



# Elm seed bug, *Arocatus melanocephalus*: an exotic invasive pest new to the U.S. Idaho State Department of Agriculture



In summer 2012, the **elm seed bug (ESB)**, an invasive insect new to the U.S., was detected in Ada and Canyon counties in Idaho in July 2012; it was later found in Elmore, Gem, Owyhee, Payette, and Washington counties and in Malheur County, Oregon. Commonly distributed in central-southern Europe, ESB feeds primarily on the seeds of elm trees, although they have also been collected from oak and linden trees in Europe. The insect does not damage trees or buildings, nor does it present any threat to human health. However, due to its habit of entering houses and other buildings in large numbers to escape the summer heat and later to overwinter, it is a significant nuisance to homeowners.



Adult elm seed bugs



Circled area is where ESB was confirmed as of autumn 2012.

## Elm seed bugs and homeowners

Elm seed bugs spend the winter as adults, mate during the spring and lay eggs on elm trees. Immature ESB feed on elm seeds from May through June, and grow into adults during the summer.

Elm seed bugs are most noticeable in springtime as overwintering ESB begin to emerge inside buildings and try to escape, during hot periods in the summer when ESB attempt to enter buildings to get away from the heat, and in the autumn when they enter buildings to overwinter.

When disturbed or crushed, the bugs produce an unpleasant odor.



Photo: mauriziano

An aggregation of ESB inside a residence.



Elm leaves and seed



Immature elm seed bug



Adult elm seed bug

## Identification

The **elm seed bug** belongs to the order **Hemiptera** (the “true bugs”), and are related to boxelder bugs and stink bugs. Hemipterans typically cross their wings in an X-pattern flat over their backs and have tube-like mouthparts that point backwards under their heads.

Adult elm seed bugs are only about **1/3-inch long** and are the color of dark chocolate. With the help of a magnifying glass, it is apparent that the edge of its body extends slightly beyond the wings. The extended part of the body is marked in a series of five or so narrow white bands on a dark colored background.

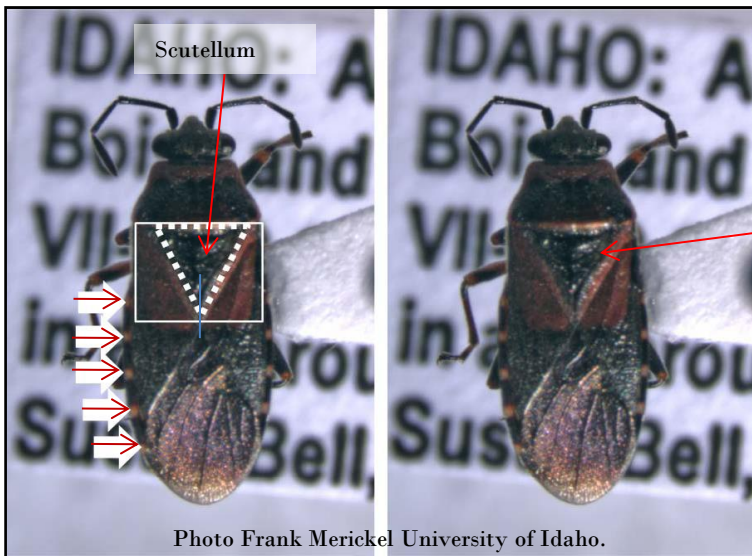


Photo Frank Merickel University of Idaho.

The dashed white lines outline the scutellum. The arrows point to the light bands on the margin of the body that extends beyond the wings.

**Unique features of ESB:** The black, triangular **scutellum** (a shield-like plate found on the backs of some insects) of elm seed bugs is enclosed within a **rusty-colored rectangle**.

Flip an adult ESB over to see its **reddish-colored abdominal segments**.



Red abdominal segments



To identify adult ESB, look for a black triangle inside a rust-colored rectangle on the insect's back.

## Management

Management of ESB in houses and other buildings requires persistence and patience. At this time, treating ESB infestations with pesticides may offer some relief to beleaguered homeowners, though results sometimes have been mixed. Pesticides can kill ESBs that are directly contacted, and some pesticides are known to have short residuals of 2-4 weeks. A pesticide treatment can reduce the number of adult ESBs on your property, but may do little to prevent future infestations as residual pesticides degrade over time. ESB does not threaten human health and does no structural damage to buildings, so an integrated management approach focusing on excluding the pest from dwellings (pest proofing) and pesticide treatments when adult bugs are present offers some level of control.



## Pest-proofing your home

The best way to limit unwanted intrusions by ESB is to “pest proof” your home. Taking steps to block their entry **before they end up inside** is by far the best course for managing ESB. The suggestions below have the added benefit of conserving energy and increasing the comfort level of homes during summer and winter.

- Install **door sweeps or thresholds** at the base of all exterior entry doors. While lying on the floor, check for light filtering under doors. Gaps of 1/16 inch or less will allow ESB to easily enter. Pay particular attention to the bottom corners.
- Apply **caulk** along bottom outside edge and sides of door thresholds. Garage doors should be fitted with a bottom seal constructed of rubber (vinyl seals poorly in cold weather).
- Gaps under sliding glass doors can be sealed by lining the bottom track with 1/2 to 3/4 inch-wide **foam weather stripping**.
- Seal utility openings where pipes and wires enter the foundation and siding, *e.g.*, around outdoor faucets, receptacles, gas meters, clothes dryer vents, and telephone/cable TV wires. Holes can be plugged with **caulk, cement, urethane expandable foam, steel wool, copper mesh, or other suitable sealant**.
- Caulk cracks around windows, doors, fascia boards, etc. Use a good quality **silicone or acrylic latex caulk**. Although somewhat less flexible than pure silicone, latex-type caulks are easy to clean up with water and can be painted. If you don't want the caulking to show, use caulks that dry clear.
  - Invest in a **good caulking gun**. Look for those with a back-off trigger to halt the flow of caulk when desired, a built-in "slicer" for cutting the tip off of new caulking tubes, and a nail for puncturing the seal within.
  - Prior to sealing, cracks should be cleaned and any peeling caulk removed to aid adhesion.
- Repair gaps and tears in **window and door screens**.
- When all else fails, a shop vac (filter removed) with 1-2 inches of soapy water in the bottom container is often the best response to ESB (the water will prevent them from flying out of the vacuum cleaner).



Adapted from “How to Pest Proof Your Home” by M. Potter, University of Kentucky Extension, <http://www.ca.uky.edu/entomology/entfacts/ef641.asp>



**Notes:**

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