



## Old and New Insect Threats to Forest Health

The following column is the ninth in a series intended to benefit woodland owners.

Missouri's forests continually face damaging attacks by insects, including several we have come to know all too well. But insects from other parts of the world are also finding their way to North America and are posing new threats to Missouri trees. Managing our forests to improve their overall health will help them have a better chance to survive both old and new insect threats.

Forest stands stripped of their leaves by millions of leaf-eating caterpillars can be impressive. Heavy defoliation of hardwoods in spring by loopers and cankerworms is stressful on trees, particularly if most of a tree's leaves are destroyed, causing it to use its energy reserves to put out a second flush of leaves. However, heavy defoliation occurring primarily in late summer after tree growth has slowed (such as with the fall webworm) is less harmful. Healthy hardwood trees can withstand heavy defoliation, if not repeated too frequently.

A common problem affecting red oaks in Ozark forests is attack by wood-boring insects. Holes in the bark, sometimes oozing sap, may mean insect "worms" or larvae have been tunneling within. Some tunnels like those of the two-lined chestnut borer wander under the bark and "strangle" the tree by interfering with movement of nutrients and water. Other tunnels, like those of red oak borers or carpenterworms extend deep into the tree reducing the value of the wood.

Insect borers are often part of a much bigger problem known as oak decline, which frequently occurs where red oaks are growing on dry ridgetops and south or west-facing slopes. Droughts cause these trees to become stressed. Insect borers and root rot disease attack the weakened trees. These conditions can be managed by thinning to reduce the number of competing trees, removing unhealthy red oaks,

and allowing more drought tolerant pines and white oaks to occupy the site.

Threats to our forests by non-native insects are increasing. The gypsy moth, a serious oak defoliator, is spreading toward Missouri from the northeastern U.S. It can hitchhike by attaching its velvety brown egg masses on vehicles and outdoor gear. Summer travelers to the Northeast should examine their belongings and destroy any egg masses found.

The emerald ash borer, a small, green, wood-boring beetle, is killing every ash tree it encounters, leaving a distinctive 1/8-inch D-shaped hole in the bark. It has killed many million ashes in Michigan, Ohio, Indiana, and was recently found near Chicago. This beetle hitchhikes within ash logs, nursery stock, and firewood. Quarantines on these items are in effect in infested states. However, it is a good practice for all of us to avoid moving firewood long distances and possibly giving these or other pests a free ride to Missouri's forests. See this web site for more information:

[www.emeraldashborer.info](http://www.emeraldashborer.info)

Article written by:

Rob Lawrence, Forest Entomologist, Missouri Department of Conservation

Submitted by Peter Maki, Forestry Communication Specialist, Top of the Ozarks RC&D

