



# Emerald Ash Borer

By Forest Health Staff

The Emerald Ash Borer (EAB), *Agilus planipennis*, is an exotic invasive pest of ash trees that was first found in the US in 2002, and first found in Georgia in 2013. Since its initial detection, EAB has been found in many north Georgia counties and is now in most of the eastern U.S. EAB has killed tens of millions of ash trees across North America, and is a serious threat to the ash component in Georgia's forests and urban areas. Along with spreading by natural means, EAB can be transported by humans in infested firewood, timber and nursery stock.

## The Beetle

Emerald Ash Borer is a very small but very destructive beetle attacking all members of the ash genera (*Fraxinus spp.*). Metallic green in color, its slender body measures 1/2-inch long and 1/8-inch wide (Figure 1). Eggs are laid between layers of bark and in bark crevices. Larvae hatch in



Figure 1 - Photo by David Cappaert, Bugwood.org

about one week and bore into the tree where they feed on the inner bark and phloem, creating "S"-shaped galleries. The larvae feed and grow all summer, then overwinter within the tree. It is the gallery creation during the larval phase that kills the tree. Adults begin to emerge through "D"-shaped exit holes in March-April, and remain active for a few months before laying eggs.

## Signs and Symptoms of EAB

It is extremely difficult to determine whether an ash tree is or is not infested with the EAB because tree decline is

usually gradual from the top down. Early symptoms of an infestation might include dead branches near the top of a tree or wild, leafy shoots growing out from its lower trunk (epicormic sprouting, Figures 2 and 3). "D"-shaped exit holes (Figure 4) and bark splits exposing "S"-shaped galleries



Figure 2 - Photo by Leah Bauer, USDA Forest Service Northern Research Station, Bugwood.org



Figure 3 - Photo by GFC Staff



Figure 4 - Photo by GFC Staff

(Figures 5 and 6) are significant signs of the EAB. Woodpecker activity might also indicate the presence of EABs. There are native ash borers that may infest ash trees, but usually do not kill them. EAB is the only pest that has a "D" shaped exit hole, and takes between five and 10 years to completely kill a tree.



Figure 5 and 6 - Photos by GFC Staff

## EAB Quarantines in Georgia

To prevent additional artificial spread of the EAB, USDA and Georgia regulators have established quarantines to prohibit the movement of ash materials and hardwood firewood out of states where EAB is known to exist. In Georgia, a quarantine has been established to prevent human-assisted transport of EAB to areas where the beetle has not yet been detected. For more information on Georgia's quarantine and the most up-to-date quarantine map visit: [www.gfc.state.ga.us/forest-management/forest-health/eab/index.cfm](http://www.gfc.state.ga.us/forest-management/forest-health/eab/index.cfm).

## Ash Tree Treatments

Homeowners with individual, high-value ash trees can treat trees with systemic insecticides. These will need to be applied on a regular basis (every two-four years), and are not guaranteed to save the tree. In heavily infested areas, even treated trees are likely to succumb to continued attacks from the pest as beetle populations increase. More information on treating trees can be found at the website listed above.

## What You Can Do

Humans unknowingly contribute to the spread of the EAB (and other exotic pests) when they move firewood or logs. Emerald Ash Borer larvae can survive hidden under the bark of firewood or unprocessed logs. BUY IT WHERE YOU BURN IT! [www.dontmovefirewood.org](http://www.dontmovefirewood.org).

## Contact Info

If you suspect you have Emerald Ash Borer in an area of Georgia where it has not been detected yet, call your local forester.

<http://www.gfc.state.ga.us/about-us/contact-us/county-units/index.cfm>

