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# BOXELDER BUG

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*Integrated Pest Management around the Home and Landscape*

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The western boxelder bug (*Boisea rubrolineata*) is often a nuisance pest around and in homes. Boxelder bugs usually feed on the leaves, flowers, and seedpods of the female or seedbearing box elder tree (*Acer negundo*). They may also subsist on male box elder trees and occasionally occur on maple and ash trees. They may feed on the fruits of almond, apple, cherry, peach, pear, and plum trees, and on grapes, where their feeding punctures cause the fruit to become deformed. Large numbers of the bug usually occur only on female box elder trees.

## IDENTIFICATION

When full grown, this bug is about ½ inch long and one-third as wide (Fig. 1). Adults are mostly black and have three red lines on the pronotum of the thorax and several fine red lines on each wing. The wings lie flat on the bug's back when it is at rest. The abdomen is red. The young nymphs (Fig. 2) are bright red and when about half-grown become marked with black and begin to develop black wing pads. Eggs are yellow when first laid, but become red as nymphs develop inside.

Boxelder bugs are true bugs (Order: Hemiptera) in the family Rhopalidae. They are sometimes confused with other true bugs including the bordered plant bug (*Largus cinctus*, family Largidae), small milkweed bug (*Lygaeus kalmii*, family Lygaeidae), and squash bugs (*Anasa* spp., family Coreidae). The three lengthwise red lines on the pronotum (one down the middle and on each margin) distinguish boxelder bugs from these other species.

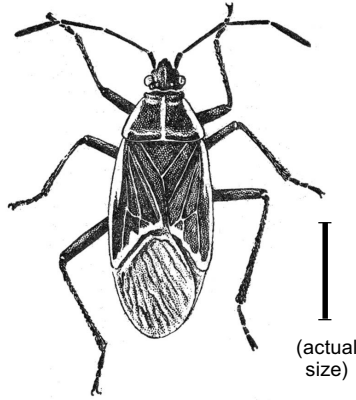


Figure 1. Boxelder bug adult.

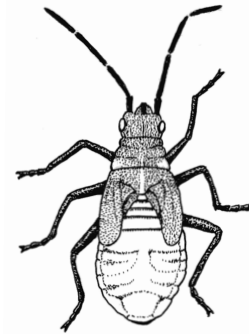


Figure 2. Boxelder bug nymph.

## LIFE CYCLE

In spring the overwintered female bugs lay eggs in the cracks and crevices of the box elder tree's bark, and the nymphs hatch in a few days. The nymphs grow larger and develop into adults during the summer. They then mate and lay eggs that hatch into the nymphs of a second generation. Adults and nymphs periodically migrate in large groups, often covering tree trunks, the ground, fences, and the sides of houses.

Most of the nymphs of the second generation grow to full size in August and September. In fall the adults seek overwintering places in dry, sheltered hollow tree trunks; under rocks, boards and other debris; in cracks and crevices in walls; in door and window casings; around building foundations; and inside houses. They become a nuisance outdoors in patios or indoors when they invade in significant numbers. On warm days during winter and early spring, boxelder bugs sometimes ap-

pear on light painted surfaces outdoors on the south and west sides of the house, resting in the sun.

## DAMAGE

The bugs do little damage to ornamental trees. They may occasionally cause puckering or distortion of fruit in commercial orchards, but this is rarely a significant problem. They do not injure people or pets, but when they come indoors they can be annoying and may spot curtains, furnishings, and clothing with their excrement. When crushed, they give off an offensive odor. They do not breed indoors. If trapped in basements or houses, they will eventually die.

## MANAGEMENT

Boxelder bugs do not cause significant damage to landscape plants, and management need only be directed at keeping them out of homes, where they may become a nuisance. If boxelder bugs frequently invade homes, seal up entry



**Figure 3. Leaves and seedpods of female box elder tree.**

points into the home and consider removing female box elder trees. Sanitation practices such as vacuuming can be used to reduce population numbers, but vigilance may be required during fall migration. Insecticide use is rarely justified.

### ***Elimination of Host Trees***

Since the box elder tree is the main source of food for the boxelder bug,

removing the trees, especially the female or pod-bearing trees (Fig. 3), is the most effective way of controlling the pest. Be careful not to plant or allow the establishment of new box elder trees in your yard.

However, elimination of trees on your property won't always completely resolve the problem. Full-grown, winged adults can fly for distances of several blocks, so boxelder bugs may also migrate in from a neighbor's tree.

If removal of trees is not an option, clear fallen seeds from beneath and near trees. Use a broom or shop vacuum on hard surfaces such as patios and driveways. A shop vacuum will also remove most seeds from grassy areas.

### ***Exclusion and Sanitation***

Repair torn screens and close up places where the bugs can enter the house, such as cracks around doors and windows and attic or basement vents. Use caulk, weatherstripping, fine-mesh screen, steel wool, or expandable foam as appropriate. Boxelder bugs that enter the home may be controlled by hand-collecting or vacuuming. A shop vacuum is an excellent tool for this purpose. Repeat as needed.

Eliminate hiding places such as piles of rocks, boards, leaves, and general debris close to houses. Boxelder bugs hide during the day or overwinter in these sites. Rake leaves and remove weeds and grass from a 6- to 10-foot wide strip around the foundation, particularly on the south and west

sides of the house. Keep box elder tree seeds swept up. A weed and debris-free strip tends to reduce the congregation of bugs near the foundation.

Wash boxelder bugs off of walls or tree trunks with a forceful stream of water. Boxelder bugs are susceptible to drowning.

### ***Chemical Control***

Insecticide sprays are generally not recommended for boxelder bug management. They are often no more effective than vacuuming and hosing, and repeated applications may be required. Insecticidal soap applied in a forceful spray of water may reduce populations on tree trunks. Pyrethroid insecticides are available for treating foundation walls around the perimeter of buildings. If required, these applications are best done by a professional. Special care must be taken to avoid runoff of pesticides from walls and foundations into storm drains, because they lead directly into creeks and rivers. Do not use sprays for boxelder bugs inside the house.

### **REFERENCES**

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Produced by IPM Education and Publications, UC Statewide IPM Program, University of California, Davis, CA 95616-8620

**This Pest Note is available on the World Wide Web (<http://www.ipm.ucdavis.edu>)**



This publication has been anonymously peer reviewed for technical accuracy by University of California scientists and other qualified professionals. This review process was managed by the ANR Associate Editor for Pest Management.

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This material is partially based upon work supported by the Extension Service, U.S. Department of Agriculture, under special project Section 3(d), Integrated Pest Management.

**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 Household 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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