

# Pinyon Needle Scale

## *Matsucoccus acalyptus* (Herbert)

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Excerpt from *Conifer Pests in New Mexico* – Prepared by: Robert Cain and Douglas Parker

Pinyon needle scales are small, black, bean-shaped bumps on the surface of one-year-old pinyon needles. These tiny, sap-sucking insects kill the needles and seriously weaken pinyon pines in forests and used as ornamentals. Reduced new growth and stunted needles are common on trees suffering repeated attacks. Heavy infestations frequently kill small trees and predispose weakened larger trees to attack by other insects, especially bark beetles, which can kill trees.



*Scales infesting one-year-old needles*

**BIOLOGY:** Adult, wingless females emerge from scale coverings in late winter or early spring and mate with winged males. Emergence time in Southern New Mexico communities is mid to late February; in Albuquerque it is early to mid-March; and in Santa Fe and Los Alamos it is mid-March to early April. Most males emerged the previous fall and spent the winter as prepupae in silk webs in litter beneath the tree. A few males don't enter the prepupal stage until early spring. Mated females lay yellow eggs in clusters held together by white, cottony webbing around the root collar, on undersides of large branches, in

branch crotches, or in cracks of rough bark. Occasionally, egg masses are found several feet from the base of the tree on a rock or log. About four weeks after eggs are laid, tiny, red eye spots can be seen in the eggs with the aid of a hand lens. Nymphs, called crawlers, emerge about 7 to 10 days after eye spots appear. They climb to the ends of branches and settle on the previous year's new growth. After inserting tubelike mouth parts into the needle, they become immobile, cover the body with wax, and turn black.



*Heavily infested pinyon. Only the new growth remains green.*

**CONTROL:** Potential damage from these pests can be drastically reduced by destroying eggs before they hatch. Dislodge egg masses from the tree with a strong stream of water from a garden hose. After washing down the tree, rake up all the material around the base of the tree and destroy or remove it. Chemical insecticides are registered to control the pinyon needle scale, but timing of the spray application is critical for success. Apply insecticides to the bark and branch crotches as soon as crawlers begin to emerge. Examine eggs with a hand lens and be ready to spray shortly

after the crawler's red eye spots are visible. Once scales have established themselves on the needles, they become more difficult to control. Additional direct control information is provided below.



*Female scale emerging from scale covering and being mated by winged male.*



*Female scales migrating to egg-laying sites in the cracks of rough bark.*



*Cottony webbing and eggs laid at the base of the tree trunk.*

### **Generalized Pesticide Control Strategies for Conifer Pests in New Mexico**

**Scales** – Spray trees with “dormant” or “superior” oil before buds break to kill overwintering immature scales. Don’t use dormant oils after buds begin expanding. **Improper use of oils can injure foliage.** Dormant oils can remove the waxy bloom on blue spruce, resulting in discolored foliage.

Insecticide sprays are only effective against the “crawler” stage of scale insects. Repeat applications are usually required at seven to 10-day intervals to maintain coverage as eggs hatch. Insecticides with labeling for scale insects include acephate (Orthene®), dimethoate (Cygon®), carbaryl (Sevin®), and malathion.

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