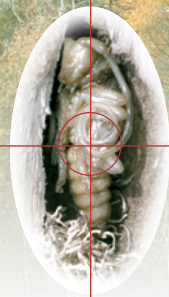


National Pest Alert



Asian Longhorned Beetle *Anoplophora glabripennis*

The Asian longhorned beetle (ALB) (*Anoplophora glabripennis*) is native to China and Korea and poses a serious threat to U.S. urban and forest trees. The ALB was first discovered in the United States in 1996 on Long Island, New York. There have been six infestations of ALB in the United States: four infestations are ongoing, and two of the infestations have been successfully eradicated (see timeline at right for locations of the infestations). As ALB can be transported in untreated wood products such as wood packing materials or firewood, it is vital to be aware of this insect and immediately report anything suspicious to local authorities (state department of agriculture, USDA, National Plant Diagnostic Network).

Identification

The shiny black, bullet-shaped ALB adult is about 1 to 1.5 inches long with white spots that are irregular in size and shape. Its black-and-white banded antennae are usually longer than its body. The elongated feet are black with a whitish-blue upper

surface. Adults can be seen from late spring through fall, depending on climate and geographical location. Although its size and large mandibles may cause it to appear threatening, the beetle is harmless to humans and pets.

Life Cycle

Adult females use their mandibles to chew a pit in bark and then deposit an egg into it. Each female lives several weeks and will lay up to 90 eggs. The larva tunnels under the bark, eventually tunneling deep into the tree. Larval tunneling produces frass that consists of feces and wood fibers resembling sawdust. The large, light cream-colored larva that lives entirely within the wood of trees is the most damaging stage as they consume living wood, disrupting the flow of nutrients within the tree. Typically, the life cycle of the ALB is completed in one year.

Host Plants

The ALB larvae bore deep into healthy deciduous hardwood trees. Trees categorized as preferred hosts for ALB include maple, boxelder, horsechestnut, buckeye, willow and elm. In addition, there are a number of occasional or rare hosts such as mimosa, katsura tree, ash, poplar, London plane tree, and European mountain-ash. Large, round exit holes, approximately 3/8 inch in diameter located on trunks and branches of a living and healthy tree is an early sign of an ALB infestation. Although they feed on several tree species, maple are by far the most preferred host. Another early sign of an infestation is oviposition pits. An



Joe Boggs, The Ohio State University

Adult Asian longhorned beetle.

YEAR	LOCATION	CURRENT STATUS
1996	Long Island, NY	ongoing
1998	Chicago, IL	eradicated in 2008
2002	Jersey City, NJ	eradicated in 2013
2008	Worcester, MA	ongoing
2011	Tate Township, OH	ongoing
2020	Hollywood, SC	ongoing

Timeline of ALB infestations and eradications in the U.S.

oviposition pit is a wound in the bark made by a female beetle as she prepares to lay her eggs. These oviposition pits can weep sap.

An infested tree may have sudden branch breakage as the as the larval feeding compromises the structure of the tree. Canopy wilting and dieback occurs when larvae damage tissues that transport water and nutrients to the leaves. The ALB females often lay eggs on the same tree they emerged from, leading to multiple generations damaging the same tree. Trees



Kenneth R. Law, USDA, APHIS, Plant Protection and Quarantine

Asian longhorned beetle pupa.

usually show signs of damage 3–4 years after the initial attack with tree death occurring in 10–15 years.

Economic and Environmental Impacts

Establishment of the ALB in the United States could cause more damage than Dutch elm disease, chestnut blight, and spongy moths combined by destroying millions of acres of hardwoods, including forest, park, and backyard trees. According to the United States Department of Agriculture, ALB is a threat to lumber, nursery, and tourism industries. Due to the enormous negative impact ALB would have in the U.S. and the success of eradication projects, this insect remains a highly regulated pest by USDA APHIS. Once a tree is infested, it must be removed. To date, over 180,000 trees have been removed in infested areas in order to protect the forests and urban landscapes of the rest of the United States.

Early detection and reporting will help agencies to eradicate the pest and prevent its establishment.

Report Sightings

If you find a beetle that you suspect is an ALB, you should collect it and immediately place the pest in a glass jar, as the ALB adult is capable of chewing through plastic bags. Then put it in the freezer overnight.



Kenneth R. Law, USDA APHIS PPQ, Bugwood.org

ALB larvae leave tunnels as they consume the wood. These tunnels can be seen when bark is removed.



Photos by Joe Boggs, The Ohio State University.

In addition to large exit holes, early signs of an ALB infestation include sap weeping from oviposition pits and broken limbs caused by larval feeding damage.



Photos by Joe Boggs, The Ohio State University.



ALB exit holes are 3/8 inch in diameter (a pencil easily fits inside) and are often near oviposition pits. Oviposition pits are small holes in the bark the female chews as she prepares to lay an egg (right). Old and new oviposition pits and adult exit holes (left).

Be sure to report it to appropriate authorities. It is essential to note where you found the beetle. Record the following information for each sample collected: date; host plant; collector's name; phone number; and collection location including state, county, and address or nearest intersection. Global positioning system (GPS) location information is useful, if available.

To report the finding, call your state's department of agriculture, USDA APHIS Plant Protection and Quarantine, or National Plant Diagnostic Network (NPDN) Laboratory. Find your nearest [NPDN lab](http://www.npdn.org) at www.npdn.org.

Resources for more information:

[USDA-APHIS website](https://www.aphis.usda.gov/aphis/resources/pests-diseases/asian-longhorned-beetle) (<https://www.aphis.usda.gov/aphis/resources/pests-diseases/asian-longhorned-beetle>)

[Outsmart Project ALB Video](https://www.youtube.com/watch?v=yh6hyMNN0W0&t=1s) (<https://www.youtube.com/watch?v=yh6hyMNN0W0&t=1s>)

[USDA-APHIS Hungry Pests](https://www.aphis.usda.gov/aphis/resources/pests-diseases/hungry-pests/the-threat/asian-longhorned-beetle/asian-longhorned-beetle) (<https://www.aphis.usda.gov/aphis/resources/pests-diseases/hungry-pests/the-threat/asian-longhorned-beetle/asian-longhorned-beetle>)

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