

Magnolia Scale

Neolecanium cornuparvum (Thro); Family: Coccidae

- [Injury](#)
- [Description](#)
- [Life History](#)
- [Management](#)



Magnolia scale infestation.

Photo by John A. Weidhass, Virginia Polytechnic Institute and State University, Bugwood.org

The magnolia scale belongs to a group of insects described as soft scales. Scale insects are immobile for most of their life cycle, and thus show little resemblance to the usual form of insects.

Injury

Often people do not realize the magnolia has a scale infestation until leaves and twigs turn black with sooty mold, or they notice large numbers of wasps or hornets visiting the trees to collect honeydew. Severely infested twigs and branches are weakened, growth is stunted, and repeated infestations may result in death of the branches or entire small trees.

Scale insects feed by inserting their syringe-like mouthparts into the plant's vascular system sucking out sap and other vital plant fluids. Large amounts of these fluids are withdrawn, concentrated in the gut of the scale, and excreted as a clear, sticky liquid -- honeydew. The honeydew drips onto the leaves and stems, making them sticky as well as providing an ideal place for the black sooty mold fungus to develop. The honeydew also attracts ants and wasps which feed on it.

Description

"Bumps on the twigs" is a phrase that can be used to describe these insects. The mature female scales are large, up to 1/2 inch (12.5 mm) in diameter, elliptical and convex in shape. Adult scales are permanently affixed to the branches of the host. They range from pink-orange to dark brown in color.

Immature and mature females are often covered with a white waxy bloom. The presence or absence of the wax is the major field character used to distinguish between the magnolia scale and the tuliptree scale, both of which feed on magnolia.

Immature scales are much more flattened than the adults, but still elliptical in shape. The overwintering nymphs are dark bluish-black, about 1 mm long, and clustered on twigs in incredible numbers.

Life History

The magnolia scale reaches maturity in August each year. The females give birth to living young, which remain under the parent scale covering for a short time. These young (the first instar nymphs) are known as crawlers. Crawlers move from shelter of the female and migrate to the undersides of young twigs where they spend the winter. Once the crawler settles and begins to feed, it stays in the same spot for the remainder of its life. As the insect ages, the exoskeleton hardens, making it less susceptible to contact insecticides. In the spring two molts occur; one is usually in mid-May, and the second in early June in New York State. The nymphs continue growing during July but at a slower rate, usually reaching maturity in August. There is one generation per year.

Management

IPM Considerations: There are several effective parasites and predators.

Because of their large size, female scales can be removed by hand. It is best to do this in July before crawlers emerge. Wear rubber gloves and rub off with the use of a scrubbing brush, but do not scrub hard enough to injure the bark. Prune out severely infested branches.

When natural enemies and hand methods above are not sufficient, most scale insects can be controlled by appropriately timed insecticidal sprays. In severe infestations an insecticide program should be continued for two consecutive years. The insecticide "horticultural oil" is recommended for the dormant spray and should be applied 7-35 GDD* (just before bud break in the spring -- usually April), PPI-redbud (Plant Phenology Index: when redbud blooms). Avoid spraying opening buds or blooms.

In addition, foliar sprays for the crawler stage on branches should be applied in October. Insecticides registered in New York State in 2009 include: cyfluthrin, horticultural oil, lambda-cyhalothrin, and malathion. Two fall applications 7 to 10 days apart may be needed for severe infestations. The crawler stage is the most susceptible to insecticidal sprays, and these fall sprays are important for good control. Be sure to follow manufacturers' directions when using any pesticides.

* GDD = Growing Degree Days. Your local radio station may make this information available, or see this website:

http://www.nrcc.cornell.edu/grass/degreedays/dd_weekly.html

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