
Saguaros

The saguaro cactus (*Carnegiea gigantea*) is an Arizona icon and our official state flower. Saguaro are native to the Black Canyon City area of Yavapai County, and are sometimes found in landscapes in Cottonwood, AZ. The landscape specimens are grown in protected areas where a warmer microclimate has been created. These microclimates may include masonry walls or structures having thermal mass that will reradiate heat when freezing temperatures are present. This is not a recommendation to plant them, but some gardeners look for a “challenge”.

Saguaros are the largest cactus species in the U.S. and can grow more than 40 feet tall yet they are very slow growing. In the northern portion of their range saguaros are most plentiful on the warmer south facing slopes. By 95 to 100 years in age, a saguaro cactus can reach a height of 15 to 16 feet, and could start to produce its first arm. By 200 years, the saguaro cactus has reached its full height. It is difficult to age saguaros because they are not true woody plants with growth rings.

Saguaros are pollinated by bats, birds, and insects. In their native range, young saguaros are often found under mesquite, ironwood, or palo verde trees. They grow there because a cactus wren has eaten the fruit, landed on a branch, and passed the seed in their droppings. This is fortunate for the saguaro because the tree acts as a “nurse plant” providing protection to the developing cactus.

Saguaros don't always grow in the iconic form we recognize in cartoons and movies. Some exhibit a “crested” growth form having a fan-like structure referred to as “crystate” (which means “crested”). You often see crested specimens at arboreta, but it is rare to encounter one in the desert. Biologists disagree as to the cause of the crested growth form. It could be from a mutation or possibly a lightning strike. Either way, look around for crested saguaros when you are out exploring the Sonoran Desert.

Saguaros also provide habitat to many bird species which include the gilded flicker and Gila woodpecker. Once these two species excavate a nest cavity, elf owls, screech owls, purple martins, and finches will subsequently occupy the established nesting cavities. Harris hawks and red-tailed hawks build nests out of sticks in the saguaro's arms. After these species abandon those nests, ravens and great horned owls may also move in.

Cactus rustling was once a common problem in Arizona. Here, plant thieves, clandestinely excavated saguaros, loaded them into trucks, and transported them away from their native habitat to be sold in the landscape industry. Arizona's Native Plant Laws were developed in response to widespread cactus rustling. Today, many species, including the saguaro cactus, are protected by native plant laws. Skilled professionals may also bid for salvage contracts when saguaros are in the path of development.

Another threat to saguaros is a disease called bacterial necrosis. Here, the bacterial pathogen enters the cactus through a wound and infects the tissue. Dark, soft circles appear and enlarge, splitting open and leaking a dark, odorous material. Other infected areas may become dry, crack open, and reveal the remains of dry diseased tissue.

Yet another threat to the saguaro is fire. Invasive grasses have been introduced to Arizona deserts which are very tolerant of fire. Saguaro cacti did not evolve in a fire adapted ecosystem and have no adaptations which allow them to withstand fire and the associated heat. Grasses such as Buffelgrass (*Cenchrus ciliaris*), a warm season perennial and red brome and Japanese brome, cool season annual grasses, are highly adapted to fire. These grass species carry fire into the desert and if saguaros are heated to a certain degree, they cannot recover from the heat damage. More recently, climate change has been blamed for saguaro losses during the extended periods of extreme heat.

Saguaros have lots of other interesting facets including providing native peoples with food, swelling and shrinking as moisture comes and goes with the seasons, and unique inner structures called ribs that support their amazing mass.



Saguaro cactus (*Carnegiea gigantea*, Joy Viola, Northeastern University, Bugwood.org).



Crested saguaro cactus (Joy Viola, Northeastern University, Bugwood.org).



Saguaro cactus flowers (Rocky Mountain Research Station - Forest Pathology, USDA Forest Service, Bugwood.org).

Additional Resources:

[Saguaro Horticulture](#)

University of Arizona, AZ1932

[Saguaro Cactus](#)

Arizona-Sonoran Desert Museum

[Saguaro Fruit: A Traditional Harvest](#)

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