

## Cypress Trees

**Arizona cypress** (*Cupressus arizonica*) is the only native cypress in the southwest. During the Pleistocene Epoch, the desert southwest was much wetter and cooler than it is today. Arizona cypress was widespread in the prehistoric southwest including the Salt and Gila River valleys. The distribution of Arizona Cypress began to diminish and fragment when the Pleistocene ice retreated northward about 10,000 years ago. We know this from pollen preserved in prehistoric packrat middens in the Phoenix area. Today, naturally occurring Arizona cypress clings to scattered sites, mostly mountain canyons, in the southwest where the microclimate permits its survival and reproduction. Locally, these areas include Pine, Payson, Sedona, and the southern Bradshaw mountains.



Arizona cypress, [Yavapai Native and Naturalized Plant Database](#).

Arizona cypress is a large attractive evergreen tree (40 ft tall/25 ft wide) with gray-green, scale-like foliage and small round cones. The variety 'Glabra' has smooth, red bark that exfoliates every year. 'Blue Ice' is a smaller, conical cultivar but will still become large given time. Arizona Cypress is well suited to elevations from 3,000 to 6,000 feet in Arizona (USDA Plant Hardiness Zones 6-9). It is widely planted as a windbreak or to form a screen for privacy along fence lines. Several Arizona cypress cultivars have been developed and propagated to be more compact and pyramidal in shape. Ask a local nursery professional which cultivars they stock. They require irrigation during dry periods to avoid cypress bark beetle damage.

Unfortunately, many native-grown and planted Arizona cypress trees have died in recent years. A combination of factors led to these premature deaths. The droughts of 1996, 2002-03, and 2022 induced water stress on many native plants including Arizona cypress. Following extended periods of drought, cypress bark beetles seize the opportunity to feed and reproduce on these trees.

Cypress bark beetles are native insects that occur throughout Arizona. Adult cypress bark beetles are small, reddish brown to black, often shiny, and about 1/8 inch long. The beetles colonize trees using two distinct methods.

1. When soil moisture is abundant, the 1/8" long beetle bores into a twig and kills the branch tip above the point of entry – usually a portion between 8 to 10 inches long. These dead branch tips remain hanging on the tree (called "flagging") or fall to the ground below the tree.
2. In weakened or stressed trees, adult beetles attack the bole (trunk) and larger branches of the tree where they mate and lay eggs. After the eggs hatch, the larvae (grubs) create new galleries which radiate outward from the central gallery. As they consume the inner bark, cambium, and outer sapwood, the tree is effectively girdled. Occasionally, beetle colonization causes top-kill or branch mortality, but often it leads to tree mortality. Trees are often colonized in the spring and summer and one generation per year is common.

An irrigated Arizona cypress will have a greater chance of surviving bark beetle colonization during drought periods. Once bark beetles colonize the trunk of an Arizona cypress, little can be done to save the tree. Supplemental irrigation is especially critical during May, June, July, or until the monsoon season is well under way. A simple way to irrigate any tree is with soaker hoses (porous black hose). During critical periods, irrigate deeply (two feet) twice a month in an area at least one and one-half the diameter of the drip line of the tree. Drip irrigation may be adequate during tree establishment, but as the tree grows, it becomes inadequate to support a larger tree. When trees are irrigated, the beetles may continue to "flag" the branch tips, but should not be successful at attacking the trunk.

Individual, high-value Arizona cypress trees can also be protected with appropriate insecticides prior to beetle colonization. This practice is also used to protect pine trees prior to bark beetle colonization. However, periodic irrigation is usually adequate to maintain Arizona cypress tree vigor. Regular fertilizer applications are not recommended because this results in increased growth rates which require increased irrigation to support the additional growth. Fertilizer applications may be beneficial if specific nutrient deficiencies are noted.

Systemic insecticides, meaning those that are implanted or injected through the bark or applied to soil beneath trees, have not been shown to prevent attack or control populations of cypress bark beetles. Although new systemic products are being investigated, they are not currently recommended for cypress bark beetle management.

In addition to Arizona cypress, cypress bark beetles use native juniper trees and Leyland cypress as host species. Planting a diverse mix of tree species can also decrease catastrophic pest problems. When one tree species predominates it creates a monoculture which can turn into an open invitation to pest attack.

### **Leyland Cypress** (*Cupressocyparis leylandii*)

As mentioned above, Leyland cypress trees are also susceptible to bark beetles, but they should not be sold or planted because of their susceptibility to Seiridium Canker. This disease will kill any Leyland cypress planted in Yavapai County and beyond.

The symptoms of Seiridium canker most often appear as “flagging”: individual branches fading from green to yellow to reddish-brown due to girdling cankers on or at the base of branches. Infection may affect a single branch or multiple branches throughout the tree and mortality of the entire tree is common. The scientific literature often shows oval cankers that are sunken and reddish with resin exuding from the margins, especially on new, rapidly expanding cankers.

The disease infection cycle can begin with wounds made by insects, hail, snow breakage, or mechanical injury. Nursery stock can also be infected. Once infected, the fungus overwinters in colonized bark and old cankers during winter and dry weather. The fruiting bodies and spores are produced during wet weather.

Italian cypress (*Cupressus sempervirens*) is also highly susceptible to Seiridium canker.



Young tree infected with Seiridium canker (photo by Jeff Schalau).

### **Additional Resource:**

[Cypress Bark Beetles](#), University of Arizona Cooperative Extension, AZ1316

[Using Insecticides to Prevent Bark Beetle Attacks on Conifers](#), University of Arizona Cooperative Extension, AZ1380

[Seiridium Canker of Cypress Trees in Arizona](#), University of Arizona Cooperative Extension, AZ1557

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