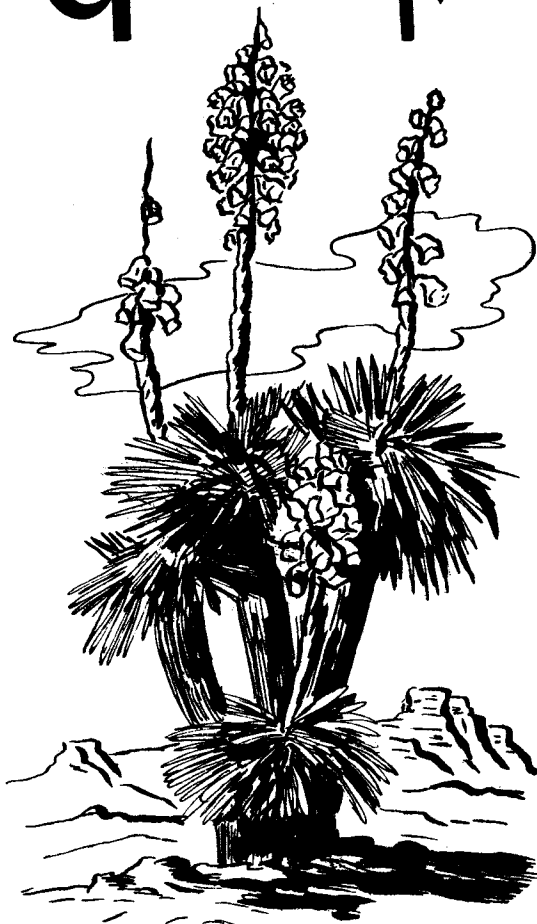



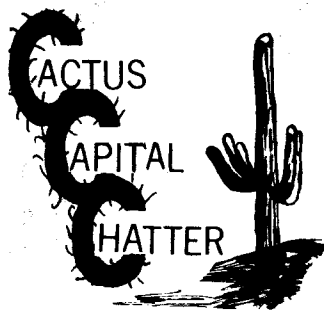


Season's Greetings



TUCSON CACTUS AND BOTANICAL SOCIETY
Tucson, Arizona





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Josephine Shelby
Editor

Assistant Editors
Lura Fuller Lena Marvin
Mrs. Chester Scott

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EL CIRIO -- THE CANDLE

Tucson Cactus and Botanical Society is grateful to Dr. R. R. Humphrey for writing the following short paper for our publication. Herein, you are introduced to El Cirio (The Candle), botanically known as *Idria columnaris*, Kell., and nicknamed "Boojum Tree". Dr. R. R. Humphrey, Professor of Biological Sciences, the University of Arizona, would like to discover why El Cirio is native only to the center of Baja California and to a restricted area south of Libertad on the Mexican coast of the Gulf of California. He will spend most of 1968 in the wilderness of Baja California where he will study *Idria columnaris*, Kell., under an \$18,900 National Science Foundation grant. He did his first formal study on it around 1930 when he wrote his doctoral dissertation on its anatomy at the University of Minnesota.

Dr. Humphrey has never found a seedling though he has really scoured the hills at Libertad. There, El Cirio is generally found on the north side of rocky, barren slopes. As a matter of fact, this plant apparently needs as its earliest friend, rocks to give it the shade from the desert sun. In addition to looking for seedlings, Dr. Humphrey will study how El Cirio pollinates; how it sends its roots into the cracks of bedrock; what kind of soil, climate, and humidity it likes.

THE BOOJUM TREE -- A FREAK OF NATURE

By R. R. Humphrey 1)

Old Mother Nature must have been in an experimental mood when she thought up the Boojum tree. The name, of course, wasn't hers. That was pinned on by Godfrey Sykes who, like the good Englishman that he was, was familiar with Lewis Carrol and his mythical Boojum tree.

The Boojum or Cirio (*Idria columnaris*, Kell.) is a close relative of the Ocotillo that we in the desert southwest know so well. At one time they were even thought to be in the same genus and both were called *Fouquieria*. Their close genetic relationship is apparent not only in the flowers but in the method of spine formation as well. Few plants in the entire world form their spines as do these two genera. During the season, usually summer, when the branches are growing, they put out a crop of primary leaves. These are borne singly on the stem and their stems or petioles are the exact length of the spines that soon develop. These spines form a few weeks after the primary leaves are mature by the petiole splitting for its full length. The upper half falls off with the dry leaf; the lower half remains as part of the stem to form the spine. In subsequent years secondary leaves are borne as fascicles in the axils of these spines.

Few who live in the central Baja California region where this odd member of the plant kingdom makes it home know it by any name other than el Cirio or the Candle. And with a long-standing name like Cirio that so appropriately describes it, the Boojum tree really needs no other name. Under whatever name, however, the plant is a curiosity.

1) Prof. of Biological Sciences, the Univ. of Ariz. Study being carried out under NSF Grant B7-1685R

You may already know what the Boojum looks like but, if not, picture a parsnip growing with its roots in the air and shooting up to heights of 50, 60, or even occasionally as much as 70 feet into the air. The stem tapers gradually and gracefully from base to tip, ending in a flare of yellowish flower - and seed-bearing branches that are reminiscent of the flame on a candle.

This inverted parship is usually bristly with short spiny branches all the way from the ground to the tip. Or it may have a few or none of these branches and bear its leaves in clumps on the main stem. Like the Ocotillo, the Boojum puts out a crop of leaves a few days after a good rain. Unlike the Ocotillo, though, it does this in a conservative manner. Where the Ocotillo may have as many as six or seven crops of leaves in a single year, our present knowledge of the Boojum indicates that it probably grows only a single crop. These are shed in April or May and the plant then remains leafless until the following season of good rainfall. This may be either summer or winter.

Because the Ocotillo has a limited water-storage capacity, its leaves are shed as soon as the soil begins to dry. The Boojum, in contrast, stores large amounts of water in its trunk, much like the sahuaro and this acts as a reservoir to nourish the leaves even though there may be little or no available soil moisture for several months. Although we are not yet sure, it is rather likely that in the absence of adequate rains for a few consecutive seasons or years the trees patiently wait in all their spiny leaflessness until the rains do come.

Despite its preference for a warmer climate the Boojum does well here in the Tucson area when transplanted. Specimens on the University of Arizona campus have been thriving since about 1930 and at the Arizona-Sonora Desert Museum since about 1952.

Anyone interested will find an excellent and highly readable account of this plant in Joseph Wood Krutch's book, The Forgotten Peninsula.

CACTUS IN ROYAL BOTANIC GARDEN IN EDINBURGH

Tucson Cactus and Botanical Society through its publication, CACTUS CAPITAL CHATTER, has recently made a very interesting contact with the Royal Botanic Garden of Edinburgh, Scotland. This Garden issues "Monthly Notes," and Mr. Lawrence G. Buchan of the staff there has sent us five issues of them. You may read these in our library soon. Following is an excerpt from Mr. Buchan's letter to CHATTER editor. Cactus lovers will be especially interested in the cactus news that it reports.

25 Swanston Drive
Fairmilehead
Edinburgh 10
13. 9. 67

Dear Mrs. Shelby:

We are at the moment in the process of laying out the new cactus house which is to be opened at the end of October. The May Notes show the construction of the new plant houses, one of which is a cactus house 80 feet long and 60 feet wide. To create a natural effect, all cacti are being planted directly into the soil, dispensing with pots. They are laid out in groups according to their countries of origin. A large quantity of rocks was collected from the seashore (about 30 miles farther along the coast where the desired red and yellow sandstone was to be found.) This was to give the necessary weathered appearance.

4.

Perhaps some day you may see it all for yourself. At any rate, I hope these facts provide you with some Edinburgh Cactus Chatter.

I am,
Yours sincerely,
Lawrence G. Buchan

"IF WINTER COMES....."

When the growing season rolls around again, the Garden Chairman will be calling for volunteers to work in the Haag Memorial Cactus Garden. This brief background of the garden is for the information, and hopefully, to arouse the interest of our many new members, who probably have seen the Haag Garden at the Arizona-Sonora Desert Museum, but may be unaware that it is the most ambitious project undertaken, to date, by the Tucson Cactus and Botanical Society - and a continuing one.

The garden is in memory of "Cactus John" Haag, a Minnesotan who moved to Tucson in 1956 with his outstanding cactus collection, settled in the Casas Adobes section, and founded our club in 1960, with his home as our first meeting place. John was a great guy, with many good friends, not only among our own members, but with cactophiles all over the country. Advice, cuttings, seeds, plants - he gave all generously, at the same time instilling in others his own enthusiasm for desert gardening. A visit to the collection of any long-time club member invariably brings forth the comment, "Cactus John gave me this plant". Can you wonder why, after his death in 1962, our club wanted for him a fitting and enduring memorial? Or why it took the form of a cactus garden?

Since John was on the staff at the Desert Museum, the problem of a location for the garden was solved, when "Bill" Woodin, Director of the Museum, after a conference with the current and incoming presidents, Dave Spring and Jack Meyer, offered our club a large area of undeveloped desert in a prominent spot in the Museum grounds.

Converting this spot into a garden was hard, back-breaking work, with most of the first year spent in clearing, locating and building paths, and lugging and setting the stones which edge them. The "pick and shovel" labor was done almost entirely that year by a hardy group led by Chairman Alan Mollison, consisting of "regulars" Harry Bolenski, Joe Brick, Jack Meyer, and "Piney" and Alice Wanner (Alice was Garden Chairman this past year), with occasional help from other members. All the work was under the supervision of Paul Shaw, Curator of Plants for the Museum. Among the pleasanter aspects of the job was becoming better acquainted with the Museum Staff, all of whom displayed great interest and helpfulness.

The next year saw more work, more members involved, and a lot of fun, as Paul Shaw directed field trips, under a Museum permit, to collect specimens for the garden. More than once, 5:00 A.M. saw members on their way, not to return until nearly midnight, after an entire day of selecting, digging and packing plants for safe transport. The Joshua trees in the garden, plus many other fine specimens from that section of Arizona, were the result of a two-day trip in the general area of Wickenburg. After this came the planting, and learning to handle large and very thorny plants, with Alan Mollison manning a jack hammer to break the ground for the larger cacti.

In all, over 2,000 man hours of labor went into our Memorial to Cactus John. The garden was dedicated and turned over to the Museum on May 7, 1965. It was a feature of the National Cactus Convention which our club hosted at that time, well attended by delegates from many states, and many of them John's friends. President Hugh Copenhaver and Alice Wanner, broke with an agave thorn, the balloon holding the ceremonial ribbon across the entrance. A large boulder from the Tucson Mountains holds a bronze plaque with a dedicatory inscription.

5.
The Haag Memorial Cactus Garden is unique in that it is a collection of plants native to the Arizona-Sonora Desert region, arranged by species for easy comparison numbered, and with a metal box on a pedestal close by each group, identifying the plants by both common and botanical names. This is useful and informative to students, photographers and just visitors. Last year, the Museum welcomed more than 255,000 visitors, and our garden is featured in its booklets, so it behooves us to keep it in good condition and a credit to our club, whose name is prominently displayed on the plaque.

To avoid confusion, and taking up too much of the Museum Staff's time, our club has a ruling that all volunteer effort of our members, either of work or of plant donation, must be cleared with the Garden Chairman, who is our club's liaison with the Curator of Plants.

Come next Spring, then (and you know it won't be far behind Winter!) if you are called to help with the Haag Memorial Cactus Garden, you now know that you are in for a lot of work and a lot of fun and good fellowship, but best of all, that you will be participating in something of enduring value, which will provide pleasure and education for thousands of visitors in the years to come.

----Isabelle Meyer, Publicity Chairman

THE HAWORTHIAS

We have given considerable space among our approximately 850 species and varieties of the cactus and other succulents in our collection, to the Haworthias. The Haworthias, including a few of the Apicras - a very similar plant, belong to the same family, the Liliaceae.

There are more than 200 Haworthias now named and described in various publications. Many new ones are being collected all the time. The best reference work on this genera, in the writer's opinion, is the three volume set authored by Hermann Jacobsen and titled "A Handbook of Succulent Plants", published by the Blanford Press of 16 West Central Street, London, W.C. 1. However, it can be purchased through our own National Society and shipped directly from England.

Our collection of Haworthias, some 200 plants, represents about 100 species, varieties, and forms. Due to the lack of time, the balance of the plants has yet to be classified, which, we hope, can be accomplished during the coming winter.

While the Haworthias are not as spectacular and appealing to some persons as many of the other succulents are, they have great fascination to others because of their neat, clean-cut appearance, many shapes, and varied markings. They vary in size from 1 to 10 inches in height, and 2 to 10 inches in diameter. The leaves vary from horny angular to cylindrical. Many are stemless, forming rosettes set close to the ground. Many have clear or window tips through which, in their native habitat, the sunlight is able to enter the stems. The windowed plants withdraw into soil during the hot, dry seasons, but because of the windows, still receive the beneficial sunlight. However, in cultivation, this transfer does not occur, as the plant still remains above the soil. This is found to be true of the Lithops, but they tend to become "leggy" and lose their natural attractive appearance close to the soil. The leaves of other species have marginal hair-like teeth while others have tubercles, especially on the backs of the leaves. These tubercles are usually white or pearly and are thought to have a protective effect on the plant against excessive sunlight.

Cultivation of these plants is fairly simple. Many mixtures are suggested by different authors and nurseries. The most popular seems to be 1/3 garden soil, 1/3 clean sharp sand, and 1/3 fine screened leaf mold. The writer prefers a mix-

6. ture of about 2/3 clean, sharp sand screened (about 30 mesh), 1/3 screend (30 mesh) leaf mold to which is added 1 to 4 teaspoons of fine screened, dry, old steer manure. The number of teaspoons vary with size of the pot, 1 teaspoon for a 2-1/2 or 3 inch pot being a starter. The pots do not need to be too large as the plants seem to have a tendency to prefer a reasonable pot-bound condition. As the plant grows, it can be transplanted to a larger pot. We use 2-1/2 to 3 inch starting pots, but never larger than 4 inch unless your plants want to cluster.

Haworthias need a regular resting period, usually in this area, May to September during which time they shrink and are not as attractive as during the growing season. They will return to their natural appearance when watering is resumed. During the resting period, very little watering is required. We usually water them every 3 or 4 weeks, filling a 1/2 inch area between the soil and the brim of the pot. During the growing season, the pots should not be permitted to dry out. We water until water shows at the drain hole of the pot or comes to the top if watered from the bottom -- once a week. During very dry periods, this can be changed to 5 days, or if quite humid - over 30% - to 10 days. A temperature of below 12 degrees C. (55 degrees F.) is harmful and often killing.

To avoid root-rot and to lower any leaf damage, 1/2 to 3/4 inch top layer of clean coarse sand is desirable. Propagation, usually from off-set rosettes, is best. They can also be started by single leaves inserted in a mixture of 1/2 sand and 1/2 peat moss. They grow quite readily from seed, but this is not recommended because of hybridization. Often your Haworthias collection may be grouped quite closely together, permitting cross-hybridization with ease.

-----Henry H. Jones

ELECTION OF OFFICERS FOR 1968

At the November meeting of Tucson Cactus and Botanical Society the following officers were elected for 1968:

President.....	J. A. Robbins
Vice President.....	J. E. Levering
Secretary.....	Mrs. E. R. Halloran
Treasurer.....	J. F. Brick
Directors.....	A. D. Chipman, C. H. Trimble, E. R. Halloran



It is Christmas on the desert,
But it's not the pictured kind-
Drifting snow, and ice and sleighing,
With pine covered hills behind.
There are some would call it barren-
Cactus plants and shifting sand,
But they do not know the desert
And they do not understand.

And the pine tree, gaily lighted,
Never gave such grand display
As the monarch of the desert,
Ageless, endless Joshua.
With its arms raised towards its Maker
And the moon's soft magic light,
Painting every pointed needle
Like a silver sword at night.

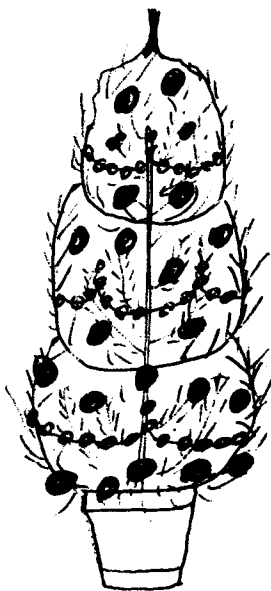
There are Christmas stars in millions
In a clear blue canopy,
Reaching down to touch the chollas,
Hanging on the greasewood tree.
There is one that's bigger, brighter,
Dwarfing others in the sight -
The STAR of BETHLEHEM, you're certain.
That shone on that Holy night.

It is Christmas on the desert
But it isn't snowy white:
It is silent like the first one
On that hushed and Holy night.
It is Christmas on the desert
And we feel His presence near
And we pray that all creation
Find the peace He gives us here.

.....MINTER-Jackson-Storts

Alice Wanner, one of our fine and loyal members, shares with you several of her artistic ideas of decorating for Christmas, using natural, desert materials.

CHRISTMAS TREE



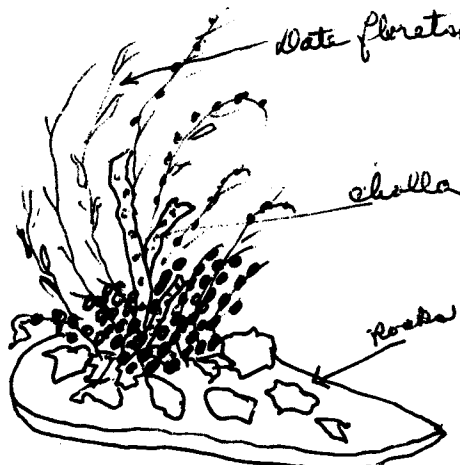
Dry a palm leaf. Spray with gold paint. Tie a large red bow of ribbon at top. Add sprays of red pyracantha berries, or a cluster of Christmas ornaments tied together.

Fill a flower pot with sand. Put a dowel or a thin stick in center of pot. Stack 3 tumbleweeds on stick, with largest one on the bottom; smallest one on top. May be left in natural color or sprayed with gold or silver paint. Trim with strings of beads and balls. DO NOT USE LIGHTS.

DOOR PIECE



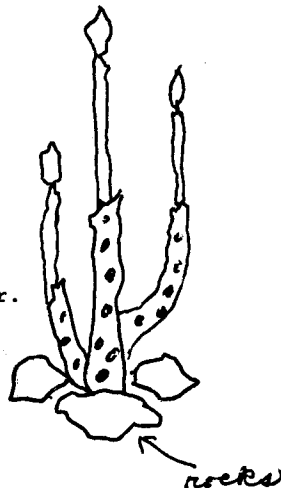
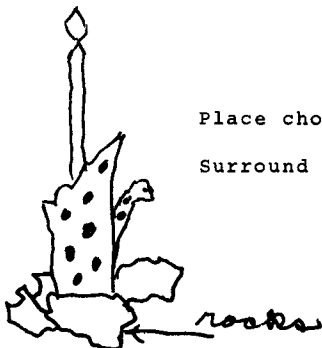
TABLE ARRANGEMENT



Start with flat stone. Place weathered cholla skeleton on large needle point holder. Add dried date florets or eucalyptus seed pods. Place small needle point holder in low tin can at base of dried things. Surround with colorful rocks to hide container. Fill with sprays of red pyracantha berries and leaves. Use more rocks on flat stone.

CHOLLA WOOD CANDLE HOLDERS

Place cholla wood on needle point holder. Surround with colorful rocks to hide holder.



ADDITIONAL NEW MEMBERS OF TUCSON CACTUS AND BOTANICAL SOCIETY

Mr. and Mrs. T. V. DeHaven	431 S. Alvernon Way Apt. 103	Tucson, Arizona	85711
Miss Zelma Kresel	1042 E. Water	Tucson, Arizona	85719
Mrs. Kay B. Brown	Box 11070	Tucson, Arizona	85706
Mrs. Louise Coan	1214 N. Richey	Tucson, Arizona	85716
Mr. and Mrs. Arthur Klein			
Miss Jean Alexander	2617 E. 9th St.	Tucson, Arizona	85716

CHANGE OF ADDRESS

Mr. and Mrs. Alan Blackburn's new address is: Route 9, Box 964M, Tucson, Arizona
85705

OUR LIBRARY

The Library is now ready for use. The majority of the books are ready for circulation. Tucson Cactus and Botanical Society's Library is located in a room in the Clarke Insurance Agency office at 2754 North Campbell Avenue.

PLEASE NOTE:

A CHANGE IN LIBRARY HOURS

Starting January 1, 1968, the library will NOT be open on Saturdays.
Library hours after January 1, 1968 will be: Mondays thru Fridays, from 9 a.m. to 5 p.m.

Those books in our Library that are written in German will be of great interest to you. They contain numerous, beautiful illustrations, and of course, the botanical name are in Latin.

Borg's book, "Cacti", is a must for everyone's reading since it is so helpful in identifying and in growing plants. Alan Blackburn declares that he uses it more than any reference book.

Librarian Betty Blackburn reports that she is looking forward to reading "Plant Hunters in the Andes" by Goodspeed. She urges ALL members -- "DO make use of the books!" To date, only one member of our society has discovered that there are many pages of good reading available to us.

THE PRESIDENT'S VALEDICTORY

The Tucson Cactus and Botanical Society, Inc. recorded a very successful year in 1967. Its membership during the year exceeded in number the highest since the organization of the society, and it functioned in the "Black" bettering financial condition over previous years.

Monthly meeting place was shifted from the former crowded room to the excellent facilities of the Tucson Garden Club at 311 N. Campbell Avenue. An outstanding library was established at the Nancy Clarke Insurance Agency, 2754 N. Campbell Avenue.

I wish to express my appreciation to the Officers, Board of Directors, Chairmen of the various committees, and the membership, without whose help the present status of the Tucson Cactus and Botanical Society could not have been attained.

Yours sincerely,

Edward R. Halloran
(Rear Admiral U. S. Navy, (Ret.),
President.