

OUR 30TH YEAR

# Espinas y Flores

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



*We extend a hearty welcome*

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SPECIAL PRE MEETING EVENT: 11:30 am @ NATURAL HISTORY MUSEUM  
HERBARIUM TOUR

WHAT: GUIDED EXCURSION THRU THE MUSEUMS SCIENTIFIC LIBRARY AND HERBARIUM.

WHERE/WHEN: 11:30 am FOR THE TWO HOURS PRIOR TO OUR MEETING ON SATURDAY MAY 9th. MEET AT THE FRONT DOOR STEPS ENTRANCE TO MUSEUM, DUE NORTH FROM FOUNTAIN OFF PARK BLVD.

WHOM: WE WILL DIVIDE UP INTO TWO GROUPS AND BE DIRECTED BY HEAD LIBRARIAN CAROL BARSİ AND OUR OWN JIM DICE, PRESIDENT OF THE SAN DIEGO CHAPTER OF THE CALIFORNIA NATIVE PLANT SOCIETY.

WHY: THIS IS A GREAT OPPORTUNITY TO SEE THE MUSEUM "BEHIND THE SCENES" IN THE RESEARCH AREAS. WE WILL BE ABLE TO VIEW IMPORTANT ORIGINAL DOCUMENTS LIKE THE 19th CENTURY USA - MEXICO BOUNDARY SURVEYS, AND THE ORIGINAL "PLANTARUM HISTORIA SUCCULENTUM" BY THE RENOWNED BOTANIST, AUGUST DE CANDOLLE WITH ILLUSTRATIONS BY THE GREAT FRENCH ILLUSTRATOR - ARTIST REDOUTE. THESE ARE MAGNIFICENT HISTORICAL WATERCOLORS OF OUR FAVORITE SUBJECT: SUCCULENTS.

WHY NOT?

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\*\*\*\*\* PROGRAM \*\*\*\*\*

CHARLES GLASS WILL ENTHRALL US (DON'T MISS THIS PROGRAM!) WITH A PRESENTATION SLIDE SHOW OF HIS NEW BOOK "THE ILLUSTRATED ENCYCLOPEDIA OF CACTUS", COAUTHORED WITH CLIVE INNES OF ENGLAND. CHARLIE IS EDITOR OF THE CACTUS AND SUCCULENT JOURNAL OF AMERICA AND A MULTI-MEDIA "TONGUE IN CHEEK" ARTIST....LADIES & GENTLEMEN WE BRING YOU THE INIMITABLE CHARLIE GLASS.

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MARCH MEETING

Saturday March 9, 1991

1:30 P.M.

Casa Del Prado, Room 101, Balboa Park

PROGRAM

Charles Glass

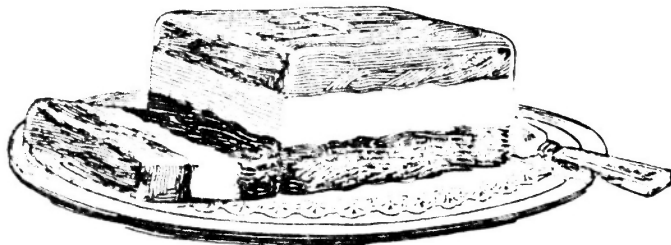
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Refreshment Volunteers for March

- Susan Shepherd
- Richters
- Mary Ann Alexanderson
- Joan Nimick
- Joseph DiPietro
- Anita DiPietro
- Reed Pierce
- Rosemary Robilotta
- Curt Hammel
- Joan E. Fleer
- Mary Holmar
- Sarah Jervey
- Susan Barber
- Doris, David and Grace Cheng
- Teresita Lime
- Sonia Garza
- Laura De Merritt
- Virginia Innis



Thanks

"ACCOLADES IN SPADES" TO MARK DODERO FOR HIS INFORMATIVE AND ENTERTAINING SLIDE SHOW - LECTURE ON THE SYSTEMICS OF DUDLEYA, HIGHLIGHTING THE HASSIANTHUS COMPLEX. A GENERAL REVIEW OF HIS WORK RESEARCHING DEVELOPMENTAL STAGES OF THE COTYLEDONS (HOW THE NEW LEAVES FORM FROM THE SEED), LOOKING AT CORMS, FLOWERING PERIODS AND SEED PRODUCTION AND DISBURSEMENT, WAS MUCH MORE INTERESTING IN HIS CLEAR EXCELLENT SLIDES AND BARITONE VOICE THAN IT IS HERE IN MY INTERPRETATION.

POINTS OF INTEREST INCLUDED AN ECOLOGICAL EXPOSE OF THE VERY IMPORTANT "BLACK TAILED KNAT CATCHER". THIS SPECIES OF BIRD IS THE BAROMETER OF HEALTH FOR THE RAPIDLY DISAPPEARING BIOME CALLED " THE COASTAL BIOCLIME". IF THE KNAT CATCHER IS ABUNDANT THAN IMPORTANT PLANTS LIKE COASTAL SAGE, DUDLEYA, FEROCACTUS, MAMMILLARIA, et al., AND REPTILES LIKE THE COASTAL HORNED LIZARD AND THE ORANGE THROATED WHIPTAIL LIZARD ARE THRIVING. UNFORTUNATELY THE KNAT CATCHER IS ENDANGERED ... REMEMBER SOMETHING ABOUT THE DOMINO THEORY?

MUCH THANKS TO TED NELSON FOR HELPING MARK, LUGGING IN A REMARKABLE DISPLAY OF DUDLEYAS FOR OUR EDUCATION AND PLEASURE.

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THANKS TO JOAN NIMICK FOR BRINGING HER "AILING BEAUTIES" FOR OUR PROBLEM SOLVING EDUCATION TABLE. BOB KENT AND RICK LATIMER GAVE THEM THE TWICE OVER AND WE BELIEVE THIS WILL HELP OTHER MEMBERS WITH SIMILAR PROBLEMS. BY THE WAY, JOAN MADE HER OWN CONTAINERS (LIKE AMNA'S ARTISTIC CREATIONS) AND I'LL BET YOU THE NEXT TIME SHE HAS HER HANDS IN THE CLAY, SHE'LL INCREASE THE SIZE OF THE DRAINAGE HOLES!

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WE HAD AN EXCELLENT SELECTION OF PLANTS FOR SHIRLEY BERRY TO ELUCIDATE AND ILLUMINATE ON THE BRAGGING TABLE. ALAN WEISS WOWED US WITH SOME SUPERB RARITIES, STEPHANIA ROTUNDA (MENISPREMACEAE FAMILY) AND PSEUDOLITHOS MIGIURTINUS (JUST TRY GROWING THIS ONE!!) RUDY (AS USUAL, THANK YOU MASTER LIME) DELIGHTED US WITH HIS BONSAI PELARGONIUM ALTERNANS AND EUPHORBIA ABDELKURI. T.A.M. (THANKS A MULTITUDE) BEVERLY KIRKEGAARD FOR HER OTHONA HERREI AND DOROTHY DUNN FOR HER DUDLEYA GREENI "WHITE SPRITE". SHIRLEY BROUGHT IN A MAGNIFICENT DUDLEYA COTYLEDONIS AND HER BURSERA HINDSIANA, A DWARFED BONSAI THAT'S SHE "KEPT ALIVE FOR THIRTY YEARS" WITH A DIMINUTIVE 6" STATURE. TRY IT FOR THIRTY YEARS AND REPORT BACK TO US. MITCH BAHR SHOWED A NICELY SHAPED MONADENIUM INVENUSTUM VAR. INVENUSTUM. GOOD SHOW, KEEP UP THE GOOD WORK.

JOEY BETZLER DID AN EXCELLENT REVIEW OF THE GENIUS KALANCHOE AND OF COURSE, DOROTHY DUNN DID HER USUAL EXCELLENT JOB WITH SPECIAL WHITE SPINED MAMM'S. MANY OF THE BEAUTIFUL "SHOW PLANT QUALITY" MAMM'S WERE LOANED BY C&J CACTUS, CARL VOLKER AND JIMMY "REDCAP" KEMWIRTH. ALSO, THESE TWO PROS DONATED A HUGE FLAT OF ALOE VARIEGATA "PARTRIDGE BREAST ALOE" TO OUR CLUB, WHICH WILL SHOW UP ON THE SALES TABLE, AS HOT DOOR PRIZES AND GIFT PLANTS FOR GUESTS OVER THE NEXT FEW MONTHS, GRACIAS SENORS!!

IF THERE ARE ANY MEMBERS OUT THERE WHO HAVE OLD SLIDES OR PHOTOS OF PAST CACTUS & SUCCULENT EVENTS, OR KNOW MEMBERS WHO ARE NO LONGER ACTIVE, PLEASE LET US KNOW SO WE CAN PUT TOGETHER A GREAT PRESENTATION FOR OUR THIRTIETH BIRTHDAY PARTY IN MAY.

WE WILL HAVE MORE ON THIS NEXT MONTH, BUT WE HOPE TO HAVE A REGAL MEETING AND BIRTHDAY EVENT. MEMBERS OF THE BIRTHDAY/ ANNIVERSARY & CHRISTMAS PARTY COMMITTEE ARE: BEVERLY KENT, DIANE CROWLEY, JOEY BETZLER, MITCH BAHR AND MICHAEL BUCKNER.

MAY 6, 1961 WAS A LONG TIME AGO, BUT WE STILL HAVE TWO ORIGINAL MEMBERS, WHO WERE AT THE VERY FIRST MEETING PROMOTED BY CLEOVIS HARDIN OF SPRING VALLEY: PERSO LEWIS AND BOB TAYLOR. TAKE A BOW!!

PLEASE CONTACT OUR HISTORIAN RICK LATIMER OR ANY COMMITTEE MEMBER WITH INFORMATION, PHOTOS, SLIDES, GOOD STORIES ETC.

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THANKS A MILLION TO BILL AND DIANE CROWLEY FOR THEIR EXCELLENT WORK IN THE KITCHEN AND TO EACH AND EVERY ONE OF YOU FOR SUPPLYING THE GREAT REFRESHMENTS WE ALL ENJOY AT THE BREAK. KEEP UP THE GREAT WORK!

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HAPPY BIRTHDAY!!!

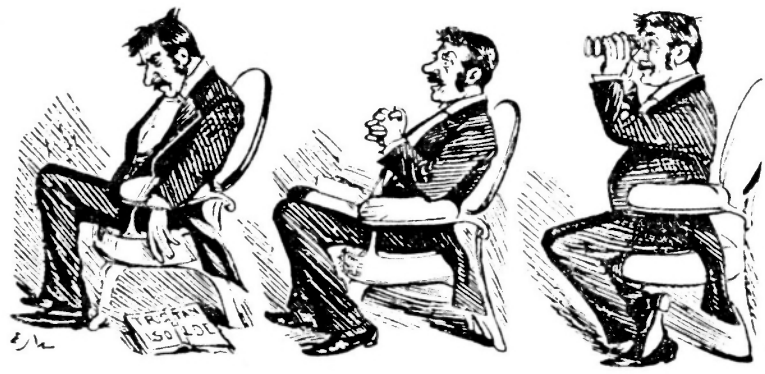
THIS MONTH: SANDY FROST, FRANCES JOHNSON, MILDRED RICHTER, RUDY LIME, AND MITCH BAHR.!!

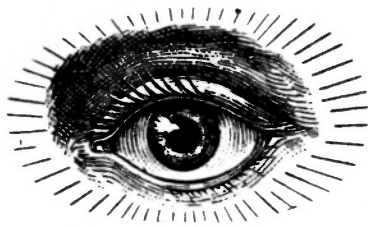
!!

WE WANT TO MENTION HERE HOW DELIGHTFUL IT WAS TO SEE TONY AND ROSE D'ATTILIO AT OUR FEBRUARY MEETING. TONY & ROSE HAD BEEN VERY ACTIVE IN YEARS PAST; THEY HAVE NEVER SLOWED THEIR PRODIGIOUS ENERGY, JUST DIRECTED INTO THEIR VARIED TIME CONSUMING INTERESTS WHICH RANGE FROM THE TAXONOMY OF SHELLS (TONY AND FORMER MEMBER DR. GEORGE RADWIN - NOW DECEASED, PUBLISHED "THE GENUS MUREX " AND A MULTITUDE OF OTHER PAPERS AND SCIENTIFIC ARTICLES).

TONY HAS AN INSATIABLE INTEREST IN FOSSILS, INSECTS, ANYTHING NATURAL HISTORY AND ART. TONY WORKS - PLAYS ON HIS ARTWORK EIGHT DAYS A WEEK. YOU CAN SEE SOME OF HIS INCREDIBLE WORK AT B STREET GALLERY DOWNTOWN. ROSE STILL WORKS AT THE SHELL SHOP - GIFT STORE AT THE CAVE, LA JOLLA. HELLO KIDS!! PLEASE COME BACK IN MARCH!!

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## ASTROLOBAS AND POELLNITZIA

"ASTROS" vary just enough in floral characteristics from their closely allied lily member complex, the Aloineae, (including Aloe, Haworthia, Gasteria, Poellnitzia, Chortolirion, Lomatophyllum, Chamaealoe, Kniphofia, Guillaminias and Notosceptrum) to create a world of disagreement as to how they fit and what they should be called by the taxonomical botanists. Indeed, if they had wings we would call them birds! But they don't. What they do have are floral characteristics different from Haworthia by their stellate arrangement of petals around a distinctively formed flower tube, giving the group its nomen, Astro-Loba, or star shaped lobes to the flower (Perianth). In Haworthia, the flowers are bilabiate, two distinct lobes or lips with three petals up and three petals down ( a Zygomorphic Perianth, for those of you interested). Also, Astros have the uniqueness of growing rigid leaves arranged in five conspicuous rows spiraling up and with very pointy leaf tips. (see illustration)



ASTROLOBA DELTOIDEA

fig 1: Back; 2: Front of leaf; 3: Transverse section; 4: Flower petiole and bracteole; 5: Vertical section of perianth.

So, if an Astroloba is indeed an Astroloba and not "lumped" into Haworthia (as Cyril Parr did in African Succulent Plant Society Bulletin, 1971) then there is still no real agreement as to how many species there are. But John Pilbeam (Haworthia and Astroloba, 1983) lists ten accepted species: *A. Aspera* var *aspera*, *A. Aspera* var *major*, *A. Bicarinata*, *A. Congesta*, *A. Deltoidea*, *A. Dodsoniana*, *A. Foliolosa*, *A. Herrei*, *A. Pentagona*, and *A. Spiralis*.

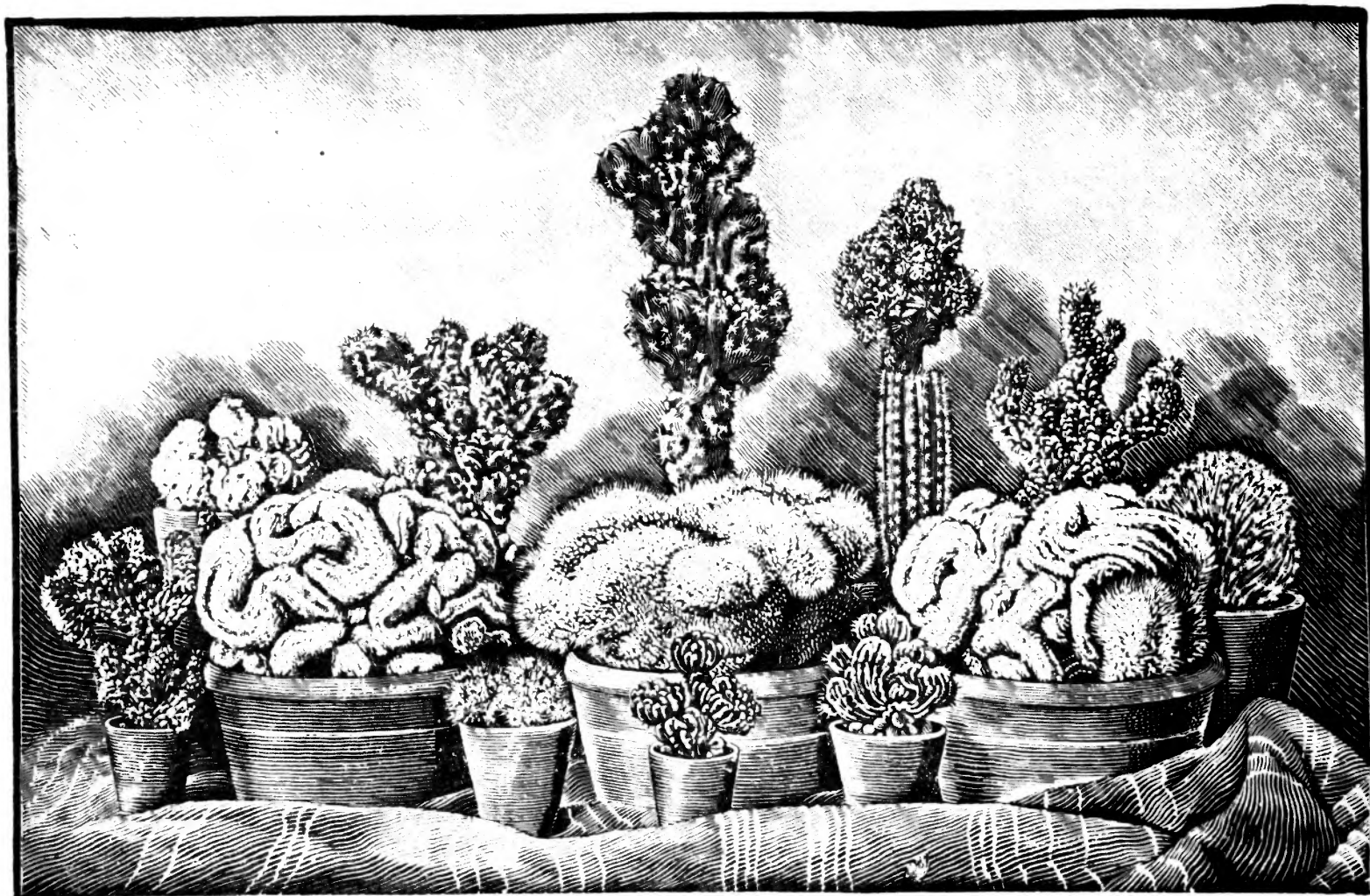
Bayer (The Haworthia Handbook, 1976) lists seven species and Colonel Charles Scott (The Genus Haworthia, 1985) aligns himself with Parr including all Astros into the Haworthia species. The problem is that the complex is in flux - the fact that these South African genera are still morphologically changing - as we speak. Indeed, the Aloineae hybridize easily. Thus far, Astrolobas have been crossed (hybrid) generically with Haworthia creating the "X Astroworthias" and with Lomatophyllum creating "X Lomatoloba".

Enough with nomenclature, a little culture! Astros are fairly easy to grow as long as one pays attention to the normal rules of growing most succulents: a gritty porous well-drained soil along with cautious watering (not damp when low temperature prevail, especially at night) and a little protection from full sun. They look their very best when grown semi-hard, picking up the beautiful red Anthocyanins in their leaves and growing compact and tightly spiraled. They will get mealy bugs between the spiky leaves but this is easily dispensed with an application of Malathion or even insecticidal soap. The petioles and flowers are sometimes attacked by aphids which the insecticidal soap will also take care of.

Astrolobas are beautiful plants easily offsetting and give a little height to a Haworthia collection; when mature reaching 6-12 inches. Propagation is simple as the plants root out easily from cuttings and offsets.

Poellnitzia Rubriflora is considered by many as a monotypic genus (only one plant and obviously one species in genus) closely allied with Astroloba in appearance, but separated by having an altogether different inflorescence. As the specific name Rubriflora, indicates, the flowers are dark orange red, more akin to an Aloe and indeed Gordon Rowley has recently "lumped" Poellnitzia with Aloe. If Gordon Rowley decided to change Poellnitzia over to an ornithological genus, I would go out into my garden and change the labels to the Birds!

by Michael Buckner



A GROUP OF CRISTATE AND MONSTROSE CACTI.

## CACTUS OF THE MONTH

### ECHINOFOSSULOCACTUS

by Phyllis Flechsig

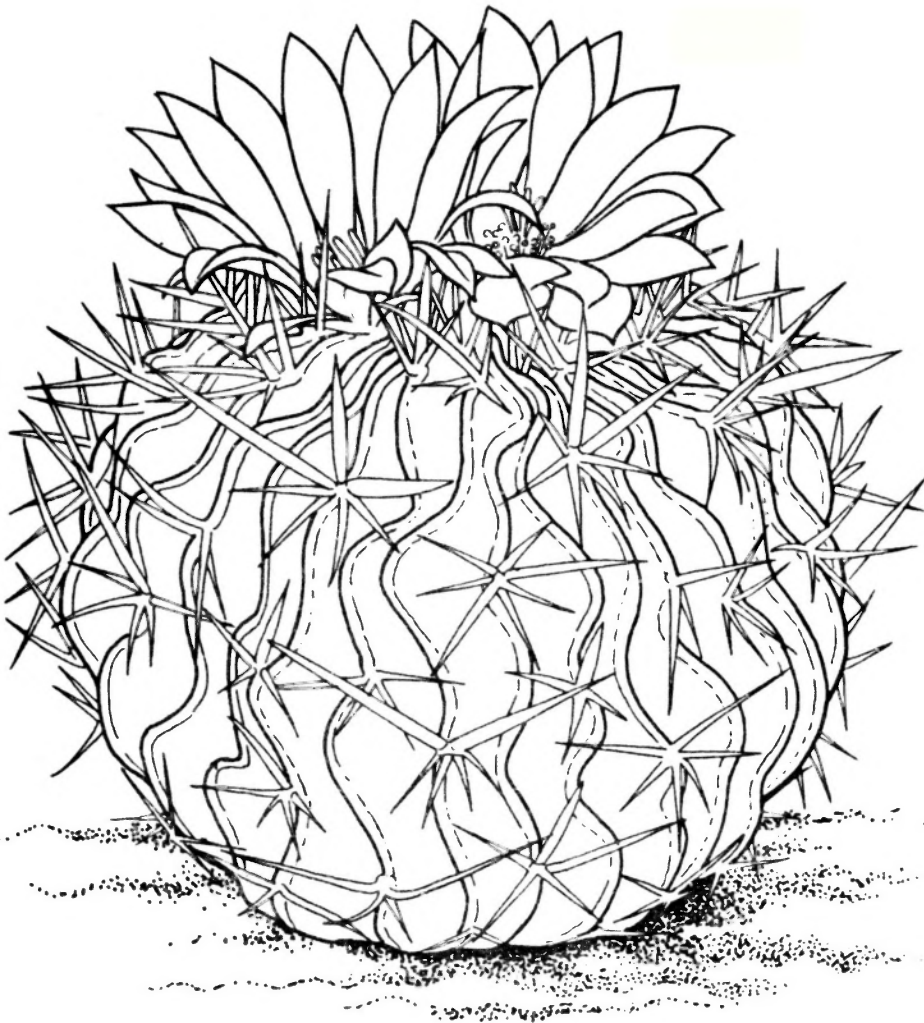
The Echinofossulocacti are a group of small Mexican barrel cacti closely related to Ferocactus; they are easily identified because of their very numerous wavy, thin ribs--up to 120 in some. (Some of you may know these plants by their former name, Stenocactus.) They have only a few areoles on each rib, and their central spines are often long, flattened, and leaflike. There are two types of flowers: either yellow or purple with white edges (or you could say white with a purple midstripe). You can get a grip on the long name by breaking it down into its parts: Echino, spiny like a hedgehog; fossulo, groove; and cactus. So this is the "spiny-groove cactus." They are all native to Mexico, especially the Chihuahuan Desert of northeast and central Mexico, and go some distance south of Mexico City. They grow either in foothills in dry forests of oak and pine (the less spiny species) or in lower, hotter and dryer regions (the more spiny species).

These are very interesting plants because of the multiple ribs and handsome spines, and they do not get nearly as large as Ferocacti, so they are easy to accommodate in a small space. Also, they bloom while still young, though the flowers are not their primary attraction.

Although it is easy to recognize a cactus as being of this genus, it is not easy to identify one of them as to species, as the species names are in the usual state of confusion. It may be hard to say just which name applies to which plant. Mexican botanists are working on this problem, and can resolve some of the questions by doing the necessary field work. It has been shown that the number of ribs and spines may vary a good deal even in plants from the same locality, so these characteristics are not really helpful in identifying the plants. The one readily identifiable species is E. coptonogonus, because it has many fewer ribs than the others. Other names that may or may not be valid are E. multicostatus, with a very large number of ribs, and E. vaupelianus, with 30 to 40 ribs and small yellow flowers.

Echinofossulocacti are easily grown, either in pots or in the ground, and can stand a little frost. They need the usual well drained soil and a little shade in the hottest part of the day. Watch for mealybugs hiding between the narrow ribs.

Propagation is usually from seed.



**ECHINOFOSSULOCACTUS MULTICOSTATUS** or **STENOCACTUS MULTICOSTATUS** (*Brain cactus*). Mexico. This species is native to high, grassy meadowlands and requires rich, porous soil, average summer watering, and

good sun. Although not free-flowering indoors, it remains attractive year-round because of its numerous surface ribs. Keep cool and dry during winter. In spring, white flowers with purple centers are borne at the top of the plant.

More News

SPRING CLEANING ---

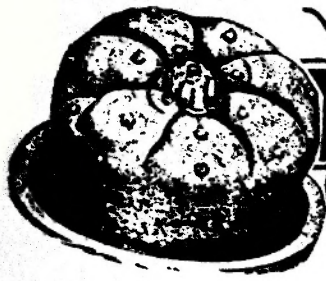
Member Carl Dykema is giving away a large sprawl of potted, overgrown epiphytic cactus species. Included are selenicereus, aeanthocereus, loxanthocereus, cereus, and cleistocactus.

He also has some Euphorbia ingens, yuccas, agaves, beaucarnias, and opuntias for sale cheap. Call 497-0818 evenings for daylight appointments next day.

SHOW SCHEDULE FOR COMING EVENTS

16 & 17	Ikebana International 23rd Exhibit/Show	Sat:11am-4:30pm Sun:11am-4:30pm
22,23,24	San Diego Co. Orchid Society 45th Spring Show (Scottish Rites Mem. Bldg. Mission Valley) Admission: \$3.00	Preview: Fri: 6pm-10:00pm Sat:9am-6:00pm Sun:9am-4:00pm
23 & 24	Balboa Park African Violet Club 16th Show	Sat:12pm-5:00pm Sun:10am-4:00pm
30 & 31	Exotic Plant Society 13th Annual Show	Sat:11am-4:30pm Sun:11am-4:30pm
13 & 14	San Diego Rose Society 64th Annual Show (Balboa Park Club - Balboa Park) Admission: \$1.50	Sat:2pm-6:00pm Sun:10am-5:30pm
14	Convair Garden Club 41st Annual Rose Show	Sun: 1pm-4:30 pm





# WISE AND OTHERWISE



CREDO ROS IN FLUCTU EODEM ESSE  
BY MICHAEL & JOYCE BUCKNER

(1) "LIVING IN THE DESERT IS A SPIRITUAL CATHARTIC MANY PEOPLE NEED. I AM ONE OF THEM" FRANK LLOYD WRIGHT COMMENTING ON HIS WINTER RETREAT AT TALISIN WEST, OUTSIDE SCOTTSDALE, ARIZONA.

(2) AS TO WHAT MAKE A SPECIES, ERNST MAYR PUTS IT THIS WAY: "A SPECIES IS A GROUP OF INTER-BREEDING NATURAL POPULATIONS THAT ARE REPRODUCTIVELY ISOLATED FROM OTHER SUCH GROUPS." THAT IS THE CLASSIC DESCRIPTION OF A BIOLOGICAL SPECIES, OR BIOSPECIES. LE GROS CLARK GOES ON TO SAY THAT A BIOSPECIES IS "A GENETIC ENTITY, GENETICALLY ISOLATED FROM OTHER SPECIES."

BOTH MEN STRESS ISOLATION, FOR IT IS ONLY IN ISOLATION - WITHOUT THE OPPORTUNITY OF EXCHANGING GENES THAT GROUPS OF ANIMALS OR PLANTS WILL GRADUALLY BEGIN TO DEVELOP BEHAVIORAL AND STRUCTURED DIFFERENCES. THE ISOLATION CAN BE PHYSICAL: A DESERT OR AN OCEAN THAT EFFECTIVELY KEEPS APART TWO POPULATIONS THAT ONCE WERE ONE. IT CAN BE BEHAVIORAL: A REFUSAL ON THE PART OF THE TWO CREATURES TO MATE, BECAUSE THEY NO LONGER RECOGNIZE EACH OTHER AS SUITABLE PARTNERS. DOGS, FOR EXAMPLE, DO NOT MATE WITH CATS. NOT ONLY DOES IT NOT OCCUR TO THEM TO TRY, BUT BECAUSE OF THE LARGE GENETIC DIFFERENCE THAT HAVE BUILT UP IN THEM, IT WOULD BE USELESS TO. IT IS IMPOSSIBLE TODAY TO PRODUCE, EVEN BY ARTIFICIAL INSEMINATION, A LITTER OF PUTTENS OR KIPPIS. HORSES AND DONKEYS, HOWEVER, BEING MORE CLOSELY RELATED THAN DOGS AND CATS CAN STILL BE MATED TO PRODUCE MULES. BUT THE MULES ARE STERILE, AND THE DEFINITION OF A SPECIES HOLDS UP. HORSE AND DONKEY HAVE BECOME REPRODUCTIVELY ISOLATED; THEIR MATING CANNOT PRODUCE FERTILE OFFSPRING. FROM "LUCY" BY DONALD JOHANSON.

(3) "NATURE IS CAREFUL OF HER OLD SPARE PARTS. WE CARRY, AT LEAST IN GENETIC POTENTIAL, ALL WE EVER CARRIED FROM THE TIME WE WERE DEVONIAN FISH. EVERY MAN IS PART FEMALE, EVERY WOMAN PART MALE, EVERY MIXTURE OF THE GENE POOL, A MIXTURE FOR THE BETTER. SURVIVAL IN A CONSTANTLY EVOLVING UNIVERSE MAKES NO PETTY MINDED DISTINCTIONS BETWEEN PRIMITIVE AND ADVANCED." JOHN GARDNER IN 'OCTOBER LIGHT'.

(4) IN "FLESH OF THE GODS" PETER FAUST IDENTIFIED TWO KINDS OF PEYOTE, ONE GOOD AND ONE BAD IN RELATION TO THEIR PSYCHOACTIVE

EFFECTS ON THE BRAIN AFTER INGESTION. HE IDENTIFIED BAD PEYOTE AS "ARIOCARPUS RETUSUS", WHICH IS A MEMBER OF THE SAME INDIGENOUS ZONES AS PEYOTE, "LOPHOPHORA WILLIAMSONII". THEY ARE VERY SIMILAR IN APPEARANCE TO THE UNTRAINED EYE AND ONE MAY ACCIDENTALLY PURCHASE THE BAD KIND. INDEED, I PERSONALLY HAVE SEEN BOTH SPECIES FOR SALE BY CURANDAROS (LITERALLY HEALERS) IN MARKETS IN AND AROUND JALISCO & SINALOA, MEXICO, WHERE THE INDIANS CALL ARIOCARPUS "TSUWIRI" AND PEYOTE "HIKURI". (SOUNDS LIKE SUSHI TO ME!) BARBARA MYERHOFF WRITES IN "PEYOTE AND THE MYSTIC VISION" THAT THE RESULTS OF EATING ARIOCARPUS (FALSE PEYOTE) ARE TERRIBLE. "IF ONE EATS ONE OF THOSE, ONE GOES MAD, ONE GOES RUNNING INTO THE BARRANCAS, ONE SEES SCORPIONS, SERPENTS, DANGEROUS ANIMALS. ONE IS UNABLE TO WALK, ONE FALLS, ONE OFTEN KILLS ONESELF IN THOSE BARRANCAS, FALLING OFF THE ROCKS," SHE CONTINUES: "THE HALLUCINATIONS DESCRIBED DUE TO EATING TSUWIRI ARE CONVENTIONAL; A COMMON ONE IS THE EXPERIENCE OF ENCOUNTERING A HUGE AGAVE CACTUS (sic) IN THE DESERT, THINKING IT IS A WOMAN, AND MAKING LOVE TO IT."

WELL, IF THAT ISN'T ENOUGH OF A WARNING.....

(5) ACCORDING TO "USA TODAY" 1998 COULD BE THE THIRD WARMEST YEAR ON RECORD. GLOBAL TEMPERATURES ALSO HAVE BEEN NEAR RECORD HIGHS AND THE AVERAGE TEMPERATURE FROM JANUARY TO NOVEMBER IN THE CONTINENTAL U.S.A. WAS 56.06 DEGREES - HOTTER THAN ANY OTHER YEAR, SAYS THE NATIONAL CLIMATIC DATA CENTER EXCEPT: 1934 @ 56.61 DEGREES AND 1921 @ 56.11 DEGREES. RECORDS HAVE BEEN KEPT SINCE 1895.

RESEARCH METEOROLOGIST, WILLIAM ELLIOTT OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (HOW CAN YOU ADMINISTER TO THE AIR & OCEAN?) SAYS "YOU CAN'T TAKE ONE YEAR AS AN INDICATION OF GLOBAL WARMING." OTHER SCIENTISTS AND RESEARCHERS BELIEVE THAT 1998 IS A HARBRINGER OF GLOBAL WARMING AND RISING SEA TEMPERATURES. ABOUT THE ONLY PEOPLE WHO COULD BE HAPPY WITH THIS NEWS ARE PEOPLE WHO GROW CACTI AND SUCCULENTS!!!

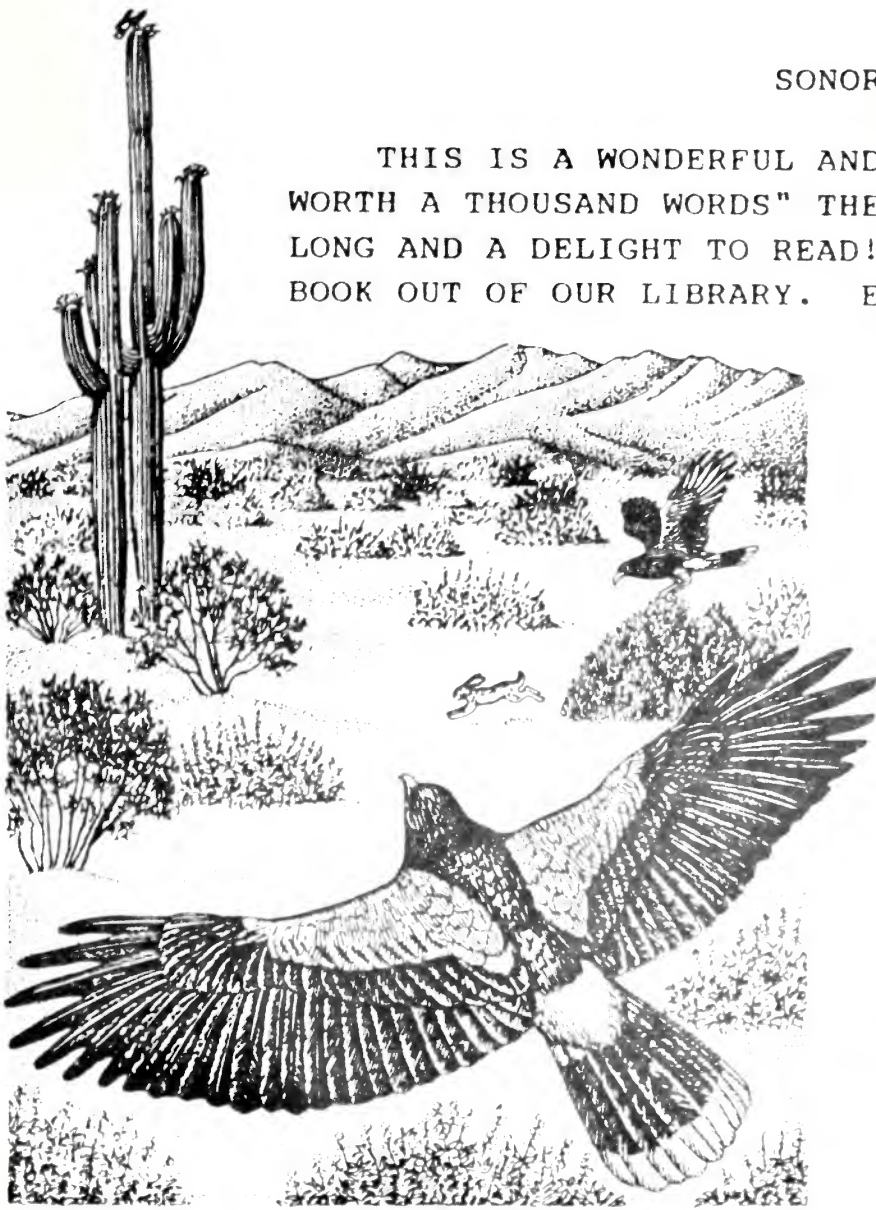
(6) "EL QUE HACE LO QUE PUEDE NO ESTÁ OBLIGADO A MAS" (HE WHO DOES WHAT HE CAN ISN'T OBLIGED TO DO ANY MORE).

\*\* I THINK WE'RE ON THE SAME WAVE LENGTH.

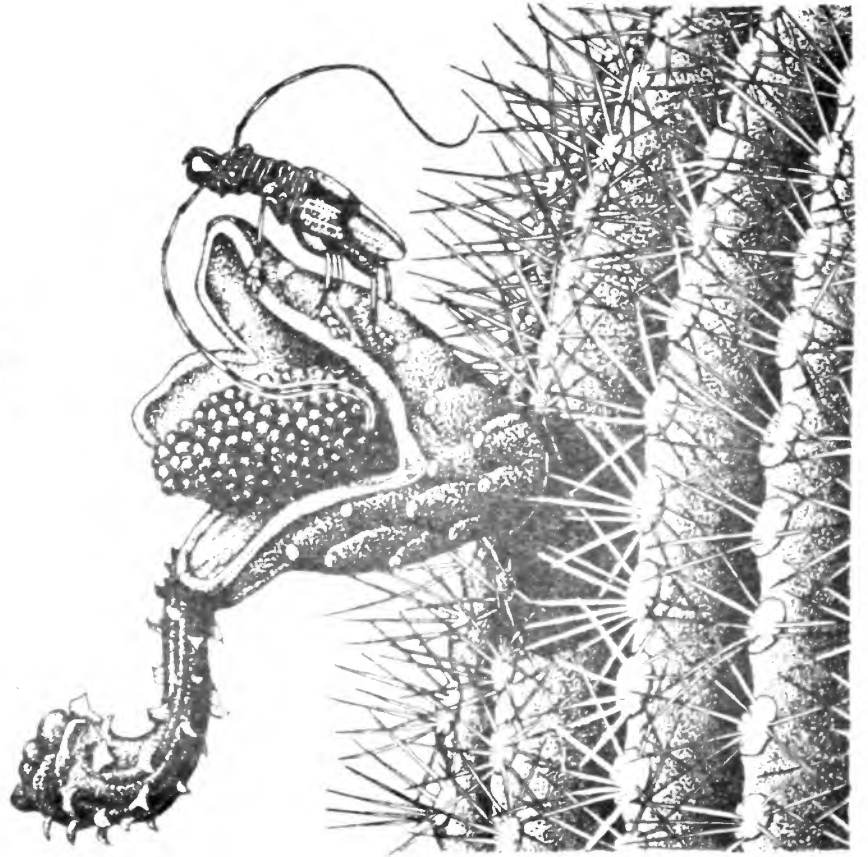


SONORAN DESERT SUMMER

THIS IS A WONDERFUL AND INFORMATIVE BOOK AND "IF A PICTURE IS WORTH A THOUSAND WORDS" THEN THIS REVIEW IS FOUR THOUSAND WORDS LONG AND A DELIGHT TO READ! SPEED READ THIS AND THEN CHECK THE BOOK OUT OF OUR LIBRARY. ECOLOGICALLY THRILLING ...



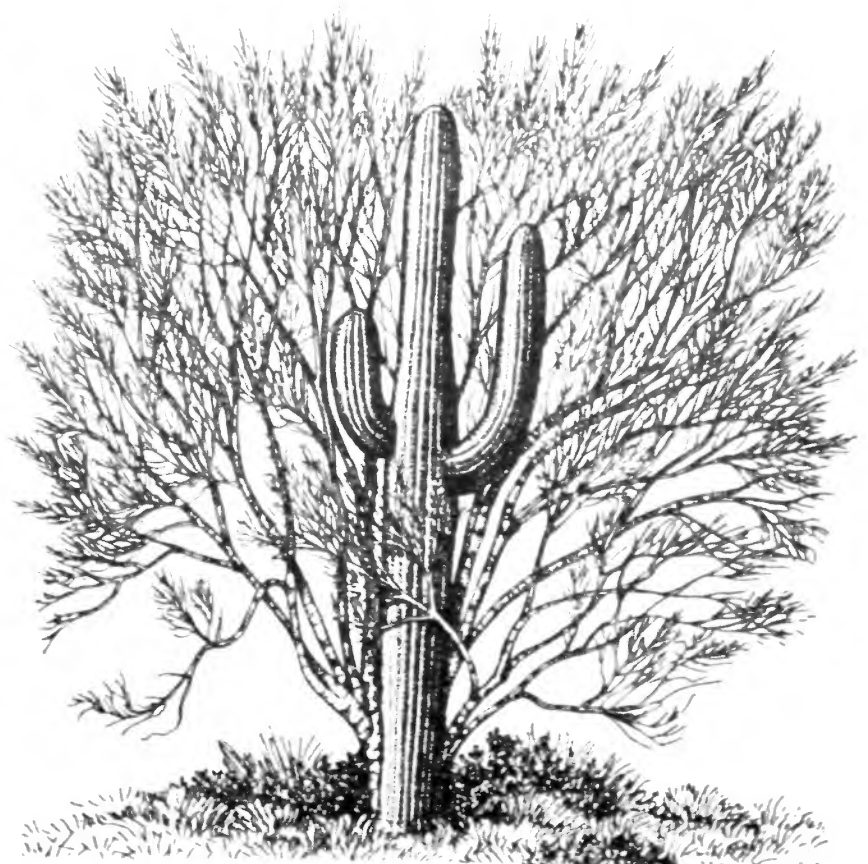
*A trio of Harris's hawks cooperates in a jackrabbit hunt*



*A large male wood-boring beetle stands guard over a saguaro fruit that may attract mates.*



*Drying spring grasses turn brown among the ribs of a fallen saguaro.*



*A saguaro grows up through the branches of its palo verde nurse tree*

# SAN DIEGO CACTUS & SUCCULENT SOCIETY

## OFFICERS

President - Michael Buckner

1958 Sunset Cliffs #103, San Diego 92107 222-3216

Vice President - Mitch Bahr

4945 Diane Court, San Diego 92117 571-0912

Secretary - Joyce Buckner

1958 Sunset Cliffs #103, San Diego 92107 222-3216

Treasurer - Laura DeMerritt

3282 Berger Avenue #C3, San Diego 92123 571-5127

Immediate Past President - Chuck Adams

7305 Rock Canyon Drive, San Diego 92126 530-2551

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Joey Betzler, Dorothy Dunn, Beverly Kirkegaard

Madelyn Lee, Rudy Lime, Mark St. Clair

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Audit -

Bragging Table - Madelyn Lee

Correspondence -

CSSA Affiliate Rep - Cathy & Sandy Frost

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Representatives:

Balboa Park Desert Garden -

Lit Phan

Ojai Botanical Garden -

Phyllis Fiechsig

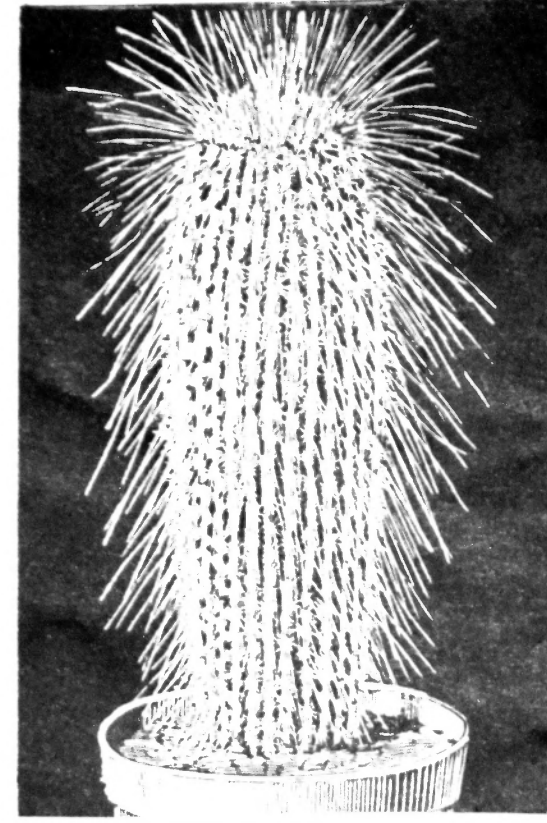
S.D. Botanical Garden Association -

Kathy Van Arum

S.D. Floral Association -

Elizabeth Glover

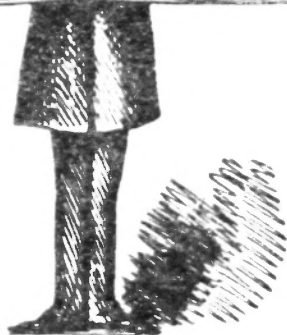
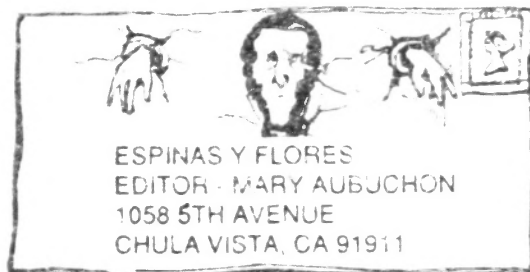
Program - Joe Clements & Joey Betzler



# OUR THIRTIETH YEAR

The San Diego Cactus & Succulent Society is open to all persons interested in growing cacti or other succulent and exotic plants. Meetings are held the second Saturday of each month at 1:30 p.m. in Room 101, Casa del Prado, Balboa Park. Board of Directors meetings are held after the general meetings. Annual dues are \$8.00 per single member per year, and \$2.00 for each additional member of a household within the family. Single copies of Espinas y Flores are 60¢. Affiliated with The Cactus and Succulent Society of America.

## VISITORS WELCOME



FIRST CLASS

FIRST CLASS

FIRST CLASS