

FOREST Pest LEAFLET

Western Cedar Borer

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Introduction

The western cedar borer, *Trachykele blondeli* Marseul (Coleoptera: Buprestidae), is a common wood borer of western red cedar (*Thuja plicata* Donn) in south coastal British Columbia.

Damage caused by the tunneling activity of this insect often results in the culling of logs cut for poles and in the degrade or culling of lumber, shingles and other products requiring sound wood.

Hosts and distribution

Western red cedar and rarely yellow cypress are attacked in British Columbia.

The western cedar borer occurs from southwest British Columbia to California and New Mexico; distribution in British Columbia includes Vancouver Island, the Gulf Islands and the mainland coast from Drury Inlet south, including the Fraser River drainage east to Harrison Lake. Western cedar borer activity is restricted to areas below 250 m elevation. Infestations are most common on



Western cedar borer larva

sites having warm, sunny aspects and particularly at exposed locations such as shorelines, selectively logged areas or borders of clearcuts.

Description

Egg: Oblong, about 2.5 mm long and 1.75 mm in diameter, off white ashy gray.

Larva: A young larva is about 2.75 mm long and 1 mm wide across the thorax; a mature larva is 30-40 mm long and 6.8 mm wide. The small head is retracted into the broad flat

thorax. The abdomen is much narrower than the thorax and consists of 10 subcylindrical segments. The larva is cream coloured except for dark brown mouth parts.

Pupa: 16-22 mm long, 6-8 mm wide; white except for the brown eye spots.

Adult: 12-20 mm long, 4-6 mm wide. The beetle is elongate-oval, tapered posteriorly, slightly convex and is brilliant bronzy green.

Life history and habits

Female beetles seek out suitable egg laying sites in the crowns of living cedar or cypress trees during May and June. These sites are usually thin-barked areas on the upper side of south-facing branches within 1 m of the bole. Adults lay approximately 15 eggs, one or more per site, under bark scales or in crevices. The eggs hatch in 12-18 days. Each larva then tunnels into the limb and along the branch into the bole. There the larva mines transversely or vertically between the annual rings but occasionally cuts straight or obliquely across the grain. Tunnels average less than 6 m in length although they may be as long as 13 m. The flattened tunnels are 10-30 mm wide, 3-4 mm deep and are closely packed with frass and borings. The tunnel surface is marked with curved grooves made by the larva's mandibles as it feeds. The larva requires at least 2 years to reach maturity. Pupation occurs in an enlarged pupal cell located either in the sapwood near a scar or in a branch. The pupal period lasts approximately 20 days, and occurs at some point between July and September. After pupation the adult remains in the pupal cell until the following May or June, when it bores to the surface. The adult beetle feeds intermittently on cedar foliage for several days before mating.

Damage and detection

Within infested stands both immature and mature trees may be attacked. Severity of an infestation is variable, and may range from a few trees to nearly all the trees in a stand.

Felled trees are not attacked and once cedar products cut from infested trees are seasoned the larvae in them are killed.

Damage is primarily restricted to heartwood in the upper part of the bole but occasionally extends down the bole as far as the butt.



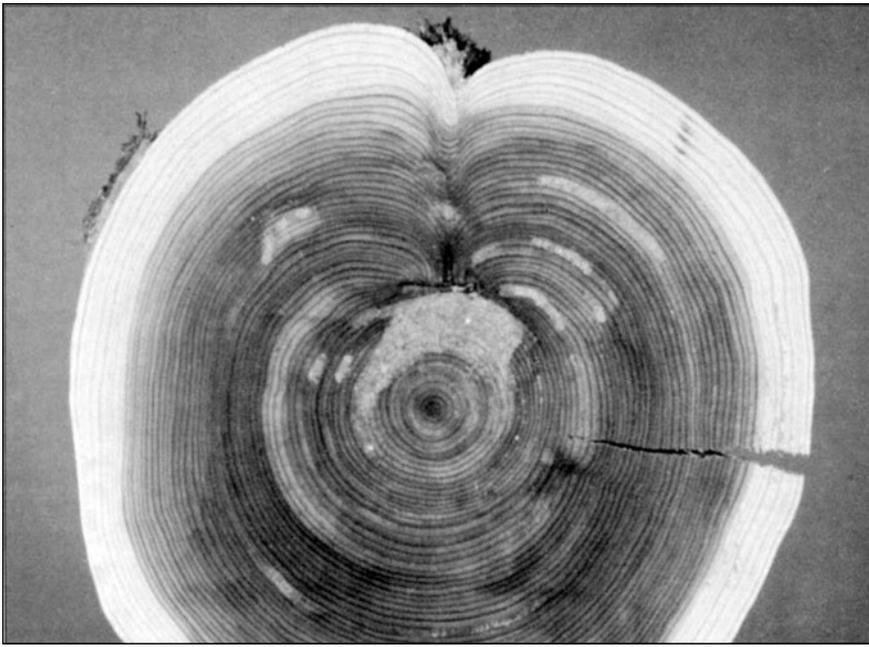
Western cedar borer adult

Most cedar poles mined by the cedar borer showed no significant reduction in strength when tested. However, occasionally a borer will cut short galleries side by side until, in extreme instances, the tree is almost severed.

Present grading standards within the pole industry cull all borer damaged poles. Lumber sawn from infested logs may be culled or degraded according to the amount of damage found. Degradation is greater when damaged logs are processed into dressed lumber. Also there is no export market for cedar products damaged by the

borer. Financial losses have been incurred by both pole operators and sawmills handling cedar cut from infested stands.

As the western cedar borer attacks living host trees without visibly injuring or killing the tree, detection of infestations in standing timber is difficult. Any area with favorable site characteristics, i.e., exposed southerly aspects and low elevation, within the geographic range of the borer should be considered suspect in any logging operation. Infested trees are readily determined once they have been felled and limbed as the larval tunnels are exposed in the knot faces.



Cross section of larval tunnels packed with frass and borings



Tangential section of larval tunnels

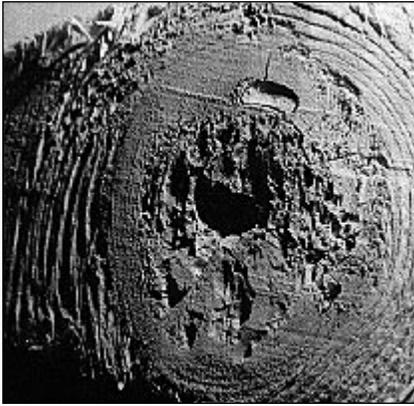
Control

Since the larvae are mostly found in the heartwood it is difficult to apply any form of direct control against them. Burning slash would kill any adults or pupae left in the debris on the site and would reduce the breeding population attacking trees along the margin of the logged area. Pole size or larger cedar should not be left standing in the clearcut as these trees are especially vulnerable to attack. Seasoning of infested poles or lumber will kill any larvae present.

Cedar borers are known to be parasitized by *Ondontaulacus editus* Cresson, a parasitic wasp whose effect on borer populations has not been studied.

References

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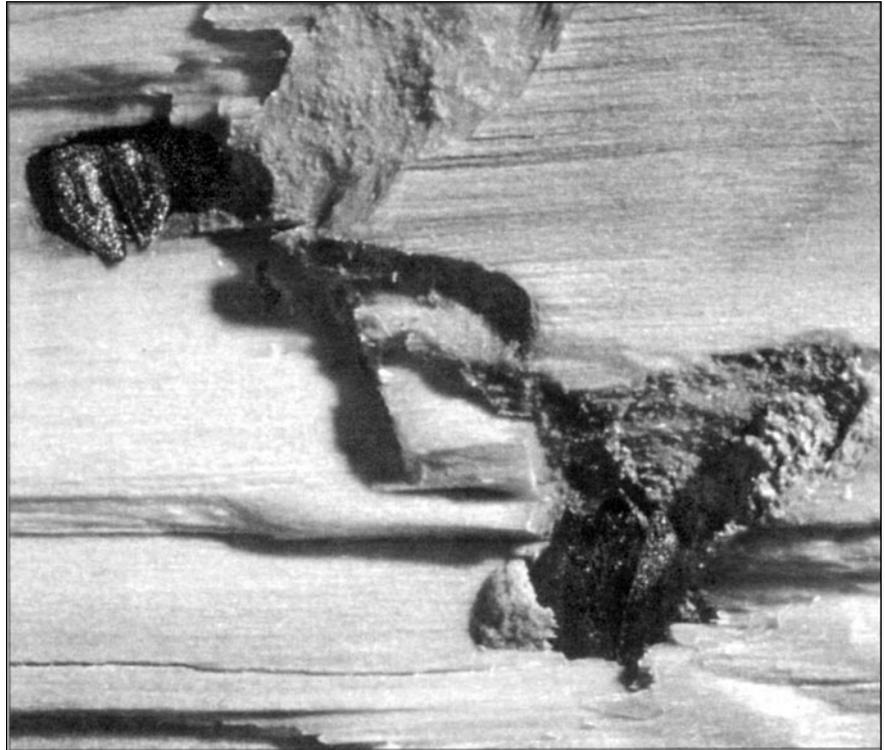


Larval tunnel exposed in knot face

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Adults in sapwood pupal cells

Additional Information

Additional copies of this and other leaflets in this Forest Pest Leaflets series, as well as additional scientific details and information about identification services, are available by writing to:

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