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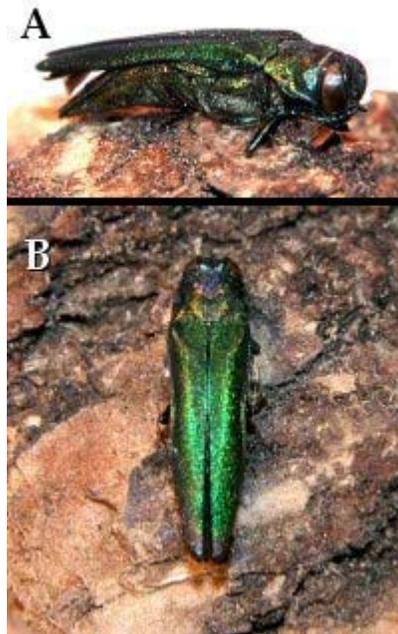
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Emerald Ash Borer Identification and Biology

Emerald Ash Borer

Emerald ash borer adults are dark metallic green and belong to a group of insects known as the metallic wood-boring beetles (Buprestidae). Adults are 3/8 - 1/2 inch long and 1/16 inch wide. Adult emerald ash borers emerge from beneath the bark of ash trees late May through mid-July, creating a D-shaped exit hole as they chew their way out of the tree.

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Emerald ash borer adult. A) Side View and B) top view.
WDNR Photo by Renee Pinski

References

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Fourth instar emerald ash borer larvae.
WDNR Photo by Shane Lishawa

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S-shaped galleries made by emerald ash borer larvae feeding under the bark.
WDNR Photo by Shane Lishawa

Emerald ash borer adults have a three- to six-week life span, with adult populations ending by mid-August. Adults are most active during the day, favoring warm, sunny weather. Adults feed along leaf margins, with a preference for foliage in direct sunlight.

Mating occurs soon after adult emergence, with egg-laying occurring a few days later. Eggs are laid singly in bark crevices, with females laying 60-90 eggs throughout their lifetime. As eggs hatch, the first instar larvae chew their way through the bark and into the cambium region (located between the bark and sapwood).

Emerald ash borer larvae are white, slightly flattened, with a pair of conspicuous brown pincher-like appendages (urogomphi) on the last abdominal segment. Their size varies as they pass through each of their five instars, with mature larvae averaging 1.5 inches in length. They wind back and forth as they feed, creating characteristic serpentine-shaped galleries beginning in the phloem and extending into the xylem layers.

As mature larvae complete their feeding in the fall they excavate a pre-pupal chamber in the outer sapwood where they stay over the winter. Pupation occurs in this same chamber the following spring, thus completing the life cycle. However, not all emerald ash borer larvae complete their lifecycle in one year; scientists have found that larvae can require an additional one to two years of feeding prior to adult emergence. These larvae with extended feeding periods are typically observed in healthy or lightly infested ash trees whose defenses are more effective at decreasing larval growth rate and increasing larval mortality.

[EAB Look-Alike Poster \[PDF, 228KB\]](#)

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