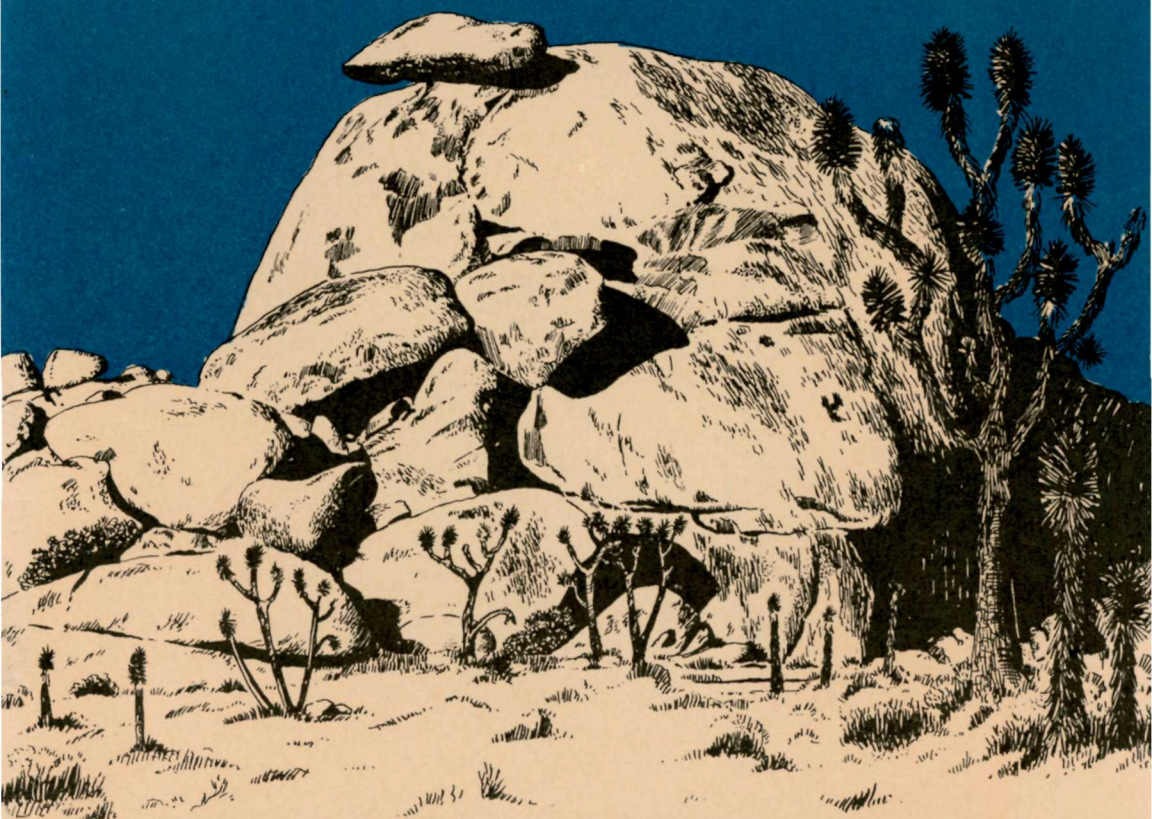


# CAP ROCK NATURE TRAIL



PRICE 10 CENTS IF YOU TAKE THIS BOOKLET HOME

Joshua Tree  
National Monument

## ABOUT THE NATIONAL PARK SERVICE



Joshua Tree National Monument is one of the more than 260 areas administered by the National Park Service, United States Department of the Interior. These unique areas were set aside for their scenic, scientific and historical values. They belong to you and are a part of your heritage as an American citizen.

You can help to preserve the beauty of Joshua Tree National Monument by taking away only pictures and pleasant memories and leaving behind nothing except possibly your own footprints.

### CONSERVATION

What is the value of a National Park? Can you answer such questions as "What is the value of a sunset?" or "What is the value of freedom?" The value is there, but it is intangible. To reduce it to dollars and cents is an impossibility.

Men have always drawn spiritual sustenance from the contemplation of natural beauty and natural forces at work, as at Joshua Tree National Monument. Nature is even more essential today than in the past to give us comfort away from the pressures of modern life and to give us perspective in orienting ourselves with the scheme of things about us. Through conservation of the land and its wilderness values we are actually conserving in many ways the people who live upon it.

PRODUCED IN COOPERATION  
WITH THE  
NATIONAL PARK SERVICE

Illustrated by Dale Thompson, Park Ranger



## INTRODUCTION

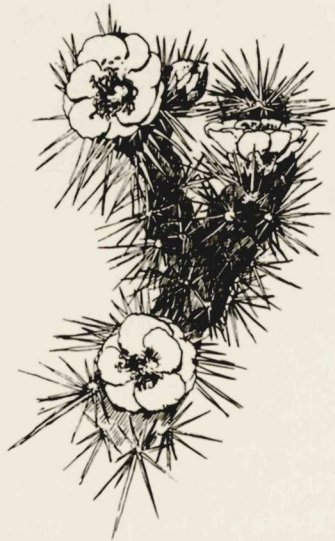
Do you think that all of the odd looking and spiny plants in this vicinity are cactuses? Actually, two of the larger and more conspicuous plants are members of the Lily family. You will meet these, the Mohave yucca and the Joshua tree, and many others along this self-guiding nature trail. You will also have an opportunity to learn about the rock formations around which many of the desert plants grow. We hope that you will enjoy this opportunity to become better acquainted with the Mojave Desert.

## THE CAP ROCK TRAIL

### 1. THORNY-FRUITED CHOLLA (*Opuntia echinocarpa*).

In contrast to the jumping cholla seen in Pinto Basin, these plants are usually solitary, seldom forming thickets. Many are much larger and more spreading than this specimen. Cactus wrens, Black-throated sparrows and House finches nest among the thorny branches.

The flowers are greenish-yellow, tinged with red, and bloom in April and May.



2. WOLFBERRY or "PEACH-THORN" (*Lycium cooperi*). During the late summer these plants lose most of their leaves and go into a drought rest. The blackish, thorn-armed stems then become a prominent feature.

3. WHITE RATANY (*Krameria grayi*).

The kramerias are parasitic on the roots of other woody plants with which they are associated. The Pima Indians of Arizona employed the powdered roots for the treatment of sores.

The red-purple flowers are very attractive and although small, may occur in such numbers as to make this a conspicuous shrub.



4. DESERT PEACHBRUSH (*Prunus fasciculata*). This tough, branched shrub, a typical desert plant, is related to the peach and commercial almond. The small almond-like fruits often hang in unbelievable numbers. They were a source of food for Indians and are harvested by the rodents that live under the ground and in the boulder piles. Like other species of *Prunus*, this plant is infested with tent caterpillars during the spring. They build large, gray tents or webbing in the forks of the branches but appear to do the shrub little harm.

5. HOLLYLEAF BUCKTHORN (*Rhamnus crocea ilicifolia*).

The holly-like leaves will help you to distinguish this plant. The flowers are greenish and inconspicuous. Buckthorn is browsed by deer and Bighorn sheep.



6. SKUNKBUSH OR "SQUAW-BUSH" (*Rhus trilobata*). The Indians prepared from the fruits a drink which resembled pink lemonade.

When the fruit is held in the mouth, but not chewed, its flavor is pleasant and tends to quench thirst. The pliable stems were used in basket making.

7. LINEAR-LEAVED GOLDENBUSH (*Haplopappus linearifolius interior*). Two other members of this genus will be encountered along the trail. The numerous, showy, flower heads turn this plant into a lovely golden shrub in the spring.

8. WOODRAT (*Neotoma Spp.*). You can see that the spines on this and other nearby Joshua-trees have been gnawed off. This is the work of the woodrat or pack rat as he is often called. These spines are used in the woodrat's nest, which he builds back in rock crevices. These heaps of sticks, stones, cactus joints and rubbish are only part of the woodrat's home. The real nest and place of greatest security is generally underground.



9. COTTONTHORN (*Tetradymia axillaris*). In spring, fresh foliage makes this an attractive plant. When it is in fruit and covered with cotton-like tufts or plumes, it is even more beautiful.

10. JOINT-FIR OR "SQUAW TEA" (*Ephedra viridis*). Indians of the southwest brewed a tea from the stems of this plant which contains a considerable amount of tannin. Later, Mormons and other pioneers found squaw tea to their liking. It is still used in some parts of the country.

Three species of *Ephedra* occur in the Monument. They are a primitive type of plant, closely related to the pines, the cycads and the ginkgos. The male and female blossoms of this species are borne on separate plants.

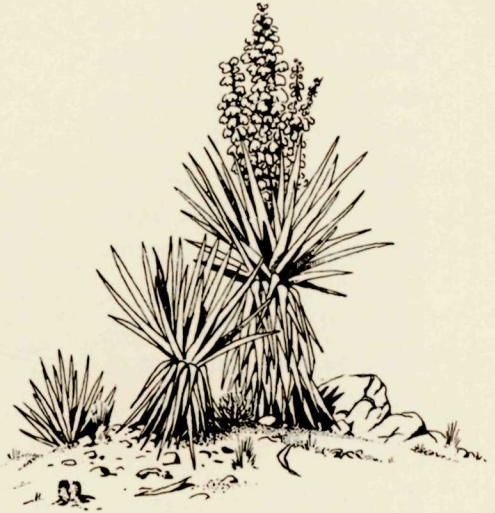


11. DESERT SAGE (*Salvia carnososa pilosa*). Like other members of the mint family, this plant has square stems and a pungent, spicy odor. The blue flowers are often profuse following spring rains.

Many visitors are surprised to discover how few of the desert plants actually are "sage brush."

12. MOHAVE YUCCA OR "SPANISH DAGGER" (*Yucca schidigera*). This is the most common yucca of this desert area. The long, yellow-green, trough-like leaf with threads is a distinctive fieldmark. The Mohave yucca is one of two plants mentioned in the introduction as belonging to the Lily family.

The fibrous leaves were used by the California Indians to make ropes and coarsely woven blankets. The roots were said to provide a source of soap. The fleshy fruits were eaten raw or roasted.



13. BLACKBRUSH (*Coleogyne ramosissima*). Yes, it looks dead, but look closely and you will see tiny, fleshy leaves. Surprisingly, blackbrush is a member of the Rose family. Yellow flowers bloom in the late spring.

14. LIPFERN (*Cheilanthes covillei*). Note how these ferns are flourishing under the lip of the rock. Here, rain water collects and the plants are protected from the sun's rays.

A FEW KINDS OF WILDLIFE YOU MAY SEE  
ALONG THIS TRAIL

(Many are secretive or nocturnal.)

Lizards

Zebra-tailed Lizard  
Leopard Lizard  
Desert Spiny Lizard

Coyote

Antelope Ground Squirrel

Snakes

Desert Gopher Snake  
Red Racer

Birds

Red-tailed Hawk  
Mountain Quail  
Mourning Dove  
Loggerhead Shrike  
Pinyon Jay

Mammals

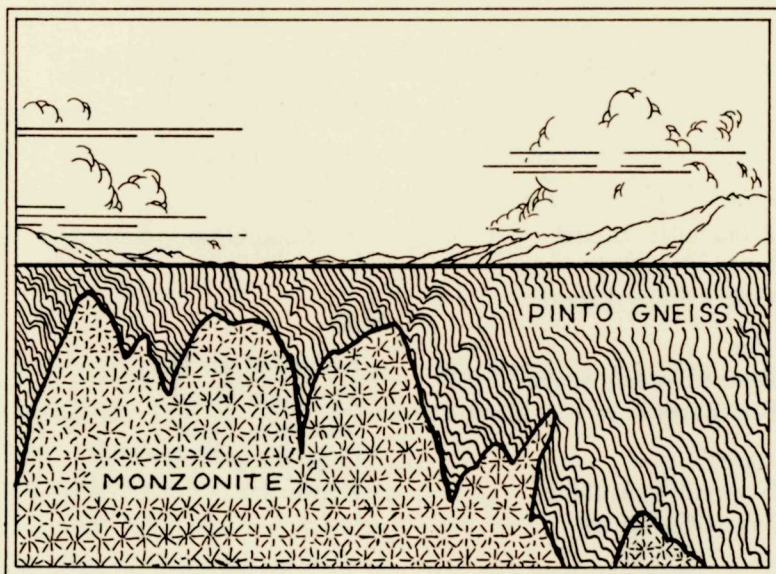
Blacktail Jackrabbit  
Desert Cottontail

This, and all areas of the National Park System, is a wildlife refuge where the works of nature are protected.

15. ORIGIN OF QUARTZ MONZONITE. On the ridge to the east can be seen two kinds of rock. The dark colored rock that forms the main bulk of the mountains is Pinto gneiss (pronounced "nice"). The light-colored rock that juts up out of it is quartz monzonite, a form of granite.







Originally this rock was part of a molten mass which rose toward the surface from the hot regions down in the earth and was intruded into the over-lying, older Pinto gneiss. There it cooled without reaching the surface and crystalized to become quartz monzonite.

Erosion over the ages has stripped away the over-lying Pinto gneiss and other rocks, exposing the monzonite outcrops as you see them today.

The absolute ages of the gneiss and quartz monzonite are uncertain. It is believed that the Pinto gneiss was formed in early Precambrian, perhaps more than one billion years ago. The quartz monzonite here is thought to be around 100 million years old.

16. BEAVERTAIL CACTUS (*Opuntia basilaris*). The similarity of the fleshy stems of this plant to a beaver's tail makes this a simple cactus to identify. Although the plant is apparently without spines, its sharp, nearly invisible spicules readily penetrate the skin.

The young fruits were rolled in sand to remove the spicules and cooked with meat by the Cahuilla Indians. Other tribes dried the joints, boiled them with salt and ate them.

The plants vary in color from green to grayish-purple. The flowers, which occur in late spring, are a brilliant magenta.





17. JOSHUA-TREE (*Yucca brevifolia*).

Some people believe these giant members of the Lily family are not reproducing. From here you can see many young Joshua-trees.

Joshua-trees do not bloom every year. The interval between flowering is probably determined by both rainfall and temperature. The greenish-white flowers are borne in large, dense clusters in March and April.



18. ANDERSON WOLFBERRY (*Lycium andersoni*). This plant is widely spread over both the Mojave and Colorado Deserts. The light lavender flowers are followed by bright red berries.

19. DESERT ROCK GOLDENBUSH (*Aplopappus cuneatus spatulatus*). Rock goldenbush seems to always grow on or close to rocks. It may be found on top of many of these rock outcrops. The yellow flowers usually bloom in October and turn the shrub golden.

20. FLAT TOP ERIOGONUM (*Eriogonum fasciculatum*). Generally known as "wild buckwheat," this is California's third most valued native bee-plant after white sage and black sage.

21. COOPER GOLDENBUSH (*Aplopappus cooperi*). This is the third species of goldenbush you have seen along the trail. Bright yellow flowers bloom in April and May.

22. JOSHUA-TREE (*Yucca brevifolia*). Joshua-trees do not branch unless the terminal bud is killed. This is usually accomplished by flowering or by the work of the yucca-boring beetle.

Branching on this plant appears to have resulted because the yucca-boring beetle killed the terminal bud. Branching on several other Joshua-trees near here (look for them) was caused by flowering. You can still see the old flower stalks protruding from the point where the stem divides.



The yucca night lizard (*Zan-  
tusia vigilis*) is commonly asso-  
ciated with the Joshua-tree. This  
little lizard lives under fallen  
dead branches and between the  
leaves. Contrary to popular  
opinion, the yucca night lizard is  
not strictly dependent on yuccas  
for life and has been found  
elsewhere.



23. LICHENS. Around on the north side of this rock you may see bright patches of chartreuse, light green and black. These are lichens, a primitive form of plant life. They help to break down the rock and turn it into soil.

24. CALIFORNIA JUNIPER (*Juniperus californica*). On juniper trees, the male and female flowers are borne on separate plants. This is a female tree. The small berry-like cones are a handsome silver-blue or green, turning reddish when mature at the end of the second season.

Indians ground the berries, leached them with water and made cakes of the meal. Coyotes and a variety of birds also eat the berries.

25. JOINTING OF QUARTZ MONZONITE. Notice the joints or "cracks" in the base of the large outcrop ahead. Some joints run vertically, others horizontally. What caused them? Remember at stake 15 it was stated that this rock was molten material. When it cooled it shrunk and strains developed causing these joints. This helps explain why you see boulders standing as isolated outcrops. The wider these joints are spaced, the more this rock resists weathering and erosion. Close spaced joints mean more surfaces for weathering agents to attack the rock and break it down into sand. Hence, these rocks wear away unevenly and some are left as monoliths like the one ahead.

★ ★ ★

Please return this booklet to the registration stand before you go, or you can purchase it there for 10¢.



OTHER SELF-GUIDING NATURAL HISTORY TRAILS are located at Cholla Cactus Garden and the Twentynine Palms Oasis. Interpretive texts and markers may be found at Arch Rock (take the trail from White Tank Campground), Indian Cave and Salton View.

An exhibit room and information desk are located in the Visitor Center at the Twentynine Palms Oasis. Park Service employees on duty will be most happy to answer your inquiries. Publications concerning desert plants and animals may be obtained there. A free informational leaflet on Joshua Tree National Monument is available on request.

### U.S. DEPARTMENT OF THE INTERIOR

As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of America's "Department of Natural Resources." The Department works to assure the wisest choice in managing all our resources so each will make its full contribution to a better United States — now and in the future.



We hope this leaflet has been helpful to you. It has been provided for your use by the Joshua Tree Natural History Association in cooperation with the National Park Service.

