



Season's Greetings



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### CACTI REFORESTATION PROJECT

Tucson Cactus & Botanical Society has done it again. When this organization completed John Haag Memorial Garden in the internationally known Arizona-Sonora Desert Museum in 1965, it was its first major project. This Garden attracts tourist visitors in the study of cacti of the Sonoran Desert. In the Club meeting of July 13, 1969, the Cacti Reforestation Project was born: an innovation, a new concept, a "national first". Its objective is to raise Arizona native cacti from seed. When the cacti plants are mature enough to withstand the outdoor environment, they will be planted in Federal-owned and State-owned land, by our club members. Hundreds of these seedlings are now growing in members' improvised "greenhouses", and are well on the way to becoming a part of this project.

We are hopeful that other cactus clubs in this country will organize Cacti Reforestation Projects in their areas, in an effort to stop the cacti's rapid pace of vanishing from the face of the earth. This is happening to many flora today as it has in the past. At this time, we are planning to do our first outdoor planting in May or June, 1970. We shall give the Carnegie gigantea (saguaro) the King (or is it Queen?) of cacti in the State of Arizona and also the State Flower, the honor of our first planting, in this worthy project.

This is a new concept of what members of cactus clubs can accomplish in specific and constructive ways. We have received many favorable comments and much encouragement from such notables as Governor Jack Williams, Congressman Morris Udall, several educators in this area, and officials of the U. S. Department of Interior. This is an innovation in cactus club activities as we know nothing of such projects on record. We realize that the success of this project depends largely upon the enthusiasm of members of our Club. It is really a "national first" in this field of conservation. We find ourselves not only committed but dedicated to its success.

Chairman: J. F. Brick. Committee: Alan Blackburn  
Roger Dean, Nancy Clarke, Alan McIlison

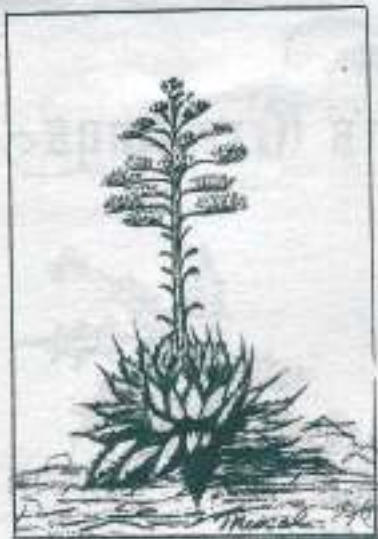


Fig. 6 Agave Shawii-Mescal.  
(Sketch by Roberta Humphrey,  
wife of the author)



Fig. 7 Cardon Cactus.  
(Drawing by Roberta Humphrey)

PLANTS OF THE VIZCAINO DESERT OF  
BAJA CALIFORNIA\*

BY ROBERT R. HUMPHREY

MESCAL (AGAVE SHAWII)

As all of the Agave group are commonly referred to as mescal or century plant it would seem appropriate to call *Agave shawii* Shaw's mescal. And so we shall think of it here, though we may speak of it sometimes simply as mescal.

Although this (and other) species of mescal frequently associate with the cirio, the two are almost as different as day and night. Both store water against the day, or better, the season or year when it may not rain. Cirio, however, stores its supply in the stem while mescal finds its leaves a better reservoir.

Shaw's mescal, like all of the century plants, grows for several years, perhaps 10 or 20 or 30, but certainly not 100 despite the name, before it blooms. It then gives its all for what is literally a dying effort, blossoms, sets seed and dies. The cirio, by way of contrast may wait 30 or 50 or more years before blooming for the first time. After that, it continues to flower and set seed year after year for several hundred years. Both methods work for there are large numbers of both species of all ages in the Vizcaino Desert. As might be expected though, one sees large numbers of dead mescal plants but very few skeletons, even though these few may remain standing for many years before succumbing to termites, wind and decay.

There are several species of mescal in the Sonoran Desert and that portion of it that is the Vizcaino Desert. All are interesting in their own way but none is quite as eye-catching as the one named for Mr. Shaw (Fig. 6). Several features make it outstanding, most of them related to its size. Towering above the other mescals in the area, the flowering stalk of this one shoots up to a height of about 15 feet. The elongating stalk more nearly resembles a giant stalk of asparagus than anything else that comes to mind. The heavy stalk, which may be 3 to 4 inches in diameter, has no true leaves though it does bear widely

\*Research carried out under National Science Foundation Grant GB 6697, Ecology of Idria.



spaced leaf scales that hug the stem. As the stem shoots up, the flower-bearing branches develop in the axils of about the upper half of these scales. These branches elongate rapidly as the main stalk reaches its full height, finally ending in a dense cluster of greenish yellow to orange flowers held up to the sky for the bees and hummingbirds.

Although the flower stalk is the most spectacular feature of the plant, the rosette of large basal leaves in which the stalk is centered is a thing of beauty in itself. The numerous heavy, bright-green leaves range up to about 5 inches wide and 20 inches long. They are well protected by a strong sharp spine at the tip and by vicious looking spines along their margins. These spines are all made for business and one does not tangle with them. Where most cactus spines can puncture and be uncomfortable, these can tear and rip like the claws of a cat.

In a land where there are few trees and little to use as building materials the large, straight stalks of Shaw's mesquite find ready acceptance as a sort of substitute for logs. They are neither very large nor durable but are easy to collect and serve as a foundation for mud-plastered walls, as corral reinforcing and to make short stretches of fence around homes and garden plots. When green and in the bud or early flower stage the stalks are cut and used as feed for livestock. This always seems such a waste of the years of growth that each stalk represents, but man and his hungry animals have no sympathy for the wasted reproductive effort of one century plant.

#### CARDON (SAHUARO) (*PACHYCEREUS PRINGLEI*)

Probably the best way to describe the cardon cactus to those familiar with Arizona is to say that it resembles an enormously heavy sahuaro (Fig. 7). Particularly when young, before it develops large side branches, there is a close similarity to the sahuaro. With maturity and increasing age, however, the two become increasingly dissimilar.

The name "cardon", by which this cactus is almost universally known in Baja California, is also applied to other large cacti of the region, the sahuaro (*Carnegiea gigantea*), and (*Pachycereus pecten-aboriginum*). Here I shall refer to "cardon" only with reference to *Pachycereus pringlei*, in part because this is the only one of the three that occurs in the Vizcaino desert.

The distribution of the cardon and sahuaro is interesting in that both find conditions over a considerable portion of the coastal area of Sonora to their liking and where their ranges overlap for a distance of almost 200 miles. Although the cardon is abundant in the Vizcaino Desert, there is no sahuaro there, or indeed, anywhere in Baja California. What has kept it from somehow becoming established on this peninsula during the millenia that it must have been flourishing a short distance to the east across and near the head of the Gulf of California? Or, by the same token, why has the *boojum* tree remained restricted to its limited range for perhaps an equal length of time? Seeds of the sahuaro are carried by birds, doves, in particular, and it would seem that they must have been dropped many times on fertile ground across the Gulf. The *boojum*, whose seeds are windborne, has managed to establish one outpost in the Sierra Bacha Mountains, south of Puerto Libertad, in Sonora, 75 miles from the nearest Baja California stand on Angel de la Guarda Island.

One would not have to be aware of the cardon's generic name (*Pachycereus*) to see a strong resemblance between the basal portion of its trunk and the leg of an elephant. Although the cardon trunk is larger, it has



the same solidity and spreads out a little as it enters the ground, much like the toes of an elephant. Both are thick, fairly smooth and gray.

Forrest Shreve in his Vegetation of the Sonoran Desert says the cardon may reach heights of 50 to 60 feet. Although we have not made a consistent search for abnormally tall individuals in Baja California, we have measured occasional plants that appeared unusually tall. Thus far none has been found that was taller than 48 feet. This is about as tall as the sahuaro, which may reach a height of 50 feet.

The cardon has its greatest thickness near the ground in contrast with the sahuaro which usually reaches its maximum diameter more than halfway to the top. And, where the sahuaro tapers to a relatively slender basal diameter of 5 to 8 inches, the cardon stands solidly with a massive 20 to 24-inch spread. The massive trunk and the heavy branches, many of which originate near the ground, give the cardon an impression of durability, great weight and an age greater than that of the sahuaro. Which of the two has the longer life span no one knows but I would hazard a guess that it is probably the cardon.

It would seem plausible to expect that the cardon and sahuaro, since they look much alike and are sufficiently closely related to be both put in the same genus by some taxonomists, would bear similar fruit. For whatever reason, however, the fruits are very dissimilar. Those of the cardon resemble a large chestnut burr with a dry inedible interior. The sahuaro, as most of us so well know, is fleshy and splits open at maturity to expose a bright red, juicy and very tasty, fleshy mass that surrounds the seeds. The sahuaro fruits are highly edible and have long been sought after not only by the Indians and later settlers of the Southwest, but by birds, ants, coyotes and other animals. The dry cardon fruits may have some food value but except for the small seeds which might be most eaten by birds and ants, would seem to be so unattractively packaged as to repel rather than attract most potential foragers.

#### POSTSCRIPT

The boojum, stilillo, torote, mescal and cardon are only 5 from a large number of plants that grow as dominants in the Vizcaino Desert. Others are equally interesting, and some are much more abundant. And some, in their own way, are just as striking. The golden-orange dodder, that often literally envelopes the torote in a parasitic shroud of gold; the gray festoons of lichen that drape the boojum where the moist Pacific winds sweep inland; the heavy clumps of Spanish moss that cling to the sides of the cardon or that look like some strange kind of bird nest attached to the ocotillo and other shrubs; or even the yellow clumps of lichen that sprout like some other-world form of life from every rock and bush in some areas; these and many others give this down-under land a unique fascination that draws one back again and again and again. It is a harsh and a rough land. It has little water and can be unbearably hot. The dust in the roads can be unbelievably deep and hills steep and paved with boulders that can wrack and wrench any car to the breaking point and beyond. Even the mud in the rainy seasons can seem to have no bottom. We have been through all this and much, much more, yet we still keep going back. In part the lure is the unfinished boojum story; in part it is the challenge that is Baja but in large part it is the complex, unexplainable fascination of this Alice-In-Wonderland Vizcaino Desert.

This concludes Dr. Robert R. Humphrey's fascinating article on "Plants of the Vizcaino Desert of Baja California". Cactus Capital Chatter editor and all members of Tucson Cactus & Botanical Society remain greatly in-



debted to you, Dr. Humphrey, and to your wife for your generosity in presenting this to us. You are, indeed, the Guides Ideal in having taken us on this colorful and most interesting trip through Vizcaino Desert of Baja California. We do trust that you will again favor us with reports of other safaris in that fabulous land.

### CACTUS SHOW PRESENTED BY TUCSON CACTUS & BOTANICAL SOCIETY

The Men's Garden Club of Tucson invited the Tucson Cactus & Botanical Society for the second time to present an exhibit for their Ninth Annual Flower Show. We are proud to report that again we received their Award of Appreciation ribbon for an excellent display which attracted enthusiastic viewers.

Cactus Show Chairman, Craig Bolton, was ably assisted by Anthony Steinmetz, Hildegarde Naegele, Jim Robbins, Alan Blackburn and Nancy Clarke. Jim Robbins was responsible for most of the succulents on exhibit. Hildegarde Naegele added her collection of Rebutias. Carl and Wanda Horst showed several specimen plants. Anthony Steinmetz contributed some of his favorites. Nancy Clarke's plants were plentiful as were those of Alan Blackburn. AND -- all these fine members worked hard to perfect this Cactus Show. All have our vote of appreciation for the time, thought and physical stamina involved in their planning and carrying out such an excellent exhibit.

Members of TCBS who entered plants to be judged in this Show were: The Carl Horsts, the Alan Blackburns, Nancy Clarke. These are awards which they received: 1st Place--Alan Blackburn; 2nd Place--Carl Horst; 3rd Place--Nancy Clarke; 4th Place--Alan Blackburn. About 200 species were represented in the show, including one of Alan Blackburn's 150 Golden Barrels which he raised from seeds which he planted in 1955; also his *Notocactus leninghausii*, one of its six arms crowned by five perfect blooms. A number of others in flower included *Lithops*, *M. rhodantha*, *Gynos Friederickii* and *denudatum*, *Paredia querispina*, and *Rebutias*, their colors ranging from white and yellow through lavenders, pinks and purple to maroon. An educational exhibit of stages in cactus development from the seedling sprout to maturity was arranged by Alan Blackburn and Nancy Clarke.

Staffing the display and kept busy answering questions were: Betty and Alan Blackburn, Helen Bolton, Craig Bolton, Nancy Clarke, Carl and Wanda Horst, Lena Marvin, Dorothy Levering, Jim and John Robbins, and Josephine Shelby.

### PRESIDENT HORST'S FAREWELL MESSAGE.....

In any organization there are at least three different levels of activity. First, there is a nucleus of keenly interested, active members. These are normally officers, in, ex or future, and are leaders of activities in the various fields of interest to the organization. Unfortunately, they constitute not more than perhaps fifteen percent of the membership. They do, however, keep the organization together as long as they do not violently disagree among themselves. In our organization we are fortunate in this matter because the nucleus has no more disagreement than necessary to keep discussion alive and interesting. Complete agreement would result in lethargy.

The second group consists of members probably no less interested than the first, but naturally reticent or desirous of not becoming too involved. Often, these members are actually as competent or more so than the leaders.

It takes a little encouragement to enlist their services. They constitute, also, a small percentage of the total organization, perhaps five or ten in a hundred. We have them too, and they contribute a necessary sustaining influence. Without them there is a gulf between the first and the third groups, and the organization is jeopardized by the gap.

Then, there is the third group. These are members who want to be entertained or are looking for a way to spend time in an activity which interests them at least more than watching television or twiddling thumbs. These may be capable persons but will not extend themselves into the real spirit of the activities. It is very regrettable that probably four-fifths of any organization are of this type. It is also regrettable that our organization is typical in this matter.

It is the desire of leaders and near leaders of any organization that this group be reduced in size, not by loss of numbers, but by gains in groups one and two. Again, our organization has this characteristic. Each group of officers institutes small changes which they hope will accomplish this result. Each has a measure of success and a measure of frustration. Each hopes for a continuation of changes insofar as they remain beneficial. We have this same desire. It is hoped that the officers of 1969 have been able to stir up a little enthusiasm and increased interest, especially in the last group so that the first and second groups (and the organization) can benefit. Time alone will tell.

Now is the time to thank the organization as a whole, the committees and the officers for their help and sustaining efforts during 1969, especially those who were slighted, even though there were no intentional actions in this respect. The concentration of keeping things going sometimes causes these lapses. Apologies are extended. The work of the Secretary, the Treasurer, and the Committees for publicity, Cactus Capital Chatter, library, reception, door prizes and field trips were especially helpful even though there were no field trips. We hope that the 1970 officers experience support of the same quality.

.....Carl O. Horst  
Retiring President, 1969.

IN MEMORIAM...Mr. Charles Trimble, our 1968 Vice-President, passed on last month. Retiring several years ago after 30 years with Western Electric in the East, his fascination with the desert growth in the Southwest became an absorbing interest. The Tucson Cactus & Botanical Society will miss him and extends its sympathy to his wife.





7.

We are happy to report the excellent recovery of ROSA CHRISTENSEN after major surgery recently. She is already driving her car again and was a welcome visitor to our display at the Men's Garden Club Ninth Annual Fall Flower Show.

We extend to MRS. F. J. NICHOLS our best wishes for a similar speedy recovery from major surgery scheduled for December 3. Her cheerful confidence will do more than a dozen bottles of medicine to restore her to good health. Mr. and Mrs. Nichols are our first and valued lifetime Honorary Members.

#### 1970 OFFICERS ELECTED

Tucson Cactus & Botanical Society, at its November meeting elected the following officers for 1970: PRESIDENT -- Nancy Clarke; VICE-PRESIDENT -- Hildegard Nase; SECRETARY -- Mrs. K. B. Brown; TREASURER--J.F.Brick. The entire roster of officers and directors will be announced soon.

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#### TUCSON BOTANICAL GARDEN SHOWING

The first Public Showing of Tucson Botanical Garden, Inc. officially opened it to the Tucson public on November 23rd. Your Roving Reporter saw the following TCBS Floraphiles there: Carl and Wanda Horst, Dorothy Levering, the J. V. Merrills, Lena Marvin, Chester and Evangeline Scott, Mrs. C. H. Trimble, Anna and Rose Christensen, The J. P. Bricks, Mrs. K. B. Brown, Mrs. Raymond Pagel, Alan and Betty Blackburn, Nancy Clarke, Mr. and Mrs. Harry Yocum.

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#### CHRISTMAS PARTY CLOSES CLUB'S YEAR 1969

Tucson Cactus & Botanical Society closed its 9th successful year of existence with its traditional Christmas dinner party and gift exchange. This was held on December 14th at Randolph Park Recreation Hall.

LENA MARVIN Cactus Capital Chatter staff member, reports having enjoyed greatly, her recent trip to northern Baja California. Other Tucson Kak-tophiles who visited Baja recently are Edna Willis, Kay Brown, and William Pleumer.

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#### 1970 CACTUS CAPITAL CHATTER SUBSCRIPTIONS DUE

A T O N C E ! ! !

BE PROMPT

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Rates: Free to paid-up members of Tucson Cactus & Botanical Society.

\$1.00 per year to addresses in U.S.A.

\$1.50 per year to addresses in foreign countries

Copies of back issues of CACTUS CAPITAL CHATTER, 1965 through 1968, are always available

20¢ per single copy.

75¢ per set of 1 year's copies.

Please make your checks payable to --Tucson Cactus & Botanical Society

## EDITORIALLY SPEAKING

Do YOU believe that, for all the benefits that you as a member receive from Cactus Club programs, you thereby OWE something of yourself in return? This is needed ~~in order~~ to further our purpose: "The purpose of this Corporation shall be to function continuously in the study of cacti and native flora. Also, to further the protection of cacti and native flora of Arizona. Also, to sponsor a botanical garden in Pima County near Tucson, Arizona, and for plantings of cacti and native flora in other suitable areas". ---By-Laws of Tucson Cactus & Botanical Society, Inc., Article I, Section 2. WE believe this--and -- YOU should too!

Do YOU cheerfully and willingly and constructively accept assignments of responsibility in our Club's programs when you are asked to do so by our officers and our committee chairman? YOU should!

Do YOU take the initiative in greeting strangers who visit our meetings? Do YOU become acquainted with them to build a friendly club? YOU should!

Do YOU become acquainted with all members of your Cactus Club? YOU should! YOU can learn much from them about our favorite plants and how to grow them. Also, YOU can thus make many fine friends.

Do YOU visit YOUR LIBRARY located at the Nancy Clarke Insurance Agency Office at 2754 North Campbell Avenue? YOU should. It is filled with excellent information for Kaktophiles such as YOU wish to become if you are not now such. Hours: 9 a.m. - 5 p.m. Mondays through Fridays.

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"Arizona's natural beauty is a fragile, God-given thing. Those who are capable of obtaining inspiration and pleasure from it have a right to its preservation. It is a right that should not be violated by those esthetically illiterate persons who can be satisfied with ugliness and disorder in their environment."

...Phil Stitt, Editor, Arizona Architect.

*May the coming year bring Good Health, Happiness,  
and Prosperity to you and your loved ones.*

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