

FOCUS ON FOREST HEALTH

INVASIVE SPECIES: ASIAN LONGHORN BEETLE

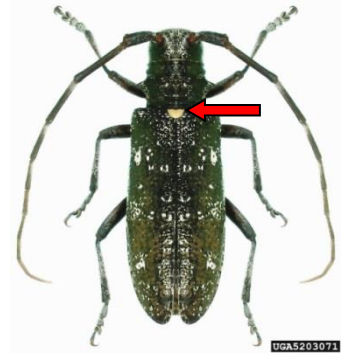
Background

Asian longhorned beetle (ALB, *Anoplophora glabripennis*) is an invasive, wood-boring beetle that kills maples and other hardwood trees. This large black beetle with white spots is native to China and Korea. Much like EAB, ALB is believed to have been introduced to North America in wood packing materials used to ship other products. ALB was accidentally introduced to multiple locations in Europe, the U.S. and Canada before the introduction of regulations requiring treating of wood packing materials. ALB has not been found in Wisconsin.

ALB adults feed on leaves but do little damage to trees. Young ALB larvae damage host trees by feeding in the phloem. As the larvae grow they tunnel deeper into the wood of the tree making it more likely the tree will break.

Adult ALB do not fly far so infestations spread slowly. The first signs of attack are usually found in the canopy of trees. Adults may reinfest the same tree for many years before it dies or breaks from the damage the larvae cause in the wood.

Description



Photos from left to right: Adult male ALB; ALB larvae of multiple growth stages (instars); and the native whitespotted sawyer longhorned beetle.

Adult photo by Melody Keena and larvae by Steven Katovich.

Adult - Beetles are found from July to September and are about 1 inch long (not including the very long antennae), shiny black with white spots, and have black and white horizontal stripes on their long antennae. Adult ALB are often confused with the native whitespotted sawyer longhorned beetle. The whitespotted sawyer always has a white spot at the top of the wing covers (see red arrow on the photo above) that is never present on ALB.

Larva – Creamy white, round, legless larvae can grow to more than 2 inches in length.

Signs and Symptoms of this insect:

- ALB adults or larvae
- Larval tunnels in host trees
- Egg pit – Female beetles chew an egg site for every egg they lay on a tree. Egg sites may be a small slit in the bark or a more obvious circular to oval pit.
- Adult emergence holes - Adults leave large (half-inch diameter), circular exit holes. Chewing out of the tree often leaves a small sawdust pile below the exit hole.
- Dieback of the leaves and branches at the top of the tree or tree death
- Maturation feeding – Adult ALB feed on leaves and young twigs after they emerge from a tree. The feeding on leaves occurs along the veins.



Photos from left to right: ALB egg pits; exit holes; and adult feeding.

Photos by Michael Bohne, Kevin Dodds, and Michael Smith.

Habitat and Current Distribution

ALB are capable of attacking many tree species but are most commonly found in maples (Norway, sugar, silver, red). ALB will also attack birch, poplar, willow, elm, ash and black locust. Wisconsin has billions of maple trees, especially in northern forests. Maples are also important street trees in many cities.

ALB is a pest of hardwoods in their native range in Eastern Asia. The first discovery in the U.S. was in Brooklyn, New York in 1996. The closest infestation to Wisconsin was in Chicago in 1998 but the beetle has been eradicated from the area. For a map of infestations see <http://asianlonghornedbeetle.com/>.

Impact and Management

Asian longhorned beetle is a major threat to Wisconsin's forests.

- Ecological – ALB attacks many of the most abundant tree species in Wisconsin. Wisconsin forests would look very different if ALB killed all the maple, birch, poplar, willow and elm trees. Many species would lose important food sources and shelter.
- Economic – Many Wisconsinites tap maple trees to produce maple syrup. Maple and other species attacked by ALB are a critical part of timber and nursery businesses.
- Social/recreational – Tourists travel to Wisconsin to bike, hike, camp, look for wildlife and to view the beautiful fall colors. The loss of so many tree species would have a major impact on the tourism industry in Wisconsin. Maple trees in parks and our yards provide shade and help cool our homes in summer, slow rain water to prevent flooding and absorb air pollution. The sugar maple is Wisconsin's state tree.

Fortunately, ALB has not been found in Wisconsin and unlike other invasive insects like emerald ash borer, eradication is possible. Several infestations have been eradicated by cutting all infested trees and nearby trees that ALB could attack and chipping or burning the wood. You can help prevent ALB from reaching Wisconsin by:

- Using certified firewood or firewood purchased within 25 miles of where you plan to use it. Never transport firewood long distances. Never take firewood from an area quarantined for ALB out of the quarantined area.
- Be on the lookout for this pest! Contact your local forest health specialist if you find a suspect beetle or damage (search for forest health staff on the DNR website <http://dnr.wi.gov/>).

For more information

- <http://asianlonghornedbeetle.com/>
 - Go to the "Get Involved" tab and click on educate for resources for teachers
- http://www.aphis.usda.gov/plant_health/plant_pest_info/asian_lhb/
- <http://dnr.wi.gov/topic/ForestHealth/>