

Classifying Forest Insects by Feeding Habits



By Dr. David Mercker, Extension Forester, University of Tennessee

Forest entomology is a challenging science. Most of us have little more than passing knowledge of insects in the forest and yard settings, including foresters. Yet Extension educators receive numerous calls involving trees and insects – damage, identification, and control. The Woodland Steward (Fazio 1987) has an excellent section whereby common forest insects are classified according to their feeding habits. By understanding feeding habits, insect control (if necessary) becomes easier. Following is a brief summary of the classifications.

Defoliators – Defoliating insects eat the leaves of trees (both broad leaves and needles); the damage is easily seen via loss of foliage and ‘droppings’ located under the crown. Insects regularly feed on leaves and normally damage is minimal except when outbreaks occur. In our region, some of the more common defoliating insects include sawflies, forest tent caterpillar, variable oakleaf caterpillar, and leafminers.

Bark Beetles and Other Bark Borers – Over 100 insect species fall into this very destructive category. Adults excavate the sugar-rich phloem just under the bark where they lay eggs; larvae hatch and continue eating their way from the main gallery through many smaller galleries. In our region, some of the more common bark beetles include southern pine and Ips engraver beetles, emerald ash borer, walnut twig beetle, flatheaded borers, and two-lined chestnut borer.

Wood Borers – Similar to bark beetles, wood borers mine deeper into the tree and damage the new wood (called sapwood or xylem). Sometimes wood borers cause little to no damage (such as for overwintering purposes), while other times their galleries can sever the flow of water to the foliage and cause rapid mortality. Fine sawdust (also called frass) is often seen on the bark and near the trunk. In our region, some of the more common wood borers include ambrosia beetles, oak borer, and carpenter worms.

Terminal Feeders – This category of tree pests feed on buds or roots; a few even cause damage by girdling twigs. Rarely is their damage lasting (unless repeated annually); rather, they mostly deform the bowl and crown of younger trees. In our region, some of the more common terminal feeders include Nantucket pine tip moth, pales weevil, twig borers, and girdlers.

Sucking Insects – Insects that rob trees of their food by drawing fluids from the leaves and fine branches are sucking insects. Rarely do they cause death, but can spread tree diseases. In our region, some of the more common sucking insects include aphids, woolly adelgid, scales, spittlebugs, and cicadas.

When attempting to identify forest/tree insects, it helps to first classify their feeding habits. Control is then made easier. Some insects, such as the emerald ash borer, are very serious threats and restrictions on movement of wood products exist. ☪

Reference: Fazio, J.R. 1987. The Woodland Steward. The Woodland Press. Moscow, Id.