

Scale Insects Affecting Ornamental Plants ¹

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On many ornamental plants, scale insects are the most serious pests. Most ornamentals are susceptible to one or more species of scales. Scales damage plants by sucking juices from them. Heavily infested plants appear unhealthy and produce little new growth.

Scales feeding on the undersides of leaves may cause yellow spots to appear on the top sides. These spots become larger as the scales continue to feed. If the scales are not controlled, leaves will drop prematurely, sometimes killing portions of twigs and branches. Scales also feed on trunks and stems of plants.

Female scales never have wings and are disseminated primarily by infested plant stock. They are spread to a lesser extent in the crawler stage by man, birds, other animals and wind currents.

Scales are divided into two groups: (1) armored scales, and (2) soft scales. The armored scales secrete a waxy covering over their bodies. This covering is not an integral part of the insect's body, but the scale lives and feeds under this cover that resembles a plate of armor, hence the name.

They vary in size from 1/16" to 1/8" in diameter and can be almost any color, depending on the species. Armored scales may be circular, oval, oblong, threadlike or pear-shaped. The female armor is larger than that of the male, while the shape and color may be similar to distinctly different, depending upon the particular species.

Three hundred fifty species of armored scales occur in the United States and about 175 species are present in Florida. Examples of armored scales are the **tea scale** (Plate 1 and Plate 2), **Florida red scale** (Plate 3), **false oleander scale** (Plate 4), **oleander pit scale** (Plate 5) and **white peach scale** (Plate 6).



Plate 1 .

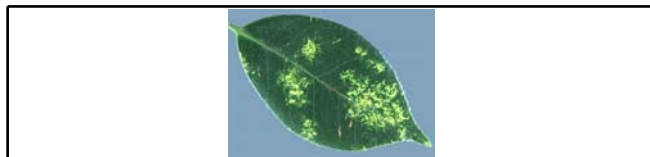


Plate 2 .

1. This document is SP94, one of a series of the Entomology and Nematology Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Original publication date June 1991. Reviewed May 2003. Visit the EDIS Web Site at <http://edis.ifas.ufl.edu>.
2. D.E. Short, Professor; J.L. Castner, Scientific Photographer; Department of Entomology and Nematology, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611. The term plates, where used in this document, refers to color photographs that can be displayed on screen from the FAIRS CD-ROM. These photographs are not included in the printed document.

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Plate 3 .



Plate 4 .



Plate 5 .



Plate 6 .

Soft scales also secrete a waxy covering that is an integral part of their body. Soft scales vary widely in color, size and shape. They range from 1/8" to 1/2" in diameter, and may be nearly flat to almost spherical. Eighty-five species of soft scales occur in the United States, with 60 species in Florida. Examples of soft scales are **hemispherical scale** (Plate 7), **green scale** (Plate 8), **pyriform scale** (Plate 9) and **Florida wax scale** (Plate 10).



Plate 7 .



Plate 8 .

Soft scales excrete large amounts of honeydew, which provides an excellent medium for the growth of a black fungus called sooty mold. Armored scales do not secrete honeydew.



Plate 9 .



Plate 10 .

Many species of scales are highly parasitized by tiny wasps. Pin-sized holes in the wax are evidence of parasitism. Many beneficial insects also prey on scale crawlers.

Life cycles of the various scales differ somewhat, but a generalized life cycle is as follows:

- The eggs are laid underneath the waxy covering and hatch in one to three weeks. Newly hatched scales, or crawlers, move about the plant until they locate succulent new growth. They insert their piercing-sucking mouthparts into the plant and begin feeding.
- Female scales molt two times before reaching maturity and do not pupate. Male scales go through two additional molts and pupate underneath the wax. The cast skins (exuviae) are incorporated in the scale cover. Adult males are tiny two-winged gnat-like insects without mouthparts.
- In some armored scales reach the adult stage in six weeks, and there are several generations per year. Some soft scales require one year to reach maturity.