

Red Turpentine Beetle

Large pitch tubes low on tree trunks

Name and Description—*Dendroctonus valens* LeConte [Coleoptera: Curculionidae: Scolytinae]



Figure 1. Red turpentine beetle adult. Photo: Ladd Livingston, Idaho Department of Lands, Bugwood.org.

The red turpentine beetle is the largest (1/4-3/8 inch [6-10 mm] long) and most widely distributed bark beetle in North America. It has a distinctively red-brown color (fig. 1) and is a common pest of forest, shade, and park trees 8 inches (20 cm) or larger in diameter.

Hosts—Can infest any pine species and is infrequently found in other conifers.

Life Cycle—Red turpentine beetle peak flight and attack activity usually occurs in the spring to early summer (fig. 2). Beetles emerge from recently cut stumps and dying trees and attack trees,

exposed roots, or freshly cut stumps. In summer, eggs hatch in 1-3 weeks. A unique feature of red turpentine beetle is that the small larvae feed gregariously, whereas most other bark beetle larvae maintain separate feeding tunnels. Red turpentine beetle larvae tunnel away from the adult gallery. As they grow, they feed more extensively and make an irregularly margined, fan-shaped gallery (fig. 3). The beetles overwinter as larvae, new adults, or parent adults.

Red Turpentine Beetle Life Cycle

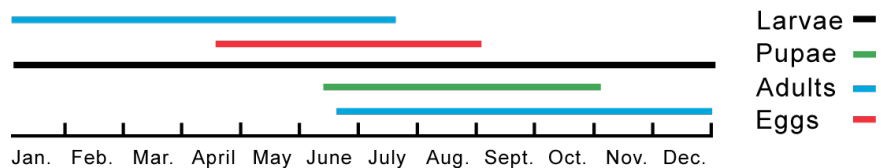


Figure 2. Life cycle of the red turpentine beetle (from Johnson 1982).

Damage—Red turpentine beetle attacks generally start near ground level and rarely occur above 8 ft (2.4 m) (fig. 4). Attacks are often accompanied by the presence of light pink to reddish brown pitch tubes around the base of the tree and/or white granular material on the ground. On pines, red turpentine beetle pitch tubes may be as large as 2 inches (5 cm) in diameter, much larger than the pitch tubes of other pine infesting bark beetles. The large pitch tubes, galleries, and beetle size distinguish red turpentine beetle from other bark beetles. Trees that have been scorched by fire or stressed by drought are frequently attacked by red turpentine beetles. Attack by red turpentine beetles often predisposes trees to attack by other bark beetles.

Management—The most effective way to prevent red turpentine beetle attacks is to maintain tree vigor and avoid practices that attract beetles. Red turpentine beetle attacks frequently occur on pines that have been damaged



Figure 3. Red turpentine beetle larvae and feeding gallery. Photo: Ladd Livingston, Idaho Department of Lands, Bugwood.org.



Figure 4. Large pitch tubes showing attack sites of red turpentine beetle. Attacks are usually confined to the lower 6 ft (1.8 m) of the bole. Photo: Kenneth E. Gibson, USDA Forest Service, Bugwood.org.

Red Turpentine Beetle - page 2

by fire, mechanical wounding, or root disease. Damage to stands or individual trees should be minimized through improved logging, construction, and management practices. Fresh stumps, slow-dying trees, fire scorched trees, exposed roots of live trees, and trees with compacted soil around them should be treated or removed. Certain pesticide formulations containing carbaryl, chlorpyrifos, or permethrin have been proven effective at preventing bark beetle attacks when applied to the bark of a tree. Pesticide applied to the lower 6-8 ft (2-2.5 m) of the tree trunk can be used to prevent red turpentine beetle attacks, but realize that other species of bark beetles may pose a threat to the tree.

-
1. Furniss, R.L.; Carolin, V.M. 1977. Western forest insects. Misc. Publ. 1339. Washington, DC: U.S. Department of Agriculture, Forest Service. 654 p.
 2. Johnson, D.W. 1982. Forest pest management training manual. Lakewood, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Region. 138 p.
 3. Smith, R.H. 1971. Red turpentine beetle. Forest Insect and Disease Leaflet 55. Washington, DC: U.S. Department of Agriculture, Forest Service. 8 p.

