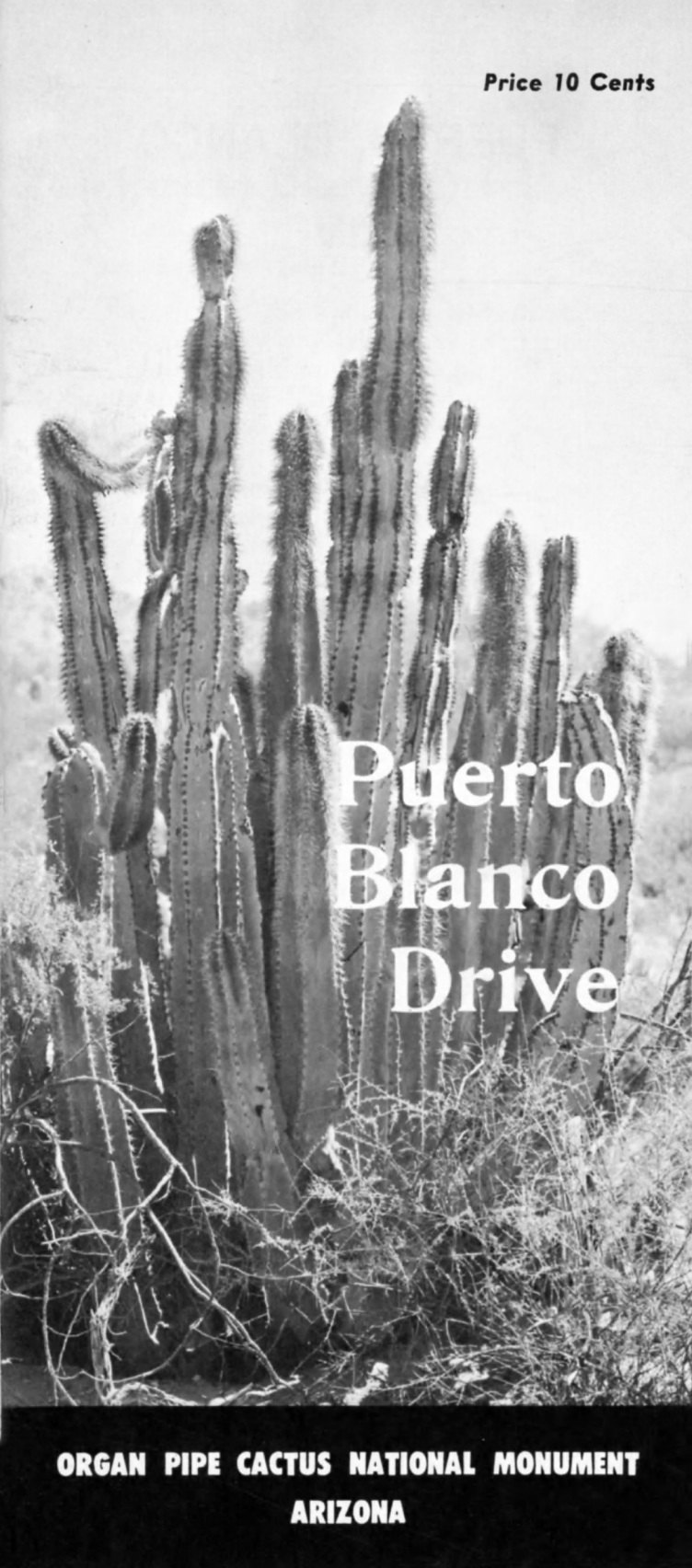


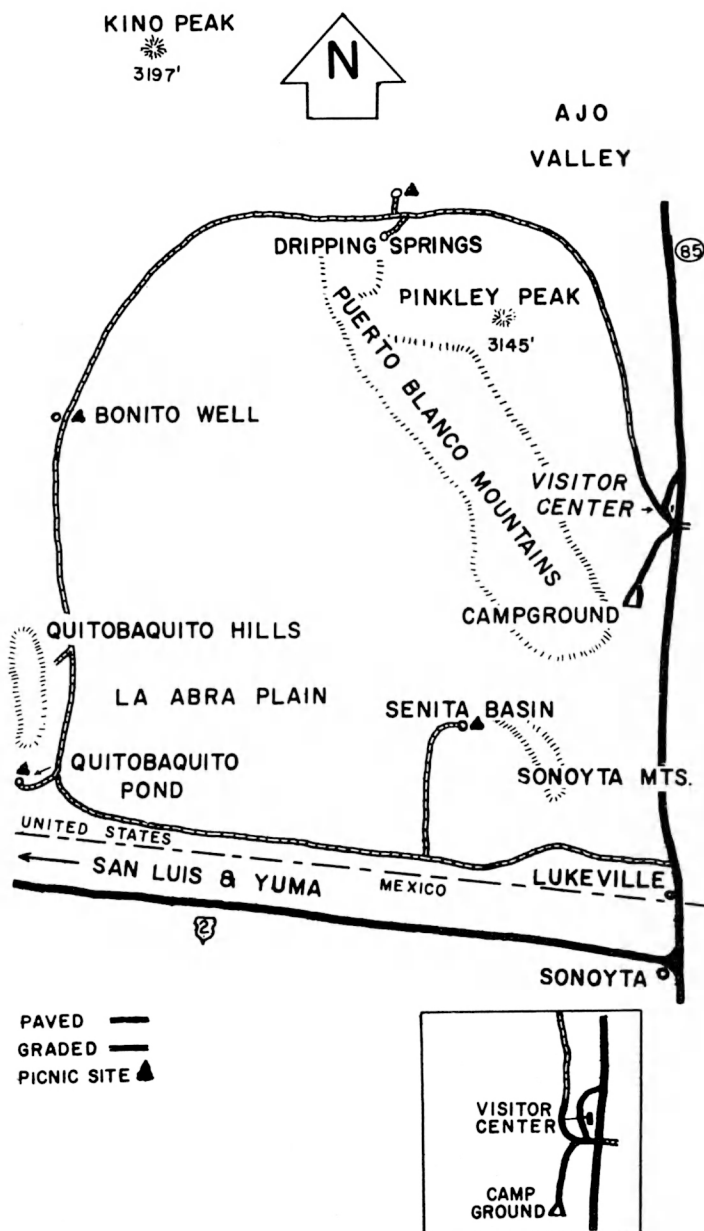
A black and white photograph of a large organ pipe cactus with several tall, columnar stems rising from a base of dry, tangled brush. The cactus is covered in small spines. The background is a bright, hazy sky.

*Price 10 Cents*

**Puerto  
Blanco  
Drive**

**ORGAN PIPE CACTUS NATIONAL MONUMENT  
ARIZONA**

# PUERTO BLANCO DRIVE



## Puerto Blanco Drive

### *How to use this leaflet*

The Puerto Blanco Drive is designed so that you may leisurely enjoy the scenic and natural highlights of this part of the Sonoran Desert. We believe such enjoyment may be enhanced by better understanding what you see. Your questions and observations will be welcomed when you return to the Visitor Center.

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

### *Description of the Drive*

The Puerto Blanco Drive is a 51-mile (including spur roads) graded two-way dirt road through the southwestern section of the Monument. Although the road may be traveled either way, a counter-clockwise direction from the Visitor Center is recommended (mileage and location of stakes are based on counter-clockwise usage of the drive. Be alert, especially in the blind washes and curves, for oncoming traffic.

If you plan a picnic, enjoy it at one of the three picnic sites along the way. All three sites are provided with tables, and grills can be found at the picnic site about one mile west of Dripping Springs and at Senita Basin. Take your own fuel, as the use of native wood is not permitted. Water is not available along the drive.



Bobcat

Cars driven off the road onto the desert floor leave tracks which last for years. You may, however, have to ease off the road for an approaching automobile or roadgrader. The preservation of the natural scene with a minimum of disturbances is our obligation. All natural features must be left as you find them so future generations may find this desert in the same wild condition.

### *Photographic tips*

The strong shadows of late afternoon and early morning offer the photographer a scene of bold contrasting light; a proper attire for the dramatic desert community. Colors tend to be flat under the midday sun, which can be deceptively bright. Study the lighting and set your camera carefully. Best chances for seeing wildlife are during early morning and late afternoon hours.

### **1. (L) Sonoran Desert**

All around you are the plants, animals,

and geology that distinguish this as the Sonoran Desert. What first appears a strange and harsh land turns into an intriguing and interesting place as you become familiar with your surroundings. Most of the plants here will be introduced at the various turnouts along the way.

To your left is Twin Peaks (2,615'), a frequent hiking objective for those staying in the campground. You may wish to add your name to the register on top.

(Stake No. 2 is 2.6 miles)

### **2. (R) Decomposing Saguaro**

Even in death a saguaro (sah-WAR-oh) cactus continues to serve the plant and animal community around it. Termites, ants, and other insects find food and shelter in its carcass. Decomposition of the cactus is thus sped for its eventual return to the soil as humus, making fertile ground for new plants. The tough, woody skeleton remains long after the pulpy body has disintegrated.

(Stake No. 3 is .5 mile)

### **3. (L) Geology—Pinkley Peak**

The massive mountain rising ahead of you is Pinkley Peak, named for Frank Pinkley. "Boss" Pinkley was the able and popular superintendent of all the Southwestern National Monuments during their difficult years in the early part of this century.

The Puerto Blanco Mountains, like the Ajos (AH-hose), were formed by volcanic lavas flowing from fissures in the ground. Only in recent (tertiary) geologic times were they thrust or faulted into mountains. The ranges in this area belong to the southern portion of the North American Basin and Range Province. The dark brown basalt rock typifies the lava while the yellowish blotches (tuff) are the hardened or compressed ashes from earlier eruptions.

(Stake No. 4 is .9 mile)

#### 4. (R) Ajo Valley

The broad expanse ahead of you is the Ajo (AH-ho) Valley, separating the Ajo and Puerto Blanco Mountains.

Fierce summer rains erode the scantily vegetated slopes and force rock debris out of the canyon mouths to deposit it in triangular-shaped alluvial fans. The finer material is carried farther out onto the valley floor to become outwash plains or *bajadas* (ba-HAH-dahs). The complex of normally dry washes or *arroyos* in the valley channel the occasional great walls of water after summer cloudbursts. Hence the mountain ranges, as they rise, continue to crumble, fill the valleys and slowly bury themselves.

(Stake No. 5 is 1 mile)

#### 5. (R) Ajo Mountains

The Ajo Mountains, across the valley to your right, rise 4,808 feet above sea level and 2,400 feet above the Estes Canyon Picnic Area. Ajo is the Spanish word for garlic and refers to the ajo lily with its edible garlic-like root. Within those shadowed canyons is an abundance and variety of plant and animal life. There desert bighorn sheep, mule and white-tail deer, peccary and other wildlife find food, occasional waterholes, and seclusion from man.

The isolated pinnacle at the northern end of the range is Montezuma's Head, an important feature in the mythology of the Papago Indians.

(Stake No. 6 is .7 mile)

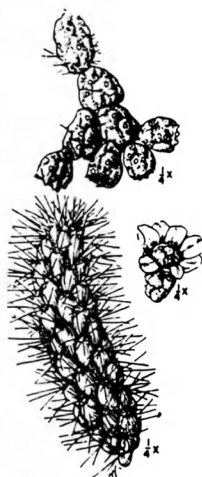
#### 6. (R) Desert Pavement

Rapid runoff from summer rains is not confined to *arroyos*. Sheetflooding carries debris over the *bajada* and deposits it as the water subsides. Lighter soil particles are carried away, leaving

the tiny cobblestone-like effect of desert pavement.

Notice the chain-fruit cholla (CHOY-ya) 7 yards to the right of the post and the many others scattered all around you. Blossoms appear on last year's fruit, adding a new segment to the "chain" which gets longer each year until it falls off from weight or disturbance.

(Stake No. 7 is .6 mile)

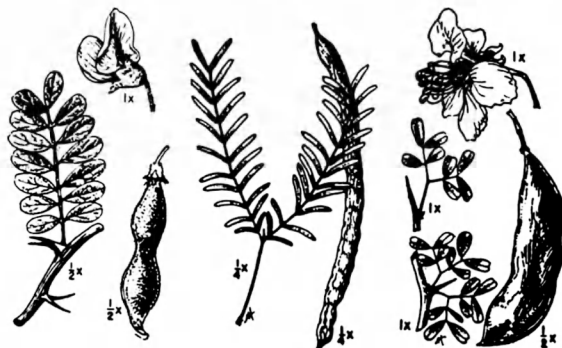


Chain-fruit Cholla

#### 7. (R) Wash Environment

The vast network of *arroyos* over the valley floor are the avenues of rainfall runoff. Consequently, these drainages host a dense plant community, including a rich variety of spring wildflowers. Possibly the backbone of such environments is the legume or pea family. While some legumes are shrubs, others such as the ironwood, mesquite, palo-verde, smoke-tree, catclaw acacia, and white-thorn acacia reach tree size. Features aiding identification are thorns, compound leaves and seed pods.

Notice the ironwood 70 feet up the



Ironwood

Common Honey  
Mesquite

Blue Palo-verde  
Mesquite



road on the right with its dark gray-green leaves and heavy wood. A few feet beyond the ironwood near the wash is a blue palo-verde, distinguished from the yellow or little-leaf palo-verde by having a darker green color, larger leaves, and rose-like prickles instead of spiny branch tips.

The feathery tree with the mistletoe in the branches 36 feet to the right of the stake is a honey mesquite, so called because of the fine honey produced from its long yellow flowers or catkins. The mesquite is frequently confused with the ironwood; here is an opportunity to observe the two together, both close up and then from a distance.

The mistletoe crowding the trees in this area is called desert mistletoe. These tropical-like parasites sap the vitality of the host tree and may, if abundant enough, kill the tree. The Papago Indians harvested, dried, and stored the red berries for food. The berries are also a major source of food for several species of birds, especially the phainopepla.

The shrub next to the sign, with the large, alternating thorns, is the bitter condalia, so called because of the extremely bitter tasting berries. (Stake No. 8 is 2.6 miles)

#### 8. (R) *Ephedra* or "Mormon Tea"

This cone-bearing shrub is a distant relative of the pine family, but differs markedly from it in having some characteristics common to the flowering plants. It is a surviving relic of an ancient, more widespread and variable group of plants. The small scale-like leaves aid in conserving moisture.

A palatable tea was brewed from it by early Mormon settlers, while tannin and alkaloids provided medicine for many ailments in those pre-drugstore days.



Mortar and Pestle

#### 9. (R) *Dripping Springs*

Follow the trail 160 yards up to the small alcove containing Dripping Springs. On your way stop at the "Indian Kitchen" and note its facilities: the small cave offered shelter from the elements, a "smoke hole" in the roof to facilitate cooking (note the smoke-darkened roof) and access to a permanent water source at the spring just above. The mortar hole at the cave entrance was used for grinding mesquite beans and other foods into *pinole* with a hand-stone known as a pestle. Refuse was handily tossed into the gully below, later to be collected as "kitchen middens" by the archaeologist.

Papago Indians used this spot as a *temporal* or temporary camp while hunting and harvesting organpipe, saguaro and other foods. Local ranchers have, on occasion, used the spring for livestock purposes.

Since Dripping Springs is the only permanent waterhole in the Puerto Blanco Mountains it is much used by wildlife. During the summer months the quiet, patient observer may see desert bighorn sheep, deer, and whirring flocks of white-winged doves.

Faulting or slipping in the rock below has damed the circulation of ground-

water and forced it up to the surface through another set of vertical cracks from which it drips all year into the five-foot deep pool.

The large shrub just to the left of the springs is a desert hackberry. Its fruits, dry and insipid, were gathered by Papagos for food and are relished by birds and mammals.

The rocky trail branches 25 yards back of the spring and continues another 400 yards to the ridge and a fine panoramic view of the Ajo Valley. From the crest notice in the valley on the other side a miner's shack used as a temporary shelter while working the adjacent copper mine.

(Stake No. 10 is 2.3 miles)

#### 10. (R) Bates Mountains

On your right about 3 miles to the north are the volcanic Bates Mountains named for an obscure settler who, late in the last century, dug a well and prospected in the northern end of this range. Bates Well has since been continually occupied as a ranch. Bighorn sheep are easily seen on the high crags of this mountainous range. On the valley floor broken pottery and stone arrowheads attest to early camps and hunts of wandering Papago Indians. High on a remote ridge a small cave houses the ruins of a corn liquor still that quenched many a thirst of local ranchers and miners during the prohibition era.



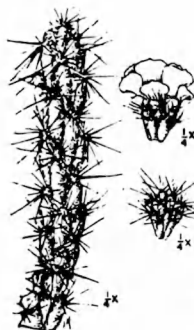
Mexican Jumping Bean

The large shrub behind the stake is Mexican jumping bean or more properly called *Sapium* since the former grows in Mexico. The milky sap or latex, typical of the tropical-like spurge family, was used to poison arrow tips and in

rivers and lakes to stun the fish for easy catching.

(Stake No. 11 is .6 mile)

#### 11. (R) Arizona Succulent Desert



Buckhorn Cholla

This valley offers the sensitive combination of soil texture, temperature, moisture and drainage to allow the growth of such cacti as organpipe, Coville barrel cactus, teddybear and buckhorn cholla. These succulents absorb water through the roots for storage in their tissues, to use in times of drought.

The cactus family is thought to have evolved from the rose family 18 to 20 thousand years ago. In order to conserve moisture, the water-consuming leaves have been specialized into spines, while the green food-making chlorophyll, normally found in the leaves, continues to function in the large fleshy stems. Notice the organpipe cactus skeleton near the stake.

(Stake No. 12 is .2 mile)

#### 12. (R) Sangre-de-drago

*Sangre-de-drago* (Spanish for dragon's blood) refers to the reddish sap found in the roots. It was used by the natives for tanning, dyeing, and as a miscellaneous cure-all for illnesses. The pliable branches have led to the name limberbush. The thick fleshy stems and leaves have water storage capacity suitable to desert aridity. (Stake No. 13 is 1.3 miles)

Coville Barrel Cactus





Kino Peak

### 13. (L) Kino Peak

The dominant, block-like mountain on your right is Kino Peak (3,197'), highest point in the Bates Mountains. It commemorates Father Kino, the Jesuit missionary priest who spent 24 years of the late 17th and early 18th centuries on the Sonoran Desert, teaching Christianity and ranching to the Indians. He established a small mission in 1701 near the village of Sonoyta, just across the Mexican border. Kino was also a competent geographer and a hardy traveler. He once rode 50 miles in a day, slept a few hours, and then rode another 75 miles.  
(Stake No. 14 is 1.9 miles)

### 14. (L) Golden Bell Mine

The mine shafts to your left are the diggings of Charlie Bell, a local miner who failed to make his fortune here. The quartz veins yielded a little copper, silver, and gold, with the latter assaying at about one half ounce per ton.  
(Stake No. 15 is .7 mile)



Organpipe Cactus

### 15. (L) Organpipe Cactus

By following the short path to the wash on your right you will find one of our finest specimens of organpipe cactus. The organpipe, although not so abundant as the saguaro and other cacti, is important here since this area represents its northernmost range. It occurs in

greater abundance in the adjacent Mexican state of Sonora.

The light lavender flowers bloom near the stem tips in May and June, and are followed by reddish fruit in July. Indians occasionally come into the Monument to collect the tasty fruits, once a staple part of their diet.

The seven saguaros under the palo-verde 25 yards to your right were all "born" under the maternal shelter of this "nurse tree."

(Stake No. 16 is .7 mile)

### 16. (L) Bonito Well

The windmill is a lonely symbol of man and his struggle for water on the desert. Such a source of water serves many species of wildlife as well as domestic cattle. Bonito (pretty) Well belongs to a local rancher, who with his father and brothers grazed cattle here before this area was proclaimed a National Monument in 1937. This family has a lifetime grazing permit which cannot be passed on to others.

Note the mesquites and tamarisks or "salt-cedars." The latter are native to the Mediterranean region.  
(Stake No. 17 is .4 mile)

### 17. (L) Cristate Saguaro

A short walk across the wash to your right will lead you to a large example of a cristate cactus. This abnormal growth, not yet fully understood, may be due to an injury causing a local change in the plant. These fan-shaped "crests" may also appear on the organ-



Cristate Saguaro

pipe, and rarely on the barrel and cholla cacti.

(Stake No. 18 is 3.3 miles)

### 18. (R) Cipriano Junction

The primitive road to your right winds north through the arid expanse of the Growler Valley and is not recommended for passenger cars.

This is the eastern portion of the California Microphyll Desert, so named because of the predominance of such small-leaved plants as the creosote-bush and the smaller, gray-green bur-sage. Together they comprise about 80% of this desert vegetation.

The small varnish-covered leaves and branches of the creosote-bush minimize water evaporation, a most important ability in a hot desert. After a rain the plant gives off a musty, resinous odor which explains its Mexican name, *hediondilla*, roughly meaning "little stinker." The sticky lac on the branches was used by the Indians as a glue and for waterproofing basketry. The leaf was used in remedies for rheumatism, tuberculosis, gastric problems and as an antiseptic for wounds. The dark walnut-sized balls often found on the stems are caused by an insect, the gall midge. A few small yellow flowers may appear after a winter rain, but are normally abundant only in the spring, after which appear white fuzzy seed pods.

Cipriano Junction, Pass, and Hills (to your right) are named for Cipriano Ortega, a local "bad man" of the late 1800's. In his later years Ortega became a successful miner, civic leader, and even owned an enterprising *hacienda* across the border on the Sonoyta River. The remains of one of his wells lie a few miles north of here.

(Stake No. 19 is 1.2 miles)



Smoke-tree

### 19. (R) Smoke Tree

The Smoke-tree, another member of the pea family, is found in the Monument in the nearby sandy washes, where it can benefit from runoff. Water is conserved when the plant drops its leaves early in the season. To the imaginative traveler the tree appears as a gray cloud of smoke rising from a desert campfire.

Indians used a dye extracted from the twigs to color baskets, and ate the roots of a similar species.

Turn right at the junction ahead for your next stop and Quitobaquito Pond.

(Stake No. 20 is .6 mile)

### 20. (R) Trail Shrine

Long before the advent of the European to this continent the Indian of this region built piles of stones or "trail shrines" along his desert trails. Here he



(Detail)





Fremont  
Cottonwood

would leave projectile points, "prayer sticks" or other offerings for good luck on the journey ahead. Such shrines are still used today where bullets (for the hunter), coins, cigarettes, even sticks are left. Travelers at this shrine reportedly placed a sprig of creosote-bush under a stone to insure a successful

journey. The faint trail just above the shrine leads to Quitobaquito Springs and may have been the Indian route used in ancient times.

(Quitobaquito is .4 mile)

### Quitobaquito

Exhibits around the pond tell the story of this desert oasis. We hope you will linger here awhile among the cottonwoods, read the exhibits, enjoy the bird life, the diverse vegetation, and the tranquil atmosphere of this sylvan beauty spot.

Each year hundreds of migrating birds, including several species of waterfowl and other water birds, stop at this oasis to feed and rest before continuing their journey. Over 175 species have

Quitobaquito Pond



been identified at Quitobaquito.  
(Stake No. 21 is 1.6 miles)

### 21. (R) Wright Cholla and Salt-bush

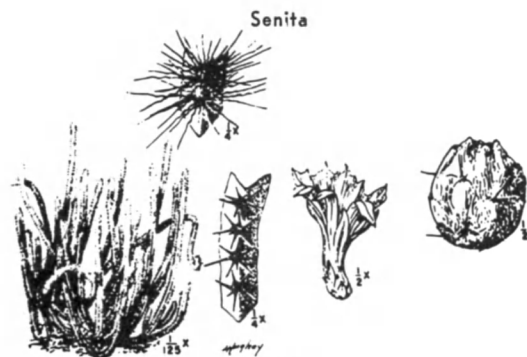
The abundant grayish cactus in this vicinity is the Wright cholla. Summer flowers add a dash of yellow (occasionally reddish) to this otherwise inconspicuous plant. It prefers fine silt or sandy soil, which may drift over the cactus, giving it a hummock appearance. The cholla serves as a good soil binder on this loose desert floor.

The four-wing salt-bush derives its name from the four "wings" extending from the seed. The bush is good browse, probably due to its salty taste. Indians ground the roots and blossoms into meal, mixed it with saliva, and used it as a cure for ant bites.

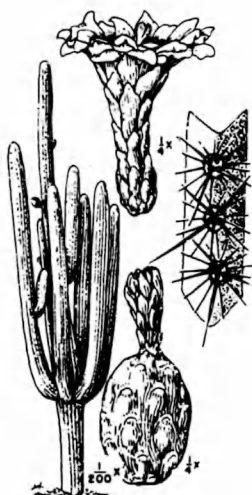
(Stake No. 22 is 3.6 miles)

### 22. (L) Senita Cactus

The Mexicans noticed the specialized gray whisker-like spines on the upper ridges of this cactus and called it *senita*, meaning "old one." There is a similarity to the organpipe in the lustered branching-from-the-ground type of growth; however, the *senita* has fewer ribs and spines. Small, pink, malodorous flowers usually bloom during May nights. *Senitas* in the United States are limited to this vicinity.







Saguaro

creamy blossom, appearing in April and May, is the state flower of Arizona.

The Papago Indians use the fruit and seeds for food, and in preparing an alcoholic beverage.

Saguaros continue to produce flowers and fruit in season through severe dry periods, by utilizing water stored in their tissues.

The holes in these giants were excavated for nests by Gila Woodpeckers. After the rest of the plant has died and rotted away these hardened cavities, known as "cactus boots," remain intact on the desert floor. One of these boots may be seen at the Visitor Center.

Look to your right into the Mexican state of Sonora, and at the massive granite Cubabi (coo-BAH-be) Mountains. The small cluster of buildings you see is Lukeville, while the Mexican village of Sonoyta lies out of sight 2 miles beyond.

We trust you have enjoyed wandering over this part of the Sonoran Desert, and that you will take home a bit of its ideas, its ways and moods. Perhaps you have taken the Ajo Mountain Drive. If not, we recommend this 21-mile scenic route that winds eastward into the Ajo Mountains and through the hills and valleys of this colorful part of the Monument. A guide for the drive, and suggestions for hikes into the Ajos, are available at the Visitor Center.

**Published in cooperation with the  
National Park Service by  
Southwestern Monuments Association  
Box 1562 - Globe, Arizona 85501**