

# Insect Pests of Ornamental Plants

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Not only must turfgrass management personnel be concerned with the insect pests of turfgrasses, but they must also be familiar with many insects and their damage on ornamental plants. In many cases, it is to manage turf problems. A beautiful, well-maintained turf can be completely masked or overlooked if the ornamental plants within the confines of turf plantings do not also receive adequate attention.

If you want to keep ornamental shrubs and trees healthy and attractive, they need to be examined frequently for insect buildup. All too often our ornamentals are "let go" until suddenly the plants appear to be dying overnight. Once they have been attacked by insects, the best we can do is to prevent further damage.

While a great many species of insects attack ornamental plants relatively few are destructive enough to warrant chemical control. Occasionally, however, populations develop to outbreak proportions and the application of pesticides become advisable. There are a few very serious pests, such as some of the borers, which are not satisfactorily controlled by present control recommendations. Some ornamentals, such as hibiscus, have a number of insect problems and these as well as other features should be considered when deciding on suitable material for ornamental plantings.

Some insect outbreaks occur at definite seasons of the year (leaf beetles and oleander caterpillars), while others are active throughout the year (aphids, scale insects, and borers). Numerous variations occur in the method of locomotion, manner of feeding, life history and reproductive habits of the pests. For these reasons the insects are discussed under several categories to aid one in planning his pest management program. For example, insects feeding between the epidermal layers of the leaf (leaf miners) require control methods different from those living on the leaf surface, and those insects which lose the ability to move about during portions of their life cycle (scales) require more thorough and repeated applications of insecticides than many of those which move about freely.

Some insect pests attack many different plants, showing little or not partiality. These are called *general feeders*. Others are more selective in choosing plants to attack. These are called *specific feeders*. For purposes of this discussion the pests will be divided into two groups based upon the way they feed.

1. *Insects with piercing-sucking mouthparts*: They have beak-like mouthparts which are used for probing the plant tissue and sucking the plant juices. They feed in basically the same way as a mosquito pierces your skin and removes your blood.

Examples are: scales, aphids, whiteflies, mealybugs, and stinkbugs.

2. *Insects with chewing mouthparts*: They bite off and swallow portions of the plant. They may eat the leaves or flowers, bore into the stem, or feed on the roots.

Examples are: Beetles, caterpillars, grasshoppers, and grubs.

## SUCKING PESTS

*Aphids or plant lice* — are small, soft, bodied insects usually attacking young tender growth. They remove plant juices and cause new developing leaves to cup or curl. Color varies from green to reddish to black. Plants frequently found infested are meelia, citrus, hibiscus, ixora, oleander, palm, and roses.

*Scales* — are often overlooked on plants; usually exhibiting colors or shapes closely resembling the host plant. There are many different kinds of armored and soft scales that attack ornamental plants. Most scale insects attach themselves to the host plant shortly after hatching, and rarely ever move from their feeding site for the rest of their lives. They feed by inserting a thread-like beak into the plant tissue and removing plant juices.

Scales may be found feeding on almost all our ornamentals and are among the most difficult insect groups to control. Familiar species are the brown soft scale, tea scale, oyster shell scale, and nigra scale. Two of the most severe problems are the slenade or hibiscus scale on hibiscus and the oleander scale on oleander, bischofia and magnolia.

*Whiteflies* — are very small white insects which infest the underside of leaves. They are circular, flat, almost translucent, and very difficult to detect. They are very common on gardenia, ligustrum, viburnum and citrus.

*Mealybugs* — are soft bodied scale-like insects which are usually covered with a powdery or cottony, wax-like material. With a few exceptions, they are able to move about throughout their lives and are important pests of annuals and perennials, in addition to woody ornamentals. Some of the most common host plants are azalea, citrus, coleus, croton, rose, and viburnum.

*Lacebugs* — are small, broad and flat insects usually brown in color and the wings are clear with a fine lace-like appearance. Immature lacebugs are wingless and covered with spines. Damage appears as a whitish speckling on the top side of the leaves, which is caused by the feeding on the undersides of the leaves. The presence by shiny black spots of excrement on the underside of the leaves is a good indication of a lacebug infestation. Some of the most common hosts are azalea, pyracantha, and sycamore.

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**Thrips** — are tiny slender insects which cause injury by puncturing the plant tissue and then sucking up the exuding sap. They restrict their feeding to the foliage, buds, and flowers. Infested leaves have a stripped appearance similar to that resulting from mite infestations. Usually it is not difficult to distinguish between thrips and mites as thrips leave small brownish specks of excrement wherever they feed. Frequently infested buds fail to open or the flowers are deformed. Feeding punctures on the flowers turn brown and the petals eventually become streaked and discolored. Flowers suspected of being infested should be shaken over a sheet of white paper to detect the thrips. The most important species on ornamentals are the Florida flower thrips, red-banded thrips, and greenhouse thrips. The Cuban-laurel thrips is probably the most familiar in South Florida where it curls developing leaves on Ficus.

**Planthoppers** — refer to a group of insects which hop about when disturbed on the plant. Included in this group are leafhoppers, thornbugs, fulgoridaes, and spittlebugs. These insects are not considered important as a group, but several are quite unusual. Immature spittlebugs are always found in a leaf axis surrounded by a mass of spittle. The fulgoridaes and thornbugs are usually associated with a waxen mass on the stems or leaves and most thornbugs are equipped with a conspicuous hump which gives the plant on which they are resting a thorny appearance.

**Spider mites** — are among the most common pests which attack ornamental plants in Florida. Mites are not insects but are more closely related to spiders and ticks, since they have four pairs of legs. Often their presence is not detected until they become very numerous and cause obvious plant damage. Their damage was discussed above in relation to thrips. Some mite species restrict their feeding to a single host while others are general feeders on a variety of plants. Almost all species of annual, perennial, and woody ornamental plants are subject to attack by one or more species of mites.

**Eriophid mites** — are extremely small and often high magnification is required to even see them; their damage is obvious, often appearing as a witches broom, stunting, or shortening of the internodes. Many new species are being discovered on ornamentals, but the eriophid mites of podocarpus, black olive, and camellia are most familiar.

## OTHER PESTS

The presence of *sooty mold* and *ants* are good indications of the presence of several types of sucking insects. Sooty mold is a black fungus that grows in the excrement of aphids, mealybugs, many soft scales, and particularly of immature whiteflies. This fungus detracts from the beauty of ornamental plants but does not cause as much injury as most people believe. Controlling the above pests will easily prevent the problems of sooty mold.

Ants are fond of "honeydew" excreted by these sucking insects, and they may protect and move these pests around from plant to plant. They are social insects and control should be directed at their colonies.

## CHEWING PESTS

**Caterpillars** — are the immature stage of moths and butterflies and numerous species feed on ornamentals. Because of their habits and control, they are grouped into three categories:

(1) Leaf-eating caterpillars—include worms of considerable variation. They devour foliage, leaving holes and irregular areas, or they may even strip off entire leaves. Some larvae, such as the oleander caterpillar and the azalea defoliator, restrict their feeding to the foliage of a single host plant. Other larvae, as the bagworm and tussock moth, restrict their feeding to closely related plants. Still others, such as the corn earworm, loopers, and woolybears, attack almost any type of vegetation. Other familiar species include: armyworms, honrworms, leaf rollers, and tent caterpillars.

(2) Underground caterpillars — have similar habits and are called cutworms. For the most part they are nocturnal and remain hidden in the ground near the host plant during the day. They work at about ground level, cutting off the seedling plant so that it falls over and dies. In general, cutworms are smooth, shiny caterpillars, grey or brownish in color with black markings.

(3) Nettling caterpillars — can severely defoliate several ornamental plants. These include Io moth larvae and saddle back caterpillar on hibiscus and several species of palms. The puss moth caterpillar feeds on oak and sycamore trees. These caterpillars are most important because they have poisonous hairs and should be avoided and be handled with extreme care.

**Leaf miners** — are small insects that feed between the upper and lower surfaces of the leaves. Their feeding causes a blotch mine or blister when the larvae excavates a broad path, a linear mine if the larvae tunnels straight ahead, and a serpentine mine if it follows a winding course. The mines provide an excellent entrance for secondary fungi.

**Grasshoppers, Katydid and Crickets** — frequently become a problem in flower gardens. These insects occasionally consume large quantities of foliage, flowers, and sometimes other tender growth. Grasshoppers are easy to see and should be controlled before they become numerous. Katydid, which are green in color and feed at night, are not commonly found in large numbers. Mole crickets, although not serious pests of woody ornamental plants, are common invaders into flower gardens and other foliage plants adjacent to turf plantings.

**Beetles and grubs** — frequently cause injury in ornamental plantings. Beetles hard-shelled insects which devour various parts of plants in much the same way grasshoppers and katydids. Some feed at night and hide beneath the plants during the day, while many feed during the day. Flower beetles are difficult to control as they may fly in from adjacent areas in large numbers. The larvae (grubs) of most beetles are also destructive. They may feed on the roots or bore through the stems and branches while others may be leaf miners.