

Scales on Houseplants

(Coccidae, Diaspididae, and other families)

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Brown soft scale.

Photo from www.forestryimages.org
Whitney Cranshaw, Colorado State University.

Scale insects are rather unique in that they are immobile for most of their life cycle, and they show little resemblance to the usual form of insects. The soft scales, the group to which the brown soft scale (a common houseplant pest) belongs, have a covering made of waxy secretions. Armored scales, the other group, have the covering made up of a “test” which consists of the molted skins and a quantity of hardened wax. In both of these types of scales, the shell-like covering protects the entire body, adding to the difficulty of controlling scale insects.

Injury

The brown soft scale, *Coccus hesperidum* Linnaeus, is one of the most common soft scales. It occurs in greenhouses and on houseplants in our part of the country. The scale insects infest both the leaves and the stems of the host plants, and feed by inserting needle-like mouthparts into the plant tissue and sucking out plant sap. Feeding injury may result in poor growth and stunted plants. As the scales feed, they excrete droplets of a sweet sticky liquid known as honeydew. The honeydew gives the leaves a shiny appearance, and they are sticky to the touch. A black fungus, sooty mold, often grows on honeydew, and it may inhibit photosynthesis by blocking light. The result of sooty mold is that the aesthetic qualities of the plant are greatly reduced due to the dirty or sooty appearance, and the leaves may exhibit yellowing (chlorosis) under the sooty mold.

Description

The brown soft scale is a rather flat insect, oval in shape, often broader at the hind end, and variable in color, but usually yellowish brown, sometimes with a green tint. The adult scales are approximately 3-4 mm long, and 2 mm wide. Other species may vary from this description. The scales are often overlooked because they resemble the bark or other plant parts. The first stage nymph is colorless to yellowish and the second stage nymph shows a little more yellowish-brown color.

Life History

The females of many species are ovoviviparous, producing living young by hatching of the eggs (ova) while still within the mother. Newborn scales, called the crawlers, occur at first under the protective cover the adult. The crawlers leave the protective cover of their mother’s “scale covering” to find a suitable place to settle down and begin feeding. This crawler stage is only active for a short time, but it is this stage that is most susceptible to

insecticidal treatment. When insecticides are used for control, applications are aimed at the crawler stage. The crawlers settle down and become first stage (instar) nymphs, which soon molt to a second instar nymph, and reach maturity in about 65 days. Once a scale has settled down, it continues to feed in one place, not moving again during its lifetime. The molt skins or waxy layers remain on the scale forming the scale covering, and make the insect less susceptible to insecticidal sprays – the sprays do not reach the insect under these coverings.

When scales occur in artificial environments, such as a greenhouse or house, they are not subjected to the climatic regulation that occurs out of doors. They may keep reproducing year round, and the generations may overlap. This overlap makes it difficult to predict when crawlers will be active.

Management

Heavily infested plants are often best discarded. If only one or a few plants are infested, gently washing with a dilute mixture of detergent and water may be a practical way to remove scale insects, using a soft brush or cloth to help dislodge insects and wash off honeydew. ****Home Remedy:** Use two teaspoons of a mild dish detergent (NOT SOAP) per gallon of water.

Hand-picking may also be effective for one or a few plants. Remove scales using a toothpick, or tweezers, or a cotton swab that has been dipped in rubbing alcohol.

If neither of these solutions is practical, or you are not getting control, there are commercial houseplant insecticides registered for scale insects, including insecticidal soap, hydrophobic neem oil, and horticultural oil preparations, which may be used according to the manufacturer's directions. Not all pesticides are labeled for use on all plants. Read and check the label carefully to be sure:

- the product is labeled for use indoors
- the plant you want to treat is listed
- the pest is listed on the label

For scale insects, insecticide sprays are most effective against the crawler stage, the tiny mobile stage that hatches from the eggs. Treat when crawlers are active. It will require some monitoring (careful observation, perhaps with a hand lens or magnifying glass) of the scales to tell when crawlers are active. Unless you clean them off, dead scales may cling to the plant for a relatively long time, months or longer; becoming dry and chaffy. Living scales will exude liquid when crushed.

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6/2006, Slightly Revised by: Carolyn Klass
Updated 12/2009*

**** Home Remedies**

Although gardeners claim that certain herbs, onions, garlic, and other plants will repel insects, evidence for such claims is scarce. There are numerous, commonly available products, such as vegetable cooking oils, soap, and baking soda that have pesticidal properties, as do concoctions made from plant extracts (i.e., mint, citrus peel, and marigolds). State and federal regulatory agencies prohibit their use on a commercial basis (even though they are environmentally safe and inexpensive). To comply with these regulations, we are obliged to refrain from recommending them in most cases; we do list a few home remedies in Bulletin #74, [Pest Management Around the Home](#), but these remedies are not endorsements by Cornell University of any product or procedure, nor are they recommendations for use either expressed or implied. Neither Cornell University nor its employees or agents is responsible for any injury or damage to person or property arising from the use of this information.

This publication contains pesticide recommendations. Changes in pesticide regulations occur constantly and human errors are still possible. Some materials mentioned may no longer be available and some uses may no longer be legal. All pesticides distributed, sold or applied in New York State must be registered with the New York State Department of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional DEC office. READ THE LABEL BEFORE APPLYING ANY PESTICIDE.