

## Colorado Insects of Interest

# Pine Sawyers

**Scientific Names:** *Monochamus scutellatus scutellatus* (Say) (**Whitespotted sawyer**); *Monochamus clamator* (LeConte) (**Spotted pine sawyer**)

**Order:** Coleoptera (Beetles)

**Family:** Cerambycidae (Longhorned Beetles)

### Identification and Descriptive Features:

Adult pine sawyers are large black to brownish-gray beetles with white markings. The spotted pine sawyer (*M. clamator*) ranges between 14-24 mm in length and has forms with variable markings. Some may be largely gray while others may have brown coloration with indistinct patterned light markings over the body. The body length of the whitespotted sawyer (*M. scutellatus scutellatus*) is similar, ranging from 16-23 mm. General coloration is dark gray to black and there is a prominent white spot in the center of the body at the base of the wing covers. Additional white spots may also be present or the wing covers may be largely free of other markings.

Adult pine sawyers possess extremely long antennae that can extend one to three times the body length. There are substantial differences in appearance between the sexes, most readily noted in the length of the antennae, which are much longer on the males. Females also tend to have a larger body and relatively shorter front legs than do the males.



Figure 1. Spotted pine sawyer.



Figure 2. Whitespotted sawyer.

Larvae bore extensively in sapwood and heartwood of dying and recently killed trees. A typical roundheaded borer, the larvae are elongate, segmented, legless grubs with brownish heads and typically reach a length of 20-25 mm when full-grown. In older larvae the mouthparts are directed downwards.

**Distribution in Colorado:** Both species can likely be found statewide where pines and other host plants are present. They are most abundant in forested areas, particularly pine forests. The spotted pine sawyer tends to be found most commonly in areas of ponderosa



Figure 3. Spotted pine sawyer pair on a log pile.

pine and Douglas-fir while the whitespotted pine sawyer ranges broadly from higher elevations, where it develops on spruces and true firs, to areas of the foothills and Front Range where pines are common hosts.

**Life History and Habits:** Pine sawyers develop as wood borers of conifers (pines, spruces, Douglas-fir, true firs) that have recently been killed/felled or are in serious decline. For example, they may commonly invade trees following fires and in the spring and summer follow mountain pine beetle attacks of the previous summer. In fact their common association with bark beetles often leads to the misunderstanding

they *are* the pine beetles and the killers of these trees. However, healthy trees are not attacked by these insects, although occasionally pine sawyers are a problem on recently transplanted pines.

Eggs are inserted into small niches that the female cuts into the bark of trunks or large limbs. The larvae originally tunnel beneath the bark, constructing wide galleries just that are filled with fibrous frass. Large piles of sawdust and fiber often accumulate below infested trees or logs. Later the larvae move into the heartwood where they form oval shaped tunnels. When nearing full growth they return to the surface and construct a chamber under the bark, sealed with a plug. The adults then emerge through the bark, producing an exit hole that is nearly circular.



Figure 4. Egg niches chewed into bark by a pine sawyer.



Figure 5. *Monochamus* late-instar larva from ponderosa pine near Dolores. Photograph by David Leatherman.



Figure 6. View of the inner bark area of a mountain pine beetle infested tree showing competition between wood borer (three large white larvae and large wide meandering galleries) and bark beetle larvae (associated with the narrow galleries).

share the inner bark region of the tree. Together these effects can be contributing factors to the decline of bark beetle populations at the end of epidemics.

Adults feed on needles and the tender bark of twigs. These injuries are usually negligible although twig dieback may occur. They are fair fliers and occasionally land on and startle people working or recreating in the forest. However, despite their rather bizarre appearance and ability of their jaws to provide a stiff pinch, pine sawyers are harmless.

Pine sawyers are widely preyed upon by woodpeckers, particular Hairy and American Three-toed. Large, irregular patches of removed bark on tree trunks and pieces of bark on the snow in winter are evidence of this.

Perhaps more than any other type of wood borers, pine sawyers are responsible for the “munching sounds” coming from trees recently killed by fire or firewood piles. As larvae scrape the wood with their metal-hardened jaws, this sound is audible 50 feet or more and generates many inquiries from the curious.

Among entomologists who study bark beetles, competition is often observed between mountain pine beetle and pine sawyer larvae. In addition, there can be substantial inadvertent consumption of bark beetle larvae by the larger wood borer larvae during the months when these two groups



Figure 7. Spotted pine sawyer.