



Juniper scale

Carulaspis juniperi

Order Hemiptera, Family Diaspididae; armored scales
Introduced pest

Host plants: Juniper is preferred, but a variety of conifers, including cryptomeria, northern white cedar, and cypress, are also susceptible.

Description: Adult female covers are round and white and approximately 1.5 mm in diameter. Male covers are smaller, oval, elongate, and white. Cast skins attach centrally to the female cover and terminally to the male.

Life history: Crawlers appear in late June. There is one generation a year.

Overwintering: Females on needles under their covers.

Damage symptoms: In heavy infestations, new growth does not develop and current foliage turns yellow and dies back.

Monitoring: Eggs hatch when black locust, multiflora rose, or mountain laurel bloom in late May to early June (Herms). Look for foliage that is beginning to yellow. Examine needles, especially on the south side of plants, for circular or oval white scale covers. Look carefully for signs of parasitoids and predators. Parasitoids create smooth round holes when they exit from the female and predators create ragged chewing holes.

Chemical control: *General information.*

Conservation of beneficial insects: Use short duration, low residual insecticides, such as horticultural oil, insecticidal soap, and insect growth regulators (IGR).

Foliar applied broad spectrum insecticides, such as acephate, carbaryl, and pyrethroids: Use only when scale populations are high to rescue trees; beneficial insects will also be killed.

Dormant season oil treatments: Use for armored scales that overwinter as eggs under female covers (delayed dormant).

Summer oil treatments: Oil smothers exposed eggs, crawlers, and immature females.

Insect growth regulators (IGR), such as pyriproxifen: Use for crawlers as they disrupt molting.

Soil applied systemic insecticides or trunk injections, such as imidacloprid: Not effective against armored scales, which feed at different sites than soft scales.

Biological control: Lady beetles *Hippodamia* and *Rhizobius*, and some parasitoids.



Juniper scale with male and female covers. (158)
Photo: John Davidson

Plant mortality risk: Medium

Biorational pesticides: horticultural oil, insecticidal soap, pyriproxifen

Conventional pesticides: acephate, bifenthrin, carbaryl, chlorpyrifos (nursery only), deltamethrin, fluvalinate, lambda-cyhalothrin, malathion, permethrin