



## Pine Sawyers in Virginia

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### Identification

Pine sawyers (*Monochamus* spp.) are longhorned beetles (Coleoptera: Cerambycidae) that feed in pines and other conifers. The adults are large, cylindrical beetles, often measuring 0.6-1" (15-25 mm) long, with long antennae that are often longer than the body (Figs. 1-5). Pine sawyers are usually dark colored and are often mottled with patches of light or dark hair (Figs. 1 and 2). The antennae can be remarkably long in the males (Fig. 1).

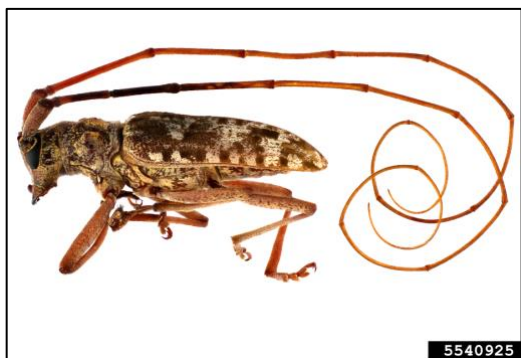


Figure 1. Southern pine sawyer (Joseph Benzel, USDA APHIS PPQ, Bugwood.org).



Figure 2. White spotted sawyer (Steven Katovich, Bugwood.org).

Pine sawyer larvae, like the larvae of all longhorned beetles, are called roundheaded borers. They have elongated, cylindrical, and highly segmented soft

bodies (Fig. 3). They are usually white or yellow with a brown head capsule and large gnawing mandibles. The name roundheaded borer refers to the enlarged thorax located directly behind the head. Larger cerambycid larvae may measure 8.3 mm (3.25") or more in length. Large larvae can be heard gnawing tunnels under bark (Fig. 4).



Figure 3. *Monochamus* spp. larvae (H. A. Pase III, Texas A&M For. Ser., Bugwood.org).



Figure 4. *Monochamus* sp. larvae in gallery (William M. Ciesla, Forest Health Management International, Bugwood.org).

### Habitat

Pine sawyers attack conifers such as pine, spruce, and balsam fir. They are found in weakened, dying, and dead trees where they feed in the wood under the bark. Pine sawyers also feed on felled trees, stumps, and cut firewood.

They sometimes emerge from firewood brought into a warm house. The adults also enter homes when attracted to the smell of turpentine or similar resinous materials. The sudden appearance of pine sawyers indoors may cause concern, but they are only a nuisance and do not infest structural wood.

## Life Cycle

Adult pine sawyers emerge through round or oval exit holes in the bark of host trees or cut wood in the spring or summer. Some species emerge over a course of 2-3 months. Adults feed on needles and the tender bark of twigs. Mated females gnaw pits into the bark of dying or recently killed trees and insert one to several eggs in each pit. Upon hatching, the larvae bore beneath the bark and develop for 40-60 days (Fig. 4). Sawdust-like frass may accumulate at the base of heavily infested trees (Fig. 5). Older larvae make deep tunnels through the sapwood and heartwood (Fig. 6). Larval development may take several years. Maturing larvae return to near the surface to create a pupal cell with an entrance plugged with frass. They overwinter as larvae in this cell, pupate the following spring or early summer, with emerge as adults the same year.



Figure 5. Sawdust-like excrement from pine sawyer larvae (Jim Baker, North Carolina State University, Bugwood.org).

## Damage

Pine sawyers are often blamed for causing the death of a tree, but they're only secondary invaders of trees stressed or dying from other causes. Their long tunnels weaken and destroy the wood, making it unusable for commercial purposes. Pine sawyers can attack both recently felled and still standing trees.



Figure 6. Pine sawyer larval galleries and larvae (W.H. Bennett, USDA Forest Service, Bugwood.org).

**Prevention** Sanitation and prompt action are the best controls against pine sawyers. Felled timber should be removed from the woods and/or debarked as soon as possible to avoid infestation. Adult pine sawyers are not attracted to debarked logs. Firewood should be properly dried and stored to be burned promptly.

Wounded standing trees are susceptible to beetle attack and should be pruned and/or chemically treated to prevent borer infestation. Promptly burn, chip, or otherwise destroy pruned material to prevent pine sawyers or other borers emerging and attacking nearby trees. Properly planted, watered, and fertilized trees maintained in vigorous condition are less likely to be attacked by borers.

**Chemical Control** Standing trees infested with pine sawyer larvae cannot be rescued by insecticide application. Infested trees should be removed and destroyed, or the trunks debarked, as soon as possible. Nearby conifers of value can be protected with insecticidal soil drenches or trunk and branch sprays. Stored logs may be treated to protect the lumber if necessary, but insecticide treatment of firewood is not recommended. See the [Virginia Pest Management Guide for Home Grounds and Animals](#) or [Horticulture and Forest Crops](#) for specific insecticide recommendations depending on homeowner or commercial production use.

## Revision

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