



What's Bugging Me? - A Guide for Environmental Landscape Pest Control by Homeowners ¹

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More than one million insect species have been identified, and nearly 100,000 live in North America. However, only a few damage landscape plants. The most common plant pests in Florida include aphids, mealybugs, scales, white flies, thrips, spider mites and caterpillars. All can be effectively controlled using Integrated Pest Management (IPM). Landscape IPM emphasizes proper plant cultural practices and using safest alternatives to manage plants.

Detection

Small insects and mites can be difficult to see. To detect them, strike the leaves of small branches against a sheet of white paper and use a 10x magnifying glass. Scales and whitefly larvae stay on the plant, so examine the branches and leaf undersides with a magnifying glass.

Insects with Piercing-Sucking Mouthparts

Aphids, mealybugs, scales and whiteflies have needlelike mouthparts to pierce plant tissues and feed on plant sap. Most plant pests with piercing-sucking mouthparts are smaller than the head of a pin, and

secrete a sugary product known as honeydew. It is common for foliage infested with these insects to be covered with black sooty mold that feeds on this sugary secretion. Although the mold does not injure plant tissue, it does detract from the plant's appearance.

Sooty mold indicates pests are present. Ants are also a good indicator of the presence of insects. They feed on honeydew, and often care for and protect the insects that produce it.

Piercing-sucking insect pests have numerous parasites and predators. Among these are small parasitic wasps that deposit their eggs on or in the insect pest. The larvae that hatch from the eggs actually parasitize the insect, killing it. Ladybugs and lacewings are other common predators that feed on piercing-sucking plant pests.

Aphids

Aphids may be winged or wingless (Figure 1). They have pear-shaped bodies. They are usually green but may be yellow, black or other colors. Aphids attack succulent young leaves, and they typically congregate on the undersides of growth.

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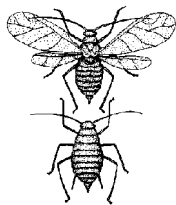


Figure 1.

Signs of aphids: Leaves become twisted or distorted; ants; sooty mold.

Control of aphids: Fertilize and water moderately to avoid excessive new growth. Flush aphids from branch tips with a garden hose. Avoid shearing shrubs. Insecticidal soaps do little damage to aphid enemies. A few aphids should be tolerated because they are a good food source for beneficial insects.

Mealybugs

Mealybugs are small insects (1/16" to 1/8" long) that have soft bodies and well-developed legs (Figure 2). Their bodies are covered by a powdery, white, wax coating that may also surround their egg masses. They attack leaves, twigs and roots.



Figure 2.

Signs of mealybugs: White wax deposits; sooty mold on foliage; and lots of ants.

Control of mealybugs: Horticultural oil and insecticidal soaps may be applied as a spray. Control can be difficult, because mealybugs like to hide in tight, hard-to-reach places and protect themselves with wax deposits.

Scales

Scale species vary in size, shape and color (Figure 3). They are small, about the size of this letter "o." Their body is hidden under a waxy scale covering. Mature scales remain stationary, feeding on leaves, twigs, stems or fruits.

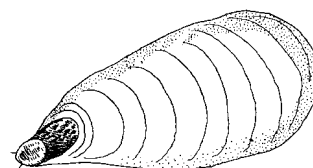


Figure 3.

Signs of scales: Yellow spots on the upper leaf surface from scales feeding underneath; honeydew, ants and sooty mold.

Control of scales: Biological controls often work naturally. Horticultural oils are also effective.

Whiteflies

Adults (Figure 4) appear as white specks on plants. They deposit lots of eggs on the underside of leaves. Stationary larvae are oval, flat, transparent to greenish in color when they are alive, and dull white when dead.



Figure 4.

Signs of whiteflies: Top sides of leaves become pale or spotted. Ants, sooty mold or adult whiteflies that look like white specks or gnats flying around plants; larvae on undersides of leaves.

Control of whiteflies: Yellow boards smeared with oil will trap many of these insects. Whiteflies are parasitized by fungi and other predators. (Fungi may be white, orange or tan and are most effective in humid weather.)

Some whiteflies have developed tolerance to pesticides. Insecticidal soaps and horticultural oils are effective and environmentally friendly.

Caterpillars

These larvae of butterflies and moths chew on foliage (Figure 5). Caterpillars are attacked by many beneficial insects.

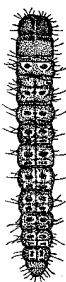


Figure 5.

Signs of caterpillars: Chewed or notched leaves; greenish fecal pellets on the foliage; and the caterpillars themselves.

Control of caterpillars: Sprays of *Bacillus thuringiensis* (Bt) mixtures cause the caterpillars to stop feeding and die. Add a few drops of liquid detergent, which helps the spray stick to the leaves. *Bacillus thuringiensis* is most effective against small caterpillars, but must make contact with them to be effective.

Thrips

Small, narrow-winged insects, about the size of a comma in this brochure (Figure 6). They scar leaves and drink sap from the wounds.

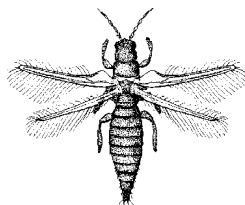


Figure 6.

Signs of thrips: Dull, grayish appearance; curling, distorted leaves; flower drop.

Control of thrips: Horticultural soap sprays.

Spider mites

Tiny, oval bodies are about the size of a period in this brochure (Figure 7). May be red, yellow, greenish or spotted. Adults spin loose webs on foliage and reproduce rapidly in hot weather.

Signs of spider mites: Injury looks like light-colored dots, which gives leaves a dull, gray-green, stippled appearance; fine, loose spider



Figure 7.

webs and ashy looking residues. Magnifying glass required for detection.

Control of spider mites: Difficult because mites multiply quickly; they develop pesticide tolerance when the same product is used repeatedly. Alternate horticultural oil with insecticidal soap. Use a garden hose to dislodge mites from plants.

Mole crickets

Up to 1 1/2" long with a velvety brown appearance (Figure 8). Front legs are flattened and adapted for burrowing. Affects Bahia and Bermuda grasses.



Figure 8.

Signs of mole crickets: Tunneling activity causes soft ground; spongy grass; thinning of grass; 3/4" holes in ground. Mole crickets tend to lay eggs in the same area each year.

Control of mole crickets: Two good biological controls - the red-eyed fly and a beneficial nematode - are spreading naturally. Spot treat infestations in June with labeled materials; use baits later.

Chinch bugs

Adults are 1/5" long, black with white patches on wings (Figure 9); young nymphs are smaller and reddish. Attack only St. Augustine grass.

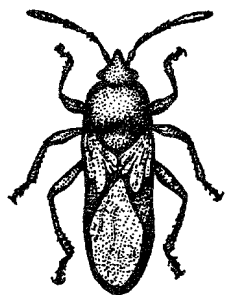


Figure 9.

Signs of chinch bugs: Yellowing and browning of turfgrass, often in hot, sunny areas next to driveways/walkways or in over-fertilized lawns.

Control of chinch bugs: Avoid high fertilization rates. Mow St. Augustine grass at least 3 inches high in sun and 4 inches in shade. Use a chinch bug resistant variety of St. Augustine grass. Spot treat affected areas with materials labeled for chinch bug control.

Fleas

Small, dark colored, about 1/8" long (Figure 10). Can hop some distance.



Figure 10.

Signs of fleas: Obvious effects on pets. Prevalence in areas where pets bed down or dig holes.

Control of fleas: Bathe pets and wash their bedding regularly. Vacuum carpets weekly. Treat carpet and upholstery with borates and/or insect growth regulators (IGRs), but do not apply borates where infants crawl. Your veterinarian can prescribe an IGR pill combined with a coat treatment, which is very effective. Clean up debris in the yard. If the above procedures are followed, it should not be necessary to treat the yard with a pesticide.

Ants

Three-segmented body with narrow waist (Figure 11). Size ranges from 1/16" to 1/2", depending on species. Most species not harmful. Fire ants are a major problem.



Figure 11.

Signs of ants: Presence on plants; existence of mounds; ants in trails.

Control of fire ants: Safest materials for fire ants include baits. Apply in the morning or evening around the edges of the mound. Do not disturb the mound. Be sure materials are dry and fresh.