Fall Cankerworm, *Alsophila prometaria*

Hosts: Broadleaf trees and woody plants, including apple, ash, elm, maple, and oak.

Damage: Defoliation. Trees often recover, but repeated defoliation weakens trees and may lead to branch dieback or mortality, particularly if trees are already stressed.

Ecology: Although this moth is known as the fall cankerworm, activity in eastern Montana begins in spring. Eggs hatch between late March and early May, and larvae feed on leaves for five to six weeks. Larvae pupate in the ground, and adults emerge in fall. Females are flightless and climb trees to lay egg masses. Outbreaks in forests, shelter belts, and woody draws may last a few years. Populations are kept in check by natural enemies (predators, parasites, disease) and weather.

Identification

- Larvae are smooth and range in color from light green with longitudinal white stripes to dark brown with longitudinal black stripes.
- Fall cankerworm larvae are often referred to as inchworms, loopers, or spanworms because of how they move. They use their front legs to clasp a surface, and their back prolegs (suction-cup-like appendages) to "inch" along.
- Early-stage defoliation looks like shot holes, whereas late-stage defoliation skeletonizes leaves, with just the large veins and midribs remaining.



Credit: Joseph Berger, Bugwood.org

Fall Cankerworm Management

- Intervention may be needed to protect trees experiencing ongoing outbreaks (more than 2 years of heavy defoliation).
- Caterpillars can be controlled with Btk or other insecticides, but these are not preventatives. Consult a licensed pesticide professional.
- Individual trees can be protected by tree banding; using a 6-12" band of sticky material wrapped around the trunk about 4.5 feet above ground. Females will get stuck and be unable to lay egg masses.
  - This technique can also be used to monitor populations and guide spraying efforts.

CONTACT YOUR LOCAL SERVICE FORESTER

Miles City: 406-232-2034

Visit DNRC Forest Pest Management online for additional identification and management resources.

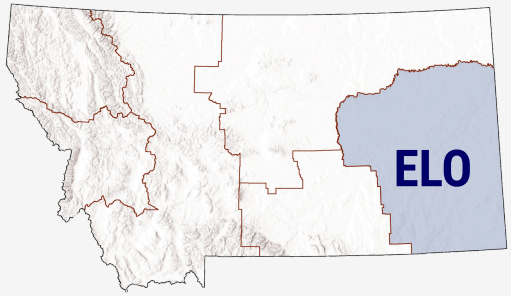
dnrc.mt.gov/forestpests

The Montana Department of Natural Resources & Conservation

FOREST INSECTS OF EASTERN MONTANA

Highlighting:

- Pine engraver, *Ips pini*
- Pine tussock moth, *Dasychira grisefacta*
- Fall cankerworm, *Alsophila prometaria*



For use within the Eastern Land Office boundary



DNRC FOREST PEST MANAGEMENT PROGRAM

Pine Engraver, *Ips pini*

Hosts: All pines; ponderosa and lodgepole are most common.

Damage: Variable. Topkill in larger trees, mortality in saplings and pole-sized trees during outbreaks. Trees stressed by drought, overstocking, or other damage are especially prone to infestation.

Ecology: Pine engraver is a less-aggressive bark beetle that feeds and reproduces in phloem (the vascular tissue that conducts water and nutrients). This species preferentially attacks downed trees or green slash. Beetles emerge in spring, attack logs or fresh slash, and reproduce. Their offspring emerge later in the summer and attack the tops of large trees or small-diameter (2-10“ DBH) trees. Pine engraver beetles can have up to 3 generations in eastern Montana.



Identification

- Red-brown boring dust (“frass”) accumulating near entrance holes on infested material.
- Distinct, multi-branched galleries (Y-, X-, H-, or star-shaped), clear of frass.
- Adult beetles have spines on rear.


Frass and galleries

Pine Engraver Management

- Create slash only during September through December months to promote drying before pine engraver beetles seek fresh material to infest in spring.
  - Chip or lop and scatter slash to sufficiently dry.
- Inspect slash piles, log decks, and windthrow for infestation. Chip, burn, or remove infested material.
- Thin stands to promote tree vigor and resilience to attack.
- Build large slash piles that retain moisture in interior. Offspring will migrate in toward moist material versus dispersing to residual stand.
- Pheromone-baited traps can draw beetles from infested material but require precise placement and timing. Contact a service forester for guidance.

Western Pine Tussock Moth, *Dasychira grisefacta*


Adult WPTM

Hosts: Ponderosa pine; may spill over into Douglas-fir, spruce, true firs, and lodgepole.

Damage: Defoliation. Severe, recurring outreaks can result in tree deformity or mortality.

Ecology: Western pine tussock moth (WPTM) outbreaks are rare and only last a few years. Adult moths mate in late July through August, laying eggs which hatch into caterpillars and begin feeding on needles. Caterpillars overwinter and resume feeding in the spring, starting with older foliage before flush of new needles. Because it eats both old and new needles, WPTM may completely defoliate and kill trees. Even in less severe cases, defoliation can predispose pines to bark beetle attack, particularly pine engravers.


WPTM caterpillars

Identification

- Trees appear scorched, with red-brown foliage, thinning crowns, or bare branches.
- Very small blueish-white eggs laid in rows or clusters laid on needles, bark, or cocoons.
- Caterpillars with two long black tufts of hair on the front and back of the body, and four gray-white tufts of hair.
- Cocoons are hairy.


Eggs and cocoon

WPTM Management

- Promote stand health and vigor.
- Outbreaks are generally controlled by a naturally occurring virus.
- Insecticides can effectively control outbreaks before caterpillars mature and do bulk of damage. However, populations may not be noticeable prior to damage. Consult with a licensed pesticide professional.