



SEATTLE TREE CARE

SEQUOIA PITCH MOTH

Synanthedon sequoiae is a chewing moth that infests coniferous trees in North America. SPM was first reported in the late 1800's and was mistakenly held responsible for the decline of some *Sequoia sempervirens*; however, later observation of the SPM shows that it does not attack *S. sempervirens*, and typically feeds on coniferous trees such as pines, firs, and spruce. Native to the Pacific Northwest, the SPM has been identified from Northern California to British Columbia and as far east as Idaho and Montana. There has been one case reported in Colorado.

IDENTIFICATION:

Identifying SPM in trees is mostly recognizable by small to large pitch masses, which can be creamy red, pink, gray or yellow. Pitch masses start small, but over time, the tree oozes pitch, trying to heal, and forms a mass that can be half-dollar to palm-sized. These masses can stay present on a tree for several years, and many are reinfested by adult SPM and used to create another generation. After adults emerge, you will notice a hole outside the mass, sometimes with the insect's exoskeleton stuck to the pitch. SPM adults are easily noticeable by their clear wings, blackish-yellow bodies, and erratic flight paths.

**Treatments as low
as \$150**

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BIOLOGY:

SPM adults are day-flying, chewing moths about $\frac{3}{4}$ " long, with a wing span of $\frac{3}{4}$ - $1\frac{3}{4}$ ". The SPM becomes active during the spring until mid to late September. During this time, adult insects do not feed and are short-lived, with a typical lifespan of a few days in which they mate and lay eggs. Adult females are strongly attracted to fresh wounds or any parts of the tree oozing pitch and will lay their eggs within cracks and crevices on the bark around pruning wounds or other injury sites. Eggs are typically $\frac{1}{16}$ " in diameter, reddish brown, oval, and somewhat flattened. Eggs hatch within two weeks. Once the eggs hatch, each larva burrows into the cambium, creating a shallow cavity and feeding on the phloem. With an open wound, the tree reacts by oozing pitch, which over time encloses the feeding larvae, essentially protecting it. With dropping temperatures in the fall, the larvae will overwinter in their resinous pouch and will cease feeding. When the temperatures warm up, the larvae pupate and continue feeding on the phloem, finishing their life cycle. As the larvae evolve, they turn into dark brown pupae that is $\frac{3}{4}$ " inches long, and they move closer to the outside edge of the pitch pocket, where they will finally emerge as adults. This process takes two years.



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DAMAGE:

Damage from the SPM is normally located to the upper portions of the canopy on the main stem and the undersides of secondary branches. After the eggs have hatched, the larvae burrow underneath the bark and carve out a small notch. The damage caused by the feeding larvae is often not detrimental to the host tree, though it can create an unsightly appearance or cause issues with the leaking pitch for any infrastructure below. Though infestations are not normally harmful, in extreme cases, branches girdled by SPM larvae have fully declined or broken due to weakened structural stability. Some heavily stressed trees have needed to be removed.

CONTROL:

Control is usually unnecessary since the insect does not cause detrimental effects under normal conditions. Control with light infestations can be easily remedied by removing pitch masses when you notice them on a tree and destroying them, successfully removing any overwintering larva. SPM is highly attracted to pitch and other insect pheromones, so sticky traps infused with hormones have also seen great results. In cases where infestations are extreme, there are a few systemic treatments that have shown suppression of the insect over time.



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Trees commonly affected by SPM, listed from most likely to be infested to least likely:

| Common Name | Scientific Name |
|----------------------|--|
| Monterey Pine | Pinus Radita |
| Mugo Pine | Pinus Mugo |
| Italian Stone Pine | Pinus Pinea |
| Ponderosa Pine | Pinus Ponderosa |
| Japanese Black Pine | Pinus Thunbergiana |
| Japanese Red Pine | Pinus Densiflora |
| Lodgepole/Shore Pine | Pinus Contorta/Contora var. 'Contorta' |
| Jeffrey Pine | Pinus Jeffreyi |
| Jack Pine | Pinus Banksiana |
| Austrian/Black Pine | Pinus Nigra |
| Alleppo Pine | Pinus Halepensis |
| Scotch Pine | Pinus Sylvestris |

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CONCLUSION:

The SPM is attracted to stressed trees or trees that have recently undergone pruning or damage, and small infestations can easily be mitigated. Removing pitch masses when you see them forming and not pruning your Pines between April and September are great ways to reduce SPM populations and infestations. If trees are heavily infested, or the pitch masses are too high in the canopy to safely remove yourself, contact your local Seattle Tree Care Arborist to schedule a time to discuss your project and keep your trees healthy and happy.



Bark Beetle



Sequoia Pitch Moth



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