Figure 1. Adult eucalyptus longhorned borer.

Figure 2a. Red gum lerp psyllid under protective lerp.

Figure 2b. Parasitized lerps (with holes) of red gum lerp psyllid.

Figure 3a. Leaves infested with spotted gum lerp psyllid.

Figure 3b. Fish-bone shape lerps of spotted gum lerp psyllid.

Figure 4. Australian tortoise beetle adults and feeding damage.

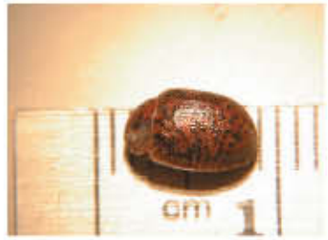

Figure 5. Australian tortoise beetle adult.

# GARDEN INFORMATION SERIES



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University of California

Cooperative Extension

# GARDEN INFORMATION

## Pests Of EUCALYPTUS TREES

PESTS OF

# EUCALYPTUS TREES

Eucalyptus trees are so common and well known in California that many people mistakenly think they are native here. In fact, they are native to Australia and were originally brought to California over 150 years ago for use as windbreaks, timber, and fuel. We now use eucalyptus trees primarily as landscape plants and value them for their fast growth and varied ornamental qualities.

Up until the last 20 years or so, few pests associated with eucalyptus in Australia had made their way to California. We have enjoyed a number of years when eucalyptus trees were relatively pest free. However, over the past two decades several serious pests of eucalyptus trees have arrived from Australia and additional ones are likely to appear.

The best way to control these eucalyptus pests is through proper culture and use of less susceptible varieties. Stressed trees, especially those suffering from insufficient water, are significantly more susceptible to pests than vigorous, healthy trees. The most common eucalyptus trees in the landscape need more water than people may realize, especially during periods of drought. Regularly water trees during the summer and fall and even at other times of the years if rain is lacking. Avoid frequent, shallow watering. Water when the soil three inches deep becomes dry. At each watering wet the soil to a depth of about one foot over the area from the trunk at least out to the canopy or drip line of the tree (avoid wetting the trunk). Drip irrigation or other low-volume water systems are probably necessary to apply this much water while avoiding wasteful run off. Remember that sandy soils dry out faster than clay soils.

Pests of eucalyptus trees include long horned borers; red gum-, spotted gum-, and lemon gum lerp psyllids; and tortoise- and snout beetles. Susceptibility of eucalyptus varieties to these pests varies, so select less susceptible ones for planting in your garden or landscape. Table 1 lists relative susceptibility of some eucalyptus trees to borers, red gum lerp psyllid, and tortoise beetle.

## EUCALYPTUS LONG HORNED BORER

Discovered in 1984, the eucalyptus long horned borer (Figure 1) was the first major pest of eucalyptus trees in California. The larvae of this beetle tunnel into the bark, disrupting the movement of nutrients and sugar needed for the tree to grow. These borers are attracted to freshly cut wood and dying branches. Damage includes holes in the bark and oozing, staining liquid. Trees with smooth bark and those under stress, especially from drought, are particularly susceptible. Severe infestations, especially on drought-stressed trees, can cause death.

Eucalyptus long horned borers are difficult to control. Chemicals are not very effective because the borer is in or under the bark where it is nearly impossible to apply pesticides. Researchers at the University of California, Riverside have released small parasitic wasps that have been moderately successful in killing the borers. Avoid borers by planting less susceptible kinds of eucalyptus trees and keeping them appropriately watered and healthy.

**Table 1. Susceptibility of Some Eucalyptus to Long Horned Borers, Red Gum Lerp Psyllid, and Tortoise Beetle.**

| *Eucalyptus Species* | *Borers* | *Red Gum Lerp Psyllids* | *Tortoise Beetles* |
|---|---|---|---|
| E. camaldulensis (red gum) | L | H | H |
| E. cinerea | -- | L | -- |
| E. citriodora* (lemon-scented gum) | L | M | L |
| E. globulus (blue gum) | H | L-M | H |
| E. ficifolia (red-flowering gum) | -- | L | L |
| E. leucoxylon (white ironbark) | -- | M | -- |
| E. maculata* (spotted gum) | -- | -- | L |
| E. polyanthemos (silver dollar gum) | -- | L | L |
| E. pulverulenta (silver mountain gum) | -- | L | -- |
| E. sideroxylon (red ironbark) | L | L | L |
| E. viminalis (manna gum) | H | M | H |

L = low; M = medium; H = high; -- = unknown.
*Note: Lemon-scented gums and spotted gums are highly susceptible to both lemon gum lerp psyllids and spotted gum lerp psyllids.

Logs for firewood and dying branches and trees are primary breeding sites for the borers. Remove infested trees and branches immediately but do all other pruning in December and January when borers are inactive. Bury, burn (where permitted), or chip infested wood. Infested wood can also be tightly sealed in a plastic bag and placed in trash destined for a landfill or securely bagged or wrapped in clear plastic and placed in the sun for three weeks so the built-up heat can kill the borers. Fresh, "wet" wood is most susceptible to borers. Cut or split firewood immediately to hasten drying.

## LERP PSYLLIDS

The red gum lerp psyllid (Figures 2a and 2b) and the spotted gum lerp psyllid (Figures 3a and 3b) are relatively recent introductions to California. They are small insects that suck sap from leaves of Eucalyptus trees. Hard, sugar-coated structures called "lerps," white hemispherical or conical shaped in the red gum lerp psyllid and fish-bone shaped in the spotted gum lerp psyllid, cover and protect the immature insects.

These sap-sucking insects produce copious amounts of sugary secretions on the leaves that fall and soil anything beneath the tree, including cars, structures, walkways, patios, play areas, and toys. Sooty mold will live on the sugary secretions and turn the leaves black. Severe infestations can cause defoliation, weakening overall tree health. Healthy trees may withstand defoliation for a few years but, if defoliation persists, the trees can die.

The protective lerps make it difficult to control the psyllids with insecticides applied to the leaves. University of California researchers imported and released a small parasitic wasp from Australia in areas infested with red gum lerp psyllids. This wasp has given unusually good control where it has been successfully established. Researchers are currently evaluating biocontrols for the spotted gum lerp psyllid. Provide proper culture and keep healthy and infested trees appropriately watered. Heavily infested or defoliated trees require less water.

Systemic insecticides, such as Imicide and Merit, have sometimes provided control but results vary. These products are found in some products available to home gardeners, like Bayer's Advanced Tree and Shrub Insect Control. Consider this approach for unusually valuable trees. Apply these products to the soil in late winter to early spring and irrigate immediately. It could take the material more than a week to be taken up by the roots and translocated to the leaves to be effective. Heavily infested or defoliated trees may not take up the systemic insecticide efficiently.

## AUSTRALIAN TORTOISE BEETLE

About the time the red gum lerp psyllid was discovered, a different type of leaf damage was noticed on eucalyptus trees. Damaged leaves were chewed on the edges (Figure 4) or even down to the center stalk. Researchers discovered that the Australian tortoise beetle was causing this kind of leaf damage. Both the adult and larvae (Figure 5) feed on leaves, generally at night, and can rapidly defoliate trees. Although these beetles will not usually kill a tree by themselves, the damage can stress the tree, increasing its susceptibility to other pests like borers and psyllids. This combination of pests or the other pests alone can then kill the tree.

University of California researchers are testing some insects for use as biological controls for the tortoise beetle. Provide proper culture and keep healthy and infested trees appropriately watered. Some systemic insecticides, as discussed above in lerp psyllids, might be effective in controlling the tortoise beetle.

For more information about these pests, and many others, see the Pest Notes at the University of California Statewide IPM Program website (www.ipm.ucdavis.edu).

Also, ask your nursery or garden center professional for additional information and assistance about pests of eucalyptus trees.

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