
LACE BUGS

Integrated Pest Management for Home Gardeners and Landscape Professionals

Many kinds of lace bugs (Fig. 1), family Tingidae, feed on landscape plants throughout the United States. Lace bug species are common, but each species feeds on only one or a few closely related plants, including alder, ash, *Baccharis*, birch, ceanothus, fruit trees, photinia, poplar, sycamore, toyon, walnut, and willow.

IDENTIFICATION

Most of the common species of lace bugs are in the *Corythucha* genus. The body is concealed beneath an expanded, lacelike or reticulated thorax and forewings and is about 1/8 inch long and flat. Nymphs (Fig. 2) are smaller, oval, and spiny. The wingless nymphs commonly have long body spines. All stages occur in groups on the undersides of leaves.

LIFE CYCLE

Females partly insert tiny eggs in plant tissue, often hidden under excrement. After five molts over a period of about 6 weeks, the adult stage appears. Most species overwinter as adults under bark plates, under fallen leaves, or as eggs in leaves on evergreen hosts. Lace bugs have several generations a year.

DAMAGE

Lace bugs suck sap from the undersides of leaves. Leaf stippling and bleaching of leaves usually appear late in the summer and can be distinguished from mite feeding by the presence of cast skins and dark specks of excrement that lace bugs deposit on the lower leaf surface. The nymphs produce honeydew, which drops to the foliage below and becomes blackened by sooty mold fungi. Thrips and certain

plant bugs also produce both leaf stippling and dark excrement, and other pests such as mites commonly stipple the leaves, so you must examine the lower leaf surface for insects to distinguish these pests.

MANAGEMENT

Tolerate lace bug damage where possible; in most cases, it does not seriously harm plants. Provide proper cultural care so plants are vigorous. No treatment will restore stippled foliage, which remains until pruned off or replaced by new growth.

Biological Control

Natural enemies of lace bugs include lacewings, assassin bugs, spiders, and predaceous mites. These predators may not appear in sufficient numbers until after lace bugs become abundant; their preservation, however, is an essential part of a long-term integrated pest management program. In the eastern United States where the azalea lace bug, *Stephanistis pyricides*, is a pest, research suggests that natural enemies may be effective against this lace bug in shady habitats with diverse vegetation and abundant leaf litter or natural mulch.

Cultural Control

Grow plants well adapted to conditions at that site. Plants in hot, sunny locations are more likely to be damaged. For example, azaleas grown under partial shade experience less damage by the azalea lace bug in comparison to azaleas that are drought stressed and exposed to bright sun. Provide adequate irrigation and other care to improve plant vigor. Prune out

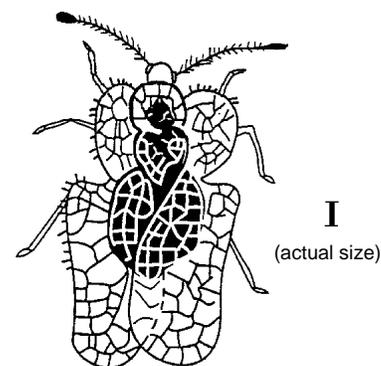


Figure 1. Lace bug.

damaged foliage, because insecticides will not restore an undamaged appearance. Consider replacing especially susceptible plants with resistant varieties.

In comparison with other cotoneaster and pyracantha species, *Cotoneaster lacteus* and *Pyracantha atalantioides* 'Variegata' are resistant to the hawthorn lace bug, *Corythucha cydoniae*. Lace-bug-resistant cultivars of *Cotoneaster buxifolius* may also be available, but ask for some documentation before purchasing because some *C. buxifolius*

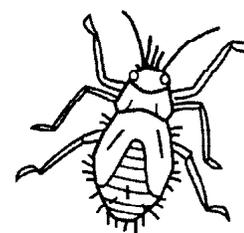


Figure 2. Lace bug nymph.

cultivars are relatively susceptible to the hawthorn lace bug.

Chemical Control

Home gardeners can apply azadirachtin (Safer, BioNeem), insecticidal soap (Safer), narrow-range oil (Green Light, Volck), or neem oil (Green Light Rose Defense) to temporarily lower lace bug abundance. Additionally, abamectin (Avid) and imidacloprid (Merit) are available to professional applicators. These IPM-compatible insecticides have very low toxicity to humans and a less adverse impact on natural enemies than more persistent, broad-spectrum insecticides. If lace bugs have previously been a problem, thoroughly spray leaf undersides when lace bug nymphs are first observed on foliage in spring. Because these insecticides leave little or no persistent residue on foliage and lace bug eggs are protected within plant tissue, application may need to be repeated several times at intervals of about 2 weeks to maintain good control. Imidacloprid

can be drenched or injected by a pest control applicator into the soil beneath the plant and may provide season-long control but must be applied early in the season before populations dramatically increase.

If it is necessary to apply a persistent, broad-spectrum insecticide, acephate (Orthene) may be the best choice because this material is systemic and moves within the plant. Also, one application sometimes provides season-long control. Other traditional insecticides such as carbamates (carbaryl, which is formulated as Sevin), organophosphates (malathion), and pyrethroids (e.g., cyfluthrin, which is the active ingredient in Lawn and Garden Multi-Insect Killer) also can be applied for lace bug control in certain situations. These insecticides generally provide more residual (longer-lasting) control than the IPM-compatible materials listed above, with the exception of the long-lasting imidacloprid. However, spraying these broad-spectrum,

persistent insecticides kills many natural enemies, which also help control lace bugs. In addition, the application of broad-spectrum materials sometimes causes dramatic increases in damaging spider mite populations. The organophosphates chlorpyrifos (Dursban) and diazinon especially should be avoided in landscapes and gardens because of problems from their runoff in urban surface water, contamination of municipal wastewater, and impacts on nontarget organisms.

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To simplify information, trade names of products have been used. No endorsement of named products is intended, nor is criticism implied of similar products that are not mentioned.

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WARNING ON THE USE OF CHEMICALS

Pesticides are poisonous. Always read and carefully follow all precautions and safety recommendations given on the container label. Store all chemicals in the original labeled containers in a locked cabinet or shed, away from food or feeds, and out of the reach of children, unauthorized persons, pets, and livestock.

Confine chemicals to the property being treated. Avoid drift onto neighboring properties, especially gardens containing fruits or vegetables ready to be picked.

Do not place containers containing pesticide in the trash nor pour pesticides down sink or toilet. Either use the pesticide according to the label or take unwanted pesticides to a Household Hazardous Waste Collection site. Contact your county agricultural commissioner for additional information on safe container disposal and for the location of the Hazardous Waste Collection site nearest you. Dispose of empty containers by following label directions. Never reuse or burn the containers or dispose of them in such a manner that they may contaminate water supplies or natural waterways.

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