

NOT PRESENT IN AUSTRALIA – REPORT IT – CALL 1800 084 881

RED TURPENTINE BEETLE

Dendroctonus valens

Description

Red turpentine beetle (*Dendroctonus valens*) is a widespread conifer forest pest of Northern and Central America that has also spread to China. They are 6–10 mm long, with brown to black bodies and reddish-brown wing coverings. The larvae are C-shaped, legless, and white, with a distinct, dark head capsule, small dark patch at the tip of the abdomen and, in older larvae, a line of small darker tubercles (look like small spots) along the body.

Pairs of adult beetles feed just under the bark, forming an egg gallery. Up to one hundred eggs are laid in an elongated mass along the side of the galleries. Unlike other species of *Dendroctonus*, the larvae are gregarious, living together in communal chambers, often forming fan shapes with irregular margins as the larvae feed side by side in an irregular line. The chambers or galleries are packed with boring dust (frass).

Affected tree species

Red turpentine beetle feeds on species of Pine (*Pinus*), Larch (*Larix*), Fir (*Abies*), and Douglas fir (*Pseudotsuga menziesii*). Ponderosa pine (*Pinus ponderosa*) is the most frequently attacked species, but Radiata pine (*P. radiata*)



Dendroctonus valens, side view. Credit: Simon Hinkley & Ken Walker, Museums Victoria. PADIL

is most frequently killed. The beetle feeds on older trees with more than 20 cm DBH.

Symptoms

In North America, beetles attack freshly cut stumps or the bases of dying or stressed trees (e.g. trees affected by other pests, drought, or fire). However, in China both stressed and healthy trees are attacked.

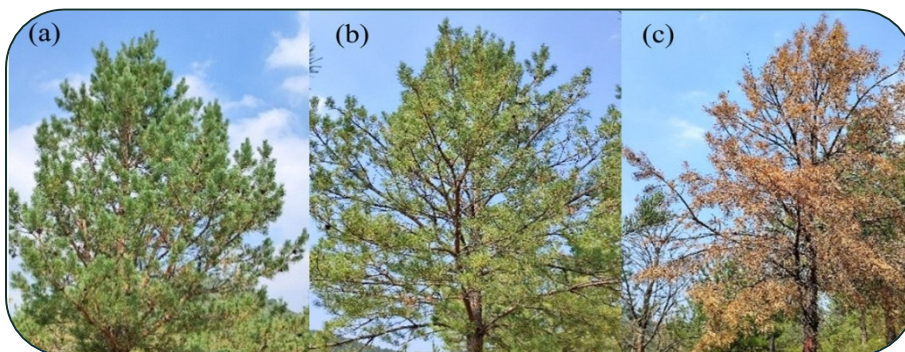
The foliage of infected trees becomes pale green then turns orange-red and falls off shed months later. The entire crown or individual branches may be affected.

An early symptom of beetle attack is the presence of red boring dust and frass in the bark crevices or at the base of the tree. Pitch tubes (resin mixed with frass) also form on infected trees. The pitch tubes can vary in size, texture and colour depending on the tree species affected.

Suspected cases must be reported.

Time most likely to be seen

During warmer conditions, the adults will emerge, commonly from recently cut stumps or stressed/dying trees.



Beetle attack will result in progressive discoloration of the leaves from (a) healthy green, (b) yellow green and finally, (c) red-brown. Credit: Peiyun Bi, Remote sensing.

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Can be confused with

Red turpentine beetles can potentially be confused with the Five-spined bark beetle (*Ips grandicollis*), Black pine beetle (*Hylastes ater*) and the Golden-haired bark beetle (*Hylurgus ligniperda*), all of which occur in Australia. However, adults of these 3 species are smaller than the Red turpentine beetle.



Pitch tubes (mix of saw dust and resin) and red saw dust can be seen in the bark crevices or base of the trees affected by Red Turpentine Beetle. Credit: Bob Oakes, USDA Forest Service, Bugwood.org



Dendroctonus valens larvae feeding together., note the packed sawdust or frass. Credit Ladd Livingston, Department of Lands Bugwood.org



Dendroctonus valens damage. Credit: Donald Owen, California Department of Forestry and Fire Protection, Bugwood.org

Further information

- Pest and Diseases Image Library – <https://www.padil.gov.au/pests-and-diseases/pest/135644>.
- Atlas of Living Australia – https://bie.ala.org.au/species/ALA_DR31252_1188.
- Global Biodiversity Information Facility – <https://www.gbif.org/taxon/34Q2T>.
- European and Mediterranean Plant Protection Organization Global Database – <https://gd.eppo.int/taxon/DENCVLA>.

MyPestGuide Trees

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