

Cactus Forest Drive



SAGUARO NATIONAL MONUMENT

18 Miles East of Tucson, Arizona

15¢

NATIONAL PARKS AND MONUMENTS

Saguaro National Monument is one of more than 175 units administered by the National Park Service, U. S. Department of the Interior. They include such outstanding scenic areas as Grand Canyon and Yosemite National Parks and other Parks and Monuments set aside for their scenic, scientific, historic or archeologic values. These superb areas are yours and are a part of your heritage as American citizens.

The National Park Service has the job of preserving the Parks and Monuments in their natural, unspoiled condition and of making them available for your enjoyment in such a manner as to leave them unimpaired for the inspiration of future generations. To achieve this high purpose it has been necessary to prohibit such activities as woodcutting, hunting, grazing, mining and even flower-picking. The men in the uniform of the National Park Service are here to serve you, and will welcome the opportunity to make your stay at Saguaro National Monument more enjoyable.

We hope you will cooperate with us "by taking only pictures and inspiration and leaving only footprints and goodwill."

TIPS TO PHOTOGRAPHERS

Photographers will note that several trails have been laid out for their convenience. These lead to particularly fine specimens and groups of Saguaros, but have not been developed as permanent trails. They are merely guides to the better photographic locations.

The best time to photograph the Cactus Forest is late in the afternoon when the lengthening shadows make the cactus stand out in bold relief. Excellent views of the forest, with the Santa Catalina Mountains in the background, may be had from the hilltops as you drive north on the loop road. The Arizona sun is brighter than you think, so use a light meter.

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.

KEEP AMERICA BEAUTIFUL

* Cover picture by George Olin.



Ray Manley photo

THE NATIONAL MONUMENT

In 1933 President Herbert Hoover by presidential proclamation created Saguaro National Monument. Within its boundaries is found the magnificent forest of mature Saguaros that is recognized as the finest stand of this great cactus in the United States. It is one of the few National Monuments dedicated to the protection and preservation of a native plant species.

It is also one of the most diversified of our National Monuments. With an altitudinal range of over 5,000 feet its 63,000-acre area encompasses the peaks of two mountain ranges. Against this background of towering mountains the cactus forest is presented as a rare jewel mounted in an incomparable setting.

THE GIANT CACTUS

The Saguaro (*Carnegiea gigantea*) is the largest cactus native to the United States. Common in northwestern Mexico, its range north of the border is limited to southern Arizona, with the exception of a few isolated small colonies along the California side of the Colorado river. It grows on low desert plains and foothills in the hot dry climate of the Lower Sonoran Zone. A prominent feature of this desert landscape is the great variety of xerophytic (especially modified to exist on limited water supply) plants, especially the cacti. In response to the arid conditions under which it must survive the Saguaro exhibits a degree of adaptability equalled by few plants anywhere.

The construction of the Saguaro is simple, yet effective. The stem is supported by an inner framework of from 12 to 30 slender vertical ribs. Arranged in a circle and joined at various places these ribs form an openwork tube that possesses great strength and rigidity. In and around this tube is a spongy tissue capable of absorbing a great amount of water. This is facilitated by the accordian-like pleats of the interior surface of the stem. These extend or close together as the moisture content of the plant increases or diminishes.

The roots that serve this living storage tank are no less remarkable. The tap root is small and acts as little more than a pad to support the great weight of the plant. The radial roots are heavy and of great length. They radiate out from the base of the Saguaro, usually no more than a foot below the surface of the ground, but often to a distance equal to the height of the plant. They serve the double purpose of gathering food and moisture, and of holding the great bulk of the trunk upright against the fierce desert storms. In their progress



George Olin Photo

The red pulp and shiny black seeds of the Saguaro fruit are eagerly taken by almost all animals. Even man finds it delicious. The scarlet lining of the opened and split pod is often mistaken by newcomers for a red flower.



Ray Manley Photo

The Saguaro blooms at night, and on bright days closes about 10 the next morning. They attract swarms of insects, which in turn lure many birds. This is the state flower of Arizona and blooms in May and June.

through the rocky soil in which the Saguaro usually grows they become contorted and act as anchors which are not easily dislodged.

The associations of the Saguaro with other plants of the desert have not as yet been fully studied. However, it is apparent that for the first years of its life the young Saguaro seedling requires the protection furnished by a shrub or tree. Here it makes slow but steady progress until at 50 years of age it may be 10 to 12 feet tall. During the next century it may attain a height of 40 feet and a weight of several tons, dwarfing its protector of former years.

The ecological importance of the Saguaro to animals is better known. Two species of Woodpeckers, the Gila Woodpecker and the Gilded Flicker, drill deep holes into the plant and fashion nests in the cool interior. Actually this causes little damage to the Saguaro, which soon forms a thick scar tissue around the walls of the excavation, sealing it away from the rest of the plant. In succeeding years these nests may be taken over by Elf Owls, Sparrow Hawks, Flycatchers, or Purple Martins. Larger birds build their nests among the branches of the Saguaro. Chief among these are the Red Tail Hawks and Great Horned Owls.



Ray Manley Photo

YUCCA BLOOMS

YUCCA ELATA (PALMILLA, Soapweed) is one of the best known plants of the Southwest. The beautiful white plumes of flowers appear in May and June.

CACTUS FOREST DRIVE

While at Saguaro you will find it is desirable to take advantage of the recreational and educational facilities provided for your use. After you leave the Administration Building, signs along the 9.1-mile loop road will direct your attention to special exhibits along the way. Each area has been chosen because of features especially interesting to the visitor. Limited exploring and hiking trips are encouraged along Cactus Forest Drive. A picnic area provided with fireplaces, tables and ramadas is located at the 8-mile point.

Among the many stops along the Cactus Forest Drive five have been selected as especially important to an understanding of the natural features of the Monument. Each has "in place" information which will add to your appreciation of the Cactus Forest.

FIRST STOP

ROCK PARAPET—Approximately 200 years ago prevailing climatic conditions were of such nature as to permit germination of a large number of Saguaro seeds, creating the more or less even-aged stand of Giant Saguaros we see here today.

The Tanque Verde Mountains to the east are composed largely of crystalline rocks formed under conditions of great heat and pressure. They were elevated by movements of the earth's crust and now are gradually being eroded away.

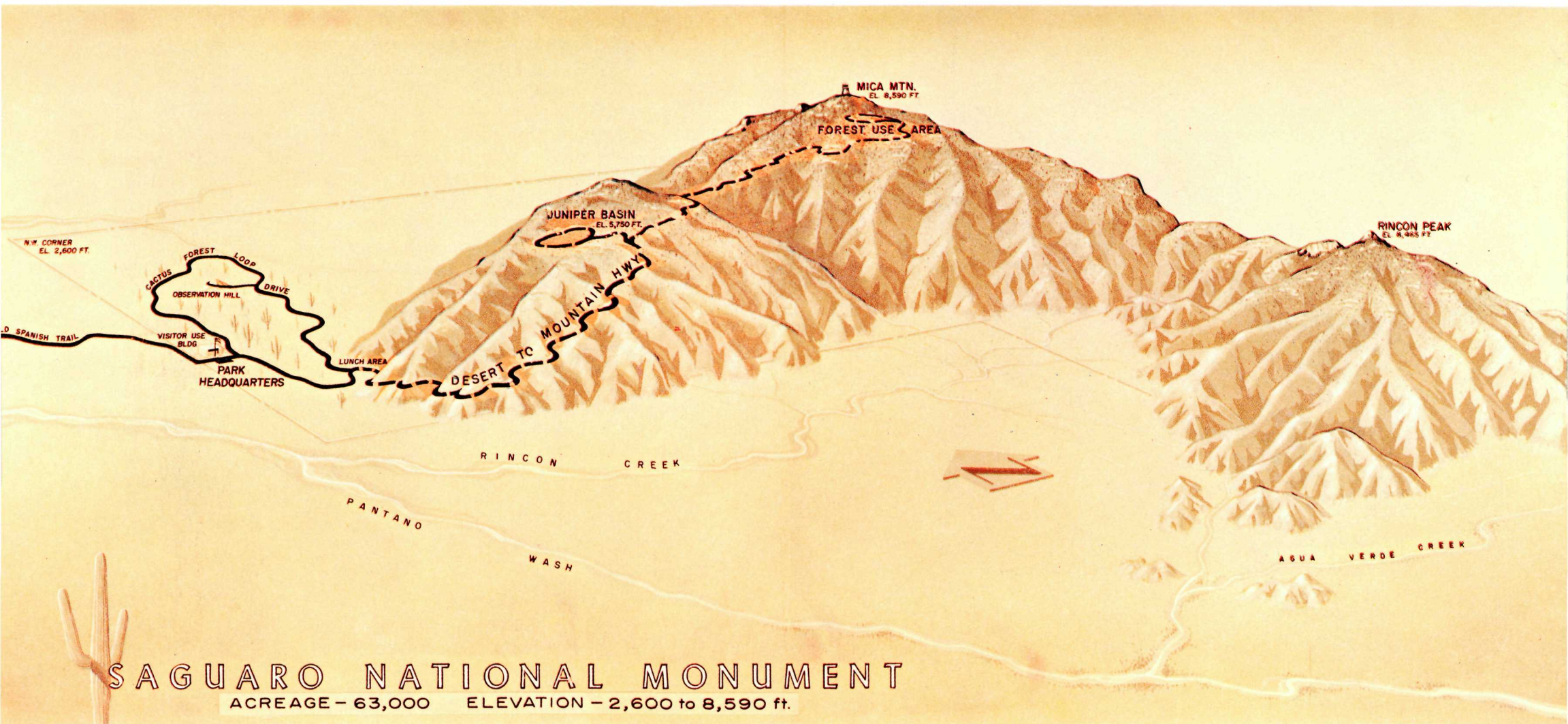
The Tucson Valley to the north is in reality a deep canyon (2,000 to 3,000 feet) filled with debris.

SECOND STOP

CRISTATE SAGUARO—This abnormal growth, called a cristate, is of rare occurrence. Many theories have been advanced as to what causes these "crests" but none hold true in all cases. Although the cause is unknown, the pattern of their growth is simple. Instead of growing in three directions the cells of a cristate grow only upward and outward in two. This results in a fan-shaped malformation with a long growing line in the center of the upper edge. Although a cristate may apparently develop from an injury, there is every reason to believe that, once established, the tendency to cristate becomes a genetic character. Seed from cristates often produce cristate plants. An excellent specimen of cristate Barrel Cactus may be seen at the entrance to the Nature Trail.

THIRD STOP

NATURE TRAIL—Along this 300-yard trail you will find most of the important plants native to the Cactus Forest. Each plant is labelled with both common and scientific names, together with much additional information.



THE DESERT AND THE MOUNTAINS

The Tanque Verde (green tank) and Rincon (inside corner) Mountains are an important part of Saguaro National Monument. This is presently the "back country" of the monument. The mountainous section has a wide variety of interests in the field of biology. The range of climates and life zones combine to make one of the most interesting stories to be found in any of your national parks or monuments.



George Olin Photo

Redtail Hawk

This large Buteo is a common resident of the Monument. It frequently nests among the arms of the Saguaro. Since its food consists mainly of small rodents it is one of the most beneficial of our birds.

FOURTH STOP

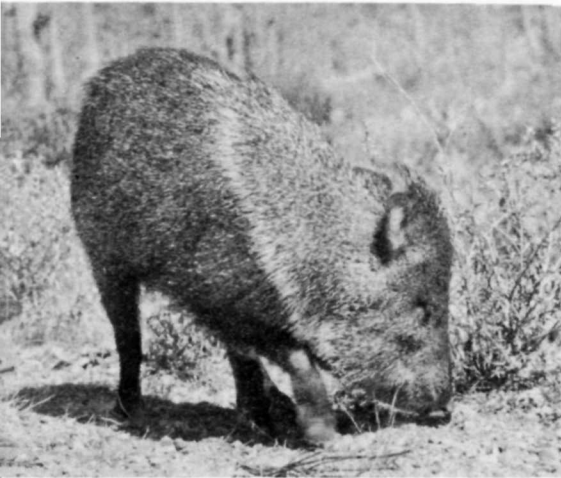
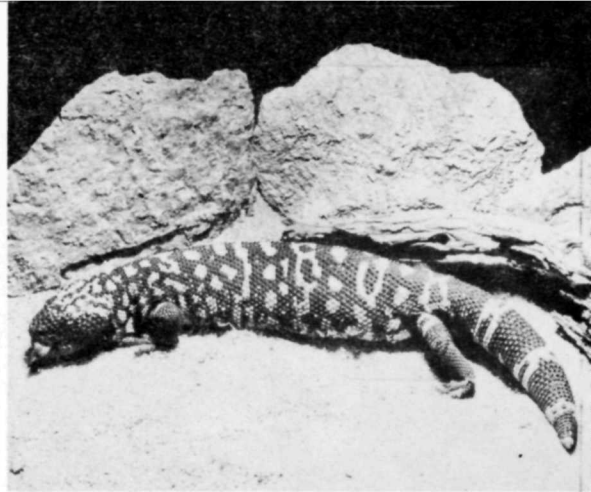
VIEW OF WEST SLOPE OF TANQUE VERDE MOUNTAINS—Saguaro cacti growing up to an elevation of 4,000 feet.

The country you see here is a good example of what is called the Lower Sonoran life zone. Here you may expect such typical desert animals as the Roadrunner, Gambel Quail, Kangaroo Rat, Jackrabbit and the Javelina or "wild pig".

FIFTH STOP

JAVELINA DEN (*hah-veh-LEE-nah*)—In these undercuts the Javelinas (or Peccary) often hide during the day to escape from the heat of the sun. At night many Javelinas are often present in this particular area due to the abundance of Jojoba bushes.

From the view point near the Javelina Den a striking view may be had of the distant Santa Cruz Valley. On a clear day seven mountain ranges may be seen from this spot.



Upper left—Screech Owl—These small grayish owls (usually with more conspicuous "ear" tufts) are permanent and valued residents of the Saguaro country. On their silent night-time hunts they eat great numbers of mice and insects.

Center—Western Box Turtle—Occasionally observed in the Cactus Forest.

Upper right—Gila (Hee-lah) Monster—The only poisonous lizard in the United States; it is protected in Arizona by law. Its skin is beaded and its color is marbled black with pinkish or yellowish. The Gila Monster reproduces by eggs which are laid in the sand.

Lower left—Peccary—Bands of peccaries, so-called wild pigs, are commonly seen along the Cactus Forest Drive.

Lower right—Palmer Thrasher—Robin-sized, with curved bill, long tail and gray-brown back. Often nests in the Cholla Cactus.





Mexican Mule Deer—Most people are accustomed to thinking of deer as animals of the forest, but surprisingly enough the rough foothill country in the desert supports a large population of deer. The Mule Deer is a true vegetarian and during the fall and winter browses extensively on trees and shrubs and during spring and summer consumes a variety of grasses and herbs. The young are born in late spring or summer and the fawns are sometimes seen at that time of year.



Upper left—Gilded Flicker—Many of the small holes in the Saguaros were made by this bird as it hollows out a cavity for its nest.

Center—Roadrunner—This odd looking, ground-dwelling relative of the Cuckoos resides in brushy places throughout the Southwest. It eats insects, spiders, lizards, small snakes and mice. Rattlesnakes sometimes are killed by Roadrunners.

Upper right—Whitewinged Dove—Large numbers of these birds may be seen in the Cactus Forest when the Saguaro fruits are ripe.

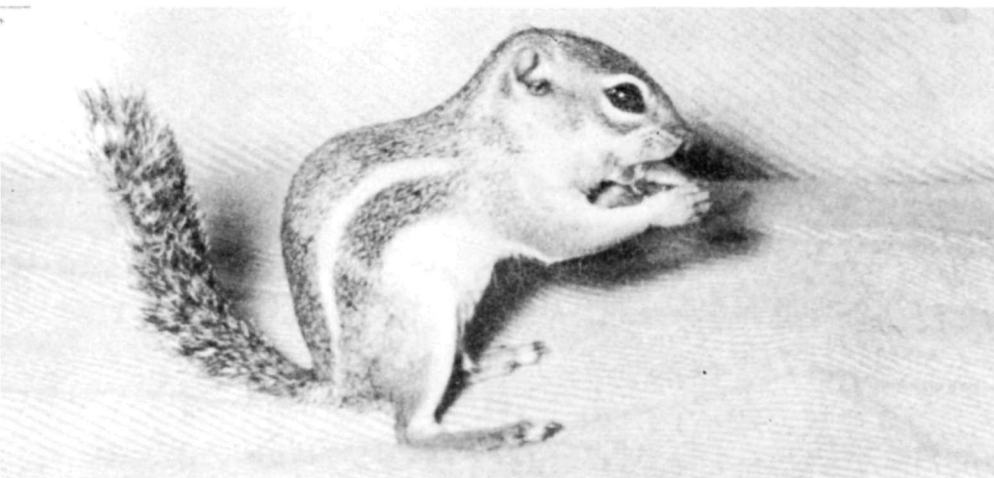
Lower left—Gambel Quail—A common desert dweller that may be observed at any season of the year. It nests on the ground.

Lower right—Arizona Rock Squirrel—Distinguished from the Gray Squirrels by their less bushy tail and mottled coat. They are ground dwellers, but can climb trees if necessary.





White-throated Wood Rat—Commonly known as the Pack Rat, this interesting animal builds its nest in a mound of cactus segments. Marauders think twice before they molest this spiny home. Seldom seen in daylight. Note the baby, lower left.



Above—Harris Ground Squirrel—A small ground squirrel with striped back and a bushy tail usually held erect. They are active during the day and may be seen from April through November.

Below—Arizona Round-tailed Ground Squirrel—Another common ground squirrel of the desert. It has a short tail and is tan in color.



Saguaro National Monument, a unit of the National Park System, is one of 180 areas administered by the National Park Service, U. S. Department of the Interior.

The traveling public is becoming increasingly aware of the National Monuments, which have received less publicity than the great, well-known National Parks, yet which possess extremely interesting features.

Many of these are in the Southwest; we hope you will take the opportunity to visit one or more of them on your trip.

*Administered as a group by the General Superintendent,
Southwestern National Monuments, Box 1562, Gila Pueblo, Globe, Arizona*

- IN UTAH:** Arches National Monument, Moab
Natural Bridges National Monument (care of Arches)
Rainbow Bridge National Monument (care of Navajo)
- IN NEW MEXICO:** Aztec Ruins National Monument, Aztec
Chaco Canyon National Monument, Bloomfield
El Morro National Monument, El Morro
Gila Cliff Dwellings National Monument (care of General Supt.)
Gran Quivira National Monument, Gran Quivira
- IN ARIZONA:** Canyon de Chelly National Monument, Chinle
Casa Grande National Monument, Coolidge
Chiricahua National Monument, Dos Cabezas
Coronado National Memorial, Star Route, Hereford, Arizona
Montezuma Castle National Monument, Camp Verde
Navajo National Monument, Tonalea
Sunset Crater National Monument (care of Wupatki)
Tonto National Monument, Roosevelt
Tumacacori National Monument, Tumacacori
Tuzigoot National Monument, Clarkdale
Walnut Canyon National Monument, Rt. 1, Box 790, Flagstaff
Wupatki National Monument, Tuba Star Route, Flagstaff

Other areas administered by the National Park Service in the Southwest follow:

- IN ARIZONA:** Grand Canyon National Park, Grand Canyon
Grand Canyon National Monument, Grand Canyon
Organ Pipe Cactus National Monument, Ajo
Petrified Forest National Monument, Holbrook
Pipe Spring National Monument, Moccasin
Saguaro National Monument, Rt. 8, Box 350, Tucson
- IN COLORADO:** Black Canyon of the Gunnison National Monument (care of Colorado
National Monument)
Colorado National Monument, Fruita
Great Sand Dunes National Monument, Box 60, Alamosa
Mesa Verde National Park
- IN NEVADA:** Lake Mead National Recreation Area, Boulder City
Lehman Caves National Monument, Baker
- IN NEW MEXICO:** Panderlier National Monument, Santa Fe
Capulin Mountain National Monument, Capulin
Carlsbad Caverns National Park, Carlsbad
White Sands National Monument, Box 231, Alamogordo
- IN OKLAHOMA:** Platt National Park, Sulphur
- IN TEXAS:** Big Bend National Park
- IN UTAH:** Bryce Canyon National Park, Springdale
Capitol Reef National Monument, Torrey
Cedar Breaks National Monument (care of Zion)
Timpanogos Cave National Monument, Pleasant Grove
Zion National Park, Springdale
Zion National Monument (care of Zion)

This booklet is published by the
SOUTHWESTERN NATIONAL MONUMENTS

Box 1562 H, Gila Pueblo, Globe, Arizona

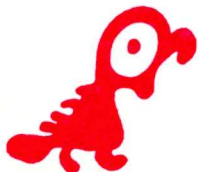
which is a non-profit distributing organization pledged to aid in the preservation and interpretation of Southwestern features of outstanding national interest.

The Association lists for sale interesting and excellent publications for adults *and* children and very many color slides on Southwestern subjects. These make fine gifts for birthdays, parties, and special occasions, and many prove to be of value to children in their school work and hobbies.

May we recommend, for instance, the following items which give additional information on Saguaro National Monument and the Southwest?

- ***3. **ARIZONA'S NATIONAL MONUMENTS.** King, ed. Comprehensive chapters, written by rangers, on the 16 monuments in the state and Grand Canyon. Beautifully illustrated, 8 color plates, maps. 116 pp.....\$3.00
- ***45. **FLOWERS OF THE SOUTHWEST DESERTS.** Dodge and Janish. More than 140 of the most interesting and common desert plants beautifully drawn in 100 plates, with descriptive text. 112 pp., color cover, paper.....\$1.00
- ***60. **FLOWERS OF THE SOUTHWEST MESAS.** Patraw and Janish. Companion volume to the Deserts flower booklet, but covering the plants of the plateau country of the Southwest. More than 140 spec.es are beautifully illustrated in the 100 plates of line drawings by Jeanne R. Janish, with descriptive text, 112 pp., color cover, paper.....\$1.00
- ***61. **FLOWERS OF THE SOUTHWEST MOUNTAINS.** Arnberger and Janish. Descriptions and illustrations of plants and trees of the southern Rocky Mountains and other Southwestern ranges above 7,000 feet elevation. 112 pp., color cover, paper.....\$1.00
- ***64. **POISONOUS DWELLERS OF THE DESERT.** Dodge. Invaluable handbook for any person living in the desert. Tells the facts about dangerous insects, snakes, etc., giving treatment for bites and stings, and dispels myths about harmless creatures mistakenly believed poisonous. 48 pp.....\$0.50
- ***67. **ANIMALS OF THE SOUTHWEST DESERTS.** George Olin and Jerry Cannon. Interestingly written accounts of 42 desert dwelling mammals with 75 line drawings. 112 pp., color paper cover.....\$1.00
- **107. **TUMACACORI'S YESTERDAYS.** By Earl Jackson. The interestingly written story of 18th and early 19th century Indian and Spanish life in southern Arizona and Sonora as reflected in the history of the mission of San Jose de Tumacacori, now Tumacacori National Monument. 96 pp., color paper cover, 53 excellent illus.....\$0.75
- **131. **NALAKIHU.** By Dale S. King. Thorough and concise reports on an interesting pueblo in Wupatki National Monument. Technical but has interesting summaries and discussions. 193 pp., 81 plates, 17 tables.....\$4.00
- **650. **FOR THE DEAN.** Erik K. Reed and Dale S. King, eds. Handsome volume of anthropological essays by 23 of his former students in honor of the noted Dr. Byron Cummings of the U. of Arizona. Valuable contribution to science, consisting mostly of Southwestern subjects. Authors include Haury, McGregor, Hawley, Wedel, Willey, Spicer, etc., and subjects cover wide field: Pueblo witchcraft, Cocopah history, Papago physical status, Great Kivas, etc. 319 pp., illus., cloth.....\$6.00

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