

Elongate Hemlock Scale (*Fiorinia externa*)

The elongate hemlock scale, native to Japan, is a pest of eastern hemlock, *Tsuga canadensis*, and Carolina hemlock, *T. caroliniana*, in the eastern U.S.



What is elongate hemlock scale? Adult elongate hemlock scale insects are soft-bodied, legless, wingless, and are enclosed in an elongate, parallel-sided cover. Crawlers are the legged first-stage nymphs that hatch from translucent eggs within the female cover.

How does it spread? The elongate hemlock scale completes two generations each year in the Southern and Mid-Atlantic States, but usually only one in the Northeast. Its life stages are broadly overlapping everywhere, so crawlers can be found throughout the spring and summer. Crawlers are the only stage capable of dispersing and establishing new infestations. Dispersal between trees is primarily by wind and birds.

Why is elongate hemlock scale a concern? The elongate hemlock scale attacks the lower surface of the hemlock needle, where it removes fluids from the mesophyll cells through piercing and sucking mouthparts. The scale sometimes occurs with two other exotic pests--a circular hemlock scale, *Nuculaspis tsugae*, and the hemlock woolly adelgid, *Adelges tsugae*. Mixed infestations of scales and adelgids can greatly hasten hemlock decline. Scale populations build slowly on healthy trees, but much more quickly on stressed ones. Feeding by elongate hemlock scale causes foliage to turn yellow and drop prematurely. Dieback of major limbs, which progresses from the bottom of the tree upwards, usually occurs after scale density reaches about 10 individuals per needle. Trees often die within the next 10 years, but some survive longer in a severely weakened condition with only a sparse amount of foliage at the very top of the crown. These weakened trees are unsightly and have little chance for recovery. They often fall victim to secondary pests, such as hemlock borer and Armillaria root disease, and are readily broken and thrown by wind.

Source: USDA Forest Service Northeastern Area Forest Health Protection [Pest Alert](#)

Photo by Eric R. Day, Virginia Polytechnic Institute and State University, Bugwood.org

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