

DESERT PLANTS

- <http://aznps.org/> Arizona Native Plants Society
- <http://ag.arizona.edu/bta/> BoyceThompson Arboretum
- <http://www.dbg.org/> Desert Botanical Gardens
- <http://www.desertmuseum.org/> Arizona Sonoran Desert Museum

Interactive Flora of South Mountain Park, Phoenix, Arizona, USA "America's Largest Municipal Park"

- <http://seinet.asu.edu/navikey/SouthMountainIndex.jsp>

Sonoran Desert Naturalist

- <http://www.arizonensis.org/sonoran/>

Desert Plant Adaptations

- Desert plants have adapted to the extremes of heat and aridity by using both physical and behavioral mechanisms, much like desert animals.

xerophytes

- Plants that have adapted by altering their physical structure are called **xerophytes**. Xerophytes, such as cacti, usually have special means of storing and conserving water. They often have few or no leaves, which reduces transpiration.

Phreatophytes

- **Phreatophytes** are plants that have adapted to arid environments by growing extremely long roots, allowing them to acquire moisture at or near the water table.

Behavioral Adaptations

- Plants use behavioral adaptations, developing a lifestyle in conformance with the seasons of greatest moisture and/or coolest temperatures.

Desert perennials often survive by remaining dormant during dry periods of the year, then springing to life when water becomes available.

Most annual desert plants germinate only after heavy seasonal rain, then complete their reproductive cycle very quickly.

Great Basin Desert

- is noted for vast rolling stands of Sagebrush and Saltbush

Mojave Desert

- Joshua Trees, Creosote Bush, and Burroweed predominate.

Sonoran Desert

- is home to an incredible variety of succulents, including the giant Saguaro Cactus, as well as shrubs and trees like mesquite, Paloverde, and Ironwood.

Chihuahuan Desert

- is noted for mesquite ground cover and shrubby undergrowth, such as Yucca and Prickly Pear Cactus.

Cactus

- xerophytic adaptations of the rose family, are among the most drought-resistant plants on the planet due to their absence of leaves, shallow root systems, ability to store water in their stems, spines for shade and waxy skin to seal in moisture

desert trees

- and shrubs have also adapted by eliminating leaves -- replacing them with thorns, not spines -- or by greatly reducing leaf size to eliminate **transpiration** (loss of water to the air). Such plants also usually have smooth, green bark on stems and trunks serving to both produce food and seal in moisture.

mesquite tree

- have adapted to desert conditions by developing extremely long root systems to draw water from deep underground near the water table. The mesquite's roots are considered the longest of any desert plant and have been recorded as long as 80 feet.

Creosote Bush is

- one of the most successful of all desert species because it utilizes a combination of many adaptations. Instead of thorns, it relies for protection on a smell and taste wildlife find unpleasant. It has tiny leaves that close their stomata (pores) during the day to avoid water loss and open them at night to absorb moisture. Creosote has an extensive double root system -- both radial and deep -- to accumulate water from both surface and ground water.

Ocotillo

- survive by becoming dormant during dry periods, then springing to life when water becomes available. After rain falls, the Ocotillo quickly grows a new suit of leaves to photosynthesize food. Flowers bloom within a few weeks, and when seeds become ripe and fall, the Ocotillo loses its leaves again and re-enters dormancy.

lily family

- The tops of bulbs dry out completely and leave no trace of their existence above ground during dormant periods. They are able to store enough nourishment to survive for long periods in rocky or alluvial soils.

- Desert Sand Verbena, [Desert Paintbrush](#) and Mojave Aster usually germinate in the spring following winter rains. They grow quickly, flower and produce seeds before dying and scattering their progeny to the desert floor. These seeds are extremely hardy. They remain dormant, resisting drought and heat, until the following spring -- sometimes 2 or 3 springs -- when they repeat the cycle