Floyd Werner

3216 N. Jackson

Tucson , AZ 85719

TUCSON CACTUS AND SUCCULENT SOCIETY

JANUARY 1988 MEETING
SUNDAY, JANUARY 10, 2:00 P.M.
TUCSON BOTANICAL GARDENS, EDUCATION BUILDING

PROGRAM: "Open Forum". Several members will discuss their favorite genus. A question and answer period will follow each speaker.

MINI-SHOW: This is a new feature, which we hope will get our members to share their favorite plants. This month we will do the genus Echinocereus. This genus is extremely variable and ranges from miniatures to giants. We look forward to seeing many different species. The first three places will receive prizes. **Remember, you can't win if you don't play.** Here are the Rules:

1. No more than 3 total entries per person.
2. No more than one entry per species per person.
3. All plants must be potted.
4. Decision of the judges (membership vote) is final.

IN SEARCH OF: Thanks to Sue Smith for her work last year as Membership Chairman, but she is taking a break this year so we need a replacement. Think about it. I will ask for volunteers at the meeting and draft will start after.

DUES: Dues are due for calendar 1988, $10.00 for a single membership, $15.00 for family. Larry wasn't able to make the last meeting and several members wanted to pay then, so please bring check, cash or money order (no credit cards) to the meeting. If you are unable to pay your dues in person, you may mail them to: Larry Romo, 5400 W. Nebraska, Tucson 85746.

COMING ACTIVITIES:

SUNDAY, JANUARY 17: There will be a "potting up" party to provide us with plants for the Spring Show and Sale. We will meet at Bach's Cactus Nursery, 8602 N. Thornydale, from 2:00 to 4:00 P.M. This is open to anyone interested in repotting and caring for some plants until the show (there may be a few extras for those participating). This is informal, so stop by even if only for an hour. We can use your help and this will be a good opportunity for us to share our experiences.

PHOENIX CACTUS AND SUCCULENT SHOW: Coming up in late Feb. or early March at the Desert Botanical Gardens. All TCSS members, novice and "old" pro, should ready one or two plants to show our support for this fine show. Your Pres and V-P will be showing, so contact them if interested. A good response will lead to a club trip to Phoenix to critique the show.

Cereusly,

John Gaston, by F. Werner

MINUTES OF THE MAY MEETING: Tony Burgess, the Coordinator of the Desert Laboratory, gave an insightful look into the workings of the lab, and an overview of the ecology of Carnegia gigantea, the giant saguaro, and it relationships with other plants. He also presented a slide show of populations of saguaros, their changes over the years and the climatic requirements of cactus-like plants.

A: The Desert Laboratory was founded by McDougall at Tumamoc Hill Reserve. The Reserve is owned by the U of A and run by both the U of A and the U.S.G.S. The reserve was fenced to prevent cattle grazing in 1907. Originally 20 - 10 meter X 10 meter plots were staked and the existing plants on them were cataloged. Of the 20 original plots, the locations of only 12 remain known. This makes these the oldest plots observed and recorded in this manner in the world. The conclusion at this point is that the old theory of an undisturbed desert area reaching a static equilibrium is wrong. The in order for the desert a maintain its diversity its must have periods of drought, intense heat, cold, and occasional adequate water. These and other factors, in different combinations, select for different species of plants and animals. Some populations rise in numbers while others fall, eventually to rise again.

B: Carnegia gigantea, the giant saguaro, is the most northern cereoid (tall growing) cactus. This seems to be because of its relative cold hardiness and multiple pollinators. It was originally thought that the main pollinators of the saguaro were bats. However, the saguaro produces nectar not only at night, but during the day, when its flowers visited by several birds, bees, and other insects. In order for a saguaro to survive from seed it needs a series of specific occurrences to take place.

1. The year before the seed germinates there must be a killing drought to lower the rodent population.
2. The seed must germinate in a niche where it will not be subject to intense exposure by heat, cold, or being eaten. The seedlings often use a "nurse plant" such as a palo verde tree to provide this protection. (When the saguaro matures, its ability to take up moisture quickly often leads to the death of the nurse plant.
3. The summer the seed is produced there must be rainfall every 7-10 days to keep the seedling from desiccating.
4. The following winter must be mild without a killing frost.

A saguaro that reaches maturity will produce 3000 seeds per year, 1/2 of a million seeds in a lifetime. Of these seeds only a few will make it to maturity. From photographs taken of portions of the Saguaro National Monument in the early 1900s by Ray Turner, the rise and fall of saguaro populations was apparent. When the mature saguaros cause the death of nurse plants or overgrazing removes the niches for seedling saguaros, and the aged saguaros eventually die, the area becomes virtually void of saguaros until the trees return and the cycle begins again. It is thought that the tree/saguaro cycle takes from 150-400 years. Although no study

has been done that long.

C: A statistical study of the occurrence of cacti and cactus-like plants seems to show that while they do come from deserts, the areas are cooler than average in the summer, warmer than average in the winter, and not subject to terrible droughts.

D: A project for members of the club.

The occurrence of plants in the Sonoran Desert needs more study than it will receive with the funding available. Individual citizens making careful notes about the presence of species of plants and the animals associated with them, the time of year, and location these observations were made can prove invaluable, particularly in the Tucson area. Many areas in and around Tucson have not been studied adequately and with development, what originally grew there will never be recorded. With observations such as these the complexities of the desert will become closer to being understood.

ARID LANDS GREENHOUSES offers a 20% discount to club members. Many thanks to Chuck Hansen.

Thanks to Dan Bach of Bach's Cactus Nursery, Inc. for the plants provided for the sale.

TREASURERS REPORT The club raised $1514.95 from the sale, not counting $102.00 from Dan Burt. The current balance in savings(?) is 4662.36.

GWEN FOLSOM 4871 E AV DEL CAZADOR TUCSON 85718 577-9249
GLEN H. AND MARY A. MILLER 5660 N. PLACITA PARDAL TUCSON 85718 797-3370
LINDA RYAN 6610 SUTHERLAND RIDGE PL TUCSON 85718 299-2338
JEFF & J. R. TREVAS 4541 N PLACITA SHELLEY TUCSON 85718 577-2251
JIM WORRALL 1621 E BIG ROCK RD TUCSON 85718 797-0819

MARY CHURCH 1090 E GRANT RD TUCSON 85719 624-7976
AL GUHL 1712 E BLACKLIDGE DR TUCSON 85719
KIM JOYIENS 4030 PASEO DE LOS RANCHEROS TUCSON 85719 743-7178
NATALIE MCGEE 2509 N CAMPBELL AV SUITE 275 TUCSON 85719 795-3994
JERI OGDEN 757 E NAVAJO ROAD TUCSON 85719 292-2965
ROY E. SOZA FAMILY 3830 N VINE TUCSON 85719 881-0832
ELANA ROSE SUMMERS 2255 E CALLE ALTA VISTA TUCSON 85719 323-7145
FLOYD WERNER 3216 N JACKSON TUCSON 85719 325-7228

JEANNEE BRAVE 9810 E CELESTE DRIVE TUCSON 85730 721-2361
BILL & V. K. LOWY 7631 E FAYETTE TUCSON 85730 747-8792
STEVEN YAPLE 10650 E PANTANO TRAIL TUCSON 85730

MARTIN SAX AND ELLEN FESSLER P.O. BOX 18313 TUCSON 85731 885-1045
CEDRIC AND SALLY WILLIAMS P O BOX 17283 TUCSON 85731

MICHAEL AND MAUREN DAVID P O BOX 57202 TUCSON 85732 296-0122
DEVON SHROPSHIRE BOX 42195 TMC TUCSON 85733 326-8294

TY & LOLITA MAHER SASABE STAR RT BOX 605 TUCSON 85736
ROBERT WEBB & TONI YOCUM HCR BOX 496 TUCSON 85736 822-1059

PAT GOLTZ BOX 36508 TUCSON 85740

BARBARA ANN BIRT KILE 9106 N EAGLESTONE LOOP TUCSON 85741 744-9370

DICK BUCHROEDER 8 S. BELLA VISTA DRIVE TUCSON 85745 8849800
MARY E. HENDERSON 3333 W. ANKLAM ROAD TUCSON 85745
SARA W. PERPER 6700 W CAMINO DEL CERRO TUCSON 85745
LOLETA SCHACHT 3003 W BROADWAY NO 25 TUCSON 85745 622-1152
MARGARET G. WOOD 3500 N ARROYO LANE TUCSON 85745

CHARLES L. HANSON 3560 W BILBY ROAD TUCSON 85746 883-9404

BOB ELLIS FAMILY 7821 S CAMINO LOMA ALTA TUCSON 85747 1-647-3668

CINDY KUEHN 10017 E ERIC ALAN PL TUCSON 85748 885-1024
DEBRA SHEPHERD 9617 E BARRUDEAU HILLS TUCSON 85748

DAVID MCGOWEN 2440 N TANQUE VERDE ACRES DR TUCSON 85749 749-0994
BOB & DOLORES SCHLEGEL 2460 N TANQUE VERDE ACRES DR TUCSON 85749 749-3568
JACK SEGURSON RT 18 BOX 711P TUCSON 85749
MARY STRICKER 3831 N CHERRY CREEK PL TUCSON 85749
Respectfully submitted,

Floyd Werner, Secy.

Floyd Werner

F.b. 1988

TUCSON CACTUS AND SUCCULENT SOCIETY
FEBRUARY 1988 MEETING SUNDAY FEB. 14, 2:00 P.M TUCSON BOTANICAL GARDENS, EDUCATIONAL BUILDING 2150 NORTH ALVERNON WAY

PROGRAM: Dr. Carol Crosswhite, Boyce Thompson Arboretum, on "Cacti and succulents that can take the cold in Tucson"

MINI-SHOW: Mammillaria, with same rules as last time ... no more than 3 total entries per person, all of different species, all plants potted, decision of judges final. There will be prizes for the top 3 entries.

DUES: If you still haven't paid dues for 1988, please get them to Larry Romo, 5400 W. Nebraska, Tucson 85746. $10 single, 15 family. We need to get an updated list to get out a new roster.

SHOW AND SALE: Arrangements aren't final but April 1 and 2 look like firm dates. It's not too late to pot up a few for the sales tables and spruce up an entry for the show. The January 17 pot party was a huge success. Fifteen busy members potted up 30 flats in record time. Thanks to all.

CACTUS CAPITAL CHATTER: Mary Church has assembled sets of this worthy publication of the club from 1965 to 1978. These will be available for distribution at the February meeting. Many interesting articles and a lot of club history. Sets are nearly complete. A few pages of xeroxing and you'd have it complete.

FREE PLANT: This month's free plant is Thelocactus hexaedrophorus, which is hardy in Tucson. Helia Bravo's Cactaceas de Mexico says it grows up to 6" in diameter in habitat, Tamaulipas and San Luis Potosi, has flowers 2" long and long spines, the central one about 1" long, on prominent tubercles (which spiral). Gray-green plant with white blossoms.

John Gaston

Minutes of January 10, 1988 meeting

The meeting was called to order at 2:10 PM by John Gaston, president.

Minutes of the secretary and the treasurer were accepted as read. New officers were recognized by the president. Attention was called to the potting party planned for January 17 and the need to prepare for the Spring show and sale. April 1 and 2 would be the dates if we follow the tradition of Good Friday and the following day. Rodney Engard urged that a decision be reached about location for the Society library.

In new business, the president appointed an auditing committee of Jeff Trevas (chair), J. R. Trevas, and a third person to be drafted. He also appointed J. R. Trevas as membership chair, with responsibility for getting out a new roster.

MINI-SHOW Echinocereus

First place: E. pectinatus Judi Gaston
Second : E. pulchellus var. pulchellus Miles Anderson
Third : E. gillottii John Gaston

PROGRAM 6 members present their favorite plants:

John Gaston Mammillaria
Advantages: (1) Many species, about 500. (2) Flower easily, some in winter some in summer. (3) Grow fast, 1-2 years from seed to flower in many, in a 2" pot. (4) Neat, no gaudy flower stems, don't fall over side of pot, drop leaves, geometric and don't hide underground. Many have colorful fruit.
Disadvantages: (1) Many of individual flowers small. (2) Fast growth causes repotting problem (with exceptions). Young ones need repot every year, even large ones every 2-3 years because of breakdown of potting mix. (3) Classification confused, with Pilbeam, Backeburg and others involved. Even definition of genus a problem.
Culture: Any well-drained mix. Alan Blackburn has even grown them in pea gravel. All are shallow-rooted so shallow pots (bulb pots) desirable. Clumping species do especially well in very shallow clay pots. (Dan Birt suggests enlarging hole if it is too small and/or placing a layer of charcoal on bottom.) Don't disturb roots on repotting, other than perhaps breaking into crust around outside of root ball. Fertilize spring and fall, 20/20/20, 10/50/5, 15/30/15 used, whatever is available. Grows them moderately hard.

Judi Gaston Haworthia
Advantages: (1) They are small. (2) Can take low light under John's benches of mams. (3) Show great variety.
Disadvantages: Can't think of any. Some, such as maughanii are slow.
Culture: Important to use a lot of coarse material: pumice, decayed granite, perlite. Water (in unheated greenhouse): take more water than cacti usually do but backs off in winter and summer (but some water from mams upstairs). Do well on east and north windowsills. Propagation by leaf cuttings (seeds rarely available and likely not to be true because they are self-sterile).

Miles Anderson Turbinicarpus
Advantages: (1) A small genus, only about 10 species, some of them very rare. (2) Flower at a very small size and grow slowly,but get flowers all year from different species (3) No worry about repotting, as they don't have much of a root system. (4) No hooks or ferocious spines, good petting cacti.
Disadvantages: None, except that they are listed as endangered and propagated plants are hard to come by and expensive. Limits of genus subject to continuing reinterpretation.
Culture: Use a small pot with a large drain hole and a very loose soil mix. Uses 2 sand, 2 peat moss, some perlite; the whole mix cut 50:50 with pumice. 1/4 strength fertilizer each watering during growing season. Repot only if necessary, as they take a long time to get started again. Has 3 species outside in full cold and full sun.

Myrtle Ethington *Echeveria*
Advantages: (1) Great diversity. (2) Colorful leaves, especially when grown with enough sun and exposed to cold of winter. (3) No spines. (4) New forms being produced by hybridization, including with other genera, such as *Pachyphytum*, *Graptopetalum*, *Sedum*.
Disadvantages: (1) Birds may eat them. Cardinals and thrashers mentioned as bad actors.
Culture: Do best outside, in very loose soil. Uses potting mix and sand, feeds them lightly. Take more water in summer than most succulents. Need partial shade, and to be kept cool in summer. Get hit by very cold weather, so get covered.

Donna Ellis *Lithops*
Advantages: (1) Almost any color available. (2) No spines. (3) Names stable. Desmond Cole has worked on them since WW-II; the late Ed Storms built a collection from Cole plants and seeds, and this collection is now in Tucson.
Disadvantages: Almost impossible to identify a plant that has lost its label, even with a good source.
Culture: Likes large, flat containers. Uses 2/3 sand, 1/3 of a sandy potting mix that Bob Ellis uses. Can take full sun. Roots small and dry quickly, so cut off all roots and let dry if plant received bare-rooted; then put in dry sand and give a little water after a couple of weeks. Waters all summer and stops in winter. Plants squirt seeds out when seedpod wet. Keep soil moist and the seeds will sprout.

Dan Birt Specimen *Cereus* plants
Several columnar *Cereus* species that are usually seen small can make spectacular plants in Tucson if they are treated more like shrubs than cacti. Has seen several very large ones, most recently a *C. dayami* with many arms and the clump 6 ft. across and taller than Dan; this plant was growing between trailers in a court laid out on old cotton land. Water from both trailers got to it. Dan had a large cutting of it with a starting of fasciation. Suggests starting with the famous $100 hole for the $3 plant, 4x4x4, putting a bushel of horse manure on the bottom, under the root zone, and pretending the cactus is a grapefruit. Others called attention to large cacti grown in pretty wet places elsewhere in the US.

The meeting adjourned fairly promptly at 4:00.

Floyd Werner, Secy.

Floyd Werner

Floyd Werner
3216 N. Jackson
Tucson , AZ 85719

March 1988

TUCSON CACTUS AND BOTANICAL SOCIETY, MARCH 1988 MEETING
TUCSON BOTANICAL GARDENS
EDUCATION BUILDING, MARCH 13, 2:00 P.M.

SPEAKER: DR. CHARLES T. MASON will speak on the University of Arizona Herbarium. Certainly, you must have wondered what a herbarium does to fasten a barrel cactus or an Agave to a herbarium sheet, and what ever happened to all those plants in Kearney and Peebles. Here's a good chance to find out.

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MINI-SHOW: ALOE Same rules as for the other mini-shows in January and February, 3 entries per person, all plants to be potted, and decision of the judges (us) final.

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1. Tucson Cactus and Succulent Society BOARD MEETING called for Saturday, March 12, 9:30 AM, at the Nanini Library at 7300 N. Shannon Road.

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GIVE-AWAY PLANT for March will be Coryphantha elephantidens, a nice, long-spined species from central Mexico. Helia Bravo says the flowers are 3 to 4 inches in diameter and rose-colored.

NEWS ITEMS:

1. Central Arizona Cactus and Succulent Society Show and Sale at the Desert Botanical Garden in Papago Park March 2-6. Sorry about the late notice.

2. Tucson Botanical Gardens Spring Plant Sale, Sat.-Sun., March 26-27.

3. Tucson Cactus and Succulent Society show and sale confirmed for **April 1 and 2 at El Con Mall.** (Good Friday and Saturday).

4. Boyce Thompson Arboretum in Superior will have its spring festival April 2-10.

5. Our April meeting is planned to be at the establishment of Gene Joseph and our May meeting with Chuck Hanson. These meetings will give our members a good look at two internationally famous collections of arid land plants located here in Tucson.

6. Long-time members of the Tucson CSS **Ed and Peg Busch** are moving to Grand Junction, Colorado.

7. **DUES** are due, if you haven't paid up as yet. We are now on a fiscal year basis. At the February meeting The Trevas Team reported only 35 payments. We have a few life memberships to add to that but we're still pretty far from paid up. The 1988 Trevas Team Roster will have to be put together pretty soon, so get in touch with Larry Romo if you haven't paid. Should you have lost

both your memory and the 1987 roster, Larry's address is 5400 W. Nebraska, 85746 and the Trevas telephone 577-2251 (they can tell you whether you have already paid or not).

8. New member in 1987 Mike David is putting together a group purchase of PUMICE. If you would like to get in on this, see him at the March meeting.

9. Dan Birt and Floyd Werner have copies of the 1988 Central Arizona Cactus and Succulent Society roster, with 52 memberships. They would be glad to share.

10. If you took home any cacti from the ones that Donna and Lindsey Ellis added to the give-aways last time, they were Frailea pumila, Escobaria albicolumnaria, Coryphantha echinus, and Notocactus rutilans.

MINUTES OF FEBRUARY MEETING:

After a late start as result of nobody having a key to the room with the projector and Rodney coming to the rescue, Dr. Carol Crosswhite of the Boyce Thompson Arboretum gave a very informative and colorful slide presentation (on a makeshift screen) of cacti and other succulents that can handle the winter at the Arboretum and should be able to here. The Arboretum, near Superior, lies at 2400 feet, has 35 acres in public grounds, and has been in operation since 1924. At an official weather station there the coldest recorded temperature has been 19F (14F along creek but unofficially), the highest 118F. The heaviest snowfall came in 1978-79, with 4 inches of snow. Brittlebush survived and continued to bloom through that one. [If you have trouble keeping brittlebush (Encelia farinosa) alive, your yard may be colder than the Arboretum.]

By way of history, Palmer Stockwell, the first propagator at the Arboretum, authored the first book on Arizona cacti. Miss Jane Sullivan is currently in charge of cacti and succulents. She's new but already making her mark. Carol has been at the Arboretum for almost 17 years, so can vouch for the hardiness she reports. By her records an early cold snap is much more damaging than a late one after the plants have dry hardened for a while. Plants from the Chihuahuan Desert are usually a good bet.

HARDY PLANTS AT ARBORETUM, WHICH HAS CLIMATE LIKE TUCSON AT 2400 FEET ELEVATION (CAROL CROSSWHITE TALK FEB 14, 1988)

CACTI

Ariocarpus (do well but don't let them get damp in cold)

Astrophytum (hardy but keep dry): myriostigma, asterias (needs excellent drainage, especially if cold), capricorne

Chamaecereus silvestrii (peanut cactus, looks bad when cold, but survives)

Cleistocactus bookseniae var. viridiflora is fairly hardy, rest need help at 32F -- cut off top if they freeze, before rot spreads.

Copiapoa (hardy if have good drainage)

Coryphantha (generally tough, one to S. Canada)

Echinocactus lecontei, grusonii

Echinopsis: multiplex, kermesina hybrids seem tough to 28F, Orange Globe, Atomic (psychedelic pink), Watermelon (pink), Red Paramount, semidenudata (lge white fl., needs some protection), leucantha (tall, lge white fl), rhodotricha

Echinocereus boyce-thompsoni (to 15F), claret cup, + var. arizonica, dasyacanthus, fendleri, subinermis (Mex.), Arizona rainbow, scheerei (Tex/Mex), pentalophus (Chih. Des, good ground cover, drapes from pockets, blooms Apr-May)

Ferocactus bainesii, glaucescens

Gymnocalycium (very hard to kill)

Leuchtenbergia (does well even in coldest winters)

Lobivia-Trichocereus-Echinopsis mix: Helianthocereus huascha v. rubra (tall and v. hardy, like giant hedgehog, starts bloom in May. Lobivia (even small ones quite hardy), Trichocereus (white flowers, many species, do very well, start blossoming in May)

Mammillaria compressa (pink-flower form), aff. wedermannianus, spinosissima (red-headed Irishman), carnea, magnimamma, hahniana, elongata, mistak, macdouglii.

Mammillopsis senilis (OK if very well drained. It has deep red flowers)

Neobuxbaumia polylopha

Neolloydia johnstoni (volunteers from seeds)

Neoporteria (all can take cold)

Notocactus (generally cold-hardy beyond seedling period): leninghausii, tabularis, hasselbergii

Opuntia quinilla (long spines, orange flowers, Argentina), santarita, abyssae (from Grand Canyon, erinacea (both pink and yellow flowered vars.), rufida (always erect, even in severe drought), acicularis (orange to blood red flowers)

Oreocereus (do pretty well): purple flower (late spring), fossulatus

Parodia (always cold hardy)

Pterocactus tuberosus (Argentina)

Rebutia (tough enough for Germany on windowsills), Aylosteria or Rebutia kupperiana

Stenocactus (most species)

Weingartia (S.America)

SUCCULENTS

Agave bracteosa (very hardy, doesn't die when it blooms), salmiana var. ferox

Aizoaceae (Mesembs): Trichodiadema densum, Glottiphyllum (19F or lower), Pleiospilos, Lapidaria, Titanopsis, Faucaria, Lithops (but cardinals a hazard, especially after bloom)

Aloe (generally not a good bet, even to 25F, the following being exceptions: saponaria hybrid (ends burn), a larger hybrid in Arboretum, striata (doesn't offset, not much below 29F), longistyla, eresii, claviflora hybrid.

Cremnosetum (Cremnophila x Sedum hybrid) in coldest place, small yellow flowers

Echeveria (except very cold temps., protect from heat, cut off head if they get too tall)

Graptopetalum (have native species, very hardy)

Greenovia (partial shade in summer)

Idria columnaris (boojum)

Sedum guatemalense (jelly bean plant)

Yucca treleasii, rigida (from Chihuahua)

John Gaston, Pres.

Floyd Werner, Secy.

Floyd Werner

AS March 1988

FW

TUCSON CACTUS AND SUCCULENT SOCIETY NEWSLETTER
APRIL 1988

HELLO FOLKS, THIS IS YOUR PRESIDENT SPEAKING. FLOYD HAS THE FLU THEREFORE I SHALL ATTEMPT TO GET THIS NEWSLETTER OUT TO YOU.

ITS SHOW TIME AGAIN. APRIL 1 AND 2 WE WILL BE HAVING OUR ANNUAL SHOW AND SALE AT EL CONN MALL, IN THE EAST WING NEXT TO UNITED JEWELERS. SETUP WILL BE FROM 5 8 P.M. ON THURSDAY, MARCH 31, 1988. EASIEST ACCESS WILL BE FROM THE NORTH END OF THE EAST WING. WE WILL SET UP THE DISPLAY AND CLUB SALES FIRST AND THEN WORK ON THE PRIVATE SALES. SHOW TIMES WILL BE FROM 10A.M. 9 P.M. ON FRIDAY, APRIL 1 AND FROM 10A.M.-5P.M. ON SATURDAY. IF YOU WERE UNABLE TO GIVE HELEN A DEFINITE TIME TO WORK, PLEASE COME ON DOWN WHENEVER YOU GET TIME. NO EXPERIENCE IS REQUIRED FOR THIS JOB, WE HAVE ON THE JOB TRAINING. REMEMBER THE MORE THE MERRIER.

THE DISPLAY THIS YEAR WILL BE IN FOUR PARTS.

A. NATIVE ARIZONA CACTI
B. WINNERS FROM THE SHOW AT PHOENIX
C. OUTSIDE PLANTS (REFER TO LAST MONTHS NOTES FOR THE LIST THAT DR. CAROL CROSSWHITE MENTIONED)
D. EXOTIC CACTI AND SUCCULENTS(THOSE THAT REQUIRE GREENHOUSE PROTECTION)

IF YOU HAVE ANY PLANT THAT FALLS INTO ONE OF THESE CATEGORIES PLEASE BRING IT DOWN TO THE DISPLAY, ESPECIALLY IF THEY ARES IN FLOWER.

ALSO IN APRIL, ON THE 10TH FROM 2-4P.M., WE WILL HAVE A VISIT TO PLANTS OF THE SOUTHWEST, AT 50 E. BLACKLIDGE(ON THE CORNER OF STONE AND BLACKLIDGE). INCLUDED IN THE MANY FINE PLANTS TO BE SEEN THERE WILL BE THE MESEMBRYANTHUMS THAT WERE IN THE LATE ED STORM'S COLLECTION.

ON A SADDER NOTE ONE OF OUR MEMBERS, PAUL WOODS, PASSED AWAY. OUR CONDOLENCES GO OUT TO HIS WIFE, PEG.

APRIL 24-31 THERE WILL BE A SPEAKER FROM THE KEW GARDENS IN SOUTH AFRICA HERE IN TUCSON. WE ARE ATTEMPTING TO SECURE A MEETING ROOM AT THE UNIVERSITY OF ARIZONA TO HAVE A UNIFIED MEETING OF THE TUCSON CACTUS AND SUCCULENT SOCIETY AND THE NATIVE PLANT SOCIETY AND THE CENTRAL ARIZONA CACTUS SOCIETY

I HOPE THAT THIS IS ALL THE NEWS I NEED TO GET OUT TO YOU, FOR IT IS ALL I CAN REMEMBER. PLEASE REMBER THE SHOW ON APRIL 1 AND 2, HOPE TO SEE YOU ALL THERE.

John Barlow

June 1988 (PW)

TUCSON CACTUS AND SUCCULENT SOCIETY
JUNE 1988 MEETING

Sunday, June 12, 1988, 2:00 PM, Education Building, Tucson Botanical Gardens, 2150 North Alvernon Way, Tucson.

The program will be by member **Louise Rivera,** who will show us how to take good **photographs of cacti** without using a lot of fancy equipment. This might be a suitable occasion for other members who have prints they want to either brag or complain about to bring them to the meeting.
Mini-Show this time will feature Rebutia and Sulcorebutia. From the looks of the few I have, any good specimen should take one of the prizes.

2. MINUTES OF THE MAY 1988 MEETING. The meeting was held at Arid Lands Greenhouses, where Chuck Hanson showed us the greenhouses and let us have a good look at the fantastic variety of succulents he grows. The two greenhouses are of the Quonset hut design, with inflated polyethylene roofs, sitting side by side and connected by the same kind of roofing. The sides are screened now, but closed in the winter, when the greenhouses are heated. One is committed to propagation and sales area, the other to stock plants. Chuck and an assistant handle the whole operation. If you haven't visited the stock plant greenhouse, you have missed a treat. This is where Chuck spends a good part of his time, pollinating and gathering seed from honest to goodness rarities. The sales area shows the extent of his success. This spring has been an ulcer maker for Chuck, with periods of real African-succulent-growing weather alternating with downright frigid. That should be over by now.

3. SEEDS. Now that the thaw has arrived, planting a few seeds can lead to easy success. I'll bring the club selection of seeds and a few of my own. If you haven't tried growing from seeds, it really isn't that hard, and a very small investment. Free even. The club seeds are inexpensive at 25 cents a packet. Some species in this collection are getting pretty stale, but I have weeded out many that didn't germinate when tested, and Dan Birt and I have added seeds within the past year. What we have isn't as fresh as what Christa Roberts sells, but, again, the price is right. A couple of weeks ago I revisited the Bouse Hills in La Paz County and got seeds of the red to yellow spined **Neolloydia** (probably more familiar as Echinomastus) species growing there. I missed the main seed drop, but was able to glean some seeds from the tops of cacti with what bug collectors call an aspirator. The plants may be N. johnsonii, but if so Earle's color Fig. 79 doesn't do the plant justice. I took a lot of photos, and have more seeds than I want to plant. I'd like to see whether this plant can't make it here, and would be glad to share some seeds with anyone else who will plant and care for them.

4. PLANTS PLUS. I have some plants that are surplus for me, and I'm sure that others are so blessed. How about a swap session?

I'm bringing the following, for swap or sale with proceeds going into club treasury. I'd be interested in seedlings or cuttings of Euphorbia and other succulents, even common ones, to develop a better source of pollen for seed production, seedling cacti, labels, maybe even pots. Offering:
Euphorbia groenewaldii. Seedlings several years old with caudex well started.
Encelia farinosa. Brittlebush. I picked up some seedlings just getting started last December, in the Granite Wash Mountains. All I planted grew, so I have thirty gallon plants ready to set out. Will bring several.
Gasteria acinacifolia. Very large, hardy Gasteria, from leaf brought to meeting a couple of years ago, origin Boyce Thompson Arboretum.
Kalanchoe synsepala. This is the Madagascar species that puts out pairs of 2 foot strands with new plants. Makes a good hanging basket plant.
Jade plants. Rooted cuttings, 10-15 leaf. I pitched all the uglies.
Sansivieria. Wide-leafed cultivar grown outside so leaves are about 3 inches wide and 8 inches long.
Park garden seeds: Illumination Amaranthus, Candelabra okra, Penngift crownvetch, Gay Butterflies Asclepias. Fresh seeds-packets hold more than I want.

5. **MISCELLANEOUS.** An item in a CSSA newsletter last year spoke to killing pests on potted plants with No-Pest-Strip. This is a brand name and the material is marketed under various brand names. The insecticide dichlorvos is incorporated into thick sheets of soft plastic, which are hung up in a room inside a ventilated cardboard container, ostensibly to kill flies and other noxious creatures without harming people. The practice seems to have declined in popularity, but the material does provide a fumigant that can be used on plants if it is concentrated enough. We now use it to protect the insect collection from dermestid beetles, by placing inch square pieces into the glass-topped drawers. I put a piece of cactus heavily infested with cactus scale into a drawer for 2 hours at room temperature. None of the top layer of scales showed a heartbeat at the end of 2 hours, but a few about three layers down did. 4 hours wiped them out also, with no harm to the cactus so far, months later. Should be worth a try on those stapeliads that have mealies not only on the plant but deep down in the pot on the roots.

Nothing beats camel hair brushes when people pretend to be bees. The ASUA bookstore on campus has one brand for 35 cents apiece that seems quite satisfactory.

Respectfully submitted,

Floyd Werner

Floyd Werner, Sec'y.
June 3, 1988

July 1988 (PW)

TUCSON CACTUS AND SUCCULENT SOCIETY

JULY 1988 MEETING

Sunday, July 10, 1988, 2:00 PM, Education Building (we think), Tucson Botanical Gardens, 2150 North Alvernon Way, Tucson.

The program that Miles has mapped out is essentially a **plant clinic**. What to do about what is wrong with your unwell plant, or one that doesn't grow or bloom. There is a lot of expertise in the club to call on. **Bring in your problem or a sample of your problem and get some help.** Don't be proud. We all consign some wrecks to the dump. But there are a lot of plants too good to end up that way.

There will also be a **demonstration of grafting cacti** by **Miles Anderson**, grafter par excellence. We don't know what the free plant will be this time, but it'll surely be a nice one.

MINUTES OF JUNE 1988 MEETING

The club met June 12, 1988, in the Porter House of the Tucson Botanical Gardens, due to a conflict of scheduling of the Education Building. The date of our meeting had not been changed from the 3rd Sunday to the 2nd Sunday, somewhere in the system. President Gaston called the meeting to order at about 2:30, after the switch in rooms had taken place. Twenty-nine members and 2 guests were present. The minutes distributed with the meeting notice were noted, with no objections. Treasurer Romo was not present, so there was no treasurer's report. One new membership has come in since the last meeting: Jack Segurson, Rt. 18, Box 711P, Tucson 85749. Welcome!

Our speaker was **Louise Rivera**, who holds a B. A. in photography from the University of California and works at Bach's Greenhouse. Her topic, as announced before, was **Taking good photographs with a minimum of equipment.** She was briefly introduced by Vice President Miles Anderson. A carousel of slides taken by Miles served to illustrate, after Ms. Rivera had given us an introduction to the subject. Miles filled in plant names as the slides were presented. Ms. Rivera's strong recommendations:

1. The 35 mm camera is the most versatile, but very good photos can be taken with simpler cameras. With the 35 mm, it is desirable to have a model that leaves the user in control rather than one that is fully automatic. A 70-210 zoom lens is a good investment for several reasons, but, again, plenty of good photos have been made with a 50 mm lens. It's nice to have a tripod for longer exposures, but the camera can be set on a chair for the same effect. Hold the camera down with one hand and operate the shutter with the other. Simple hand holding can be adequate for speeds greater than about 1/15 second.

2. Think about what you **can** do with what you have, rather than

wishing you had some more speeds forward. If you don't have a light meter, work from the sheet that comes with the film. Modern films have much more latitude than film used to.

3. Film. Most people like slides better than prints. If you do, go slides. Prints can be made from them at any time. These prints are more expensive than those from color negatives, but perfectly satisfactory. Maximum film speed ASA 100. Faster films give more grain, and light is no problem outside in this region. Put film into freezer for storage. She also freezes paper. Take it out a half hour before opening cartridge, to give film time to warm up to room temperature. Otherwise condensation may cause problem. Exposed film should at least go into the refrigerator until processed. Below freezing the film is inert and can be stored well beyond the printed expiration date.

4. The photo. Get up as close as possible to the plant, and try to fill the frame with it. Don't show a lot of other stuff around the plant. Use the sun as the light source, taking plant outside rather than trying to use available light inside. If background detracts, get rid of it by using a shallow focus or substituting a piece of black velvet. But by all means do a little experimenting. Get down to plant level. Take shots at different angles. You'll learn what gives the effect you want. If some aspect interests you, enlarge that part more. The whole plant does not have to show.

5. Light. What hits the film is controlled by the f-stop (how big the opening is that lets in the light) and time (how long the film is exposed to light). The f-stop has a lot to do with the depth of field that is in focus. F-2 to f-8 would result in minimal depth of field, and might be used when the background colors are satisfactory but the details not. F-11 gives pretty good depth. Each f-stop halves the amount of light; there's f-4, f-5.6, f-8, f-11, f-16, f-32. If great depth is needed and the light is weak, a tripod and long exposure may be required.

Before 10 and after 3 the light from a low angle permits one to get interesting shadows and using very low angle "raking light" shows details on the surface that are missed with ordinary lighting. Full sun gives sharp shadows and high contrast. A cloudy day softens the shadows, but it also affects the saturation of the colors. The effect is different, and sometimes very pleasing. To get the greatest effect from spines and fuzz, try backlight. Exposure time can be tricky with backlighting, because there is a lot of light in the background. Relying on an exposure meter can result in a pure silhouette. The rule of thumb for using a meter is to double the exposure, either by doubling the time or by opening the lens one f-stop. Or you can use the reading from a special gray card, or the back of your hand.

Following the presentation there was a wide-ranging discussion. John Gaston showed us his personal photographic equipment, and

JULY 1988 MEETING

photographic and other problems were discussed. Miles Anderson told of getting rid of problem pack rats with a D-Con bait after all other methods had failed. Short of that, hardening the rodent security may be the only way. John has done that to the Gaston greenhouse.

The Rebutia-Sulcorebutia mini-show was super-mini, so the prizes for it were added to the normal door prizes and the show was not judged. John Gaston indicated that he had had bad luck with these genera in his greenhouse. Miles said that they can take a lot of cold in Tucson, but that they can't handle full sun. The free plant was Lobivia tiegeliana var. distepanojana. This plant was recently described, later declared a variety rather than a species. It has been in cultivation several years. It will go outside in Tucson, with no more than morning sun. It is a free-bloomer and many of the plants had large buds. The meeting adjourned at about 4:20. After the meeting three members participated in a plant swap meet, in which somehow everybody managed to come out ahead.

MISCELLANY AND TRIVIA

By comparing the last set of mailing labels and the list of paid memberships as of May 8, both provided by Larry Romo, I come up with the following who apparently haven't paid this year: Amesbury, Benedix, Bolton, Bosch, Clark, Escalante-Lundquist, Fahm, Gardner, Goltz, Goodbread, Harman, Joyiens, Lopresti, McGibbon, Stehulka, White. I sent out the last mailing on the paid-up list, but will send this one on the full list. If you find your name here, please contact Larry Romo at 5400 W. Nebraska, Tucson 85746. As of now our paid-up membership list contains 51 names. This mailing will go to 71.

Last Saturday I stopped in at Arivaca Gardens, on the paved road just outside Arivaca. ZIP for Arivaca is 85601. Phone number for Gardens 398-9141. Summer hours, weekdays 7:00 to 3:00 (sometimes cut short), weekends 9:00 to 5:00. I've been by a number of times on the way to Arivaca Lake, never when it was open. Specialty of large aloes, but quite a variety of other succulents and some cacti. I found an Aloe plicatilis I couldn't resist.

Have tried the dichlorvos (No-Pest-Strip) fumigation on the aloe eriophyid mite that causes distortion of leaves and flowers. Even half a day during the heat of the day in a trash can with the stuff doesn't seem to have done anything bad to the aloes. I cut out the distorted leaves. Will keep you posted on whether it did anything to the mites. The infested plants are some I grew from seeds of a plant on campus or I might not bother.

Respectfully submitted,

Floyd Werner

July 1, 1988

Floyd Werner, Sec'y.

August 1988 (FW)

TUCSON CACTUS AND SUCCULENT SOCIETY
AUGUST 1988 MEETING

The August meeting will be held in the Education Building, Tucson Botanical Gardens, on **AUGUST 14, 1988, AT 2:00 P.M.** The program will be a taped talk and slide show by Gordon Rowley, entitled "Pollination Syndromes in Succulents". This is one of the programs available from CSSA and is said to be pretty good. I'm not going to try to second-guess what is in the presentation, but have resolved to write down what I think I know about the subject on a small card and see if I missed anything.

Miles has dreamed up a "stump lovers' delight", a mini-show of caudiciform and pachycaul succulents. Swollen roots, swollen stems, what have you? Cactophiles don't like it, but most succulent growers don't place cacti in either group unless they have swollen roots. To make things more interesting, there will be three categories on the basis of pot size, and each member may enter three plants in each category.

1. Pots <6 inches outer diameter.
2. Pots 6 to 10 inches outer diameter,
3. Pots >10 inches outer diameter.

The free plant will be another rare cactus, Turbinicarpus schwarzii.

Minutes of July meeting. Secretary was in Albuquerque. So meeting on pests and their management, and grafting Pediocactus, will go unrecorded unless somebody took some notes. They can make it into the next notice. Miles remembered a few tidbits, but not a lot of detail. The free plant was Tavaresia grandiflora, a fine plant. I've managed to rot down two of them in the past, so listen to Myrtle's instructions.

While in Albuquerque I looked up Horst Kuenzler, of New Mexico Cactus Research, in Belen, just down the road. I had forgotten his name, and discovered to my distress that the Belen phone book knew nothing of NM Cactus Research. First nursery I called had gone bankrupt and the lady who inherited the phone number was a blank. Second nursery more helpful - on River Road. It's 1132 E. River Road, or P.O.Box 787, Belen 87002. Sign out front for Steve's Bicycle Repair, for son's business behind house. Had a good visit. Horst bought the place from David Epple when David moved to Bisbee and founded Arizona Cactus and Succulent Research, and both had been influenced by the late Dennis Cowper, a college classmate I knew slightly from being in the same scientific German class. Trip from Albuquerque to Belen made more interesting because prison escapee had run from helicopter at Los Lunas, the town in between, and was being hunted for in the Rio Grande river bottom. Got stopped for vehicle search both ways.

Traditionally, the September meeting is our silent auction. Time to look over the holdings and decide what can be parted with.

Floyd Werner, Secretary

No Sept 1988 notice (FW)
Oct. 1988

TUCSON CACTUS AND SUCCULENT SOCIETY
OCTOBER 1988 MEETING

The October meeting will be at **2:00 PM, SUNDAY, OCTOBER 9, 1988, AT TOHONO CHUL PARK, 7326 NORTH PASEO DEL NORTE.** The nearest major intersection is Ina Road and Oracle Road. Paseo del Norte is 800 west, Oracle Road 400 west. Go west on Ina to Paseo del Norte, then north about a block. [Ina is listed as 7200 north.] The park entrance is on the east side of the road. If you haven't been there, this is a good place to see a lot of cacti and succulents growing out-of-doors, and maybe decide what should do well in your garden. Some walking will be involved. The meeting will include a tour of the park.

After the meeting we are invited to proceed to the home of former member **Irene Goode, who is selling her cacti and succulents.** The address is 6338 East Fordham Drive. Go east on 22nd Street to Wilmot, north on Wilmot. Fordham is reached through access road along east side of Wilmot, and is about half way north to Broadway. 6338 is four houses east of Wilmot [which is listed as 6300 east]. To quote an old cliche, you can't miss it. Several hundred plants are for sale, including Mammillaria, Gymnocalycium, Euphorbia, many other succulents; some in pots, some in ground. There's a huge specimen jade plant, 4 ft. tall and 5 feet around, in a large pot on wheels. In the ground there's a "Maverick" prickly pear. I hadn't heard of this one, in which individual pads grow in unpredictable forms. Everything has been and is outside, either in the ground or in a lath house. Mrs. Goode just has too many hobbies and activities going to keep up the cacti and succulents.

MINUTES OF AUGUST 1988 MEETING.

Meeting called to order at 2:02 PM on August 14, John Gaston presiding. Secretary's notes from July meeting (essentially none because of absence of secy from that meeting), approved as sent out in meeting notice. Treasurer Romo reported a balance of $2275.87 in the treasury as of the date (soon reduced by payment for several months of mailings, free plants and door prizes). Norma Beckman, Affiliate Representative, reported that the Huntington Botanical Garden is collecting newsletters and such from clubs, for its archives. Having a set of newsletters filed away in such a permanent library will help carry some history into the future. Mary Church informed us that Esther Drummond is leaving the state and has given Mary her Sansivieria collection. Attendance approximately 27. The free plant was Strombocactus schwarzii, another rarity propagated by Miles Anderson. Welcome to New Member Jeri Mazur, PO Box 156, Vail 85641, tel. 1-647-3415.

Mini-Show of caudiciforms and pachycauls. Grouped on 2 tables and voted on by members present. Winners in small pot group: (1)

Lolita Maher for Ficus petiolaris; (2) Norma Beckman for Ceropegia rendalli; and (3) Mary Church for Ibervillea sonorae. Large pot group: (1) John and Judi Gaston, for Fouquieria purpusii; (2) Dan Birt for a nice Bursera; and (3) Norma Beckman for Luckhoffia buchmannii.

The program consisted of Gordon Rowley's pollination syndrome slide show from CSSA. I made the following notes:

Many cacti are pollinated by a variety of pollinators. Echinopsis can be pollinated either by hawk moths at night, or various bees the following day. Some cactus blossoms have just pollen, others pollen and nectar. Constancy of relationship with insects varies. Opuntia (and most mesembs) are unselective. Crassulaceae have masses of small flowers, Euphorbiaceae colored bracts with a collection of small flowers. So the attractiveness is high, even though individual blossoms are small.

The more selective flowers include:

Bird flowers among cacti. [Birds have good color vision, and are notoriously lacking in the sense of smell department.] Blossoms red, large, robust, scentless. Have nectar in quantity. If blossom hangs down, there is some sort of device to keep nectar in. Many are bilaterally symmetrical: Schlumbergera, Cleistocactus in the cacti. Agave and Aloe in the succulents also may be pollinated by birds. Bird flowers are usually set up so stigma is touched first, then anthers, on way down to deep nectar source. So pollen that is stuck to bird from previous blossom gets onto stigma, then pollen from this flower is added to the load on the bird (for the next blossoms).

Bee flowers. [Insects have some color vision, including ultraviolet, which we can't see.] Bee flowers have a scent, and colors, including ultraviolet reflection. Offer pollen and nectar, latter in small quantities. Not many bee-pollinated plants among succulents. Cactaceae generally don't have a sophisticated association, but bees are still important to them. Among succulents a succulent Coleus, Senecio, Monadenium, the last having a very slender tube. [Chuck Hanson pollinates these with cat whiskers.]

Butterfly flowers. Red or yellow, not blue. Diurnal and fragrant. Few in succulents. Butterflies have long, coiled proboscis to go after nectar. Sedum spectabile is a good butterfly plant in Europe. Pelargonium also a butterfly flower. Bright red flowers of Adenium and Pachypodium may be.

Moth flowers. Nocturnal, white, strong perfume. Some hawk moths have a proboscis 20 cm long! Cereus in broad sense, Discocactus, the latter only in early night.

Bat flowers. Taller-growing night bloomers: Cephalocereus, plus. Flowers massive and white or pale, with characteristic fruity or

fermented smell. Agave also believed to be bat-pollinated in habitat.

Fly-pollinated. One Caralluma by a Drosophila [the gnat-sized flies that gather around spoiled fruit]. Most stapeliads by blow flies, which lay eggs on recently dead animals, and which are deceived to the point of laying eggs on the blossom. Some, such as Ceropegia and Pectinaria, detain the fly until the blossom starts to develop the fruit.

Finally, some cacti are self-pollinated: Arthrocereus mirabilis, for example, and some Frailea species develop fruit and seeds without having flowers that open at all.

We were treated to a thunderstorm and nice rain during the meeting, and adjourned at 3:45 PM.

SEPTEMBER MEETING: We had our traditional September silent auction in the patio of the Tucson Botanical Garden, on Sept. 11, 1988. Members had been notified by telephone and we had a good turnout. Highlight of the meetings was a large Pachypodium for which raffle tickets were sold. Agnes Daniels won the raffle. Mary Church served as banker, and reported proceeds of $202.00 all together. Some really fine plants were donated, and some of the bidding warmed up a bit.

Respectfully submitted,

Floyd Werner

Floyd Werner, Secy.

Nov 1988

TUCSON CACTUS AND SUCCULENT SOCIETY
NOVEMBER 1988 MEETING

The November meeting will be held from 2 to 4 PM, Sunday November 13, 1988, at the Tucson Botanical Garden. The program will be a discussion of winter **HARDY CACTI** by **Miles Anderson**, who has put together a list of about 125 species that can be counted on to survive January in Tucson. It's hard to imagine winter coming this year, but freezes are the usual fare by January. An important part of this meeting will be **NOMINATION OF 1989 OFFICERS**. The actual election is scheduled for the December meeting, which will be a feed on December 11 if we follow our usual custom. Members will also have an opportunity to go through the **Xeriscape** planting and development at the back of the Garden. I went to the dedication and was impressed by the variety of plants that have been set out, and the general design. This will be a chance to see the plants early in their careers in the sun.

MINUTES OF OCTOBER 1988 MEETING. The meeting consisted of a tour of the Tohono Chul park, with members being shown the sights by docents.

29TH ANNUAL DESERT HARVEST COMMUNITY SHOW, Saturday November 13 and Sunday November 14. This is a show organized by the Men's Garden Club, and will be held at Park Mall, 5870 E. Broadway. In his garden column in the Nov. 6 Star, Paul Bessey indicates that everybody is invited to show the fruits of garden and orchard, as well as cut flowers and plants, including a special section for cacti and succulents. The show will be open to the public from 10 to 6 on Saturday, 12 to 5 on Sunday. Exhibitors should bring their entries to the Broadway entrance between 7 and 10 AM Saturday. Cacti and succulents may be shown as specimens, dish gardens or hanging planters. Containers below 7 inches will be judged separately from those over 7. Entries should be properly identified to species, clean and free of pests. Paul gives Dick Bourque, 743-3277, as the source for additional information.

MEMBERSHIP LIST

The second page of this notice contains names, addresses and telephone numbers of current members. This is from the list provided for mailing by Larry Romo. It isn't as fancy as it could be, but should serve to update the list for members who have the urge to communicate. There are 53 memberships on the list. I have been sending minutes to David Epple and Eleanor Barker as well. The telephone numbers have the 1- prefix if they are in exchanges that are long distance for most members.

yr. obd't s'vt.,

Floyd Werner

Floyd Werner, Sec'y.

TCSS 1988 membership list:

MILES ANDERSON 1552 W. MIRACLE MILE #48 85705 887-2919
NORMA BECKMAN 201 S. AVENIDA DE LA VISTA 85710 885-0669
DAN BIRT 1517 N. BEVERLY BLVD. 85712 325-4967
ALAN & BETTY BLACKBURN 3003 W. BROADWAY,SPACE 59 85745 622-0177
LINDA MOORE & PERRY BURBACK 7960 E. MABEL DRIVE 85715 885-7031
DOROTHY CHRISTENSEN 1961 W. KHAIBAR PLACE 85704 297-5128
MARY CHURCH 1090 E. GRANT ROAD 85719 624-7976
NANCY CLARKE HC62, BOX 49954 PINETOP,AZ 85935
AGNES DANIELS 6652 N. CASAS ADOBES DRIVE, NORTH 85704 297-3305
GENE MICHAEL DAVID P.O.BOX 58406 85732 296-0122
RUTH DOUGHERTY 315 LOS RINCONES GREEN VALLEY AZ 85614 1-625-4701
ESTHER DRUMMOND 7745 E. MANOR PLACE 85715 885-0586
BOB ELLIS FAMILY 7821 S. CAMINO LOMA ALTA 85747 1-647-3668
ALEXANDER EMMA 3450 N. TRES LOMAS DRIVE 85749 749-1715
RODNEY ENGARD 3932 E. FIRST ST. 85711 881-8523
TERRY ERISMAN 5817 E. HELEN ST. 85712 886-5747
MYRTLE ETHINGTON 3490 N. IROQUOIS AVE. 85705 887-4507
JOHN & JUDY GASTON 4254 W. JUPITER PLACE 85704 744-0039
SUE HAFFNER 3015 TIMMY, CLOVIS CA 93612
MARY HENDERSON RT. 22, BOX 993 85745 623-2773
HELEN HOUSMAN 1232 N. SWAN ROAD 85712 325-7920
BARBARA ANN BIRT KILE 9106 N. EAGLESTONE LOOP 85741
HELEN KING 1604 N. CATALINA 85712 325-8629
CINDY KUEHN 10017 E. ERIC ALAN PLACE 85748 885-1024
WALTER & VIRGINIA LOWY 7631 E. FAYETTE 85730 747-8792
TY & LOLITA MAHER SASABE STAR RTE., BOX 605 85736 1-822-5058
JERI MAZUR P.O.BOX 156, VAIL 85641 1-647-3415
WILLIAM MCCORD FAMILY P.O.BOX 186 VAIL 85641 622-5734
DOROTHY MONTGOMERY 560 E. MONACO PLACE 85737 297-3654
WILLIAM A. PLUEMER 4581 N. ARROYO VACIO 85715 299-9015
LOUISE RIVERA 532 W. SIMMONS ROAD 85705
CHRISTA ROBERTS 529 W. PIMA, COOLIDGE AZ 85228 1-723-4185
LARRY ROMO 5400 W. NEBRASKA 85746 883-1286
THOMAS ROTHE 4065 CAMINO DE LA COLINA 85711 881-2456
LINDA RYAN 6610 SUTHERLAND RIDGE PLACE 85718 299-2338
LOLETA SCHACHT 3003 W. BROADWAY #25 85745 622-1152
DOLORES SCHLEGEL 2460 N.TANQUE VERDE ACRES DR. 85749 749-3568
MARIE & MARCIE SCHULIEN 1401 E. NEVADA DRIVE 85706 294-5547
CRAIG SCOFIELD FAMILY 340 W. PLACITA DE LA POZA 85704 742-7250
JACK SEGURSON RT. 18, BOX 711 85749 749-3430
PAUL SHAW 15 CONGRESS TERRACE 85745 624-1559
PEGGY SHEMEK P.O.BOX 1886 FOREST LAKES AZ 85931 1-535-4412
DEVON SHOPSHIRE BOX 42195, TMC 85733 326-8294
SUE SMITH 8151 E. BELLEVUE 85715 886-9442
ALICE SPROGE 1207 N. SANTA ROSA 85712 795-9551
JANICE TAKESSIAN 1050 W. SAN MIGUEL CIRCLE 85704 886-9442
GEORGIA TALLYN 225 W. MEDINA 85706 294-2561
JOYCE TATE 22111 NEWPORT AVE., SPACE 83 COLTON CA 92324
JEFFREY & JA TREVAS 4541 N. PLACITA SHELLY 85718 577-2251
JANE WEILAND 3668 E. SYLVANE ST. 85713 881-3650
FLOYD WERNER 3216 N. JACKSON 85719 325-7228
DICK WIEDHOPF 7510 E. RIO VERDE DRIVE 85715 885-6367
HARRISON YOCUM & MRS.H.YOCUM SR. 1628 N.JEFFERSON 85712 298-0930

Dec-1988 (FW)

December 2, 1988

TUCSON CACTUS AND SUCCULENT SOCIETY
DECEMBER 1988 MEETING

The December meeting will start early, **SUNDAY, DECEMBER 11, AT 12:00 NOON**, as this is our annual potluck Christmas dinner meeting. This is the meeting when we usually get a chance to see the hidden spouses. It will occur at the Tucson Botanical Gardens, but exact place is not yet determined. Serving is scheduled to start at 1:00 PM. Mary Church is taking care of providing turkey, ham, rolls, butter, coffee, tea, etc., with the special help of her son-in-law Phil in shopping and logistics. Anyone else who would like to volunteer should call Mary at 624-7976. Each member should bring table settings and one dish to pass around, as follows:

A thru E a salad or relish dish
F thru M a vegetable dish
N thru Z a dessert

MINUTES OF NOVEMBER 13, 1988 MEETING

The meeting was called to order by President John Gaston at 2:00 PM in the Education Building of the Tucson Botanical Gardens. 29 members attended. In the absence of the treasurer there was no treasurer's report. The secretary reported in the meeting notice for November.

There was some discussion of the free plant, Ferocactus jalapensis. The plant is being distributed under this name, but John Gaston and Miles Anderson could not find it listed in any of the sources in the Society library. It is assumed to be hardy in Tucson.

Miss Gaston showed and discussed a blooming white-flowered Lithops from her collection, which she selects and cares for herself. This plant was given her by a Florida grower, who said that he expected to lose all his Lithops to an impending hurricane last summer.

The main business of the meeting was nominations for 1989 officers, with the following results:

President	Miles Anderson
Vice President	Mary Church
Secretary	Floyd Werner
Treasurer	Dan Birt
	Jeffery Trevas
Board	J. R. Trevas
	Myrtle Ethington
	Agnes Daniels

The election will be held at the December meeting. There was some mention of getting fed being contingent on voting. Nominated members will be polled on their willingness to serve if elected, so we will almost certainly need some more nominations.

Members Norma Beckman and Floyd Werner showed plants at the Men's Garden Club show in Park Mall Nov. 12 and 13, and managed to take their share of ribbons, including best cactus.

CENTRAL ARIZONA CACTUS AND SUCCULENT SOCIETY SHOW AND SALE 1989.

Judy Gaston reported that the Central Arizona club will move its show and sale to the Tri-City Mall in Mesa for 1989. It will be held from Wednesday March 29 through Sunday April 2, 1989.

This is a move from the Desert Botanical Garden in Papago Park. In recent years the show has been held in a large tent because of space limitations in the building available. This is a judged show and one in which our club has participated some years in the past. This year we have ample advanced notice to get some of our best plants ready to show, to work out getting plants to and from Mesa and to see the show ourselves. The Central Arizona club will appreciate our support in this first year under new arrangements.

CORRECTIONS TO LIST OF MEMBERS:

J J TREVAS to J R TREVAS (sorry)

LOUISE RIVERA to 6479 NORTH POMELO 85704 742-9655

Miles Anderson, on cold and heat-hardiness and growing conditions for cacti and some succulents in Tucson. Miles showed slides, but the main subject was the appended list of plants he has had experience with during the past 2 years in Tucson.

[I'll keep this list in my computer for other members to make additions and comments, so that we can move toward having a master list of reliable plants and recommended growing conditions to work from. I can see already that few native plants are on the list, and that I can add to the list by just walking around the yard with it. Write your additions down and I'll put them in meeting notices as your contribution at the time I add them to Miles' list.]

SUN Full sun was really bad in 1988, worse than in 1987. Late afternoon sun is the most damaging. Even full-sun plants may turn yellow and languish in a hot year. Throw a shade cloth over them until they turn green, then take it off and they may be able to thrive. Dig them up and move them if the problem continues. Miles waters full-sun plants once a week during summer. Plants that green up in August during the monsoon season may sunburn when clear skies return, so need a little protection then. Winter sun is much less intense, so planting in such a way that they are shaded in summer and exposed in winter can be a good idea.

COLD The more heat-hardy the less frost-hardy is a good rule of thumb. Plants from higher elevations are good bets for cold-hardiness. Cover with paper or cloth. Don't put plastic on succulents or parts will freeze. The past 2 winters have not been particularly harsh. Vail is 3 to 4 degrees colder than Tucson. Snow on the ground keeps things cold longer.

Myrtle Ethington says not to worry about snow, but that it can cause problems when it melts on the plants. Putting newspaper on top of the snow that covers the plants helps prevent damage. A frozen plant may survive the freezing but sunburn. Keeping it shaded until it melts is worthwhile.

Dan Birt repeated his call for people to use the north sides of houses more. Since they get little or no sun in winter, cold-hardy plants thrive there. In a really cold spell, 10 degrees or lower, cut last year's growth from columnar cacti and put it in a warmer place for rooting in the spring. Older growth is more likely to survive. Some cacti from higher elevations need cold weather to do well. Dan Birt said this means a period with less than 50 degrees mean temperature. Probably more of a need for a rest than need for cold. Echinocereus from higher elevations

mentioned as an example.

FERTILIZING Start as soon as plants start to grow in spring, but be prepared to cover them if cold returns. High phosphorus fertilizer produces blossoms and better spination on cacti. P is slow to penetrate soil, so it may take some years to get to roots of larger plants out-of-doors. Nitrogen fertilizers produce a lot of green growth. Ammonium sulfate and ammonium phosphate in alternate months during the summer has worked well for some, based on broadcasting on surface.

Door prizes of hardy cacti and succulents were distributed. The meeting adjourned at 3:20, and some of the members viewed the new Xeriscape plantings.

HARDY PLANT LIST

This is a list of plants which have survived outside in Tucson for Miles Anderson to temperatures as low as 18-20 F. Most of these species should be able to take an additional 5 degrees F colder. Species followed by an asterisk (*) should be covered if the temperature is expected to go below 20 F.

Acanthocalycium - full sun - violaceum
Ariocarpus - full sun - fissuratus v. lloydii
Astrophytum - full sun - asterias, myriostigma, ornatum
Chamaecereus - 3/4 sun - silvestrii and hybrids
Copiapoa - 3/4 sun - humilis, hypogaea, solaris*
Coryphantha - full sun - borwigii, elephantidens, durangensis, henricksonii, hesteri, poselgeriana, scheeri v. robustispina Subgenus Escobaria doesn't do as well in sun as subgenus Coryphantha
Cleistocactus - full sun - straussii*
Denmoza - 1/2 sun - erythrocephala, rhodacantha
Echinocactus - full sun - grusonii, ingens
Echinocereus - full sun for upright species, 1/2 sun for mountain and prostrate species - adustus, baileyi, dasyacanthus, fendleri v. bonkerae and v. fendleri, gentryi, chisosensis, hempelii, knippelianus, ledingii, morricalii, pectinatus v. rigidissimus, pentalophus, perbellus, laui, luteus, viridiflorus
Echinomastus - full sun - acunensis, erectocentrus, intertextus, macdowellii
Echinopsis - 1/2 sun - aurea, subdenudata, imperialis
Ferocactus - full sun - acanthodes, covillei, diguettii*, glaucescens, latispinus, macrodiscus*, nobilis*, pottsi v. alamosanus, pringlei, rectispinus, robustus, townsendianus, viridescens
Frailea - 1/2 sun - pumila
Gymnocactus - 3/4 sun - viereckii
Gymnocalycium - 1/2 sun - andreae, asterias, baldianum, bayrianum, bruchii, cardenasium, chiquitanum, damsii and v. rotundulum, eurypleurum, denudatum, gorselianum, horridispinum, horstii, leeanum, mihanovichii v. friederichii, ochoterenai, paediophyllum, saglione, tillianum, triacanthum, uebelmennianum, platense, valnickerianum, vatteri
Hamatacactus - full sun - hamatacanthus, setispinus

Helianthocereus - 1/2 sun - crassicaulis, huascha, poco
Homalocephala - full sun - texensis
Islaya - 1/2 sun - grandiflora
Leuchtenbergia - full sun - principis
Lophocereus - full sun - schottii monstrose*
Lobivia - 1/2 sun - arachnacantha, distephanoiana, cardenasiana, cinnabarina, formosa, jajoiana, leucomalla, winteriana, wrightiana
Malacocarpus - 1/2 sun - sellowii
Mammillaria - 1/4 sun for mountain species, 1/2 sun for others - aurielanata, baxterana, candida, compressa, dewei, elegans, geminispina, grusonii, heyderi v. macdougallii, klissingiana, hidalgensis, guelzoiana, lasiacantha, lenta, Lau 086, lloydii, longiflora and fma. stampferi, magnimamma, microcarpa, microthele, mystax, melaleuca, nejapensis, plumosa, solisioides, stella-de-tacubaya, thornberi, ritteriana, schiedeana, viridiflora, wildii crest
Matucana - 1/2 sun - aureiflora, haynei, multicolor, roseoalba, weberbaueri
Neobesseya - 1/2 sun - grandiflora, missouriensis and v. marstonii
Neochilenia - 1/2 sun - paucicostata, napina
Neoporteria - 1/2 sun - gerocephala
Notocactus - 1/2 sun - acutus, buiningii, claviceps, crassigibbus, erica, herteri, magnificus, minimus, haselbergii, paraguayensis, rechensis crest, roseoluteus, submammulosus, succineus fma. albispina, schlesseri
Opuntia - full sun - chaffeyi
Parodia - 1/2 sun - sanguiniflora
Peniocereus - 1/2 sun - greggii
Phillipicereus - 1/2 sun - castanae
Pyrrhocactus - 1/2 sun - bulbocalyx
Pterocactus - full sun - australis, tuberosa
Rebutia - 1/4 to 1/2 sun - haagei, heliosa, krainziana, muscula, narvaecensis, perplexa
Stenocactus - full sun - multicostatus, zacatecasensis
Stenocereus - full sun - marginatus*
Stetsonia- full sun - coryne*
Sulcorebutia - 1/2 sun - alba, arenacea, caniguerallii, crispata, rauschii
Thelocactus - full sun - bicolor, nidulans
Turbinicarpus - 1/2 sun - pseudomacrochele, schmeidickianus, schwarzii
Trichocereus - full sun - candicans, pachanoi*
Weingartia - 1/4 sun - neocummingii

Aloe - 3/4 sun - dichotoma*, variegata
Calibanus - full sun - hookeri
Cotyledon - 1/2 sun - orbiculata*, sinus-alexandrii*
Dudleya - 1/4 sun - brittoni, arizonica
Echeveria - 1/4 sun - chihuahuaensis, peacockii, minima, X"Dondo", X"Gilva's Red", X"Perle von Nurnberg", X"Orpet", X"Blue Bird", X"Ivory". Small species take cold best, large hybrids most poorly.

12-2-58-4

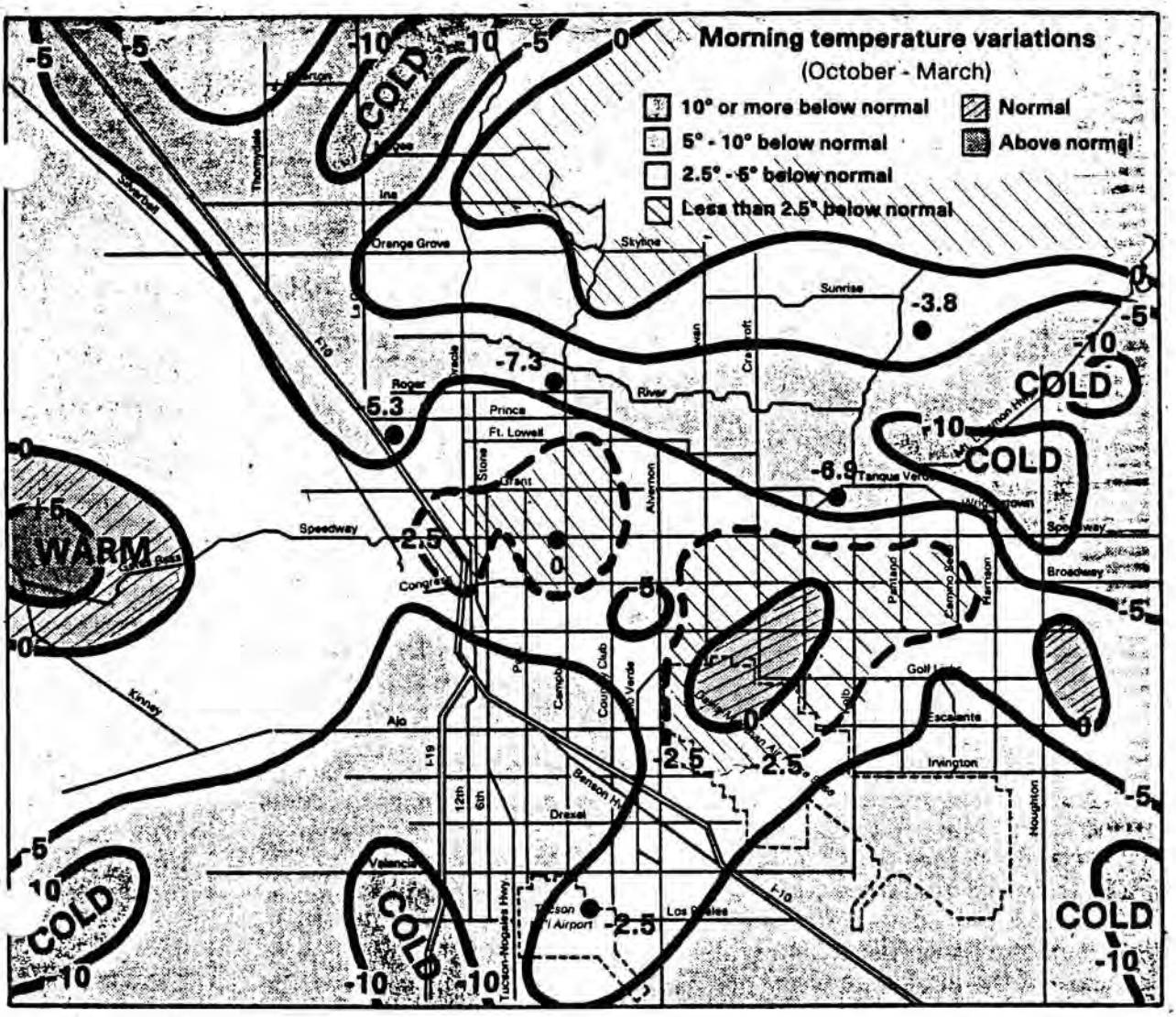
Graptopetalum - 1/4 sun - rusbyi
Graptoveria - 1/4 sun - X"Debbie"
Idria - full sun - columnaris
Ipomoea - full sun - arborescens*
Pleiospilos - 1/2 sun - bolusii, simulans
Tacitus - 1/4 sun - bellus
Sedum - 1/4 sun - suaveolens

I'll end up with a map from the Tucson Citizen, 10-10-87, which reported a study by two UA researchers, Kirby and Sellers, who were interested in the extent to which Tucson is making its own climate. Before 1956 the city interior could expect 40 days when the temperature dropped to 32 or lower. Since 1977 that number has dropped to 5 days. We all know that the microclimate varies even in one yard, but the map shows what to start from for a still dawn in the winter.

Yr. obdt. svt.,

Floyd Werner

Floyd Werner, Secy.



Tucson Citizen map

10-10-87

12-2-88-5