



Oystershell scale

Lepidosaphes ulmi

Order Hemiptera, Family Diaspididae; armored scales
Native pest

Host plants: Ash, beech, birch, boxwood, cotoneaster, elm, fruit trees, lilac, maple, poplar, willow, and approximately 20 other species

Description: Adult female covers are approximately 3 mm long, convex, oystershell-shaped and gray to brown in color. Male covers, if present, are usually smaller. Eggs and crawlers are white.

Life history: Crawlers hatch in late May to early June and seek suitable feeding sites on branches and trunks. Nymphs mature in mid summer to mate. Eggs are deposited in late summer to early fall beneath the mother's cover. There is one generation a year; two generations in the South.

Overwintering: Eggs under the cover of the dead mother scale.

Damage symptoms: Damage from scale feeding causes cracked bark and chlorotic, stunted foliage. Heavy infestations can kill branches or trees or weaken them to the point of being susceptible to secondary pests such as borers.

Monitoring: In Wooster, Ohio, first generation eggs hatch when black locust and multiflora rose bloom in late May. Second generation eggs hatch in mid to late July. In Midland, Michigan, first generation eggs hatch when Vanhoutte spirea and black cherry bloom in mid May, and there is no second generation. Look for the characteristic oystershell-shaped brown to purplish-gray scale covers on bark. Look for wilting foliage and imminent dieback. Also look under scale covers in the dormant season for white eggs to estimate future population numbers.

Cultural 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, 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.



Gray form of oystershell scale on maple. (183)

Photo: John Davidson



Brown form of oystershell scale with female cover removed to show overwintering eggs. (185)

Photo: John Davidson

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: Several parasitoids and predators attack this pest, but they usually appear late after damage has occurred. In the spring, predatory mites feed on the eggs. The twicestabbed ladybeetle, *Chilocorus stigma*, can reduce population size.

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