

Pinyon Needle Scale

Black bumps on pinyon needles

Name and Description—*Matsucoccus acalyptus* (Herbert) [Homoptera: Margarodidae]

Pinyon needle scales appear as small, black, bean-shaped bumps on the surface of 1-year-old pinyon needles (fig. 1). These tiny, sap-sucking insects kill the needles and seriously weaken pinyon pines in woodlands and in urban landscapes.

Host—Pinyon pine

Life Cycle—Adult, wingless females emerge from scale coverings in late winter or early spring and mate with winged males (fig. 2). Emergence time varies with temperature across the range of the insect. In Colorado, emergence occurs in late March or early April. Most males emerge from scale coverings the previous fall and spend the winter in silk webs in litter beneath the tree. A few males don't enter this stage until early spring. Mated females crawl along the bark to egg-laying sites around the root collar, on the undersides of large branches, in branch crotches, or in cracks of rough bark. Yellow eggs are laid in clusters held together by white, cottony webbing (figs. 3-4). 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 7-10 days after eye spots appear. They climb to the ends of branches and settle on the previous year's new growth. After inserting tube-like mouth parts into the needle, they become immobile, cover the body with wax, and turn black. By late August, they will molt in place to the more visible, bean-shaped second stage, which is about 1/16 inch (1.5 mm) long.

Damage—Reduced new growth and stunted needles are common on trees suffering repeated attacks (fig. 5). Heavy infestations frequently kill small trees and predispose weakened larger trees to attack by other insects, especially bark beetles, which can kill trees.

Management—No control strategies have been developed for woodlands. However, potential damage from these pests on landscape pinyons 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 when females are moving to egg-laying sites or as soon as crawlers



Figure 1. Scales infesting one-year-old needles. Photo: Robert Cain, USDA Forest Service.



Figure 2. Winged male mating with emerging female pinyon needle scale. Photo: USDA Forest Service.



Figure 3. Cottony webbing and eggs deposited under branches and in branch crotches. Photo: Robert Cain, USDA Forest Service.

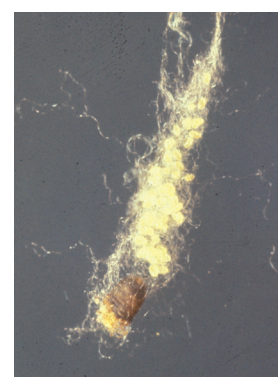


Figure 4. Eggs, webbing, and expired female scale. Photo: Southwestern Region Archives, USDA Forest Service.

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Figure 5. Only the new growth remains green on heavily infested pinyons. *Photo: Robert Cain, USDA Forest Service.*

begin to emerge from eggs. 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.

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1. Cain, R.; Parker, D. 1998. Conifer pests in New Mexico, Rev. Albuquerque, NM: U.S. Department of Agriculture, Forest Service, Southwestern Region. 50 p.