

Arid Zone Trees

Bulletin: Insect Pests of Desert Trees



Insect pests can and do injure desert trees both in nature and in the landscape. These pests can damage leaves, twigs, branches, trunks and roots. Insects attack stressed or damaged trees and rarely pose problems for healthy, vigorous trees. With the exception of the **Palo Verde Borer**, these insects usually do not seriously damage trees. Tree Borers can be divided into three general groups: **Flatheaded Borer**, **Roundheaded Borers** and **Root Borers**.

Flatheaded Borers most commonly invade sunburned or otherwise damaged areas along the trunks and branches of trees. Olive-gray adults lay eggs under the bark of damaged areas. Larvae are cream colored and legless and mature to 1 1/2" long. Maturing larvae feed on dead wood producing small tunnels (galleries) filled with what appears to be sawdust. This damage occurs beneath the bark and can go unnoticed for long periods. Since the insects are hidden within the wood they are well protected from chemical sprays applied to the surface of the tree. Larvae do not attack adjacent healthy, undamaged wood.

Larvae of **Roundheaded Borers** can also bore into damaged wood. The larvae are cream to white colored and are legless. Like the Flatheaded Borers these insects are limited to damaged wood or weakened trees. An exception is the mesquite twig girdler, which girdles and kills small twigs of mesquite trees. The females then lay eggs in the section that is killed and the larvae develop within the wood. Holes typically observed on trees are the exit hole where the mature adult has chewed its way out of the tree. These exit holes can be occupied by many other non-injurious insects.

Palo Verde Borers are root borers and are rarely seen above ground. Adults are 4" to 6" long with antennae nearly as long as their bodies. Adults are active July through October. Immature larvae feed on roots of Parkinsonia (Mexican Palo Verde) and other non-native trees. Larvae spend up to three years underground feeding on roots. Over a 7 to 10 year period **Palo Verde Borers** will gradually kill a tree. Most adult borer females lay eggs from spring through summer. With the exception of the Palo Verde Borer most borers complete their life cycle in about a year (from egg to adult). Landscape trees located near areas of mature, undisturbed desert trees are more

likely to be attacked by tree borers than are those at greater distances from the desert. Maturing native desert trees can harbor populations of pest insects that can then easily migrate into nearby landscape plantings. White grubs, sometimes encountered when excavating the roots of dead trees, usually are not tree borers. Typically these grubs are the larvae of the common June Beetle and are only feeding on decomposing organic matter.

A number of insects attack the foliage of desert trees. These include: **Acacia whitefly**, **aphids**, **psyllids** and the recently identified **Palo Verde Scale**. **Aphids** are a common and wide spread plant pest that can attack desert species. As with other traditional landscape plants, aphids are restricted to the succulent new growth on the tips of twigs of desert trees. Aphids reproduce rapidly and can quickly kill small twigs and deposit honey dew (a clear, sticky material excreted by aphids that blackens leaves and twigs). **Acacia White Fly** feed by scraping at the undersides of leaves giving the leaves a blotchy, yellowing appearance. Acacia White Fly actually appear dark gray or black because of a large dark spot on the body. These insects also reproduce rapidly and cause significant leaf loss. **Psyllid** occurs on leaves, terminal shoots, and flower buds of many trees. Adults are green to brownish but often appear darker during cooler weather. The tiny, golden eggs and the orange to green, flattened nymphs are most abundant on the surface of new growth. Psyllids suck plant juices and produce honeydew, sometimes in crystallized form, on which blackish sooty mold grows. Abundant psyllid infestation can defoliate, reduce plant growth, cause terminals to distort, discolor, or die back. Defoliation damage is caused by nymphs. Psyllid damage is aesthetic and populations will decline naturally with higher desert temperatures. Insecticide may be applied to manage intolerable damage levels. **Palo Verde Scale**, a previously unidentified pest of Palo Verdes, has recently been observed in the Phoenix metropolitan area. To date it does not appear to cause injury to the trees. Young trees (3 to 5 years of growth) may require sprays to control foliar insect pests. The damage from these insects can slow growth. On more established trees, chemical control can be reduced or eliminated. Allowing moderate populations of these insects to survive will help support populations of a number of beneficial insects that actually feed on these pests.

Chemical sprays that are aimed at controlling pests also destroy populations of beneficial insects like Lady Beetles and parasitic wasps. Using **Integrated Pest Management (IPM)**, promoting a balance between pests and beneficials, long term biological control of foliar insect pests can be achieved. Other insects that can cause damage but were not discussed here include, thrips, lygus, mealy bugs, spider mites, leafhoppers, ants, spiders and cicadas. For chemical control recommendations contact a certified arborist, certified nursery professional, licensed pest control professional or the county extension office.

Pest Control Practices:

Inspect trees during the growing season for common garden sucking insects such as aphids, thrip, whiteflies or psyllids. During dry months, (May and June) in dusty conditions, spider mites can appear. Monitor for infestation and apply controls as needed. Spray applications of water or water and Safer Soap give short-term control (3 to 7 days) for small insect population. For heavy infestation or longer control use federally registered insecticides. A contact insecticide application will kill existing adults. An application with a systemic foliar or soil drench will provide 8 to 12 weeks control for any post application insect hatchings or migration of insects. Before using pesticide for the first time or on new plants or cultivar, treat a few plants and check for phytotoxicity. **Always read label and follow label instruction before using pesticides. For pesticide control recommendations contact a licensed pest control advisor.**