

Douglas Fir & White Fir Bark Beetle Signs & Symptoms



New Mexico
Forest and Watershed
Restoration Institute

New Mexico Highlands University



Above and below: Aerial and ground (right) view of fading Douglas fir trees caused by the Douglas fir beetle, *Dendroctonus pseudotsugae* attack. Photos above, right, and below courtesy of William M. Ciesla, Forest Health Management International, Bugwood.org.

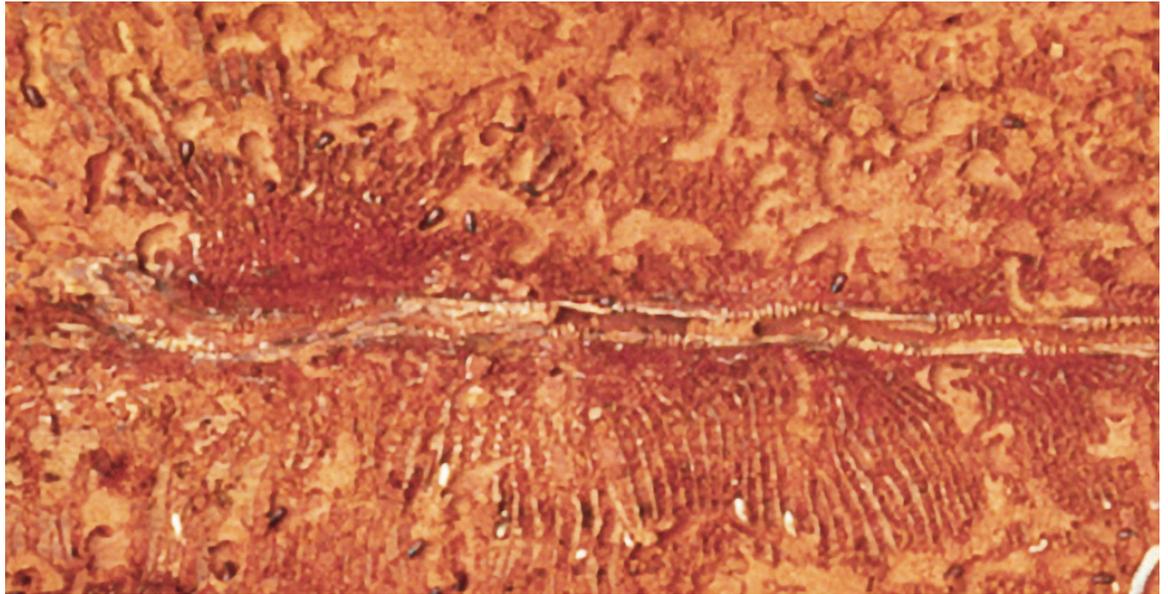


DID YOU KNOW?
DOUGLAS FIR TREES PROTECT FROM
BEETLE ATTACKS BY USING AN
ANTIAGGREGATION PHEROMONE.



Above: Frass of Douglas fir beetle in bark fissures of Douglas fir tree. Photo courtesy of Victor Lucero.

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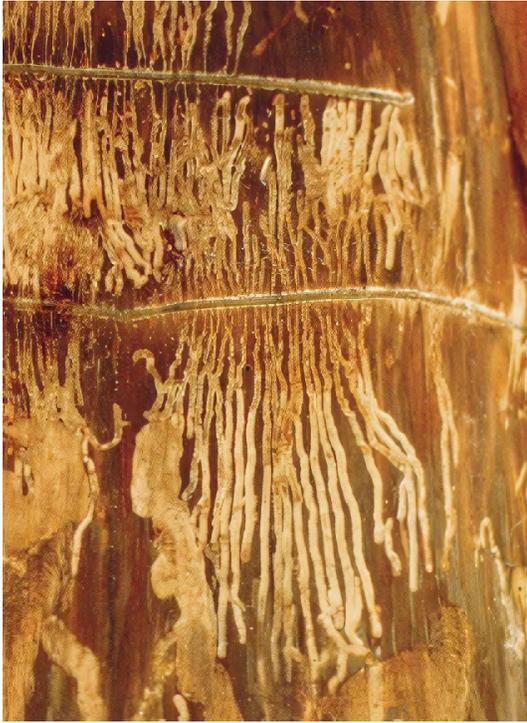


Above: Douglas fir beetle gallery showing alternating arrangement. Photo courtesy of Victor Lucero.



Life stages of the Douglas fir beetle. Top left: Adult beetles (4-6mm) and egg. Bottom left: larvae, and pupae (above). Photos courtesy of Malcolm Furniss & Sandra Kegley, USFS.

DID YOU KNOW?
BARK BEETLES HAVE STRUCTURES ON THEIR BODIES CALLED “MYCANGIA” WHICH ARE ADAPTED TO TRANSPORT SYMBIOTIC FUNGI.



Above and right: Fir engraver beetle egg galleries run perpendicular to the wood grains and larval galleries run parallel to the wood grain. Photos courtesy of Victor Lucero.



Left: Fir engraver beetles introduce a pathogenic pouch fungus to the host tree. Photo courtesy of Victor Lucero.

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White fir understory attacked by fir engraver beetle, *Scolytus ventralis* (above). The blue-green trees fade to a light orange when attacked by the fir engraver. Photo courtesy of Victor Lucero

Fir engraver beetle, 2.5 mm (right). Photo courtesy of Donald Owen, California Department of Forestry and Fire Protection, Bugwood.org



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Credits: content, Victor Lucero, Forest Health Program Coordinator New Mexico Forestry Division
Contact: Victor.lucero@emnrd.nm.gov (505) 699-1886



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