



# Sequoia Pitch Moth

## Forest Health Fact Sheet

March 2017



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Adult sequoia pitch moth (male)

There are two clearwing moths whose larvae infest conifers in the west, sequoia pitch moth (*Synanthedon sequoia*) and Douglas-fir pitch moth (*S. novaroensis*). Pitch moth attacks create large, unsightly pitch masses on the bole of pines, most notably seen on ponderosa and ornamentally planted non-native pines such as scotch pine. Attacks do not cause serious damage on large trees, but attacks on small diameter stems can make them more susceptible to breakage. Wounds created by pitch moth attacks eventually callus over, but lumber defects can result from this healing process. Multiple pitch masses on the lower bole may also create a fire hazard.

### Hosts

- Major: ponderosa, lodgepole shore, sugar and many ornamental pines
- Minor: Douglas-fir

\*Sequoia trees are not a host for this pest\*

Sequoia pitch moths are distributed in several western states and range throughout much of Oregon, except for the southeastern part of the state.

### Biology

Sequoia pitch moth adults are a day-flying, clearwing moth, superficially resembling a yellowjacket wasp. Adults are about  $\frac{3}{4}$ " long with a wingspan of  $\frac{3}{4}$  to  $1\frac{1}{4}$ ". They start flying May-September, peaking in June and July. Adults preferentially lay eggs in bark crevices near pruning wounds or injuries. Each larvae will hatch and bore into the cambium where it creates a shallow cavity and feeds on phloem. This feeding creates a wound response in the form of a pitch mass that encloses the feeding larva. The larva overwinters and resumes feeding and pupation the next year. The pupa then moves near



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Sequoia pitch moth larva exposed in pitch mass

the

surface of the pitch mass and emerges as an adult, leaving its pupal case lodged in the pitch mass.

### Damage

Pitch masses, usually a cream-pinkish color, are typically found where a branch joins the trunk (branch collar) or at wound sites along the bole. Often it is possible to locate the off-white or yellowish larva by scraping away the pitch and examining the wound area. Often the a tree that

was once wounded will be reinfested year after year creating many overlapping pitch masses which can be unsightly but are rarely detrimental to the tree. After a period of several years the attacks often subside. Extensive pitching can increase volatility during fires and present a fire hazard. Trees less than six feet in height are usually not infested. Although small stems and branches can potentially be girdled by the feeding and break.



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Pitch masses from multiple years of successive sequoia pitch moth attacks

A very high proportion of attacks are associated with bole wounds, particularly branch pruning. Infestations can be particularly severe in non-native pines and sometimes in native pines, such as ponderosa, when growing off site as an ornamental. Pitch moth infestations are a minor problem in natural pine stands.

**Management**

*Silvicultural*

When planting pines in ornamental settings, be sure the tree is well adapted to the site. Pitch moth infestations are particularly severe where pines are planted off site.

**Management**

- Plant native or site-adapted pines
- Restrict pruning or activities that may cause wounding to October - February
- Manually remove pitch masses
- Hang baited lure traps

Avoid wounding pines or cutting limbs in the spring and summer months. Fresh wounds are attractive ovipositional sites for the female moths. If pruning is conducted between October and February, trees have more time to heal and are less at risk for attack.

*Manual*

The recommended method of control is to cut out soft pitch masses and discard the larva or pupa within. Hardened masses have already been evacuated by the insect.

*Insecticides*

Lures within kill traps may be beneficial for attracting and trapping males, thereby reducing the number of mated females onsite. However, more males may be attracted onsite as well.



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Sequoia pitch moth attacks near pruning wounds.

**More information:**

Oregon Dept. of Forestry, Forest Health  
<http://tinyurl.com/odf-foresthealth>  
 2600 State St. Bldg. D, Salem, OR 97310  
 503-945-7200

**Other references:**

USFS Forest Health Protection  
[www.fs.usda.gov/goto/fhp/fidls](http://www.fs.usda.gov/goto/fhp/fidls)

OSU Forestry Extension  
<http://extensionweb.forestry.oregonstate.edu/>