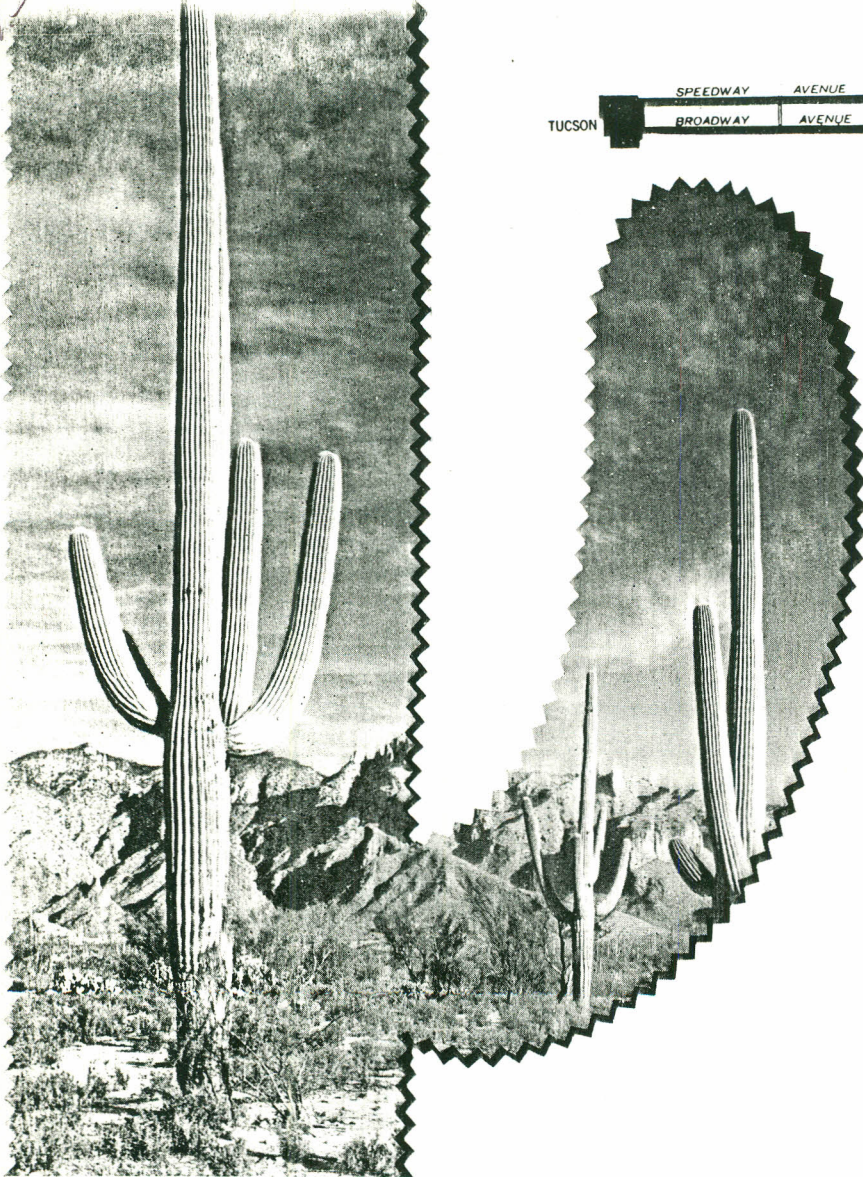
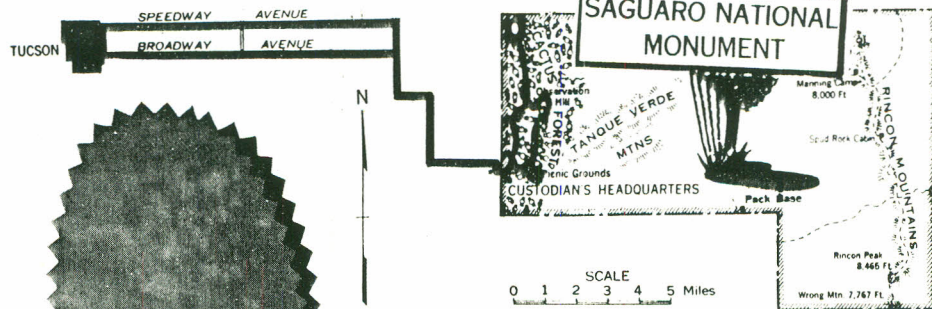




PHOTOGRAPHS BY JOSEF MUENCH



Mentioned as early as 1540. First Anglo-Saxon mention of it was by J. O. Pattee in 1825.

In The Land of The Desert Giants

By JOYCE ROCKWOOD MUENCH

Sometime about the middle of the 18th century there was a sudden increase in the population of southwestern Arizona. Unmentioned by historians, thousands upon thousands of new inhabitants took over the western foothills of the Tanque Verde Mountains. Above them, on the east the Rincons waved banners of quaking aspen and evergreen, and the small Indian village of Tucson slumbered in the long valley to the west. Happy in a land of flaming sunrises and sunsets, the settlers found favored spots, put down their roots and have stayed there ever since! Many individuals, now around two hundred years of age, can be visited and marveled over!

Not until March 1, 1933, did the Federal Government take official notice of this remarkable event by setting aside 63,000 acres as the Saguaro National Monument!

It was about two hundred years ago that conditions of weather and soil were just right for the germination of countless tiny Saguaro seeds. Ordinarily only 1 out of 275,000 of them reach maturity, but in that propitious time, for reasons we can only guess, a very large proportion escaped their natural enemies. There were forests of Saguaro in the area then, and new individuals continue to rise, but never since

has there been such a sudden increase in their numbers.

At the end of two years, the babies were about a quarter of an inch in diameter! Conditions continuing to favor them, another ten years found the ground covered by sturdy little plants with long sharp needles, but still less than four inches high. It was perhaps thirty years before the forests averaged three feet in height. Then growth accelerated until it amounted to four inches every year. At about the turn of the century, the great columns were ready to start branching and to wear crowns of waxy-white blossoms. Today they present a weird-

CAMERA DATA

RIGHT—"EVENINGTIME IN SAGUAROLAND" By W. G. "BILL" BASS. This picture was taken on 4 x 5 Ektachrome, F27 at 1/2 second, using Burke & James Press Camera equipped with Schneider-Kreuznach Xenar 135 mm lens. As the sun wanes the Saguaros throw long shadows across the landscape.

CENTER PANELS—"SAGUAROLAND" By JOSEF MUENCH. The photographer says: "It was one of those wonderful days in the Southern Arizona desert when you know that nowhere else is the air so soft or the lights as exciting, with the Ocotillos in bloom and the Saguaros massed on the hillsides." Speed Graphic, 5 in. lens, 4 x 5 Daylight Kodachrome, F34 at 1 second, no filter.

ly beautiful sight, marching over the rolling foothills, many 35 feet in height, freely branching with arms tossed about in every direction. Ghostly in the night and grotesque in any light, their domain has been called "The Wilderness of Unreality."

Among the largest of the prolific Cactus family, which is native only to the Americas, a single specimen may weigh from eight to twelve tons! While its relative, the Prickly Pear (*Opuntia*), is found from Canada to the Horn, the Saguaro's range is far more limited. In fact, its entire range is Sonora, Mexico, three small areas in southeastern California, and this garden spot in southwestern Arizona, in the heart of which is set the Saguaro National Monument. It occurs, though not continuously, along the headwaters of the Yaqui River in southern Sonora, northward to the southern edge of the Colorado Plateau, rarely more than 150 miles inland from the Gulf of California. In southern Arizona the zone of growth follows the contour of 3500 feet on the east and north and the lower course of the Colorado River on the west.

Most particular about exposure and soil conditions, the Saguaro finds ideal conditions in the foothills of the Tanque Verdes where soil is coarse, made up of rock and detritus from the peaks and hills, with stones to give them mechanical support for their great bulk. Able to absorb a maximum of a ton of water after a single rainstorm, the plant requires perfect drainage. Individuals have been known to "pump" in so much that the outer tissues split open! The intricate storage system is capable of maintaining growth and blooming for years without further moisture!

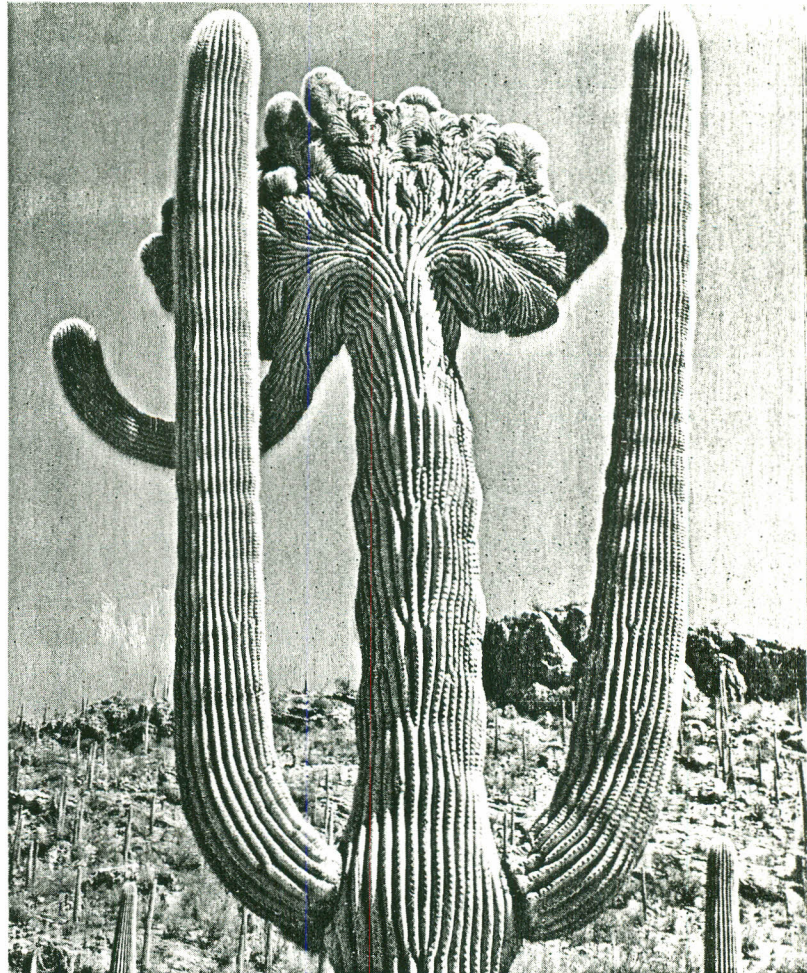
Since we cannot count upon another climatic holiday for the Saguaro, when new colonies like these will spring up, sometimes 15,000 to the square mile, it is important that these stands be protected. Like the Big Trees of the Sierras, the Coast Redwoods and the aged Joshua Trees, the Saguaro is a precious heritage of the past, which, unless cherished and watched over, will surely disappear forever.

This is the purpose of the Saguaro National Monument and if the interest shown by increasing travel to the home of the Desert Giants is indicative, people are becoming aware of its value, enjoying the charms of this climax of the Lower Sonoran Desert—fascinated by what they find here.

The Monument is 17 miles from Tucson, with signs guiding you from that fast-growing resort city out to the headquarters of the Saguaro. You are urged to stop and register at the pleasant low house, surrounded by a cactus garden. Strangely enough, this part of the preserve is state land, leased by the Federal Government with an easement on the roads to permit the use of Federal funds. You are already in the desert, where all water must be hauled in, although the fountain with cold drinking water at the door may mislead you.

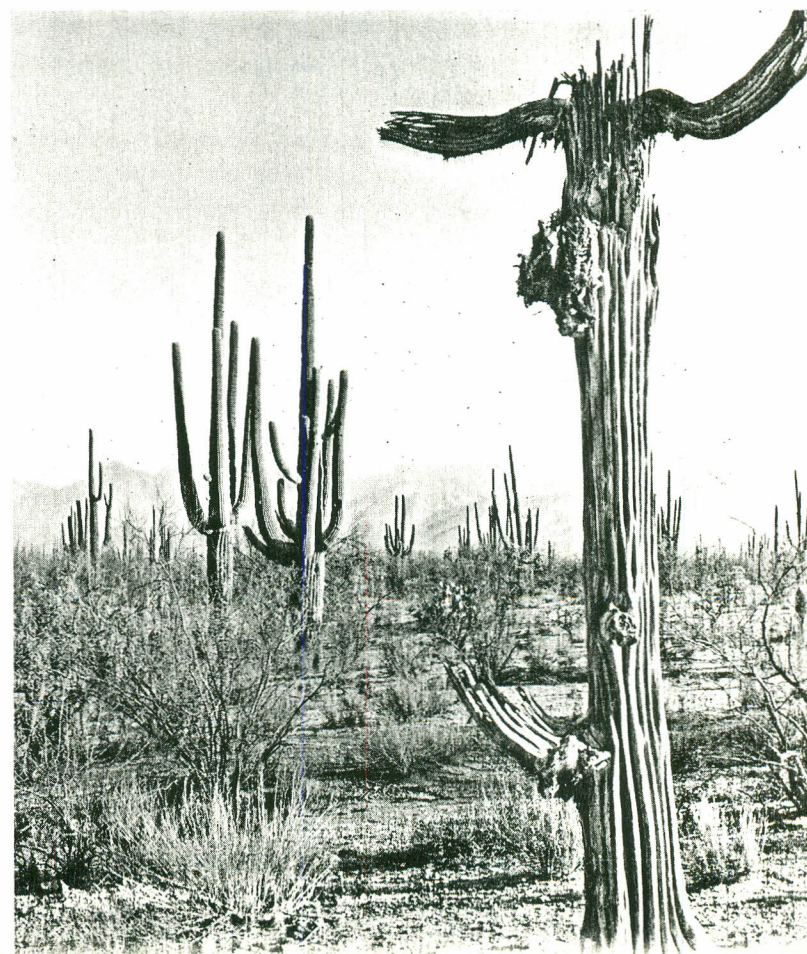
CAMERA DATA

LEFT—"THE SENTINELS" BY O. ROACH. Mr. Roach, a resident of Denver, is noted for his color portrayals of the lakes and mountains of Colorado. On a visit to the Southwest he was struck by the flora and coloring of Arizona. One of the highlights of his trip was a visit to Saguaro National Monument. "While roaming around the Monument," he says, "I found this unusual group of Saguaro and the setting appealed to me because they were all standing straight up and showed no signs of branching out." Mr. Roach uses a Roach Special camera, built for his own needs, with 14 inch Eastman Ektar lens. Recorded on 8x10 Kodachrome.



A "cristated" Saguaro is a weird fan. Fanlike branches were caused by cell injury, resulting in undue growth of the cells.

The Saguaro does not lose its dignity even in death. This giant of the desert shows the framework which makes it so unique.





The blossoms of the Saguaro are white and waxy.

Because of the rolling hills, not a single big cactus is visible from Headquarters and it is a standing joke for visitors to climb out of the car and inquire:

"Where are the Saguaros?"

While registering and receiving a mimeographed leaflet presenting a self-guided tour over the loop road of nine miles, you can study a whole gallery of photographs that hang conveniently in swinging cases. They have been gathered over a period of years and portray the nightlife which you are not apt to glimpse, as well as some of the remote points of interest to whet the appetite. Nocturnal inhabitants include the rare hooded skunk in his beautiful black and white coat, the porcupine who seems to have special relationship with the spiny family of cactus. There are also, you will be told, badger, grey fox, rabbits, white tailed and desert mule deer, with bear, bobcats, ringtails and mountain lions in the higher regions. The speedy wild peccary or javelina may be only as far away as over the first hill, but seeing him will be merely good luck, as the Superintendent's wife will tell you. She has been "hunting" them (visually only, of course, since all national parks and monuments are game preserves) for two years without getting closer than having other people come in to say that some just ran across the road in front of their car!

The Superintendent is King of the Saguaro National Monument. That may sound odd in this country without titles, but his first name is Sam. He, his wife and daughter, make up the permanent human population of the 63,000 acres. Between fire season, which may call at any time for a sudden pack trip into the forests of the Rincons, the winter travel sea-

son with thousands of people pouring in each month, the Kings are busy people. If you are tempted to think of the post as lonely, consider that in 1948—20,146 people registered, in 1949—22,968, and for the first half of 1950—19,819 had already come to pay their respects to the Giants!

A great many of them are intensely interested in birds and any conversation with Sam King is apt to be interrupted by questions, as a pair of wings zoom past, to light on any nearby bush or their own private dinner table just behind the headquarters building. The impressive list of birds keeps even the most determined of birdlovers on the jump. The Gilded Woodpecker, for example, enjoys almost the identical range of the Saguaro and makes his home in holes punctured in the big trunks. The plant responds to this indignity by developing a scar tissue lining shaped like a wooden shoe, where the eggs are laid. The tiny Pigmy Owl uses the same nest when its maker is through with it and after the Saguaro dies, the linings are found among the ruins of sloughed off outer tissue and a pile of long canes that make up its "bony" structure. Indians have been known to use the water-tight containers as storage pots for jams and jellies or for water jugs. Other birds make themselves known by song, habit of flight or dash of color as the Cactus Wren, red shafted flicker, Palmer thrasher, linnets, and the larger roadrunner, Gambel Quail, Desert Sparrow Hawk and Western Red-tailed Hawk. The mourning dove is an itinerant, staying only enough to raise four or five families in a season. But even after he has gone off to other resort spots, his soft voice seems to haunt the hills and valleys.

The Saguaro is not, of course, the only plant that offers food and protection to birds and animals on the monument. Spreading from the Lower Sonoran life zone clear up to the Canadian one, where the Rincons tower at 8,590 ft. in Nica Mountain is an amazing variety of flowering things.

Other cacti include at least eight varieties of the ultra-spiny Cholla, five different Prickly Pears, numerous hedgehogs, barrels, and the night-blooming cercus. Contrary to common belief, these desert dwellers, particularly when young, cannot live in the unshaded glare of the summer sun. So a remarkable kind of partnership may be observed. Saguaros grow up through branches of the golden bloomed Palo Verde Trees, barrels peep through Creosote bushes or Mesquite. Mingling with Mormon tea, Brittle Brush, Cat Claw or Jojoba, cactus, succulents and other hardy species make up a heavy desert population.

Higher up, spring finds the Tanque Verdes and the Rincons aglow with the color of delicate annuals as well. Fields of lupines, yellow encelia spread out, accented by purple pentstemon, phacelia and other flowers.

The Saguaro, however, requires considerable area for its best development and cannot crowd in too closely with its own kind. It is in many ways a unique accomplishment in the plant world and its life story a fascinating one.

In order to survive, a tremendous number of seeds must be produced since so few of them survive. The root system is very shallow and small in comparison with the height and bulk, yet only seldom is a healthy plant windthrown. A minor taproot and wide laterals which may extend as much as sixty feet from the trunk are always on the alert for moisture, staying within a few inches of the surface to catch whatever falls. From them the water is conveyed up into a myriad of fleshy

cells, held in position by a circle of rods which extend to the top of the trunk and branches, the whole wrapped in wax!—actually a thick green cuticle which prevents evaporation except as the small rounded areas called areoles, where the spines and flowers grow. When moisture is scarce, the entire structure shrinks and becomes wrinkled, swelling out when water is supplied again, like an accordion, and becoming firm. The spines on the outside of the plant offer a certain amount of shade as well as discouraging animals from eating the succulent flesh.

While not many diseases or pests attack the Saguaro, an injury to the circular cell group at the apex sometimes produces the crested or "cristate" forms. Weird and interesting, they are actually a sort of cancerous growth where the cell grows too rapidly and may be caused by bacteria or perhaps the stab of a bird's bill.

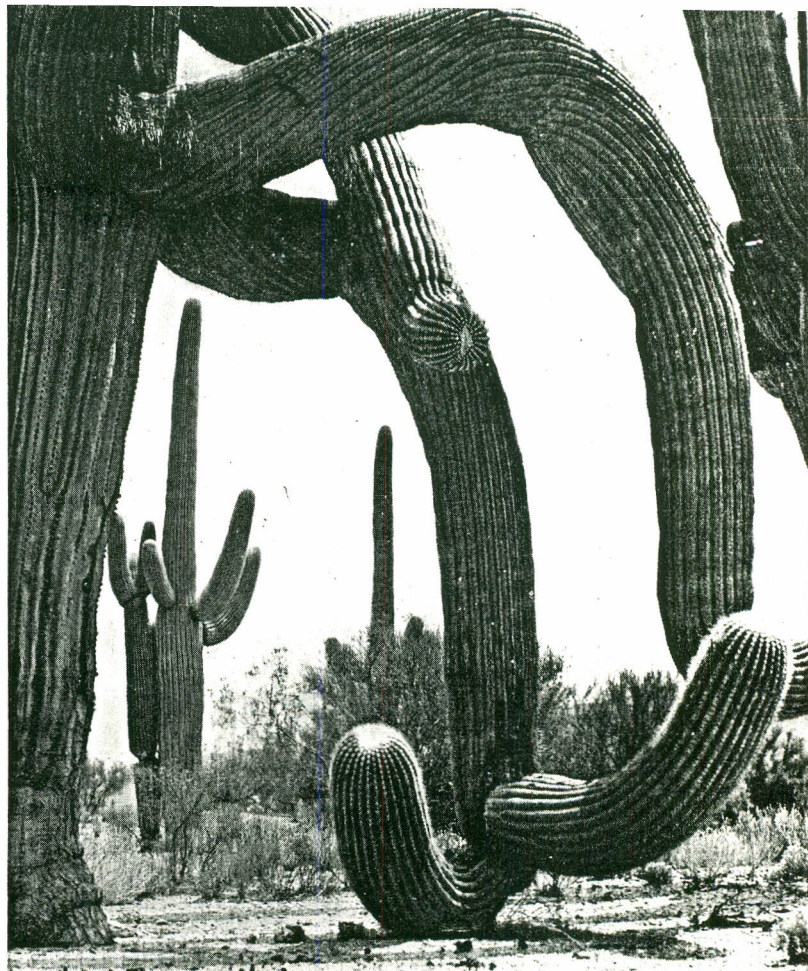
In recent years a necrosis attacked many of the great plants, threatening to wipe out vast forests of Saguaros. Penicillin was pumped into the sick trees and some of them were cut down and carted away for burning and burial. Scientific studies were made on the problem and it is believed that the infection is now under control.

Surprisingly enough, the first botanical description of this amazing plant was not made until 1848. It was undoubtedly known to the early missionaries and explorers, being mentioned as early as 1540. The first Anglo-Saxon mention of it was by J. O. Pattee in 1825.

Its botanical name is *Carnegiea gigantea* in honor of Andrew Carnegie, but the Indians have called it Saguaro for many centuries. That spelling, finally fixed upon as official, still differs with Britton and Rose who list it as "Sahuaro." The government had the choice among numerous published spellings including: Suahoro, Suguaro, Suwarrow, Suwarro, and Zuwarrow. But a Saguaro, like a rose, is still a Saguaro by any other name!

Plans are under way to place under the protective wing of the National Park Service, an additional perhaps 10,000 acres, studded with fine stands of Saguaro. In this area is a splendid Cristate, standing among other grand specimens, with a great fan shape from which dips a single arm, the whole framed by two symmetrical branches which seem to protect the unusual form.

When this section has become part of the Monument, it will have archeological interest as well as biologic, for on some of the diabase rocks that cover rugged foothills, prehistoric man left a wealth of pictographs. Scratched into the "desert varnish" are hundreds of strange figures. Hands, stick figures, circles and angles, and all the symbol language of early people can be seen. Some of them have been destroyed by that malicious mischief-maker of nature—erosion. The surface of rock has peeled off and tumbled like a broken slate around the big boulders where the early writers must have sat to scratch these fascinating petroglyphs. Like other writings found on rocks throughout the southwest, they will probably never yield any new information about the life of those times. They are disconnected pictures rather than messages, but are worth saving as a part of the record of our country. The number which have already been erased by natural agencies suggests that unless the others are protected by mechanical means from the weather as well as from unthinking people, they will soon be entirely gone. Such curiosa should be protected.



The Saguaro grows in strange and grotesque shapes.

The Master Plan for Saguaro National Monument presents a thrilling prospect of what future visitors may someday find. It calls for federal acquisition of the land now owned by the State of Arizona and by the University of Arizona. A paved road will lead, not only through the wonderful Saguaro Forests, with paths leading into remote areas, including the section of the petroglyphs, but wind up into the Rincons. With its terminus at Manning Camp at 8,000 feet altitude, it will give access to spacious campgrounds in the pines and aspens. Water is plentiful there as it is decidedly not in the lower stretches where only picnic grounds can be permitted. Then it will be possible to spend nights on the monument and to enjoy the nocturnal dwellers as well as those who come out in daytime in the high country. The coolness of the uplands will bring people in every season, offering a range of temperature that is exhilarate.

The Saguaro, whose blossom is the state flower of Arizona and whose fruit has long been used by birds as well as the Indians, has come to be symbolic of the essence of the desert. Stately, grotesque, mimicking the moods of people in its eternal posturing, with living specimens as old as our nation, it deserves the admiration and protection of us all. Although a member of the vegetable kingdom, it has made its contribution to the "melting pot," adding variety to the scenic grandeur of our land.

The Saguaro National Monument is its "home" where you may become acquainted with it and its life history, as well as its interesting neighbors, knowing all the while that we as a people are insuring the continued long life and prosperity of one of Nature's most unique children.