

Scale Insects

Common and widespread, scale insects vary in appearance and are often not even recognized as insects due to their atypical characteristics (*figures 1 and 2*). In species where there are males, these males are short-lived and typically have wings. Adult females and nymphs do not have wings and have a round, oval or elongate and often humped appearance. Females of some species reproduce without mating.

Females lay hundreds of eggs that hatch and disperse over the infested plant. These colonies of nymphs and females generally remain static on plants and feed by inserting their small, tube-like sucking mouthparts into plant tissue.

High populations devitalize host plants by sucking large portions of sap and nutrients. This is especially severe on plants that are under stress from extreme weather, deficiencies of light, water, nutrients, etc. The first symptoms of scale insect attack are withered leaves, followed by tip dieback of small branches; then larger branches may die. This makes the plant more susceptible to attack by wood-boring insects, diseases and injury. After a few years of heavy, uncontrolled infestations, younger trees may die while larger ones become distorted and lose their appeal as ornamental plants.

In addition to the tree health issues they may cause, some species also excrete honeydew, a sugar-rich sticky liquid whose presence encourages the growth of sooty mold. This blackish mold can be unsightly even when the level of scale infestation is not detrimental.

While these insects are largely stationary, they are often spread inadvertently by people or birds or blown by wind to nearby plants. They are dispersed over long distances by the movement of infested plants.

Armored Scales

The largest family of scale insects, the body of armored scales is protected by a cover made from wax (*figure 3*). To see the body of the insect, the waxy cover would need to be removed. The waxy covering protects the insect as well as the eggs laid by the female. Most armored scales have several generations per year. Examples include Japanese maple scale, obscure scale, gloomy scale, oystershell scale, pine needle scale, white peach scale and euonymus scale.

Soft Scales

Soft scale insects typically have one generation per year and generally are larger in size though there are many variations in size, shape and color (*figure 4*). They can be cottony, smooth or waxy – but they do not produce a thick protective waxy covering separate from the body. Examples include brown soft scale, lecanium scale, azalea bark scale, magnolia scale and tuliptree scale.

Control

As there are so many different types of scales and the amount of damage depends on the level of infestation as well as the plant species and natural predators present in the environment, management should be customized to the situation. Introduction of biological controls is an effective option in some cases. Application of horticultural oil has also proven effective to reduce populations when timed appropriately.



Figure 1 & 2. Pine needle scale and brown soft scale.

Infestations of scale often go unnoticed because these pests don't look like typical insects and vary widely in appearance.



Figure 3. Armored scales live and feed under a protective wax shield.



Figure 4. Azalea bark scale has a white cottony appearance and is one example of a soft scale insect.