BUG BIZ
Pest Management and Insect Identification Series
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Neoclytus caprea, Banded Ash Borer

(Coleoptera: Cerambycidae)

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Description

The banded ash borer is a native species within the beetle family Cerambycidae. It is found throughout the United States and eastern Canada. Adult banded ash borers are small insects, ranging from 1/3 to 3/4 of an inch (8 to 18 mm) in total body length. The overall body shape is long and slender, and their bodies are covered by tiny dark brown-colored setae (hairs). They have small heads with long antennae typical of the family Cerambycidae, which are known as long-horned beetles. The thorax is almost round and possesses a bright white or yellow band around the border just behind the head. The elongate abdomen is tapered toward the tip and mostly covered by the elytra, which are modified forewings. The elytra possess a distinctive banding pattern of four bands the same color as those of the thorax. The two bright-colored bands closer to the thorax meet in the center, forming a circular pattern. The remaining two bands are horizontal, curved slightly forward in the middle. The tips of the elytra are also yellow. The legs and antennae are dark brown. Larvae of banded ash borers range from 2/5 to nearly 1 inch (10 to 22 mm) in length, depending on age. They are white in color, with constrictions indicating body segments. Segments towards the front of the body are broader, leading to the common name round-headed borers, although the broader segments are the thorax, not the head. They have characteristic round heads that are dark brown in color.

The banded ash borer is a close relative of another native species known as the redheaded ash borer (*Neoclytus acuminatus*). They are similar in appearance. Adults of both species can be easily identified after a careful examination of the banding patterns. Larvae are indistinguishable without detailed study. Adult redheaded ash borers are reddish-brown in color, with a characteristic red head, and yellow bands. The banding pattern differs from that of the banded ash borer. The first two bands do not meet in the center.

Adult banded ash borer (David Cappaert, Utah State University, Bugwood.org).

Banded ash borer larvae (David Cappaert, Utah State University, Bugwood.org).

Wood damage of the banded ash borer larvae (Lacy L. Hyche, Auburn University, Bugwood.org).

Life Cycle

As with other beetles, the banded ash borer goes through complete metamorphosis involving four growth stages, egg, larva, pupa and adult. During early spring, adults emerge from their woody hosts to mate. Mated females then search for a suitable place to lay eggs. They prefer recently dead, dying or stressed trees, mainly ash trees. They can also utilize elm, hickory, oak and linden.

They also deposit eggs on damaged bark and branches of healthy trees. Once the tiny larvae hatch, they feed under bark, boring deeper into the wood as they grow. They feed for the remainder of the summer. As fall approaches, larvae transform into pupae inside the wood and overwinter. Adults emerge the following spring to repeat the cycle. Usually there is a single generation each year.

Ecological Significance and Pest Status

In Louisiana, these insects and related species are not usually considered pests since they mainly attack only dead or dying trees. They can be a nuisance for homeowners, because their larvae are able to feed on wood of newly planted host trees that are under stress, as well as freshly cut wood for lumber. Heavy infestations in newly planted or diseased trees may interfere with water and nutrient transport, leading to the disruption of the growth, weakened structure, and increasing susceptibility to diseases and storm damage.

Control

Monitoring. Maintaining proper tree health and monitoring for signs of infestation is key to avoiding damage to high value tress. This can be done by searching for small holes that may indicate the presence of banded ash borers or other species of boring beetles. Often, round holes are adult emergence holes and indicate that larvae were present the previous season. Large numbers of adults on or near trees during spring may indicate the need for additional control strategies.

Cultural control. Utilizing firewood as soon as it is properly seasoned and avoiding long storage times will reduce the probability of infestation by various wood boring beetles outdoors and prevent nuisance emergences inside homes when firewood is brought indoors. Beetles emerging indoors can be captured or killed. They will not infest structural wood or furniture in the home.

Chemical control. Several types of insecticides have proven effective to control these and other wood boring beetles. Spraying the bark of the trunk and large branches with insecticides such as chlorpyrifos reduces populations of adults as well as the number of viable eggs. Other systemic insecticides such as dinotefuran and imidacloprid can be used to prevent infestations in living trees. This is rarely necessary for ash borers and should only be used as a last resort on high value trees, typically in urban landscapes. For up-to-date information, consult the LSU AgCenter's Louisiana Insect Pest Management Guide which is available online and updated annually.

References

2022 Louisiana Insect Pest Management Guide. LSU AgCenter publication 1838. 232 pp.

Barnd, B.D., P.M. Pijut, M.D. Ginzel. 2008. Insects affecting hardwood tree plantings. In: Pijut, PM, ed. Planting and Care of Fine Hardwood Seedlings. FNR-227-W. West Lafayette. In: U.S. Department of Agriculture, Forest Service, Northern Research Station, Hardwood Tree Improvement and Regeneration Center, and Purdue University, Extension. 17 pp.

Cranshaw, W.S. 1999. Recognizing wood boring insects of ash trees in Colorado. Fact Sheet No. 5.620. Colorado State University Extension.

Dellinger, T.A., E. Day. 2015. Banded ash borer. ENTO-133NP. Virginia State University. https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/ENTO/ENTO-133/ENTO-133-PDF.pdf (Accessed 15 March 2022).

Karren, J.B. 1999. Banded ash borer. Fact Sheet No. 11. Utah State University.

Solomon, J.D., T.D. Leininger, A.D. Wilson, R.L. Anderson, L.C. Thompson, and F.I. McCracken. 1993. Ash Pests: A guide to major insects, diseases, air pollution injury, and chemical injury. General technical report SO-96 U.S. Department of Agriculture (USDA), Forest Service, Southern Forest Experiment Station.

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PUB 3881 (online) 6/23