LARCH CASEBEARER
Coleophora laricella

State Forester Forum

Introduction

The larch casebearer (Figure 1) is a pest of western larch in the Inland Northwest.

Figure 1. *Larch casebearer adult. Photo by L. Livingston, IDL, www.insectimages.org.*

Larch casebearer is native to Europe and was introduced into the northeastern United States in the 1880s, where it feeds on tamarack (*Larix laricina*), a species related to western larch. The larch casebearer was first discovered in Idaho near St. Maries in 1957 and has since spread throughout the range of western larch. Defoliation can be locally severe, but widespread epidemics are rare, and mortality is usually confined to smaller trees. Two species of parasitic wasps have been introduced in North America from Europe and, in combination with native predators and parasites, have been generally effective in keeping outbreaks relatively minor. Late frosts that kill developing foliage and larch needle diseases can also have a major impact on casebearer populations.

Biology

Larch casebearer has one generation per year, and like all moths, has four life stages. Eggs are laid singly on the undersides of needles in late June or July depending on elevation and latitude. Larvae hatch in approximately two weeks, boring directly through the egg into the needle. Larvae feed exclusively inside the needle for approximately two months. Third instar larvae then make a protective case from a hollowed out needle, and line it with silk (Figure 2).

Larvae attach the case to a needle and feed

Figure 2. *Larval case of larch casebearer. Photo by G. Csoka Hungarian Forestry Research Inst.www.insectimages.org*

inside the needle, never leaving the confines of the case. When the larva can reach no further, it moves its case and reattaches to a new needle. These larvae continue to feed during the fall, and then attach their cases to larch twigs or spurs (buds) to overwinter (Figure 3).

In the spring, larvae molt to the fourth instar as the new needles develop, and continue to feed on the new growth. Pupation takes place

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within the case, and adults emerge in June or July.

Insect Recognition

Figure 3. *Third instar larvae overwintering. Photo by USFS Archive.*www.insectimages.org

The genus *Coleophora* has over 100 species, but only one species feeds on larch. Larch casebearer is not likely to be confused with any other insect that feeds on larch foliage due to its unique method of feeding. Larvae are small (<¼"), and are rarely seen outside of their cases. Adults are grayish to silvery colored moths and are approximately ¼" long. During summer, they are often quite abundant on defoliated trees.

Damage

Larch casebearer larvae feed throughout the growing season, though spring feeding by fourth instar larvae is the most damaging. Larval feeding causes the foliage to turn yellowish green, and as the season progresses, mined foliage turns yellow and then brown (Figure 4).

Because western larch is deciduous, it is better able to refoliate with a second flush of growth later in the summer. Repeated, long term defoliation by the larch casebearer can cause growth reduction, branch dieback, top kill, and eventually death. Weakened trees are more likely to be attacked by borers or bark beetles.

Management

Silvicultural control of the larch casebearer has not been developed. Natural control of the casebearer occurs through the action of predators,

Figure 4. *Foliage discoloration due to larch casebearer. Photo by J. Dewey, USFS*
www.insectimages.org

parasites, weather, and needle diseases. Late frosts and cold, wet spring weather can cause significant mortality of larch casebearer larvae. Defoliation by needle diseases can also reduce available food for the developing larvae and reduce populations. The two introduced parasites

are now established in many areas of the West and can cause significant larval mortality. Direct chemical control is not practical in forest situations due to the scattered nature of larch stands and casebearer outbreaks. Chemical control is more practical in orchard or urban settings and foliar applications with registered products can be used to protect high-value trees.

Always consult the product label before using any pesticide.

Useful links:

Forest Insect and Disease Leaflet

USFS Region 1 Field Guide

USFS Region 1 Management Guide

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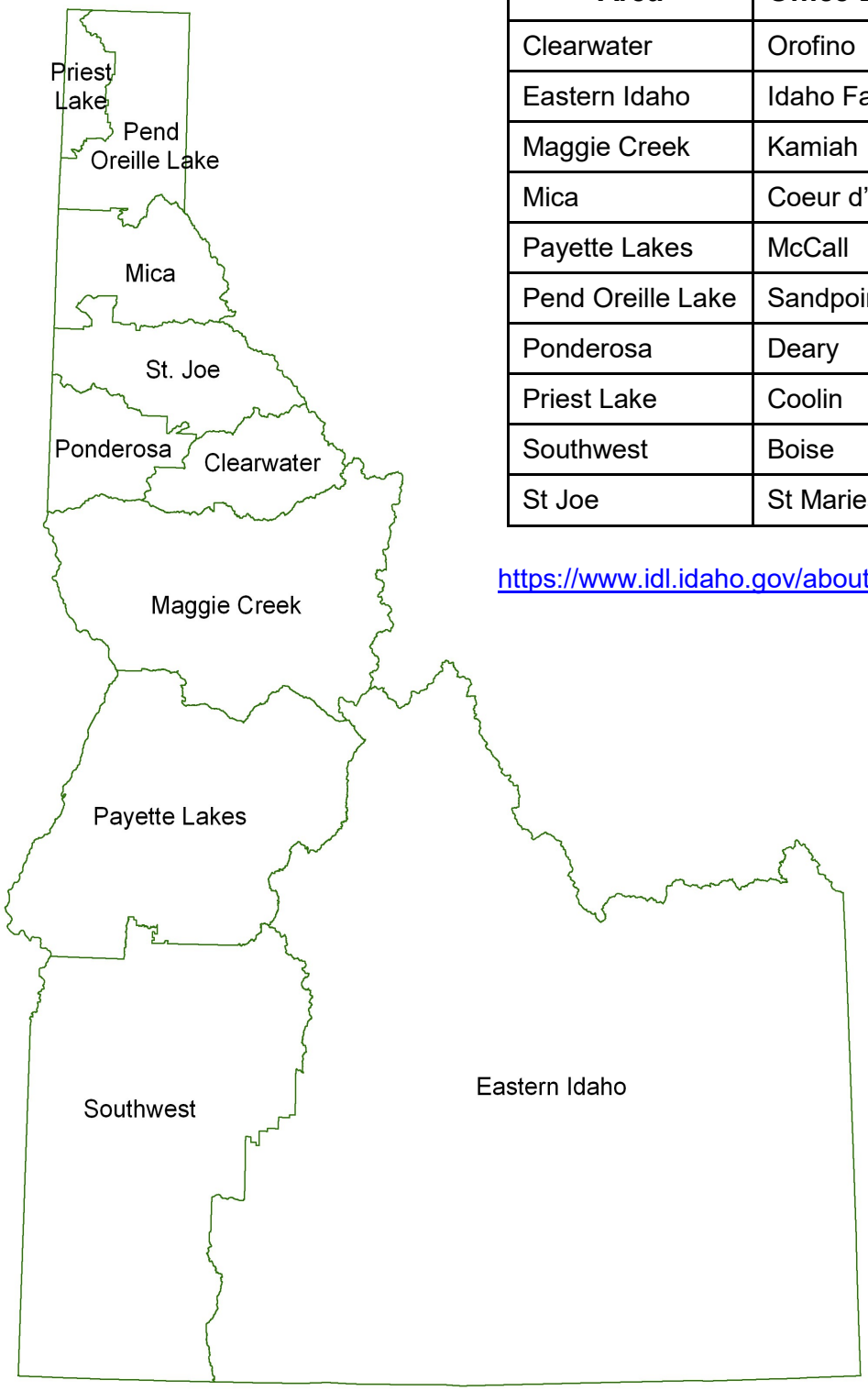

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https://www.idl.idaho.gov/about-forestry/insects-and-disease/