

Lace Bugs

Insect Pests of Horticultural Plants

Lace bugs are insect pests that feed on a wide range of horticultural plants in landscapes and gardens. Lace bugs feed on trees and shrubs, such as azalea, cotoneaster, hawthorn, linden, oak, rhododendron, sycamore, and walnut. Lace bugs also feed on herbaceous plants, including aster, chrysanthemum, and scabiosa, and vegetables, such as eggplant. The primary lace bug genera that feed on horticultural plants are *Stephanitis* spp. and *Corythucha* spp. *Stephanitis* spp. feed on broadleaf evergreens, whereas *Corythucha* spp. feed on deciduous trees and shrubs. This publication provides information on the biology, damage, and management of lace bugs.

Biology

The lace bug life cycle consists of an egg, a nymph, and an adult. The life cycle can be completed in approximately 30 days, depending on temperature. Adult lace bugs are $\frac{1}{8}$ to $\frac{1}{4}$ of an inch (3 to 8 millimeters) long. They are flat, white to brown, with black and brown markings, and have lacy, clear, shiny wings held flat over the body (Figure 1).



Figure 1. Close-up of lace bug adult (Photo: Raymond Cloyd).



Figure 3. Lace bug eggs on the underside of a leaf (Photo: Raymond Cloyd).

Adults typically congregate on leaf undersides (Figure 2). Females can lay more than 300 eggs during their lifespan, laying clusters of 20 to 50 black eggs on leaf undersides (Figure 3). The eggs are placed along leaf veins or edges, and covered with a varnish-like excrement (Figure 4). Nymphs that emerge (eclose) from the eggs are black and white (Figure 5). Nymphs typically feed in groups near empty egg cases.

Nymphs progress through five nymphal instars (developmental stages between each molt) before becoming adults. Black shed skins may be present on leaf undersides. All life stages (eggs, nymphs, and adults) are located on the undersides of leaves. *Stephanitis* spp. overwinter as eggs that are inserted into or glued to leaf undersides, whereas *Corythucha* spp. overwinter as adults under bark, in fallen leaves, or in plant debris. There may be up to three generations per year.

Damage

Both nymphs and adults feed on leaf undersides. They damage plants by inserting their mouthparts into the internal tissues



Figure 2. Lace bug adults feeding on the leaf underside (Photo: Raymond Cloyd).

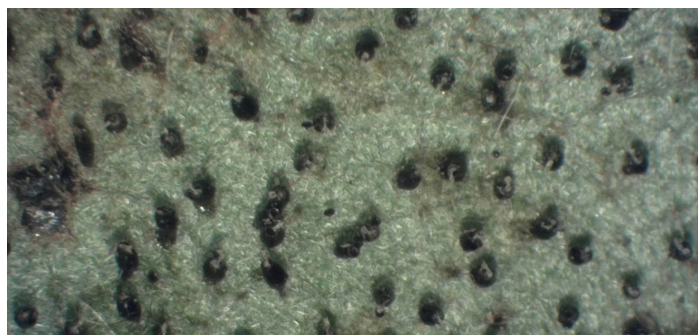


Figure 4. Lace bug eggs on leaf underside covered with a black varnish-like excrement (Photo: Raymond Cloyd).

of plant leaves and extracting the cell contents, including chlorophyll, the compound responsible for the green color of leaves. Feeding results in white or yellow leaf stippling or bleaching on the upper surface of plant leaves (Figure 6).

Damage caused by lace bugs is similar to that of twospotted spider mites (*Tetranychus urticae*) and leafhoppers. However, lace bugs leave black, tar-like excrement on leaf undersides, which indicates the damage is associated with lace bugs rather than twospotted spider mite and leafhoppers.

Extensive infestations of lace bugs can inhibit the ability of plants to manufacture food by photosynthesis. In addition, extensive infestations can reduce the aesthetic appearance of certain plants. Young or newly transplanted trees and shrubs are more susceptible to damage than mature or older trees and shrubs.

Management

Managing lace bugs involves regular scouting, proper plant culture, physical removal, and applying insecticides.

Early detection of lace bugs helps mitigate plant damage. Therefore, scout plants susceptible to lace bugs weekly by shaking leaves over an 8.5 x 11 inch (21.5 x 27.0 centimeter) white sheet of paper attached to a clipboard. You can see lace bug nymphs and adults moving on the white sheet of paper.



Figure 5. Lace bug nymphs feeding on leaf underside (Photo: Raymond Cloyd).

Select and place plants into landscapes and gardens based on their cultural and moisture requirements to reduce susceptibility to lace bugs. Azalea and rhododendron plants grown in full sun may be more susceptible to lace bugs than plants grown in the shade.

Use a high pressure water spray directed at the underside of leaves to dislodge lace bug nymphs and adults, thus reducing subsequent plant damage. High pressure water sprays are more effective in dislodging lace bugs on shrubs and small trees than on large trees.

Contact insecticides can be applied to manage lace bug populations and protect plants from subsequent feeding damage. Read the insecticide label to make sure lace bugs are listed. Because nymphs and adults are located on the underside of leaves, thorough coverage of leaf undersides is important to maximize the effectiveness of insecticide spray applications. Nymphs are more susceptible to insecticide applications than adults. Eggs are typically protected and unaffected by most insecticide applications. Multiple applications may be required to keep lace bug populations below plant damaging levels.

Systemic insecticides applied to the soil may not be effective in managing lace bug populations because lace bugs do not feed in the phloem sieve tubes like aphids and whiteflies, thus reducing exposure to the systemic insecticide active ingredient in plant tissues.



Figure 6. Lace bug feeding damage on oak leaves (Photo: Raymond Cloyd).

Raymond A. Cloyd

Horticultural Entomology and Plant Protection Specialist

K-STATE
Research and Extension

Publications from Kansas State University are available at bookstore.ksre.ksu.edu.

Date shown is that of publication or last revision. Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. In each case, credit Raymond A. Cloyd, *Lace Bugs: Insect Pests of Horticultural Plants*, Kansas State University, August 2025.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

K-State Research and Extension is an equal opportunity provider and employer. Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Director of K-State Research and Extension, Kansas State University, County Extension Councils, Extension Districts.

MF3703 August 2025