larva

damage

D-shaped exits

USDA Forest Service

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emerald ash borer
Agrilus planipennis Fairmaire

This borer, native to Asia, was first identified in North America in 2002 feeding on ash trees in Michigan. Larvae feed in the phloem and outer sapwood, producing galleries that eventually girdle and kill branches and entire trees. It appears to feed only on ash and in Michigan has killed green, white, and black ash. Dieback of the tree canopy may be the first symptom of borer attack. Vertical splits occur in the bark due to callus formation. Within two to three years of infestation, the tree is often killed. Trees of various sizes (from small sapling to sawtimber-sizes) and conditions are killed including trees that are stressed or apparently healthy.

Adult beetles are slender, elongate, and about 7.5 to 13.5 mm long. The body is brassy or golden green overall, with darker, metallic, emerald green wing covers. Larvae reach a length of 26 to 32 mm, are cream-colored and flattened. The 10-segmented abdomen has a pair of brown, pincer-like appendages on the last segment.

Adults emerge in May and June and females soon begin depositing eggs on bark of trunk or branches. Eggs hatch in 7 to 10 days and larvae chew through the bark into the cambium. They feed on phloem and outer sapwood for several weeks producing S-shaped galleries packed with fine frass. Full-grown larvae overwinter in a shallow chamber in the sapwood, pupate in the spring, and adults emerge through D-shaped exit holes that are 3 to 4 mm in diameter. The borer appears to have a one year life cycle.

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