

The Science of True Bug Insect ID:

A Presentation
by Dr. Wayne Gall

by Lyn Chimera and
Carol Ann Harlos

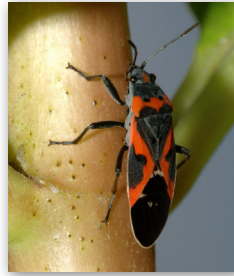
Dr. Gall gave outstanding presentation on the identification of *Hemiptera* (true bugs) and the 3 suborders. Hemiptera all have incomplete metamorphosis which means they have no larval stage. The stages are egg, nymph, and adult (imago). They all have piercing and sucking mouth parts. The fore wings are hardened near the base and membranous at the ends. The hind wings if present are membranous and usually shorter than the forewings. Their development is linked to the evolution of Angiosperms (flowering plants.) Dr. Gall suggested www.bugguide.net as an excellent ID site and *The Book of Beetles in NA* for information and photos.

The 3 suborders are:

- **Heteroptera** includes assassin bugs, stinkbugs, and bedbugs. The beak arises from the front of the head.
- **Auchenorrhyncha** includes cicadas and leaf hoppers. The beak comes from back of head or neck.
- **Sternorrhyncha** includes aphids, white flies, and scale insects. The beak comes from the upper thorax.

Three orange and black insects that may confuse people include:

The Box Elder Bug which sucks juices from box elder and other maples has 3 orange stripes on its back. It doesn't do much damage to the trees but is a pest on and in the house where it comes for winter shelter.

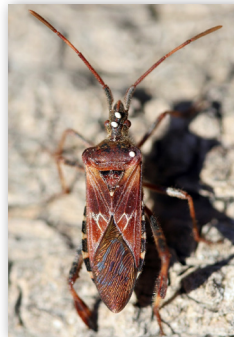


The Small Milkweed Bug

feeds on seeds of milkweed and is also a predator and scavenger. Black with orange "X" on body. (I see a black heart.)

Large Milkweed Bugs

are orange with a black stripe across the middle and do not overwinter. Other important insects include:



Western Conifer Seed Bugs

feed on seeds and cones and enter houses for shelter. When wings are open they look and sound like bees.

Masked Hunter: Assassin Bug

The nymph picks up dust and debris on its sticky body for camouflage.


Adult is shiny black and has an extremely painful bite to humans.



The Brown Marmorated Stink Bug

is a serious non-native pest of crops. It has alternating light bands on the antennae and light and brown patches along margins of body.



Other Troublemakers Include: Four Line Plant Bug (below), Hemlock Woolly Adelgid, Potato/tomato Psyllid, and Spotted Lantern fly. 



Photos all from bugwood.org with photographers as follows:

Box Elder Bug
Joseph Berger

Small Milkweed Bug
Susan Ellis

Large Milkweed Bug
Johnny N. Dell

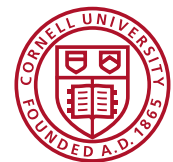
Western Conifer Seed Bug
David Cappaert

Masked Hunter: Assassin Bug
Whitney Cranshaw, Colorado State University

Fourlined Plant Bug
Johnny N. Dell

Brown Marmorated Stink Bug
Kristie Graham, USDAARS

Four Line Plant Bug
Johnny N. Dell



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