

Pitch Nodule Moths

Tip dieback with pitch nodules on pines

Name and Description—Pinyon Pitch Nodule Moth—*Retinia* (= *Petrova*) *arizonensis* (Heinrich) [Lepidoptera: Tortricidae]

Ponderosa pitch nodule moth—*R. metallica* (Busck)

Pitch nodule moths are seldom noticed, but the damage they cause is distinctive. Moths are rusty brown with mottled forewings and have a 3/4-inch (19 mm) wingspan (fig. 1). Attacks are characterized by fading branch tips and nodules of pitch formed at the insects' feeding sites. The pitch nodules are hollow balls of pitch that are 1/2-1 inch (10-25 mm) long, round, smooth, and that are often light purple or red. On pinyon pines, they are most often found at the crotch of two or more twigs. The fading twigs eventually lose their needles and fall off.

Hosts—Pinyon pine, ponderosa pine

Life Cycle—Pitch nodule moths have one generation per year. The small, rusty brown moths emerge through holes in the pitch nodule in July or early August. Eggs are laid on needle sheaths of the current year's growth. Newly hatched larvae feed on young needles before boring into the bark at nodes or whorls of twigs or branches. Pitch nodules form at feeding sites, and larvae feed and spend the winter protected within the distinctive nodule. Full-grown larvae are about 1/2 inch (13 mm) long and reddish yellow with a black head and a dark area behind the head. Pupation occurs inside the pitch nodule in June. Pupae move just below the surface of the pitch before they emerge as adults.

Damage—Leaders are occasionally damaged, and trees with multiple terminals may result. Insect populations and damage can be abundant in localized areas. On ponderosa pine, attacks occur on the terminal growth (fig.2).

Management—In the forest, top-killing of pinyon is rarely important, and damage to ponderosa pine is minor. On valuable ornamental trees, control the insect by pruning and destroying the infested tips as they fade in May or early June before the adult moths emerge. On branches and stems, destroy larvae by crushing them within the pitch nodule. Pinyons being dug from infested areas for landscape planting should be inspected, and pitch nodules should be crushed or removed.



Figure 1. Wings of pinyon pitch nodule moth. Photo: Gilligan, www.tortricidae.com.



Figure 2. Pitch nodule moth in damaged ponderosa pine shoot. Photo: Whitney Cranshaw, Colorado State University, Bugwood.org.

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