

Poplar Borer

Oozing varnish on stressed aspen stems

Name and Description—*Saperda calcarata* Say [Coleoptera: Cerambycidae]

The poplar borer is a cerambycid, a member of a family commonly known as roundheaded wood borers or longhorned beetles. The adult beetle is elongate, 4/5-1 1/8 inches (2-3 cm) long, and grayish blue in color with fine, brown dots (fig. 1). Antennae are about as long as the beetle's body. Larvae are yellowish white, cylindrical, and about 1 1/8-1 1/2 inches (3-3.8 cm) long (fig. 1). The head is broader than the rest of the larva's body.

Hosts—Within the Rocky Mountain Region, the poplar borer typically attacks weakened aspen. Increases in poplar borer activity have been specifically noted in drought-stricken, defoliated, sun-scalded, and partially cut aspen stands. Borers favor large-diameter trees but can infest trees as small as saplings. Brood trees are common, where female borers lay eggs on the same trees from which they emerged.

Life Cycle—The life cycle typically takes 2-3 years. Adults emerge in July and August and feed on aspen leaves and new shoots. Female beetles chew slits in the bark of aspens (often the same trees the females emerged from) and deposit one or two eggs. Eggs hatch in about two weeks. Young larvae begin feeding on bark tissue and eventually mine the host's sapwood. Larvae expel frass through enlarged entrance holes along the host's trunk. Pupation occurs in pupal cells constructed near the lower end of larval mines. The poplar borer typically overwinters as a pupa, emerging as an adult beetle the following summer.

Damage—Wet spots with oozing sap mixed with frass along the trunk are signs of poplar borer (fig. 2). Frass becomes coarse and excelsior-like as larvae develop. As larval feeding advances, frass may be seen at tunnel entrances along the trunk, in bark crevices, and in piles at the base of trees. Galleries (tunnels) typically meander in the sapwood (fig. 2) and total length may approach 1 inch (2.5 cm). Adults emerge from oviposition sites. Small trees may be killed by larval girdling alone, but large trees are seldom killed by this alone. Poplar borer egg deposition, excavation, and emergence activities provide infection courts for numerous canker and decay fungi. Multiple borer attacks and resulting tunnels reduce the tree's stability, and heavily infested trees are prone to wind breakage.

Management—Maintenance of tree vigor reduces the likelihood of attack, as does prevention of mechanical injuries and diseases. Control includes a variety of egg and larval parasites. Fungi and bacteria readily colonize egg niches, often resulting in extensive mortality of larvae. Woodpeckers are particularly effective predators. Partial cutting of aspen to remove borer-infested individuals is not recommended.



Figure 1. Life stages (larva, pupa, and adult) and gallery pattern of the poplar borer. Excelsior-like frass is particularly indicative of advanced stages of poplar borer activity. Photo: James Solomon, USDA Forest Service, Bugwood.org.



Figure 2. Frass and oozing sap along the trunk of aspen indicates the presence of poplar borers. Photo: Jim Worrall, USDA Forest Service.

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