Peach Bark Beetle

And Cherry Scallop Shell Moth

FOREST HEALTH FACT SHEET

Wisconsin Department of Natural Resources, Division of Forestry, Forest Health Program, Revised July 2023

Locations

Peach bark beetle (*Phloeotribus liminaris*) is a native insect found throughout the eastern United States. However, damage was not noticed in Wisconsin until the early 2000s.

Large numbers of cherry trees have been damaged in a few stands in south central Wisconsin. Damage elsewhere in the state has been minimal.

An adult peach bark beetle. ***Photo:*** *USDA APHIS PPQ, Bugwood.org*

Impact

Black cherry is the preferred host of peach bark beetles, but they are also pests of other stone fruit trees. The beetles attack black cherry trees stressed by drought, flooding, disease and defoliating insects such as cherry scallop shell moth.

In Wisconsin, damage from peach bark beetle is typically minor and restricted to a few trees, but larger outbreaks have occurred infrequently when large-diameter logging debris remains on site.

Peach bark beetles are known to attack individual weakened trees repeatedly until they die. Healthy trees are able to fend off attacks successfully, but the damage caused may reduce the value of the cherry wood for veneer.

Biology

Tiny adult beetles, about 1/16-inch long, overwinter in short galleries beneath the bark of black cherry trees. Female beetles create galleries perpendicular to the main stem and lay eggs in them after mating in the spring. Eggs hatch into larvae which tunnel parallel to the main stem, further damaging the tree's water and nutrient conducting tissues. In Wisconsin, peach bark beetles go through one generation per year.

Signs And Symptoms

Black cherry trees attacked by peach bark beetles produce large quantities of pitch (known as gummosis) to try and force the beetles out. The lower half of attacked stems are often covered in pitch globules. Gummosis can also be caused by other insects, fungi, and environmental stressors, so it is important to confirm the causal agent.

Peach bark beetles overwinter in small, J-shaped grooves slightly larger than the adult's length.

Cherry trees produce large quantities of pitch when attacked by peach bark beetles.

Prevention, Management

The presence of black cherry slash following a thinning is the key factor that results in population increases of peach bark beetle. Black cherry stands that are too dense are also more susceptible. Therefore, the best ways to prevent attack are to maintain appropriate stocking levels and to manage cherry logging debris.

Debris that is 2 inches or larger in diameter should be chipped or burned or removed from the site with the cherry logs. Debris of a smaller diameter can be scattered into openings for faster drying.

These forest management practices will help maintain tree health and reduce the risk of peach bark attack after stress events such as defoliation by cherry scallop shell moth. Predatory insects and birds help to provide natural control of peach bark beetle populations.

Cherry Scallop Shell Moth
And Peach Bark Beetle

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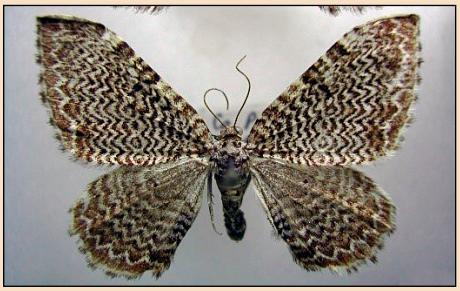
Locations

Cherry scallop shell moth (CSSM, *Rheumaptera prunivorata*) is a native defoliator of black cherry trees throughout the eastern United States, including Wisconsin. The common name reflects the alternating light and dark scalloped lines on the wings.



An adult cherry scallop shell moth. ***Photo:*** *Pennsylvania Department of Conservation and Natural Resources-Forestry, Bugwood.org*

Impact

During outbreaks, CSSM may defoliate entire trees. Repeated defoliation that continues over several years, or defoliation in combination with drought or other environmental stressors, may result in tree dieback or mortality. Peach bark beetles and other insects can attack cherry trees stressed by CSSM, further exacerbating the damage.

Biology

Moths, approximately 1.5 inches wide, emerge in June, mate and lay eggs on the underside of cherry leaves. Caterpillars hatch in July and feed in groups inside shelters made by tying leaves together with webbing, forming a protective tube for the caterpillars. These shelters help protect the insects from predators. Full-grown larvae are approximately ¾-inch long. Their color is pale yellow, with four brown stripes and an orange head. Mature caterpillars drop to the ground to pupate and overwinter. CSSM has one generation per year.

Signs And Symptoms

The most obvious sign of damage is when the tubes of partially eaten leaves turn red brown as they die. Trees may flush new leaves if damage is severe.

Cherry scallop shell moth caterpillars make leaf shelters and feed inside.

A group of cherry scallop shell moth caterpillars feeding inside tied leaves.

Prevention, Management

CSSM outbreaks typically last a few years, ending when natural enemies bring the populations under control. As with many native defoliators, management is often impractical and not needed. Collecting and crushing caterpillars or drowning caterpillars in soapy water may be considered for high value yard trees.

Controlling larvae with spray insecticides is not recommended because the larvae are hidden in leaf tubes and difficult to reach. Use of systemic insecticides should be considered only for high value yard trees. and only after flowering. This will protect the numerous species of pollinators that visit cherry tree flowers. Healthy cherry trees are able to recover from CSSM defoliation, even severe defoliation for several years. Multiple simultaneous or consecutive stressors such as CSSM defoliation in combination with drought or attack by peach bark beetles may lead to dieback or tree mortality.

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All photos by Wisconsin DNR unless noted

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