



Pine tortoise scale

Toumeyella parvicornus

Order Hemiptera, Family Coccidae; soft scales
Native pest

Host plants: Jack, Scotch, and Virginia pine are preferred, but Austrian, mugo, red, slash, Swiss mountain, and white pine are also susceptible.

Description: Adult female scales are reddish brown. They are convex and 4–7 mm in diameter. Males are small, flat, and translucent. Flying adult males resemble gnats. Crawlers are mostly transparent and common on needles. Striped pine scale, *Toumeyella pini*, is similar in appearance, but has distinctive white stripes. Biology and control are similar.

Life history: Overwintering adults are found on twigs; young nymphs on foliage. Crawlers hatch in late June to early July. There is one generation a year.

Overwintering: Mated females on twigs.

Damage symptoms: The conspicuous sooty mold that grows on their honeydew secretions is perhaps the first symptom of heavy infestation by these insects. Branch tip needles may yellow from feeding damage, and dieback may occur. Injury most frequently occurs on seedlings and saplings, which can be killed in heavy infestations. Mature trees may also be damaged.

Monitoring: In spring, look for female scales at the base of needles. In late June to early July, look for transparent crawlers that settle on needles. Look for ants, wasps, and flies which are attracted to honeydew produced by the scales. Also look for sooty mold growing on honeydew and for needle yellowing.

Physical control: Prune and destroy heavily infested branches.

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, imidacloprid, and pyrethroids: Use only when scale populations are high to rescue trees; beneficial insects will be also killed.

Dormant season oil treatments: Use for soft scales that overwinter as immatures.

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: Apply imidacloprid in fall for crawlers in spring. Less harmful to beneficial insects than foliar applied, broad spectrum insecticides.



Pine tortoise scale adults. (W74)
Photo: Whitney Cranshaw



Pine tortoise scale adult females at the base of needles. (203)
Photo: John Davidson



Pine tortoise scale female at the base of needles covered by sooty mold (325)
Photo: John Davidson

Biological control: Common soft scale predators are minute pirate bugs, lacewings, lady beetles, and predaceous midges. Wasps, bees and ants feed on the honeydew produced from the scales, and so will often protect the scales from natural enemies.

Plant mortality risk: Low

Biorational pesticides: horticultural oil, insecticidal soap, pyriproxifen

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