

MAMMILLARIA THORNERI

Espinas y Flores

BULLETIN OF THE SAN DIEGO CACTUS AND SUCCULENT SOCIETY
Affiliate of the Cactus and Succulent Society of America, Inc.

.....
TOMO OCHO, NUMERO CINCO
.....

MAYO 1973

CACTI ARE NOT UNLIKE PEOPLE

CACTI, like people, come in many shapes and sizes and from many places.

HABITAT of both is world wide. Cacti with the aid of man have found friends and admirers in many lands.

CACTI, like people, may be placed in one of two categories: spined and spineless.

PEOPLE AND CACTI possess armament, the former developed by man himself and the latter formed by virtue of the exigencies of Nature.

MAN'S ARMAMENT is intended for offense and defense. The armament of cacti is protective and a thing of striking beauty and geometric design, and in many instances very colorful.

THE FLOWERS of cacti have great floral audacity and impact and beauty and splendor, perhaps without equal in Nature's garden of flowering plants. Some people are referred to as "flower children" whereof beauty is questionable.

MAN has crossed deserts and climbed mountains leaving damage and destruction in his wake. Cacti have traversed similar terrains over a much longer period of time without leaving evidence of damage or destruction.

MAN has polluted the atmosphere, disrupted the ecology and laid waste to large areas. Cacti have never desecrated the environment, fouled the atmosphere or altered the ecology.

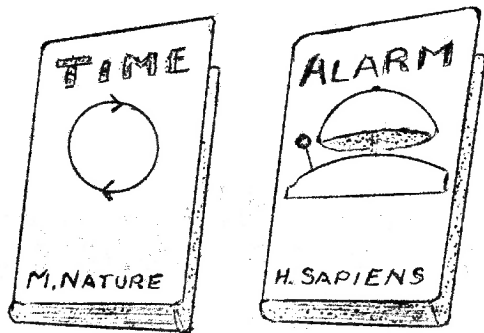
BEHAVIOR of some people necessitates their forcible segregation. No cactus has ever been segregated by reason of its simple existence.

SOME PEOPLE are distrusted and feared. No cactus need ever be feared and all cacti may be admired for their efficient development of techniques of survival in a changing environment.

SOME PEOPLE are designing, malicious and unpredictable. No cactus can be placed in any one of the three categories.

TO KNOW some people is to lose respect for them as individuals. To know cacti is to develop a healthy regard and respect for all their kind.

..... Ye Ed



Two Viewpoints

NATURE'S TIME PLAN

Doc. R. V. Vaughan

If we estimate the Earth's age at five billion years and reduce such a time span to a twenty-four hour period, we find that one hour is the equivalent of 180 million years; one minute is three million years; a second is 50,000 years.

The eastern end of Catalina Island is slowly rising at the rate of about two inches in a ten-year period as is shown by the overhanging, narrow-cut canyons. The western end is subsiding as shown by the absence of canyons that are submerged. The broken batholith permits the island to become separated at some time in the future.

Samuel W. Matthews in a recent issue of the National Geographic* describes in great detail how the finding of a fossil lystrosaurus proves that Antartica was once a part of Africa and India because the creature cannot swim. Thus in the ultimate all the continents were one land mass and known to geologists as "Gonwandaland". Drillings by the Glomar Challenger in our seas prove the recency of these vast bodies of water and the fossils taken from the ocean floors show the climate changes as well as changes in life forms. "(Recommended reading)

We know well that Los Angeles is moving northward to come in time into what is now the San Francisco area. The Americas (North and South) have parted from the African-European landmass a distance of two thousand miles in 65 million years and are separating still at a two-inch per year rate. One hundred thirty five million years ago the two western hemisphere continents began to "unzip" from the European-African land mass.

While an ice age reigns, the seas are absorbed and stored for future ages. The seas have at intervals fallen six hundred feet and exposed new lands which have in turn again become inundated, and in the case of the North American continent, The Mississippi Valley and the Canadian Cambrian Shield were at one time under water.

During my years of studying the geology of the Channel Islands, I tried to impress upon listeners that the human mind cannot comprehend the quality of what we term "Time". Two hundred and fifty thousand years ago the Island of Santa Catalina was just four hundred feet above the sea. Since that period of submergence the land mass has raised. When asked "Why", I explained that on Mt. Black Jack there was a ring of marine sea shells that extended no higher than 400 feet below the 2600 foot top and they continued on down into the sea. Also the ring was off the perpendicular by about one percent which showed that the batholith that formed the volcanic plug of the Island mass had broken at what we called the "Isthmus" where the width was now a quarter mile and just above high tide. Examination reveals that the "outer" Channel Islands form the perimeter of the vast volcano that once lay off the Coastal Mountain Chain. As the volcanic magma we call "Catalina" rose or subsided, the coastal regions we now know as the Palo Verde Hills left "bench lines" above and under the sea. These lines or beaches are just the opposite to the lines found on Catalina Island. This shows that Catalina Island was and is the volcanic plug of a once tremendous volcano, much as Mt. Sherman is the volcano of Yellowstone Park and Mazama is known as Crater Lake with its Wizard Island, which is the attempt of the volcano to rebuild itself.

In reality there is no such thing or measure as "Time" except to our way of reasoning based upon the rising of the sun and its setting, and the every-changing seasons. These facts are fleeting acts in the strange way Nature performs.

There is no beginning. There will be no end. It is organized and everlasting change---for ever and ever.

HEAR YE! HEAR YE! JOINT OPEN HOUSE

CASA DEL PRADO, SUNDAY, May 6

SAN DIEGO CACTUS & SUCCULENT SOCIETY and SAN DIEGO EPIPHYLLUM SOCIETY

Bring your 'bragging' and 'show' plants in a variety of containers to Casa del Prado on Sunday, May 6, for a lavish display for public view on that day.

HOWEVER, one exception, as previously announced! ALL PLANTS AND EXHIBITS IN COMPETITION must be in NATURAL WOOD CONTAINERS. No commercially manufactured barrels, baskets, boxes, tubs, etc. All plants and containers in competition should be at Casa del Prado, checked in and in position on show tables not later than 10:30 a.m. Saturday so that judging may begin at 11:00 a.m.. Judges are --

OTHER PLANTS, those not in competition, may be brought in even on Sunday A.M. but since everyone will be interested in the entire show, the earlier the better. Some of our members may not be able to get in early for the Sunday show.

CLASSES IN COMPETITION ARE:

- 1 CACTUS OF ONE GENUS --- minimum of three plants
- 2 GROUP OF SUCCULENT PLANTS --- minimum of three plants
- 3 CACTI AND SUCCULENT COMBINATION --- the idea being to have a harmonious planting.
- 4 SINGLE SPECIMEN of a SUCCULENT --- dramatically planted.
- 5 SINGLE SPECIMEN of a CACTUS - - - ditto ditto
- 6 MINIATURES --- not to exceed 5" in any direction.
- 7 SINGLE SPECIMENS --- Bonsai type
- 8 FEATURED CONTAINER OF NATURAL WOODY GROWTH such as a seedpod, a fern root, a palm frond, driftwood, a log, a knot hole, et cetera. Use your imagination and ingenuity, and some plants would help.

AND REMEMBER THIS. And THIS applies at all times and occasions at Casa del Prado. It's a MUST, a RULE regarding use of the tables at Casa as established by the Botanical Garden Foundation. It's a good practice, let's go along with it: It saves a lot of damage and wear and tear on the table tops.

IF YOUR EXHIBIT, YOUR CONTAINER OR YOUR PLANTS have a tendency to shed soil, moisture, water, etc. make sure to use a plastic or other water proof pad under it, between the object and the table covering, so that the table top underneath will not be damaged. This procedure or practice should be 'normal procedure' without the need of a committee to enforce it.

HOSTS and HOSTESSES will be needed to greet the public, tell about the plants and Club activities, to explain and to be on guard on Sunday from about 12:00 noon until closing time. If you'd like to help, call Chairman Ione HUBNER at 444 3439.

Remember, this is a JOINT OPEN HOUSE. The "Epi" group will be responsible for their own portion of the open house.

HOW TO BECOME AN "INSTANT HERO OR HEROINE"
IN THE ACTIVITIES DEPARTMENT

QUAIL GARDENS IN Encinitas (North County) is sponsoring bus tours of private gardens of the Rancho Santa Fe area and commercial flower

Encinitas (North County) is sponsoring bus tours of private gardens of the Rancho Santa Fe area and commercial flower growers' green-

COUNTRY CLUB

grows' green-Sunday, MAY 27th,

houses in the North County on from noon to 4 p.m. at \$3.50.

South Parking Lot

Why doesn't especially for our Mrs. Francis Harvey, 582 5365.

our Club arrange to charter one members on that date? It can be 5801 Adelaide Avenue, San Diego

of the busses done by phoning 92115, or phone

The busses leave the Country Club South Parking Fe Drive and Highland Drive (see map) east of Solana Members could drive their own cars to the parking lot, park, and be assured of a bus and the tour. Maybe a bus load would sign up at the May meeting and the answer would be provided. If not a full bus, maybe some members of the "Epi" Society would like to join the group.

lot at Loma Santa Beach at noon. be there about 11 a.m.,

After all the operations Rancho Santa Fe thing like



it isn't often one gets the opportunity to look into of the commercial flower growers or at the gardens of residents. It's really an education and fun, some- going to college.

Anyone like to be an INSTANT HERO, or HEROINE? Here's your opportunity. VOLUNTEERS ??

Lección en español

1 de abril, 1973
Spring Valley, CA

"USTED"

Querido señor Scott,

by Maria M. Reeder The correct abbreviation for usted is either Ud. or Vd., which leads to a dissertation on the Spanish words for you. The formal you (usted) is derived from vuestra merced (Vd.) which means "your grace". Spaniards are quite polite and proper. Vuestra merced was shortened through usage to usted (Ud.), but the meaning is not changed.

The corresponding plural forms are Vds. or Uds. This makes it clear how many "you's" are involved. It is interesting to note that American common speech tries to differentiate between singular and plural. Think of the southern "you-all" or the colloquial "youse".

However, saying "your grace" to someone you know very well seems stilted and so that form is not used in speaking to a friend, relative, etc. Instead, the Spaniard says tu in addressing one person, vosotros, more than one. Old English speech used the singular thou and then the plural ye in the same manner before they were dropped.

Thus the Spanish language, as other romance languages, retains four forms of you:

- Familiar: tu (singular) and vosotros (plural)
- Polite: usted (singular) and ustedes (plural)

¿Comprende usted?

Vaya con Dios,

Maria

Yo comprendo....Ye Ed

Maria: Thank you (muchas gracias). Your train of thought with a full cargo of information is always right on the track and the signal is green.

We had a feeling new members would like

to make an easier entrance into our large group...75 to 80 (or more) attend regularly. The Questionnaire was devised and distributed. New members are given a copy when they join ...unless there is too much confusion. Martin "Moneybags" Mooney or Bill (President Nelson) or Scotty-the-Editor should have Questionnaires for anyone who was missed. Some comments will be a regular feature of this page. from them



Nibby's NOTEBOOK

ELIZABETH BAKER was referred by Joe Bibbey and joined at the March meeting. As Staff Research Association at Scripps Oceanography, she's a natural for SD Shell Club, the Western Society of Malacologists, as well as Western Society of Naturalists. Elizabeth piled up points already - she offered to HELP WITH THE CLEAN-UP after meetings... Later, as confidence grows from knowledge she may write articles and help in other ways...We have this "Really-a- Beginner" pegged as one who learns very fast.

PAUL BINGHAM is a high school student in the 11th grade who came to his first meeting in January with uncle Ken Kendrick and aunt Mildred Gregory (who is also Ken's aunt). Also a member of Palomar C&S, he liked us well enough to join in March. Filled with enthusiasm, Paul made a number of good suggestions...among them the possibility of a "Troubleshooter" column. He said, "It would be nice to ask where a certain plant comes from - or whatever happened to old Mr. So'n'so - or 'My plant has something-or-other; what do I do?' - and get an answer. Otherwise the Newsletter is MARVELOUS!" Paul has only been hooked on cacti since Thanksgiving and regrets that he wasn't 5 years ago when he lived in Arizona. He has been given the talent to draw and did the comic page for his school newspaper...AND has been successful in producing a time-lapse film of four Pelecyphora pseudopectinata flowers opening. He offered to put together a half-hour program for a future meeting if the desert flowers in Arizona cooperated well during his vacation over Easter, plus a trip planned to Baja later in the spring. HERE'S a LIVE ONE for you, Scotty and Loyal Joe -- don't let him get away!

DAWN & KEN KENDRICK joined last year. They live in Woodland Hills and belong to the San Gabriel C&S and the Palomar C&S Societies...Ken is a plant manager of a custom plastic fabrication facility. The Kendricks are willing to help "wherever and whenever locality & time coordinate"-stating, "We have learned much at each meeting. We enjoy the educational value and the many fine people."

ILSE (that's ILL-za) SOMMERFELD has been my neighbor for 5 years and we've only really known each other for 5 months...She's from Hanover via Canada... Ilse joined in March after guesting for a few meetings and would like back issues of EyF (2211 Fairfield Ave, SD 92110). She's already made friends with Johanna Hoffman and Lauron Lovelace...although very quiet, she "observes a lot"... Ilse ripped out long-established junipers to plant succulents...replaced geraniums with succulents... accompanied me on a 10-day trip to Baja over Easter -- and was PROUD of every spine prick - the punctures made such "a romantic design" - the Baja tattoo really took!... By the way, Jean and Leta Hapeman, you might call on Ilse for cookies for she's a superb cook.

JOHANNA & ARRAN HOFFMAN moved to Chula Vista from Shaker Heights, Ohio, after retirement. They just happened to be passing by during a meeting, came in and joined.

C. L. BENBOW must be a charter member for he joined the year the Society was organized when he saw a notice in the paper. Benbow is another quiet one but we'll wager he observes a lot, too...he's a retired Navy man from the East Coast where he worked in ship repair...I always thought he was a train engineer...a newspaper photo of him was shown at the meeting when I was new in an engineer's cap standing by a train. (How do you like THAT sentence, Bill Joy?)

IONE HUBNER moved from Long Beach to El Cajon and joined in 1962 (or 63?) after seeing the notice in the paper + the exhibits at the Fair. Ione is a real estate broker. She is in charge of the May Open House and was the Secretary in 1967 (68?) when I joined; President in '70 and '71. (The two orange tablecloths are in the cupboard in Room 101, Ione, and the Loylands have the name tags for the plants at the Fair.)

Ione is in charge of the Succulent Exhibit this year.

* * *

The JUNIOR C&S SOCIETY enjoyed a wonderful picnic at Taylor's Nursery April 5th. From 3 to 13 years old, they met after school at the home of their sponsors, and were transported with Ruth & Bill Nelson's last-minute aid -- 30 people pose a problem in logistics... One of the boys with Nelsons wondered, "How can there be a picnic in a big building where they sell fertilizer?" His only previous Nursery experience. Imagine his surprise & delight when he saw Taylor's Nursery! The parents who helped were also grateful for the opportunity. Bob & Suzanne gave each Jr. member a potted Turk's cap. The picnic was a complete success.

(Reported by Alice Wells)

...MmmM! Do I have a trip for you ^{exclamation point} **Wild and wonderful**

Baja, of course. It's been widely reported that this is the best year for desert flowers in 25 years which is all the justifying your bank account needs...you can't take IT with you -- but you CAN take soul-satisfying experiences with you... Our tour of four left San Diego at 9:15 on Friday the 13th with a stop in Ensenada at the Panaderia and the Licores, later a stop at the Santa Tomas Mision ruins in the valley among the olive orchards and vineyards. We lunched in a field yellow & white, orange and purple...noticing that the bees buzz better in Baja where there is quiet among the flowers. We were in El Rosario late afternoon and by 6:30 camping at a turquoise mine. And there were eight more days! We left the new road wherever possible - it's reached Lake Chapala. The third adventurer was a widely-traveled woman, young in spirit and gentle of heart who was a magnificently good sport. Tour director: Piet van de Mark who operates FRONTIER TOURS (through CortezTravelServices in the Bank of America Bldg) for the sheer pleasure of being in Baja. Piet (that's like Pete) is a young naturalist, conservationist, who keeps his cool even while giving lessons in photography as he attends to 101 details. Everything was supplied - even the Easter bunny. If you can't go IMMEDIATELY which I most heartily recommend for he makes tours designed for each group; maximum 6 --keep the name in mind for next spring's whaling trips to Scammon's Lagoon. Piet van de Mark - Frontier Tours - 232-7962 - tell him Nibby sent you...

Off to Baja - we packed the duffle -- | Traveling in a truck named "Ambrosia",
Got a seashell stoop & a stingray shuffle. | Meandering through the desert gets-to-
-6- | ya.

May '73

In actuality, most likely, a combination of factors are involved, including over-grazing in some places and climatic change everywhere. Separating them out by relative importance is not easy. But Steenbergh and Lowe blame drought, erosion and frost for the depletion of seedlings, as well as the depredations of animals. They found that while more seeds germinate in the alluvial, or water-deposited, fill of the valley floor, the seedlings that arise among the rocky outcrops of the foothills, are more prone to survival.

This recurring theme is one on which almost all of the experts concur: where there is repopulation, it most often is on the lower rocky slopes of the mountains, where the soil retains moisture more efficiently, and not in the flatlands.

Downward arms are not unusual in any large group of saguaros

SAGUARO

by Carle Hodge

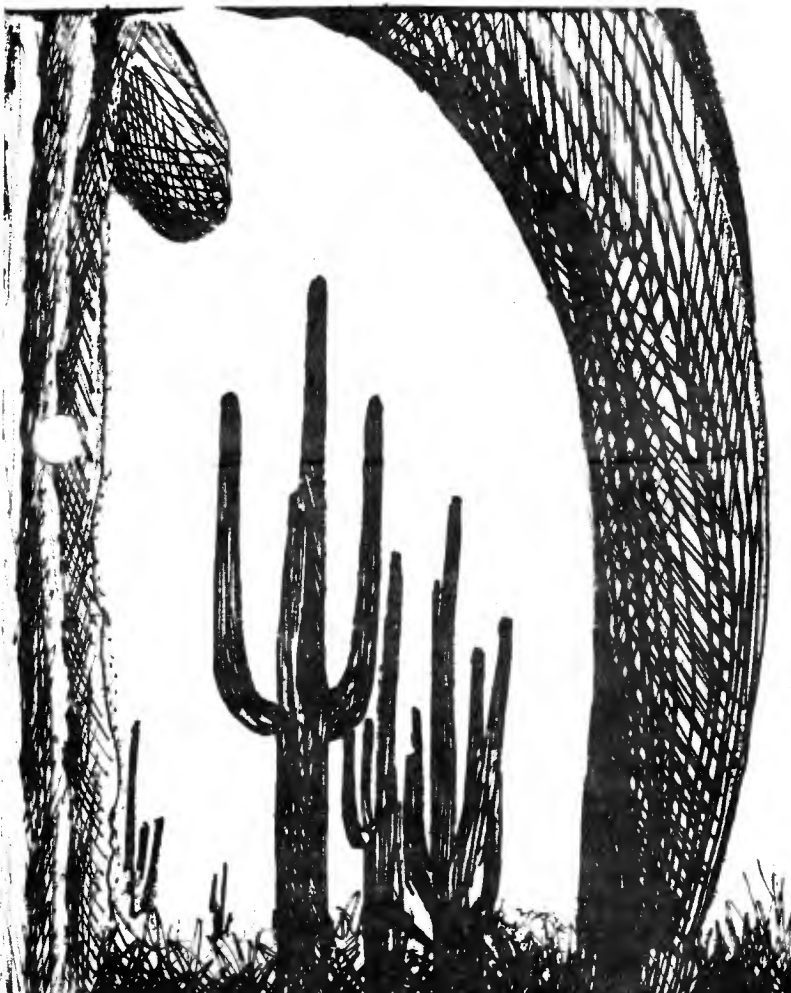


A rarity — normal and crested forms from the same body

Tumamoc Hill, on the western edge of Tucson, once was the site of the Carnegie Desert Laboratory, where Shreve and his colleagues worked, and now is that of the University's geochronology laboratories. Using sensitive instruments on specimens there, Hastings and Turner came up with a spectacular statistic. Almost anyone even casually acquainted with saguaros knows that they expand or contract as they gain or lose moisture; during the summer rainy season a plant puffs up like a balloon, the pleats up its sides opening like bellows. Just how much watery weight a giant can add, though, might come as a surprise. Hastings and Turner measured one which expanded over a summer from thirty-one inches in circumference to forty-seven inches.

Another conjecture is how fast saguaros grow. If a visitor wonders, he may get as many answers as the number of natives he asks. Favorite local legends range from an inch a year to a foot. The real rate, of course, is not that predictable. It varies from year to year, depending on moistness mainly and possibly temperature, and on soil, elevation and other factors, not the least of which is the age of the individual specimen.

Sycamore trunks frame Saguaro group in Sabino Canyon



MUENCH

At first, the seedlings, mere green nubbins, would look to the uninitiated very little like cacti at all and certainly nothing like would-be giants. The surface of the young plant is vast compared with its capacity for storing water, an inhibition that decreases only as the yearling becomes taller. In the meantime, stature comes slowly. A nine-year old plant may reach only six inches.

Seedlings, as may be said for older plants, grow mainly during the summer rainy season. The annual development of the adults actually begins to a limited extent late in March — with moisture still stored from the mid-winter precipitations. But the important growth coincides with the storms that drench the desert from July until September.

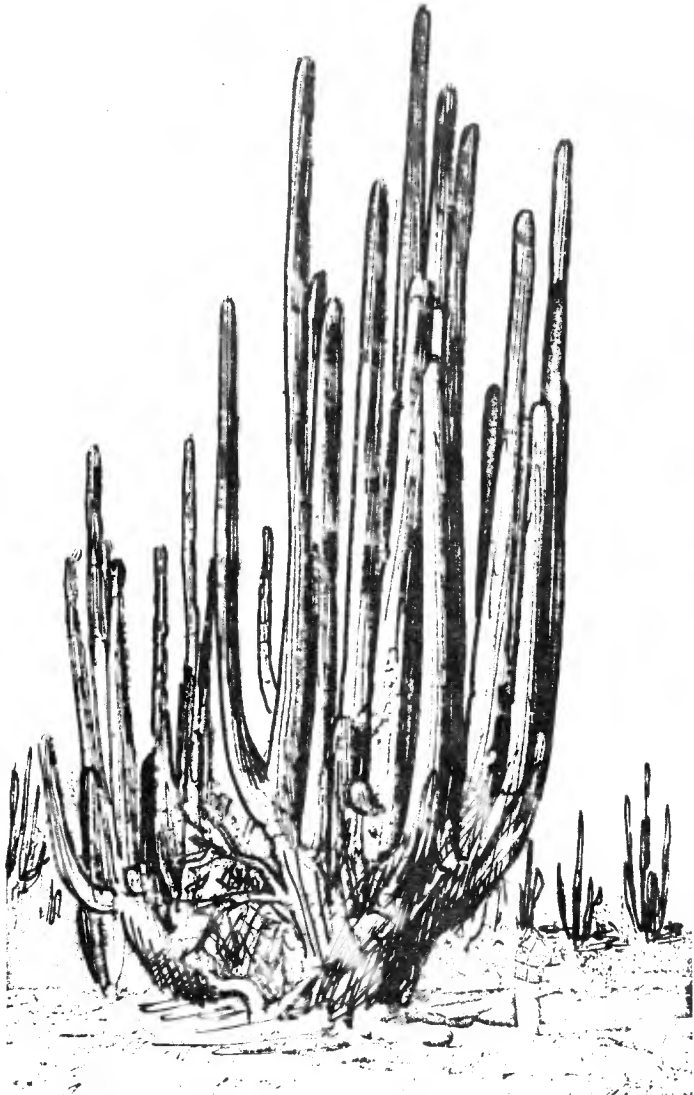
Some reasonably safe generalizations may be made, all the same. *Carnegia* moves up so gradually that a decade may pass before it stands a foot high. The growth rate later steps up, then slows down again. Maximum growth occurs when a twenty to twenty-two-year old plant, then perhaps three to four feet tall, may add nearly two feet in a year. This reckoning by Hastings and Alcorn, based on calculations for Saguaro National Monument, could differ a bit elsewhere.

According to their very rough rule of thumb, a plant should be two feet high at age eighteen, five feet after twenty-seven years, nine feet in thirty-eight, twenty-five feet in eighty, and thirty-five after a little more than a century and a half. A thirty-five foot saguaro weighs approximately two tons, if the branches are included.

Branches, or arms, begin developing when the plant is between sixteen and twenty-two feet, in most cases. Regional myth again to the contrary, scientists have been at a loss to explain why the arms grow from the trunk where they do — except that it apparently has nothing to do with balance. One occasionally sees a saguaro with a weirdly gnarled growth at the apex of the trunk or the tips of the steps; such a cristate formation may result from a genetic disorder.

Whatever their sizes, the desert monarchs, because of lace-like roots that proliferate so near the surface, are particularly

EL CARDON—*Lemaireocereus Weberi*

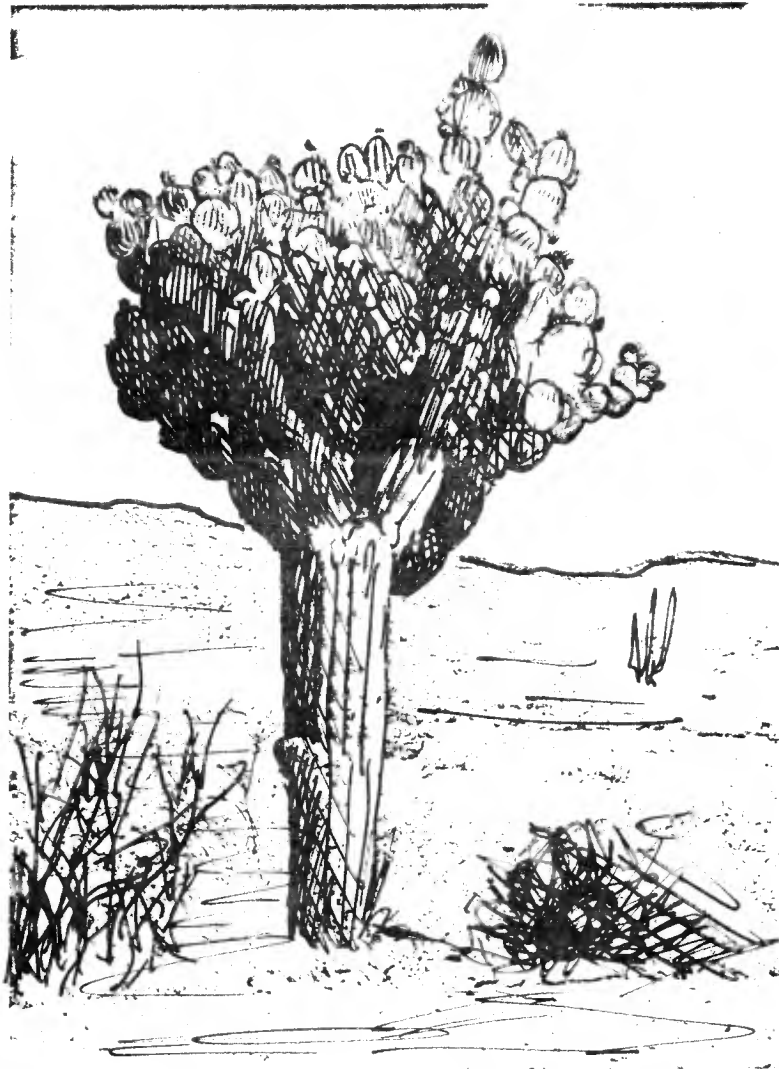


RAY MANLEY

vulnerable to windstorms. The roots fan out, often only two feet underground, about equidistant to the height of a plant. A shallow collection system enables the saguaro to take advantage of the rare rainfalls. But it provides poor anchor, and not infrequently a giant is blown down. When a plant is fat with water, the menace increases.

When the saguaro reaches about twenty-five to thirty years in age (or five feet in height) it begins to bear fruit. The fruit, which raw is about the consistency of a fig and tastes faintly like a mango, is several times more sugary than maple sap or sorghum. Not surprisingly, then, early summer always has been an important time on the saguaro desert not only to the wildlife but also the Indians.

Abnormal cell development results in non-conformist saguaro shapes, scientifically classified as CRISTATA



JOSEF MUENCH

Long before the Spaniards arrived, the Pimas and Papagos were harvesting the crimson fruit with poles fashioned from long saguaro-ribs.

The ribs, besides being harvest-time tools, once had numerous other functions. They were an important material in the construction of houses. Split ribs were hewn into traps for catching quail, made into scrapers and handles, or they became the foundations for coarse coiled baskets. In a land where other wood was scarce, the purposes to which they were put were almost endless.

(To be continued in June)

GARDEN TOURS --- Abril y mayo.

by Wilson Wells, Wagonmaster.

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permit swimming but just enuf to dampen the spirit.

Our April 14th garden visit and tour was successful but not as fully attended as we anticipated. For one thing the rain was falling in little droplets, not enuf to permit swimming but just enuf to dampen the spirit. Better weather in May!!

For those who missed the trip, they missed seeing what a youthful enthusiast has done in eight years both with regard to planning and plants. . . not to mention a bit of exercise in "climbing". The youth? Ricky Latimer.

The ROBERTSONS claim to be short of knowledge about cacti and succulents but if that is the case, they're learning fast and if their activities were graded, the grade would be A-plus. They are proving that interest, love and willpower pay dividends in satisfaction and pleasure.

Previous reports on Jean Hapeman's garden didn't allow for ALL her activity--or is she scared of garden visitors--anyway they were greeted from her roof. It seems her place is being re-roofed and she is seeing that the job is being done right. That's right, that's always the way Jean does things.

(Wilson---Ye Ed wants to know, did your visitors pull all the weeds at your place, or did Alice take care of that beforehand?) No mention of it.

There should be good reports from the April 28th visits, some of them are responding to one of the best winter seasons ever....but that's good, you'll see more poppies in one of them than you've seen in a long time....everything was "go" for the poppies this year, and they're not endangered, they're favored.

GET OUT YOUR TEXACO MAP---this is the May 12th route:

- 1 Martin & Pat MOONEY, 97 K Street, Chula Vista, phone 427 6796.
K Street jumps a half block north when it hits First & Country Club Drive. (S-7)
- 2 Loyal and Elvira BIBBEY, 490 Citrus Avenue, Imperial Beach, 423 5133.
Citrus street is one block long and one block north of Palm and one block east of 3rd Street---between Alabama and Corvina. (Loyal, is that Rebutia,--3-headed--still blooming?) (T-5)
- 3 O. Ed MILLER, 2117 Bluebird Street, San Diego, 264 8552
South of and parallel to Hiway 94, going west on Broadway in Lemon Grove you come to Mallard, or going east on Federal from San Diego, off on Mallard. All the same thing, just the street changes names. (H-9)
- 4 Troy SHIPMAN, 1805 "N" Avenue, National City, 477 8928
N Avenue is 2 blocks west of Palm Ave. 1805 is South of 18th. (P-7)
- 5 ~~Harold and Nellie KENNETT, 235 South Belmont Ave. National City 477-7857. Off Division at Drexel, So. Belmont is between Drexel and Kenton. (O-8)~~
- 6 Helen McCABE, 6721 Imperial Ave. wishes to sell her plants. You'll be in the area on May 12th.

GET OUT THAT TEXACO MAP AGAIN and look up the following for May 26th:

- 1 George and Margaret EVANS, 4030 Haines St., Pacific Beach, 274 1378 (I-2)
- 2 Dr. Philip G CORLISS, 2753 Strand Way, Mission Beach. Park at Belmont Park South Parking area and walk south on Ocean Walk or Strand Way. (J-1)
- 3 William and Alice BISHOP, 16201 Jewell Street, San Diego, 1-487 0421
Really that's Rancho Bernardo. North on 395 to Rancho Bernardo east to or into Rancho Bernardo Road two blocks to a stop light, turn right on Beranrdo Oaks (south) a half mile to dead end which is Lomica. Left one block to Pablo Dr. then right to a culdesac at street end which is 16201 Jewell, the Bishops.
- 4 Floyd L GABLE You'd better hunt that one up on your map. Why didn't Texaco put FLG's place on their map, maybe they didn't know about it. (B-12)

I N T R O D U C I N G--or should we say:

"A SHORT SELF-INTRODUCTION"

Surely all of you know our member-speaker in person, but you probably do not know:

"Ten years ago when I became seriously interested in plants I was an apartment dweller. My interest was "succulents". The tiny area available to me for my gardening efforts was a narrow strip of ground in the back yard. It was not frost-free and it was necessary that I devise effective techniques to protect my plants from heat and cold.

I grew all my plants in containers and most of them were double-potted. That made it possible to enter them in shows, move them as necessary and repot them as they grew in size.

Color slides of my gardening activities were made by another club member. They vividly show my problems, my plants and the results of my efforts and methods. The latter were generally successful--but not always. The superb camera work and slide artistry which accompany my narration are the product of the knowledge and skill of another club member--Eric Gunnarson. His slides give life and reality to my activities. Each individual slide has its own story to tell and taken as a group they bring to life a true garden story. That will be evident as you "see and hear" about my gardening activities.

A very helpful device was made by another Club member, it was designed to afford protection for plants from too much sun as well as from the cold. It was a plastic enclosure spacious enough to comfortably hold about two dozen plants of varying sizes. Still another device was a metal rack with shelves to accommodate trays of smaller and more tender plants. Trays made it possible for me to move the frost-tender plants into the warmer garage as temperatures dictated. What a routine moving can become--into the garage at night and out again into the warm sun in the morning. On occasions such activity can only be described as "dull and routine", but it was a "must".

Some larger plants were set against the west wall of the house where it was possible to cover them with plastic. Plastic afforded physical protection and warmth. I found it best to leave a space between the plants and the plastic to provide for circulation of air. A plant, like a person, must feel very uncomfortable when in contact with plastic. How involved and how silly can a plant enthusiast become?

Then we became home owners. It was no longer necessary to garden in containers exclusively. Our yard was a bit more spacious and it was possible to return many of the plants to Mother Earth.

Again I say, the slides of Eric Gunnarson provide a realistic picture story of the expenditure of great amounts of effort and time, plus aching muscles and some frustrations, not to mention a lot of "groundwork". There remains still much to be done. Is there such a thing as a garden where there is something which needs urgent attention, and where such attention can be given as needed? There will never come the time when there isn't something which needs immediate attention. Garden interests and work are ever changing---or better to say "they revolve". Regardless of the demands, I find gardening a rewarding hobby. Plants and their ways require understanding and they are the basis of a practical education."

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Helen's narration and Eric's slides combine to reveal a fascinating story about a gardener's trials and tribulations. The narration is spiced with humorous interludes. It is fast moving and attention holding. The double, planned approach--pictures and words--makes for one of the most interesting and down-to-earth garden talks it will ever be your privilege to see and hear.

The PLACE, Casa del Prado, the DATE, May 5th, the TIME, 1:30 p.m.

CHROMOSOME COUNT
and CACTI

Mitch Beauchamp writes from the Bronx: "The following compilation shows that scientists are looking at cactus in a scientific manner and, now that several investigative techniques have been developed on simpler groups, research tools available for investigation are being used to unravel the relative plastic situation in the Cactaceae:"

A recent series of papers has appeared which sheds some light on the phylogenic affinities of our native cacti. The articles, Chromosome Numbers in Some Cacti of Western North America, are by several biologists at Arizona State University at Tempe.

The major force of their data shows cacti, i.e., some western US and adjacent Mexico Opuntieae and Cereeae, to have a chromosome complement (genome) based on the number 11. For example, we find our friend, the Beavertail Cactus, Opuntia basilaris, to be a diploid plant, with $2n=22$, while the commonly cultivated Tuna, O. ficus-indica has a chromosome count which is four times that of the Beavertail Cactus, i.e. $2n=88$. Perhaps this relative high chromosome number is a reflection of the four and one-half centuries of cultivation of the Tuna. This high number is termed "octoploid" since it is eight times the base (x) number of the group.

From the following table, which is a condensation of data presented in the above-mentioned series of articles, it can be seen that some species (or taxa) are diploid, some tetraploid, a few hexaploid and very few octaploid.

Another aspect of the articles is the cytological confirmation of several putative cactus hybrids. The rare Myrtillocactus lindsayi, found near El Rosario, is shown to be a triploid plant which is as sterile as a mule and, therefore, can be propagated only vegetatively. The putative parents of M. lindsayi, Myrtillocactus cochal and Bergerocactus emoryi, are shown to be diploid and tetraploid, respectively. A cross between these parents would, indeed, be expected to give rise to such a triploid offspring (progeny) identical to the hybrid, M. lindsayi.

With the data on Myrtillocactus at hand, it is easy to speculate further about the other hybrid cactus found near El Rosario, namely Pachycereus orcuttii. This cactus is thought to be a cross between Bergerocactus emoryi ($2n=44$) and Pachycereus pringlei ($2n=44$). The tetraploid progeny of this cross would not be expected to be so sterile as the triploid Myrtillocactus lindsayi...but, rather, partially fertile as, indeed, is seen in Pachycereus orcuttii!

SUMMARY OF CHROMOSOME COUNTS presented in CHROMOSOME NUMBERS IN CACTI by
Pinkava et al., Brittonia 23:171-176 & 25:2-9.

<u>Count</u>	<u>Cactus</u>
n-11	<u>Opuntia acanthocarpa</u> var. <u>coloradensis</u> Benson.
n-11	<u>O. acanthocarpa</u> var. <u>ganderi</u> (C B Wolf) Benson
n-11	<u>O. acanthocarpa</u> var. <u>major</u> (E. & B.) Benson
n-33	<u>O. arbuscula</u> Engelmann
n-11	<u>O. basilaris</u> E. & B. var. <u>basilaris</u>
n-11	<u>O. chlorotica</u> E. & B.
n-11	<u>O. echinocarpa</u> E. & B.
n-44	<u>O. ficus-indica</u> (L.) Miller
n-33	<u>O. littoralis</u> (Engelm.) Cockerell var. <u>vaseyi</u> (Coult.) Benson & Walkington
n-22	<u>O. leptocaulis</u> DC
n-33	<u>O. oricola</u> Philbrick
n-33 and 2n-33II and 1I	<u>O. phaeacantha</u> Engm. v <u>discata</u> (Griffiths) Benson, Walkington
n-33	<u>O. phaeacantha</u> Engelm. var. <u>laevis</u> (Coult.) Benson
n-33	<u>O. aurea</u> Baxter
n-11	<u>O. bigelovii</u> Engelmann
n-22	<u>O. curvospina</u> Griffiths
n-22	<u>O. erinacea</u> E. & B. var. <u>erinacea</u>
n-11	<u>O. fulgida</u> Engelmann var. <u>fulgida</u>
n-22	<u>O. macrorhiza</u> Engm. var. <u>macrorhiza</u>

CHROMOSOME COUNT, CACTI -- continued:

- n-33 *O. phaecantha* Engelm. var. *major* Engelm.
- n-33 *O. phaecantha* Engelm. var. *phaecantha*
- n-11 *O. ramosissima* Engelm. n-11 *O. spinosior* (Engelm.) Toumey
- n-11 *O. violacea* Engelm. var. *santa-rita* (Griffiths & Hare) Benson
- n-22 *O. violacea* Engelm. var. *violacea*
- n-11 *O. whipplei* Engelm. & Bigelow var. *whipplei*
- n-33 *O. hybrid* (*O. "occidentalis-demissa"*)

- n-11 *Cereus cochal* Orcutt. (*Myrtillocactus cochal* (Orcutt) Britt. & Rose.)
- n-22 *C. emoryi* Engelm. (*Bergerocactus emoryi* (Engelm.) Britt. & Rose.)
- 3n-33 *C. cochal* Orcutt. X *C. emoryi* Engelm. (*Myrtgerocactus lindsayi* Moran.)
- n-11 *C. giganteus* Engelm. (*Carnegie gigantea* (Engelm.) Britt. & Rose.)
- n-11 *C. greggii* Engelm. var. *transmontanus* Engelm. (*Peniocereus greggii* (Engelm.)
- n-22 *C. pringlei* S. Watson (*Pachocereus pringlei* (S. Wats.) Britt. & Rose)
- n-11 *C. schottii* Engelm. var. *australis* K. Ddg. (*Lophocereus Schottii* (Engelm.)
- n-11 *C. schottii* Engelm. var. *schottii* (*Lophocereus schottii* (Engelm.) B. & R.)
- n-11 *C. schottii* Engelm. var. *schottii* forma *monstrosus* Gates.
- n-11 *C. thurberi* Engelm. (*Lemaireocereus thurberi* (Engelm.) Britt. & Rose.)

- n-22 *Echinocereus engelmannii* (Parry) Lemaire var. *acicularis* Benson
- n-11 *E. fendleri* Engelm. var. *rectispinus* (Peebles) Benson
- n-22 *E. triglochidiatus* Engelm. var. *melanocanthus* (Engelm.) Benson

- n-11 *Ferocactus acanthodes* (Lemaire) Britton & Rose
- n-11 *F. fordii* (Orcutt) Britton & Rose var. *fordii*
- n-11 *F. gracilis* Gates var. *gracilis*
- n-11 *F. viridescens* (Nuttall) Britton & Rose
- n-11 *F. wislizenii* (Engelm.) Britton & Rose

- n-11 *Neolloydia johnsonii* (Parry) Benson

- n-11 *Ancistrocactus uncinatus* (Galeotti) Benson var. *wrightii* (Engelm.) Benson

- n-11 *Pediocactus sileri* (Engelm.) Benson. (*Utahia sileri* (Engelm.) Britt. & Rose.)

- n-11 *Coryphantha minima* (Baird)
- n-11 *C. strobiliformis* (Poselger) Orcutt
- n-11 *C. vivipara* (Nuttall) Britt. & Rose var. *arizonica* (Engelm.) Marshall

- n-11 *Mammillaria gummifera* Engelm. var. *macdougalii* (Rose) Benson
- n-11 *M. wrightii* Engelm.

Clearly, more cytological investigation is needed in order to confirm the trends indicated by present data. The data at hand, however, tend to indicate a significant portion of the Cactaceae evolving by polyploidy, a habit not wholly unfamiliar in other groupings of perennial plants.

Note: A listing of reference material will appear in a later issue
: :

This space reserved for a very special "Thank you" to nine members whose efforts and thoughtfulness brought a substantial reversal and revival from the "manned" table in March. Everyones' thanks go to:

- | | | |
|-------------------|------------------------|------------------|
| Mrs. George EVANS | Olivia FLETCHER | Jean HAPEMAN |
| Leta HAPEMAN | Mr. & Mrs. A. J. HODGE | Patricia KENNETT |
| Ruth RICHARDSON | Dorothy RONSKI | Alberta WIDEN |

RECOMMENDED PLANT SOURCES

GARDEN VISITORS WELCOME MAY 26

The most satisfactory way to acquire plants for your collection is to personally select and buy them from a nursery. Since San Diego county is now the site of probably more cactus nurseries than any other area, only the advanced fancier need look elsewhere for his purchases. For collected plants and new and rare varieties not available locally it is suggested that you patronize the dealers who advertise in the Journal of the Cactus and Succulent Society of America. The editor uses care in accepting advertising. Any dissatisfaction should be reported to him or to me. New, scarce varieties may be added to your collection by raising them from seed - a fascinating although time-consuming procedure.

The advanced collector may have to look overseas for his needs. Since air postage, phytosanitary certificates, customs (7½% on cactus and other succulents) and, in some cases, export papers will add to the cost, it is feasible to make rather large orders, perhaps by pooling your orders with others. Fortunately, most plants propagated by seed or from offsets, even grafted ones, cost only about one dollar each from many dealers. Collected plants are more expensive by far. To receive plants from out of the country you must have a Plant Import Permit. This is issued without charge. Write for information to: Plant Permit Section, Plant Quarantine Division, U.S. Dept. of Agriculture, 209 River Street, Hoboken, New Jersey 07030.

South American cacti and seeds are offered by South American Plants, S.A. (Karel Knize) of Lima, Peru, but the wholesale business takes most of their attention at this time. Mr. Werner Uebelmann, from whose extensive Su-Ka-Flor catalog I have received many fine plants, does not favor customers from the United States at this time. Born (Germany) has apparently discontinued plant sales.

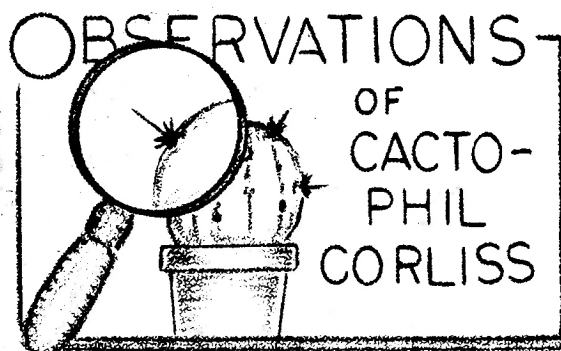
My most highly recommended source on the continent of Europe for 1973 is: H. van Donkelaar, Werkendam, Netherlands. Send for his free 1973 catalog which lists over 1,000 cacti and over 1,000 other succulents. His African list is especially strong since he is agent for a leading South African nursery.

Holly Gate Nurseries (Ashington, Sussex, England) is a splendid source of seeds, propagated plants, and collected items. They send out a monthly list and you may receive it for one dollar a year; or, preferably, three dollars a year for Air Mail delivery. Orders received in time for available items will be reserved until you have sufficient to justify shipment, if you wish.

Members of "The Exotic Collection" (the Lambs) get free seed packets each year and may purchase additional seeds and selected plants. The \$5. annual membership dues include a monthly illustrated publication and two photographic plates plus other advantages. Send dues to Abbey Gardens in the U.S. or directly to: The Exotic Collection, 16 Franklin Road, Worthington Sussex, England.

My garden will be open to members (only) from noon to 6 PM on the May 26th tours. It is located in South Mission Beach at 2753 Strandway (unlisted phone: 488-3620). It is small and crowded at all times with about 2500 species. At present there are more than: 370 mammillarias, 60 parodias, 50 gymnos, 25 stenos, 75 noto group, 75 neopterteria group, 30 copiapoas, 50 echinocereus, 25 fraileas, 50 rebutias, 75 lobivias, plus hundreds of oroyas, matucanas, arequipas, milas, weingartias, escobarrias, etc.

Martha Van Ness, author of a recent book "Cacti and Succulents, Indoors and Outdoors", will be a hostess at my garden the day of the garden visit.



OUR LIBRARY -- NEW BOOKS

Edith WERNER---Librarian

Comes the "age of specialization, in the past many books were written for the amateur, the beginning collector. Now that seems to be changing, more advanced or specialized books are appearing which have special appeal for those who wish to delve deeper.

Among the new books purchased for our Library, only one is an exception to the specialized class. It is "CACTI AND THEIR CULTIVATION" by Martin, Chapman and Auger. It includes general cultivation practices, propagation and type of cacti. Interestingly written and illustrated.

Some more specialized books are now available to our members and readers:

SOUTH AFRICAN ALOES by Barbara Jeppe. The first chapter is very helpful regarding cultivation, diseases, soil and flowering time of aloes. The main format is similar to Britton & Rose (The Cactaceae). It is beautifully illustrated with line drawings and colored sketches. Excellent info on Aloes.

THE AGAVE FAMILY IN SONORA by H. S. Gentry which was published by the Agricultural Research Service of the U. S. Department of Agriculture. The book is well illustrated with drawings and photographs made in the original environment. This soft cover book can be obtained from the U. S. Government Printing Office for \$1.25. A valuable book for the collector and botanist. None better for anyone interested in agaves.

DESERT PLANTS FOR DESERT GARDENS by Patricia Moorten of Palm Springs. This book includes desert trees, shrubs, cacti and succulents and palms for use in your garden. It includes a glossary of plants by both common and botanical names. Photographs are in black and white. Patricia Moorten is well known as a botanist and designer, co-owner and director of Moorten's Botanical Gardens in Palm Springs and a former member of the Board of Directors of the Cactus and Succulent Society of America.

ECHEVERIAS by Eric Walther for both the collector and botanist. Easy reading with drawings and clear photographs in black and white and in color.

Surely you will find something helpful and practical for your gardening!!

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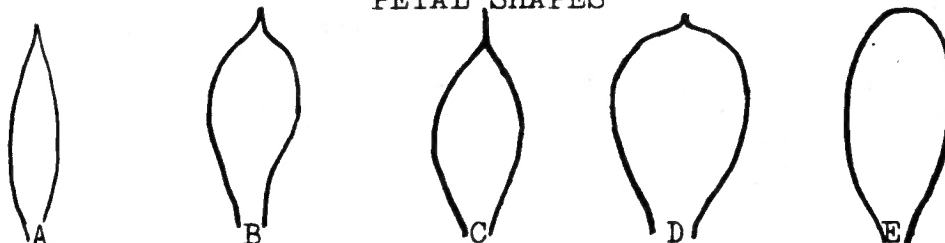
<u>Page</u>	<u>QUICK REFERENCE---THIS ISSUE---PAGE BY PAGE</u>
1	"CACTI ARE NOT UNLIKE PEOPLE" Ye Ed
2	"NATURE'S TIME PLAN" Doc. R. V. Vaughan
3	JOINT OPEN HOUSE, Sunday May 6 Ione Hubner
4	QUAIL GARDEN TOUR and LECCION EN ESPAÑOL by Maria M. Reeder
5/6 7/8	"SOUTH OF THE BORDER FATIGUE AND FUN" Nibby Klinefelter
9	GARDEN TOURS, Abril y mayo Wilson Wolls, Wagonmaster
10	May program "THERE GREW TWO GARDENS" Helen Hegyi's experiences
11/12	CHROMOSOME COUNTS by R. Mitchell Beauchamp of the Bronx
13	OBSERVATIONS, Plant sources, Visit my Garden Doc P. G. Corliss
14	THIS PAGE, That's your problem!
15	PICTORIAL FLOWER DISPLAY, Julie Mooney with a little help from Martin
16	FIFTEENTH BI-ENNIAL CSSA CONVENTION PROGRAM, Las Vegas, May 14 to 17
17	LAST PAGE, Officers, New Members, and the Pony Express of 1972

.....
Father to teenage son: "Now's the time you should start shifting for yourself while you still know everything."

CACTUS-OF-THE-MONTH
 PICTORIAL FLOWER DISPLAY
 Martin L. Mooney

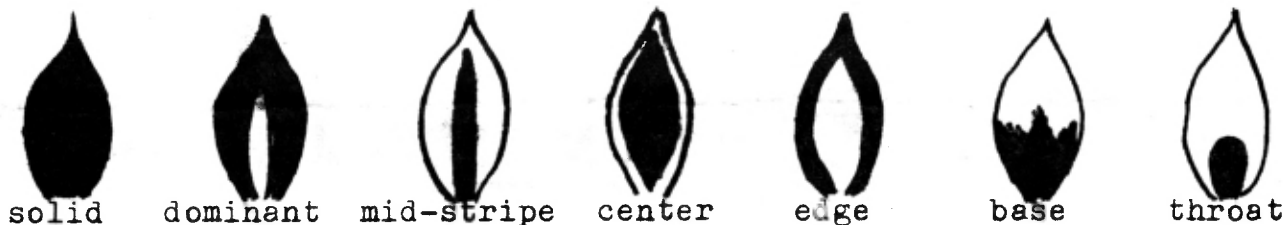
May is our open house and we don't have a Cactus-of-the-month as such. Therefore we thought we would take this opportunity to identify petal shapes, coloration markings, along with parts of the flower and the different shapes in pictorial form.

PETAL SHAPES

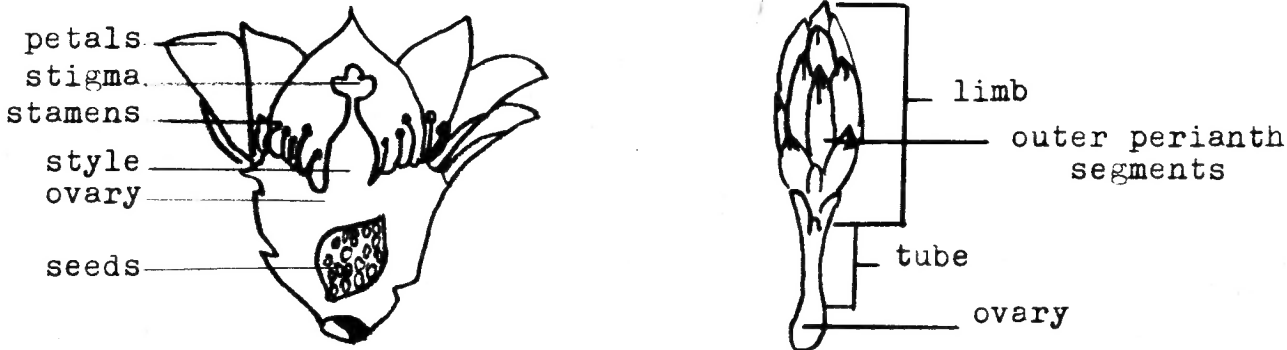


Tips of petals may be: A. obtuse, B. pointed, C. acute, D. cuspidate, or E. rounded. Shapes of the petals may be: A. narrow, B. oblanceolate, C. ovate, D. spatulate, or E. elliptic. These shapes may appear in any combination.

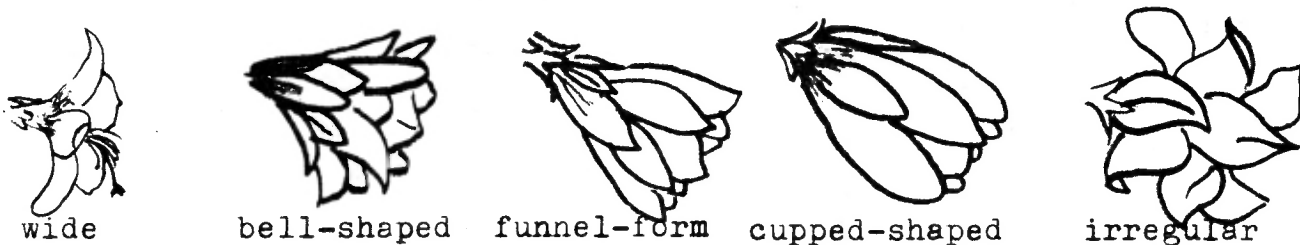
COLORATION



PARTS OF THE FLOWER



SHAPES OF FLOWERS



Special Thanks to my daughter Julie for a job well done on the drawings.

Fifteenth Bi-ennial Convention of the Cactus and Succulent Society of America, Inc.

LAS VEGAS, NEVADA

INFORMATION SHEET

May 14th through 17th, 1973

Location:	The Sands Hotel, Las Vegas, Nevada 89109 Telephone 800-648-6901 for toll-free reservation service.
Reservations:	Should be made by April 15, 1973 (post-convention trip by April 10). Reservation forms are enclosed.
Program:	
Sunday, May 13th	Las Vegas Cactus and Succulent Society members will be available to escort early arrivals around town and to various members' gardens. From 11:00 a.m. until 2:30 p.m., the Sands Hotel serves a fine "brunch", one of the best bargains in town at \$2.95 per person, in the convention area. As soon as conveniently possible thereafter, exhibit set-up and pre-convention registration will begin.
8:00 p.m.	Pre-convention programs on an informal basis, under the auspices of the Las Vegas Cactus and Succulent Society.
Monday, May 14th	
9:00 a.m.	Registration and hospitality room get-together. Book and plant sales tables plus numerous exhibits. Free coffee and lemonade.
1:30 p.m.	"Native Cacti and Succulents of Nevada" by Joe Mast
2:30 p.m.	"Annual C.S.S.A. Shows and Fair Exhibits" by Bill Lockwood
3:30 p.m.	To be announced Why these long names? G. P. ...
4:30 p.m.	"California Native Cacti and Succulents" by Warren McElroy
7:00 p.m.	Opening banquet - "Las Vegas Bonanza" sponsored by Las Vegas Cactus and Succulent Society. Address of welcome by Lt. Governor Harry Reid.
8:30 p.m.	"Southern Nevada - Its Flora, Its Geology, Its Ecology" by Dr. Lyman Benson
9:30 p.m.	"Night Owl" Show. Informal volunteer programs by individual members. (Repeated Tuesday night. Bring your best slides.)
Tuesday, May 15th	
7:30 a.m.	An all day field trip, in members' cars, will be led by members of the Las Vegas Cactus and Succulent Society to a large private ranch. Rocks and minerals as well as many species of cacti and succulents will be found.
8:30 a.m.	Alternative all day tour. Bus pick-up at the Sands for a tour of Lake Mead on the Yacht "Echo". Return by bus through the scenic Valley of Fire State Park. Additional costs will include a fifty cent fee for those wishing to tour Hoover Dam and moderately priced lunches available from a full menu at the Echo Bay resort at Overton.
7:00 p.m.	Dinner - "Springtime in the Rockies" sponsored by the Denver Cactophiles.
8:30 p.m.	"The Sexy Cactus" by Dr. James Henrickson, followed by "Night Owl" Show.
Wednesday, May 16th	
9:00 a.m.	Hospitality room open all day - free coffee and lemonade.
10:00 a.m.	"Strange Things That Happen in Idria" by Virginia Martin
11:00 a.m.	"Tarahumara Country" by Kathryn Sabo
12:30 p.m.	"Revision of the Genus <i>Pediocactus</i> " by Dr. Gerald Arp
2:00 p.m.	Luncheon - "A Date with Gates" sponsored by the Gates Cactus and Succulent Society. Election of King and Queen.
3:00 p.m.	"Cacti and Other Sticky Things" by Edward S. Taylor
4:00 p.m.	"Echinocereus" by W. Hubert Eagle
5:00 p.m.	To be announced.
6:00 p.m.	"Dissertation On Conservation" by Gary Lyons
7:00 p.m.	Dinner - on your own.
8:00 p.m.	"The Odyssey of Dr. George Engelmann" by Bill Harry Mitchell
9:00 p.m.	Affiliates' Night Owl Show. Your opportunity to "Show and Tell" your Society's achievements.
Thursday, May 17th	
9:00 a.m.	Hospitality room open all day - free coffee and lemonade.
10:00 a.m.	"Famous European Cactus and Succulent Collections" by Les Rothstein
11:00 a.m.	"Favorite Crassulas" by Mildred Stern
1:00 p.m.	"Grafting Techniques" by David Grigsby
2:00 p.m.	"Dr. John Lavranos' Habitat Slides of Succulents in Socotra and Arabia" with additional material and commentary by Dr. Jay Dodson of I.S.I.
3:00 p.m.	"Plant Ecology of Death Valley National Monument" by Peter M. Sanchez, Resources Management Specialist, U.S.D.I.
5:30 p.m.	Delegates' Meeting
6:30 p.m.	Pre-dinner cocktail reception. Coronation of King and Queen.
7:30 p.m.	Dinner Show. Entertainment to be provided by the hotel in their elaborate Copa Show Room.

SAN DIEGO CACTUS & SUCCULENT SOCIETY

Affiliate of the
Cactus & Succulent Society of America

"ESPINAS Y FLORES" monthly bulletin

ADDRESS: Room 104, Casa del Prado, Balboa Park, San Diego, CA 92101

- PRESIDENT - William NELSON, 4253 Maryland St., San Diego, CA 92103 . . . 298 3349
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- 2ND V. P. - Richard G. LATIMER, 5990 Lake Murray Blvd., La Mesa, CA 92041 463 1655
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- CORRESSEC - Julianne RICE, 2405 Holt Road, Holtville, CA 92250
- EDITOR - Walter R. Scott, 3430 Wilshire Ter., San Diego, CA 92104 . . 296 6022

Society meetings are held the first Saturday of the month (unless otherwise scheduled) in Casa del Prado, Balboa Park, San Diego at 1:30 p.m.

MEMBERSHIP dues are \$3.00 (single) and \$4.00 (family) which includes the bulletin.

NEW MEMBERS --Welcome to our group!! You will feel much more at ease and at home if you take part in a manner befitting your talents and Espinas y Flores readers would appreciate hearing from you.

Mrs. E. A. BOYD (Ann) 435 1961
1115 F Avenue
Coronado, CA 92118

Mrs. Arthur F. GILLIE (Suzanne)
1021 Pine Street
Coronado, CA 92118

Richard and Frances JOHNSON 284 3506
4551 Vista Street
San Diego, CA 92116

Mr. & Mrs. John E. MILLER 283 9906
4245 36th Street
San Diego, CA 92104

Mr. Nolida A. Serrano
Monaco 136, Chilavert Ptd. San Martin,
Poia. Buenos Aires, Republic Argentina

Senor' Serrano, usted es nuestro
primer miembro en la Argentina . .
bien venido!!

Joan SOMERS 271 8080
7555 Andasol Street
San Diego, CA 92126

Ilse SOMERFELD
2211 Fairfield Street
San Diego, CA 92110

IN PASSING - - - Do you know that the total cost of printing and mailing our Club bulletin "Espinas y Flores" is more than (exceeds) the total amount received as membership dues for the year. Approximately one-third of that cost is postage.

And speaking of delivery of the bulletin, that is something else In one instance in late 1972 it took 17 days for delivery in a town approximately 170 miles distant. In another nearby town, 15 miles away, delivery was accomplished in 10 days. That brings to mind the "Pony Express", those were the days. . . . Ye Ed

GARDEN TOUR, see page 9, note a cancellation, May 12th. No. 5 Kennett will not be open on that date, sorry about that. Plan your trip accordingly.

MEANINGFUL SIGN ON OFFICE BULLETIN BOARD: "Do it tomorrow, you've already made enough mistakes today."