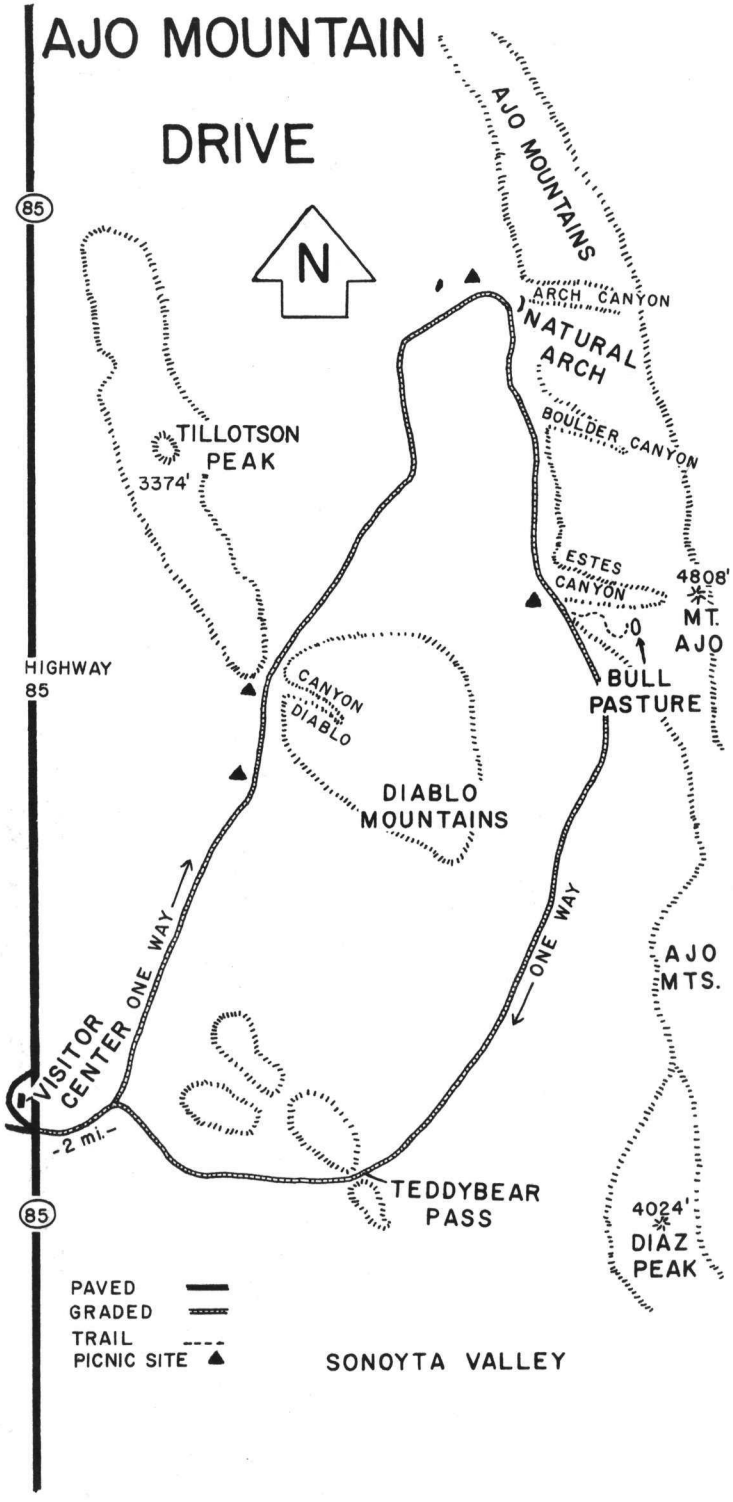
Price 10 Cents

Ajo Mountain Drive

ORGAN PIPE CACTUS NATIONAL MONUMENT, ARIZONA



Ajo Mountain Drive

How to use this leaflet

This leaflet is intended to help you enjoy Organ Pipe Cactus National Monument by better understanding the desert and its life. As you stop at each of the numbered stakes along the drive, one person of your party might read aloud the corresponding paragraphs from the leaflet. Keep notes on any questions that come to mind and when you return to the Visitor Center, "Ask a park ranger." Drive slowly—stop frequently—and see the desert.

Each numbered stake corresponds to the same numbered paragraph in this leaflet. Next to each number in the leaflet, in parentheses, is an R for (Right) or an L (Left) indicating on which side of the road this stake is located. Approximate mileage to the next stake is given at the end of each numbered paragraph.

Description of the Drive

The Ajo (AH-ho) Mountain Drive is a 21-mile graded one-way dirt road. It winds and dips as did the desert trails of yesterday, but has been so designed that a modern car may be driven over it safely. The road provides access to some of the finest scenery in the Monument, over a route chosen to blend with the landscape without altering its primitive nature. It passes through beautiful and fascinating displays of Sonoran Desert

vegetation and overlooks outstanding panoramas of desert mountains and plains.

If you plan a picnic, enjoy it at one of the four picnic sites along the way. All of the sites are provided with tables, and fire grates can be found at the Diablo Wash and Estes Canyon sites. Take your own fuel, as the use of native wood is not permitted. Water is not available along the drive.

You can help

You can enjoy the desert in all its natural orderliness because those who came before left it that way. You can help those who follow to enjoy the desert:

By not littering.

By keeping your car on the roadway except at turnouts or to pass a road grader.

By leaving all plants, animals and minerals as you find them.

A word of caution

As interesting as the many different species of cacti may be, remember not to get too familiar with any of them, especially the chollas. If you should become impaled by a cholla joint, do not try to remove it with your fingers. Use two sticks to flip the joint away from you. A pair of pliers is a handy tool when walking in cholla territory.

1. (R) The Sonoran Desert

The Sonoran Desert is a vast and strange land; a land of space, sun, and little water; a land of struggle for survival. Those plants and animals which

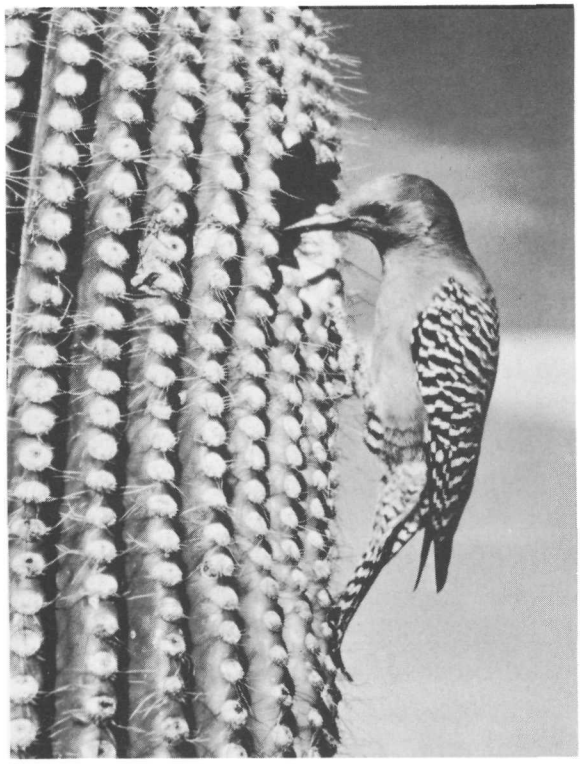
can best adapt themselves to its nature are not only able to live here, but flourish. The desert is a living land, not a barren waste. You will find its abundant life all about you.

The Ajo Mountains are before you. The crest is the eastern boundary of the Monument, with the Papago Indian Reservation lying on the other side. Mount Ajo, the highest peak, is 4,808 feet above sea level. Snow occasionally blankets its uppermost heights, but remains for only a few hours. The drive will guide you over the foothills and along sheer mountain walls.

To the south the desert rolls on to the distant horizon far within the Republic of Mexico. The Mexican boundary lies about 5 miles down the slope. The Sonoyta (so-NOY-ta) River drains this great basin. This stream truly belongs to the Sonoran Desert, for here its waters are born and in it they usually die, seldom reaching the Gulf of California 70 miles to the southwest.

The gradual slope of the desert to the north soon ends in the skyline ridge. Waters falling on this side of the ridge drain toward the Sonoyta River. Those which fall on the other side are in the Colorado River drainage basin.

To the west the Puerto Blanco Mountains begin in the low hills near the Visitor Center, but gradually rise to the higher, more rugged peaks in the northwest. The Puerto Blancos are one of three major ranges in the Monument. (Stake No. 2 is 1 mile)



Gila Woodpecker at Saguaro nest

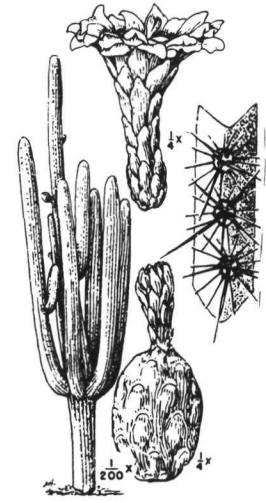
2. *(R) Creosote-bush*

Hundreds of square miles of the more arid, poorly drained sections of the Chihuahuan, Mojave and Sonoran Deserts are populated with the creosote-bush seen growing commonly along the side of the road. Notice how far apart desert plants grow, without enough moisture to support more. Desert plants cover less than 30% of the Sonoran Desert, and in some sections less than that. The evergreen leaves of the creosote-bush curl up just enough on hot days so that the water loss to the air is considerably reduced. A varnish-like coating on the tiny leaves further reduces moisture loss.

(Stake No. 3 is .8 mile)

3. *(R) Saguaro*

The saguaro (sah-WAR-oh), or giant cactus, is the largest cactus found in the United States. A plant may grow 50 feet high and weigh several tons. During the infrequent periods of rainfall, horizontal roots near the surface absorb available moisture for storage in stem and branches. Note the accordion-like ridges along the stem. They allow the plant to expand as it stores water and to contract as water is used during hot, dry days. The mature saguaro blooms during May. The creamy blossoms with yellow centers are borne in a cluster at the end of the main stem and the branches. Buds unfold at night and remain open until the following afternoon. Fruit matures in July following the dry months of May and June. Wild animals eat the ripe, red fruit with its mass of tiny, black seeds.



Saguaro

Papago Indians still make some use of the fruit, formerly a staple food. The sweet, juicy pulp is eaten fresh, or dried for winter. Seeds are ground into a rich, butter-like substance, considered a delicacy. Some of the juice is set aside to ferment as wine, called *tiswin,* and the rest is boiled to a thick sweet syrup, stored for winter use.

The holes you see in the saguaros have

been excavated and used as nests by the Gila (HEE-la) woodpecker or the gilded flicker. Other species of birds, such as the tiny elf owl, nest in the abandoned holes.
(Stake No. 4 is .8 mile)

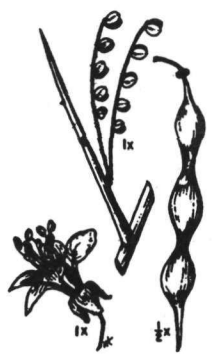
4. *(R) Ocotillo*

The ocotillo (oh-koh-TEE-yo), with its long graceful stems, prefers rocky well-drained slopes. Even though armed with spines, it is *not* a cactus, but instead is the only member of its family found in the United States. A related species is the strange "boojum" tree found in northwestern Mexico.

Not being a water-storer, the ocotillo meets the long dry spells in an unusual way. It bears leaves when the soil is moist, but they drop off when the soil dries. Depending on frequency of adequate rainfall, the branches can become wands of green several times a year. With sufficient soil moisture ocotillos may retain their leaves for six months or more. A long spike of flame-red blossoms is borne at the end of each stem in April.
(Stake No. 5 is 1.3 miles)

5. *(R) Soil Types*

There are relatively few kinds of plants in the desert, and each thrives best under conditions most favorable to it. Soil character is very important in controlling where a desert plant may grow. The texture of the soil determines the length of time and amount of moisture available for vegetation. Organpipe cacti do not generally grow in the finer packed soils of the desert plains, but flourish on the rocky, well-drained southern slopes of the hills. A thriving colony may be seen to the left on just such a hillside. Notice for the next several miles how the vegetation changes with the type of soil—rocky soil on the mountain sides, coarse shallow soil on the lower slopes and fine sandy-textured soil on the plains.
(Stake No. 6 is .7 mile)



Little-leaf Palo-verde

6. *(L) Palo-verde*

Spanish names are common in the Southwest and generally are very descriptive. What better name could have been given this pale-green tree of the desert than *palo-verde* (green stick)? The green trunk, branches and twigs color the desert throughout the year. Pairs of small leaflets appear only following rainy periods. No rain—no leaves. In the more rainy years several crops of leaves may emerge, but only to wither and fall a few weeks later when dry conditions return. Food production continues by the chlorophyll in the green bark of the trunk and branches. Because of this ability, few *palo-verdes* die even after unusually long, dry periods. In April and May the *palo-verde* becomes a mass of golden blossoms.

The young saguaro starting life beneath the protective shade of this "nurse" tree finds favorable soil where the leaves have fallen. Notice, as you drive, this plant relationship which is so important to saguaro survival.

Organpipe Cactus blooms

(Stake No. 7 is .2 mile)

7. (R) Organpipe Cactus

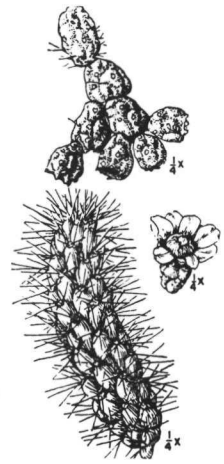
In the United States, this cactus grows only within the Monument and the nearby vicinity. It is common in the Mexican State of Sonora.

Notice how the many branches rise from a base at the ground, instead of growing like the straight massive trunk of the saguaro. The pale lavender flowers of the organpipe open at night to attract certain night-flying insects necessary for pollination. This night-blooming habit is one way in which some plants can live here. The red, juicy fruit, called (pee-tah-AH-yah) by the Mexicans, matures in July and is used in much the same way as saguaro fruit. When the egg-shaped fruit is fully ripe, it splits open and exposes many black seeds that are eaten by birds.

(Stake No. 8 is .4 mile)

8. (R) Chain-fruit Cholla

This tree-shaped cactus is known by the Mexican name of *cholla* (CHOY-ya). It is called chain-fruit cholla due to its growth habit. Flowers and fruit are borne on the fruit of the past year until long "chains" of fruit hang from the plant. It is a common cactus in this area.



Chain-fruit Cholla

The bird nests commonly found among the spiny branches belong to the curve-billed thrasher or the cactus wren. While the barbed spines seem to be no problem to the birds, they offer them protection from predators.

(Stake No. 9 is .2 mile)

9. (R) Diablo Wash

A desert is an area of uncertain rainfall. Precipitation has fluctuated from 4 to 14 inches a year in this valley. Only those plants that can withstand the long dry periods are able to survive.

Rain may fall on the desert in winter and in summer. Winter rains are gentle and may last several days. Summer rains are short, but often violent. Huge thunderclouds dump their load on a limited section of desert and quickly move on. It may rain torrents in one area, while the sun continues to shine brightly a few miles away. Such rain comes down so heavily and so fast the soil cannot absorb it. A sheet of water covers the surface for a brief period then accumulates into small gullies and the volume swells.

These gullies may finally run together to create a 5-foot depth of rushing water in a major *arroyo* (dry stream bed or wash) miles from where the rain fell.

Many moisture-loving trees and shrubs uncommon on the well-drained slopes and ridges thrive along *arroyos* where more water is received and retained. Mesquite, *palo-verde,* ironwood, Mexican jumping bean and other trees and shrubs grow along Diablo Wash below you.

The multicolored Diablo Mountains rise ahead of you.

(Stake No. 10 is .5 mile)

10. (R) Birdseye Point

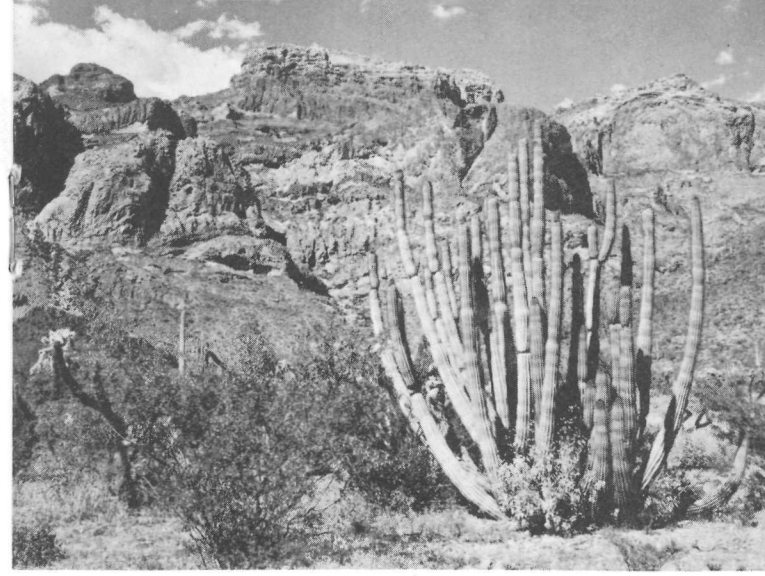
Birdseye Point affords a fine view of the Sonoyta Valley lying below. The craggy granite Cubabi (coo-BAH-be) Mountains to the south are in Mexico just beyond the town of Sonoyta.

(Stake No. 11 is .7 mile)

CAUTION: The next mile or so is winding and steep due to the rugged terrain.

11. (R) Ajo Mountains

The walls of the Ajo Mountains tower before you. This colorful range, like nearly all of the mountains in the Monument, is formed of volcanic materials, not those from a fiery, lava-spewing crater, but from vast lava flows that spread in fingers of deep layers. The darker layers in the cliff walls are lava or basalt. Ribbons of light yellow or tan are compressed volcanic ash or "tuff." The massive stature of the present range came at a later time when great upheavals broke and thrust blocks of the earth's crust upward.



Ajo Mountains — Crest View

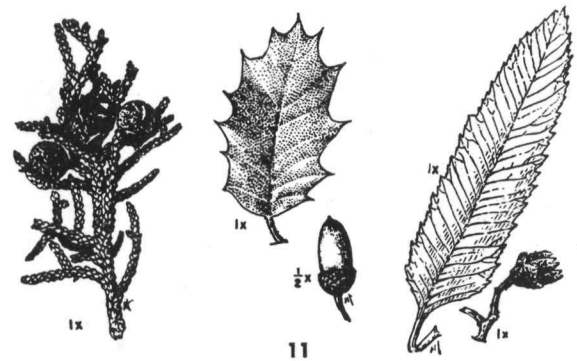
Rainfall is heavier in the Ajos than on the adjacent desert floor and plants requiring more water are found in these higher elevations. Sizable juniper and Arizona rose-wood trees grow on the higher slopes and the Ajo oak, discovered in these mountains, lives in the canyons.

(Stake No. 12 is .3 mile)

12. (R) Prickly-pear Cactus

The prickly-pear is a familiar cactus to many travelers, for it grows in most of the 50 states. This is the Engelmann prickly-pear, one of four kinds known to live in the Monument. Yellow flowers

One-seed Juniper — Ajo Oak — Arizona Rose-wood



bloom along the edges of the flat pads from April through June. Deep-purple *tunas,* as the Mexicans call the fruit, are considered a delicacy.

The flat pads are not leaves, but rather are modified stem joints functioning in place of leaves. The peccary (javelina) eats pads, spines and all, as a favorite part of its diet.

(Stake No. 13 is .5 mile)

13. (L) Coville Barrel Cactus

Much that is picturesque in the desert would be lost to us without occasionally seeing a barrel cactus. Desert fiction views the weary, parched traveler lopping off the top of a barrel cactus and plunging his sun-baked lips into the clear, cool water he finds there. But cacti do not store water this way! Tissues of these plants contain a high percentage of moisture, especially after rains, but it is stored as a bitter-tasting sap which thickens upon contact with the air; so carry plenty of water while traveling in the desert.

At first glance a young saguaro is often mistaken for a barrel cactus. Young saguaros have dark or straw-colored spines which are straight. The reddish spines of the barrel cactus are flat and recurved.

(Stake No. 14 is .9 mile)

14. (R) Geologic History

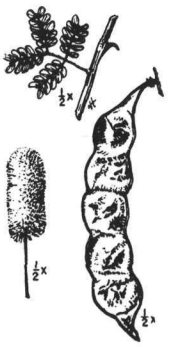
Roughly 50 million years ago molten lava was forced from the earth and partially encrusted what is now this desert region. The character of the terrain has been drastically altered since then, as faulting has thrust upward long blocks of the earth's crust to form these mountain ranges. Sheer cliffs ahead mark lines along which the earth was fractured and torn apart in this action. The eastern side of the range dips into the desert with a more gentle slope—it was not fully fractured. The distorted, curving layers of tuff and lava show the results of strain as they were pushed upward.

Wind and rain, through eons of time, have eroded away the weaker rock. Today the mountains have deep canyons and present a rough, sculptured appearance.

(Stake No. 15 is .5 mile)

15. (L) Arch Canyon

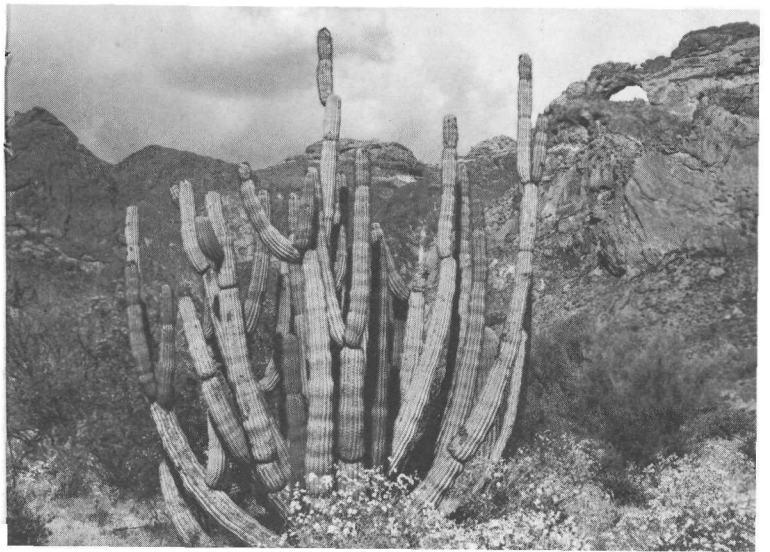
A walk up the canyon will be worthwhile, for here the desert meets the mountains and some plants of the higher elevations may be seen. One soon learns to avoid the curved thorns of the catclaw acacia, sometimes called "wait-a-minute," growing in the wash.



Catclaw Acacia

The arch was formed by

Arch Canyon



such erosive forces as wind and the freezing and thawing of water in the cracks. In time the rock became thin, and weaker parts of it collapsed, thus creating an arch.
(Stake No. 16 is .5 mile)

16. (L) Mesquite

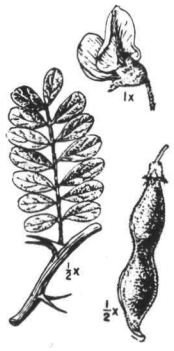
One of the common southwestern desert trees is the mesquite (mess-KE-ET). This small group of young trees finds favorable moisture in the soil beside the shallow wash. If sufficient moisture is not found near the surface, roots will penetrate to a depth of 50 feet or more to reach the required amount. Some mesquites have more wood below the ground than above. The string-bean like fruits that mature in the autumn are used as food by desert people and animals.
(Stake No. 17 is 1.1 miles)

17. (L) Ironwood

The ironwood tree growing here is a youngster compared with the gnarled oldtimers found along many of the washes. It, along with the mesquite and palo-verde, is a member of the pea family, and in late summer bears bean pods. The extremely hard wood gives intense heat and provides long-lasting coals. The evergreen foliage is dense and gray-green, while that of the mesquite is more feathery and of a pale green color.
(Stake No. 18 is .5 mile)

Common Honey Mesquite

Ironwood

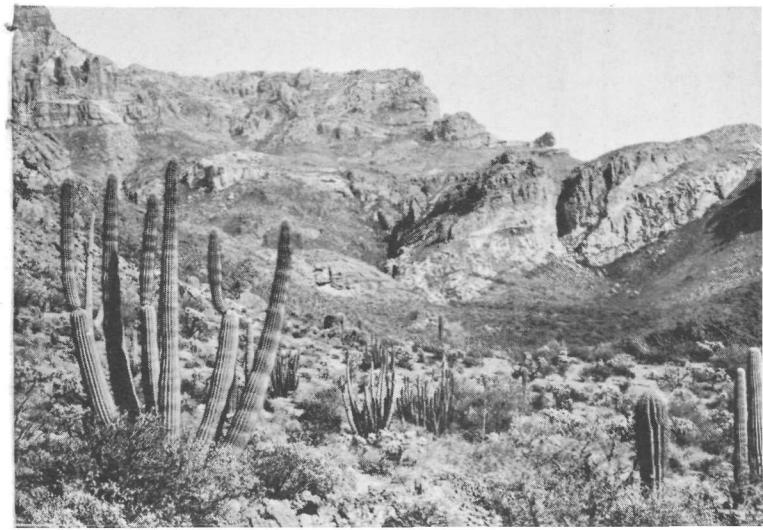


ESTES CANYON PICNIC AREA AND BULL PASTURE TRAIL

You are now at about midpoint of the drive. A trail begins here and leads upward 1,000' and 1.7 miles to Bull Pasture, a broad, grassy basin on a shelf above Estes Canyon. *Tinajas* (tee-NAH-hahs) or potholes found in Bull Pasture supply water for such wildlife as desert bighorn sheep, whitetail deer and peccary.

A small band of "Villistas" from the renegade forces of Pancho Villa camped in the Bull Pasture on several occasions during 1917-1920. They occasionally ventured down into local ranches to procure cattle either by trade or theft. The alternate trail to Bull Pasture through Estes Canyon was probably the route

Estes Canyon



used by Villa's men as well as by the American ranchers.

Just after the turn of the century, a little known oldtimer named Estes dug a well and kept a few goats (or cows) in the sprawling canyon that now bears his name. A short time later a local rancher kept bulls in the Bull Pasture during several winters. Due to the steep terrain surrounding the basin the bulls were "fenced in" by only a short fence still visible at the rock cut near the upper end of the trail.

18. (R) Jojoba

The thick evergreen leaves of the *jojoba* (ho-HO-bah) or deer-nut are a browse food for bighorn sheep and whitetail deer of the mountains and the mule deer of the lower desert. The plant was well known among Indians and pioneers, for its acornlike nuts were used as food and on occasion, as a substitute for coffee. The nuts are mildly bitter, but improve with roasting. The plant is sometimes called goat-nut, wild-hazel and coffebush.

Bighorn

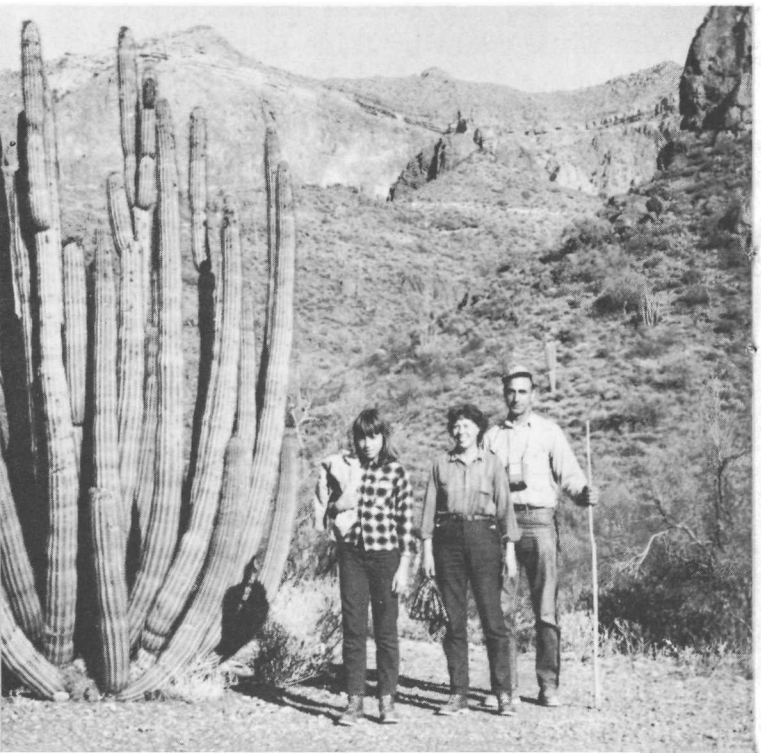
Notice how the leaves keep their edges toward the sun, thus reducing evaporation of precious water from the broad flat surface of the leaf.

(Stake No. 19 is .2 mile)

19. (R) Brittle-bush

The shrub with silvery-green leaves and brittle stems growing here in profusion is the brittle-bush, a member of the sunflower family. In spring, its long-stemmed daisy-like flowers form a brilliant yellow canopy over the entire plant. Indians heated the gum from the stems as a salve for pain relief. Spanish priests burned the gum for incense in early-day

Back from Bull Pasture



mission churches.
(Stake No. 20 is .8 mile)

20. (R) Mexican Jumping Bean

The leaves of this plant resemble those of the willow but are of a tropical family whose species produce such commercial products as rubber, castor oil, tung oil, and tapioca. The sap was used by the Indians to stupefy fish and to poison their arrows, hence the Spanish name of "yerba de-flecha" (herb of the arrow). The milky sap may irritate the skin of those allergic to it. Legend says that "He who sleeps in the shade of this plant will wake up blind."

Mexican Jumping Bean

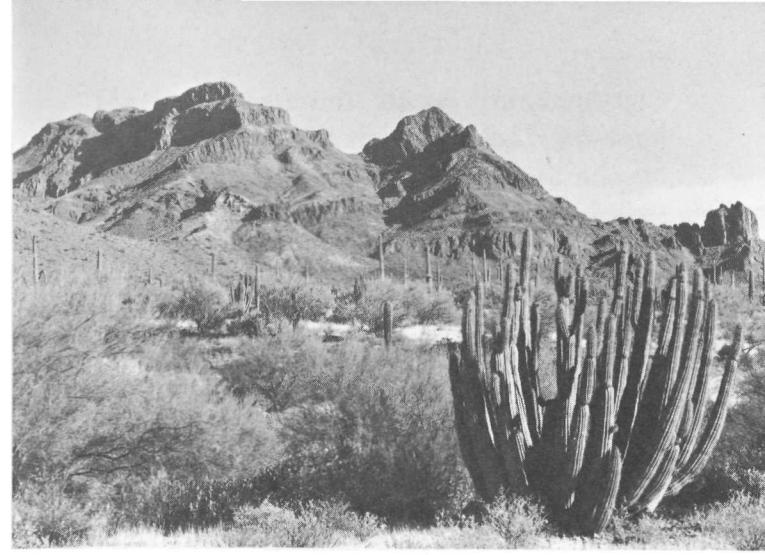
The name "jumping bean" is more correctly applied to a species that grows farther south in Mexico. The seeds of the plant are often infested with a moth larva which, in moving about, causes the bean to jerk or turn over.

(Stake No. 21 is .4 mile)

21. (L) Diaz Spire

To your left is Diaz Spire and behind, out of sight, Diaz Peak (4,024') separated from the main Ajo Mountains by Sweetwater Pass. It was through this pass that Papago Indians from east of the mountains came to harvest the cactus fruits of this area. The many small caves in the hillsides were used during past centuries as temporary shelters by these people.

The spire and peak are named in honor of Melchior Diaz (mel-chore-DEE-ahz),

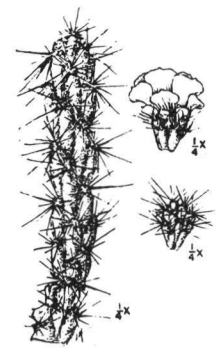

Diaz Spire

a captain in the famed Coronado expedition. Diaz, it is believed, crossed this region with a small band of Spaniards in 1540, when dispatched to the mouth of the Colorado River. His mission was to go overland to meet Alarcon who had sailed up the Gulf of California as part of a supply mission to the expedition in its search for the fabled seven cities of Cibola.

(Stake No. 22 is 2.4 miles)

22. (L) Buckhorn Cholla

This cholla differs from the chain-fruit cholla in having low, spreading branches and a shorter main stem. The buckhorn also is not nearly so heavily armed with spines. The color of the trunk and branches of this cactus ranges from pale green to a darker



Buckhorn Cholla

rusty-colored green and some plants have a definite reddish cast. The flowers of the buckhorn cholla, ranging from yellow to red, were steamed and eaten by the Papago Indians.
(Stake No. 23 is 1.1 miles)

23. (R) Christmas Cactus

A short trail to your right will lead you to two more chollas which you may like to see. The slender-stemmed Christmas cactus receives its name from the olive-shaped, tomato-red fruits that remain on the green stems throughout the winter.

The pencil cholla with its pencil-sized stems, is the common and slightly larger of the two and is found mainly along washes. Both plants have fewer spines than other species of Cholla.
(Stake No. 24 is .5 mile)

24. (R) Teddybear Pass

Teddybear Pass is named for its thick stand of teddybear chollas, which are easily recognized by their silvery, fuzzy appearance. But they are not cuddly! The joints of this cholla are easily broken from the plant by wind or animals. Notice how many are on the ground. Each of these spiny joints is able to root and produce a new plant in the loose soil of a rocky, well-drained slope. As animals touch a plant, joints are lodged in their hides and may be rubbed off in a distant locality to start a new colony.

A cristate organpipe may be seen 35 yards to your right by following the rock-lined trail. (See photo, on the back cover) A larger cristate organpipe can be reached by following the trail across the road and down the slope for about 200 yards. This abnormal crested or fan-shaped growth has not been satisfactorily explained. It also occurs on the saguaro and rarely on cholla and barrel cacti.
(Stake No. 25 is .5 mile)

25. (R) Bajada

You are traveling across a broad slanting plain best known in this land of Spanish influence as a *bajada* (bah-HAH-dah). *Bajadas,* or outwash plains, are long slopes of rocks and soil that have washed from adjacent mountains toward the lower levels of the main drainage. At the base of the mountains the alluvium is coarse and rocky, but as the slope gradually tapers to the valley floor the deposited material becomes finer.

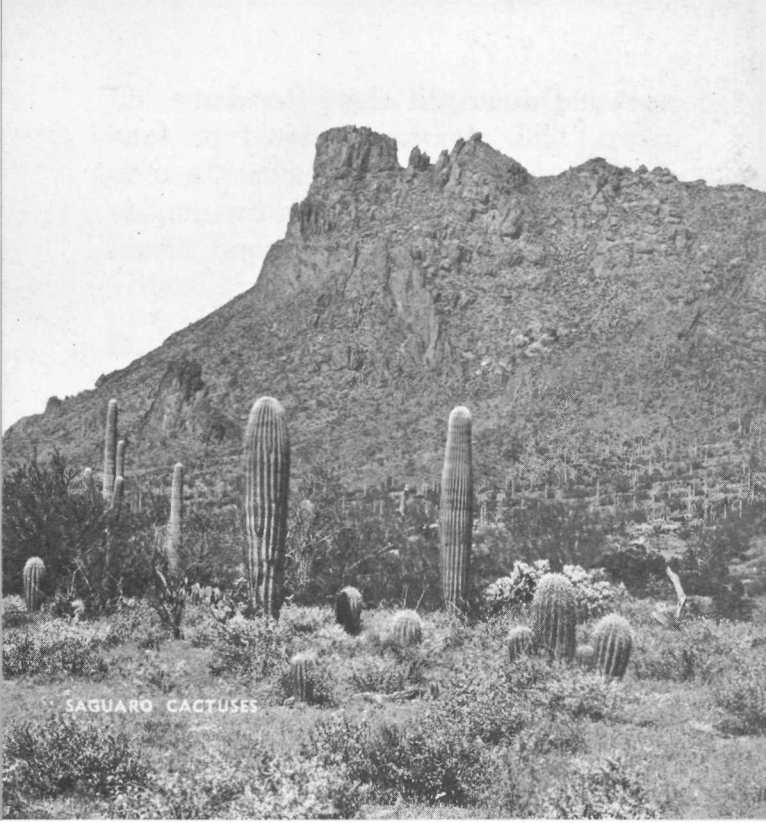
You are near the end of the drive. We hope you have enjoyed this trip and that your pleasure and understanding have been increased by seeing the living desert.

If this is your first scenic drive in the Monument, we suggest you explore the longer (51 miles) Puerto Blanco Drive that rambles through the southwestern part of the Monument. Out there you will find a moody land of historic trails, a few springs, and solitude.

SOUTHWEST PARKS AND MONUMENTS ASSOCIATION

Box 1562 **Globe, Arizona 85501**

5th SPMA Ed. 3-70-15M PABSCO—Globe, Arizona



SAGUARO CACTUSES

CRISTATE ORGANPIPE