



Locust Borer

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Description

The locust borer is a native insect that attacks black locust (*Robinia pseudoacacia* L.) and its ornamental cultivars. Adult locust borers are conspicuous black and yellow beetles with long black antennae and reddish legs. There is a yellow W-shaped band across the wing covers with other yellow stripes. Their elongated bodies are somewhat cylindrical and measure 11-28 mm (0.4-1.1 inches) long.



Figure 1. Adult locust borer (Kevin D. Arvin, Bugwood.org).

Larvae are white with a dark, round head capsule and constrictions between body segments that make them look lumpy. They measure about 2.5 cm (1 inch) long when mature. Pupae resemble yellowish mummies with the adult characteristics of legs, antennae, and head readily noticeable. Larvae and pupae of the locust borer are rarely seen unless infested black locust wood is being split.

Locust borer, *Megacyllene robiniae*, belongs to the cerambycid family of beetles. Adult cerambycids are often called longhorn borers in reference to their long antennae. The larvae are known as roundheaded borers.



Figure 2. Locust borer larvae tunneling through black locust wood (Whitney Cranshaw, Colorado State University, Bugwood.org).

Life Cycle

The locust borer has a complete life cycle consisting of an egg, larval, pupal, and adult stages. Eggs are laid in cracks of the bark of black locust from late summer into early October. Larvae hatch and bore into the inner bark where they overwinter. When warmer spring temperatures trigger leaf buds to swell, larvae become active again and continue boring into the tree. Pupation occurs by mid-summer, and adult beetles generally emerge from tunnels by early August. Adults are often seen feeding on goldenrod pollen (*Solidago* spp.) in late summer. Developmental times are strongly influenced by temperatures, so populations of locust borer may emerge earlier in warmer areas than in cooler areas.

Damage

Locust borer attacks only black locust. Tunneling by locust borer larvae weakens tree limbs, which may break with wind and ice. Trees may respond with faster growth in tunneled areas, resulting in the formation of knotty swellings. In general, damage in black locust may go unnoticed until many tree limbs are broken and the crowns have begun to thin and

die back, or when large amounts of sawdust-like frass accumulate at the base of the trunk. Repeated infestations over time lead to the loss of the timber's value for use as fence posts or firewood.

Habitat and Distribution

Locust borer occurs throughout the native range of black locust and into other areas where black locust has been planted or has naturalized across the continental United States. Locust borer does not attack honey locust (*Gleditsia triacanthos* L.) or other tree species.

Control

Black locust is a fast-growing tree that does well on poor sites; it is often favored for land reclamation or planting in disturbed areas. However, black locusts grown in poor, thin soils are more susceptible to attack by locust borer than trees grown under better conditions in more favorable locations. Drought and poor pruning can also predispose trees to borer attack. Siting the tree in a good location at planting with proper pruning and sufficient water will give black locust the best chance of withstanding attack by locust borer. Healthy, vigorously growing trees may not need insecticide intervention.

Highly valued ornamental black locust trees may benefit from insecticide application for protection against locust borer. See the Virginia Pest Management Guide for Home Grounds and Animals (VCE 456-018) for the chemical controls currently recommended for locust borer. Apply only insecticides labeled for control of roundheaded borers on ornamental trees and follow the label recommendations. Thoroughly spray the bark of the trunk and larger branches with the selected material in late August to mid-September, or when goldenrod is in bloom. This spray schedule will kill females laying eggs in the bark as well as newly hatched larvae chewing into the tree. Materials sprayed on the tree will not kill larvae already present inside the tree and not in contact with the treated bark. Do not spray goldenrod as it is an important nectar source for honey bees and other pollinators.

The systemic insecticides dinotefuran and imidacloprid can be applied as a preventative treatment against roundheaded borers before infestation occurs. Applied as soil drenches, these

materials move up into the tree through the tree's vascular system. They must be applied when the trees are actively growing and transpiring, and application must be early enough that sufficient quantities are translocated into the tree well ahead of when adults begin laying eggs on the tree. These insecticides may kill both the females chewing on the bark to form notches where they will lay their eggs as well as newly hatched larvae boring into the sapwood. Neither dinotefuran nor imidacloprid will have little effect on any roundheaded borer larvae already in the tree's heartwood.

Black locust growing in low value stands may not be worth the cost of insecticide treatment. Consider cutting trees early if they are being grown for timber. Owners should consider cutting and removing infested stands if the trees become a hazard due to falling branches, or if the stand is serving as a source of infestation for more highly-valued black locust trees nearby. Falling limbs from damaged black locust may present a hazard in high traffic areas. Consult an arborist for an evaluation of hazardous trees.

Note

The painted hickory borer, *Megacyllene caryae* (Gahan), looks very much like the closely related locust borer. Unlike locust borer adults, painted hickory borer adults emerge in early spring. They attack stressed or recently cut hickory and other hardwoods. Painted hickory borer is commonly found in cut firewood and may emerge from firewood brought inside the home, where it is a nuisance but not a structural pest.

Revised

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