

22. Sawflies

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Hosts and Distribution

Several sawfly species (families: Diprionidae and Tenthredinidae) are common pests of young conifers, including several introduced species. The more common species, hosts, and distribution are listed in table 22.1.

Damage

Although sawflies are common pests, they rarely cause seedling mortality. Defoliation is generally light, although localized epidemics have been reported. Sawflies are often divided into two groups: spring and summer sawflies. Spring sawflies generally feed on older foliage, and summer sawflies feed on both old and new foliage. The summer sawflies are the most destructive.

Diagnosis

Pine sawflies generally feed gregariously (fig. 22.1) in small groups and the larvae look similar to caterpillars with noticeable differences upon close inspection, including the number of prolegs (fig. 22.2) (sawflies have six or more pairs of prolegs and caterpillars have two to five pairs). Newly hatched larvae will often feed on needle edges. The damaged needles will turn brown and sometimes curl. As the larvae grow larger, they begin to consume the entire needle.

Table 22.1—Common species, hosts, and distribution of sawflies in North America.

Species	Hosts	Distribution
Redheaded pine sawfly <i>Neodiprion lecontei</i>	Scots, jack, red, shortleaf, loblolly, longleaf, and slash pine	Eastern United States and southeastern Canada
White pine sawfly <i>Neodiprion pinetum</i>	Eastern white pine	Throughout the range of its host
Introduced pine sawfly <i>Neodiprion similis</i>	Eastern white pine is preferred, also Scots, jack, and red pine	Eastern United States introduced
European pine sawfly <i>Neodiprion sertifer</i>	Scots, red, jack, and eastern white pine	Northeastern and Midwestern United States; parts of Ontario
Larch sawfly <i>Pristiphora erichsonii</i>	Tamarack and western larch	Great Lake States, eastern Canada, Washington, Oregon, Idaho, and Montana
Hemlock sawfly <i>Neodiprion tsugae</i>	Hemlock and Pacific silver fir	Coastal Oregon, Washington, and British Columbia; also interior forests of Montana, Idaho, and British Columbia
Lodgepole sawfly <i>Neodiprion burkei</i>	Lodgepole pine	Montana and Wyoming
Two-lined larch sawfly <i>Anoplonyx occidentis</i>	Western larch	Northwestern United States
Yellowheaded spruce sawfly <i>Pikonema alaskensis</i>	Most species of spruce	Alaska, southern Canada, and Northern United States



Figure 22.1—Pine sawfly damage on young pine sapling. Photo by Albert (Bud) Mayfield, Florida Department of Agriculture and Consumer Services, at <http://www.bugwood.org>.

Biology

A generalized sawfly larvae is presented below. After the adults mate, the female adults (fig. 22.3) use their saw-like ovipositor to lay eggs in slits cut into needles. After feeding on the needles, the larvae will often drop to the forest floor and spin cocoons. For most conifer sawfly species, the last generation of the year will overwinter in a prepupal stage in the spun cocoon in the forest duff layer. Pupation occurs in spring. Some species overwinter in the egg stage. Spring sawflies generally have one generation per year, but summer sawflies often have multiple generations per year depending on climate.

Control

Cultural

For localized infestations, it may be practical to remove sawflies by hand or other means.

Chemical

Several contact insecticides are available for controlling sawfly larvae. Insecticide applications should target early stage larvae.

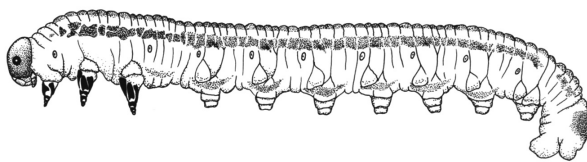


Figure 22.2—Sawfly picture showing the typical number of prolegs (seven in this case). Graphic by Randall Blackburn, Smithsonian Institution, at <http://www.bugwood.org>.



Figure 22.3—Adult female sawfly laying eggs on needle with saw-like appendage. Photo by Gyorgy Csoka, Hungary Forest Research Institute, at <http://www.bugwood.org>.

Selected References

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