

March 2004

4.13
WEB July 2010

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Management Guide for Cedar Bark Beetle

Phloeosinus spp.

Beetles in this genus are native and are primarily found on Rocky Mountain and Utah junipers.

Hosts:

- Rocky Mountain and Utah junipers.

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Key Points

- Most of the 25 species of *Phloeosinus* found north of Mexico are in the West.
- They are typically non-aggressive, feeding under the bark of the bole and branches of stressed, dying, or felled trees, or broken branches.

Damage

An initial yellow-green, then red-brown discoloration of sections of the tree crown (flagging) or the entire crown from adults feeding on twigs. The weakened twigs often break, producing noticeable foliage-drop on the ground. Although this foliage damage may not impact a tree's overall health, it does indicate that adult beetles are present and active. Significant host damage or death results when adults attack live but stressed trees to produce brood. Typically, stems down to 3/4" inch

diameter are attacked, so risk to seedlings and small junipers is minimal.

They are typically non-aggressive, feeding under the bark of the bole and branches of stressed, dying, or felled trees, or broken branches. However, under prolonged stress conditions such as drought, intense vegetation competition or livestock damage, beetle populations may build and attack otherwise healthy trees.

Life History

Larvae overwinter under the bark. From spring through late summer, newly-emerged adults feed on the ends of branches of healthy host trees to complete their development. After mating, adults attack and bore into a susceptible host, creating a short, longitudinal gallery where eggs are uniformly deposited along the sides. After larvae hatch out, they mine perpendicular to the gallery, severing the tree's conducting tissue. One to one-half generations may be produced each year.



Egg and larval galleries. Photo by William Ciesla

Identification

Discolored sections of foliage (yellow-green to red-brown) on the tree and/or ground are caused by feeding of newly emerged adults. Small entry holes on the bole and fine boring dust in bark crevices, webbing, and around the base of the bole.

Bark removal will reveal larval galleries, with possible larvae, pupae, and adult life stages. Numerous shot-like exit holes found on boles and branches of dead, red-foliaged trees.

There are no known available systemic insecticides.

Management Considerations

There are neither existing direct chemical controls nor silvicultural options for cedar bark beetle management at a forest landscape level.

- Trees in high-value areas may be culturally managed by reducing vegetative competition, and avoiding; soil compaction, root disturbance, chemical exposure, and animal damage.
- The prompt removal and treatment (burn, chip, or bury) of infested trees may help in limiting population growth.
- High-value trees may be chemically treated with carbaryl (trade name Sevin) as a preventive mechanism. Trees are no longer considered chemically treatable if beetle populations are established under the bark (there are no known available systemic insecticides).

Other Reading

Furniss, R., and V. Carolin.

1977. Western Forest Insects. United States Department of Agriculture, Forest Service miscellaneous publication no. 1339.

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2002. Field Guide to the Bark Beetles of Idaho and Adjacent Regions. University of Idaho, Agric. Pub., Moscow, ID. Station Bulletin 74.

Hagle, S., K. Gibson, and S. Tunnock.

2003. Field Guide to Diseases and Insect Pests of Northern and Central Rocky Mountain Conifers.

Other Reading

Leatherman, D., and D. Lange.
1997. Western Cedar Bark Beetles. Colorado State Forest Service fact sheet, Ft.Collins, CO.

Punches, J.
2003. Cedar and Redwood Bark Beetles of Southwest Oregon. Oregon State University Extension Service fact sheet, Douglas County Extension Office, Corvallis, OR.

Forest Health Protection and State Forestry Organizations

Assistance on State And Private Lands

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