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Entomology for Master Gardeners

Entomology Basics

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Order Hemiptera: Stink bugs, plant bugs, assassin bugs.

This is a large group of insects that is referred to as the bugs, or true bugs. As these are true bugs, we write the name stink bug as two words. Ladybug is actually a beetle, so it is written as one word. Another example to illustrate this would be a yellowjacket, this is a stinging wasp. However, a yellow jacket is something you might wear.

The key characteristic of this group is the structure of the front wings. Hemiptera means 'half wing', as the base of the front wing is thickened. Where the front wings overlap toward the rear they are very thin. Note the color change where the wings overlap. The hind wings are hidden under the front wings. Hemipterans have gradual metamorphosis (as can be seen with the brown stink bug nymph and adult in these photos).





Note that with the stink bug nymph pictured above, the partially developed wing buds are clearly visible on its back. Each time the nymph molts, the wings buds slightly increase in size.



The true bugs also have piercing-sucking mouthparts. In the photo above, the stink bug's beak is clearly visible.

Kentucky Examples in the Order Hemiptera



This is an assassin bug, a predator of other insects. Assassin bugs pierce the body of their prey and drain their fluids. Note the thickened base of the front wings abruptly becoming thin where they overlap. This is the key character used to recognize the true bugs.



The wheel bug is the largest of the assassin bugs in Kentucky. It gets its name from the large cog-like process on its back.



This is the small milkweed bug, a type of plant bug. This insect has warning coloration to alert predators that it may be poisonous.



Not all stink bugs are pests, this is the spined soldier bug which is a predator of other insects. Similar in appearance to the brown stink bug which is a pest, the spined soldier bug can be recognized by the pointed 'shoulders.'



This is a damsel bug, an important insect predator that feeds on insect eggs and small insects. Damsel bugs are very common in the landscape on low vegetation.



The four-lined plant bug is a common pest of herbs and other succulent plants. Here it is feeding on a mint leaf with its piercing-sucking mouthparts. Note the dark areas on the leaf caused by its feeding. As insects with piercing sucking mouthparts feed on plants, they inject enzymes into the plant tissue. With some insects, the enzymes can cause noticeable spotting (as seen here) or distorted growth.



Lace bugs are small with a lace-like pattern of ridges on the wings and back. Lace bugs feed on trees and shrubs and can cause considerable damage to azaleas and other plants.

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Photo credits: R. Bessin, Department of Entomology, University of Kentucky; montage created by P. Dillon, Department of Entomology, University of Kentucky

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