

# Guide to Massai Point Trail

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register stand on leaving

**Chiricahua National Monument**  
36 Miles South of Willcox, Arizona

## NATIONAL PARKS AND MONUMENTS

The National Park Service was established as an agency of the U. S. Department of the Interior in 1916 to preserve the marvels of nature's handiwork in just such areas as Chiricahua National Monument. Yellowstone National Park created in 1872, was the first national park in the world to be dedicated to the principle of preservation for the enjoyment and inspiration of all the people of this and future generations. This continues to be the guiding principle of the National Park Service today, which administers 180 areas set aside for their scenic, scientific, historic and archeologic values. The National Parks and Monuments have been called the "crown jewels of America" and they are yours to protect and treasure for Americans of the future.

To preserve the beauty that you see at Chiricahua, it has been necessary to prohibit hunting, grazing, mining, woodcutting and other such destructive activities of man. We even ask that you do not pick the flowers so that they may remain for others to enjoy. It is hoped that our visitors will heed the thought expressed in the saying, "Let no one say, and to your shame, that all was beauty here before you came."

### CONSERVATION — CAN A LAYMAN HELP?

If you are interested in the work of the National Park Service and in the cause of conservation in general, you can give active expression of this interest, and lend support by aligning yourself with one of the numerous conservation organizations, which act as spokesmen for those who wish our scenic heritage to be kept unimpaired for the enjoyment of future generations.

Names and addresses of conservation organizations may be obtained from the ranger.

*Please use trashcans—  
don't be a litterbug.*

## INTRODUCTION

The trail, which starts below the registration desk, will take you to an observation point overlooking the Wonderland of Rocks and return you, by a different route, to the parking area. It is an easy and interesting walk, one quarter mile long, which may be made in 20 to 30 minutes.

Along the trail you will find numbered stakes which correspond to the numbered paragraphs in this guide booklet. Many of the questions you may have about Chiricahua will be answered by reading this booklet as you walk along the trail.

**Here is a good place for a picture, and don't forget to take your camera with you.**

### GUIDE TO THE MASSAI POINT TRAIL

#### **STAKE No. 1. POINTLEAF MANZANITA (*Arctostaphylos pungens*)**

These small shrubs have extremely hard, brittle wood, and sometimes form impenetrable thickets. The smooth, mahogany-colored bark is an identifying characteristic of Manzanita.

Although only goats appear to be able to stand a steady diet of Manzanita foliage, the fruits are relished by birds, bears, and other animals. The fruit, which resembles a miniature apple (whence the name Manzanita - Spanish for "little apple") can be made into a delicious jelly.

#### **STAKE No. 2. BEARGRASS (*Nolina microcarpa*)**

This plant is not relished by bears, nor is it a grass! In May or June the small white flowers, borne in graceful clusters on a tall flower stalk, identify it as a member of the Lily Family.

Although the foliage, browsed only in times of drought, may be poisonous to sheep or goats, the tender flower shoots were eaten raw or boiled by Apaches who used the tough fibers from the leaves for weaving baskets and mats.

#### **STAKE No. 3. SILVERLEAF OAK (*Quercus hypoleuca*)**

Seven kinds of Oak are found in Chiricahua National Monument, most of them evergreen, like this one. Turn one of the leaves over and notice the silvery color on its undersurface which gives the plant its name. Even though the leaves of most of the Oaks native to this region are very different from those of the larger trees of the east and midwest, the acorns are quite similar, and help identify these shrubs as Oaks.

#### **STAKE No. 4. MEXICAN PINYON (*Pinus cembroides*)**

Of the five kinds of Pines in Chiricahua, this species is likely to be confused only with the Colorado pinyon, *Pinus edulis*, which is not common in this area. Notice that the needles on this tree are usually three to a bundle, whereas the Colorado pinyon has needles in twos.

Mature trees under favorable conditions may reach a height of 50 feet, but are usually much smaller. They are very slow growing and may reach the surprising age of 250 to 350 years. The seeds (or nuts) borne under the cone scales are hard-shelled and have a delicious flavor. They form an important part of the diet of



**Mexican Pinyon on 2-inch squares. Note small cones and needles in three's**

squirrels, other rodents, and birds, and they have long been utilized for food by the Indians. The nuts of the Colorado pinyon have recently become an article of commerce and provide an important source of revenue for the Indians of northern Arizona and New Mexico. The pitch of the Pinyon has been used to waterproof baskets and as a cement in setting the turquoise in jewelry.

**STAKE NO. 5. ARIZONA CYPRESS (*Cupressus arizonica*)**

On moist, protected, north slopes and in the cool canyons the Arizona Cypress may reach a height of 80 or 90 feet and have a trunk up to 5 feet in diameter. The trees here on the slopes around Massai Point are growing under unfavorable conditions, and never reach maximum size. Luxuriant stands of Arizona Cypress are seen along the road in Bonita Canyon, and particularly on the Echo Canyon trail in Echo Park. The size and shape of the cones will serve to distinguish the smaller specimens from the Alligator Juniper, which they resemble.

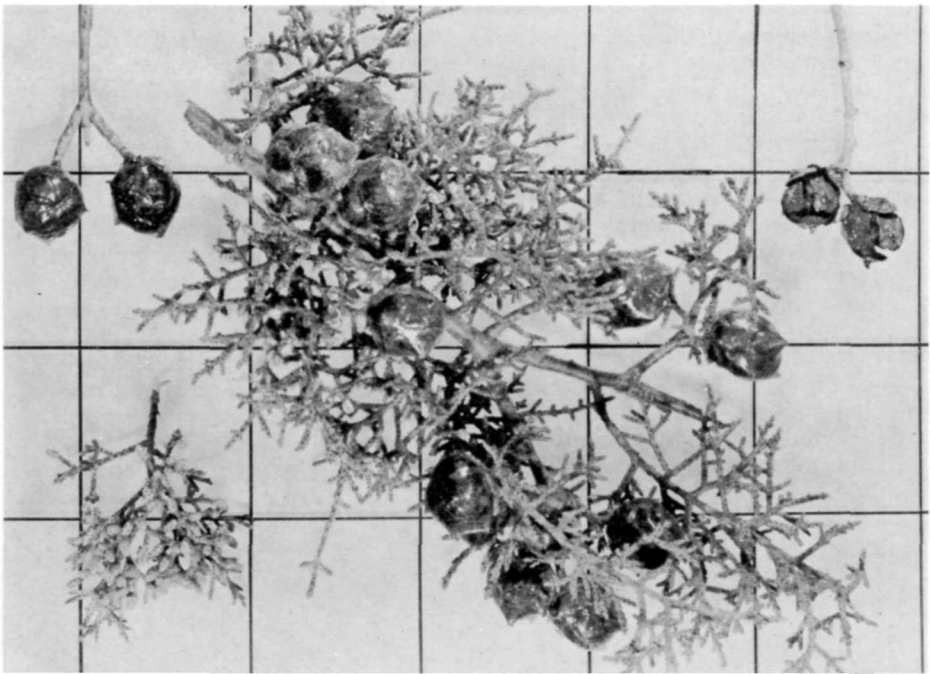
This beautiful Southwestern tree is frequently cultivated in this country and in Europe.

**STAKE No. 6. DOUGLAS-FIR (*Pseudotsuga menziesii*)**

This is the large tree with the pointed top growing just below the road and about 30 feet to the left of the trail.

Like the last tree, this one is growing under unfavorable conditions. Found throughout the west, this handsome and important lumber tree reaches a maximum height of 300 feet in Oregon and

**Arizona Cypress on 2-inch squares. Note large, berry-like seed bearing cones (female) and in lower left the small pollen-producing cones (male)**





**Douglas-Fir on 2-inch squares. Note three-pointed bracts on cone scales.**

Washington; and even here, near the southern limit of its range, it may become the largest tree in the area. From the overlook farther along this trail, you may see a venerable giant growing in a cool and shady ravine across Rhyolite Canyon. Although in a general way altitude determines the type of plant growth, slope, soil conditions, moisture, air temperature and amount of shade are even more important.

The Douglas-fir is not a true Fir. An easy way to identify it is by the three-pointed, papery bracts which are such an obvious feature of the cones.

**STAKE No. 7. PARRY AGAVE (*Agave parryi*)**

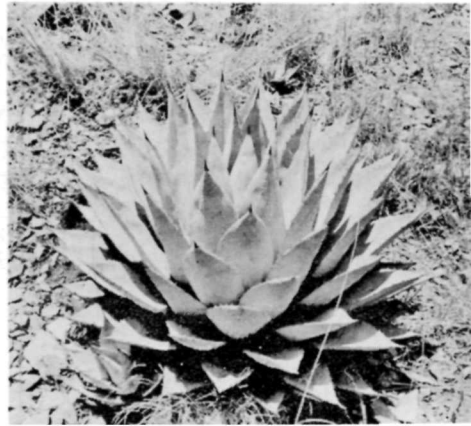
The Agaves, commonly known as Century Plants, provided the Southwestern Indians with food, fibers for ropes, needles and thread, and alcoholic beverages. The plants are among those now protected by law against destruction, mutilation or removal in Arizona and New Mexico.

In spite of the common name, Century Plants bloom when 10 to 20 years old. This species, blooming in June or July, puts forth showy red buds turning to yellow flowers. Having used up food which it has stored in its fleshy leaves, the plant then dies. The branched flower stalks grow so rapidly that their daily growth can almost be seen, and in one native species may reach the surprising height of 26 feet. This is one case where growing pains are serious and always fatal.

**STAKE No. 8. NETLEAF OAK (*Quercus reticulata*)**

This broad-leaved species is usually a shrub, but in the cool canyons may reach tree size. Turn one of the leaves over and note the net-like arrangement of veins on the undersurface, which identifies this Oak. The acorns

**Young Parry Agave or Century Plant**



of the native Oaks were roasted for food by the Indians, and are relished by many birds, squirrels and other animals. Their fattening effect, especially for swine, is well known.

**STAKE No. 9. DEAD SNAGS**

Here, as in all National Parks and Monuments, may be seen a typical bit of the natural scene, unspoiled by man. Only where it is necessary to build roads, trails, or safety features such as the fire-lookout telephone line under which you have just passed, is the natural landscape altered. If the forest land were thinned by lumbering or the dead trees removed for firewood, as is sometimes suggested, a chain of events could begin which would permanently destroy the original character of the area. In the dead snags birds may nest; in the decaying wood live insect larvae, upon these, small animals and birds depend for food. Thus an intricate structure of plant and animal life is built on countless small supports; remove but one and the structure collapses. So man, through many seemingly insignificant acts, changes and destroys his environment.

Generations from now your descendants will be able to find in the National Parks and Monuments, and perhaps in them alone, unaltered remnants of this country as it existed before the steady advance of modern civilization.

**STAKE No. 10. LICHENS** (*pronounced LY-kehnhz*)

The patches of greens, orange, and brown color on the rocks are due to the presence of tiny primitive plants called lichens. Each lichen is composed of two kinds of plants, a fungus and an alga, living together to the benefit of each. The fungus absorbs moisture and the green alga takes the water and carbon dioxide, and through a process called photosynthesis, turns out sugar. The plant, a perfect example of a working partnership in nature, is an important agent in the slow process of changing solid rock to soil. A weak acid produced by the lichen slowly pits and eats away the rock. Gradually these holes are filled with soil in which grow mosses and grasses. Finally, herbs, shrubs and trees gain a foothold and complete the process. This work is very slow when considered for a single rock, but if you look at the lichens on the rocks that extend for 3 miles to the west, you can realize the soil-building capacity of these primitive plants.

*(This is another favorite spot for a picture)*

**STAKE No. 11. TOUMEY OAK** (*Quercus toumeyii*)

The shrubby Oaks which are such common members of the chaparral on the sunny hillsides of Arizona play an important part in preventing soil erosion, for their roots anchor the earth against the force of the rain. Small animals find shelter in the Oak thickets, and Oak leaves are browsed by deer.

This species may be distinguished by its unusually small, yellowish-green leaves which are shiny on the upper surface.

**STAKE NO. 12. ALLIGATOR JUNIPER** (*Juniperus deppeana*)

Look at the bark on this tree and you will notice that it is broken into rectangular plates and bears a resemblance to the skin of an Alligator. This is the largest species of Juniper in Arizona and occasionally may reach a height of 65 feet. Only one other species of Juniper is found in Chiricahua.

Juniper berries are relished by birds and other wild creatures, and formerly were used as food by the Indians of Arizona. Actually, the berries are true cones formed by the growing together of the cone scales. The tree is resistant to drought, slow growing, and may reach an age of 500 to 800 years.

**STAKE No. 13. HEDGEHOG CACTUS** (*Echinocereus* sp.)

Clustered on a sloping rock above the trail are several stems of Hedgehog Cactus. Although it seems to be growing out of barren stone, the plant has found a foothold in cracks where soil has accumulated, and is able to survive. Well defended against plant-eating animals by its prickly spines, this Hedgehog Cactus puts forth bright red flowers in April or May, adding color to the sunny, chaparral-covered hillsides.

**STAKE No. 14. CHIHUAHUA PINE** (*Pinus leiophylla*)

This is the Pine tree at the base of the large rock. The Chihuahua (chee-WAH-wah) Pine is much more common in northern Mexico than in the southwestern United States. It is a rather small species of Pine and is characteristic of poor, dry sites.

**STAKE No. 15. SOTOL** (*Dasyllirion wheeleri*)

The long ribbon-like leaves with conspicuous prickles along the sides serve to distinguish this plant from Beargrass, Yucca, or Century Plant, to all of which it bears a superficial resemblance. All of these plants are seen along the trail.

The base of the plant is somewhat cabbage-like and, after the leaves are removed, may be split open and fed to livestock as an emergency feed. The sap of these plants is high in sugar content and in northern Mexico it is gathered and fermented to produce a potent beverage known as sotol.

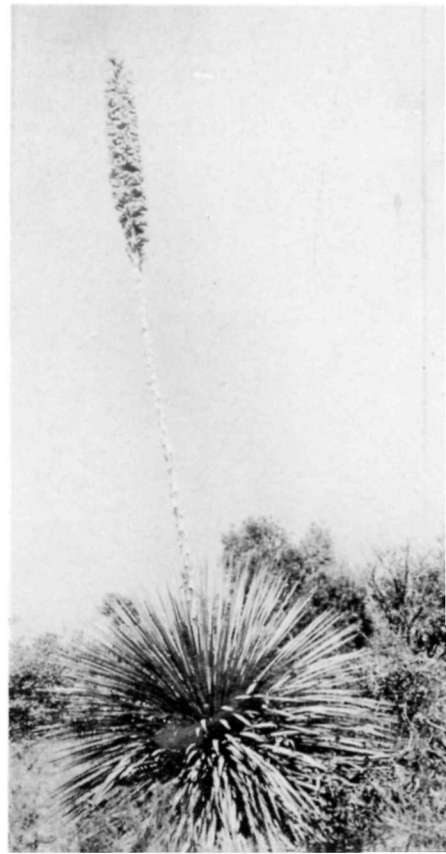
**STAKE No. 16. LOOKOUT POINT**

Would you like to sit down and rest a bit? Just turn to your right here, go up the steps to the Lookout Point where you will find benches and an excellent view of the "Wonderland of Rocks."

The geological story of Chiricahua goes back into the ages and much remains to be done before all of its chapters are known. Geologists believe that about 25 million years ago this region, which was at that time a level plain, was shaken by a series of violent and explosive volcanic eruptions.

Glowing black clouds of gas carrying tremendous quantities of white-hot ash and volcanic sand spread rapidly from the mouth of the volcano. As each cloud cooled, the solid particles were bonded together to form great thicknesses of solid rock. These are the rock

Sotol in bloom



formations containing the spires, pinnacles and balanced rocks which you see before you.

Many successive eruptions over a long period of time deposited more than 2,000 feet of volcanic material. This great thickness of lava can be roughly divided into three main periods of activity; (1) The earliest is represented by a 700 foot section containing ash beds and fragmented coarse lava to be seen near the museum and Monument Headquarters. (2) About half the way up the road to Massai Point you come into the next main series of lavas, which is about 1400 feet thick and consists of more or less light-colored massive rock known as rhyolite. The pinnacles, balanced rocks and columns seen below have been carved in this second layer of lava by the various forces of erosion. This layer is sometimes called the scenic lava flow. (3) During the last period of volcanic activity there was deposited a third set of lavas which once covered this area to a depth of about 500 feet above your heads. It was at about this time that movements of the earth's crust resulted in the building of the Chiricahua Mountains.

During the millions of years that have elapsed since this occurred the latest lavas have been entirely worn away except for the patch making up Sugar Loaf Mountain which you see to your right. See if you can locate the first two layers of lava as you drive down the road to headquarters.

**The viewfinder which you see here will help you locate several points of interest and learn their names.**

You are about two-thirds of the way along the trail, and there are several things of interest yet to see, so whenever you're ready, drop back to the trail and continue on.

**STAKE NO. 17. MOUNTAIN YUCCA (*Yucca schottii*)**

The plant with the sharp-pointed leaves has long been important

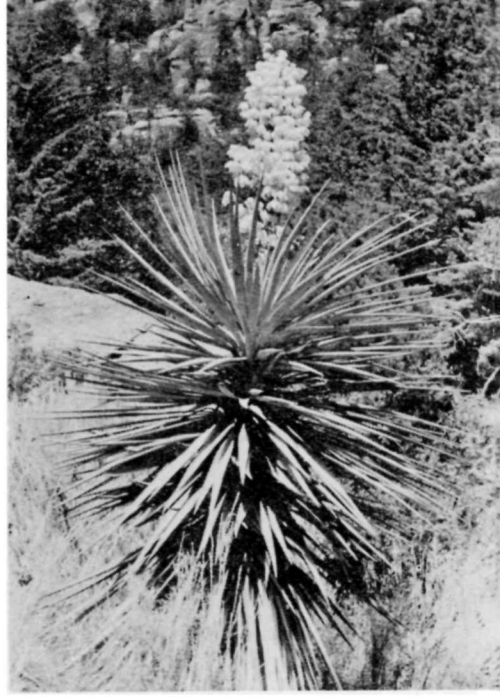
**Wonderland of rocks with Sulphur Springs Valley in the distance as seen from scenic overlook**







**Closeup of Mountain Yucca showing the emerging asparagus-like flower stalk**



**Mountain Yucca in bloom**

to the Indians of the Southwest. The buds, flowers and young flower stalks may be eaten raw or boiled, and the fibers from the leaves furnish material for rope, mats, saddles, baskets, and cloth. When properly prepared, the roots may be used as a substitute for soap.

Yuccas present an interesting example of the dependence of plants upon animals and vice versa. But for the presence of a particular kind of small moth there would be no Yuccas, for only through the activities of this little insect are the flowers pollinated. Of course, the moth doesn't provide this service for nothing, for in return it lays its eggs in the ovary of the flower. Upon hatching, the larvae find themselves surrounded by food in the form of seeds which developed because the moth pollenized the flower when she laid her eggs. The larvae eat only a few seeds and the rest are left to produce more Yuccas.

#### **STAKE No. 18. BALANCED ROCK**

To your right you will see a good example of a balanced rock. Larger and more spectacular balanced rocks are found in the Heart of Rocks section about  $3\frac{1}{2}$  miles by trail from Massai Point.

Balanced rocks such as this have been formed by the work of erosion on a pillar of volcanic rock. As the lava cooled and shrank, it cracked in such a way as to produce vertical columns of rock. Water, frost, lichens and other forms of erosion have worn away the rock to produce the unusual rock shapes found in Chiricahua. At some places in the columns, the rock was softer than the surrounding material, or cracks had formed. At such places the erosion was more rapid and a balanced rock such as you see here was the result. Eventually the softer material forming the pedestal of the balanced rock will be worn away and the rock will fall.



Balanced rock seen at Stake No. 18

### STAKE No. 19.

#### WELDED RHYOLITE-TUFF

Almost all of the unusual rock formations are composed of this rock, called welded rhyolite-tuff, or if you prefer jaw-breaking names, ignimbrite. This rock is the result of eruptions of white-hot ashes which in cooling and by the pressure of overlying deposits, have been compacted into one solid mass of rock. Welded rhyolite-tuffs, such as this, result only from a highly explosive and violent type of volcanic eruption similar to the eruption of Mount Pelee in the West Indies or the volcanic activity in the Valley of Ten Thousand Smokes in Alaska.

### STAKE No. 20. NAMING OF MASSAI POINT

You may have wondered how Massai Point received its name. The answer brings in some of the interesting history of the area.

At the end of the Apache campaigns in 1886, the band of Geronimo's warriors was captured and sent by train to Florida, where they were to be interned. The Indians were counted, but were not separated as to men, women and children and so when a baby was born, this provided an opportunity for one prisoner to escape without changing the count of individuals. As a result, a warrior known as Big Foot Massai dropped off the train and made his way back to southeastern Arizona from somewhere just east of the Mississippi River.

Sometime later he and his wife were making their way through this area after returning from a foray in Mexico. On this trip he killed a cow and stole a horse from the old Stafford homestead which was located on the ground now occupied by the Silver Spur Guest Ranch. Massai was pursued to this point and over the mountain. It is said that this was the first time that the early settlers found that it was possible to cross the mountains by horseback through this place. Since then this has been known as Massai Point.

**This stake marks the end of the Massai Point Trail. Please leave this booklet in the box, or if you wish you may purchase it by dropping ten cents in the coin slot.**

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