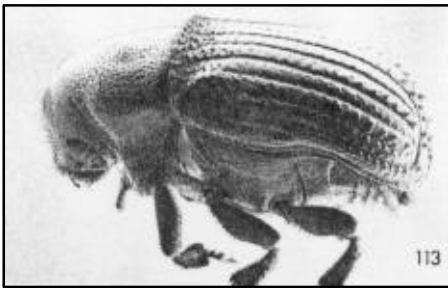


The Situation

Cedar bark beetles in the genus *Phloeosinus* (pronounced "flea-o-sign-us") are normally inconspicuous, low-priority pests in Colorado. They are natives and primarily attack Rocky Mountain and Utah junipers. They also can infest eastern redcedar and various upright junipers in ornamental and conservation plantings, such as around homes and in windbreaks. Most concern about cedar bark beetles comes from the latter situations.



The Beetle

These tiny reddish-brown to black beetles of at least three species are about 1/8th inch long. They are relatives of the better-known mountain pine beetle and ips beetles (found in pines and spruce) and the lesser European elm bark beetle (vector of Dutch elm disease). They are relatively unaggressive and require trees stressed by drought, adverse weather, chemical exposure, improper planting or care, soil compaction, animal damage, and other factors resulting in poor growth.

One generation of beetles is produced per year. They overwinter as larvae under the bark. Their

tunneling and feeding results in the severing of water-conducting tissue in the stem. As a result, beetle-killed trees resemble those killed by lack of adequate water. The larvae turn into adults that fly and attack new trees during summer, usually during the months of July through September. The actual time of flight in a given year depends on the exact beetle species involved and weather during the last several months. In 1997 beetles emerged from dead trees in Yuma and Greeley in late July to early August. Those from Cheyenne Wells flew from late August well into September.

The freshly emerged adult beetles feed on the ends of branches and notch the bark. This results in dead tips or areas of reddish foliage called "flags". This is relatively unimportant to the tree's overall health, but can be used to indicate beetles are in the area.

The real problem, significant host damage or death, results when the adults attack the branches and or trunks of live but stressed trees for the purpose of raising a brood. Normally the stems attacked are at least 3/4's of an inch in diameter or more. Thus, seedlings and very small junipers are not at risk to these insects.

Symptoms of Cedar Bark Beetle Attack

- 1) From a distance a major section of the tree crown or the entire crown appears discolored (yellow-green at first, eventually red-brown). Close inspection of the trunk

reveals very fine sawdust in bark crevices or around the trunk base.

- 2) THIS CAN BE HARD TO SEE AND MAY REQUIRE REMOVING SOME LOWER BRANCHES, CLEARING AWAY TUMBLEWEEDS, AND GETTING ON YOUR HANDS AND KNEES.
- 3) Entry holes (diameter 1/32nd of an inch) are present but can be obscured by boring dust and/or pitch.
- 4) Removing bark with a hatchet or pocketknife reveals the tunnels constructed by the adult and larval beetles. (See below). The various life stages of the insect may also be visible. The larvae look like very small grains of cooked rice with brownish heads.
- 5) Exit holes, same size as entry holes, peppered all over the bark of infested branches and trunks (these indicate the beetles have left the red tree to attack a green one).

Control and Management Options

- Keep your trees healthy. Plant them properly to start with. Make sure there are no "J" or girdling roots when you place them in the planting hole. Once the trees are established on the site, avoid mechanical damage, chemical exposure and compaction from livestock. Provide supplemental water during periods of hot summer weather and dry, warm winters.
- Detect and treat infested trees. This can involve either mechanical or chemical treatments directed at infested trees prior to the beetles flying to attack other trees. Pull out the infested trees and burn them, chip them, bury them (under at least 8" of soil), haul them off (at least a mile from any large junipers or cedars), or spray with lindane or Dursban prior to mid-July. If spraying is performed, **follow the label closely as it applies to bark beetles or boring insects.**

- Prior to July, preventively spray with carbaryl (= Sevin) green trees bigger than 1 inch in diameter. This only needs to be done if you know an untreated beetle population exists in the area, or if significant stress has occurred to the trees within the last several months.



Appearance of cedar bark beetle galleries beneath the bark (approximately life-size)

David Leatherman and Damon Lange
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