

THE HAAG MEMORIAL CACTUS GARDEN

The membership of the 1967 HAAG MEMORIAL CACTUS GARDEN committee is: chairman, Mrs. Alice Wanner, members — Mr. Alan Mollison and Mr. Charles Trimble.

The Tucson Cactus & Botanical Society created and sponsors this fine Memorial Garden. We gave it to the Arizona-Sonora Desert Museum for the enjoyment and education of all who visit there. We shall always be greatly interested in its future and in constantly extending it. As an individual member of our Society, are you actively and effectively working toward this goal with your fellow members? Definitely, all members must join in this effort in order to assure the perpetuity of this beautiful and very worthwhile part of the Museum.

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Tucson Cactus & Botanical Society
P.O. Box 3723 College Station
Tucson, Arizona 857 00

Josephine Shelby
Editor

Hugh Sloan
Ass't. Editor

THE CHATTER BOX

THE MEMBERSHIP ROSTER printed in this issue will be of interest and use to all members of our Society, and perhaps to out-of-state subscribers to Cactus Capital Chatter.

VOLUME III First Quarter 1967 No. 1

Speaking of members, we gleaned the following from Color Slide Division Bulletin, Photographic Society of America:

- A lot of club members are like wheelbarrows—————They are not good unless pushed.
- Some are like canoes————— They need to be paddled.
- Some are like kites————— If you do not keep a string on them, they will fly away.
- Some are like footballs————— You can't tell which way they will bounce.
- Some are like balloons————— Full of wind and ready to blow up.
- SOME ARE LIKE A GOOD WATCH————— Open faced, pure gold, quietly busy, and full of good works.

Mr. H. Scott Thomas, a member of our Society, is like a good watch as expressed above. Through the many months of his membership, he has quietly and generously operated his fine mimeograph machine when our group has needed to print information. We are most grateful to you, Mr. Thomas.

WANTED AND NEEDED: "GOOD WATCHES" TO ASSIST EDITOR OF YOUR CACTUS CAPITAL CHATTER STAFF. Your CHATTER editor cannot possibly know the many hidden talents of our large membership. Now, among you are persons who could and should assist in putting the CHATTER together. Can you type accurately? Can you read proof? Would you enjoy reading various publications that we receive from other similar organizations? Then, choose any material from them suitable for us to publish? Would you stick address labels and stamps on mailing envelopes, stuff the envelopes, then close them for mailing? If you can help for only one quarterly publication, your services are most welcome and needed. Of course, the CHATTER needs permanent assistants as well.

Please write to me at once, what services you will volunteer. My address is:
Mrs. Josephine K. Shelby, P.O. Box 5256, Tucson, Arizona 85703

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TREASURES FOR SALE! NOW!

Hugh B. Copenhaver, a former president of the Tucson Cactus and Botanical Society, offers FOR SALE, his complete cactus collection, part or all. He has many rare and specimen plants in this collection of approximately 500 varieties of cactus and other succulents. His mammillaria collection includes about 80 named varieties.

This is a true bargain! His house at 7020 Firenze Drive also is for sale. You can buy it and receive free this excellent cactus collection. Please phone Hugh for an appointment to see his plants: Hugh B. Copenhaver, 7020 Firenze Drive, Phone 297-1865.

A LITTLE OF THIS AND THAT FROM THE GARDEN OF ALAN BLACKBURN

1967 is here, and my cacti started to bud in January. *Ferocactus nobilis* usually blooms in February, but I seldom see a flower, as the frost comes in January and February and leaves the buds frozen.

We have had a very dry winter so far, with warmer weather than normal except for a week of 25° temperature. I lost a few plants including four *Aloe marlothii* seedlings. My 5 foot *Aloe marlothii* was more protected and escaped damage, although the leaves turned a russet color and looked very well against the burnt adobe wall of the house. The dry winter and the cold weather have made the *O. santa-rita* prickly pear a beautiful rich red. *Aloe vera* bloomed through January, and the other Aloes will be ready to bloom by the last of February.

Mammillarias bombycina, *plumosa*, *fragiles*, *compressa*, *spinosissima*, and *microheliopsis*, *Notocactus haselbergii*, *Thelocactus goldii*, *Ancistrocactus scheeri*, and *Strombocactus turbiniformis* all bloomed in January and February. I guess that spring is just around the corner.

Due to such a dry winter, I have watered the plants twice in February and will give them a good soaking with Marvel plant food the first of March. My *Echinopsis* are planted in tree wells and have developed a scale. So, I sprayed them last week with Malathion and detergent soap mixture. This week-end I hosed the plants, and most of the scale washed off. I'll have to keep after the scale in order to keep the plants clean and healthy. This year I am spraying all the beds with Chlordane 80 to keep down the insects. I am told that once it gets soaked into the ground, even the termites are killed. I want to get the grubs that infest my plants. I'll have a report on the results next year.

Right now I am busy mixing soil to repot and reflat all my plants in my lathhouse. This is long overdue, and I hope that all this effort will pay off in better and healthier plants.

FEBRUARY 19-26 was the date for the Cactus and Succulent Show at the Desert Botanical Garden in Papago Park, Phoenix. If you missed it, you should plan to attend next year. Tucson Cactus and Botanical Society had a display of 50 plants on a table with a 1' x 8' planter. "Tucson Cactus Club" was spelled out with 1" *Cephalocereus senilis* seedlings. I exhibited 15 plants in this show and had 41 on the table for the Club exhibit.

Hasta la vista,

Alan Blackburn

THE 1967 BIENNIAL CONVENTION OF THE CACTUS & SUCCULENT SOCIETY OF AMERICA, INC.

Anna K. Sherman, Affiliate Director, New Mexico Cactus & Succulent Society, writes us: "We do hope that Tucson will send a good group to the Convention; also that maybe some of you will come before or stay afterward to visit our gardens and the new garden at our new aerial tramway. We are copying Tucson's Hospitality Room which had great appeal." (Tucson's own Isabelle Meyer originated and organized this feature when the Convention met in Tucson in 1965.)

The Convention is to be held at the Sheraton Western Skies Motel, Albuquerque, New Mexico, May 15th through the 18th. Mrs. Sherman sends the following quotes of further details of possible programs for the Convention:

Monday, May 15th. Registration in forenoon. Luncheon open. Afternoon—President Don B. Skinner will start pre-convention programs with a talk on "Plants and Their Relationships". Dr. Edward F. Castetter, University of New Mexico, follows, talking on "Some Interesting New Mexico Cacti". The opening banquet in the evening will have no special program, just the usual introductions, address of welcome, response, awards and the like.

Tuesday, May 16th. Seven hour tour through Santa Fe and Santo Domingo Pueblo; box lunches furnished by the hotel. After dinner in the evening, election of the King and Queen, or Chief and Squaw; then a showing of color slides of previous conventions taken by members.

Wednesday, May 17th. Collecting trip by private cars to various ranches; box lunches furnished by the hotel. After evening meal, Mr. Alan Mollison of Tucson Cactus and Botanical Society, will present his excellent and unusual time-lapse photography. One other program here is still undecided.

Thursday, May 18th. Delegates' meeting. Then barbecue buffet followed by an undecided program.

The bus trip to Santa Fe will go through three "ghost" towns: Golden, Madrid and Cerrillos (abandoned, or nearly so, coal-mining, gold-mining, and turquoise-mining towns); mountain scenery with some odd rock formations and some cactus—mostly *opuntias*, *imbricata*, *viridiflora*, *polycantha*, but not blooming yet."

CHRISTMAS (ZYGO) CACTUS

Christmas cactus produces many flat-stemmed fleshy branches that serve as leaves. Brilliant pink pendant flowers grow from the edges of the younger part of the plant. Christmas cactus often fails to bloom because of night-time exposure to high temperatures or artificial light.

Pot in humus soil. Keep the soil moist in winter, spring and summer; allow it to dry moderately between waterings in autumn. Grow in full sunlight, cool temperatures, and medium humidity. Beginning September 1st, keep the plant in total darkness, with no artificial light—for at least 12 hours a night. Maintain a high temperature of no more than 70 degrees. During summer, grow the plant in a cool, shaded area. Propagate Christmas cactus from pieces of branches two or more segments long.

— from Home & Garden Bulletin No. 82, U.S. Dept. of Agriculture as published in New Zealand Cactus and Succulent Journal.

EDIBLE PLANTS OF THE DESERT

The Civil Defense Joint Council, Maricopa County and City of Phoenix in 1958 published a pamphlet, *Desert Survival*, full of basic information for anyone traveling in the Sonoran Desert. Its list of edible plants of the desert is revealing.

1. Tomatillo (tomato family) is a shrub with red fruit.
2. Mesquite. Use bean pods when first forming, as you would green beans. When they are dried, take the beans out of pods and cook as beans. Seed pods are 4 to 8 inches long.
3. Simmondsia or goat nut. Is 3 to 7 feet high; has broad, green leaves; is found at altitudes around 2500 feet. Nuts are edible raw or parched, but are too bitter with tannin to be palatable. Dry and boil for coffee.
4. Palo verde tree. Has edible beans found just after the blossoms are gone.
5. Mountain laurel. The seeds are edible. A drink may be made from the seeds.
6. Desert hackberry. Is 3 to 10 feet high and has small edible berries.
7. Tesota or desert ironwood. Is a spiny, bushy tree about 30 feet high. Has lavender blossoms. Seed pods are thick and leathery. Seeds are edible.
8. Mescal or century plant. Flowering stalk is edible. Bake in hot ashes and cut away charred exterior.
9. Catsclaw acacia. Eat the green beans.
10. Ephedra or morman tea. Use for tea. It is leafless and jointed with small cones at joints after it blooms. Turpentine bush and milkweed are poisonous and resemble the ephedra except that they are not jointed and do not have the cones.
11. Barrel cactus. Fruit is edible but not palatable. Fruit is 2 inches in length and is yellow and full of moisture. Has fruit winter and summer. Meat is not palatable — becomes like mucilage after the air hits it, and it may make one sick.
12. Saguaro cactus. Blossoms are followed by fruit which is pulpy and palatable and is obtainable in June and July. Seeds may be ground in metates for meal and made into tortillas.
13. Tree cholla. 3 to 12 feet high. Has purple fruit all winter. Cholla fruit is edible but not palatable.
14. Pincushion cactus. Fruit is called chilitos and looks like small chili peppers. It is edible and palatable, tasting like strawberries. Available usually in June and September.
15. Organ pipe cactus. 3 to 12 feet high. Fruit is fleshy and red. It is edible but very sweet.
16. Hedgehog cactus. The red fruit is palatable and contains much moisture.
17. Prickly pear. Fruit is especially good and contains much moisture. It is available from June up to late fall. If you eat the stem, choose young prickly pear without spines. To cook stems, cut off leaves and cook like string beans.
18. Acorns, dandelions, lambsquarters, nettles (young), miner's lettuce, cattail (root stalks may be boiled or roasted), pinon nuts, pine cone kernel, water cress, bark of aspen or cottonwood or pine, spruce, or tamarack are all edible. Dandelions, lambsquarters, and nettles all should be cooked if possible.

THE LEAVES OF AUTUMN AND YOU

Do autumn leaves get the best of you and your garden? If so, consider Harvey Tate's suggestion to create a compost heap of them, or use them as a mulch around trees and shrubs where you cultivated the soil. Dry leaves used as compost, can decay during the winter. Then, come spring, they will be ready to build up the organic content of the soil in your garden.

CACTUS GARDENS GIVE AUTHENTIC DESERT CHARM

Let the desert be the prevailing spirit in landscaping our gardens when we want to preserve our wonderful desert setting. The important thing is to work WITH the desert. Plantings as well as masonry and wood structures in desert gardens should be done with simplicity and restraint. Also, they should be livable and easy to maintain.

A cactus garden, properly located in the yard, requires minimum care, and provides maximum enjoyment the year around. Gardens may be located in a tiny plot not more than 2 by 2 feet square; or kept exclusively in pots in smaller areas yet; or they may cover ambitious expanses.

Preparing the bed for a cactus garden does require some initial work. These desert plants require a sandy, well drained soil in order to grow properly. Once your garden site has been selected, it is wise to replace the existing soil with a special mixture. Consult your nursery and mix a soil according to the formula they give you. This mixture is suitable for planter boxes. If you convert a corner of the yard, remove all of the soil to a depth of at least 18 inches and replace with sandy soil. One can go to the desert to dig up soil that is now growing cactus. How, after all, could you get better soil for growing cactus than choosing some that is now growing cactus? Such soil can be secured in dry washes without disturbing plants or otherwise tearing up the desert.

Warning! Be reminded that it takes a lot of dirt to fill a hole. For example, a hole 6 feet by 6 feet by 18 inches requires 54 cubic feet of dirt hauled in to fill it. HINT: it is better to start small and expand later.

The New Zealand Cactus & Succulent Journal, Nov. 1966, offers the following ideas for "An Easy Garden": Choose a lot with slopes and hillocks. Plant the agaves, aloes, brilliant ice plants of all kinds, sedums and sempervivums. Put ice plants on the poorest soil or they become too rampant and do not flower well. A few large, handsome rocks in strategic places or artistic positions set it all off. A combination for a sloping garden might include several large agaves, many echeverias, and yuccas with some flat rocks for stepping stones. Opuntias must be grown away from walls. Do not ever place large growing cacti near a house that will need walls painted at some future time.

CACTI AT THE OLD MISSIONS OF CALIFORNIA

Already in the 13th century the Franciscans were familiar with African Euphorbias. By the time of the discovery of America, around the entire coast of Africa a chain of Franciscan Missions had been built among the Stapelias, Gasterias, Aloes and other succulents.

In the western world, cacti were the universal plants that welcomed the early Spanish Franciscans of the 16th century. These missionaries were among every band of the first white explorers who gazed upon the cactus forests of Mexico, Central and South America. A Franciscan, Fra. Marcos de Viza (Niza?) was the first white man to see the giant Saguaro of Arizona. Now in the 20th century, members of his order labour in more than fifty mission chapels among Arizona's Indians, and landscape their desert homes with Saguaro, Coryphanthas, Ferocactus and other types of cacti and succulents.

At the Santa Barbara Mission is an ancient opuntia well over a century old. Its closest in age is a Cereus Peruvianus, planted over 50 years ago, and now nearly 40 feet in height.

A systematic study of the plant life of the region is part of the regular course in botany for students of St. Anthony's Seminary in Santa Barbara. The Padre professor with his students have laid out an extensive succulent garden, and there is a well kept collection of some hundreds of labeled specimens.

—from New Zealand Cactus and Succulent Journal, page 66.

FROM OUR EXCHANGE EDITORS AND OUT-OF-STATE SUBSCRIBERS

Elzine Evans, editor of Houston's KAKTOS KOMMENTS, writes: "We are very pleased to know that you are reading our column, "Say That Again". By the way, Mr. P.G. Nichols of your Society is a friend of ours, and an even older friend of the Greggs of Bellaire, Texas who receive CACTUS CAPITAL CHATTER. We hope to meet you at the convention in Albuquerque, N.M."

Mr. and Mrs. Ralph Godwin of Albany, Oregon, subscribed for the 1967 CHATTER and say: "We like your news so very much. We always look forward to reading it. Merry Christmas and a Happy New Year to all in your club. Your Cactus Friends."

Dr. Larry W. Mitlch of North Dakota State University sent for a 1967 subscription to the CHATTER, and adds: "I continue to enjoy your fine publication and especially I like the article, "How to Understand What Plant Names Mean", in the 3rd quarterly issue."

Mr. Osamu Ono of Kagawa, Japan is head child psychologist in one of the two clinical centers for mentally disturbed children of his country. In 1965 he spent three months in the United States on a grant, visiting children's clinics. One of his hobbies is cactus culture. He visited cactus clubs around our country during his stay here. The Colorado Cactophiles of Denver entertained him, after which they referred him to the Tucson Cactus & Botanical Society. While here, he was the guest of Mr. and Mrs. John L. Meyer who showed him our public and private cactus gardens. Mr. Ono is also well known to two other of our members, Mr. J. F. Brick and Mr. P. G. Nichols.

Mr. and Mrs. Meyer received a 1967 New Year's card from him with the following interesting message:

"Last autumn my first book - the translation of "The Clinical Treatment of the Problem Children" by Dr. Carl R. Rogers (Prof. of the University of Chicago) was published. My new green house (covered by vinyl cloth, 14 x 27 feet) for cactus was completed last summer. Your gifts are growing in it. This writing recalls me into the wonderful days in Tucson with you. Please give my best regard to your kind neighbors. (P.G. Nichols and Joe Brick). Wishing you happiness through this year. Sincerely, Osamu."

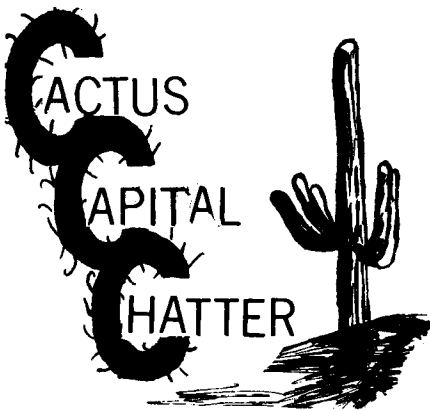
Mr. L. E. Newton, formerly of Essex, England, has been a subscriber to Cactus Capital Chatter and plans to continue. Recently he sent in his subscription for 1967 and 1968 to be mailed to him at the University of Science and Technology, KUMASI, GHANA.

Mr. Charles Glass, editor of Cactus and Succulent Journal writes us: "Sure did enjoy the last Convention (held in Tucson) and the exceptional hospitality of the Tucson group!! It sold me on conventions. . . hope this one's half as good!"

Mr. R. L. Russell, vice president of the Cactus & Succulent Society of New Zealand, tells us that overseas journals received by his society, including our CHATTER of course, truly travel around there. They go first from Mr. Russell to the editor of the New Zealand Cactus & Succulent Journal. Then to the executive committee of the Society, and are ultimately distributed to their members who meet at 21 branches scattered throughout the country. Mr. Russell wishes all of us "the best for 1967".

OVERSEAS PEN FRIENDS WANTED

1. Mr. N.M. Stow, 53 Horotane Valley, Heathcote, Christchurch, New Zealand. He is a stone fruit grower interested in cactus; in 35 mm. colour photography; in rocks and minerals.
2. Mr. Garry Barker, 35 Euston St., Riccarton, Christchurch, New Zealand. His main interest is cactus, fishing and rocks.



SAGUARO versus SAHUARO

Which spelling do YOU use? And How do you justify your choice of spelling the name of this fascinating giant cactus whose white blossom is the state flower of Arizona? The name of the giant cactus was given to it by the Indians, whose language was spoken, not written. The Spanish word "saguaro" was simply a way to capture in writing the sound of the Indian name. And "sahuaro" simply represents an effort to Anglize the spelling.

The Spanish-speaking Europeans beat the English-speaking Europeans to this part of America by more than 2 centuries. Why should not the Spanish version of the spoken Indian word be the right one to survive? In 1931, the

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Mrs. Chester Scott

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Arizona State Legislature adopted the "sahuaro" blossom as the state flower. Two years later, the legislature was big enough to admit its mistake and amend the name to "saguaro". We had hoped that the confusion, which was certainly understandable, over the two spellings was a thing of the past. It's SAGUARO National Monument, The SAGUARO blossom is the state flower. And your dictionary, if it is up-to-date, gives SAGUARO as either the only or the preferable spelling. (Adapted from a Tucson newspaper story).

----- ADDITIONAL NEW MEMBERS OF TUCSON CACTUS & BOTANICAL SOCIETY

Miss Jessie Morin	1056 E. Milton Rd.	Mr. & Mrs. Earl Benton, 1231
Mr. & Mrs. Carl O. Horst	5656 South Joseph Ave.	N. Rosemont Blvd.
Miss Bessie L. Crews	5367 E. Fairmount Ave.	Mrs. Edna Wills 2539 E. Linden
Mr. & Mrs. J.E. Levering	7660 N. Village Ave.	Mr. Wm. A. Pluemer, 4825 Camino la Brinca,

All the above are residents of Tucson, Arizona

Mr. and Mrs. Carl O. Horst, who recently joined Tucson Cactus & Botanical Society, are making Tucson their retirement home. Mr. Horst was a civilian aerodynamics engineer with the Air Force for 28 years. As a boy in Ohio, in the early 1900's, he watched the new flying machines overhead and wondered why they were not designed to fly as birds do. He began an independent study of bird flight which he has continued. He has written two books on this subject. He has a collection numbering more than 20,000 color slides of various wild flowers. He has made detailed studies of mushrooms and cactus. In addition, he is a studied authority on American and Mexican reptiles. Mrs. Horst is a former Tucsonan.

----- IN MEMORIAM -----

Tucson Cactus & Botanical Society extends its heartfelt sympathy to one of our members, Hallie T. Yenni, whose daughter, Muriel Rulas Hansen, passed away recently. Mrs. Hansen was a member of our Society also.

CACTUS CULTIVATION OR CACTUS CONFUSION

by Louis Fodor, Green Hand Nursery

All cacti are succulents, but not all succulents are cacti. What is a cactus? There are five factors that make a plant a cactus:

1. Its seedlings have two cotyledons or seed leaves like a bean.
2. Its fruit is a one-celled berry or seed pod.
3. All cacti have areoles with or without spines.
4. The petals of the flower arise from the ovary or top of the fruit.
5. All cacti are perennial; that is, they live year after year.

Many plants have 3 or 4 of these factors, yet are not cacti. The rose is an example of a plant with 4 factors named above, yet it is not a cactus or a succulent. A pereskia looks similar to a rose--it has leaves, but it has one thing that a rose does not have--areoles.

The first requirement for growing cactus is proper climate. Most cacti are of succulent nature and, lacking tender foliage, they can tolerate lower temperatures than in their native habitats. Many are covered with snow in the winter which gives them protection from the cold. Many will thrive in poor and arid soil. Some require rich loamy soil and abundant moisture at least during the growing period. Others grow in dry sand with only dew for moisture. Some appear to grow in solid rock. In order to successfully grow many varieties of cactus in Tucson, one should have a greenhouse--a lath house, in addition to a cactus garden. Most cactus start to grow between temperatures of 50-55 degrees. At temperatures of 65-70 degrees most cacti are growing, and at this stage it is safe to start a watering program. At temperatures over 95 degrees, most cacti slow down in their rate of growth in Tucson.

Soil of the correct kind is another requirement. It should be loose and porous. Cacti do not like stagnant humidity, especially in pots, Lime mortar, limestone, or coarse sand, crushed oyster shells may be added to the mix. Even broken red bricks can be mixed with loam. Leaf mold or manure may be used. Manure should be well rotted and in a powdery condition. It is a good idea to leave the manure exposed to the atmosphere for at least one year. Spray it and turn it several times so that all traces of fermentation have disappeared. Chemical fertilizers should be avoided especially in pots. Small amounts of phosphates can be used. Bone meal (salts of ammonia) might be used sparingly and repeatedly. It should be remembered that humus or leaf mold or old rotted manure mixed with soil will fix small amounts of atmospheric nitrogen necessary for normal growth of the plant. Any attempt to force a quicker growth of the plant by excess nourishment is generally resented by cacti and often proves disastrous. It is an excellent plan to have soil mixed and watered and allowed to become mellow and matured for about 6 months before using.

Charcoal dust and brick dust sooner or later become like a sponge retaining much water and fixing atmospheric ammonia which gradually transforms into nitrates. This, of course, may mean an excessive storage of fertilizing material. Small amounts of charcoal (throw away the dust) help keep the soil porous and sweet and prevent acidity.

Plants kept in the greenhouse or in pots require a more open soil and a heavier proportion of leaf mold or rotted manure. The important characteristics of soil for growing cactus are that it should be perfectly porous and never be allowed to become water-logged or sour. It should be fairly rich in gravelly matter and not too nutritious. It is not rare to see a cactus thriving in a mixture of 2 parts sand or gravel and 1 part old leaf mold with just a little powdered old mortar--for a short time, required for plant growth and proper development of spines. It is always safe to keep cacti on the dry side. Do not let the roots dry out. On the other hand, a soil which keeps moist or forms a green coat or crust on the surface is badly drained and unsuitable. The plant should be repotted. A soil containing excessive alkali or chloride of sodium should be avoided. Cacti planted in these alkaline and saline soils will soon rot off at the roots and perish. There are a few species of cacti growing close to the sea which are able to tolerate these soils, but they receive most of their moisture from condensation of dew rather than from soil moisture.

Planting and Potting

Planting and potting should be done at the start of the growing season--in spring, with the temperature at about 60 degrees. Plant in a dry soil entirely free from fermenting material, especially if roots have been damaged in transplanting. Water should be withheld altogether, for a few days to allow time for wounded tissue to dry and heal. Water just enough to keep soil moist, not wet, in order to promote formation of new roots. Water may be given more freely later on when the temperature rises and new growth develops. Whenever possible, place north side of cactus plant to the north if you move or collect plants. If you receive a gift plant or buy one, you will note that the growing center will usually be leaning slightly to south. If you cannot detect this, watch your plant to make sure it is not burning from the sun. If so, shade it or turn it around. Imported cacti which have been matured or cured before packing for shipment, generally arrive in a shrivelled condition. On arrival, they should be unpacked at once, cleaned of all dead roots and dead parts and placed in a shaded area upside down. Spraying once or twice a day for 2-4 days is necessary. They may then be planted in a dry soil and watered at once. Or they may be treated like a cutting and placed in a bed of sand to re-root or to grow feeder roots before being planted in the open. Continue to shade these plants from 2-6 weeks and gradually accustom them to the sunshine by removing the shading for a few hours daily during morning or evening.

Do keep them covered during the heat of the day. Whatever care may be taken by the grower or the shipper, accidents will happen to cacti more than to any other class of plants. A certain percentage of failures is sure to occur, and plants are lost.

Watering and Spraying.

Rain water and water free from alkaline and other salts, whenever obtainable, should be used for watering and spraying cacti and other plants. Distilled water is good for cacti, especially your rare plants. When you defrost your refrigerator, you may melt this frost to water cacti. Allow the melted frost to warm to the temperature of air before watering. WARNING. Never use water treated by water softeners. Never use laundry water. If you do not want to collect rain water or buy distilled water, make ice cubes. Let them melt and settle for several days in a jug so that the salts will settle to the bottom. Use only the upper water. If you have a hose coming from your cooler, keep that water OFF your cactus. It is too alkaline and too cold. Watering is best done early in the morning before plants have time to be heated by the sun. Next best time is late in the afternoon after they have had time to cool. Plants having depressed tops should not be sprinkled in the evening. They will hold water like a cup, too long on the growing tip. This could cause rot and disease.

Landscaping with Cactus.

In favorable climates, cacti are very suitable for planting out in the open ground, particularly in rock gardens. Sites sloping more or less steeply to the south or to the east are best. A site well sheltered from cold winds is the most ideal. The soil should be gritty and sandy and porous. The laying out of walks and masses of rocks to form the garden is a matter of personal taste of the individual. Slope your rocks toward the plants so that water will penetrate deeper around the plants. Avoid rocks with many holes in them. Even though they may look attractive, they are hiding places for snails, slugs, and other insects. Tall trees without thick foliage are good to plant under. The stem or trunk should be high enough to allow free circulation of air and to permit light and some sun to fall under them. Evergreen trees offer winter protection by keeping cold air from settling under them. Again, the south and east sides are best planting areas. Avoid spots that are shady and too cold. Take advantage of warm spots in your garden. South and east sides of patio walls are best. If you have an enclosed patio, the west side of the walls is good. Use rocks around the base of cacti to protect them from freezing at the base. Paper bags placed over the tips of tender plants help to keep them from freezing. Rest your cacti in winter. Then they can take more cold.

If you are not sure of the warmer spots in your yard, the next time the weather is cold, make like you yourself are a cactus. Try different spots to see where you would like to spend the winter in your yard. Visit other cactus gardens. If you have lost a certain variety of cactus by frost and if someone else has one growing outdoors, figure out why and what different conditions may exist in his garden. You can profit greatly by these visits.

Winter weeds, African daisies, and winter bedding plants help to protect your cactus from freezing in your yard. Native grasses also help. Try to choose plants that require very little watering in winter. Also choose plants that can be removed before summer sun grows hot. Try to group your plants that have similar needs. Learn about your plants: where and how they grow. Then try to do the same for them in your garden. If you have potted plants that are tender, growing in clay pots, you can plant pot and all in the ground. Then in the fall, dig out the pot and put it in its winter quarters.

Louis Fodor, owner of the Green Hand Nursery, deals in plants of many varieties, including cactus and succulents. The latter have been his hobby through the years. He hopes that in time he will be able to specialize in them, full time. Louis is a self-educated nurseryman who has capitalized on his practical experience and observations in the world of plants.

THOUSANDS AND THOUSANDS OF CACTI

TANQUE VERDE GREENHOUSES, owned by George Scannell, produce at present, 400,000 plants yearly from seeds--mostly cacti. Mr. Scannell studied for two years at the University of Arizona, majoring in horticulture. Always he has had a deep interest in growing plants. He has been in the nursery business for three years; in cactus business, one and one half years. He has learned the cactus growing business from many of Southern California's specialists. This area is the largest cactus growing one in our country, due to the climate which allows all growing to be done outdoors - except seedlings. He ships anywhere in the

United States, primarily on a wholesale basis. His best wholesale outlets are Phoenix and Tucson. He believes that cacti are the class of plants bought more spontaneously than any others. Think of the numerous cactus and succulent plants offered for sale in most super markets, as one example. He also believes that the Tucson Cactus & Botanical Society might well initiate an educational program to enlighten the public about the cactus family -- for information, appreciation, and enjoyment.

Tanque Verde Greenhouses orders cactus seed from Germany, Argentina, Mexico, California, and New Mexico. Since the Japanese people are extremely interested in cacti, Japanese importers send their buyers to the United States, especially to California, to buy cacti. The Tokyo Cactus & Succulent Society has over 1,000 members. One Japanese cactus grower alone ordered 1,000,000 golden barrel seeds per year, Mr. Scannell tells us. He says that small grafted cacti from Japan are especially in demand. The Japanese excel in these, due to their plentiful and economical labor supply, as well as their very special interest in plants.

Mr. Scannell's recommended growing medium for best results in cactus culture contains: 3 parts fine mortar sand; 1 part Grade #3 perlite; 1 part peat moss; 1 part well decomposed manure or leaf mold. (Caution: manure standards are not uniform). You will note that there is no earth in this mix. It is sold at the Greenhouses at 20 cents per gallon. Perlite has no food value; it offers good moisture retention; it never changes shape and never sours like vermiculite. It may be used in your flower beds, mixed with garden soil-- 1 shovel perlite to 3 shovels garden soil, says Mr. Scannell.

Cactus plants, like all others, prove that the better the care taken of them, the more successfully they grow. This care includes proper watering and feeding and protection against low temperatures. During periods of cold weather, it is best to reduce watering markedly. In using cacti in landscaping, utilize the brick walls around your gardens and also your house walls. Radiant warmth from these walls aids cactus growth greatly. Rocks among cactus plants also retain heat that will benefit your plants. Plant your cacti in an area of southern exposure for warmth. These rules are suggested by George Scannell.

Tanque Verde Greenhouses, 10810 Tanque Verde Road, are open every day, 8 A.M. - 6 P.M. George Scannell invites you to visit. Do, however, phone him first. He sells wholesale primarily but does deal in retail sales on a limited basis.

SPRINGS' ARRIVAL AT THE BOYCE THOMPSON SOUTHWESTERN ARBORETUM

Mr. Prior Thwaits, Resident Supervisor of Desert Biology Station in which the Arboretum is located, tell us:

In mid-March the prickly pears and hedgehog cacti were budding. Spiderworts and desert marigolds were in flower. There were few, very few, lupines along the highways this year. At this time also, many of the deciduous trees had begun to leaf, and a few of them were already in full leaf. The greenhouses had been cleaned; the soil renewed in them, and the plants rearranged. A few new species of both cacti and succulents had been added. In the picnic area, new tables had been put in, and charcoal grills had been added.

Director E. Lendell Cockrum tells us that during the year 1 March 1966 through 28 February 1967 there were 12,994 people signing the guest register at the Arboretum. During that time period, at least 6 garden clubs, 19 classes and 23 other groups visited the Arboretum. Studies made by Mrs. Taylor, receptionist at the Arboretum, show that approximately 50% of the visitors register. Thus the total number of visitors for last year is about 25,000.

INTRIGUING CACTI

by

Harrison G. Yocum

When one thinks of a desert, an immediate thought is that of a barren wasteland; however, most deserts have a diverse flora. This is true for the deserts of the Western Hemisphere except for small areas in Chile and elsewhere. These desert areas are characterized by a high evaporation rate and an annual rainfall ranging from less than 3 inches to 15 inches per year. Semi-arid conditions are found in the great American Southwest, parts of Mexico, the leeward part of some of the islands of the West Indies, the "catangis" of northeastern Brazil, and sections of Argentina and the Andes. Certain plants became adapted to these harsh conditions. A unique example of this is to be found in the cacti. The ability of these plants to store water accounts for their survival over long periods of drought. Their distribution is limited almost entirely to the New World, ranging from Canada to Patagonia and Tierra del Fuego. They number close to 2000 species, of which Mexico has the greatest percentage. North of the border, Texas has more than any other state. In South America, Argentina, Chile and Peru are the leading cactus areas.

But cacti are not found strictly in deserts. Most of them occur in mountainous regions with rather dry climates, along with many other kinds of plants. Very many cacti are found in the mountains of southwestern United States, Mexico and in the Andes of South America. Amazingly, others are found in the jungles of the tropics; and indeed, the ancestral type still grows in the West Indies. It is Pereskia aculeata, a white-flowered woody vine with scattered spines. On account of its fragrance, it is called "Lemon-vine". Another is its pink-flowered close relative, Pereskia saccharosa, which has longer spines. Unlike other cacti, they have broad fleshy leaves. Cactus leaves are much reduced and soon drop off new growth of the prickly pears, and are totally absent in the are epiphytic. Some are commonly called "Mistletoe Cacti", Rhipsalis. It is the only genus not restricted to the Americas. Most of the species are found in the American tropics, but Rhipsalis cassutha occurs there as well as in Africa and Ceylon, and Rhipsalis prismatica is found in Brazil and Madagascar. This anomalous distribution may have been the result of introduction by birds. They are epiphytic because roots emerging from the much-branched stems become attached to trees and other plants. Aerial roots also grow from the stems of Hylocereus and Selenicereus, the tropical night blooming cacti. This is also true of the Christmas cactus (Zygocactus truncatus of Brazil).

The number of genera into which the cacti are grouped has been greatly increased as a result of discovery of new species and revisions. There will be no need to go into their classification here as such information is readily available in the many popular books on the subject. Suffice it to say, four general types may be recognized. First, there are the prickly pears (Opuntia) which are separated into two groups: those with flat, pancake-like stems either crawling or tree-like in habit, and others called "cholla" (Pronounced cho'-ya) with very spiny cylindrical stems. Next, there are the columnar types with fluted stems. These belong to the Cereus group, and they usually grow tall. They branch from the base as in the case of some Organ-pipe cacti (Lemair--eocereus and Pachycereus) or from above as in the case of the Saguaro (Cereus giganteus). After heavy rains, these fluted stems expand much like an

accordian and increase greatly in girth. Thirdly, globular types include very many kinds which may grow singly or form clusters. Common ones are the Barrel (Ferocactus), Hedgehog (Echinocereus), Easter-lily (Echinopsis), and Fish-hook or Nipple Cactus (Mammillaria). A fourth type may be called scandent or climbing species. Their slender stems need support and many of them climb on trees. Here belong the Orchid Cacti (Epiphyllum) with notched, flattened stems and those with rounded, angular, twining stems (Selenicereus, Hylocereus and Eriocereus). These are the popular tropical night-blooming cereus types.

Cacti with few or scarcely any spines come from regions of greater rainfall than those with many spines. The function of the spines is not only that of protection from animals, but also to shade the body of the plant. Since the structure of the plant is the key to its culture, the more spines a particular cactus has, the more sun it will tolerate. All cacti need a well-drained soil, and this is the most important of all factors. No leaf-mold should be added to the desert types as it may introduce harmful organisms. However, tropical ones mentioned above benefit with leaf-mold since they grow naturally in tropical forests.

Most cacti are to be found growing among other plants, particularly grasses and desert shrubs which create a lath effect. This is especially true with some hedgehogs, twining cerei and others. Nonetheless, some do grow in the open with no overhead protection, and often such are to be found in rocky areas. Rocks are important in providing niches that protect the tiny seedling.

Also they give sufficient shade and moisture among the crevices until the root system is sufficiently established so the plant can endure the full sun. Many kinds of cacti are to be found in such well-drained rocky places, especially in cliffs. Examples include Button Cactus (Epithelantha micromeris) which frequents limestone ledges, many of the hedgehogs, barrels, Echinocacti and Mammillarias.

As a group, the cacti have little economic use. Some people use young shoots of prickly pear as salad, and many cactus fruits are sold in markets. The latter are the source of cactus jelly. Cactus candy is made from the stems of barrel cacti. Spines are used as fish-hooks, combs, pins and needles. Occasionally, the wood of arborescent species is used in furniture-making, decorative items, props, shelter or firewood. Tough fibers yield basket and matting weaving materials. One of the prickly pears, Nopalea cochinellifera, is host to the cochineal insect. This is a type of mealy bug which produces a scarlet dye. However, this industry has been replaced by synthetic dyes.

More important uses are for decorative effects of their pleasing and often bizarre shapes and forms as well as their showy flowers. The growing of cacti as a hobby by collectors is undoubtedly the greatest use, with important commercial significance. In Mexico especially, columnar species are often planted as hedges; however, this was practiced with past cultures more than it is today.

In order to learn more of this unique group of plants, it is well to join such organizations as The Cactus and Succulent Society of America, Box 167, Reseda, California. Members benefit in receiving the valuable bi-monthly Cactus and Succulent Journal. Some might be interested in its Mexican counterpart- Organo de la Sociedad Mexicana de Cactologia, A.C. which issues a quarterly magazine, Cactaceas y Suculentas Mexicanas. Even those who do not read Spanish will find it worthwhile as there are many illustrations and an English summary. Information may be secured from Dudley B. Gold, Aniceto Ortega 1055, Mexico 12, D.F. Also, there are many local clubs where information, and even plants, may be exchanged.

Harrison G. Yocum recently joined the Tucson Cactus & Botanical Society. He is a graduate of Pennsylvania State University, B.D. Horticulture; he has a M.S. degree from Rutgers University. He is a member of the following professional groups: National Geographic Society, American Horticulture Society, National Cactus & Succulent Society, Sociedad Mexicana de Cactologia, and Pi Alpha Xi-honorary fraternity for achievement in floriculture.

TUCSON'S WINNING CACTUS TEAM: MARVIN-BLACKBURN-CLARKE

Three of the outstanding and enthusiastic members of Tucson Cactus & Botanical Society, Lena Marvin, Alan Blackburn and Nancy Clarke, won many high honors in the recent Twentieth Annual Cactus Show sponsored by the Phoenix Gazette and the Desert Botanical Garden, Papago Park, Phoenix. Their awards are as follows:

LENA MARVIN:	Best Leaf Succulent.....	<i>Tavaresia grandiflora</i>
ALAN BLACKBURN:	First.....	<i>Pediocactus payracanthus</i> Lithop <i>Neoporteria senilis</i> (graft) <i>Parodia maasii</i>
	Second.....	<i>Pediocactus knowltonii</i>
	Third.....	<i>Mammillaria herrerae</i> (graft) <i>Coryphantha muehlenpfordtii</i> <i>Pediocactus simpsonii</i>
	Honorable Mention.....	<i>Pseudespostoa melanosteles</i> <i>Mammillaria mainiae</i> <i>Neogomesia agavoides</i> <i>Mammillaria compressa</i>
NANCY CLARKE:	First.....	<i>Gymnocalycium schickendantzii</i> <i>Notocactus haselbergii</i> <i>Euphorbia lactea cristata</i>

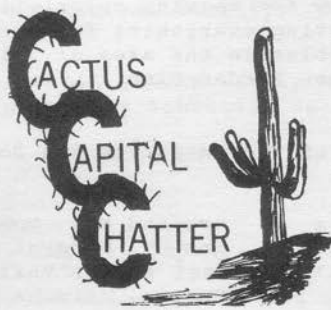
ONE MEMBER'S CACTUS GARDEN

Mrs. Betty Capps, 959 West Valencia Road, is a member of Tucson Cactus & Botanical Society. She is a serious collector of cacti and enjoys experimenting with plants. She is very interested in cactus culture and has developed an extensive cactus garden in her home here. 1967 finds her compelled to return to her native Ohio--minus most of her cherished cacti, of necessity. She is offering her home for sale, with or without her cactus collection in garden, house, and lath house. Also, she will consider leasing her home to responsible persons who like and enjoy the Cactus Clan and who will be willing to seriously and properly care for her plants.

About one half of her cactus plants are imported from Argentina and other South American countries, Mexico, New Jersey, Oregon, Florida and California. Her two specializations are 1). *mammillaria*, and 2). grafting cacti. Many of these grafted plants she will sell. Experimenting with raising cactus from seed interested her, and she has many seedlings to sell.

Among the various kinds of cacti that Betty Capps is now offering to sell are: Blue barrel. Red-spined barrel (variety unknown, Mexico). Senita. The many varieties of Old Man cactus. Feather cactus. Rainbows. Devil's Pincushions (species almost extinct). Living rock. Peyotes. Several varieties of night-blooming cacti. Chin cactus. Fishhook barrels (purple flowers, a Mexican species). Several small golden barrels. Many varieties of Easter lily cactus. *Echinocactus ingens*. *Pelecypora aselliformis*. Horse cripper. Star cactus. Old Lady. Sand Dollar. Powder Puff. *Obregonia denegri*. *Mammillaria wilderii*. Bishop's Cap. Rose Plaid. Tom Thumb. 3 varieties of Permanent Wave. Silver Ball. Split Rock. A number of crested cacti. Several varieties of *Opuntias*. *Agave Victoriae Reginae*. Many-headed barrels. Tiger Aloe. Joseph's Coat. Thimble cactus. Clumps of *Aggregata Coryphanthae*. Clumps and singles of grafted *recurvatas* and others.

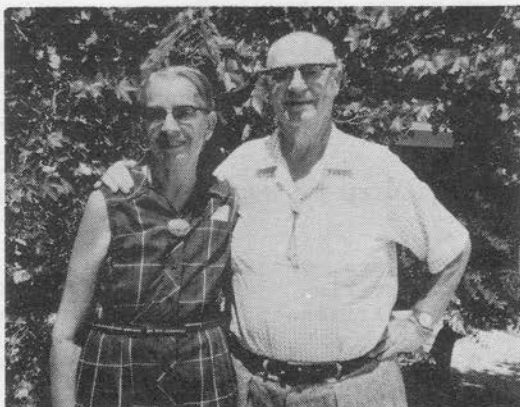
If you would like to see Betty Capps' cacti and succulents, phone her at 294-8618. She will exchange cactus plants with you for S & H and Gold Bond Trading Stamps. Also, she will trade cactus plants with you for demi tasse sets to add to her collection, another of her hobbies.



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P.G. and ALTA NICHOLS
photo by Marge Spring

-- SOCIETY HONORS P. G. NICHOLS --

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was awarded to Mr. P. G. Nichols. He is the first member of the Society to receive this meritorious honor. He is a charter member of the Society and, as a member of its Board of Directors, worked diligently with John Haag, the founder, in the organizing of Tucson Cactus & Botanical Society. He contributed his time unselfishly and expended great effort in building the Society to its present size and status.

Mr. Nichols is a man of many talents and hobbies, the one with which the Society is most familiar being the raising, collecting, and conservation of cacti. We wish Mr. Nichols and his wife, Alta, many more happy years of association with the Tucson Cactus & Botanical Society.

LIBRARY NEWS

The newly established library of the Tucson Cactus and Botanical Society is housed in one of the rooms of the business suite of the Nancy Clarke Insurance Agency at 2754 North Campbell Avenue. The Society is very grateful to our secretary, Nancy Clarke, for extending us this favor. Members of our Society at present may use our library material in the library room only, Mondays through Fridays, from 9 a.m. to 5 p.m. and on Saturdays from 9-12. Betty Blackburn was recently appointed librarian. She announces that the date for the formal opening of our library will be announced later.

OUR NEW RENDEZVOUS--TUCSON GARDEN CLUB BUILDING

A unanimous vote of the membership of our Society at the August meeting chose the Tucson Garden Club Building for our future place of meeting. Its complete and attractive equipment makes it ideal for our purposes. The assembly room is spacious with a high ledge along the wall the audience faces. This serves

for plant exhibits. Electrical arrangements allow for showing color slides and moving pictures. The kitchen is equipped for serving everything from refreshments at meetings to banquets. Parking is no problem in the area of 311 North Campbell Avenue which is the address of the Tucson Garden Club.

The following persons have lately become members of Tucson Cactus and Botanical Society:

Mr. and Mrs. Don Saba 5644 East Pima Tucson, Arizona 85716	Mrs. Elsie A. Phillips 5019 E. Julia Tucson, Arizona 85711	Mr. and Mrs. Noble Hoyne Mrs. T. M. Hoyne 4861 Hidden Valley Tucson, Arizona 85715
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CHATTER BOX

Miss Velma Disbrow, a former member of Tucson Cactus & Botanical Society, is librarian and audio-visual aids coordinator at Magee Junior High School in Tucson. Recently she won the \$875.00 Hilda Maehling Fellowship which is awarded by the Department of Classroom Teachers of the National Education Association. She is the only teacher in the Southwest and one of only five to receive such a fellowship for 1967 summer study.

CACTUS PRIZES DONATED by generous members. The following members are donors of cacti from their own gardens for prizes given at a recent meeting of Tucson Cactus & Botanical Society:

President Halloran	1st prize
Tanque Verde Greenhouses	2nd prize
Flavia Halloran	3rd prize
Charles H. Trimble	4th prize
Harrison Yocum	5th prize

Col. and Mrs. William M. Young generously donated 64 cuttings from their night blooming cereus plants to members of our Society at the August meeting.

FOOD GIANT SUPER MARKET #5 at 8640 E. Broadway has generously donated paper bags to our Society for the distribution of some of the cacti which we receive at our monthly meetings. Our thanks for this kind favor to our friends at Food Giant.

Mrs. Betty Capps, one of our enthusiastic members, writes us from her newly established home in Wisconsin that she left part of her heart in Tucson, the Cactus Capital. She greatly misses her well loved cacti, none of which she was able to take with her. Her new address is: Lake Lorraine Road, Rt. 1, Box 157, Delavan, Wisconsin 53115.

OUR THANKS TO MR. P. G. NICHOLS

Mr. P. G. Nichols recently gave gift plants of assorted succulents and cacti to all members of our Society. These plants came from his own fine garden with which many of us are acquainted...Our sincere gratitude to you, P.G. Nichols for these gifts.

A CACTUS AUCTION will be the main feature of the October meeting of Tucson Cactus and Botanical Society. Members are invited and urged to donate cacti for it.

HAAG MEMORIAL GARDEN lately has received two new plants: Rathbunia Soronensis and Lophocereus Schottii, var. sargentianus.

A MESSAGE FROM JAPAN TO TUCSON CACTUS & BOTANICAL SOCIETY

Osamu Ono
Tai Takase
Mitoyo, Kagawa, Japan.

My dear friends: Thank you so much for sending me the Cactus Capital Chatter. Nice articles recall me back into the desert in Arizona. I have already 4 friends in Tucson with whom I correspond and exchange cactus plants. I shall be familiar to all of your members through the introductory article of mine.

I have a proposition: how about exchange the red cacti and others of the members of our cactus club and cacti of your members? I'll send you a package which contains some small parcels of red cacti and others (not native in Arizona) from our members. And some of your members take one each of these small packages. Then make a parcel of Arizona native strong spine cacti, and send me in one package. What do you say of this idea? We shall be very glad if this proposal is accepted. Please give my best regards to your members.

NOTE: Mr. Osamu Ono is Head Psychologist of the Child Welfare Center in Takamastu, Japan. He is a gifted collector of cactus plants and has visited Tucson cactus areas as the guest of John and Isabelle Meyer. He is also acquainted with these other members of our Society: P. G. Nichols, Mrs. O.B.Marsh, Marshall Davidson, Paul Shaw, Joe F. Brick. Mr. Ono is receiving Cactus Capital Chatter with the compliments of Mr. and Mrs. John L. Meyer.

A GIFT TO OUR LIBRARY

These volumes will add breadth and variety to the reading that our members may wish to do on the subject of arid lands:

"Seventy-five Years of Arid-Lands Research at the University of Arizona." This is a Selective Bibliography, 1891--1965, compiled by Patricia Paylore. "Arid Lands Colloquia", 1958-1959, 1959-1960, 1960-1961. The University of Arizona. Tucson Cactus and Botanical Society was given these books "with the compliments of the Staff, Office of Arid Lands Research, The University of Arizona, Dr. William G. McGinnies, Coordinator." The Society gratefully acknowledges receiving these.

MEET YOUR FELLOW KAKTOPHILES!

The opening of our library gives every member of our Society that opportunity to become acquainted with the various publications of other cactus societies. We urge you to read them. Mrs. Chester M. Scott of the Chatter staff reads widely in this field. She has prepared the following quotes, summaries, and reviews for your information and to tempt you to read for yourself these various publications in our newly opened library.

CACTUS DIGEST--February 1966 (Henry Shaw Cactus Society,
St. Louis, Mo.)

How do you get the peanut cactus to produce those lovely red flowers? Complete rest from October to March 1st--absolutely no water and semi-shade. They will turn a maroon color and let you know they are in a hypnotized state of slumber, and if you fool with them in any way, they will rot. Keep them on the cool side.

April, 1966

Suggested Reference Books:

HOW TO GROW CACTI AND SUCCULENTS by E. Shurley
SEED RAISING AND WINDOW CULTURE by A. Boarder

Did you know that Adam and Eve knew what cactus were? No kidding! The Polaskis received from the Old Country three beautiful books in color, one of which was a Bible. On one page was printed the text and opposite it, the artist's conception of the text in color. There is a picture of the Garden of Eden, showing an echinocereus in flower, agaves, opuntia in flower, and a 20 foot Arizona Giant with 3 arms. A few feet away stands the well known apple tree in full fruit, and, as Adam and Eve are driven from the Garden, they pass by a large Arizona barrel with two heads in full color. When Saul was proclaimed King, he knelt to be anointed with Holy Water just in front of a large opuntia. A picture of Pharaoh starting for Egypt shows an opuntia gracing the marble steps to the palace. When Boaz bought a wife, the witnesses are seated in front of two opuntias. So the Polaskis are asking where cactus did originate.

January, 1967

Don't forget, while the cacti slumber, the succulents wake up; so, see, you can have fun all year.

The Henry Shaw Cactus Society lists for every meeting a "Plant of the Month" for members to bring in to show, with a prize awarded each time. For the January meeting it was to be an Arrangement of Cactus and/or Succulent. At other meetings any or certain genus of cacti or succulents were designated. One was for the smallest and another for the largest brought in.

KAKTOS KOMMENTS--January, 1966 (Houston, Texas)

Suggested Reference Books:

CACTI FOR THE AMATEUR by Scott E. Haselton
SUCCULENTS IN CULTIVATION by Vera Higgins
GROW CACTI by Cyril Marsden
CACTUS CULTURE by Ellen D. Schultz
GARDEN ENEMIES by Cynthia Westcott
CACTI FROM SEED by Edgar Lamb

Suggestions for growing Golden Barrel--add to every 1-1/2 gallons of the soil mixture 1 cup hardwood charcoal and 1 cup of bone meal. Be sure that drainage is good, watering once a week during the growing season and every 3 to 4 weeks in winter. While they do well in direct sun, they should be protected from direct west sun which may bleach the golden spines.

Bettie Muckleroy's Pitaya Preserves.

When the fruit of the Echinocereus Enneacanthus is greenish or brownish and has the fragrant odor of strawberries, remove the stickers, brushing them off easily with a small stick. To each 3 pints, add 2 cups of sugar and let it stand for 15 minutes. Bring to a rolling boil and cook for 3 minutes. Add 2 cups of sugar and let boil again for 3 minutes. Skim and pour in an open bowl. Let it stand 3 days, stirring 4 or 5 times each day. Place in sterilized jars and seal with paraffin and a lid.

TUCSON AND THE DESERT

Actually, Tucson is not in the desert but on its edge, according to Dr. William G. McGinnies who is Arid Lands Project Leader at the University of Arizona. He has led a two-year study on deserts of the world. Tucson has too much vegetation and too much precipitation to be desert. Deserts are usually very windy. It will blow hard sometimes on the Sahara Desert for 100 days at a time. Tucson has winds, but not like those. Also, Tucson has nice air drainage with breezes flowing up and down the mountains. The combination of mountains and plains makes for a very interesting landscape. Many deserts are quite monotonous places, such as the Great Basin of Utah, Nevada, and eastern Washington where there is mile after mile of sagebrush.

Dr. McGinnies believes that the vegetation of the Tucson area is the most varied of anywhere. Oddly enough, the animals here are quite like those in more humid places, but the plants are very different. We have our cacti and the great saguaro forests, and there is nothing like the palo verde trees in wetter climates. Driving from Tucson to Mt. Lemmon is like going to the Canadian border. Where else on the globe is there such sunlight, such a variety of vegetation with two seasons of flowers, such brilliant moonlight nights? The relative abundance of vegetation here is a buffer against the great extremes in temperatures that occur in most deserts, Dr. McGinnies says. Bare ground in the Sahara becomes very hot in the day's sunshine and very cold at night, while the trees of Tucson shade against both effects. Tucson vegetation is partly made possible by the fact that we have two rainy seasons: the summer monsoon and the midwinter precipitation. Plants are able to use moisture much more efficiently in the winter.

A reasonable definition of a desert, Dr. McGinnies thinks, is that it is an area of 8 to 10 inches of rain annually, depending on the temperature. This puts Tucson, with 11-1/2 inches, on the outside of the desert, but includes Phoenix and the area just around the mouth of the Colorado River. What about the future of the desert? Nature is more vulnerable and easier to hurt in the desert. She has less reserve to resist the influence of man.

CACTUS ON THE RIVIERA

The famous botanical garden of "Les Cedres" is on a peninsula, with views of the Mediterranean in many directions. The owner, Julien Marnier-Lapostolle, developed this garden over the last 40 years. It is noted for its rare exotic plants, water lilies, and one of the largest and most complete collections of cacti and other succulents in the world. Cactus is not native to Europe, but has been imported from the Americas along with corn, tobacco, and the potato. Cactus thrives, however, on the bright sunshine and well-drained slopes of the Mediterranean coast. It can now be seen growing wild on the Sahara Desert where it did not exist before the discovery of America.

At Cannes, France, the Arneodo Nursery has a display of cleistocactus, so called because the flowers are more or less trumpet-like. They often are called "bugler cactus." In the Georges Pecheret Nursery in Antibes, France are found *astrophytum ornatum* or "ornate star plant;" also, *echinocactus grusonii*, known as "golden balls". Both are native to Mexico. The Delrue Nursery in Pont St. Louis, France, near the Italian border, features *eriocactus Schumannianus* which comes from Paraguay and as yet, has no common name. Its botanical name means "Schumann's wool cactus". The Allavena Nursery in Borderighera, just across the French border in Italy, displays *notocactus Haselbergii* or Haselberg's southern cactus, which originates in Brazil. It is noted for its bright red flowers that accent a covering of silvery spines.

The St. Louis Post-Dispatch, Sunday, July 30, 1967 carried a special feature on cacti that are to be found on the Riviera. President Halloran called this to the attention of our Society at the August meeting. Beautiful color illustration enhanced the appeal of the story.

PLANTS AND CONSERVATION

Dr. Walter S. Phillips, Department of Botany, College of Agriculture, The University of Arizona, spoke to the Tucson Cactus and Botanical Society at its August meeting. His theme was "Plants and Conservation". On February 23, 1540, Coronado started north from Compostela, Mexico, becoming Arizona's first tourist. Accompanying Coronado were:

230 horsemen	336 soldiers plus a few wives
62 infantrymen	1000 servants and Indians
6500 animals including 5000 sheep, 150 cattle plus horses.	

By April 22, they were at Culiacan, Sinaloa, Mexico. In July 1540 they entered Arizona south of Tucson. The land over which this expedition crossed supported this large group of persons and an even larger one of animals. Water, grass and food were generously supplied by Nature. Today if we follow this same route of Coronado's plus any of its other ramifications, we have serious trouble finding enough water and food for our travel.

Photographs of the terrain of sections of southern Arizona in 1900 compared with recent pictures of the same areas show much less vegetation in the latter. There is a noticeable change from lush grasslands to shrubby plants. Is there to remain any of the native, unspoiled vegetation of various habitats for us to show our children? Wilderness areas remaining in the United States are now less than 2% of our total land area. Only 2% is potentially available to be saved for future generations. Rare plants, including cacti, are slowly disappearing. Protection becomes positively necessary. Preserving habitats is even more important. Areas like the Sonoran Desert Park will save many important desert habitats.

It is time to start saving wilderness areas for the future generations of people.

"STEALING CACTUS", an article published in the "Cactus & Succulent Journal", was read to our Society at a recent meeting. It was presented as part of the program arranged by Louis Fodor.

STEALING CACTUS

The Cactomaniac has many ways open to him by which he can add plants to his collection. The simplest procedure is, of course, to purchase these from reputable dealers or growers. In the long run this is the cheapest as well as the safest way. Slower and much more complicated is the raising of cactus from seed. This method requires lots of careful attention and for the amateur the results are usually not worth the trouble. Then there is the collecting of plants in the

wide open spaces, a very satisfying task in itself. But when busted crankcases, tires and tempers are added up, we find that such plants come exceedingly high. Popular is the method of begging and cadging plants from other people by sighing, groaning and drooling over their collections until the bored owner gives you what you want, if only to get rid of you. Finally there is the most noble and soul satisfying method of them all, the stealing of cactus.

In times gone by, when a cactus was still not easy to come by, the stealing of these plants was almost universally practiced by the fanciers. A sad individual indeed was the man who never missed a cactus, as such an oversight by other cactomaniacs was tantamount to a testimonial to the worthlessness of his collection.

Now the stealing of cacti is still being done but the present crop of operators lacks the finesse of the old-timers. I feel that this is the time to re-affirm the code of ethics which once was, and should again be, observed by those who are still practicing this vanishing art! Cactus collecting is a hobby, but the stealing of cactus is a hobby within a hobby and well deserves again to be raised to the level of an art! Indeed there is no greater satisfaction than the possession of a beautiful plant, properly stolen, especially so when you realize how boiling mad its previous owner must be over his loss.

An unguarded collection or garden must be left alone. This is stealing candy from a child and must remain beneath the craftsman's dignity. Equally deplorable is the stealing from a kind and courteous host who offers you the run of his place and any of his spares or cuttings you might like to have. To steal plants here would be like hunting rabbits within medium tanks, or shooting quail with bazookas. No sportsman would even consider it. But when we call upon an individual who treats you with suspicion, as if he knew of your motives already, who is crabby and ungracious, who is reluctant to have you see his plants and watches you at all times, we may consider ourselves on legitimate hunting ground. The task of relieving such an individual of his most cherished plant should be joyfully undertaken and pursued to its successful conclusion like a holy crusade. Four qualifications are needed for the stealing of cacti. First, we require a bit of manual dexterity, easily acquired with a little practice. Second, we need a working knowledge of applied psychology for properly buttering up and soft-soaping our prospective victim and to divert his attention from our hand. Thirdly, we need a fair amount of stamina and intestinal fortitude in order to endure the more painful part of the stealing process. Last but not least, we require a large amount of moral courage, or, as some unsympathetic person might describe it, plain unmitigated gall.

After gaining admission to our prospect's collection, we go into our spiel. A rapid conversation is carried on, liberally sprinkled with poorly pronounced Latin names. This is done in a rather low voice so that your intended victim has to keep his eyes on your lips in order to understand your words. Keep waving your hand and poke a finger at him as this will also focus his attention away from your real purpose.

We now back up to the plant we have selected. While one hand keeps waving and poking, we make the V for victory sign with two fingers of the other hand and move it behind our back. We gently feel for the cactus and use the fingers as a fork; the root of the plant is in the crotch of the fingers. A careful lift and a quick shake to remove the excess dirt, and casually the little cactus goes into your trouser pocket. That's all there is to it.

The animated conversation goes right on, of course, but here is where you need your intestinal fortitude. The cactus now has its inning and starts biting furiously. In no time are pocket-lining, shirt-tail and your skin combined into one solid aching lump. But there can be no flinching on your part; no limping

or cold perspiration on your brow must betray your agony as you move on with your host to the next plant, that is if you think you can stand one more. Wait at least a half hour before taking your departure. A special feather in your cap will be if you can bum a drink from your host. This is a highly desirable feature as the memory of such hospitality will be like salt in the wound when later on he discovers the loss of a prize plant.

Here I feel called upon to point out some unethical practices which have lately made their appearance! Thus there is the case of one man, who, to protect himself, wrapped a Woman's Home Companion around his leg, fastening same with band-aids and Scotch tape. Such a practice is on a par with dynamiting trout and the true cactus thief should spurn such practices as unworthy of his craft. Equally deplorable is the use of leather pockets and linoleum underwear but such devices have been used, but I know that no high-class operator will stoop to such unsportsman-like depths.

The removal of a stolen cactus should not be attempted until we reach home. Then great care must be exercised so that neither spines nor plant is injured. Pants legs may be cut off and shirt-tails can be amputated but at all times we must keep in mind that the plant is more important than mere clothes and physical discomfort.

There is no question that a plant acquired through theft and with all the rules and finer points observed is a prize well worth owning. Such a cactus deserves a place of honor in a cactomaniac's collection where it will be a source of joy and satisfaction forever, or at least until such time as some lowdown scoundrel will steal it from you. When this second thief turns out to be your plant's previous owner, the cup of bitterness may be overflowing, but the cactomaniac takes such reversals in his stride always with the thought in mind that tomorrow it's his turn again.

.....C. E.Mieg, Scottsdale, Arizona.

1967 BIENNIAL CONVENTION OF THE CACTUS AND SUCCULENT SOCIETY OF AMERICA, INC

This convention was held at the Sheraton Western Skies Motel in Albuquerque, New Mexico, May 15--18, 1967. President Halloran gave the following report of this convention at which he represented our organization:


The convention was excellent but was not quite as well attended as the 1965 one in Tucson. The convention held in Tucson was the best one ever held in the history of the Society and was recorded in the national minutes as such. Under the very excellent and highly effective direction of Tucson's Isabelle Meyer, our Society had one-page spreads in newspapers and notices on radio and TV. Albuquerque did not quite attain this wide publicity for the 1967 convention. They did use the Hospitality Room idea that Tucson originated under the direction of Isabelle Meyer. The program was well done, starting off with the pre-convention garden tour. The Albuquerque gardens were excellent, though not as numerous as in Tucson. Registration began at 9 a.m. on Monday and at 1:30 p.m. The president of the New Mexico Cactus and Succulent Society introduced the convention speakers. The opening banquet and the address of welcome were on Monday evening, May 15th. A seven hour bus tour on Tuesday took convention members through Santa Fe and Santo Domingo Pueblo. On Wednesday, collecting trips to various ranches within 150 miles were carried out in three groups. Perhaps the best collecting was done within 20 miles from town. Alan Mollison's unusual time-lapse photography presented Wednesday evening was the best that our president has ever seen. The delegates meeting on Thursday, May 18th, chose the location for the next convention, which will be in Southern California. Harrison Yocum of our Society presented his own composition, a tone poem, The Cardboard Mountains, at the conclusion of the evening's program.

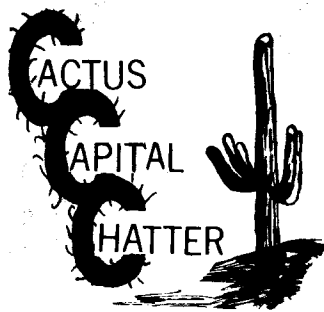


Season's Greetings



TUCSON CACTUS AND BOTANICAL SOCIETY
Tucson, Arizona





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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 Edinburg 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.

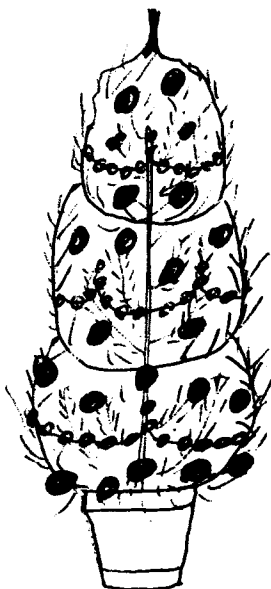
There are Christmas stars in millions
In a clear blue canopy,
Reaching down to touch the chollas,
Hanging on the greasewood tree.
There is one that's bigger, brighter,
Dwarfing others in the sight -
The STAR of BETHLEHEM, you're certain.
That shone on that Holy night.

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



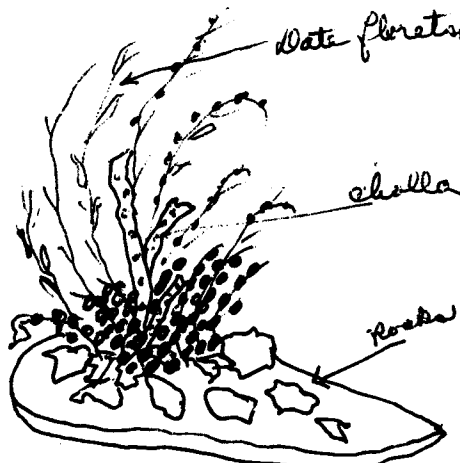
Dry a palm leaf. Spray with gold paint. Tie a large red bow of ribbon at top. Add sprays of red pyracantha berries, or a cluster of Christmas ornaments tied together.

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



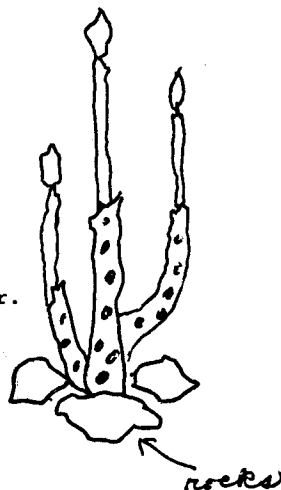
TABLE ARRANGEMENT



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.