



Smaller spruce bud scale

Physokermes hemicryphus

Order Hemiptera, Family Coccidae; soft scales

Native pest

Host plants: Spruce, particularly Norway spruce

Description: Adult female scales are approximately 4.5 mm in diameter, globular, reddish brown in spring, and dark brown later in the summer. They closely resemble the buds of their host.

Life history: Females move to base of new growth in April and complete development. Crawlers appear in mid June to early July and settle on new growth to begin feeding. There is one generation a year.

Overwintering: Immatures on the underside of needles.

Damage symptoms: Lower branches are most commonly infested. Heavy infestations can kill lower branches, reduce tree vitality, and retard tree growth. Large amounts of honeydew with associated sooty mold are also produced. Weakened trees may support higher numbers of bud scales than healthy trees.

Monitoring: Eggs hatch when Greenspire littleleaf linden and Northern catalpa bloom in the middle of June (Herms). Look for adult females feeding at the base of new shoots. Also look for honeydew and sooty mold, and for dieback, particularly on lower 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.

Biological control: Common soft scale predators are minute pirate bugs, lacewings, lady beetles, and predaceous midges. Parasitoids are also important.

Plant mortality risk: Low



Smaller spruce bud scale females covered by sooty mold. (228)
Photo: John Davidson



Smaller spruce bud scale females covered by sooty mold. (229)
Photo: John Davidson

Biorational pesticides: horticultural oil, insecticidal soap, pyriproxifen

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