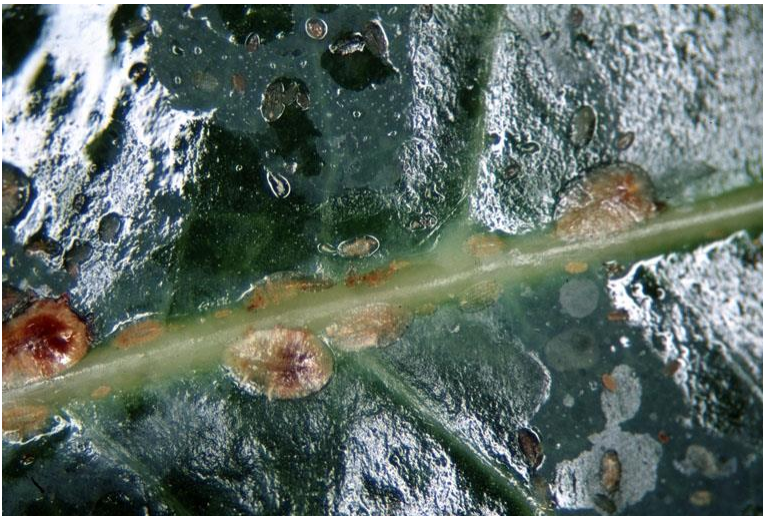




## Scales on Houseplants

Families: Coccidae, Diaspididae, and others



Brown soft scale.

Photo from [www.forestryimages.org](http://www.forestryimages.org)  
Whitney Cranshaw, Colorado State University.

### Description

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 have a covering made of waxy secretions.

The brown soft scale (*Coccus hesperidum* L.) is one of the most common soft scales. It is a pest in greenhouses and on houseplants in our part of the country. 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 of soft scales may vary from this description.

Armored scales, the other group of scale insects, have the covering made up of a “test” which consists of the molted skins and a quantity of hardened wax. In both armored and soft scales, the shell-like covering protects the entire body, adding to the difficulty of controlling scale insects.

### Injury

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.

### 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.

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.

In the scale species that do have males, these are tiny insects with wings, unlike the sessile females.

## Management

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Heavily infested plants are often best discarded. Clean up the area around the plant to remove honeydew droplets as well as any unseen crawlers that might infest a nearby plant.

If only one or a few plants are affected, 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 them and wash off honeydew. Wash the stem as well as leaves, as the crawlers (generally too small to see), older nymphs, and adults may be present on either.

**Home Remedy\*:** Use two teaspoons of a mild dish detergent (not soap) per gallon of water. Cover the soil and pot with plastic; otherwise crawlers rinsed off the leaves and stem may climb up again. Covering the soil also keeps it from falling out, if the plant is small enough to turn upside down to dunk the whole top in a pan or sink of detergent water. Whether dunked, washed outdoors, or cleaned by wiping individual leaves and stems by hand, afterwards rinse the leaves and stems thoroughly with clean 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. Repeat every few weeks as needed.

If neither of those 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. Read and check the label carefully to be sure the product is labeled for use indoors, and that the plant you want to treat is listed - as some plants are sensitive to certain products.

Insecticidal sprays are most effective against the crawler stage. It will require some monitoring with a hand lens or magnifying glass to tell when crawlers are active. Dead scales may cling to the plant for a relatively long time, months or longer; becoming dry and chaffy - these are not damaging to the plant, but if not cleaned off, can make it appear that the infestation is still ongoing. Living scales will exude liquid when crushed.

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**\*Home Remedies:** Mentions of these 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.

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