

What's Wrong With My Ash Tree? – Native Ash Borers

Written by Sarah Browning

Emerald ash borer (EAB) has been in the news so much in recent years, many homeowners have forgotten there are several native boring insects that attack ash trees. In fact, you may be surprised how many potential attackers exist!

What are borers?

But first, just what is a borer? Borers are the immature life stage of beetles or moths. They damage the tree by tunneling through the water and food conducting vascular tissues, causing the cambium and bark above the tunneled area to die. This damage reduces the tree's ability to move water and store nutrients. They may also tunnel into the heartwood, but this damage is usually not a serious problem for the tree.

Long term effects of borer damage must be prevented rather than controlled; once the vascular tissues, sapwood or heartwood of a tree are damaged, the tree cannot repair them.



What do they look like?

If you find larva in the wood, they typically appear caterpillar-like, but have no legs and are cream or light colored. Their bodies may be flattened or fat and round, usually with a dark colored head.

Adult appearance and other characteristics vary by species.

- Ash/lilac borer – adult is a day-flying clearwing moth that mimics a wasp. Round exit holes, ¼ inch diameter. Larval tunnels are ¼ inch wide and extend deep into the wood. Hosts include ash, lilac, mountain-ash.
- Ash/privet borer – adults are a longhorn beetle with antennae as long as their body; brown with amber spots; 3/8 to ¾ inches long. Exit hole round and variable in size, typically 1/8 inch or more. Hosts include ash, privet.
- Banded ash borer – adults nearly black with yellow stripes, 3/8 to 3/4 inches long. Exit hole round and variable in size, typically 1/8 inch or more. Hosts ash, elm, hickory.
- Banded ash clearwing – adult is a day-flying clearwing moth, brownish black with a single orange-yellow stripe across its abdomen. Round exit holes, ¼ to 3/8 inch diameter. Hosts green and white ash.
- Carpenterworm – adult is a large black and grey moth; wingspan about 3 inches. Exit holes round, ½ inch diameter. Tunnels ½ inch wide, in the cambium area and extending deep into the wood. Hosts oak, elm, poplar, ash, boxelder and many others.
- Flatheaded apple borer – adults are a dark, metallic beetle; ½ inch long with short antennae. Exit holes are oval, 3/16 inch long and half as wide. Tunnels are irregular and winding, found primarily in the cambium. Hosts apple, maple, walnut, poplar, oak, ash and many others.
- Redheaded ash borer – adults are a longhorn beetle with antennae as long as their body; reddish brown with yellow stripes; ¼ to ¾ inches long. Exit hole round and variable in size, typically 1/8 inch or more. Hosts ash, oak, walnut, hackberry, maple.

Adult insects typically emerge in spring or summer and after mating females deposit eggs in bark crevices or around the edges of wounds. Again, females are attracted to stressed, wounded, dying or dead trees. After hatching, the young larvae tunnel into the tree.

What about control?

If your tree is being attacked by native borers, should you treat it and control the insects? First, consider - your tree is already stressed or low vigor, or it wouldn't be having problems with native borers. Emerald ash borer is looming on the horizon, like a tsunami wave about to hit us. (As a non-native insect, EAB can survive in healthy ash trees.)

Your ash tree is already behind the 8-ball. It's having problems, suffering from possible poor soil, site, planting, pruning or care. It's unlikely your tree will be healthy enough to be able to move the protective systemic chemicals used to control EAB or recover from the damage caused by trunk injections. In the long run, it would be better to remove this tree from your landscape and replant this spring with another species not affected by EAB.

The moral of the story.

Cultural practices significantly reduce native borer infestations, for ash and all other shade trees. Since native insects evolve in association with native trees, they are usually only a problem on low vigor or declining trees; healthy, vigorously growing trees are resistant to borer attack.

To maintain healthy trees, plant them at the correct depth and eliminate stem girdling roots before planting. Water trees deeply during periods of drought and protect them from other pests particularly during the first two or three years of growth. Prune trees correctly to maintain a good canopy, prevent bark damage from poor pruning, and prevent branch breakage due to poor branch structure. Maintain a layer of mulch around the tree base to preserve soil moisture and prevent the most common and serious injury of all - lawn mower damage.

More Information

Declining Ash: Borers and Bark Beetles,

<https://nfs.unl.edu/ash%20decline%20borers%20with%20EAB%20full%20sheet.pdf>

Best Trees to Replace Ash, https://plantnebraska.org/file_download/inline/febfb391-db57-4085-bd82-ce3777f5153b

Tree Selection & Placement,

<https://nfs.unl.edu/documents/communityforestry/Storm%20Damage%207%20-%20Tree%20Selection%20%26%20Placement.pdf>

Tree Planting, <https://nfs.unl.edu/documents/communityforestry/Storm%20Damage%208%20-%20Tree%20Planting.pdf>

Care of Newly Planted Trees,

<https://nfs.unl.edu/documents/communityforestry/Storm%20Damage%209%20-%20Care%20of%20Newly%20Planted%20Trees.pdf>

Your Suggestions are Welcome!

Is there a lawn and gardening topic you would like to learn more about? Sarah Browning is an Extension Educator with Nebraska Extension and can be contacted by phone 402 441-7180, by mail at 444 Cherrycreek Road, Lincoln, NE 68528: or by e-mail sarah.browning@unl.edu.

Image Attributions:

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