a lace-like network of veins and membranes. Some areas, especially on the wings, may be translucent. The immatures (nymphs) lack long wings and are usually spiny. Most lace bugs live out their lives on the lower surface of leaves. For this reason they are not easily seen. They deposit their black eggs on or in the lower surface of leaves. They obtain food by piercing the leaf with a slender "beak" and sucking out the contents of the plant cells.



Lace Bugs



Lace Bug damage

Damage

Adults and nymphs suck chlorophyll from the underside of leaves. This causes the upper surface to appear stippled with minute white spots. Later, these small spots merge and the leaves turn yellow. Heavily infested plants become unsightly and vitality is reduced. Severe infestations may cause premature leaf drop on shade trees, and even the death of small shrubs. The presence of these pests can also be determined by the black or brown fecal spots they leave on the lower leaf surface.



Azalea Lace Bug

The Azalea Lace Bug

Life Cycle

The Azalea Lace Bug (*Stephanitis pyrioides*) is the most serious lace bug in Maryland. The overwintering eggs hatch in April in central Maryland. The nymphs feed in clusters. In about 40 days the first brood matures, mates, and females begin laying eggs. The black eggs are inserted along the veins on the lower leaf surface. The second brood appears in midsummer, and a third in late summer. A fourth generation may occur in the fall. In the fall overwintering eggs are produced. The Rhododendron Lace Bug (*Stephanitis rhododendri*) has a similar life cycle but matures earlier in each generation.



*Lace Bug
on Oak*



*Lace Bug
nymphs*

Monitoring

One should begin examining azalea leaves every two weeks beginning in April. If plant leaves develop white stipules, the presence of lace bugs should be suspected. Leaves should be turned over to see if the bugs and their fecal spots are present. If lace bugs are easily found and damage levels are objectionable, control is warranted.

Control

Cultural Control

Azaleas withstand lace bug damage best if they are grown in partial shade, are well mulched with acidifying materials such as oak leaves and pine needles, are watered in drought periods, and are occasionally fertilized after the blossoms fall with a complete fertilizer especially formulated for acid-loving plants.

Biological Control

Lady beetles, lace wings, and predacious bugs feed on lace bugs. Unfortunately, they often fail to provide adequate control in isolated urban sites in full sun. In large azalea plantings of several cultivars, it is common to see certain plants more susceptible to lace bug damage than others. Chemical sprays should only be applied to those plants showing damage. In this way, all beneficial insects present will not be eliminated from the planting.

Chemical Control

Contact insecticides such as Insecticidal Soap, Insecticidal Soap and Pyrethrum Blends (commercially available), and conventional registered insecticides can be used. The undersides of the leaves must be thoroughly sprayed when using contact insecticides for control to be adequate. These chemicals are not absorbed by the leaves. Use insecticides according to label directions, when lace bug populations are building up, which is usually around May and again in July. Be sure the pest and plant you want to spray is listed on the label.

USE INSECTICIDES WITH CARE. READ THE LABEL DIRECTIONS. FOLLOW ALL SAFETY PRECAUTIONS.

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