



# Forest Health Note

## Hosts:

*Ponderosa pine, sugar pine, shore pine, western white pine, lodgepole pine and many ornamental pines.*

## Importance:

*Red turpentine beetle is a common pest of pole size and larger pines throughout Oregon. Ponderosa pine is the most commonly attacked host. Beetle attacks usually indicate a tree is suffering stress from drought or some type of site disturbance. If only the red turpentine beetle is attacking a pine, the tree usually survives. However, when red turpentine beetle attacks in conjunction with other bark beetles, tree death is rapid (Figure 1).*

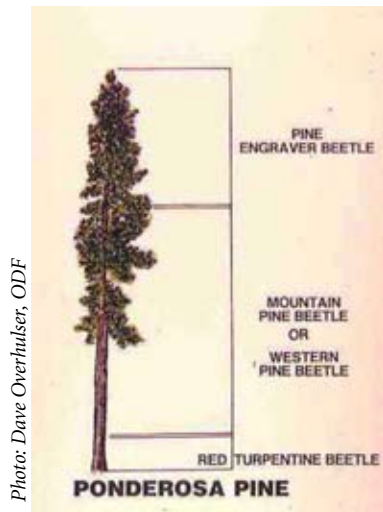


Photo: Dave Overhulser, ODF

Figure 1: Typical distribution of bark beetles attacking the crown, trunk, and root collar of Ponderosa pine.

## Red Turpentine Beetle (*Dendroctonus valens*)

### Look For:

Attacks by the red turpentine beetle are concentrated on the lower trunk and root collar of pines. Large reddish-white pitch tubes on the bark are usually the first sign of infestation (Figure 2).

If the bark is removed from an infested tree or stump, the adult beetle, the largest bark beetle in Oregon, or its immature stages may be visible (Figure 3). Removing the bark will also expose irregular vertical galleries filled with reddish-granular frass (Figure 4).

### Infestation Characteristics:

In most areas of Oregon the red turpentine beetle has one generation per year, but in SW Oregon two generations are possible. The flight period of the beetle, the time when trees are attacked, extends from April - September. Beetle populations increase dramatically during periods of drought. Trees stressed as a result of thinning operations, fire, or land clearing are often infested by this insect. Outbreaks of more aggressive bark beetles such as *Ips* (pine engraver beetle), western pine

beetle, and mountain pine beetle also lead to higher red turpentine beetle populations.

Attacks involving only the red turpentine beetle are



Photo: Bob Oakes, USDA FS, Bugwood.org

Figure 2: Reddish-white pitch tubes at the base of a pine are the first sign of red turpentine beetle attack.

rarely numerous enough to cause tree death. However, when turpentine beetle attacks occur in successive years, trees can be girdled and killed.



Photo: J. R. Baker, NCSU, Bugwood.org

Figure 3: Red turpentine beetle adults are approximately 3/8" in length and reddish-brown in color.

## **Control:**

### Silvicultural

Maintain healthy vigorous trees by thinning overstocked stands of pine. Avoid damaging the lower trunk and roots of leave trees during thinning and land clearing operations. Avoid placing freshly cut pine logs, firewood, or slash near green trees. The odor of fresh pine resin is attractive to the red turpentine beetle.

### Mechanical

Fresh cut stumps provide an ideal breeding site for red turpentine beetle. Debarking infested stumps will kill adult beetles and their brood. Do not debark infested areas on live trees.



**Figure 4: The irregular shaped vertical galleries produced by this beetle are 1" wide and a few inches to several feet in length.**

Photo: USDA FS Archives, Bugwood

### Insecticides

Insecticides can be used to protect forest or ornamental trees. An insecticide solution sprayed to run-off on the lower six feet of trunk and root collar area will prevent red turpentine beetle attacks for at least a year. The insecticide treatment should be made in April, before beetle flight. However, because this beetle attacks pines throughout the spring and summer, treatment of trees anytime during this period may be beneficial.

The following insecticides can be used for preventing red turpentine beetle attacks on standing pines:

- **Ground applications to forest trees**

Carbaryl

- **Ground applications to ornamental trees**

Carbaryl

Permethrin

**Remember, when using pesticides, always read and follow the label.**

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