Organ Pipe Cactus

National Park Service
U.S. Department of the Interior

Organ Pipe Cactus National Monument

Our Namesake Cactus

Living in one of the harshest ecosystems is not an easy task. The Sonoran Desert is a land of extremes - scorching summer temperatures, long periods of drought, strong wind storms, cold winter nights and torrential summer monsoons- a desert plant has to adapt to handle it all. The organ pipe cactus is one of the few plants that is adapted to thrive in this harsh, yet nourishing landscape. This plant is perfectly suited for this section of the Sonoran Desert, that you are unlikely to find this plant naturally growing in the United States outside of the of the national monument.

A Plant of Different Names

The O'odham people of southern Arizona are experts at living off the land. To these early cultures, the organ pipe cactus or *chuhuis*, was a survival tool that provided construction material and high calorie fruit that could easily be turned into preserves, syrup, and wine.

When the harvest season arrived, it was a time of great joy, when all other chores were abandoned to revel in the harvest. During the harvest festivities, all other ventures would be temporarily halted, including farming and religious duties, to fully celebrate the harvest with song and dance. The fruit is so important that the O'odham calendar revolves around the lifecycle of the chuhuis.

As the first European pioneers ventured west in the 17th century, they encountered the chuhuis, and to them- it looked familiar. When looking at the exposed skeleton of the chuhuis, the pioneers were reminded of the large musical pipe organs that adorn the cathedrals of Europe. To them, the chuhuis was now known as the organ pipe cactus.

Skeleton of an organ pipe cactus.

These European explorers were eager to try the wine, jelly and dried fruit made from the organ pipe cactus fruit, and observed the festivals with curiousity.

Today, during the summer harvest season, you can see modern day O'odham tribal members harvesting the chuhuis fruit within the monument to continue their deep connections with this plant that has been here for thousands of years.

Tropical Migration

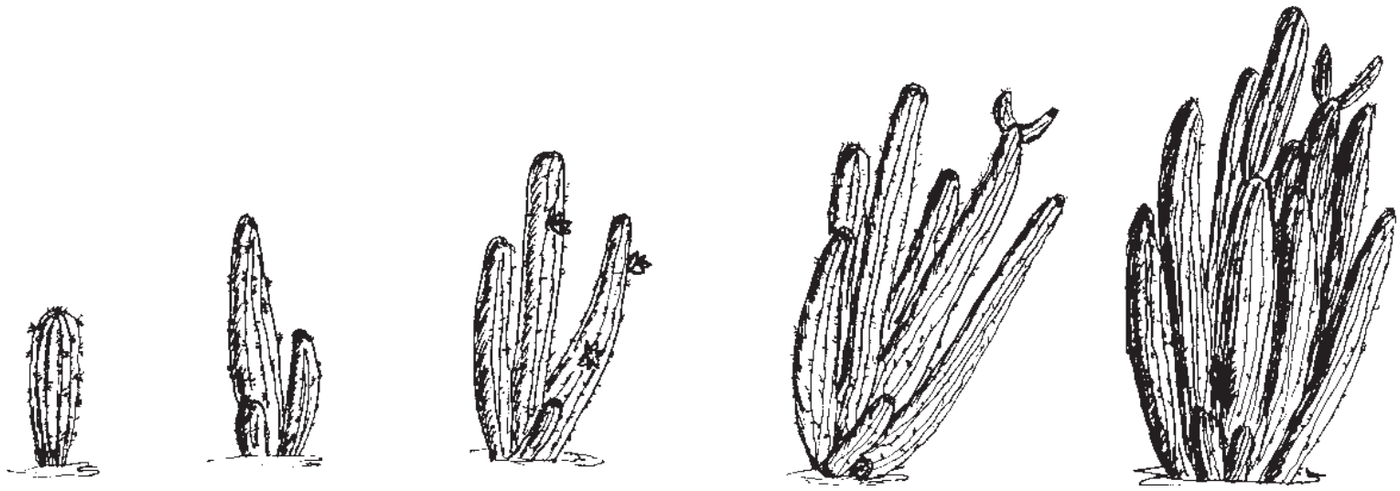
The organ pipe cactus is a tropical p
was originally only found in the tro
Central America, where the warm, v
climate helped the sensitive plant th
When the last Ice Age ended, the gl
climate warmed and the cactus slov
began migrating farther north, arriv
North America 3,500 years ago.

Here, the organ pipe cacti were exp
to colder winter nights, with occasic
sub-freezing temperatures, prevent
its range from extending any furthe
Sub-freezing temperatures will kill
young tissue at the top of the
stems. If the freeze is short, the
cacti will survive with only the
scar of a bumpy stem, while prolonged freezing temperatures will kill the entire plant.

Frost-damaged organ pipe stem.

Here at the northern limit of the organ pipe cacti's range, cold winter temperatures are infrequent, yet still occur. Within the Monument, organ pipe cacti favor warm locations such as the dark volcanic rocks on southwest facing hillsides. During daylight these rocks absorb solar heat and release the heat at night, wrapping the tropical cactus in blankets of warm air.

Some of the most impressive groves of organ pipe cacti are found on the southwest facing slopes along the Ajo Mountain Drive and campground access road.



3 Feet Tall
20 Years

First Stem
30 Years

First Flower
6 1/2 Feet Tall
35 Years

4–10 Arms
8 Feet Tall
45 Years

Full Height
15 Feet
80 Years

Age based upon average annual growth of 2.5 inches per stem

Growth and Features

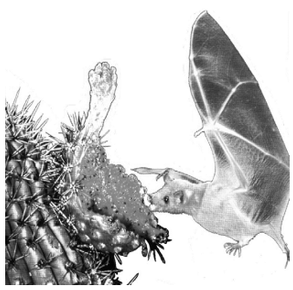
The organ pipe cactus is a slow growing plant. On average, the plant will only grow 2.5 inches per year - with greatest growth occuring during the summer monsoons.

For the first 10 years, the plant will be no bigger than a few inches, and is prone to trampling by animals or being washed out by heavy monsoon storms. Very few organ pipe cacti will survive unitl they grow their first stem at 30 years old.

Once the first stem is grown, the plant is large enough that it can withstand colder temperatures, drought, and disturbance with greater ease. At this point, a their threats are limited to disease, infection, or lightning strikes. An entire plant can live in excess of 150 years.

Sweet, Sweet Nectar

When a cactus reaches around 35 years old, it will begin to produce flowers. Every June, the organ pipe cactus will produce cream and lavender tinged flowers. The blooming season will last for a few weeks, but is dependent on the timing of winter rains.These flowers are a few inches in diameter, and will grow from the top third of the stems.



These flowers will only open at night, and close by early morning, leaving very little time for daytime pollinators like bees and birds to feed on the sweet nectar.

The most famous feeder is the endangered lesser long-nosed bats (*Leptonycteris curasoae yerbabuena*), who migrate from central Mexico to the monument every year for the organ pipe bloom.

Being nocturnal, these small mammals have plenty of time to feast on the nectar. While feeding, the bats work as pollinators, spreading pollen from one cactus to the next, allowing fruits to eventually grow.

Organ pipe fruit are small, red spheres that are full of hundreds of seeds. Animals and people alike will feast on these sweet fruits, and as a result, help spread seeds across the desert.

What Does the Future Hold?

Over the last 200 years, the temperature of the earth has increased at an unparalelled rate. While the concept of climate change is controversial, two facts are clear; temperatures have increased faster than ever recorded, and humans are having a direct impact on the earth's climate.

Already, Organ Pipe Cactus National Monument has observed changes in climate including altered monsoon seasons, less winter moisture, and longer periods of drought.

Being a tropical plant, the organ pipe cactus relies on predictable mositure to grow and produce flowers. If the rain patterns continue to shift, and if rainfall totals continue to drop, the organ pipe cacti might be in danger. The question remains - can the organ pipe cacti successfully migrate with the changing conditions, or will the changes be too quick for the plant to adapt?

Only time will tell. In the meantime, we can all do our part to reduce our impacts on the earth's climate to give all plants and animals a fighting chance.