

Desert Breeze

Volume 3, Issue 1

JANUARY 1998

GET THE
DATES FOR
SONORAN 2
IN YOUR
CALENDAR
NOW!

OCTOBER
23 - 25, 1998

WATCH THIS
SPACE
FOR MORE
DETAILS



SONORAN 2*

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OCTOBER 23 - 25, 1998

IN TUCSON ARIZONA

*FORMERLY STUCK-ON-TUCSON

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Tucson Cactus & Succulent Society
Founded 1960

OFFICERS AND BOARD 1998

PRESIDENT: Richard Wiedhopf 885-6367
VICE-PRESIDENT: Margaret Pope 795-1285

SECRETARIES:

Carol and Maury Clapp 908-9001

TREASURER: Arnold White 577-1348

BOARD OF DIRECTORS:

(terms expire December 31 of year indicated)

Miles Anderson 1998

Sara Perper 1998

Linda Ryan 1998

Myrtle Ethington 1999

Mary Odette 1999

Julie Turko 1999

Dan Birt 2000

Al Coritz 2000

Lois Ladwig 2000

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The **Desert Breeze** is the Newsletter
of the Tucson Cactus & Succulent Society.

Please send your copy by the 20th of the
month preceding the following month's issue
to the Editor.

TCSS Web Page

<http://www.desertcactus.com/tcss/>

TCSS WEBMASTER: Lois Ladwig

e-mail: lois@desertcactus.com

Items for possible inclusion on our web page should
be sent to <kitfox@azstarnet.com> for consideration.

Does the TCSS owe you
any money for expenses?

If so, GET YOUR BILLS IN RIGHT
NOW - TO ARNOLD WHITE.
Arnold is the TCSS Treasurer and our
books are closed on 31 December for the
year's audit to take place.
If you have any outstanding expenses,
please let Arnold have them right now.
Arnold's address is 4755 N. Camino
Gacela, Tucson, AZ 85718.



THE SCRATCHING POST



Let's have some letters from YOU. What
would you like to see in **Desert Breeze**? Are
there some things YOU don't like? How
about some *written* feedback? The Editor gets
lots of phone calls with comments (which are
appreciated), but how about some written
words? Remember, this is YOUR newsletter.
Schools, we believe, teach 'riting as well as
'rithmetic. . . or do they? Surely, the impor-
tant thing in life is to be able to recognize a
good cactus or a good cactophile.

IS YOUR MEMBERSHIP CARD
HERE?
IF NOT, PLEASE CHECK
MAILING LABEL ON PAGE 10
AND IF THE DATE THERE
SHOWS 1997,
TURN TO PAGE 9.

Corrections to last **Desert Breeze**

Apologies for misspelling Ron and Kathryn's name - it
should be FRIDLIND.

Also their e-mail address should have read
<103213.1665@compuserve.com> in our last **Desert Breeze**.
(Typo: a comma in the middle of the numbers which should
have been a period.)



Your President's Message

Thank you . . .

Marge Pope who planned all of the meetings;

Thank you . . .

speakers who entertained and informed us;

Thank you . . .

board of directors for your support and dedication;

Thank you . . .

Julie Turko and your committee for the great silent auction;

Thank you . . .

Arnold White for caring for the finances;

Thank you . . .

Myrtle Ethington for maintaining a great library;

Thank you . . .

150 + members for support, interest and being such great volunteers when called upon;

Thank you . . .

nursery owners and managers for your help in obtaining plants for our raffles, door prizes and free plants;

Thank you . . .

Mary Church for always cooking the turkey just right for the holiday party;

Thank you . . .

Carol and Maury Clapp for the newsletter, secretarial support, membership and on and on and on.

A final thank you for the lifetime honorary membership bestowed on Dan Birt and myself. I was very surprised, very proud and very emotional. I want to express how glad I am that you also recognized Dan. Over the last 25 years that I have known him, he has contributed so much to this society and to the general interest in cactus and succulents.

A new year is here and lots of exciting activities are being planned. Join in the fun!

Dick Wiedhopf TCSS President



SONORAN 2



OCTOBER 23 - 25, 1998

TUCSON ARIZONA

SONORAN 2 is the biennial successor to the tremendously successful STUCK ON TUCSON held in 1996.

SONORAN 2 will have workshops - you loved those last time - and even some talks given by experts in their fields. It's a Conference, a Seminar, a Symposium. Call it what you will, but it will be a super get-together for cactophiles to exchange their knowledge and, above all, have fun.

SONORAN 2 will be held in a very pleasant hotel, with swimming pool and palm trees, and easy access by courtesy transport to and from the Tucson International Airport. Easy to locate by automobile too. If you're coming on horseback or by mule team, we'll do our best to locate a suitable place for your animals to rest while you join the party.

Plan to bring your family too - there are many interesting places to visit in this area. There are lots of things here which are not connected to cacti. What did we say about not getting too close to that jumping cholla?

If this **Desert Breeze** is not your personal copy and you would like to be kept informed about **SONORAN 2**, give your name and address to the Editor, Carol Clapp, who will be happy to include you on our mailing list. Editor's addresses on page 2 ◀



Don't get left behind. . .

Get on our mailing list
NOW

TCSS IS CONNECTED!

<http://www.desertcactus.com/tcss/>

It's Official! TCSS is on the World Wide Web at <http://www.desertcactus.com/tcss/> with our calendar of events and highlights from the **Desert Breeze**. The website has a page listing nurseries that are owned or run by members, pictures of cactus native to Tucson, and links to other related sites. We will use our site to promote our meetings and special events like the show at the Tucson Botanical Gardens in April and the mini-convention (**Sonoran 2**) this fall.

Our TCSS site is listed as a link on the Cactus and Succulent Plant Mall, the de facto center of cactus information on the web. As of December 18th, the TCSS site is also part of the Cactus and Succulent Web Ring. This ring allows people seeking information about cactus and succulents to easily move from one cactus and succulent website to another with a click of the mouse.

Setting up a listserv for members who have e-mail is under consideration. A listserv allows subscribers to post a single e-mail to the list and that e-mail is then sent to all members of the list. This would be helpful for planning TCSS events, discussing topics like the best soil mixes, and for quick notification when a spectacular plant comes into bloom. When the *Trichocereus* were in full bloom at B&B Cactus Farm last spring it would have been nice to let everyone in TCSS know that they should make a trip out to 11550 E. Speedway and see the show! Currently, we plan to make our list available only to TCSS members who subscribe, not the general public. (The listserv *Cacti_etc* does an excellent job serving the whole wide world of cactophiles and is open to everyone.) As soon as the list is set up we will let everyone know and tell you how to subscribe, etc.

We would appreciate hearing from any members who have ideas for our site. We would also like to have more pictures along with any plant notes you think would be interesting to visitors to our website. Lloyd and Sara Perper have contributed some excellent pictures they took at the convention in San Diego and some of their own collection. If you have a contribution or comment please contact Carol Clapp <kitfox@azstarnet.com> or Lois Ladwig <lois@desertcactus.com>. It would be nice to add more good pictures of plants native to Tucson. TCSS is fortunate to be located in a place of interest to cactus and succulent lovers worldwide and can give others a view of the wonderful plants we see every day.

This is your site to show off what TCSS is all about. Check it out and let us know what you think!

Lois Ladwig
TCSS Webmaster



December's Cold Snap

We had a long cold spell in Tucson in mid December. How did your plants fare? Every evening we checked the expected low temperatures for Tucson. The TV weatherman always uses records from the Tucson International Airport. Is it really true that the airport is the least cold spot in Tucson? Or the hottest? We don't think so.

In the cool season, the low temperature each night in our yard was 10°F below the forecast given for the airport, yet we are maybe 200 ft lower and not in a frost hollow. Other parts of town are regularly 3-5° cooler than the airport. In the far east of town, by the Tanque Verde Wash, there are sufficient chill hours to be able to grow good apples, which you can't do west of town. But in summer... that is a different question! We get hotter than the airport by several degrees.

To help our plants through the cold spells, we cut up milk cartons and placed them over the tips of stems, even using some kitty litter cartons for the bigger stems. (See photo above.) The strong winds blew some of the cartons off, but that didn't matter, as wind helps to keep the frost away. To protect the citrus trees we covered them with frost cloth in the hopes that the fruit crop won't be lost for next year too. This year's crop was lost in last winter's cold, although there were lots of fruit we could eat then which had not been affected by the previous year's chill. It would seem that this winter, and the previous one too, have been unusually cold. Let's hope we get back to our usual non-chilly winters soon.

Carol and Maury Clapp
TCSS Co-Secretaries

Christmas Luncheon Party 14 December 1997 at the TBG

Our potluck luncheon was superb - as usual. To delicious salads, some with lettuce, some mainly fruit and some ALL fruit, we added turkey cooked by Mary Church (*thank you Mary for your hard work*) and some ham, chicken pieces, beans, cornbread (see recipe in this issue of DB), etc., followed by a variety of chocolate desserts and cheesecake. Bread rolls, baby croissants too and a selection of drinks. And there were lots of other dishes too - all provided by the 47 members who attended. What a good crowd! We had fun again this year too with the gift exchange. This time we limited the number of times a gift could be moved between members to three times, then it stuck. The first ticket was picked out of the basket by Jeff Trevas' father - did you know he now has the reputation for coming from New York to stay with Jeff and J.R. at Christmas especially so he can pick the first ticket at our party? After the hilarious gift exchange, we opened our gifts, table by table, so that we could all be nosey and watch the others open theirs.

It was fun to see the old photographs which Dick projected. They were taken circa 1969 at a club potluck picnic held at the Juan Santa Cruz picnic area on Kinney Road. We saw Josephine Shelby who was editor of *Cactus Capital Chatter*, the newsletter of our club long ago. That picnic was also a potluck - just as popular then as they are today. The picture we saw of that potluck sure looked familiar. Alan Blackburn was there. And Barbara Rogers who was the Treasurer and Registrar of the CSSA Convention held in Tucson in 1977. *Were YOU there?* Some of you were. John Gaston with Judy Gaston. Josephine was seen with Paul Shaw, Curator of Plants at the Arizona-Sonora Desert Museum '63-'70. Paul is one of our Life Members and now lives in Goleta (see page 8). Harrison Yocum was there with his late Mother. Harrison, a real long-time member, was at the Christmas 1997 party too. Ellen and Betty Blackburn were seen in shirts made from cloth bought in Tubac. All members had these shirts then, made from white cloth with cactus design. (Dick still has his.) We saw Goldie Dean and Roger Dean, President TCSS in 1977. Nancy Clarke, also one of our current Life Members, now living in Showlow, was also at the Juan Santa Cruz Picnic.

After the slide show by our President we had another exciting moment: Helen Housman presented honorary life memberships to two of our longstanding members: President Dick Wiedhopf and Dan Birt, for all their hard work for our Society over very many years. Dan said,

"I hope this doesn't mean that you are retiring us."

"No," quipped Maury, "it's your draft notice!"

Dick and Dan each received an inscribed plaque. Regrettably, Myrtle Ethington, who organized this presentation, was unable

to attend our party as she has yet to recover fully from her long bout of pneumonia with all its complications. *Get well soon, Myrtle, and Norma too - we miss you both.*

Results of elections on 14 December 1997

President: Dick Wiedhopf
 Veep: Margaret Pope
 Co-Secretaries: Maury and Carol Clapp
 Treasurer: Arnold White
 Three Board of Directors to serve until 31 December 2000:
 Dan Birt, Al Coritz, Lois Ladwig
 The three Directors who remain until end 1998 are:
 Miles Anderson, Sara Perper, Linda Ryan
 and the three who remain until end 1999:
 Myrtle Ethington, Mary Odette, Julie Turko

Did YOU enjoy that Cornbread?

Here is the recipe for that wonderful cornbread you all enjoyed at the Christmas party. Linda Burback made it and has been kind enough to pass on the recipe.

"This recipe used to be "Broccoli Cornbread" - that is until I substituted nopalitos for the broccoli.

Grease and flour 9"x13" pan.
 Set oven to 375 degrees.

In a large bowl dump in:

2 boxes Jiffy Cornbread mix
 1 stick margarine or butter, melted
 1 large onion chopped up
 1 cup of cottage cheese
 4 eggs

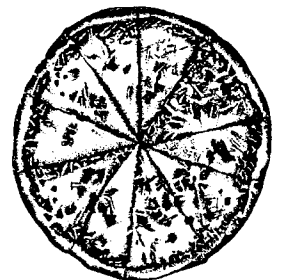
This is where things changed: EITHER 1 box frozen chopped broccoli cooked and drained, OR 1 cup rinsed, drained and chopped nopalitos (I buy mine in a jar from Fry's - try the Mexican foods section).

Mix it all up.

Pour into the pan and bake for approx.
 35 min or until golden brown.

Enjoy!

Linda Burback



In the news



Will our Pygmy Owls survive?

Being interested in cacti and other succulent plants, many of us are also interested in other flora and the fauna which make up the habitats of our favorite plants. Each species is dependent upon others for survival.

You probably heard about the plant nursery here in Tucson which was recently stopped by concerned biologists from uprooting 97 trees from a 67-acre site in the heart of pygmy owl country. The debate continues as to how endangered the pygmy owl has become. The latest we hear is that all developers must check if there are any pygmy owls living on land under 4000 ft altitude where development is proposed, if there are palo verdes, mesquites, ironwoods and saguaros over a minimum size growing on that land.

It was reported in the Tucson Citizen of December 19 that a forum will be held on the status of the endangered cactus ferruginous pygmy owl on January 7, 1998, at 7 p.m. As we go to press, the location has yet to be determined. For more information, call U.S. Rep. Jim Kolbe's Tucson office at 670-5210.



A Wild Goose Case?

Arizona is not the only place where people will go to great lengths to protect birds to aid their survival. In France, a microlight pilot took 12 barnacle geese under his wing, literally. The geese flew under his microlight wing with him, protected from hunters, for the 400-mile migration flight north to their winter sanctuary in the Grande Brière area of Brittany, Northern France. The pilot fed them, swam with them, slept with them, and even taught some of them to fly on their eight-day journey from the southern edge of the Massif Central to their winter sanctuary on the Atlantic coast. They flew for about three hours a day at an average speed of 35 mph.

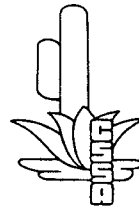
A lovely tale - and a superb photograph of the pilot flying with seven of his feathered charges recently made the front page of *The Weekly Telegraph* - Britain's global newspaper.

Plants for the Southwest

Gene Joseph now has an e-mail address: <gjoseph@gci-net.com> - this address may be useful for you to enquire about plants.

TCSS e-mail addresses & '98 dues

There are now 30 members who use e-mail amongst us. It is planned to circulate members' e-mail addresses by e-mail to those in the TCSS who have it, after the rest of the dues (renewals) come in. If you haven't yet renewed for 1998, or can't find the renewal notice Dick sent to you, please use the form on the inside back cover of this issue. If you don't know whether your dues are due, check mailing label - if it has 1998 above your name, please ignore this reminder. If you joined late in 1997, your dues will carry you over to end of 1998.



CSSA Journal

The contents of the January/February 1998 issue of the CSSA Journal were given in the last issue of **Desert Breeze**, with details of how you can join the Cactus and Succulent Society of America, Inc.

Eriococcus coccineus, Cockerell

It was reported recently on the Internet that *Eriococcus coccineus*, Cockerell, had been found on an unidentified cactus in the U.K. It had previously been intercepted on a cactus imported to U.K. in 1985, but it appears that this recent finding is the first time it has been known to breed in U.K. This pest belongs to the family *Eriococcidae* in the order *Homoptera*. Its common name is "cactus felt scale". Originating in North America, it is considered to be an economically important pest of cacti and can kill susceptible cacti unless control measures are taken.

A brief description was put out by a representative of the U.K. Central Science Laboratory to aid identification of this pest:

"Adult females are oval, rotund, and vary in colour from dark grey to deep bluish-purple. Short, delicate, translucent wax filaments are present around the margin and sparsely on the head and thorax. The insects lie very close to the plant surface and rarely move. At maturity, the adult females leave the feeding site and walk to the tips of the spines or off the host plant on to any adjacent surface, usually on to the plant pot, before producing the ovisac. They become completely encased in a characteristic loose waxy felt-like ovisac with a small opening at the posterior end. The adult females attain a length of 3 mm and a width of 2.5 mm."

Question: Is this the *mealy bug/scale* seen all over Tucson on roadside opuntias? It seems particularly prevalent on the *Opuntia santa-rita's*. Perhaps some of our local botanists or entomologists would comment.

Politically Correct Santa

Twas the night before Christmas and Santa's a wreck...
 How to live in a world that's politically correct?
 His workers no longer would answer to "Elves,"
 "Vertically Challenged" they were calling themselves.
 And labor conditions at the north pole
 Were alleged by the union to stifle the soul.

Four reindeer had vanished, without much propriety,
 Released to the wilds by the Humane Society.
 And equal employment had made it quite clear
 That Santa had better not use just reindeer
 So Dancer and Donner, Comet and Cupid,
 Were replaced by four pigs, and you know that looked stupid!

The runners had been removed from his sleigh;
 The ruts were termed dangerous by the E.P.A.
 And people had started to call for the cops
 When they heard sled noises on their roof-tops.
 Second-hand smoke from his pipe had his workers
 quite frightened.
 His fur-trimmed red suit was called "Unenlightened."

And to show you the strangeness of life's ebbs and flows,
 Rudolf was suing over unauthorized use of his nose
 And had gone on Geraldo, in front of the nation,
 Demanding millions in over-due compensation.

So, half of the reindeer were gone; and his wife,
 Who suddenly said she'd enough of this life,
 Joined a self-help group, packed, and left in a whiz,
 Demanding from now on her title was Ms.

And as for the gifts, why, he'd ne'er had a notion
 That making a choice could cause so much commotion.
 Nothing of leather, nothing of fur,
 Which meant nothing for him. And nothing for her.
 Nothing that might be construed to pollute.
 Nothing to aim. Nothing to shoot.
 Nothing that clamored or made lots of noise.
 Nothing for just girls. Or just for the boys.
 Nothing that claimed to be gender specific.
 Nothing that's war-like or non-pacific.
 No candy or sweets...they were bad for the tooth.
 Nothing that seemed to embellish a truth.

And fairy tales, while not yet forbidden,
 Were like Ken and Barbie, better off hidden.
 For they raised the hackles of those psychological
 Who claimed the only good gift was one ecological. >

Welcome new members:

Jack Ramsey has joined up Helen, his wife, as a member also.
 Barbara Harow has joined with Marty too for this year.
 Sue Haffner, the CSSA Seed Chairman, has been receiving a complimentary copy of the **Desert Breeze** for some time and has now joined us.
 Welcome to you all.



1998 Meeting Dates for TCSS

Our regular monthly meetings are held at the Tucson Botanical Gardens, 2150 N. Alvernon, Tucson AZ 85712 usually on the first Thursday at 7 p.m. Here is the schedule we have booked with the TBG for 1998:

January 8	February 5
March 5	April 2
May 7	June 4
July 2	August 6
September 3	October 8
November 5	December 13 (Sunday)

When you're sitting around after the holidays, wondering what to do, just enter these dates into your new calendar for 1998.



No baseball, no football...someone could get hurt;
 Besides, playing sports exposed kids to dirt.
 Dolls were said to be sexist, and should be passé
 And Nintendo would rot your entire brain away.

So Santa just stood there, disheveled, perplexed;
 He just could not figure out what to do next.
 He tried to be merry, tried to be gay,
 But you've got to be careful with that word today.

His sack was quite empty, limp to the ground;
 Nothing fully acceptable was to be found.
 Something special was needed, a gift that he might
 Give to all without angering the left or the right.
 A gift that would satisfy, with no indecision,
 Each group of people, every religion;
 Every ethnicity, every hue,
 Everyone, everywhere...even you.
 So here is that gift, its price beyond worth...

"May you and your loved ones enjoy peace on earth."

Author unknown

Paul Shaw and Betty Blackburn

“Betty Blackburn is fine and in really good shape now”, said Paul Shaw during a Christmas call. “Betty was not her usual self for about two years, but is in good spirits again now, I am glad to say. And she would be delighted to have members from our Society visit her if they are in the area, particularly those she will remember.” Betty, who will be 88 years young in the spring, is now at Sunset Haven #33, 9246 Avenida Miravilla, Cherry Valley, CA 92223. Betty and Paul are two of our Life Members, and were among members shown in the photographs projected at our Christmas Party.

Paul and his wife have just moved from Albuquerque to Goleta and didn't want to miss the next **Desert Breeze!** Their new mailing address is PO Box 1963, Goleta, CA 93116 and telephone number (805) 692-8823. Paul's wife is working with the Los Padres National Forest. Did you know that **Desert Breeze** got this name from Betty Blackburn? Betty won the competition for choosing a new name for the TCSS newsletter.

Paul Shaw was working at the Arizona-Sonora Desert Museum in 1952. In those early days, Arthur Pack, who with his wife Phoebe, were co-founders of the Museum, supported it with their private funds. In 1963-70 Paul was Curator of Plants at the ASDM. [Did you see the book “I see ‘em at the Museum” which Arthur Pack ghostwrote for George L. Mountainlion in 1954?] Before leaving Albuquerque recently, Paul gave his collection of plants to the new Albuquerque Botanical Gardens, formed only two years ago. He sends his love to all his old friends in the TCSS he remembers well: Norma, Myrtle, Harrison, Dan Birt et al. He has happy memories, too, of hearing Harrison play his piano composition “Cardboard Mountains” at the CSSA Convention in Albuquerque in 1967. *Play it again, Harrison, for us!*

Board Meetings for 1998

Atentative schedule of dates for TCSS Board Meetings has been set up as follows:

January 13	February 12	March 26
May 21	August 20	November 19

All at 7 p.m. at the College of Pharmacy, Mabel and Warren.

Please make a note of these dates, although reminders will be sent to you a few days beforehand. And please... if you cannot attend, do make a telephone call to Dick on 885-6367, or Carol/Maury on 908-9001, or communicate some other way!

If too few attend, we do not get a quorum, so that decisions have to be left over until the next meeting.

And, anyway, your Secretaries do not wish to drive all the way into town, only to find that we can't function as a Board because we didn't know that YOU weren't coming.



The Christmas Poinsettia, aka Euphorbia pulcherrima



Poinsettias are the plants we see everywhere in the stores around Christmas time. They are usually described as having green leaves with some giant red leaves, sometimes cream, but the cream variety is much less common.

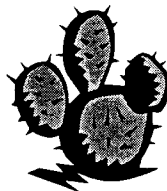
In *The Euphorbia Journal*, Volume 10, Piotr Lawant and Renée Suintjens describe *Euphorbia pulcherrima* as being non-succulent, but drought tolerant. Their article is about Euphorbias which have been introduced to the Canary Islands. Lawant and Suintjens state that “Seedlings of *Euphorbia pulcherrima* can be seen everywhere.” This species originated in Mexico and later migrated to the Canaries where it can also be found growing as “immense trees.”

After the holiday season, the plant will lose its brilliant red (or cream) color. Keep it going by giving water before it dries out completely. When the red fades and the plant is all green, cut it back, and feed it occasionally during the summer months, when it will benefit by being reported.

If it is still alive by the late summer, you may wish to encourage those brightly colored leaves again. The simplest way is to place a cardboard box over it so that it spends about 60% in every 24 hours in the dark. At the end of September, say, put the box over it at 6 p.m. and uncover the plant at about 8 a.m. the next morning. This will give it more darkness than it would get from natural sources in this part of the world. Adjust hours to fit YOUR schedule - it may not be a good idea to let the plant rule your life! (Though, lots of us do let plants rule our lives, don't we?)

Opuntias As Food

Many of us are interested in the economic uses of cacti and other succulents - remember the enthusiasm at our November talk on the uses of Hesperaloe fiber?



The Professional Association for Cactus Development (PACD) has recently announced the publication of its 1996 Journal. It consists of 120 pages of 15 articles in 6 categories. These include the uses of cactus for feeding livestock; the breeding and genetic improvement of cactus varieties; medical aspects of cactus; economic assessments of fruits and nopalitos; and so on. “The goal [of the PACD] is to foster meaningful dialogue among all aspects of development of the cactus industry.” This technical journal contains research papers covering the widely diverse uses of cactus products. There are many chemical analyses too, but don't let that put you off this unique, and interesting, read. Did you know that cactus was a staple food in west Texas 8000 years ago? Read it and believe it! To purchase a copy, send \$13 check to PACD, 11335 Crestbrook Dr., Dallas, TX 75230. Tel: (972) 480-7913

Please use this form, or copy it, to renew your membership or start a new membership.

Tucson Cactus and Succulent Society

1998 Membership Form

Name(S) (F, Mi, Last) _____

Address _____

City _____ State _____ ZIP _____ - _____

Home telephone (____) _____ - _____ Work telephone (____) _____ - _____

Fax (____) _____ - _____ e-mail _____

Life \$500 _____ Family \$20 _____ General \$15 _____ Student (18 and under) \$10 _____

New Membership _____ Renewal Membership _____

Dues run from January 1 through December 31 each year.

Please make checks payable to TCSS, and mail with completed form to:

TCSS Membership Secretary, Maury Clapp, PO Box 91560, Tucson, AZ 85752-1560

You Love Epiphyllums?

Some of you do! Here are brief details of some journals published especially for enthusiasts of epiphytic cacti.

Epiphytes is published in England. It is mostly about cacti, but sometimes has articles on other epiphytes such as orchids and bromeliads, too. Subscriptions cost \$14 a year and can be paid to: Dick Kohlschreiber, 1801 W. 27th Street, San Pedro, California 90732-4601. Also call Dick on (310) 833-6823 if you want information on the South Bay Epiphyllum Society which meets in Palos Verdes, CA.

EPIG is a German journal for collectors of epiphytic cacti, is written (presumably) in German, but it does have good color photographs. The Fall '97 issue was devoted entirely to Schlumbergera. This Journal costs about \$25 a year. It is recommended that dollar bills are sent registered, (this avoids conversion fees) to: Kirsten Pfeiffer, Lohkoppelweg 31A, D-22529 Hamburg, Germany.

The San Diego Epiphyllum Society - details from Gerald Williams at (619) 599-1117, or see the TCSS website link. Newsletter name *Epi News* - Editor, Pat Neal (619) 565-0340. Try <http://www.surfnfax.com/epi/journals.html> for more info.

The San Francisco Epiphyllum Society also publishes its own bulletins.

Details from: Gary Ware, 70 Laidley St., San Francisco, CA 94131-2733, or call (415) 826-4390.

Epiflora is the name of the good quarterly magazine of the Wellington Epiphyllum and Hoya Society of New Zealand. Overseas membership is US\$12.00 or NZ\$18.00. Requests may be made to Roy Griffith, Editor, Wellington Epiphyllum and Hoya Society, c/o 82 Kinghorne Street, Wellington, New Zealand.

For details on the Epiphyllum Society of America, CA. call Raymond Eden (310) 438-4554.

Thanks to friends on the Internet who supplied this information.

NEXT MEETING - JANUARY 8, 1998, at 7 p.m.

Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson, AZ 85712

Bob Webb

The Longevity of Succulents in Baja

At our next meeting (on the second Thursday this month due to New Year's Day being on our usual meeting day of the first Thursday), we are delighted to be having TCSS Member, Bob Webb, as our speaker. Bob will present a preliminary look at a repeat photography project in the desert regions of Baja California. Many photographs of landscapes and the terrain will be included, focusing on plant demography, life spans, long-term change, and future prospects for the desert environment in Baja.

Bob Webb has a Ph.D. in Geosciences from the University of Arizona. He has published extensively on geomorphology, plant ecology and environmental change in deserts. Currently, he is working with Ray Turner to update *The Changing Mile*, a classic book on environmental change in the Sonoran Desert, and wrote *Grand Canyon, A Century Of Change*, for the U of A Press in 1996. Come and enjoy!



Refreshments by those with family names beginning with N - R .

Desert Breeze

Volume 3, Issue 2
FEBRUARY 1998

BRUCE BAYER
IN TUCSON
JUNE 1998
BRUCE'S
PRESENTATION
WILL BE ON
JUNE 25
SEE P. 3 INSIDE

TCSS DISPLAY
OF PLANTS
at Tucson
Botanical
Gardens
April 4 and 5
DISPLAY!
SALES!
AND MORE



SONORAN 2

OCTOBER 23 - 25, 1998

Venue: Holiday Inn Palo Verde

4550 S. Palo Verde Blvd. – Tucson, Arizona 85714

Tel: (520) 746-1161 – FAX (520) 741-1170

Newly renovated and beautifully located on 8 1/2 acres, an outstanding conference hotel with 299 rooms, including 51 two-room suites. The early Spanish design reflects Tucson's heritage and is enhanced by lush plants and a magnificent waterfall in the lobby. Outdoor, heated swimming pool, whirlpool, sauna, and so on. Anyone for tennis? You may experience all of the pleasures and excitement of the "Old West" combined with the comforts of a first-class hotel, and keep fit at the same time. The Holiday Inn Palo Verde is centrally located between the Arizona Sonoran Desert Museum, Old Tucson, Saguaro National Park, Colossal Cave and the Pima Air Museum. Bring your family - while you are enjoying our workshops, they can be out visiting with their interests.

Adjacent to I-10, four miles from Tucson International Airport, ten minutes to downtown Tucson and University of Arizona. Complimentary transportation to and from airport and the El Con Shopping Center.

And car parking is FREE.

See more on page 3 inside

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Tucson Cactus & Succulent Society
Founded 1960

OFFICERS AND BOARD 1998

PRESIDENT: Richard Wiedhopf 885-6367
VICE-PRESIDENT: Margaret Pope 795-1285

SECRETARIES:

Carol and Maury Clapp 908-9001

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(terms expire December 31 of year indicated)

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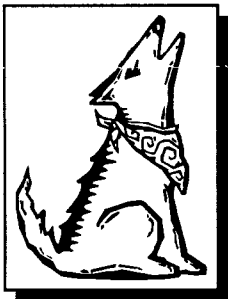
Al Coritz 2000

Lois Ladwig 2000

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Tucson, AZ 85752-1560

The **Desert Breeze** is the Newsletter
of the Tucson Cactus & Succulent Society.

Please send your copy by the 20th of the
month preceding the following month's issue
to the Editor.

TCSS Web Page

<http://www.desertcactus.com/tcss/>

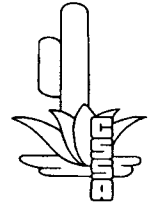
TCSS WEBMASTER: Lois Ladwig

e-mail: lois@desertcactus.com

Items for possible inclusion on our web page should
be sent to <kitfox@azstarnet.com> for consideration.

Tucson Cactus & Succulent Society Has New Affiliate Representative to The Cactus & Succulent Society of America

Desert Breeze Editor, Carol Clapp, has
been appointed as Affiliate Representa-
tive to the CSSA. Thanks are due
to Norma Beckman who has held
this position for some years for all the
work she has done. Unfortunately
Norma's health makes it difficult for
her to carry on in this position, but we look
forward to seeing her at meetings very soon now.



Some Dues Are Overdue.

Most of the 1998 dues are already in. THANK YOU.
But there are still quite a few which have not yet been
received. Think what you will be missing if you do not
renew. Please check your mailing label. If you've sent
your check but have not yet got a current membership
card, please let Maury know on (520) 908-9001.



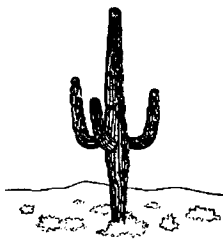
THE SCRATCHING POST

GOT SCRATCHED AWAY

Accommodation Special!

SONORAN 2**OCTOBER 23 - 25, 1998****TUCSON ARIZONA**

Accommodations at the Holiday Inn Palo Verde are available at our special rate of \$69 per night for single, double or twin room, or \$79 per night for a poolside suite.



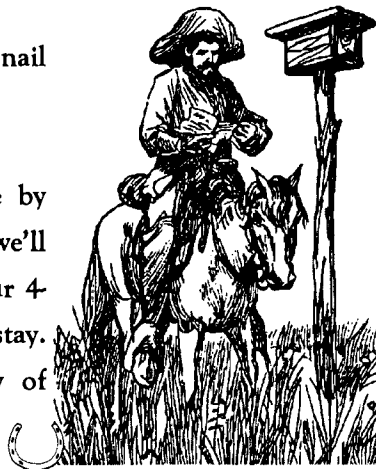
The mean temperature in October - a wonderful time of year in Tucson - is 64 degrees.

We are planning a weekend for you of fun, good food, and lots of hands-on plant activities. Our 'assembly' of excellent workshop leaders and interesting speakers is building! See future issues and our web page.

If this is not your personal copy of the Desert Breeze and you would like to receive mailings about Sonoran 2, please let Carol Clapp know. Address and phone and e-mail on page 2.

Don't miss out on your snail mailed Desert Breeze!

And if you travel here by mule team or horse, we'll find somewhere for your 4-footed friends to stay. They'll get plenty of company here too.

**CALENDAR**

- February 5 TBG 7 p.m. See page 10.
 March 5 TBG 7 p.m. James Pickering on Discocactus.
 March 27-29 Desert Restoration Class, see p.7
 April 2 Meeting at TBG 7 p.m.
 April 4 and 5 TCSS Display and Sale at TBG, set-up on Friday April 3. Call Margaret Pope on 795-1285 with your offer of help.
 May 7 Check for revised venue, this meeting only.
 June 6-7 San Diego C&S Show, Balboa Park.

June 25 **BRUCE BAYER** from South Africa. Bruce is a world authority on plants, particularly *Haworthias*, about which he is about to publish an eagerly awaited book. Hopefully the book will be available on his USA tour in June this year. His presentation, hosted by the Tucson Cactus & Succulent Society, will be on Thursday June 25 at the College of Pharmacy Auditorium in Tucson at Mabel and Warren.

Oct 23-25 **SONORAN 2** - More to the left and on the front page about this TCSS-sponsored Grand Event.

Nov 5-9 1st International Conference on Cacti & Other Succulents to be held on the Rock of Gibraltar. Conference Organizers are Brian and Sally Lamb and John Lavranos. Brian Lamb is Curator of the Gibraltar Botanic Gardens which you will be able to visit.

Speakers already booked are Richard Dight, Susan Holmes (UK), Prof. I. Hourani (Morocco), Brian Lamb (Gibraltar), John Lavranos (Portugal and S. Africa), Dr. Seymour Linden (USA), Juan Mora (Spain), and Myron Kimnach (USA).

See the succulents which grow wild on Gibraltar - naturalized and endemic, including the large succulent tree *Phytolacca dioica*. Optional sightseeing tour to see the history of this British Colony, from the 100 ton gun, The Great Siege Tunnel (started in 1779) where President Grant dined, to other attractions such as St. Michael's Cave and the famous Barbary Apes. Special package deals have been organized including an additional field trip to Southern Morocco. There should be many plants in flower in November - an added incentive for participants.

For more information please write to:

Brian Lamb, PO Box 561, PMB 6152, Gibraltar.

FAX: +(350) 42465

or e-mail Gibraltar Botanic Gardens on:

<wildlife_gib@compuserve.com>

Note: Desert Breeze Editor will have more information available at next TCSS meeting.

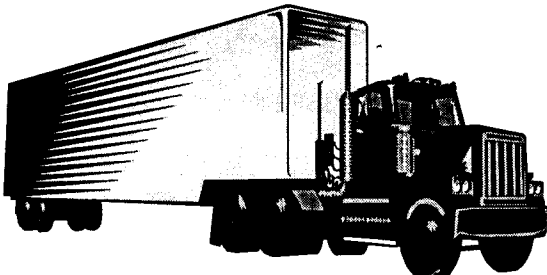
Moving Mabel

by Gene Joseph,
Plants for the South West

After 12 years at Mesa Gardens in Belen, New Mexico, Steven Hammer, locally known as 'Mabel', moved to Vista, CA. At the end of October '97, Jane and I helped him make this monumental move.

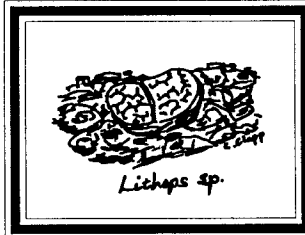
We had arranged with a cactus nursery from Texas to drive one of their 18 wheelers to Belen where we would load and then deliver the plants to Vista. I arrived in Belen the night before loading to near freezing temperatures. The truck arrived on Saturday morning at 5:00 a.m. and Sam, the driver, proceeded to maneuver his way into the driveway, making our carrying distance as short as possible. As soon as it was light, we started the big move.

There were several people loading pots into flats, several more people carrying flats to the truck and finally several more of us building shelves in the truck and loading flats onto them. All told, there were over a dozen people involved throughout the day, helping their friend 'Mabel', and participating in one of the more incredible plant moves of the century. This was probably the greatest concentration of different species of Mesembs anywhere in the world - ever. We filled the 52 foot long trailer, with 5 layers of shelves, front to back. Almost as an afterthought, we loaded all of Steven's personal belongings into the 'belly boxes' of the truck in about ten minutes. Driver Sam was getting a little nervous because of the weight of the flats. He was used to flats containing peat moss and perlite (very light) whereas these flats were full of 'Mabelmix'. If you've never seen it, 'Mabelmix' is the material that is piled up on the side of the dirt road after the blader comes by and it is HEAVY! It also goes against all of the rules of a good cactus mix, but the plants grown at Mesa Gardens are some of the



nicest grown anywhere. In the end, we had loaded only 30,000 lbs. of plants into the truck that had a legal capacity of 42,000 lbs.

The truck left New Mexico late in the evening, to arrive in Vista early Monday morning. 'Mabel' and I left at about the same time, stopping in Tucson to spend Saturday night and to pick up Jane. We arrived in Vista Sunday evening and began to unload plants Monday morning. We hired some temporary day help and surprised ourselves in unloading the entire truck in about three hours. All the plants were put into a new 2500 sq. ft. greenhouse and they looked great.



Two and a half months later, we visited Hammer and his plants at their new location. He has had time to organize the collection and it looks even better than before. He left duplicates of most things with Steven and Linda Brack at Mesa Gardens. They will continue to offer seeds and plants of this wonderful group of plants.

Steven Hammer is developing a mail list and will ultimately offer plants for sale of this collection of Mesembs, Haworthias, Bulbines, Gasterias, Asclepiads, and other succulent species from the South African deserts that he loves.

Steven's e-mail address <sphaeroid@juno.com>

Gene's e-mail address <gjoseph@gci-net.com>

Congratulations Arlene

Member, Arlene Sweedler, was honored recently as one of the Volunteers of the Year at Tohono Chul Park, along with fellow Northwest Side resident Connie Owen, and Karen and Chuck Jonaitis who have enjoyed sharing the Sonoran desert with newcomers to the area for the past five years.

Well done, Arlene!

TCSS Listserv Now Active

by Lois Ladwig, TCSS Webmaster

Welcome to the Tucson Cactus and Succulent Society information exchange (tcss-list).

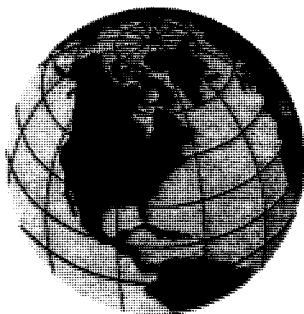


The TCSS listserv <tcss-list> is now active. All members who have given their e-mail address to the Membership Secretary, Maury Clapp, will automatically be included and should have received a welcome message to the list detailing simple commands for using the list. If you have e-mail and were missed in this bulk membership sign-up, you can join the list as described below. We would like to have as many members as possible participate to increase the fun.

This list is designed to provide members of the Society who have e-mail service quick and easy communication with other Society members. Posting a message to the list will send a copy to all others on the list. In order to limit the list to TCSS members, persons sending a "subscribe" message to this list must be approved by the list manager.

Wide ranging discussions and information exchanges are encouraged. The list will not be moderated.

1. In the description below items contained in []'s are optional. When providing the item, do not include the []'s around it.
2. Commands should be sent in the body of an e-mail message to <majordomo@desertcactus.com>
3. NOTE: Commands in the "Subject:" line are NOT processed.



To POST MESSAGES to this list - send e-mail to:

<tcss-list@desertcactus.com>

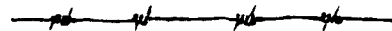


To SUBSCRIBE to this list - send an e-mail to:

<majordomo@desertcactus.com>

Do not enter a subject line. In the body of the mail enter the following:

subscribe tcss-list [<your e-mail address>]

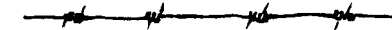


To UNSUBSCRIBE from this list, send an e-mail to:

<majordomo@desertcactus.com>

Do not enter a subject line. In the body of the mail enter the following:

unsubscribe tcss-list [<your e-mail address>]



QUESTIONS OR PROBLEMS associated with the use of the list should be directed to Lois Ladwig at:

<tcss@desertcactus.com>



Get with it. . . YOU might just have a ball with this one.

IN THE NEWS...

Pygmy Owls Draw a Crowd



There was standing room only when about 500 local people attended the public forum on January 7 at St. Mark's Methodist Church on West Magee to learn about the status and implications of the current public policy on attempts at saving endangered species versus developers who want to scrape the land and put up buildings.

There are known populations of the Cactus Ferruginous Pygmy Owl in Texas and Northern Mexico, but at the northern edge of their territory, only 12 were seen in Arizona in 1997.

Congressman Jim Kolbe led the discussion which was intended to clarify the policy. Speakers who interpreted the current policy for the benefit of those attending the forum included Dan Ashe from Washington D.C., U.S. Fish and Wildlife Service; Dr. Bruce Taubert of the Arizona Game and Fish; and Jim Mazzocco, Planning Official for Pima County. The second part of the forum elaborated on the issues and concerns of people and organizations involved with the current predicament of the owl which is known to reside in an area of land bought for the building of a school, and the predicament of the School Board which purchased the particular piece of land in question. Speakers on these issues included Kieran Suckling of the Southwest Center for Biological Diversity; Alan Lurie, Southern Arizona Home Builders Association; Craig Miller, Defenders of Wildlife; Gary Woodward, VP, Amphitheater School Board; and Dr. Bill Shaw, Professor and Chair, University of Arizona Wildlife and Fisheries Science.

Q & A followed. It was appreciated by all that schools have to be built and the question was put forward,

"Would anyone like to exchange a suitable piece of building land where the owl doesn't live with the land which had been purchased for the building of the school, which lies in the owl's endangered habitat?"

Congressman Kolbe had requested that calm should prevail during this gathering, but some answers provoked a lot of noisy support for each side of the argument. However, it was noticeable that the loudest and strongest support was for the pygmy owls rather than the pockets of developers.

It was gratifying to know that so many people are willing to stand up and fight to protect our wild life, both fauna and flora. Once a species is lost, it is lost for ever.

*Carol and Maury
(who stood up for 3 hours that evening)*

A New Name for The CSSA Journal?

- a summing up by the Desert Breeze Editor

There has been some lively discussion on the Internet recently on whether or not *The Journal of the Cactus and Succulent Society* [of America] should be renamed.

The long-time argument continues - are cacti and succulents different kinds of plants? Using the word *Succulent* in the title, does it imply that a cactus is not a succulent? There was a claim by some of the scientific members that *Cactus and Succulent* is an unscientific name. Why not call it by a name that refers to all succulents including cacti, such as *Succulenta*, the name of a European journal which covers both cacti and succulents. Others think that would indicate to non-scientists that the journal had nothing to do with cacti. Similarly, how about *Kaktusy* - is that only about cacti? According to my unabridged dictionary, one of the meanings of *organ* is: "a newspaper, magazine, or other means of communicating thoughts, opinions, etc., esp. in behalf of some organization..or the like", which describes exactly the *Journal of the Cactus and Succulent Society*. While this word was described as "vulgar" by some, others thought it a correct term for a journal. And why change a name which has been good for 69 years, and is not broken? Others claimed the name is broken.

I think that Paul Long of the Cactusflat Nursery in San Jose in just a few words sums up the thoughts of many. With his permission, I quote part of his contribution to cacti_etc:

"I think that the name Cactus and Succulent Journal is not automatically illogical, as the use of the word 'and' does not automatically imply irrevocable differences between the words it is situated betwixt. What about the title 'Fish and Game', used in many states in the U.S. for the department that controls hunting licenses, and etc.? Is Fish not Game? However, it doesn't take a degree to realize that Game isn't always Fish. I think that when a person says 'Cactus' or 'Cactuses', or 'Cacti' it is obvious to what they are referring. And when someone says 'Succulent', it is obvious that they are talking about non-cacti succulents. I couldn't help noting that the term 'organ' is too risqué for some modern people, when 'organ' is another name for mouth. As far as eliminating the use of 'journal' or 'newsletter', pick up a 'newspaper' that doesn't have the word 'news' printed on the front page."

Do we really need to think about a name change? The CSSA Journal is a highly respected journal worldwide, and considered sufficiently scientific to be the organ through which new species may be published. The present name indicates to the majority of people what it is all about. To continue the high quality of the journal, we need to get more subscribers. Instead of a name change, how about a change in constitution? But maybe that would be too radical. In Britain, all members of the BCSS get their journal and belong to 'branches' of the BCSS. Here, we are members of independent local clubs and can choose whether or not to subscribe to the CSSA Journal. A greater number printed makes better economic sense. *Food for thought?*

Ed.

Desert Restoration Class

March 27-29, 1998

Submitted by Carol Wujcik <cawujcik@aol.com>

This is a class in practical conservation after human use. What works, what doesn't.

A weekend course in reclamation of Mojave Desert habitat (after mining and other use) is again offered for early spring 1998 at the Desert Studies Center in the Mojave Desert (just south of Baker on Zyzx Rd.). Last year three cactophiles from Southern California attended this course, one for credit. It was a wonderful experience. (For testimonials ask Long Beach Cactus Club, Orange Cty. C&S Soc., & San Gabriel Valley C&S Society members Frank DePew, Joe Stead, & Carol Wujcik.)

The course this year will be presented by Mike Eichelberger, Ph.D. (Toxicology/Molecular Biology from Utah State U., M.A. in Biology from Humboldt State U., & B.S. in Botany), a naturalist with a special interest in photography (and microscopy!). Dr. Eichelberger has been revegetation ecologist with the Viceroy Castle Mountain Mine since July, 1997, succeeding Ray Franson. The class has been reworked, and will have an orientation on plant physiology and how it relates to revegetation/restoration. This year they'll eliminate the "hard labor" portion of the mine visit (students trying their hand at actual restoration work at the mine). Instead there will be more tours while at the mine with discussions of reclamation techniques. Presentations will give supporting information, such as adaptations and survival strategies of desert plants.

Friday night begins the introduction to desert revegetation ("Why Reclamation/Restoration?"), and Saturday everyone travels to the gold mine itself for a lecture/presentation, lunch, tours of the nursery and greenhouse areas, and revegetation sites. Then it's back to Zyzx for dinner and a follow-up discussion. On Sunday, after breakfast, a presentation about the economics and politics of revegetation will engage you, sort of a reality check? Noncredit folk are then free to explore the desert or take off, while those taking the course for credit will take the exam. Most should be on their way in the early afternoon so as to arrive home at a good hour.

The class is scheduled for March 27-29, Friday-Sunday (8pm Friday, but earlier arrival, in the afternoon is recommended to get settled in and scout about the Center). Registration deadline is March 13, and class size is limited. There was a good-sized group last year which included all ages, from students to professionals to desert lovers to retirees to environmentalists. Those who attended last year may wish to repeat as the course is somewhat changed.

The course fee includes two nights' lodging, a snack Friday evening, and five meals starting Sat. am. The Center is spartan but wonderful. It includes adult size swings and, after lights out, incredible stars . . . not to mention delicious food ▼

Welcome New Member

Meg Quinn 624-7331
524 E. 4th St., Tucson, AZ 85705



1998 Meeting Dates for TCSS

Our regular monthly meetings are held at the Tucson Botanical Gardens, 2150 N. Alvernon, Tucson AZ 85712 usually on the first Thursday at 7 p.m. Here is the schedule we have booked with the TBG for 1998:

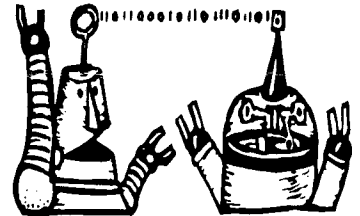
February 5	August 6
March 5	September 3
April 2	October 8
May 7	November 5
June 4	December 13 (Sunday)
July 2-cancelled	

Board Meetings for 1998

Atentative schedule of dates for TCSS Board Meetings has been set up as follows:

February 12	March 26	May 21
August 20	November 19	

All at 7 p.m. at the College of Pharmacy, Mabel and Warren. If you cannot attend, do make a telephone call to Dick on 885-6367, or Carol/Maury on 908-9001, or communicate some other way!



cooked there by the Desert Center "chef."

Cost: \$146/person for noncredit and \$226 for credit (2 units). Well worth it. The course # is BIOL 1008, sched. #12700V for credit of 2 units, or sched. #12701V for noncredit.

Note: Restoring the E. Mojave isn't quite the same as restoring Sonoran Desert. Learn what applies and what doesn't. Learn the politics of restoration (between a rock and a hard place, environmentalists and land use folk). It's all fascinating.

To request a bulletin, register or learn about other classes at the Desert Center (i.e. desert wetlands, painting the desert landscape, history, etc.) contact California State University, San Bernardino Office of Extended Education, by calling 909-880-5975, or e-mail them at <oe@wiley.csusb.edu>.

Their street address is 5500 Univ. Parkway, San Bernardino, CA 92407-2397. Note that the Desert Center itself is not close to San Bernardino; it's actually closer to Las Vegas, NV. The extended education bulletin includes maps. Special needs likely can be accommodated (i.e. veggie meals).

Carol and Joe Wujcik

Longevity of Plants in Baja

Summary of talk given by Bob Webb on Jan 8, 1998

Bob woke up in Logan Utah that morning so this had been a busy day! Bob was working in Death Valley many years ago and is happy to be working there again. The object of his talk was to show comparisons in growth, or otherwise, of plants using photographs taken 50 years or more ago and some taken more recently.

Bob and Ray Turner were asked by the Mexican Government to go to Baja to find out about the longevity of plants there. In two months they matched 350 photos taken many years ago with another taken recently of the same view. For example, a photo taken in 1914 by McDougal was compared to one taken in 1962 by J. Rodney Hastings. You could see how the *Pachycormus discolor* had grown, but many of the boojums (cirios) had gone. *Lophocereus schottii* was there too. The *Pachycormus discolor* had died back noticeably. They camped in beautiful terrain. Tequila and grapefruit juice is Ray's favorite drink - wonderful in Baja!

Bob covered the areas of Baja starting on the east coast, inland to Punta Prieta, over to the east coast again by Mulege, then inland to Comondu. Coastal regions of Gulf are usually very dry; hurricane Dora broke drought. Elephant trees, *Pachycormus*, are long lived. They tried to work with tree rings where the plants had been knocked over.

Near Bahia de Los Angeles, comparative photos showed *Jatropha cuneata* with *Lophocereus* - the *Jatropha* apparently living for 50-60 years. In many photos matched in 1996, little had persisted vegetatively. *Fouquierias* have been known to live for 280 years, but in Baja they were found to be living for only about 50 years. A recent photo of *Lophocereus* and cardon showed them to be growing in the same spots as in the 1905 photo. In some places, we saw photos taken in 1905, and nothing persisted 90 years later, not even cardon.

Inland to Laguna Chapala, full of water after hurricane Nora went through this past Fall. There had just been a freeze in that area, where *Ferocactus gracilis* (beautiful red spines) grows. Bob awoke there with frost on his sleeping bag only last May.

We saw photos of cirios in 1949 and again 50 years later. Cirios grow on older soil not on newly formed washes, few of them survived the 50 years, although there was 2 ft of growth on cardons in that time. Those cirios which survived the 50 years grew only about 2 ft in 50 years. Near Punta Prieta matching photos taken in 1930 and 1996 show a decline in cirio numbers. *Agave shawii* lives only 20 to 30 yrs. Dead stumps of agave are really persistent, their decomposition rate very slow, whereas dead cirios are gone in 5 yrs. Lots of variability in growth rate. Often big increases in numbers were seen of prickly pear and mesquite bushes. A lot of plants died in the last century.

Hurricane Nora did major damage recently, uprooted cardons, and ocotillos were knocked over more than anything else. They don't live as long there as in the Sonoran desert due to the

wind and regular storms. The high winds following the rains took the plants out. There are human impacts too, but less damage done by humans to plants in Baja than anywhere else in Bob's view. Some plants are used for thatching and building material. Native indians believe rustling in the night of some palms (including *Washingtonia*) are dead people moving about so they set them on fire.

On the hills, cirios were growing with *Agave shawii* and *Machairocereus gummosus*, an area of rich succulent flora. *Yucca whipplei* and *Myrtillocactus cochella* persist for 35 years. *Pachycormus discolor* also persists for many years. We saw amazing cardon forests. *Myrtillocactus* get very impressive nearer the coast. Clouds and fog come inland from the sea. *Agave shawii* lives only 30 yrs or so and is probably frost hardy and most likely able to survive in Tucson. *Tillandsia revoluta* was growing throughout the cardons; huge succulent flora in this area. Towards the Pacific coast, cardons are really tall and skinny, but big and massive on gulf side of peninsula. Sand dunes on coast look nearly the same today as in 1962. Around Mission San Borja area there is excellent flora too, tall cirios, *Pachycormus discolor*, cardons and *pedilanthus*, even monstrose *pedilanthus*. Here too at Cerro San Borja are organ pipes with *Fouquieria diguetii*, and *tillandsias* way up in the cirios. Bob showed us photos of a real mean mule - a white one who totally destroyed Bob's thermos. We saw *Fouquierias* and *Jatrophas* in the moonlight inland on a beautiful mesa. Lots of high winds, many cold temperatures, and the *Pachycormus* were squat and fat, beaten down by the weather. Almost prostrate in form. This is probably why they manage to survive for so long. *M. gummosus*, white flowers, flat spines, grows from west Baja coast to gulf side. This is the longest living cactus Bob has found - using the comparative photos, he has never seen a dead one. The mosquitos in a lake here are very hardy and were eating them alive. Nearby were *Jatropha cinerea*, *Lophocereus schottii*, and *Euphorbia misera* in its big form. Also here were *Agave simplex* and *Echinocereus brandegeei*, similar in some ways to *Opuntia invicta*. *E. brandegeei* grows in close association with *Euphorbia misera*, which is interesting medicinally.

Where the hurricanes hit the other side of the mountains, the torote (*Pachycormus*) look almost the same as in 1905 photos, very squat and nearly prostrate, as well as the *Fouquieria diguetii*, *Bursera microphylla* which all persist in protected sites. Wonderful scenery here around La Purisima and San Jose de Comondu, Baja Sur - a dry lake, beautiful *Ficus palmeri* - huge, see the roots coming down the steep banks. The biggest cirio which Bob saw was growing in a protected spot near Mission San Borja.



(Continued on page 9)

Use this form, or copy it, to renew your membership or start a new membership.

Tucson Cactus and Succulent Society

1998 Membership Form

Name(S) (F, Mi, Last) _____

Address _____

City _____ State _____ ZIP _____ - _____

Home telephone (_____) _____ - _____ Work telephone (_____) _____ - _____

Fax (_____) _____ - _____ e-mail _____

Life \$500 _____ Family \$20 _____ General \$15 _____ Student (18 and under) \$10 _____

New Membership _____ Renewal Membership _____

Dues run from January 1 through December 31 each year.

Please make checks payable to TCSS, and mail with completed form to:
TCSS Membership Secretary, Maury Clapp, PO Box 91560, Tucson, AZ 85752-1560

(Continued from page 8)

Bob and Ray reached the conclusion that high statted plants in Baja and Sonoran deserts are fairly short lived due to hurricanes often blowing them flat in many areas, proven by comparative photos. Short statted plants have long life in Baja as they don't get blown down. *Maybe the way to get plants to live a long time is to keep them caudiciformed!*

Bob and his colleagues expect to be publishing the results of their work in Baja with the Mexican scientists, in a few years time.

The meeting concluded with refreshments after the door prizes were won by our two newest 'lifers', Dan Birt and Dick Wiedhopf, and Jeff Trevas and Paul Magoon. The raffle prizes were taken home by Lucille Rosenstock and Alfonso LaScala.



Growing Cacti From Seed

by Dan Sims

More than twenty years ago I began collecting and growing hybrid Echinopsis. My first ones were Paramount Hybrids from Harry Johnson's nursery in California. I enjoyed the beautiful flowers each Spring and Summer from these plants. So . . . ten years ago I began cross pollinating, collecting seed and growing my own hybrids and that was when the fun of growing cacti was greatly enhanced. To grow a new and beautiful original flower is very gratifying and once you begin this process of starting new seed each Summer and have new flowers each Summer the fun continues year after year.

In 1997 I had approximately thirty new flowers; a few outstanding, some not so good but still a lot of fun. I grow mostly the globular echinopsis types

because they will typically bloom in two years from seed; whereas the columnar (*Trichocereus*) types take four to six years to bloom. Anyway, for those of you who have not tried growing from seed, I strongly recommend giving it a try and experience the joy of growing a flower from seed.



Dan Sims

NEXT MEETING - FEBRUARY 5, 1998, at 7 p.m.

Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson, AZ 85712

In alphabetical order, the TCSS presents:

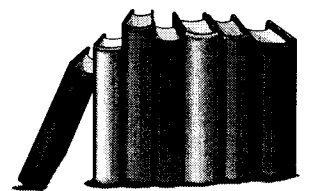
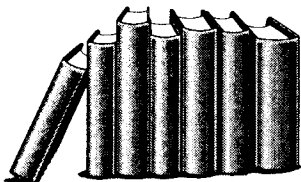
Dan Birt

Myrtle Ethington

and Sara Perper

on

The Library of The T.C.S.S.



Come and learn what your TCSS membership has to offer!

»» SHOW AND TELL IS RESURRECTED ««

Please bring along a cactus or other succulent in flower - tell us about it,
or ask about a problem it has - our experts will try and help.

Refreshments by those with family names beginning with S-Z and A-D

Desert Breeze

Volume 3, Issue 3

MARCH 1998

Sonoran 2

October 23 - 25, 1998 in Tucson Arizona

A Weekend of Practical Workshops, and Speakers too!

Theme: Plant Adaptations to Arid Lands

In alphabetical order, the following have been lined up so far
for your delight . . . and education:

Speakers:

Tony Burgess, Site Naturalist and Coordinator of Biomanagement at Biosphere 2;

Mark Dimmitt, Director of Natural History at the Arizona-Sonora Desert Museum;

Matt Johnson, Botanical Research Specialist for the Desert Legume Program
of the University of Arizona;

Meg Quinn, Educational Director of the Tucson Botanical Gardens;

Workshop Leaders:

Miles Anderson, owner of Miles' 2 Go Cactus Nursery;

Dan Bach, owner of Bach's Greenhouse Cactus Nursery;

Bruce Birt, Technology Consultant and owner of Advanced Business Solutions;

Gene Joseph, co-owner of Plants for the Southwest;

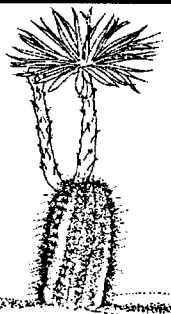
Michael Louie, Low Tech Tissue Culture;

James Pickering, 50 years+ of growing cacti;

Greg Starr, owner of Starr Nursery.

Plant Sales, Silent Auction and more.

See page 3 for more details and how YOU
can get on our mailing list for updates on **Sonoran 2**



TCSS Officers; Treasurer's Report for January; Register of Big Trees and the largest Saguaros	page 2
Sonoran 2	pages 1 and 3
Future Programs: TCSS and Other	page 4
A Brief History of TCSS; Welcome New Member; Desert Wildflower Watch	page 5
Phyllosticta Fungal Rot of Cacti by Matt Johnson	pages 6 and 7
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NEW PUBLICATIONS: <i>Pinguone, Kenya</i> ; Succulent Plant Trust Newsletter	page 9
About the Cactus & Succulent Society of America	page 10
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Tucson Cactus & Succulent Society
Founded 1960

OFFICERS AND BOARD 1998

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VICE-PRESIDENT: Margaret Pope 795-1285

SECRETARIES:

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(terms expire December 31 of year indicated)

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Julie Turko 1999

Dan Birt 2000

Al Coritz 2000

Lois Ladwig 2000

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Tucson, AZ 85752-1560

The **Desert Breeze** is the Newsletter
of the Tucson Cactus & Succulent Society.

Please send your copy by the 20th of the
month preceding the following month's issue
to the Editor.

TCSS Web Page

<http://www.desertcactus.com/tcss/>

TCSS WEBMASTER: Lois Ladwig

e-mail: lois@desertcactus.com

Items for possible inclusion on our web page should
be sent to <kitfox@azstarnet.com> for consideration.

TCSS TREASURER'S REPORT

for January 1998

The treasurer's report as of January 31, 1998
is as follows:

Checking account:

Previous balance	\$2720.36
Checks written.....	(\$886.50)
Deposits.....	\$279.87
Closing balance	\$2113.73

Savings account:

Previous balance	\$2761.33
Interest.....	\$7.62
Closing balance	\$2768.95

Arnold White, TCSS Treasurer

The American Forests' 1998
National Register of Big Trees

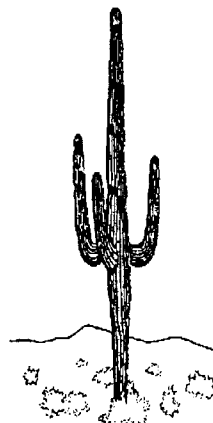
is expected to be available in late February.

This new register includes six Saguaros which are listed in a feature on Arizona's champion trees. Arizona has 59 national champions altogether, several of them in Pima County and Tucson. If you would like to purchase a 1998 Register, send your check for \$7.95 to:

American Forests
PO Box 2000 Washington,
D.C. 20013

Of the six champion Saguaros, two are in Pima County (one being near Tangerine Road in Oro Valley), three are in Maricopa County and the sixth is in Pinal County.

Let us hope that they will all survive the heavy rains we've had this winter. So many of the Saguaros are now leaning after the rains.



If you would like to know more about how big trees and Saguaros are measured for "Largest in the State" contests, the Tucson Garden Club is discussing this subject on Wednesday, April 15 at 1 p.m. at the Tucson Botanical Gardens. At this meeting, Joan Leonetti, Executive Director of "Tucson Clean and Beautiful" will be speaking on "Trees Along The Santa Cruz."



Sonoran 2

October 23 - 25, 1998 at Tucson Arizona

Venue:

Holiday Inn Palo Verde

4550 S. Palo Verde Blvd., Tucson, Arizona 85714

Tel: (520) 746-1161 * FAX: (520) 741-1170



Our Theme - *Plant Adaptations to Arid Lands* - will bring Tony Burgess, Mark Dimmitt, Matt Johnson and Meg Quinn, to you as speakers on growing cacti and succulents in desert areas; the plants of the Sonoran desert; succulents in Kenya, and more.

Workshops, with the chance of getting your hands-on, will be on varying practical subjects to help you learn about the latest techniques in growing, propagating and reproducing photos of plants. Miles Anderson will demonstrate the cultivation of caudiciforms from ground to pot; James Pickering on "How to start off your collection" especially for beginners; Gene Joseph will present two workshops, on growing Aloes and growing Lithops; Greg Starr will show how plant combinations in the landscape may be made using succulents, near succulents, shrubs and perennial wildflowers; Bruce Birt will present a workshop on the uses and capabilities of a photo scanner and computer printer; Dan Bach will show you how a nurseryman propagates plants commercially; Michael Louie will demonstrate a low-tech method of tissue culture which you can do at home.

All meeting rooms, lecture rooms, theater, workshops, eating, sales areas and show, are centrally located in the hotel, and handicapped accessible.

Special rates for rooms at the Holiday Inn Palo Verde
(please mention the Tucson Cactus & Succulent Society when making room reservations)
are \$69 per night, or \$79 for poolside suite per night.

For updates on programs for **Sonoran 2**, you may like to check our web page
<http://www.desertcactus.com/tcss/>

Registration forms will also be available on our web page at a later date.
Alternatively, contact Carol on (520) 908-9001; by FAX (520) 908-0396
snail mail: PO Box 91560, Tucson, AZ 85752-1560
or e-mail: kitfox@azstarnet.com
to get on our mailing list for updates and registration forms.

TCSS Steering Committee for Sonoran 2: Chairman: Dick Wiedhopf (520) 885-6367; Program Chair: Margaret Pope (520) 795-1285; Facilities Chair: Maury Clapp (520) 908-9001; Advertising Chairs: Cactus Societies: Carol Clapp (520) 908-9001 <kitfox@azstarnet.com>; Web Site: Lois Ladwig (520) 298-7358 <lois@desertcactus.com>; Newspapers, TV and local: Mary Odette (520) 749-2285; Vendors: Mary Odette (520) 749-2285; TCSS Sales and Consignment Sales: Linda Burbach (520) 647-3200; Plant Show: Linda Ryan (520) 299-2338; ably assisted by other members of the Tucson Cactus & Succulent Society.

The Tucson Cactus & Succulent Society, Inc. reserves the right to change the program if necessary.

TCSS Programs and Events

- March 5** 7 p.m. Tucson Botanical Gardens
James Pickering -
"Discocactus for the 21st Century"
 Supported by colored slides and individual plant handouts, James Pickering will explain why Discocacti are ideal windowsill houseplants. He will discuss their selection, care and propagation. Born in Burnley, England in 1929, James came to live in the United States in 1950 and is now a U.S. citizen. He has lived in Tucson since 1970. As a hobbyist, he has grown cacti for 58 years - specializing in Brazilian cephalic cacti for 40 years. Before retiring in 1988 he was a senior systems engineer with Learjet and Allied Signal. Why not explore James' web site before you hear his talk? <<http://members.aol.com/jamesicus>>
- March 10** **Sonoran 2** Sub-Committee 7 p.m.
 College of Pharmacy
- March 26** **TCSS Board Meeting** 7 p.m.
 College of Pharmacy
- April 2** Tucson Botanical Gardens. 7 p.m.
 On this occasion we will use part of our meeting to get ready for the **Display and Sale** at the Tucson Botanic Gardens on **April 4 and 5**; part of it to enjoy chatting and devouring the refreshments (S-Z and A-D); and part to enjoy Show and Tell. Please bring along your display plants for the weekend's Show. Plants suitable for landscaping are needed, plus specimen plants in pots to show the public what can be achieved when we give our plants some protection from the elements. Note: John Wiens, originally scheduled for this date is now speaking on June 4. See below.
- April 3** **Set-up for weekend show at TBG**
 Mary Odette 749-2285 is chairing this event so please call her for more details and with your offers of help. Displays and Shows are for YOUR benefit. We hope to gain more new members to spread around Society activities.
- April 4/5** **Display and Sale at TBG.**
 Held, by invitation from the TBG, in conjunction with their annual fundraising Home and Garden Tour. We need volunteers to be cashiers, for security, and to talk with visitors and answer their questions. *Many hands make light work.*
- May 7** **TCSS visit to Tumamoc Hill Laboratory -**
 details in future issues of *Desert Breeze*
- June 4** **John Wiens -**
Succulents of the Avra Valley Watershed
 Our regular monthly meeting at the Tucson Botanical Gardens.

June 25 **Bruce Bayer from South Africa**
 7 p.m. College of Pharmacy Auditorium, Tucson. More details in later issues of *Desert Breeze*. Everyone welcome.

Oct 23-25 **Sonoran 2** in Tucson Arizona!

Other Events in the Local Area

To April 22 **Animals of the Sonoran Desert -**
an Exhibition of Origami by Michael LaFosse. Arizona-Sonora Desert Museum Gallery, 2021 N. Kinney Rd., Tucson. (520) 883-2702
 From March 1 the Gallery hours will be extended - 8 a.m. to 5.30 p.m. Open daily; free with Museum admission. Michael LaFosse is an American master in the art of paper folding. For this show, he uses some paper handmade from desert plants.

Events Farther Afield

Below we list up and coming events of other groups which may be of interest to you. We suggest you check before travelling a long way in case of cancellations or other changes. Some events require reservations.

March 14 **John Trager**, Huntington Botanical Gardens, is speaking to the San Diego Cactus & Succulent Society at their regular monthly meeting at 1 p.m. in Room 101, Casa del Prado, Balboa Park. (Saturday) Copies of the San Diego C&S Society's newsletter are available at our monthly meetings. (619) 222-3216 for details.

June 12-14 **Midwest C & S Conference**
 Host: Omaha C&S Society
 Three days of seminars; Welcome to Omaha Party; Book signing Party; Rare Plant Auction; Open judging Plant Show; Banquet. Speakers include Miles Anderson of Tucson, Bruce Bayer from S. Africa, Chuck Hanson, etc. Further details from Roger and Nancy Brown (402) 779-3416 or e-mail them at <spinekeepr@aol.com> and identify "attention - Midwest Conference". Their flyer will be on display at our next meeting.

Aug 21-23 **11th Eastern Conference** hosted by the Greater Pittsburgh C&S Society. Their keynote speaker will be Ernst Specks of Exotica Nursery, Germany. Dan Bach from Tucson is just one of the good speakers who will be there. More details from Bob Smoley at <bsmoley@pgh.net>

A Brief History of the TCSS

Written by Dick Wiedhopf for the program of the biennial convention of the CSSA in Tucson in 1995

The *Tucson Cactus Club* was the dream of Cactus John Haage, Curator of Plants at the Arizona-Sonora Desert Museum. His position at the Museum provided him with an opportunity to talk with many local visitors. They convinced him in 1960 to advertise in the local newspaper, to invite the public interested in cacti to a meeting at his home on November 13, 1960. So many people attended that there was standing room only for this first organizational meeting.

Cactus John took charge and explained the object of the meeting; to form a club that would entail reading sessions, discussion groups and field trips. This club was organized among amateur and advanced hobbyists and collectors to promote interest in cacti, succulents, and other desert plants. In addition, the club would use its influence with local, state and federal governments to pass necessary legislation for the conservation of native desert plants wherever they grow. Not bad ideas for 1960.

In due time, a name for the club was decided upon: the *Tucson Cactus Club*. Officers were elected, with Dr. W.G. McGinnies as founding President. The Club was on its way. At every following meeting, more and more people joined. From the start, John Haage offered to deed the equity in his house and garden to the Tucson Cactus Club, with the stipulation that he could live there as long as he liked. Cactus John Haage passed away suddenly in 1962 without completing the land deed.



Sometime in 1962, the name was changed to the *Tucson Cactus and Botanical Society*, and more recently changed again to its present name, the *Tucson Cactus & Succulent Society*. There have been many notable members who have contributed locally, nationally and internationally to the knowledge and advancement of our Society and the study of cacti and succulents in general.

Have you noticed how much of our local talent goes to speak at conferences elsewhere in the world? Why not come to **Sonoran 2** in a few months' time and enjoy meeting lots of that talent, hear them speak on their specialist subject and learn from the workshops they lead - all at just one event?

Welcome New Member

Fonda Deloache 327-1179
3839 E. Calle Ensenada, Tucson, AZ 85716

Thank you, Peggy Hitner, for bringing your sister along to join our group.



Refreshments at TCSS Meetings

For our regular monthly meetings, we request that members take turns providing the light refreshments.

We do this by asking those with family names beginning with certain letters of the alphabet to bring along the food. This request is with the details for the next meeting - usually on the back page of *Desert Breeze*, below the mailing panel.



Desert Wildflower Watch

This spring is expected to be a wonderful year for wildflowers in the desert. The *DesertUSA Newsletter* gives reports which are updated regularly on parks in the south west, including the Anza-Borrego Desert State Park, Death Valley National Park, Joshua Tree Park and the Organ Pipe National Park. In their report on Death Valley, for example, the expected best weeks at differing elevations are listed. The newspaper reports that a yellow carpet of flowers is creeping up the mountain at Picacho Peak. Your editor hopes to get out and see some of these flowers between newsletters!

Number for the **Arizona Wildflower Hotline**, based at Phoenix Botanical Garden is (602) 481-8134 (Starts in March)

You may access regularly updated information at:
<<http://www.desertusa.com/wildflo/wildupdates.html>>

The *DesertUSA Newsletter* may be received online by sending a message to <digitaldesert@desertusa.com> with the word SUBSCRIBE in the subject line.



Phyllosticta Fungal Rot of Cacti by Matthew B. Johnson

One of the challenges of cultivating cacti and other succulents in areas where they are important components of the native vegetation is dealing with the natural predators, pests, and pathogens which are associated with these plants.

Especially for those of us who live in suburban and rural parts of the Tucson area, packrats, gophers, and other warm-blooded critters sometimes enjoy making meals out of our plants. With cacti, there are specialist insects such as the longhorn cactus beetle, cactus moths, and cochineal scale. Rodents and some insects can be excluded from a greenhouse or shade house. In the yard, rodents can be trapped but secure fencing is necessary to keep javelina away from particularly juicy morsels. Careful vigilance can help to reduce cactus beetle populations. The third category, pathogens or diseases, are often less obvious but can still present serious problems. Little is known about pathogens of cacti and other succulents and this can be frustrating when trying to protect our plants from them.

One of the pathogens which affects cacti is *Phyllosticta*, a genus of imperfect fungi in the Class Coelomycetes. *Phyllosticta* occurs naturally in southern Arizona, mostly affecting prickly pear cacti in the cool months when it forms black, somewhat circular spots on the pads. The tissue affected by the fungus is killed. With serious infestations whole pads and even portions of the plant may die. *Phyllosticta* apparently seldom affects other native cacti outdoors. I have noted only two minor occurrences on wild-growing *Echinocereus fasciculatus* in my yard.

Phyllosticta spreads by microscopic spores. These travel widely on air currents and may also be splashed around by rain. The spores germinate and hyphae likely enter the plant through the open stomates at night. Based on observations of plants in my shade house, the fungus appears to be most active under conditions with cool nighttime temperatures and high humidity levels, however, laboratory studies conducted by F.A. Gray and M.E. Stanghellini at The University of Arizona determined that temperatures of 77-82 degrees F were optimum for growth of *Phyllosticta* and that the highest levels of spore production occurred at 82-91 degrees F.

With cultivated cacti in a greenhouse or shade house, serious problems can develop. Many commercial growers around Tucson have had problems with this or a similar fungus causing damage and loss of plants. While I have experienced problems

with *Phyllosticta* mostly from late November through early March, some growers have had problems in the summer rainy season. *Phyllosticta* appears to become dormant in hot, dry weather. The tiny spores are able to pass through the shade cloth or screen of a shade house and can enter greenhouses through ventilation intakes. With globular cacti, *Phyllosticta* rot often begins on the stem near the apex. In species which are highly susceptible, it often kills the upper portion of the stem and can kill the entire plant. Plants which are not killed are usually disfigured to a point where they are not marketable and collection plants are no longer suitable for showing.

There is considerable variability in the susceptibility of cacti, both within a genus and even within a species. Some wild growing prickly pears seem to be essentially free of the fungus year after year, while an adjacent plant of the same species can be heavily infested. Cacti which are susceptible in a shade house may be more resistant outdoors. This may be due to a thicker epidermis resulting from being grown "hard" which may be more difficult for the spores to penetrate, or perhaps rainfall washes the spores off before they can disperse or before they can germinate on a new host plant. During the winter of 1996-1997, which had little rain but cool, humid nights, I experienced a severe outbreak of *Phyllosticta* with over 100 plants out of about 1000 plants becoming infected. This winter with a wet December and cool, humid nights, I have only observed six new infections on cultivated cacti outdoors and in the shade house, through the end of January. Additionally, plants growing outdoors are exposed to more intense sunlight which may lead to desiccation of germinating spores. Most infections on globular cacti growing outdoors at home have been on the north side of the stems. In the winter of 1996-1997, some highly susceptible cacti growing outdoors in containers and in the ground were infected, while so far this winter, the same plants have not had any problems.

While humid conditions seem to favor the fungus, I made a disturbing observation this winter. In an effort to avoid problems with several highly susceptible cacti, I moved these into the house in November where they have been completely dry, warm, and exposed to a couple of hours of sun each day. Despite this, five of the plants developed the characteristic rot and three of these have died. Two had previously been infected and had appeared to have recovered but the other three had been free of the disease. In many cases, plants are able to contain an infected area and eventually outgrow it without further problem. Some plants, however, are not. My

(Continued on page 7)

(Continued from page 6)

three original plants of *Thelocactus lausseri* and all eight plants of an accession of *Coryphantha macromeris* var. *runyonii* were seriously affected by *Phyllosticta* during the winter of 1996-1997. They all survived and grew vigorously during 1997. By mid-November, all of these plants again began to rot. All three *Thelocacti* died and two of the *Coryphantha* have also died with two more likely to join them soon.

Possible Measures to Reduce the Impact of *Phyllosticta*:

- a) It may help to trim affected portions of prickly pears growing near other cacti but since the spores travel by air, this may only reduce the concentration of the spores. In the greenhouse or shade house, remove infected cacti from the vicinity of healthy ones.
- b) Treat plants prophylactically with a fungicide applied with a sticking agent in late fall and at the beginning of the summer rains.
- c) The initial stages of infection can often be treated if caught in time. The infected area may be cut out and allowed to heal. An alternate method is to focus sunlight through a magnifying glass and char the infected area.
- d) Remove shade cloth from shade houses during the cool season to let in direct sunlight and raindrops. Shade cloth atomizes raindrops, reducing their effectiveness at washing off spores.
- e) Cover shade houses with plastic (convert them to greenhouses) for the cool season. Greenhouses are much better at excluding spores but if the spores are already present, it probably won't help much.
- f) Grow susceptible plants outdoors year round in as much sun as they can take or move them outdoors for the cooler months.
- g) Don't grow susceptible plants.

I grow a relatively limited number of species of cacti, most of which are from Texas and the Chihuahuan Desert region of northeast Mexico. The following list includes some of the plants with their apparent susceptibility to *Phyllosticta*. The degree of susceptibility is based primarily on observations of plants growing in a shade house.

Ancistrocactus scheeri -- resistant.

Ariocarpus -- all are resistant except for *A. fissuratus* which may be slightly susceptible.

Astrophytum -- *A. ornatum* is resistant while the others are moderately susceptible.

Coryphantha -- *C. missouriensis* and *C. sulcata* appear to be

resistant while *C. macromeris* is highly susceptible. *C. echinus* and *C. tuberosa* are slightly susceptible.

Echinocactus -- *E. grusonii* is resistant, *E. texensis* is slightly susceptible, *E. horizonthalonius* is highly susceptible.

Echinocereus -- most are susceptible with the rainbow types and *E. viridiflorus*/*E. chloranthus* group being highly susceptible. *E. pentalophus* appears to be resistant.

Echinofossulocactus -- *E. pentacanthus* and *E. zacatecasensis* are resistant.

Epithelantha greggii -- moderately susceptible.

Ferocactus -- *F. glaucescens*, *F. hamatacanthus*, *F. histrix*, *F. pottsii*, and *F. wislizenii* are resistant.

Glandulicactus uncinatus -- resistant.

Hamatocactus setispinus -- resistant.

Leuchtenbergia principis -- resistant.

Mammillaria -- milky sap taxa such as *M. compressa* and *M. heyderi* are resistant while watery sap taxa vary with *M. pottsii* slightly susceptible and *M. plumosa* resistant.

Obregonia denegrii -- highly susceptible.

Thelocactus -- all taxa are resistant or only slightly susceptible with the exception of *T. lausseri* which is highly susceptible.

Turbinocarpus -- moderately susceptible.

The observations and comments presented here are based on casual observation and should serve only as a general source of information. Additional studies of *Phyllosticta* are needed including determining effective control measures. I thank Scott Rasmussen of The University of Arizona Department of Plant Pathology for his determination of *Phyllosticta* infection from cacti in my collection.

Reference:

Gray, F.A. and M.E. Stanghellini. 1972. *Phyllosticta dry-rot of prickly-pear cactus*. Cooperative Extension Bulletin, College of Agriculture, The University of Arizona, Tucson.

Thanks, Matt, for writing this valuable article for *Desert Breeze*. Ed.

TCSS Web Page

Have you logged on to our web page yet? Over half our paid-up membership has access to e-mail now. The address:

<http://www.desertcactus.com/tcss/>

For TCSS Members Only

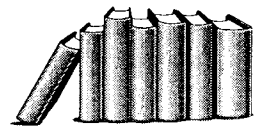
We have a listserv too - for members only of TCSS!

If you have recently gotten on-line, try joining in the communications on <tcss-list@desertcactus.com>

Thanks to our member and web master, Lois Ladwig, for setting up our now well-known and highly respected web page.



Notes on February TCSS Meeting by Cactus Carol



Dan Birt, aided by Myrtle Ethington, the librarian for many years, spoke about the TCSS Library. He pointed out that this program was **his contribution** to each director putting on one program during the year.

The early TCSS newsletter was the *Cactus Capital Chatter* magazine which was distributed around the world. A complete set of them is deposited at the Huntington Library, which indicates the importance of such periodicals. Myrtle was in charge of the library then, but had no money for books as the editor, Josephine Shelby, needed every cent for postages for mailing out the *Chatter*. In those days, they used tomato juice and orange juice cans for plants. After the cactus club sold some plants in the early '70's, Myrtle was given \$100 from the proceeds to buy some books. Was she thrilled?

Dan Birt went to the Science Library and read every journal of the CSSA since 1929 when the journals started. The staff there wished that every student be so diligent. Dan spoke on various authors, in general, and said that some had written books about plants growing in countries which they had never even visited - neither, in some cases, could they even take a passable photograph. "Books like that are not good books," in Dan's opinion. Then there are those members who like to ask questions at club meetings instead of going to a library. That is all very well - but how do you spell it? You need to know the country of origin of a plant. Does it grow in the northern or southern hemisphere? George Lindsay in his book *The Genus Ferocactus* describes which plants live with which other plants. This is an excellent book and helps us to learn which plants will grow here in the Tucson area.

There are some good books available now on succulents too. Again, what plant is it? Clive Innes and Charles Glass's book *Cacti* includes temperatures which is most useful. If it says 50°F, it is probably OK here. Only for two weeks of the year does the mean temperature fall below 50°F.

Rudolf Schulz and Attila Kapitany's book *Copiapoa* shows the GPS references for all plants in the book. (GPS = Global Positioning System, which indicates precise positions on the ground from data received via satellites.) This is wonderful information to have and may revolutionize similar books written in the future. When gardens get true seed they will know exactly where it came from, maybe even from a plant referenced in the *Copiapoa* book.

Gordon Rowley's *Caudiciform* book is superb. Rowley was there and took the photos himself.

Now that you know which books are good, you can find out the correct spellings for yourself.

The Cyclopaedia of ISI Plants compiled by Harry Mays (published by the Haworthia Society) lists the field locations of plants which bear ISI (International Succulent Institute, Inc.) numbers. Another excellent book is *Cacti and Other Succulents* by Kramer and Worth.

The Chileans, produced in the '60's and edited by Harry Middleditch, contained stories written by those who had traveled in South America and saw the plants growing there.

Arizona Climate is not easy to decipher unless you have lots of time. However, there is a book just on the Tucson climate. Some recent books are on a single genus, such as *Guide to the Aloes of South Africa* by van Wyk and Smith. One Aloe which is being sought locally is *Aloe reitzii*, because of its beautiful red flower spikes. (See page 158 in this book.) It is hoped that it might survive in this climate outside, but this needs putting to the test.

The TCSS library has all CSSA journals bound in 68 single year volumes. Dan Birt showed the journals issued by the British Cactus & Succulent Society - he gets his copies in exchange for Arizona Highways. He showed us *The Haworthiad Journal* which is published in U.K. also.

Edgar Lamb and Brian Lamb's Exotic Collection ceased publication many years ago of its photographic plants and series of books *The Illustrated Reference on Cacti and Succulents*. The plants which formed the Exotic Collection moved with Brian Lamb to Spain. "Clubs are lucky if they have all ten volumes of *The Euphorbia Journal*," said Dan, holding up a copy of Volume 10.

Dan concluded by encouraging the audience to give Myrtle an enthusiastic round of applause for looking after the library so well for so many years. If members would like to borrow books, please call Myrtle on 887-4507 and she will arrange to collect the book you want from the library and bring it to the next club meeting for you. You may have the book for 30 days (bring it back to next club meeting).

If you have access to the Internet, you may refer to the web sites of libraries all over the world. Our library list will soon be on our web page but **only local TCSS members in good standing** will be able to borrow them.

Other super activities in addition to Dan's excellent talk on the library followed. President Dick Wiedhopf announced that from now onwards, club meetings would be having a break in the middle for refreshments and socializing, then the program would be resumed afterwards. This new plan worked well and we intend to continue it.

(Continued on page 11)

Pinguone, Kenya — Succulents and their Environment

Rudolf Schulz and Anne Powys are proud to announce the completion of their new book, *Pinguone, Kenya — Succulents and their Environment*.

This is the first in a series of cacti and succulent books focusing on outstanding and seldom visited locations where rare and unusual succulents are found. Pinguone Ranch is in the Kenya highlands and is a private ranch owned by the Powys family, well known plant explorers and conservationists. This book covers the environment, people, history, animals and most importantly the 90 species of succulent plants recorded for the ranch. Over 25 succulent plant families are represented. With 160 pages and 304 color photographs, the habitat and plants are illustrated and described.

In conjunction with the book Anne Powys is offering a selection of habitat collected seed from plants illustrated and discussed in the book. Coming from an elevation of 1800 m (6000 ft), most should grow well in a variety of frost free environments from the subtropical garden to the cold-climate glasshouse. A seed list will be included with each book. Only 2000 numbered copies are being printed — obtain yours today.

The book is available at \$US80 plus \$10 air shipping (for from 1-3 books). Books are expected to be dispatched mid-March 1998. Payment may be made with Visa card, Mastercard, International Money Order or bank draft, or a US\$ check made out to R. Schulz. If using credit card, send type, number and expiration date, and name on card.

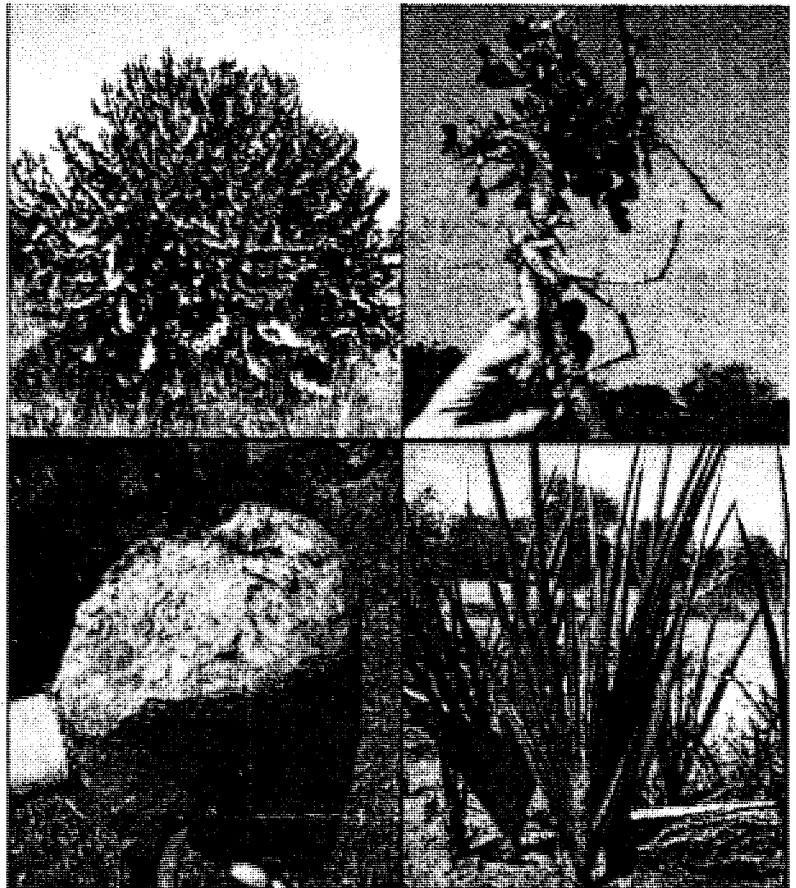
MAIL ORDERS TO: Schulz Publishing, Box 40,
Teesdale, VIC. 3328, Australia.

E-MAIL ORDERS TO: copiapoa@iaccess.com.au

FAX ORDERS TO: +61 352 815263

For additional information see their web page at:
<www.tarrex.com.au/kenyabook>

Note from Ed: You may recall the good report Dan Birt gave in his talk on the library last month to *Copiapoa*, another book co-authored by Rudolf Schulz (with Attila Kapitany), who has produced *Pinguone* with Anne Powys. *Pinguone* is expected to be an equally exciting book. I am looking forward to seeing it.



Some photos in the new book to give an idea of the variety of pictures you will find in the book. Note - they will look better in the book than here in the photocopied Desert Breeze

Succulent Plant Trust Newsletter

The latest issue of the *SPT Newsletter* is rather special - it is Issue Number 100. The main contents are:

Thirty-five years ago, by Bill Keen

The Succulent Plant Institute: the first 10 years,
by Richard Crook

Recollections on the SPT, by Roy Mottram

A Link with the Past: J.T.Bates, by Len Newton

J.T.Bates and Haworthia, by Gordon Rowley

The Bates Collection, by Andrew Gill (current curator)

Birth pangs of The Tephrocactus Book

by co-author, James Iliff

This issue includes previously unpublished Bates' Aloineae sketches. The SPT curates The Bates Collection (which incidentally your editor was asked, but declined, to take over many years ago), along with the J.R.Brown Haworthia Collection.

To get a copy of this anniversary issue, send US\$2.00 in \$ bills to: Dr Colin C.Walker, Dept. of Biology, Open University, Milton Keynes, MK7 6AA, England.

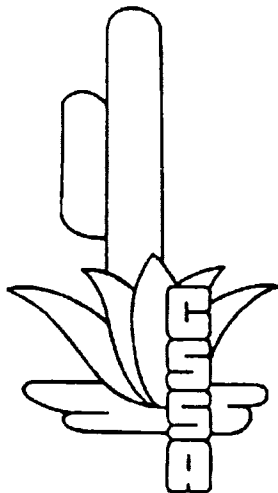
About the CSSA by Bob Barth, Publicity Chair of the CSSA, edited by Affiliate Representative and *Desert Breeze* Editor.

The journal, under the editorship of Myron Kinnach, continues to receive accolades. It is well balanced between articles for the scientist and articles for the hobbyist. Together with the newsletter, it tells what's happening in the hobby and the photography is also excellent. In addition to a fine array of articles, the journal features a cactus and succulent buyers' guide listing many wonderful sources of plants, books, and other items of interest to the hobbyist. As another important service to growers of succulents, the March-April issue of the journal each year features the annual ISI listing of rare plants and new introductions. In extolling the virtues of the journal, we should include the newsletter, *To the Point*, ably edited by Mac Clarke. Like the Journal, it is issued six times a year and they are mailed out together. The newsletter features articles of interest to the hobbyist-grower as well as news of CSSA activities and a calendar of upcoming events in the U.S. and around the world. With a CSSA membership all this exciting and valuable information is delivered to your mailbox.

Another important service to members is the CSSA Seed Report, which can provide a wide variety of cactus and succulent seeds to those of you who enjoy growing from seed.

Many CSSA members communicate with one another through the "Round Robin Program." There are robins for just about every specialist subject under the general heading of cacti and succulents. The CSSA newsletter contains information on joining round robins. It's always exciting to attend the CSSA conventions, which are held every two years. The 1997 convention in San Diego was no exception. The array of featured speakers was as impressive as ever, being well balanced among scientific, horticultural, and travel-adventure presentations. At conventions it's always fun to browse the plant and book sales areas, even though one's bank account may suffer and, of course, there is the rare plant auction, which raises valuable funds for succulent plant research projects. CSSA conventions provide good opportunities to visit with friends from around the country and around the world. Convention registration fees are less for CSSA members. It's not too soon to start thinking about attending the next CSSA convention in Las Vegas in April of 1999. Future newsletter issues will feature specific information about the Las Vegas Convention. CSSA has been sponsoring pre- and post-convention tours in connection with recent conventions - Mexico's Copper Canyon after the 1995 convention in Tucson and Baja California in 1997 (see the article by Dan Mahr in the

recent issue of *To the Point*, the CSSA newsletter.) CSSA is thinking about starting a tour program separate from the conventions as another service for members. The inaugural trip may be to Texas' Big Bend Ranch, a remote area west of Big Bend National Park, recently acquired by the state. It's an area especially rich in cacti. More about this possibility as plans develop.



How can affiliate societies promote CSSA memberships for their members? Each local society receives 2 copies of the CSSA Journal, one for the library and one for CSSA promotion. One Society held a drawing for a free paid-for membership. Participation was restricted to non-CSSA members. This is something that other local societies might like to try. For a mere \$35 a year, you can become a member of CSSA and receive the journal six times a year and gain access to all the various CSSA services and activities. Ask your Affiliate Representative for a CSSA brochure and subscription form. Join CSSA today! You won't regret it!

And from CSSA Journal Editor, Myron Kinnach . . .

The contents of the March-April 1998 issue of the Cactus and Succulent Journal (U.S.) are:

- Adenium culture: producing large specimens quickly, by Mark Dimmitt.
- A new taxon and new combinations in the *Gasteria carinata* complex, by Ernst van Jaarsveld.
- The Huntington Botanical Gardens presents the 1998 offering of International Succulent Introductions, by John Trager & Bob Schick.
- A new epiphytic *Kalanchoe* species in Kenya, by Len Newton.
- Fieldnotes: A new subspecies of *Mammillaria crinita*, by W.A. & Betty Fitz-Maurice.
- Valley View Succulent Notes, by Gerald Barad.
- Cacti & Succulents for the Amateur, by Duke Benadom.
- Spotlight on Round Robins, by Braden Engelke & Rita Fleischmann.

As usual, some titles have been changed to omit the names of still-unpublished new taxa.

The March/April issue is expected to be mailed out in April.

Membership Application Forms for the CSSA are at all TCSS meetings. Please ask me for one if they are not on display. Ed. (Carol)

Please use this form, or copy it, to renew your membership or start a new membership.

**Tucson Cactus and Succulent Society
1998 Membership Form**

Name(S) (F, Mi, Last) _____

Address _____

City _____ State _____ ZIP _____ - _____

Home telephone (____) _____ - _____ Work telephone (____) _____ - _____

Fax (____) _____ - _____ e-mail _____

Life \$500 _____ Family \$20 _____ General \$15 _____ Student (18 and under) \$10 _____

New Membership _____ Renewal Membership _____

Dues run from January 1 through December 31 each year.

Please make checks payable to TCSS, and mail with completed form to:

TCSS Membership Secretary, Maury Clapp, PO Box 91560, Tucson, AZ 85752-1560

(Continued from page 8)

Show and Tell started again at this meeting. **Carol** brought two specimens of *Kalanchoe tomentosa*, one species which comes from Madagascar and one hort: *K. tomentosa* "Chocolate Soldier". **Miles Anderson** brought a tray full of plants to talk about - *Pelargoniums*, a *Pseudolithos x Caralluma hybrid* bred by Jerry Barad and which [plant] Miles calls "Little Stinker". Miles showed us seven variable *Uebelmannias* -- all have small yellow flowers, including *U. pectinifera*, *U. flavispina*, *U. meninensis*, which grows to almost one meter tall eventually, and the dwarf *U. gummifera*. **Jeff Trevas** had no flowering plant he could bring along, so he brought along 'a bloomin' vase', a green vase shaped like a portion of saguaro stem which he bought in February 1965.

Margaret Pope spoke about Sonoran 2 being planned by the TCSS for October 23 -25, 1998 at the Holiday Inn Palo Verde. If members have any ideas for workshops, please let Margaret know. The speakers' and workshop slots are nearly all full now, but new ideas are always welcome. See special article in this issue, pages 1 and 3.

Mary Odette spoke about the TCSS Display/Show at the TBG on 4 and 5 April. We will have the Porter Room (our usual meeting room) and the patio outside. Need plants for display of diverse form and shape. Although it is a display, we will have the bean pots which were so popular at the Stuck on Tucson '96. Bring plants to the regular meeting on April 2 for set-up on Friday. More details in March.

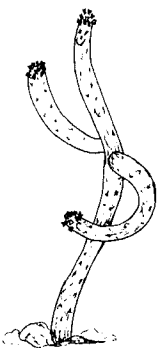
After the refreshment break, two members spoke about the trips they have made recently:

Al Coritz went down to Monterrey area and visited Huasteca Canyon which Jon Weeks spoke on at one of our meetings last year. Al, too, saw the wonderful *Agave victoriae-reginas* (Jon's favorites) growing on the cliffs. There used to be a river running through this canyon, but the water is now piped underground in pipes due to the large population of four million people living nearby in an area the size of Tucson.

Eugene Loring had just got back from a birding trip in Venezuela. He saw many arboreal cacti, scarlet ibis, egrets - just huge numbers of birds - seven species of owls, including spectacle owls, striped owls, tropical screech owls, short eared owls, and barn owls. Other animals too including an ocelot, two giant anteaters. Seeing mother and daughter Brazilian tapirs leisurely drinking at road side pond was a particular thrill. On the coast in a relatively dry area there were masses of cacti. Eugene then traveled west along the coast to NW Venezuela to the NE tip of Colombia and the dry scrub lands seeing many endemic birds, including the vermilion cardinal - and lots more cacti.

Dan Birt had provided the plants which all members may take home -- some two year old saguaros. *Thank you Dan.*

The four door prizes were won by **Kathryn Fridlind** (*Portulacaria afra variegata*); **Arnold White** (*Thelocactus macdowellii*); newly-joined member, **Fonda Deloache** (a *Mammillaria*); and **Charlie Bachman** (*Aloe variegata*). The two raffle prizes were won by **J.R. Trevas** (*Ferocactus schwartzii*) and **Mary Church** (a foot tall saguaro).



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NEXT MEETING - Thursday, March 5 at 7 P.M.

Porter Room

Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson, AZ 85712



James Pickering

on

DISCOCACTUS FOR THE 21ST CENTURY

See page 4 for more details.

**SHOW AND TELL - Please bring along YOUR Discocactus,
Melocactus or Uebelmannia and tell us about them.
Or any other cactus or succulent in flower.
Or problem plant.**

Refreshments by those with family names beginning with E to R

Bring a friend. Visitors always welcome.

Desert Breeze

Volume 9, Issue 4
APRIL 1998

**Special Events This
Summer in Tucson**

**Rudolf Schulz
from Australia**

June 11

**Copiapoas
and**

Pinguone, Kenya

Bruce Bayer

from South Africa

June 25

**Haworthias
and more**

**More details on
page 3**

SONORAN 2



BUT IT'S A DRY HEAT!

October 23-25, 1998
Tucson, Arizona

More super workshop leaders to tempt you to our **Sonoran 2** Convention -

Cathy Babcock, Horticulturist in charge of Old World Succulents at the Desert Botanical Garden in Phoenix, with **Diane Barker**, Agave Horticulturist, at the Desert Botanical Garden.

Scott McDermott, an avid Haworthia collector, but also an expert on building shade structures for growing plants under southern Arizona's blazing sun (and chill).

The three workshop leaders above join those previously announced:

Miles Anderson; Dan Bach; Bruce Birt; Gene Joseph; Michael Louie; James Pickering; Greg Starr; and speakers, Tony Burgess; Mark Dimmitt; Matt Johnson; and Meg Quinn.




Venue:

Holiday Inn Palo Verde, 4550 S. Palo Verde Blvd., Tucson, Arizona 85714

Tel: (520) 746-1161 * FAX: (520) 741-1170

If this copy of *Desert Breeze* was sent to you personally, you will be sent a copy of the preliminary program and registration form for **Sonoran 2** with the May or June issue of *Desert Breeze*. Please feel free to get in touch with us if there is anything else you wish to know ahead of time - contact addresses on page 2.



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Tucson Cactus & Succulent Society
Founded 1960

OFFICERS AND BOARD 1998

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VICE-PRESIDENT: Margaret Pope 795-1285

SECRETARIES:

Carol and Maury Clapp 908-9001

TREASURER: Arnold White 577-1348

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(terms expire December 31 of year indicated)

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Linda Ryan 1998

Myrtle Ethington 1999

Mary Odette 1999

Julie Turko 1999

Dan Birt 2000

Al Coritz 2000

Lois Ladwig 2000

AFFILIATE REPRESENTATIVE TO CSSA:

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Tucson, AZ 85752-1560

The **Desert Breeze** is the Newsletter
of the Tucson Cactus & Succulent Society.

Please send your copy by the 20th of the
month preceding the following month's issue
to the Editor.

TCSS Web Page

<http://www.desertcactus.com/tcss/>

TCSS WEBMASTER: Lois Ladwig

e-mail: lois@desertcactus.com

Items for possible inclusion on our web page should
be sent to <kitfox@azstarnet.com> for consideration.

TCSS Treasurer's Report

The treasurer's report as of February 28, 1998 is as follows:

Checking account:

Previous balance.....	\$2113.73
Checks written	(\$58.50)
Deposits.....	\$246.00
Interest.....	\$3.66
Closing balance	\$2304.89

Savings account:

Previous balance.....	\$2768.95
Interest.....	\$6.90
Closing balance	\$2775.85

Arnold White, TCSS Treasurer

Mailing Addresses

You may have noticed the address on your mailing label is different from the one we've used before. This is because we have verified all addresses with the Post Office and have written them in the approved way for their machines to be able to read the labels.

How To Subscribe to TCSS-List

Here are the instructions you need to get on to our (members only) list-serv:

To subscribe to the tcss-list, send an e-mail to:

majordomo@desertcactus.com

Do not enter a subject.

In the body of the e-mail, enter the following:

subscribe tcss-list

The program will read your e-mail address and process your request. There will be a slight delay as the request will be sent to the list manager for approval. After approval, you will receive an e-mail giving you other commands and information regarding the list.

Lois Ladwig
TCSS Webmaster

Some Interesting Web Sites

Cactus felt scale:

<http://ralph.cs.cf.ac.uk/Cacti/felt.html>

Perlite Institute:

<http://www.perlite.org/guides/guidlist.htm>

TCSS Calendar of Events

All regular monthly meetings are at 7 p.m. at the Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson, AZ 85712-2620 unless otherwise noted.

Next Meeting: Thursday April 2

Getting Ready for the Weekend!

Bring along to our regular meeting some interesting and good plants which can be used in our special display of potted cacti and succulents at the Tucson Botanical Gardens' special fund raising weekend. *Please put the country of each plant's habitat on a card for display.* We will have our usual **Show and Tell**, so you will be able to tell other members about the plants you have brought for display. If you have questions, please call Mary Odette on 749-2285

Friday April 3 Set up Day for Weekend

More details of help needed for the set up, if not completed the evening before, will be available from Mary or Dick at the meeting on Thursday.

Saturday April 4 TCSS Display of Potted Cacti at Sunday April 5 Tucson Botanical Gardens open

8.30 a.m. to 4.30 p.m. both days.

We need volunteers to be available to talk to visitors about cacti and the

TCSS during the whole time our display is open to the public. **Sign-up sheets for the times you can do will be available at Thursday's meeting.** *Many hands make light work!* The TBG has its Home Garden Tour from 10 a.m. to 4 p.m. both days. After visitors have been on their tour, it is expected that they will be walking around the Gardens and will be able to view our exhibit in the Porter Hall. The Orchid Society of Southern Arizona will also be sponsoring a display of orchids at the Gardens. And the TBG Gift Shop will sponsor outdoor tastings of tantalizing food and beverage items. The Garden Art Exhibit will also be at the TBG at the same time. It will be a really busy weekend with lots of visitors around. Display plants shall be picked up on Sunday at 4.30 p.m. prompt.

Thurs April 7 Sonoran 2 Committee Meeting
College of Pharmacy 7 p.m.

Thursday May 7 7 p.m. at The Desert Laboratory,
Tumamoc Hill, Tucson.

A map of how to get there will be in the next *Desert Breeze*. A staff member will present a slide presentation of the outside facilities and the current research being carried out. A tour of the main building will be given along with the history of the laboratory and an overview of the work that has been done over the last century. The Desert Lab was established in 1903 by the Carnegie Institute. The lab is presently preparing for its 95th Year Celebration in November 1998.

Thursday May 21

TCSS Board Meeting
7 p.m. College of Pharmacy



Please note change

of advertised date and meeting for June 1998

The June monthly meeting of the TCSS has been changed from the first Thursday of the month, June 4, to the second Thursday of the month, June 11.

Thursday June 11 **Rudolf Schulz** from Australia, co-author of *Copiapoa in their Environment* (published last year) and *Pinguone, Kenya - Succulents and their environment* (due to be ready for shipment late March), will be in Tucson in June and will speak on both copiapoa and the succulents of Pinguone, Kenya - see March issue of *Desert Breeze* for details of the book. If you order this book, you will also receive a seed list with about 90 items offered.

Thursday June 25 **Bruce Bayer** from South Africa speaking on **Haworthias.**

7 p.m. The Main Auditorium,

College of Pharmacy, Mabel and Warren, Tucson.

Bruce will be doing a tour around USA in June, giving lectures in Omaha, Denver, San Francisco, San Diego, and Miami, as well as here in Tucson. The venue holds 174 persons sitting in great comfort. Everyone welcome. Bring your friends.

Thursday Aug 6 **John Wiens** will be speaking on
The Succulents of the Avra Valley Watershed

Thursday Aug 20

TCSS Board Meeting
7 p.m. College of Pharmacy



Thursday Sept 3

Miles Anderson on **Grafting**

October 1 (date change) Regular monthly meeting

October 23 - 25

Sonoran 2
Holiday Inn Palo Verde, Tucson

November 5

Regular monthly meeting

November 19

TCSS Board Meeting
7 p.m. College of Pharmacy



Sunday December 13

Christmas Party Luncheon at TBG

TCSS reserves the right to change dates and/or program should it be necessary.

A Trip to Pinacates in March '98 by Gene Joseph, Plants for the Southwest, gjoseph@gci-net.com

If you look on a map, just south of Arizona at Organ Pipe National Monument, you will see a large blank area. This is the head of the Gulf of California, one of the harshest environments on the planet, with an average rainfall of less than four inches and extremely high temperatures. This is an area of over 500 volcanic vents, consisting of lava flows, cinder cones, craters, and lava tubes. The colors range from the white of the sand dunes to the reds and blacks of the lava flows and cones, to the more ephemeral colors of the bright pink penstemons, the blue lupine, the green cucurbit vines and the yellow of the brittle bush. Most of the perennial plants are fiercely armed: the ironwood tree with its sharp, short spines, the catclaw acacia, the teddy bear and the jumping chollas and the ocotillos and senitas. This is a place that few people in their right mind would willingly go, but it is also a place with evidence of man over 40,000 years old. This is the place that I went last weekend. This is the Gran Desierto and the Pinacates.

Situated close to the almost non-existent mouth of the Colorado river, the Pinacates received a large amount of rainfall from hurricane Nora in November of 1997. This started a process, the result of which was an incredible flowering of annual and perennial wildflowers, the show of a lifetime. Numerous species of plants grow there and, in many cases, they are variants of those that we are used to seeing in the more northern parts of the Sonoran desert. The poppy that occurs in the Pinacates is a tiny flowered species; the lupine is a different variety; the dalea is an annual only a couple of inches high; and along with our regular brittle bush is a variety with a deep red center. This is a truly unique place.

The cacti that occur in the Pinacates are great in quantities for the most part, and mostly familiar, with at least one notable exception. The chollas that occur there are the familiar teddy bear, *Opuntia bigelovii* and the jumping cholla, *O. fulgida* and Whipple's cholla, *O. whipplei*. The prickly pear to be seen is a very spiny, hairy looking pancake prickly pear, *O. chlorotica*. There are also a few of the club cholla, *O. stanlyi*, and some diamond cholla, *O. ramosissima*. The ever-present pincushion cactus, *Mammillaria grahamii* (*microcarpa*) is there and a smaller species, the corky seeded pincushion, *M. tetrandra*. One of the lesser seen cacti, at least in Arizona, but reasonably well known is the senita cactus, *Lophocereus schottii*. There are thousands of plants with the largest approaching 20 feet in height and 25 feet in diameter. But the most interesting species of cactus in the Pinacates is the many headed barrel cactus, *Echinocactus polycephalus v. polycephalus*. These plants seem to occur only in a specific band of elevation and only on the rugged lava slopes. They are closely related to the many headed barrel of the western Grand Canyon area, *E. polycephalus v. xeranthemoides*. The difference is the size of the individual

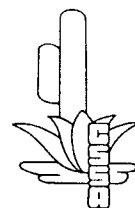
heads, the northern variety having larger (basketball size) and fewer heads, while the southern plants have individual heads usually no larger than a large grapefruit. I visited one individual about six feet across and four feet high with over 300 heads! The **Mother** of the many headed barrels.

The succulents that occur in the Pinacates are somewhat limited. There are two species of *Jatropha*, a very few of *J. cinerea* and numerous plants of *Jatropha cuneata*. Our ocotillo, *Fouquieria splendens* occurs there in all of its splendor as does the little leaf elephant tree, *Bursera microphylla*. A relative of the jade plant, the world's smallest succulent, *Tillaea erecta*, lives in the Pinacates. This annual species can be somewhat taller, but mostly grows to the staggering height of ¼ inch on the edges of ephemeral mud pans.

The Pinacates has been a Mexican National Park for several years, but only recently do they have a formal station, with staff and two vehicles to patrol the park. Camping is now limited and access is by permit only, obtainable at the station on the road to Rocky Point, about 30 miles south of Sonoyta.

The Cactus & Succulent Society of America, Inc.

Details of membership of the CSSA are available at all our meetings. As a member, you will receive six issues of its superb journal each year; the chance to buy seeds from an extensive list; opportunities to communicate with many other enthusiasts about the plants which particularly interest you; and more. Ask Carol Clapp, your Affiliate Representative to the CSSA, for details. Beginners are welcome! It is a wonderful way to learn more about cacti and other succulents.



Many Thanks to other C&S Societies for telling their members about our exciting event in October, **Sonoran 2**

These include the Kansas City C&S Society (*Prickly Press*); San Gabriel Valley C&S Society (*Communique*); San Diego C&S Society (*Espinasy Flores*); Orange County C&S Society (*Gems of the Desert*); The C&S Society of California (*Points of View*); San Antonio Cactus & Xerophyte Society (*SACXS FACTS*); and the CSSA in their Calendar of Events too.

And remember, we are always happy to tell TCSS members about your special events too.

Discocactus - a report on James Pickering's talk to TCSS in March by Cactus Carol

James Pickering used to love Laurel and Hardy and related one particular episode when Laurel and Hardy hung a picture in a house. Hardy held up the picture and Laurel had the nail. "But the nail has the head at the wrong end," said Laurel as he held up the nail with the head towards the wall where the picture was to hang. "Don't be silly," said Hardy, "we have to hang the picture on the opposite wall! Now, I will hold the nail, you take the hammer, and when I nod my head, you hit it." So Laurel did just that - bonged Hardy on the head!

Jim said he wouldn't be offended if people fell asleep or walked out - some people get fed up listening to foreigners. (Jim is from Burnley, England and still retains his accent although he has been over here since 1950.) He made a good suggestion for club meetings: that everyone at a meeting should tell how they started off in the hobby. So that's how he planned to start off his talk. (Maybe we should do that at one of the TCSS meetings - never know what we might hear!).

Jim's web page is now in Spanish and English and Portuguese, which was added today. Two Brazilian cactophiles, Marlon Machado and Marcelo Fontana, have been helping in this project. Marcelo, who has a degree from São Paulo University in computer science, did most of the translation. Marlon, who has just returned from a field trip to the interior of Bahia, is providing many habitat photographs for Jim's web pages.

Jim started collecting cactus in 1939 at the age of 10. He was born in 1929, then the stock market crashed so Jim really came in with a bang. It was in 1939 that the man who was to be such a great influence, Wilfred Barton, came into his life. He was the Arts and Crafts teacher at his school and, from him, Jim learned calligraphy and book binding and was introduced to collecting roman coins and cacti! His first plant (given to him by Mr. Barton) was an *Echinopsis* (oxygona) which he put on a windowsill in his house in Northern England. He went on to buy an *Opuntia* from Woolworth's - and thus started his collection. Mr Barton also gave him some English journals from the early 1930's which contained serialized articles from a book by Dr. Werdermann who first studied the cacti of the Brazilian Caatinga - the forest through which you can see far, i.e. a forest with no shade. His book, *Brazil and its columnar cacti* is a wonderful adventure story and started Jim on his life-long love of Brazilian cacti. He also read the account of Leon's discovery of *Melocactus matanzanus* in the early 1930's. "They are sensitive to cold, keep them in a hothouse." went the advice. And "They grow near the ocean so mix a handful of table salt with soil!"

In 1950, Jim came to the United States. While living in Apple

Valley, California, in 1960 he was befriended by Gil Tegelberg Sr. who became his mentor. Gil grew magnificent plants at his nursery and always won the grand prize at the National CSSA shows, then held at the Arboretum in Arcadia, California. In those days most of the books said, "the most difficult cacti to grow are Discocactus and Melocactus." That was an irresistible challenge to Jim. In the early 1960's, few people grew these plants. Harry Johnson, (Johnson's Cactus Garden in Paramount) gave Jim a Discocactus, and Gil gave him a Melocactus - they were the only ones who had them. Jim was on his way! He got more, and killed quite a few of them. But he did put on a display of Melocactus at the 1964 show - they were rarities then.

In 1964, Jim was president of Mojave Cactus Club. The Presidents of the participating clubs were 'volunteered' for guard duty. Their names were put in a hat, and Jim's name was the first drawn. Cookies, lemonade and chairs were supplied to the 'guards' and, after everyone else left, the gates were locked. The peacocks came roosting by the thousand. 2000 peacocks yelling "halp" all night didn't let him get much sleep.

In the 1970's, at TBG, they had Sunday tours in the snowbird season. Jim conducted some of these tours, ending with a culture session. "How often should I water my plants?" people would ask. "Call Tucson and if it's raining, there, water them." he replied in jest. One woman said, "I live in Michigan. Now in spring the central heating is on, and my plants are on windowsill. It gets so hot in the house, that I put plants out on patio where it is cold so that they will flower." Jim suggested she might try growing discocactus as they love heat in winter - no cool rest is needed by them. In fact, Discocactus (and Melocactus) are ideal for centrally heated houses. "I especially like discocactus - they have fragrant flowers. Small white flowers which come out at night," said Jim. "When several flowers open at once the fragrance is so intoxicating in a greenhouse that when you open the door it is like walking into a room full of gardenias."

Jim claims not to be a botanist. He told of his interest in Park S Noble who wrote *Remarkable Agaves and Cactus* and who advances the theory that cacti are CAM plants - performing all the functions of energy absorption and tissue building at night, and closing their stomata during the day. Approximately 90% of Discocactus grow in Brazil. Here we let them go down to 40 deg. although earlier advice was to keep them warm all the time.

Jim related tales of weather in England: "You might see the sun in November and then again in May!" Jim and his wife, Beverly, were due to make a visit one August to NW England, so they called to find out what the weather was like so they could decide which clothes to take. They were told they would never believe it - a heat wave - bring shorts and T-shirts. They did -

(Continued on page 7)

New Journal Editor for the BCSS

It was with great pleasure that we learned that **David Neville** is the new editor of the Journal of the British Cactus & Succulent Society, which has many subscribers in the USA.

David Neville succeeds a long line of highly esteemed editors who have maintained the quality, and world fame, of this fine journal. Some of you may know of *The Cactus File* which, unfortunately, ceased publication about one year ago after publishing 24 issues. David was the editor of *The Cactus File*, which was a very readable and informative journal. We will be expecting great things from the new team of David Neville and Nick Lear, who became production editor for the BCSS Journal about two years ago. The journals produced by the British societies have always been good - just as the CSSA journals have. They are both highly respected in the cactus world and each is considered good enough to publish new species.

A little history of the British editorial teams:

On August 23, 1945, four men met in Yorkshire, the largest county in (the north of) England at that time, and decided to form The Yorkshire Cactus Society. After only two issues of their quarterly journal, edited by Mr H M Roan and Fred Ives, members voted to change the name of their Society to The National Cactus & Succulent Society, and Roan became the sole editor. In 1950, Ron Gledhill became assistant editor to H M Roan, until mid-1951 when Gledhill took over as Editor, with Roan becoming an associate editor with Gordon Rowley, who had previously been their botanical advisor.

In June 1965, Chris Pitcher succeeded as editor upon the passing of Ron Gledhill, after his 15 years of editorial joy (or should we call it work?). Rowley and Ron Ginns were advisory staff, later to be joined by John Donald. Chris died an untimely death in 1969, and Gordon Rowley took over as acting editor, until Bill Putnam was appointed editor in 1970. In June 1976, it became Bill Keen's turn to be editor of the NCSS Journal and he was still editor when the great merge occurred (or was it a take-over? - an oft-debated point) between the NCSS and the C&SS of GB in March 1983, and the name of the united societies became the British Cactus & Succulent Society. In 1993, Eddie Cheetham took over as sole editor after working with Bill Keen during his final (16th) year as editor. It is interesting to note that Gordon Rowley, after 47 years, is still involved with editorial activities for the BCSS in his capacity as editor of *Bradleya*, the yearbook of the BCSS, which was first published in 1983. The early issues of *Bradleya*, were edited by David Hunt and Nigel Taylor.

Now it is the privilege of David Neville to continue the good work and inject his new ideas for improvement, as all editors do, regardless of the quality of a publication in the past. We wish David the very best of (British) luck.

Carol Clapp
Desert Breeze Editor

See note to the right of one particular article in the March issue. >

Welcome New Members to TCSS

We are delighted to welcome the following new members:

Harriett G. Brinson of San Carlos, California.

Julie Girden of Tucson, Arizona.

Anthony R. Fontes of Desert Trees Nursery, 520-297-5035, 9559 N Camino Del Plata, Tucson, AZ 85742-9612
e-mail: MFontes@aol.com

Lee J. Miller of Washington, DC - Affiliate Representative for National Capital Cactus & Succulent Society.
e-mail: leemiller@erols.com

James and Beverly Pickering of Tucson, Arizona.
e-mail: Jamesicus@aol.com

web page: <http://members.aol.com/jamesicus/>



Note from Editor:

For security reasons, it has been decided to omit personal addresses and telephone numbers from Welcome Lists, due to the wide circulation of Desert Breeze.



Charles Glass d. February 23, 1998

It was with tremendous sadness that we learned of the untimely death of Charlie Glass. That a man so full of energy and the joys of life should go so early at the age of only 64 was hard to believe.

I first encountered Charlie, then editor of the CSSA Journal, in the early seventies when he and Bob Foster had the Abbey Garden Press office beside the Cactus Nursery. I have many happy memories of Charlie including the time in England when he and Bob drove around town in a rented open sports car - one of the first Audi Quattros seen in the UK; and the party they threw in Tucson in 1977, when Charlie was dressed immaculately in white with a large brimmed hat. Among those invited, was the late Frank Horwood, who had been working with Charlie at Abbey Garden Nursery and had moved with the nursery to Carpenteria. At the 1995 CSSA Convention in Tucson again, he told me of his pleasure of living in the gem of San Miguel de Allende and the happiness he had from encouraging young botanists with their work for CANTE and the preservation of some species. *Mammillaria glassii* was named for Charlie. He loved to sing. Charlie enjoying himself singing at the reception event at the last CSSA Convention in Tucson, will be a lasting memory of this most enthusiastic, and knowledgeable, man.

CC

In the first issue of the BCSS Journal edited by David, there is an article called *People and their Plants*, written by **Charlie Glass** in which he tells of the tremendous work of Hernando Sánchez-Mejorada, co-author with Helia Bravo-Hollis, of *Las Cactáceas de México*, and illustrates some of the plants named in his honor.

Please use this form, or copy it, to renew your membership or start a new membership.

Tucson Cactus and Succulent Society

1998 Membership Form

Name(S) (F, Mi, Last) _____

Address _____

City _____ State _____ ZIP _____ - _____

Home telephone (____) _____ - _____ Work telephone (____) _____ - _____

Fax (____) _____ - _____ e-mail _____

Life \$500 _____ Family \$20 _____ General \$15 _____ Student (18 and under) \$10 _____

New Membership _____ Renewal Membership _____

Dues run from January 1 through December 31 each year.

Please make checks payable to TCSS, and mail with completed form to:

TCSS Membership Secretary, Maury Clapp, PO Box 91560, Tucson, AZ 85752-1560

(Continued from page 5)

and traveled in them - when they left Tucson it was 109 deg. F. When they arrived at Manchester it was only 45 deg. F. Everyone else was in heavy coats and scarves.

Discocactus buenekeri is a great offsetting plant - Jim's favorite. He brought lots of them for members to take home. "When offsets detached from mother plant, they even come with a root system!" Jim said, holding one up for all to see. "They will stay in little pots forever."

Melocacti expel the fruit easily from cephalic pressure. Discocactus fruits are held firmly in the cephalium. To get them out, run tweezers down the side of fruit and twist gently. Jim brought one *Discocactus buenekeri* in flower and passed it around the audience so they could smell the fragrance. Then he showed a few slides of *Discocactus buenekeri* with cephalium and in flower. Discocactus flowers develop very fast. They develop and fade in one night. They start to fade as sun comes up. The standard reference on these plants is *Discocactus* by A.F.H. Buining (dec'd) who conducted considerable field research in Brazil.

Questions:

Bobette: "How about growing them outside here in Tucson?"

Jim: "Hard here without some protection, down to about 40 at night is OK as sun in day warms them up quickly, but so long as you are not in a cool pocket you can put them against warm wall. You may have worries about them if it gets below 45. Cold makes them lose their roots."

Gene: "How many species in Discocactus?"

Jim: "About 100 at a guess. There were only about 10 listed in

Britton & Rose when I started off."

Jim Hosack: "How much work do you put into pollinating flowers?"

Jim: "Most Discocacti manage to set fruit pretty well on their own, but *D. insignis* needs a little help."

Maury: "What is their natural pollinator?"

Jim: "Marlon Machado thinks it's humming birds and ants. I will post his (Marlon's) reply on my web page."

Jim concluded his entertaining talk by hoping he had encouraged everyone to grow Discocactus. Take a look (or two) at his web page at <<http://members.aol.com/jamesicus/>>

Other Notes on March Meeting

Much enthusiasm was shown by the 38 members and friends present. Our mid-meeting socializing break is proving popular! We had a wonderful array of refreshments thanks to those who brought them. In Show and Tell, Carol spoke about her Pachyphytum, then Miles told about his Discocacti, crested, and variegated, and Melocactus so twisted that he is not sure which species it is. *Trichodiaderma densum* in full bloom - takes the cold but not the rabbits. Discocacti are a bit more delicate on their own roots, than Melocacti. Miles uses his standard mix of 75% pumice. Rarely watered in winter, but in summer every 5 days, or leafy stuff every 3 days.

Door prizes won by: Ron Fridlind, Margaret Pope, Arnold White, Peggy Hitner, Miles Anderson, Carol Clapp, Lois Ladwig, Charlie Bachman and Quent Quiner. Thanks to Jim Pickering for donating all the door prizes (*Discocactus araneispinus*), as well as the box of freebee baby *Discocactus buenekeri*. Raffle prizes won by Peggy Hitner (*Aloe peglarae*) and Kathryn Fridlind.

NEXT MEETING - Thursday, April 2 at 7 P.M.

Porter Room

Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson, AZ 85712

**Bring your specimen plants to this meeting
for the weekend's display at TBG.**

**Species and hybrids for local landscape use
will be also be most welcome** - See page 3 for more details.

Refreshments this meeting by
those with family names

beginning with

S - Z

and

A - D



SHOW AND TELL

We'll talk about the plants you have
brought for the display.
Or any problem plants you would like
discussed.

Visitors always welcome.



Desert Breeze

Volume 3, Issue 5

MAY 1998

FIND
a community
bulletin board
and display
the enclosed flyer
for our special
meetings at 7 p.m.

June 11 and June 25

at the
College
of Pharmacy
Mabel and Warren
Tucson

**Non-members
welcome!**



SONORAN 2 UPDATE

Registration forms will be sent with the next issue of *Desert Breeze*. If this is your personal copy, you will be sent the forms by early June.

If it is someone else's copy and you would like to have your own, please give *Desert Breeze* Editor your street address and we'll add you to our mailing list.

The number of participants at each workshop is being kept small to give greater benefits to attendees. To be sure of getting your choice of workshops, send in your registration promptly. Seats will be allotted in order of the postmark date of your completed forms.

See page 4 for list of speakers and workshop leaders.



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Tucson Cactus & Succulent Society
Founded 1960

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Al Coritz 2000

Lois Ladwig 2000

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The **Desert Breeze** is the Newsletter
of the Tucson Cactus & Succulent Society.

Please send your copy by the 20th of the
month preceding the following month's issue
to the Editor.

TCSS Web Page

<http://www.desertcactus.com/tcss/>

TCSS WEBMASTER: Lois Ladwig

e-mail: lois@desertcactus.com

Items for possible inclusion on our web page should
be sent to <kitfox@azstarnet.com> for consideration.

The Desert Laboratory on Tumamoc Hill

Extract from Julio Betancourt's article in the U of A's *GEOSCIENCES*
of Fall 1996

Early History

Four miles west of the UA campus is the Desert Laboratory on Tumamoc Hill, a 400-hectare reserve and institution with a 93-year legacy in environmental research about deserts. The Desert Lab was the brainchild of Frederick V. Coville, chief botanist of the U.S. Dept of Agriculture. Inspired by his own explorations of Death Valley in 1891, Coville convinced the Carnegie Institution of Washington to establish a laboratory to study ecophysiological adaptations of plants to aridity. In 1903, Coville and Daniel T. McDougal of the New York Botanical Garden toured the Southwest and Mexico in search of a site. They settled on Tumamoc Hill, a saguaro-studded butte overlooking what was then a small university town of 10,000. Ironically, the astronomer and tree-ring pioneer Andrew Douglass had prospected Tumamoc Hill as a possible site for the Lowell Observatory in 1894.

During the next 37 years (1903-1940), the Carnegie Institution's Desert Laboratory pioneered ecological research in deserts and played a key role in the emergence of ecology as a field of study. Prominent scientists at the Lab, such as McDougal, Forrest Shreve, and Burton Livingston, were among the founders of the Ecological Society of America in 1915. In 1920, the Desert Lab's magazine, *Plant World*, became the Society's trade journal, *Ecology*. In 1940, after the University refused to buy the facility for the nominal price of one dollar, the Carnegie Institution transferred the Desert Lab to the Forest Service, which used it as its Southwest Experiment Station until the 1950's.

In 1956, the University bought the Desert Lab for \$100,000, and it became the site for the new Dept. of Geochronology under Terah (Ted) Smiley's direction. Paul Martin, a young palynologist from Michigan, was hired to broaden the scope of research to include the history of desert environments. Ray Turner, a USGS Botanist, moved his office to the Desert Lab in 1976. This put Ray within earshot of long-established vegetation plots, which he had been monitoring since the late 1950's. Paul and Ray retired in 1989, though both maintain a strong presence on the Hill. Some of the legacies from their tenure include a rich paleobotanical archive now being exploited for geochemical, anatomical and genetic studies; an archipelago of long-term vegetation plots in the Sonoran Desert; a digitized plant-distribution data base for the Sonoran Desert and adjoining region; and a collection of 3000 historical photographs of western landscapes, matched from the same vantage point.

(Continued on page 6)

TCSS Calendar of Events

All regular monthly meetings are at 7 p.m. at the Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson, AZ 85712-2620 unless otherwise noted.

Please note there are a lot of irregular meetings coming up!

visitors
Always
Welcome

Thurs April 30 Sonoran 2 Committee Meeting
College of Pharmacy 7 p.m.

**Thursday May 7 7 p.m. at The Desert Laboratory,
Tumamoc Hill, Tucson.**

Maps of meeting places are on page 7. Car pooling is advised due to limited parking space. A staff member will present a slide presentation of the outside facilities and the current research being carried out. A tour of the main building will be given along with the history of the laboratory and an overview of the work that has been done over the last century. The Desert Lab was established in 1903 by the Carnegie Institute. The lab is presently preparing for its 95th Year Celebration in November 1998.

Thursday May 21 TCSS Board Meeting
7 p.m. College of Pharmacy



Please display enclosed flyer for June meetings

Please note change

of advertised date and meeting for June 1998

The June monthly meeting of the TCSS has been changed from the first Thursday of the month, June 4, to the second Thursday of the month, June 11.

**Thursday June 11 Rudolf Schulz from Australia
7 p.m. The Main Auditorium**

College of Pharmacy, Mabel and Warren, Tucson

Rudolf Schulz is co-author, with Attila Kapitany, of *Copiapoa in their Environment* (published last year). Recently, he co-authored, with Anne Powys, *Pinguone, Kenya - Succulents and their environment*, which is now available. Rudolf was born in Germany, educated in the USA, but has spent most of his life in Australia, where he currently operates a nursery in Victoria specializing in non-cactus succulents. He writes and edits the journal *ASRAN* and travels to desert and arid areas around the world. One of his aims is to visit all of the world's succulent habitats. Rudolf will be speaking about how Copiapoa cope with their environments in the Atacama Desert in Northern Chile, where very little rain falls and the sea fogs keep temperatures low. The second part of his talk will be about the plants which grow on the 44,000 acre Pinguone Ranch situated in the highlands of Kenya. Over ninety species of succulents have been recorded on the ranch, twenty of them considered caudiciform.

**Thursday June 25 Bruce Bayer from South Africa
7 p.m. The Main Auditorium,
College of Pharmacy, Mabel and Warren, Tucson.**

Bruce will tour around USA in June, giving lectures in Omaha, Denver, San Francisco, San Diego, and Miami, as well as here in Tucson. Bruce Bayer was born in Kwazulu (Natal) in 1935. His father was interested in plants and an uncle was professor of Botany at the University of Natal. Bruce's own field activities date back to 1939. He majored in Entomology at Pietermaritzburg in 1956, completing his MSc with the study of Noctuid moths, but his real interest was Haworthias. Bruce worked as a Botanical Assistant at the Karoo Garden, succeeding to position of Curator in 1973. In 1987, he became a research ecologist with the Dept. of Agriculture until retiring early to follow his own special interests in Haworthia. Bruce's new book on Haworthias is expected to be available in June.

The Main Auditorium at the College of Pharmacy holds 174 persons sitting in great comfort. Everyone welcome to both our special meetings in June. Bring your friends.

NO TCSS MEETING IN JULY

**Thursday Aug 6 John Wiens will be speaking on
The Succulents of the Avra Valley Watershed**

Thursday Aug 20 TCSS Board Meeting
7 p.m. College of Pharmacy



Thursday Sept 3 Miles Anderson on Grafting

October 1 (date change) Regular monthly meeting

**October 23 - 25 Sonoran 2
Holiday Inn Palo Verde, Tucson**

November 5 Regular monthly meeting

November 19 TCSS Board Meeting
7 p.m. College of Pharmacy



Sunday December 13 Christmas Party Luncheon at TBG

TCSS reserves the right to change dates and/or program should it be necessary.

TCSS April 2 meeting

Show and Tell was the main component of the meeting. Members spoke about the plants which they had brought along for the two-day display at the Tucson Botanical Gardens over the weekend.

Dan Birt was first: He told of his *Hechtia marnier-lapostelle*, a beautiful bromeliad, and his *Echinocereus grandis* from Baja which can get to 2 ft tall, and rival a barrel cactus in size. Its flowers are yellow with a red center. Other cacti he showed were *Thelocactus uncinatus v. wrightii*, *Leuchtenbergia principis*, which Dan grew on from a 'busted flat' which contained lots of young *Leuchtenbergias*. His succulents included *Aloe variegata* and *A. humilis*, *Agave parasana* and *A. victoriae-regina compacta*.

Al Coritz showed his *Ferocactus glaucescens* which has just produced its first flowers in the twelve years since he got the plant. The cold snap a couple of nights earlier had nipped it a bit. Other first-time flowerers for Al were his *Mammillaria lenta* and *Mammillaria candida*.

Mary Church wanted to show off her multi-headed *Echinocactus grusonii*, but it was too heavy for her to get to the meeting.

Jim Hosack showed off his *Neoporteria senilis* and its pink flowers, and a *Beaucarnea*.

Gene Loring told of how he started growing cacti in Sante Fe, then he moved to Reno before arriving in Tucson. How all his plants were eaten by javelinias, so he started collecting cacti again.

Julie Girden brought along one of her *Stapelias* which regularly produces some beautiful flowers.

Lois Ladwig spoke about her *Mammillaria woodsii* (pink flowers), her *Echinocereus pectinatus rigidissimus* and *Mammillaria dixanthrocentrum*.

Gene Joseph brought along a large *Gymnocalycium bruchii*, *Gymnocalycium horstii bueneckerii*, *Euphorbia polygona* "Snowflake" (cold hardy), a medusa-type cold hardy Euphorbia which had volunteered in his yard, *Euphorbia esculenta*, and *Agave toumeyana* grown from seed in 1981 - this one doesn't like cold. Gene also showed off his *Mammillaria microthela* which was given to him in 1988 by the late Archie Deutschman.

Miles Anderson brought his *Adenium somalensis*, a tall growing plant, flowers in spring, takes full sun, but doesn't like the cold; his *Euphorbia fruticosa* which is fine as a grafting stock; a 35 yr. old *Euphorbia gorgonis*. A lovely specimen of *Jacaratia hasseleriana* in flower was put on display - a rare plant on the show bench. And, of course, Miles had some of his cristates on show for everyone to enjoy, including the *Mammillaria zielmanniana* crested hybrid - "Drop dead Fred". ▲



October 23 - 25



Successor to Stuck-on-Tucson '96, **Sonoran 2** will be a super event of workshops, speakers, special evening at the Arizona-Sonora Desert Museum, plant show, silent auction, plant and book sales, and cactophilic conviviality.

Speakers: Tony Burgess; Mark Dimmitt; Matt Johnson; and Meg Quinn

Workshop Leaders: Miles Anderson; Cathy Babcock; Dan Bach; Diane Barker; Bruce Birt; Gene Joseph; Michael Louie; Scott McDermott; James Pickering; and Greg Starr.

Special (optional) event on Saturday evening at the Arizona-Sonora Desert Museum

Venue: Holiday Inn Palo Verde, 4550 S. Palo Verde Blvd., Tucson, AZ 85714 Tel: (520) 746-1161

Special rates for rooms: \$69 per night for a room; or \$79 per night for pool side suite.

When YOUR forms for registration arrive, get them back quickly, to stand the best chance of getting the workshops YOU want. ▲

Special Events
June 1998
You are invited
Be our guests!

TUCSON CACTUS & SUCCULENT SOCIETY

proudly presents

RUDOLF SCHULZ from Australia

Thursday June 11, 1998

and

BRUCE BAYER from South Africa

Thursday June 25, 1998

RUDOLF SCHULZ was born in Germany, educated in the USA, but has spent most of his life in Australia, where he currently operates a nursery in Victoria specializing in non-cactus succulents. He writes and edits the journal *ASRAN* and travels to desert and arid areas around the world. One of his aims is to visit all of the world's succulent habitats. Rudolf Schulz is co-author, with Attila Kapitany, of *Copiapoa in their environment* and, with Anne Powys, of the new book, *Pinguone, Kenya - Succulents and their Environment*.

The first part of Rudolf's talk will be about how Copiapoa's cope with their environment in the Atacama Desert in Northern Chile, where very little rain falls and the sea fogs keep temperatures low.

The second part will be about the plants which grow on the 44,000 acre Pinguone Ranch situated in the highlands of Kenya. Over ninety species of succulents have been recorded on the ranch with twenty of them considered caudiciform.

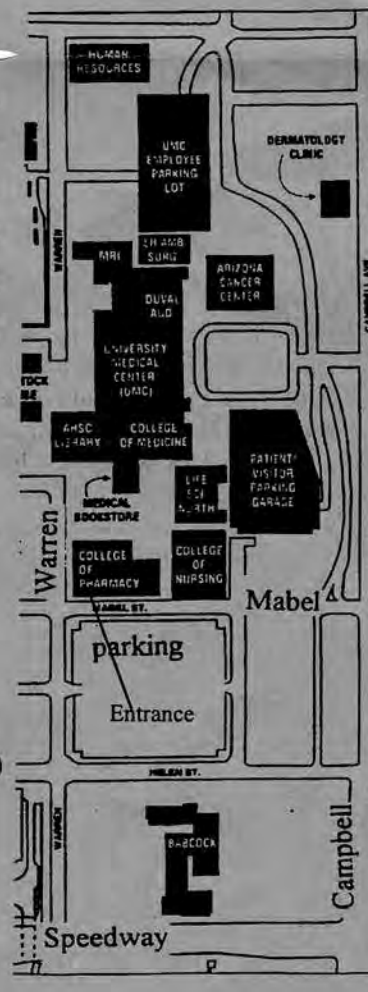
BRUCE BAYER was born in Kwazulu (Natal) in 1935. His father was interested in plants and an uncle was professor of Botany at the University of Natal. Bruce's own field activities date back to 1939. He majored in Entomology at Pietermaritzburg in 1956, completing his MSc with the study of Noctuid moths, but his real interest was Haworthias. Bruce worked as a Botanical Assistant at the Karoo Garden, succeeding to position of Curator in 1973. In 1987, he became a research ecologist with the Dept. of Agriculture until retiring early to follow his own special interests in Haworthia. Bruce will be speaking mainly on Haworthias. His new book on Haworthias is expected to be available in June 1998.

**Both events at 7 p.m. at The Main Auditorium,
College of Pharmacy, Mabel/Warren, Tucson**

You will be very welcome as our guests. If you are bringing a bus full of members and friends, a call beforehand would be appreciated. Thanks.

Questions to Dick on (520) 626-4429 [work], (520) 885-6367 [home];
Margaret (520) 795-1285; or Carol e-mail kitfox@azstarnet.com

**Plenty of places to eat in vicinity of Speedway and Campbell
and further north on Campbell**

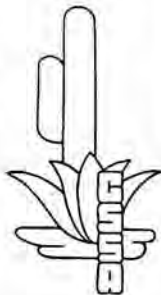


The Cactus & Succulent Society of America

Those of you who may have picked up one of the CSSA's brochures in recent months and not yet used it for joining the CSSA, should note that the address for mailing in your application for membership has changed.

The address formerly in Des Moines is now:
 CSSA, Inc., c/o Mindy Fusaro,
 P.O. Box 2615, Pahrump, NV 89048-2615
 Don't worry if you have just mailed to Des Moines as we understand that the post office box there is to remain in service for a while.

The current annual dues within the USA are \$35.00, and \$10 for each additional person in the same household who wishes to be a member.



Contents of the May/June issue of the CSSA Journal

by CSSA Editor, Myron Kimmnach

People Notes — Charles Edward Glass,
 24 May 1934 - 23 February 1998,
 by Betty and W.A. Fitz Maurice.

The succulents of La Gomera, by Ray Stephenson.

When is an aloe not an aloe? by Bruce Hargreaves.

A new Tylecodon species, by Graham Williamson.

Aloe ballii, by Anthon Ellert.

The pollination of *Pseudolithos caput-viperae*,
 by Ralph Peckover.

Cardon — personal reminiscences of *Pachycereus pringlei*,
 by Reid Moran.

Valley View Succulent Notes, by Gerald Barad.

Cacti & Succulents for the Amateur, by Duke Benadom.

Spotlight on Round Robins, by Engelke & Fleischmann.

Report of the CSSA Research Committee for 1997,
 by Dan Mahr. ▲

Kactus Kaos

Opuntia fragilis denudata
 You ever grow from eve to dawn -
 'Til time to bask in sunlight.
 Ever fragile, like all nature - wondrous!
 Trapped by the molecule of Kaos.

The above poem was written by member Clint Jarvis and presented at the Tucson Poetry Festival, April 4, 1998.



Welcome New Members

Joseph and Carolyn Costante who attended our meeting last month and joined at the TCSS Display.

<costante@pop.goodnet.com>

Richard Dulaney who enjoys life at the Arizona-Sonora Desert Museum.

Edward F. Leach, Master Gardener, of Oro Valley.

Scott McMahon, of Scottsdale. Scott is President of the Central Arizona Cactus & Succulent Society.

Nancy Reid, of Tucson, who joined at the TCSS Display at the Tucson Botanical Gardens last month.

Carol Scannell of Tanque Verde Greenhouses, Tucson.

Jared Shortman of Tucson Growers (plant nursery) who enjoys growing native plants. Jared's e-mail address is

<tucgrow@earthlink.net>

Vonn H. Watkins of Tucson who also joined at the TCSS Display last month.

Addresses and telephone numbers of new members are not listed in Desert Breeze, to help maintain personal privacy.

Dr. Archie J. Deutschman, Jr

1917 - 1998

We were sad to learn of the passing of Archie Deutschman on April 5. Archie was recognized as one of the world's experts on Mammillarias and had traveled extensively in Mexico with other experts. He gave his renowned collection of Mammillarias to our member, Gene Joseph, in the summer of 1988. Archie was also a keen bird watcher and enthusiastic photographer. Born on November 21, 1917, in Chicago, Archie was educated in Illinois and Wisconsin. He was a Big 10 wrestling champion and was recently inducted into the National Wrestling Hall of Fame. In 1957, his work as a chemist brought him to the University of Arizona Agricultural College. A memorial gathering in Archie's honor was held in April.

The Archie Deutschman Mammillaria Collection was written about by Gene Joseph for the September 1997 issue of *Desert Breeze*. If you missed that issue, the article can still be found in the archive section of our web page at
 <<http://www.desertcactus.com/tcss/>>

Bookworm Bill's Browzing

What a feast of beautiful, and informative, books is being produced these days! In the past month, since the last issue of *Desert Breeze*, the following new books and journals have been published:

Pinguone, Kenya - Succulents and their Environment

Rudolf Schulz and Anne Powys 1998

Not only does this book cover the diverse succulent flora which grows on the 44,000 acre (20,000 hectare) Pinguone Ranch, but it gives an overview of the environment — an introduction to Kenya and the Lakipia District, its animals, and even of the people who have lived at Pinguone (pronounced ping-wan) and those who live there now. The book was written at a "jargon-free level understandable to general readers" — a delightful book with which to curl up in your favorite chair. There is a lot of technical information in this book, with many colored photographs, drawings, maps, and perspective drawings of the sort which thrilled us in Rudolf's earlier book *Copiapoa in their environment*, which he co-authored with Attila Kapitany. We look forward to hearing Rudolf telling us, in person, about Pinguone and its succulents in June.

160 pp, A4 size, hardcover, 300 color photographs, seed list supplied with each book. US\$80 each plus \$10 air shipping. Schulz Publishing, Box 40, Teesdale, VIC 3328, Australia. Fax: +61 3 5281 5263 Visa, MasterCard accepted.

Haseltonia, Number 5, 1997

This is the latest yearbook of the Cactus and Succulent Society of America. As good as usual, the cover depicts a striking photograph, taken in 1997 by John Trager, of *Aloe melanacantha*. The papers submitted for publication in *Haseltonia* are generally more technical than those in the bi-monthly *Cactus & Succulent Journal*. This issue has articles on Ariocarpus; Comparative anatomy of *Neoraimondia roseiflora* and *Neocardenasia herzogiana*; New taxa and combinations in *Echeveria*; The Genus *Sedella*; Convergent adaptive morphology of a Sonoran Desert Cactus (*Peniocereus striatus*) and an African spurge (*Euphorbia cryptospinosa*); and other subjects.

Available from CSSA Treasurer, Mindy Fusaro, PO Box 2615, Pahrump, NV 89041-2615. \$30 postpaid in US.

British Cactus & Succulent Journal, March 1998

Congratulations are in order to the new editor of this journal for his first issue. David Neville, with Production editor, Nick Lear, has come up with more innovative ideas for layout. It is interesting to see the different ways in which the latest issues of the BCSS and CSSA journals have reproduced the same photographs in their coverage of the 1998 ISI plant offering. Modern computer techniques have made the execution of such design ideas easier. The BCSS March Journal has published what must be one of the last writings of Charlie Glass before his untimely passing. Charlie was writing a series of articles about personali-

ties in the cactus world, and this latest article is about Hernando Sanchez-Mejorada and his plants. It is ironic that Charlie wrote in that article: "Perhaps they [his cactus friends in Mexico] had some influence over the fact that I would one day choose Mexico as the country in which I wanted to live, work, and some day, die."

Coming Soon

Adromischus by John Pilbeam, Chris Rodgerson and Derek Tribble. Due for publication on May 1, 1998, this exciting new addition to the literature on succulent plants is the first to be devoted to the genus *Adromischus*. Hardbound, 104 pp, with about 90 color illustrations. It may be ordered from:

The Book Order Dept., Cirio Publishing Services Ltd., 5 Chevron Business Park, Lime Kiln Lane, Holbury, Southampton, U.K. SO45 2QL Fax: 011 44 1703 893348 £26.50 incl. postage for orders from USA. Visa/MC

Prof Werner Rauh's *Succulents of Madagascar Volume II* is now at the printers. If you haven't already ordered your copy, you may wish to do so very quickly. The last issue of the CSSA Journal offered it at \$120.00 + \$7.50 shipping for US addresses (+ \$7.00 tax California only). Mail your order with check to:

Strawberry Press, 227 Strawberry Drive, Mill Valley, CA 94941, or call Dr Herman Schwartz on (415) 388-5017.

Orders directly on the publisher in this case really help to keep such wonderful books on the production line. ▲



(Continued from page 2)

Current Mission of The Desert Laboratory

In the 1990's, Jay Quade, Assistant Professor in Geosciences, inherited Paul's position as Director, and injected the Desert Lab with a strong dose of stable isotope geochemistry. The USGS-Water Resources Division hired Bob Webb and Julio Betancourt, former Geosciences students, as replacements for Ray; they were joined recently by Waite Osterkamp, a geomorphologist previously stationed in Denver, and Jack Wolfe, a retired USGS paleobotanist. Although his office remains on campus, Larry Venable (EEB) has conducted experimental studies of the population biology of desert annuals on the Hill since 1983.

Under this new leadership, the Desert Lab has a long-term commitment to developing a unified coherent framework for the study of surface processes in deserts. The goal is to develop the infrastructure for collaboration between geologists, hydrologists, and ecologists in reconstructing landscape history. Current research activities at the Desert Lab range far and wide. Desert Lab scientists study hillslope geomorphology, plant ecology, paleobotany and isotope geochemistry. Field sites span from arid North and South America to Australia and central Asia. ▲

Please use this form, or copy it, to renew your membership or start a new membership.

**Tucson Cactus and Succulent Society
1998 Membership Form**

Name(S) (F, Mi, Last) _____

Address _____

City _____ State _____ ZIP _____

Home telephone (____) _____ - _____ Work telephone (____) _____ - _____

Fax (____) _____ - _____ e-mail _____

Life \$500 ____ Family \$20 ____ General \$15 ____ Student (18 and under) \$10 ____

New Membership _____ Renewal Membership _____

Dues run from January 1 through December 31 each year.

Please make checks payable to TCSS, and mail with completed form to:

TCSS Membership Secretary, Maury Clapp, PO Box 91560, Tucson, AZ 85752-1560

**Next Meeting Thursday May 7 -
The Desert Laboratory on Tumamoc Hill
Meeting guidelines**

WESTSIDE CARPOOLING:

Please meet in the parking lot of the Safeway Shopping Center at the southeast corner of St. Mary's Rd and Silverbell Rd, just east of the 7-11 by 6.45 p.m.



Meet here.

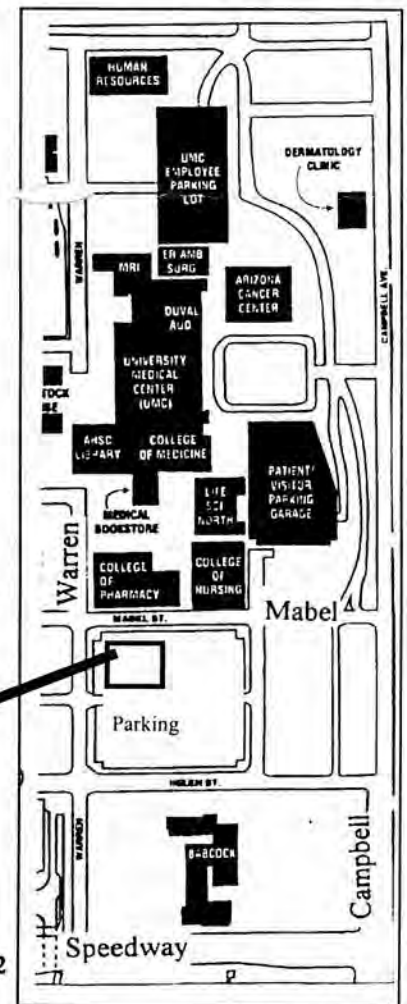
EASTSIDE CARPOOLING:

Please meet in the parking lot south of the College of Pharmacy building on Mabel and Warren by 6.30 p.m.

Meet here

If coming from town to Westside meeting point, go west on 6th Street which turns into St. Mary's Rd.

Read about The Desert Lab on page 2



Tucson Cactus & Succulent Society
c/o Carol and Maury Clapp
PO Box 91560 Tucson AZ
85752-1560

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Desert Breeze

Newsletter of the TCSS for May 1998

85734-3404



NEXT MEETING - Thursday, May 7 see meeting times below

Note change
of venue

**Visit to The Desert Laboratory
on Tumamoc Hill, Tucson**
Read about the Lab's history on page 2

Car parking is limited at the Laboratory so car pooling
is necessary on this occasion.
See maps on page 7.

EASTSIDE CARPOOLING: Meet at 6.30 p.m. in the car parking lot to the south
of the College of Pharmacy building on Mabel and Warren.

Gather at the northern side of the parking lot opposite the steps at the entrance to the College.

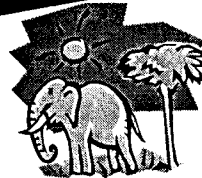
WESTSIDE CARPOOLING: Meet at 6.45 p.m. in the parking lot
of Safeway Shopping Center at the SE corner of St. Mary's Rd and Silverbell Rd, just east of the 7-11.

No Show and Tell on this occasion - Refreshments will be organized by Margaret Pope.

Desert Breeze

Volume 3, Issue 6

JUNE/JULY 1998



THE TCSS BRINGS TO TUCSON

Rudolf Schulz
from Australia

AND

Bruce Bayer
from South Africa

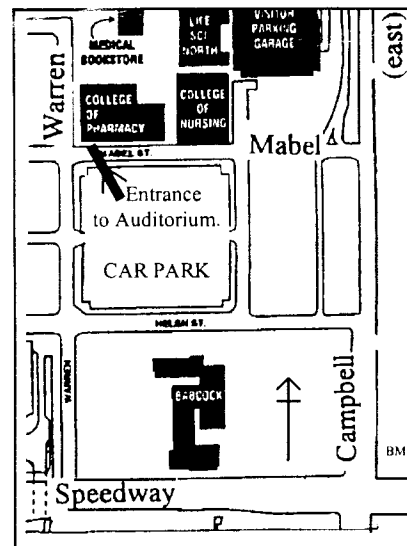
Thursday June 11 at 7 p.m.

Thursday June 25 at 7 p.m.

Rudolf will be speaking on two subjects: Copiapoas, and on Pinguone, Kenya, and its succulents. He has recently co-authored two books on these subjects which he has personally studied in their habitats.

Bruce is a world authority on Haworthias. He has studied them for many years in their native Africa and written many articles about them. His latest book on Haworthias is due to be published any moment now.

We invite YOU and your friends, whether members or not, to join us on both these occasions in Tucson when we will hear experts in their respective fields of study. Just turn-up by 7 p.m. Both meetings at the College of Pharmacy, Mabel & Warren, Tucson, in the Main Auditorium. A location map is included here for the benefit of new members and others who are receiving their first issue of Desert Breeze. There is a Boston Market at the NE corner of Speedway and Campbell, which is approximately 2 miles from the Speedway exit of I-10 which lies to the west of this map. Light refreshments will be available.



SONORAN 2

★
Registration package inside this issue

★
One form for each person registering

please

★
Photocopies acceptable if you need more

★
Book now for best choice of workshops!



TCSS Officers and Board of Directors; Welcome New Members	page 2
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Tucson Cactus & Succulent Society
Founded 1960

OFFICERS AND BOARD 1998

PRESIDENT: Richard Wiedhopf 885-6367
VICE-PRESIDENT: Margaret Pope 795-1285

SECRETARIES:

Carol and Maury Clapp 908-9001

TREASURER: Arnold White 577-1348

BOARD OF DIRECTORS:

(terms expire December 31 of year indicated)

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Mary Odette 1999

Julie Turko 1999

Dan Birt 2000

Al Coritz 2000

Lois Ladwig 2000

AFFILIATE REPRESENTATIVE TO CSSA:

Carol Clapp (520) 908-9001

e-mail: kitfox@azstarnet.com



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FAX: (520) 908-0396
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PO Box 91560
Tucson, AZ 85752-1560

The **Desert Breeze** is the Newsletter
of the Tucson Cactus & Succulent Society.

Please send your copy by the 20th of the
month preceding the following month's issue
to the Editor.

TCSS Web Page

<http://www.desertcactus.com/tcss/>

TCSS WEBMASTER: Lois Ladwig

e-mail: lois@desertcactus.com

Items for possible inclusion on our web page should
be sent to <kitfox@azstarnet.com> for consideration.

TCSS Treasurer's Report

The treasurer's report as of April 30, 1998 is as follows:

Checking account: Previous balance, \$2022.27;
Checks written, \$793.93; Deposits, \$230.00; Interest, \$3.38;
Closing balance, \$1471.72.

Savings account: Previous balance, \$2783.51;
Interest, \$7.44; Closing balance, \$2790.95.

Arnold White, TCSS Treasurer

Welcome
New Members



In April:

Pat Goltz of Tucson.

Barbara J. Kyper, another enthusiast from west of the
Tucson Mountains!

David A. Palzkill from Tucson <palzkill@azstarnet.com>

And in May:

Dan and Diane Bach of Bach's Greenhouse Cactus Nursery.

Wendy Beall of Tucson, interested in cacti and other plants
which grow in Arizona <wendy@stardotstar.com>

Jerry Krulik of San Clemente, California

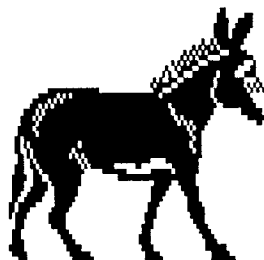
Chris Marshall of Tucson.

Lori and Allan Sobel of Tucson.

*As usual, addresses and telephone numbers of new members
are not listed in Desert Breeze to help maintain personal
privacy.*

Good wishes to member Joe Wujcik following his surgery a
few weeks ago and hope he is now well enough to ride his
bike again and throw more pots. We look forward to seeing
you, Joe, (and Carol) in October at Sonoran 2. ▲

As usual, the June and July
issues of *Desert Breeze* are
combined to allow the editor to be put
out to grass - this year, to the desert, to
prepare for the arrival of the mules.

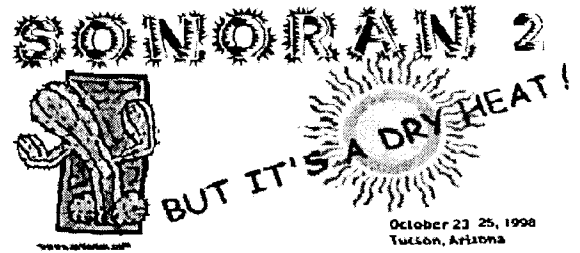


Next *Desert Breeze* will be the August issue -

Copy deadline 20 July

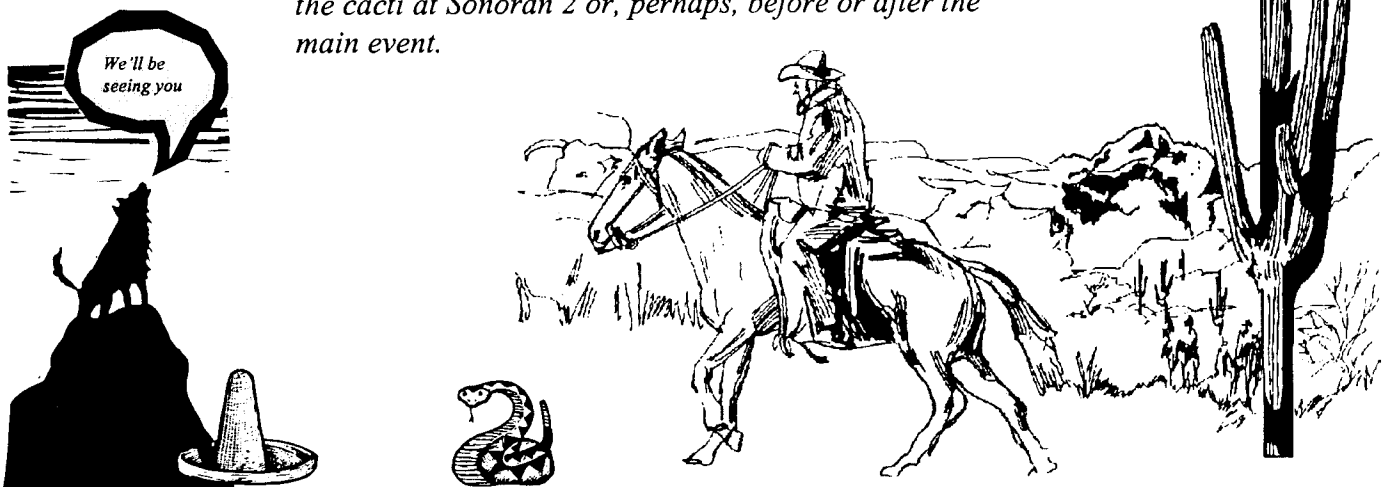
Sonoran 2

October 23 - 25, 1998



- ◆ The registration package is enclosed with this issue of *Desert Breeze*.
- ◆ Requests for workshops will be allocated in order of post mark date on your envelope. The sooner you send in your forms, the greater chance you have of getting the workshops you want.
- ◆ One form per person registering please. If you need more forms, photocopied forms are fine.
- ◆ We are lucky to have so many botanically talented people here in Tucson who are able and willing to give talks and lead workshops at our club meetings — and at Sonoran 2.
- ◆ Thanks to all those cactus societies who have publicized Sonoran 2 in their club newsletters. We are keeping newsletter editors and affiliate representatives advised of updates to this event and they, in turn, are disseminating the information to their society members. Thank you all so much. Inquiries are pouring in!
- ◆ Introducing to you the Sonoran 2 committee:
- ◆ Chairman: Dick Wiedhopf (520) 885-6367
- ◆ Program Chair: Margaret Pope (520) 795-1285
- ◆ Facilities Chair: Maury Clapp (520) 908-9001
- ◆ Finance: Arnold White (520) 577-1348
- ◆ Vendors: Mary Odette (520) 749-2285
- ◆ TCSS and consignment sales: Linda Burback (520) 647-3200
- ◆ Plant Show: Linda Ryan (520) 299-2338
- ◆ Advertising:
- ◆ Cactus Societies: Carol Clapp e-mail: <kitfox@azstarnet.com>
- ◆ Web Site: Lois Ladwig <<http://www.desertcactus.com/tcss>>
- ◆ Local & media: Mary Odette (520) 749-2285
- ◆ Thanks to all our other members who are assisting in a multitude of ways. You are all appreciated.

See next page for ideas of other interesting things for your family to do around here while you are stuck into the cacti at Sonoran 2 or, perhaps, before or after the main event.





Bring your family — there are lots of fun things to do in Tucson

There are so many places to enjoy in Tucson and surrounding areas for people of all ages and interests. Below are listed a few of them to whet your appetite for your vacation time.

On the west side of Tucson:

- Arizona-Sonora Desert Museum, world famous living museum of the Sonoran desert;
- Old Tucson Studios, near ASDM;
- Saguaro National Park West ;
- Tucson Mountain Park;
- Kitt Peak National Observatory;
- 'A' Mountain (Sentinel Peak);
- International Wildlife Museum;
- Casino of the Sun on the Indian Reservation.

To the north part of town:

- De Grazia Gallery in the Sun;
- Tohono Chul Park, have lunch on the patio in these delightful desert gardens;
- Pinnacle Peak (eating house) and Wild West Town;
- Sabino Canyon;
- Biosphere 2;

South of town:

- Mission San Xavier Del Bac, the White Dove of the Desert;
- Titan Missile Museum;
- Pima Air and Space Museum.

East of town:

- Colossal Cave;
- Saguaro National Park East;

In town:

- Tucson Botanical Gardens;
- Reid Park Zoo, off 22nd Street;
- Arizona State Museum;
- Flandrau Science Center and Planetarium;
- Arizona Historical Society/Tucson Museum.

And cactus nurseries galore! A list of member nurseries will be available at Sonoran 2, or see our web page. Lots of golf courses, too. This is not a definitive list of everything you can do in and around Tucson. It is just a guide with attractions clustered in (very) approximate directions. Details of hours of most of these places will be available in hotel foyer. ▲

Plantfreaks and Collecting Bugs

by TCCS member, Jared Shortman

Off and on over the years you hear the complaint about those of us who have the "collecting bug"; they claim that we have some kind of problem because we are always looking for new stuff to obtain for our collections. The "collecting bug" is supposed to be a psychological disfunction and it has become politically incorrect to have such an infection.

I have to admit I am fully infected with the collecting bug. I am always looking for something new. But really, why buy plants at all if you aren't going to look for new things? Why not be happy with whatever weeds pop up in your yard? I am not afraid to admit that this is not good enough for me. I don't turn my nose up at very many plants but I like to see what is new out there so I can understand the plant kingdom better. It is one singular interest I hold dearly to more than anything (well - besides my girlfriend). We are hardly scatterbrained collectors. Very few people possess the kind of focus it takes to be a plantfreak. Plant collecting is not some extravagant psychological avoidance technique. We are interested in the plant kingdom and love to see what freakish things certain groups will do, their ethnobotanical importance in our lives, what variations a species can have, what improvements we can impose for our own benefits, etc.

Plantfreaks are very focussed, very calm, very meditative. I think it is also collectors who are most concerned with the disappearance of species on the planet. It is collectors who give a damn about some funky little obscure species that might be lost in habitat. Due to habitat destruction so common and spreading, it is collectors who will be the ones to keep the genetic material alive cause they'll have the plants. They cared enough to notice they were there. Do people make fun of historians because they strive to obtain and preserve as many little pieces of knowledge about our past as possible? Of course not. This is because we know that having and being aware of our history is essential to knowing ourselves as a society. It is no different in the realm of botany. We need to collect the information about the habitats we live in, and as a matter of necessity to accomplish this goal, we need to collect the plants.

I want to see and grow and learn about as many species of plants as I can before I die. I am a botanist and I have found that growing the plants causes you to really pay attention to them and to get to know them so well that you couldn't miss them even botanizing from a car going 55 mph. A good botanist is also a good horticulturist. That is why I strive to collect as many plants as I can afford to obtain and grow. I see no need to feel guilty or dysfunctional because of my drive to collect - no more than anyone should feel guilty about following any one singular interest with passion. ▲

TCSS Calendar of Events

Regular monthly meetings are on first Thursday at 7 p.m. at the Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson, AZ 85712-2620 unless otherwise noted.

PLEASE NOTE CHANGES FOR JUNE AND JULY

Thursday June 11 Rudolf Schulz from Australia
7 p.m. The Main Auditorium

College of Pharmacy, Mabel and Warren, Tucson
Rudolf Schulz is co-author, with Attila Kapitany, of *Copiapoa in their Environment* (published last year). Recently, he co-authored, with Anne Powys, *Pinguone, Kenya - Succulents and their environment*, which is now available. Rudolf was born in Germany, educated in the USA, but has spent most of his life in Australia, where he currently operates a nursery in Victoria specializing in non-cactus succulents. He writes and edits the journal *ASRAN* and travels to desert and arid areas around the world. One of his aims is to visit all of the world's succulent habitats. Rudolf will be speaking about how Copiapoas cope with their environments in the Atacama Desert in Northern Chile, where very little rain falls and the sea fogs keep temperatures low. The second part of his talk will be about the plants which grow on the 44,000 acre Pinguone Ranch situated in the highlands of Kenya. Over ninety species of succulents have been recorded on the ranch, twenty of them considered caudiciform.

Thursday June 25 Bruce Bayer from South Africa

7 p.m. The Main Auditorium,

College of Pharmacy, Mabel and Warren, Tucson.

Bruce will tour around USA in June, giving lectures in Omaha, Denver, San Francisco, San Diego, and Miami, as well as here in Tucson. Bruce Bayer was born in Kwazulu (Natal) in 1935. His father was interested in plants and an uncle was professor of Botany at the University of Natal. Bruce's own field activities date back to 1939. He majored in Entomology at Pietermaritzburg in 1956, completing his MSc with the study of Noctuid moths, but his real interest was Haworthias. Bruce worked as a Botanical Assistant at the Karoo Garden, succeeding to position of Curator in 1973. In 1987, he became a research ecologist with the Dept. of Agriculture until retiring early to follow his own special interests in Haworthia. Bruce's new book on Haworthias is expected to be available in June.

The Main Auditorium at the College of Pharmacy holds 174 persons sitting in great comfort. *Everyone welcome to both our special meetings in June. Bring your friends.*

Visitors Always Welcome



NO TCSS MEETING IN JULY

Thursday Aug 6 John Wiens will be speaking on
The Succulents of the Avra Valley Watershed

John Wiens is a Nursery Horticulturist in the Botany Department at the Arizona-Sonora Desert Museum. He will give a photographic overview of the variety of succulents found in the Avra Valley watershed. His talk will describe habitats and microhabitats.

John received his B.S. in Agricultural Science (Ornamental Horticulture) from the University of California-Fresno. He has been at the Arizona-Sonora Desert Museum for thirteen years, during which he was in charge of the Cactus and Succulent Garden for six years. He has been a collector and grower of succulents for thirty years.

Thursday Aug 20 TCSS Board Meeting
7 p.m. College of Pharmacy

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Our home-grown Miles will be telling us about his successful methods of grafting. See September issue for more on this.

October 1 (date change) Regular monthly meeting

October 23 - 25 **Sonoran 2**
Holiday Inn Palo Verde, Tucson

November 5 Regular monthly meeting

November 19 TCSS Board Meeting
7 p.m. College of Pharmacy

Sunday December 13 Christmas Party Luncheon at TBG

TCSS reserves the right to change dates and/or program should it be necessary.



Other events which may interest cactophiles and succulentophiles

Many of our TCSS members travel around the country and like to visit other cactus club events. It is suggested that you confirm details before travelling a long distance to any of these events.

June 6 and 7 San Diego Cactus & Succulent Society's Annual Show and Plant Sale. Room 101 Casa del Prado, Balboa Park, San Diego, California. Plant Show will be open on June 6 from noon - 5 p.m. and on Sunday from 10 a.m. to 5 p.m. Tel: (619) 462-1805 or (619) 569-8510.

June 12-14 Mid-America Regional Conference. Info from Roger and Nancy Brown (402) 779-3416 or <spinekeeper@aol.com>

June 15-19 and July 27-31 Critters in the Garden II
Explore the Tucson Botanical Gardens for creatures. Fee. Call 326-9686 Extension 18 for details.

July 11-12 CSSA National Show and Sale at the Huntington Botanical Gardens in San Marino, CA. Info: Joe Clements on (909) 624-2282.

July 25-26 Northern California C&S Show and Sale. S.F. County Fair Bldg., 9th Ave. & Lincoln Way, Golden Gate Park, San Francisco. Call Marilyn Pekasky (510) 236-6090.

July 26 Guy Wrinkle speaking about his most recent trip to this seldom seen country, *Ecuador, the Natural History*. Long Beach Cactus Club. Contact Jim Hanna on (562) 920-3046 for information.

July 22, 29, August 5, 12, at 5.30 p.m. Twilight Walks in the Garden. If you are in the Bay Area by San Francisco, you may like to visit the University of California Botanical Garden at Berkeley for a guided evening stroll in this world famous garden. Call (510) 642-3343 for more info.

Aug 21-23 11th Eastern Conference hosted by the Greater Pittsburgh Cactus & Succulent Society at the Clarion Hotel of New Kensington in Pittsburgh, PA. Keynote speaker will be Ernst Specks, Exotica Nursery, Germany, plus another ten well-known speakers. Their added diversion is an optional Three Rivers Dinner Cruise at \$40 per person (this is a good trip - I've done it, Ed.) More details from Paul Hoffman <sulcos@nauticom.net> or (412) 935-6517

August 22-23 Intercity C&S Show. Los Angeles State & County Arboretum in Arcadia, CA - one of the largest shows in the world. Call Woody Minnich on (805) 944-2784.

September 19-20 C&SS of California Show & Sale. Lakeside Park Garden Center, Oakland. Info: Carole Keeton (408) 258-9444

October 17-18 San Gabriel C&SS Winter Show and Sale at the Los Angeles State & County Arboretum in Arcadia. Call Woody Minnich for details - (805) 944-2784

1999

April 11-16 CSSA Biennial Convention in Las Vegas at the Tropicana Hotel.

2000

In the Fall - SONORAN 3

2001

CSSA Biennial Convention is expected in Albuquerque.



Visit to The Desert Laboratory on Tumamoc Hill in May

Twenty-one members made the short trip up Tumamoc Hill for our May meeting, where we enjoyed a delightful talk by Janice Bowers on her research work with Opuntias. She told of Ray Turner's work on the demography of saguaros too. When she first met Ray, she thought of him as Mr Saguaro. Jan and Ray co-authored *Sonoran Desert Plants* with Tony Burgess. Jan explained the upsurges and declines in the population of saguaros. In 1860 numbers dwindled until 1920, when an upsurge began and continued for forty years, until a further decline set in. The greatest threat to the saguaro population is land development. In 1964, Ray Turner divided up 'The Hill' into four plots, each from the top of the hill to the base. Each saguaro was numbered from aerial photos. 4000 individuals were numbered and each was measured in 1970 and in 1993. This data was used to work out when each plant would reach a certain height. Saguaros can live for 150 years and produce 40 million seeds. Soon after his return to the Desert Lab from Jamaica in 1910, Forrest Shreve developed a way to measure saguaros, and also Fero-cacti, and this is how growth is still assessed. So far Jan has had 9 years of picking spines and glochids out of her fingers! ▲





Please use this form, or copy it, to renew your membership or start a new membership.

Tucson Cactus and Succulent Society
1998 Membership Form

Name(S) (F, Mi, Last)
Address
City State ZIP
Home telephone () - Work telephone () -
Fax () - e-mail
Life \$500 Family \$20 General \$15 Student (18 and under) \$10
New Membership Renewal Membership

Dues run from January 1 through December 31 each year.

Please make checks payable to TCSS, and mail with completed form to:
TCSS Membership Secretary, Maury Clapp, PO Box 91560, Tucson, AZ 85752-1560

The Sonoran Desert — Why it's special

- The State of Sonora has 20 per cent of Mexico's plant species — 4,500 — although its area covers less than 10 per cent of Mexico.
The San Pedro Riparian National Conservation Area has 86 mammal species, more than any similar-sized area in the United States.
More species of native bees live within an hour's drive of Tucson than anywhere else in the Americas.
At least 500 bird species are reported in the Sonoran Desert, roughly half the known number of birds in the continental United States or in all of Mexico.
The San Pedro and Colorado River corridors harbor up to 400 breeding, wintering and migrating bird species.
Roughly 50 bird species live in Arizona, and nowhere else in the United States. Fifteen other bird species live only in the Mexican portion of the Sonoran Desert.

Source: The Wildlands Project

Database for Field Numbers

Recently on the Internet's cacti_etc. Ralph Martin of the UK announced that the Field Number Database now has ML field numbers (Michael Lacoste) in addition to those previously available.

The address is

<http://ralph.cs.cf.ac.uk/Cacti/fieldno.html>

The Field Number database provides a service where you can enter the field number of some cactus, or succulent, and be given details of who collected it, its name, and where and when it was collected.

Example:

You enter the field number such as:

GL&F 2098

The information you get back would be:

Charlie Glass and Robert Foster
Cephalocereus purpusii
Hills, just south of Culiacan, Mexico
1970
(cristate form)

Thanks, Ralph, for setting up this service, and to those collectors who supply details of their field numbers. This is invaluable to serious collectors who also have access to the Internet.

Tucson Cactus & Succulent Society
c/o Carol and Maury Clapp
PO Box 91560 Tucson AZ
85752-1560

Desert Breeze

Newsletter of the TCSS for June/July 1998

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U.S. POSTAGE
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TUCSON AZ
Permit No: 216

Adromischus

The Cactus File Handbook 3, 1998
John Pilbeam, Chris Rodgerson and
Derek Tribble

Another "first"! This book, dedicated to the late Bryan Makin, is the first monograph devoted to the genus, *Adromischus*. It is sure to encourage more followers of these plants. This is the third in the series of monographs, succeeding *Thelocactus*, and *Rebutia*, both by John Pilbeam. All of them are attractive, informative and a pleasure to read, and are sure to become as sought-after in the future as John Pilbeam's earlier books.

There are comparative descriptions of *Cotyledon* and *Tylecodon* and *Adromischus*, so you can be sure which plants are *Adromischus*. Tölken's classification of the five sections of *Adromischus*, based on floral characteristics is a good start, before working through the key

BOOK REVIEW
BY
BOOKWORM BILL

based mainly on vegetative material. The geography and distribution summary, with maps and photographs is easy to understand. The section on cultivation also is comprehensive and even describes the differences between repotting and potting-on, and which is preferable for each plant. The glossary helps with the technical descriptions. Each species of *Adromischus* is covered by one or two pages of words, photographs of the whole plant and individual leaves or flowers, a location map, with even more pages for a species where there are several varieties. *A. marianiae* and its multitude of varieties and forms takes up fifteen pages.

Another meticulously researched book, the authors have even referred to Fowler's *Modern English Usage* in its preparation. 104 pages. 9½x6½" format, hardbound. Published by Cirio Publishing Services Ltd., 5 Chevron Business Park, Lime Kiln Lane, Holbury, Southampton SO45 2QL, UK. Buy it direct from them or try your usual bookseller. ▲

Desert Breeze

Volume 3, Issue 7
AUGUST 1998

Sonoran 2

23-25 Oct 1998

4 speakers

10 workshops

to choose from

Silent Auction

Plant Sales

Book Sales

FUN

at

Holiday Inn

Palo Verde

Tucson AZ 85714

1-800-465-4329



Bruce Bayer

gave a talk to TCSS members and friends on 25 June in Tucson. His subject was *Haworthia* — Why Controversy? During his stay in the desert near Tucson, he kindly wrote his own notes on an approximation of the series of seven presentations he gave while in the USA. These words start on page 6 in this issue and run through page 8. Enjoy!

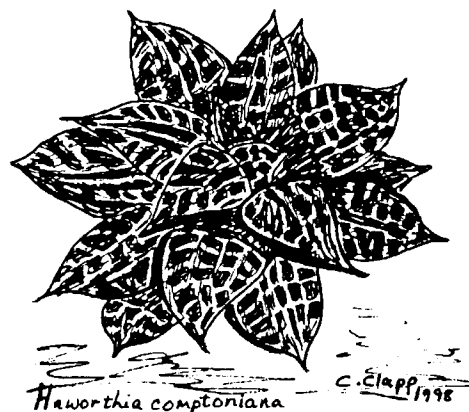


M. Bruce Bayer in Tucson after his presentation, with Joan Skirvin when she was presented with the door prize gift certificate donated by Jim and Electra Elliott of Arizona Cactus Sales

Also inside are our notes on the two thrilling talks given by **Rudolf Schulz** who came to Tucson two weeks before Bruce. The report on Rudolf's talks runs from page 8 through 11.

Registrations are coming in for **Sonoran 2** much faster than they did for Stuck-on-Tucson two years ago. All workshops are still available but, to make sure of getting your choice, get your registrations in now. (520) 908-9001 All attendees will be able to hear all four speakers.

It's gonna be FUN !



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Tucson Cactus & Succulent Society
Founded 1960

OFFICERS AND BOARD 1998

PRESIDENT: Richard Wiedhopf 885-6367
VICE-PRESIDENT: Margaret Pope 795-1285

SECRETARIES:

Carol and Maury Clapp 908-9001

TREASURER: Arnold White 577-1348

BOARD OF DIRECTORS:

(terms expire December 31 of year indicated)

Miles Anderson 1998

Sara Perper 1998

Linda Ryan 1998

Myrtle Ethington 1999

Mary Odette 1999

Julie Turko 1999 (resigned June 1998)

Dan Birt 2000

Al Coritz 2000

Lois Ladwig 2000

AFFILIATE REPRESENTATIVE TO CSSA:

Carol Clapp (520) 908-9001

e-mail: kitfox@azstarnet.com



Desert Breeze EDITOR:

Carol Clapp

e-mail: kitfox@azstarnet.com

Tel: (520) 908-9001

FAX: (520) 908-0396

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PO Box 91560

Tucson, AZ 85752-1560

The **Desert Breeze** is the Newsletter
of the Tucson Cactus & Succulent Society.

Please send your copy by the 20th of the
month preceding the following month's issue
to the Editor.

TCSS Web Page

<http://www.desertcactus.com/tcss/>

TCSS WEBMASTER: Lois Ladwig

e-mail: lois@desertcactus.com

Items for possible inclusion on our web page should
be sent to <kitfox@azstarnet.com> for consideration.

Changes you may wish to know . . .

Dick Wiedhopf has a revised e-mail address:
wiedhopf@pharmacy.arizona.edu

Julie Turko has a new mailing address as from 1 August:
PO Box 5805, Glendale, AZ 85312-5805

Note change of PO Box no: and ZIP on roster amendment.

TCSS Treasurer's Report

As of June 29, 1998

Checking account: Previous balance, \$1461.72;
Checks written, \$1374.73; Deposits, \$2986.00;
Interest, \$2.34; Closing balance, \$3075.33 (This includes
\$1756.57 of net Sonoran 2 income after expenses).

Savings account: Previous balance, \$2790.95;
Interest, \$7.70; Closing balance, \$2798.65.

Arnold White, TCSS Treasurer

MYRTLE DORTHEA ETHINGTON

February 17, 1926 -- July 18, 1998

For the past 28 years Myrtle enriched the members of
TCSS with her knowledge, dedication and participation. She
was an officer or Board member for almost all of her
membership years. As librarian, she ensured that we had
the best and most up to date books and funds for new
acquisitions. She was a knowledgeable grower and a
wonderful friend.

Our deepest sympathy is extended to her family.

Thanks to our 'Follating Party'
members who gathered at Maury
and Carol's to help get the last *Desert
Breeze* and the registration packages col-
lated and folded and stuffed into envelopes,
ready for mailing. Now we are into bulk
mailing quantities, it helps a lot to share the
load. We must thank Linda Ryan, Wendy
Beall, Al and Bobbie Coritz and Sari and Alli too who trekked
to the desert and got busy. They were rewarded with BBQ'd
ribs - Maury's specialty . . . once the work was done.



Note from Editor of *Desert Breeze*

Due to my overseas travel, this issue has been prepared
earlier in the month than is usual. Apologies if any
information or contributions were unable to be printed this
month, but I will endeavor to include them in the September
issue to be mailed out late August. Get your contributions in
early please. ▲ 🐾

TCSS Calendar of Events

Unless otherwise stated, meetings are on the first Thursday of the month at 7 p.m. at the Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson, AZ 85712

Thursday Aug 6 **John Wiens** will be speaking on **The Succulents of the Avra Valley Watershed**
John Wiens is a Nursery Horticulturist in the Botany Department at the Arizona-Sonora Desert Museum. He will give a photographic overview of the variety of succulents found in the Avra Valley watershed. His talk will describe habitats and microhabitats. John received his B.S. in Agricultural Science (Ornamental Horticulture) from the University of California-Fresno. He has been at the Arizona-Sonora Desert Museum for thirteen years, during which he was in charge of the Cactus and Succulent Garden for six years. He has been a collector and grower of succulents for thirty years.
Bring your plants for Show and Tell.
Refreshments by those with names E - N this month please.

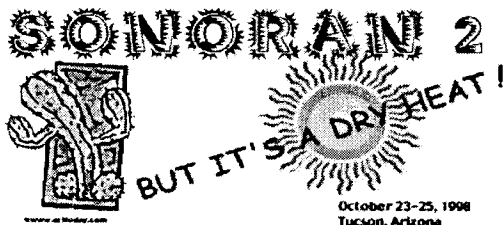
Thursday Aug 20 **TCSS Board Meeting**
7 p.m. College of Pharmacy



Thursday Sept 3 **Miles Anderson on Grafting**
Our home-grown Miles will be telling us about his successful methods of grafting. More on this meeting in September issue.

October 1 (date change) **Regular monthly meeting**

October 23 - 25 **Sonoran 2**
Holiday Inn Palo Verde, Tucson



Full details and registration forms were mailed out with the June/July *Desert Breeze*. If you didn't get your own and would like one, please contact Carol Clapp, address etc on page 2.

November 5 **Regular monthly meeting**

November 19 **TCSS Board Meeting**
7 p.m. College of Pharmacy



Sunday December 13 **Christmas Party Luncheon at TBG**

2000

In the Fall - **Sonoran 3** - Tucson, Arizona

TCSS reserves the right to change dates and/or program should it be necessary.

Other Societies' Events

Recommend you check time and place before travelling a great distance

Aug 21-23 **11th Eastern Conference** hosted by the Greater Pittsburgh Cactus & Succulent Society at the Clarion Hotel of New Kensington in Pittsburgh, PA. Keynote speaker will be Ernst Specks, Exotica Nursery, Germany, plus another ten well-known speakers. Their added diversion is an optional Three Rivers Dinner Cruise at \$40 per person (this is a good trip - I've done it, Ed.) More details from Paul Hoffman <sulcos@nauticom.net> or (412) 935-6517

August 22-23 Intercity C&S Show. Los Angeles State & County Arboretum in Arcadia, CA - one of the largest shows in the world. Co-sponsored by the Los Angeles, Long Beach and San Gabriel Valley C&S Clubs. Call Woody Minnich on (805) 944-2784.

August 23 (Sunday) 2 p.m. Central Arizona C&SS. Presentation by Regina Rodgers (a new TCSS member) on a virtual trip through three of the North American Deserts. Webster Auditorium, Desert Botanical Garden, Phoenix. Tel: Regina on (602) 974-1105

September 12 The Huntington Symposium 9 a.m. - 4 p.m. Huntington Botanical Gardens, 1151 Oxford Rd, San Marino, CA 91108. Call (626) 405-2100. Cost \$65. Subject: Succulent Plant Uses. Speakers: Mark Dimmitt, Gary Nabhan, Wendy Hodgson, Ezikuel Escura, Armando Rae. More info on web page <<http://huntington.org>>

September 19-20 C&SS of California Show & Sale. Lakeside Park Garden Center, Oakland. Info: Carole Keeton (408) 258-9444

October 10-11 Show and Sale at the Fullerton Arboretum. Orange County C&SS. Details from Don and Jean Wendland on (714) 526-3871.

October 17-18 San Gabriel C&SS Winter Show and Sale at the Los Angeles State & County Arboretum in Arcadia. Call Woody Minnich for details - (805) 944-2784

Nov 5-9 1st International Conference on Cacti & Other Succulents will be held on the Rock of Gibraltar, where Europe meets Africa. Details from Brian Lamb, PO Box 561, PMB 6152, Gibraltar. FAX: (350) 42465, or e-mail the Gibraltar Botanic Gardens at <wildlife_gib@compuserve.com>. Speakers from UK, Spain, Morocco, Gibraltar, Portugal, Africa, and USA.

1999

April 11-16 CSSA Biennial Convention in Las Vegas at the Tropicana Hotel. More details later, but early warning of pre and post convention tours, to stimulate your spines.



Congratulations to Julie Turko for deciding to go back to school and get her MBA. *Thanks, Julie, for everything you have done for TCSS, and YOU HAVE DONE A GREAT DEAL.* We'll miss seeing you. Julie has served on the TCSS Board of Directors for many years, and has just resigned due to her

impending move to go back to school and get her MBA. Julie has also master-minded some of our silent auctions, done much of the organizing of the conventions we've had, and also managed the Arid Lands Nursery in Tucson, which has supplied plants to many of us. (Note: Arid Lands Nursery will continue without Julie.)

TCSS President has been nominated for the CSSA board.

In April, the CSSA Nominating Committee reported a slate of three for the three Director slots open: Incumbents Chuck Everson and Rosalie Gorchoff, plus newcomer **Dick Wiedhopf of Tucson**. Nominations were formally announced by CSSA President, Larry Mitich, at the CSSA meeting at the Huntington Botanical Gardens on July 11.

Many thanks to other C&S Societies

who have advertised our forthcoming **Sonoran 2** event to be held in October. **Mid-Iowa C&SS** listed all our speakers and workshop leaders and their subjects; and a whole page in another of their newsletters displaying some of the pages of the Desert Breeze relating to **Sonoran 2**. Thank you so much Mid-Iowa and your members. We hope to see some of you here in October. *Points of View*, the newsletter of the **California C&SS**, has covered this event well too, even down to a photograph of a magnificent saguaro. Thanks too to **Gates C&SS of Redlands, CA**, who lists many of our events in their newsletter *Open Gates*. We went to their show in San Bernardino recently, just for fun. *The Roadrunner News* of the **Long Beach Cactus Club** lists **Sonoran 2** in its event schedule, as well as giving it a 1/4 page display. *Gems of the Desert*, newsletter of the **Orange County C&SS**, covers our events too. **The Oregon C&SS** in their *Cactus Chatter* and on their club bulletin boards are telling their members about **Sonoran 2**. Thanks, Peg, Green's up. *The Prickly Press* of **Kansas City C&SS** tells about **Sonoran 2**. **San Gabriel Valley C&SS** includes news of **Sonoran 2** in their *Communique*. Thanks too to **San Diego C&SS** and its *Espinas y Flores*, **Santa Barbara C&SS**, and *SACXS FACTS* of the **San Antonio Cactus & Xerophyte Society** for giving space to our activities.

How good it is to see members of the nearest C&SS to Tucson C&SS, the **Central Arizona C&SS**, joining in with some of our activities too this summer. They have a new newsletter editor, Nick Diomede, who is producing their fine publication *Central Spine*. We also try to advertise other clubs' events too - many cactophiles travel a lot and love to drop in on other societies' events whenever they can.

Beware the Poison Oak!

Did you know that the chemical found in the berries, stem and the leaves of the poison oak and poison ivy is "urushiol"? This chemical flows from bruised and cut leaves to your skin, or clothing, and causes a very itchy rash. Do NOT burn the plants. The toxins borne in the smoke can injure you if you inhale the smoke. Ortho "Brush B-Gon" is recommended to be sprayed on both sides of the leaves on still and warm days. Repeated applications are needed to get rid of this plant. And it does grow where cacti grow.

A new Web Site for Brazilian Cacti

Marlon Machado <marlon@bractaceae.org> has recently announced his new web site dedicated to the popularization and conservation of the species of the Cactaceae family that occur in Brazil. <<http://www.bractaceae.org/>> You may recall our member James Pickering who mentioned Marlon during his (James') talk on Discocactus last March. Marlon produced many photographs of Brazilian cacti for James' web page also.

ICBN (International Code of Botanical Nomenclature)

If you were inspired by Bruce Bayer's talk last month, you may be interested in finding out more about nomenclature at this Internet address: <<http://www.bgbm.fu-berlin.de/iapt/nomenclature/code/tokyo-e/Contents.htm>> (Omit hyphen at line break.)

Rabid bats

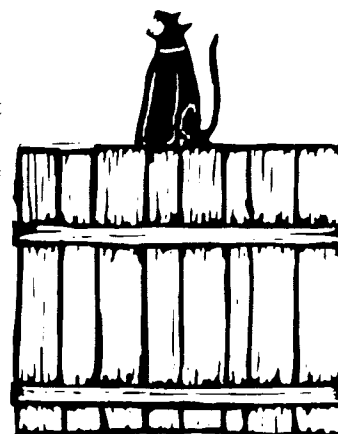
Caution when handling any mammals in southern Arizona - a rabid bat was found recently. Not infrequently we find dead animals in the desert and cause of death is not always clear. We need to remember to wear our protective gloves when handling some mammals.



TCSS Members' Plants for Sale

Several of our members think it would be a good idea if the non-commercial growers in our membership brought along to our meetings their surplus plants. We ALL get plants surplus to our requirements and, if we can sell them or give them away, it makes more room for us to buy more plants from the commercial growers. The big growers can sell at major sales events which the small hobbyist cannot always cope with. You may wish to sell them or, if you have some cuttings or snips of other plants, just give them away, or even donate some to the raffle. Let's have your ideas on this.

Your extras may be just what another member wants.



(Continued on page 5)



Journal of the Professional Association for Cactus Development, Volume 2, 1997

This is a technical publication, but don't feel daunted by this statement. Volume 2 is a collection of papers submitted to the Professional Association for Cactus Development (PACD) in late 1997 covering the uses of prickly pear cacti. There are papers on the uses of cactus for livestock feed; the breeding and genetic improvement of cactus varieties; the medical aspects of cactus; the perspective of the cactus pear and nopalito growers; the research aspects of cacti; and on the Cooperative Program with the United Nations Food and Agricultural Organisation (FAO). Prickly Pears are not just decorative - there are many important uses for them - and this Journal discusses far more viewpoints than most cactophiles could ever dream of. Those of you who have enjoyed Park S. Nobel's book, *Remarkable Agaves and Cacti*, (particularly if you read chapter 3 on *Cacti: Many uses . . .*) should also get some pleasurable reading from this second PACD Journal.

It is available at \$15 plus \$3 shipping from:
The Professional Association for Cactus Development,
c/o The Publications Department,
11335 Crestbrook Drive, Dallas, TX 75230
e-mail: jrmoss@worldnet.att.net ▲



(Continued from page 4)

The TCSS Nominating Committee will be in action soon getting nominations for officers and directors for 1999. If you would like to be more involved in running the Society, please speak up and talk to the present officers. There is bound to be something you would enjoy doing.

Has the heat of summer affected your plants?

Adam Gottlieb, in his book *Peyote and other Psychoactive Cacti*, says (quote):

"Many cacti can survive below freezing, but not for long, especially when it is frosty. Most don't even reach optimal growing temperature until it hits around 100 deg. Expert cacti growers keep the greenhouse or home warm, some read up on greenhouse mechanics and get it hot, about 110 deg. Most cacti, including *Lophophora*, can be heavily watered and liberally fertilized throughout the summer months. Misting reduces extreme heat and provides humidity simultaneously, but it isn't good for cacti to allow any pots to remain soaked during really hot spells (over 110 deg.), because the roots will 'boil'."

Interesting view! DB Editor always thought that plants cease to grow actively when the temperature reaches 90 deg. **Would members (or non-members) like to comment?**

Brad of the Cactus King Nursery says he has lots of *Haworthia limifolia*, but only one (at the moment) of a rare variety of *H. limifolia*. He also has *H. truncata v. crassa*. He is interested in knowing if anyone has *H. maughaniana* or other rare varieties, and would also like to know if any of our members are interested in trading plants, buying or selling them. He has a variety of *H. retusa* on sale at \$5.00. 1534 Crest Dr, Encinitas, CA 92024
Tel: (760) 753-6939 ▲



A Special Note from Herman Schwartz, M.D.

"To My Fellow Cactus and Succulent Society Friends:
My most gratifying and, I hope, beautiful and useful production for my fellow succulent 'nuts' is now available - see below. Since I am printing a smaller number of copies because of the enormous costs of printing, I feel that any member of our societies enamored with these plants, should have what I consider my treasure for you all.

I am reducing the overall cost to you significantly for the two volumes, both cost and shipping. For those who have these remarkable plants and who do not yet have Volume I, the savings are considerable.

I would love to hear your comments.

All my best

Herman Schwartz

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Haworthia — Why Controversy?

M Bruce Bayer -
16 Hope Street, Cape Town 8001, South Africa

Haworthia - an approximation of a series of seven presentations given during the course of a short visit to USA June 1998, beginning at the Mid-Western Conference at Omaha, Nebraska.

The title of the talk(s) was given as:-
HAWORTHIA - WHY CONTROVERSY?

As I was not sure if this title appeared on the Congress program, I asked Steven Hammer prior to my departure for the States what title was advertised for my talk. His reply was that I should not worry as the titles for talks of this kind tend to mutate. In relation to my jaundiced view of *Haworthia* literature, I thought that this itself would make an equally good title for the subject of the talk. I have come to the USA on invitation and the reasons I accepted this invitation are manifold. Primarily I feel a sense of responsibility and duty to the subject; secondly I feel a sense of obligation as my interest in *Haworthia* owes much to the USA for the role J R Brown played in stimulating my interest in the genus, and thirdly I felt I ought to dispel the discomfort of the culture shock I had experienced in the USA when I visited it in 1982.

I have wanted to give talks that will in some way enrich the lives of people who hear them, and this seems to be a very arrogant wish against the limited wisdom which an ordinary individual can acquire about anything in a life-time. But I am concerned about the confusion and controversy which seems to be associated with the plants I enjoy so much. Classification and taxonomy have acquired such a negative connotation, and yet they are both fundamental to the whole experience of knowing and growing plants. Without good classification there is no way of organising our thoughts and communicating with one another about the plants.

My interest in *Haworthia* dates back to my childhood and a deeper interest developed from plants of *H. limifolia* which an uncle had collected in Natal. Living in Natal myself, I started to collect plants by corresponding with other collectors and nurseries. It soon became obvious to me that most of the plants seemed to be very ordinarily the same. I was by then a qualified entomologist researching the biology of Noctuid moths, and my study was taking me into the realm of classification and identification which formed the basis of my master's thesis. My career took a turn and from a government research post I moved to commercial agriculture until fortuitously I landed up as Botanical Assistant to the Curator of the Karoo Botanic Garden in Worcester. There I was given the job of curating collections and given access to the Compton Herbarium and all the collected

works of G G Smith. I very quickly learned that there was little relation between the available published works on *Haworthia* and the diversity of the plants I was seeing in the field.

Six years later I produced a book which was an illustrated check-list of names which I thought could be used to usefully explore the *Haworthia* further, and also to provide a firmer basis for John Pilbeam's book on *Haworthia* and *Astroloba*. My handbook was revised in 1983, and then in 1985, Col Scott's book was published which virtually ignored anything which either Pilbeam or I had done. This book seemed to undo any progress which had been made to stable nomenclature in *Haworthia* and I was very disappointed to find my work categorised with the confusion that collectors have since found themselves in. My conviction is that publishers, editors, other writers, and other collectors whether really serious or not, have simply failed to properly identify the sources of confusion and address them in an ordered way. In my talk I would like to deny any responsibility for any confusion and try to acquire some credibility by pointing out that my work is based on:-

1. Extensive fieldwork and thus familiarity with the plants in their native state;
2. A knowledge and review of all the literature (I may be the last person who can say I have read all the literature);
3. Extensive experience with pattern recognition in biological systems;
4. Knowledge and experience of classification and identification in many plant genera;
5. A very comprehensive physical herbarium record located in three different herbaria;
6. A clear species definition for the work; and
7. A long period of validation and testing over a period of 35 years from my first publication on the subject, to the present.

When a recent catalogue stated that there was confusion in *Haworthia* classification, what they were actually doing was confessing their own downright intellectual laziness, and inability to discriminate between writers who are themselves confused and those who are not.

What the actual problem is, is that plants are not as easy to classify as we tend to believe. When I started to delve into classification of *Haworthia*, I was warned that 'the ship of many a taxonomist has been wrecked on the rocks of the Liliaceae'. The consequence is that I have always steered a very deliberate and careful course. G G Smith had given up writing about *Haworthia* in disgust because of the acrimony he generated after criticising Resende, Von Poellnitz and Uitewaal for their parochial views about the genus. I did not think that he was much above criticism himself and so this has been a strong lesson for me. Before leaving South Africa I was reading

(Continued on page 7)

(*Haworthia* - Continued from page 6)

Steven Gould's book "Ever since Darwin". He makes two statements which should be foremost in the minds of collectors. The one is "The strongest statement that a student in the biological sciences can make is 'hardly ever'". The second is "The chimera of certainty is for politicians and preachers".

Now Darwin is interesting because it seems that before Darwin, people were regimented into believing that creation was the product of a divine creative event and not subject to understanding and study. Darwin showed that creation was subject to analysis and rational thought and could be known and understood. Unfortunately there has also been some misconception about how this is done. One of the myths in classification that has arisen is that there are little boxes into which these products of evolution can be rigidly placed. This is despite the fact that Darwin was pointing out that living things were in a state of continuous change. The second myth is that complexity has arisen from some simple origin and that species in present time are considerably more diverse than they were at some earlier point in time. The fact is we see genera which may have several species which are fairly specialised and uniform, as against a few others which may be highly variable.

In reading Gould's book I was also reminded of my childhood belief that the continents of the world had once been joined because they so obviously fitted together. It was interesting to observe that it is only in the last ten years that this hypothesis is accepted as a probable explanation because tectonic plate studies provide an explanation for how this has happened. However, it is the denial of continental drift in the absence of a prior knowledge of this mechanism which is curious to me and I do not think that is science. This has strengthened my view that science is not a matter of education and qualification, profession or position and an impressive CV [résumé]. It is an attitude which is grounded on common-sense and organisation of scepticism.

In order to have this attitude about species, we do need to have a reasonable idea of what a 'species' is. Unfortunately science seems to have failed us here as good definition of the term seems either hard to find or impossible to understand and we have to go our own way to do so. Firstly we have to consider that the word should be seen to be a postulate of the biological sciences for a concept of a basic building block for the understanding and classification of all living things in a unified system. Thus it is not for us to hi-jack it, and use to classify things in our individual minds on a basis of limited information, limited material and limited understanding of biological systems, for our own limited purposes. Unfortunately available definition of the term is poor. The Collins Dictionary defines 'species' as those groups into which a genus can be divided, and it then defines 'genus' as a group which can be divided into species. The Websters dictionary inserts the word 'logically' before 'divided'. Very few botanical revisions and classifications actually address this question of definition, while on the other hand there seems to be

intense intellectual discussion of a biological species concept against other concepts. I cannot see much sense in this. Generally the zoological concept of a species as 'a group or groups of individuals capable of interbreeding or potentially interbreeding' is basic to the classification system. This fails in plants because of interfertility across even generic lines. I have simply devised my own definition as 'a group or groups of individuals interbreeding or potentially interbreeding which vary continuously in space and in time'. This brings us face-to-face with the actual problem of having to determine where these continuities are in space and in time. The problem is that it is the continuities that are obscure and confusing and difficult to describe and circumscribe. Knowing this can make a big difference to how we organise our scepticism about a classification and what we should look for to determine the credibility of writers who can do no better than to confuse themselves and the rest of us.

All too often the view is expressed that classification is an art form and that it expresses the opinions of the individual. If imagination, phantasy and ignorance are the qualifications for the work, then indeed art is what one may get. In truth classification is and has to be a science in the sense that it has to be based on physical and measurable data. That data has to be accessible to all. Statements must be verifiable and if they are contested, new data should be presented to verify the new and proven statement. This gives rise to a structure of knowledge and information in which the names we use are meaningful and informative. In the case of *Haworthia* there is a problem (which is not incidentally unique) in that there are very few tangible characters on which classification can be based. Even the characters which differentiate genera in the larger context can be disputed. Therefore the key to understanding species in *Haworthia* has to be based on geographic distribution and the spatial relationships and continuities which are observed in the field. Unfortunately again, the strictures of the nomenclatural system and its controls to stabilize names, does sometimes make it a little difficult for the classification to really express how species are related in the field. I have recognised that there is often continuity of varying degree between many different species, and that often I am simply recognising significant nodes in a fairly turbulent sea of similarity. The botanical code requires that names may not necessarily be co-incident with principle nodes. My approach in my first Handbook of 1976 was to try and find as great a relationship between nomenclaturally valid names and the variation in the field. I know I achieved this in very large measure and I have tried to build on that foundation ever since. However, there seems to be no way that that the nomenclatural code, whatever its pretensions are to ensuring stability, can do to prevent the structure of the classification from being rattled, shaken and even broken. The onus lies entirely at the door of the individual who should recognise how important it then is for organisation of scepticism.

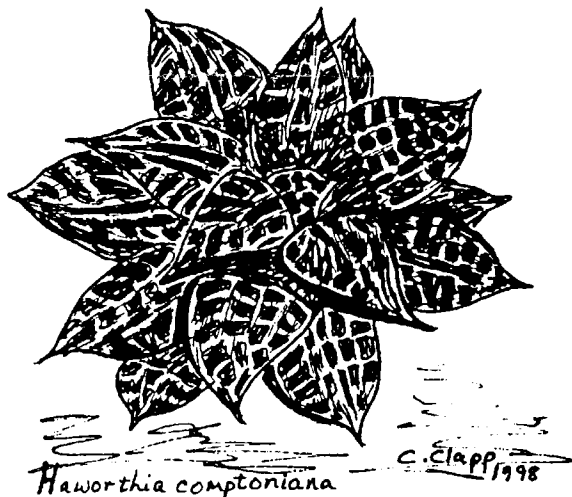
In my slide presentations, I have pointed out that the genera in the tribe Aloideae of the Family Asphodelaceae (following the

(Continued on page 8)

(Continued from page 7)

new dispensation for the classification of plant families by Dahlgren) are not properly understood. What hypotheses have been put forward have been based on some very very poor character definition and analysis. The obvious sub-divisions within the genus *Haworthia* have been completely ignored and if this is the case I cannot see how any attempt to resort the genus can have any credibility.

I have shown a 'flow-chart' showing how the species of the 'retuse'-type species are linked in a cobweb-like diagram. I pointed out that there are main role players in this web and that the species can be understood in the context of names which relate to geographic centres. My slides were selected to show some of the pathways in and between different centres. This was also to emphasise that a classification has to encompass all plants both known and unknown. In this way there is a predictive element. It is new collections and new methodology which test the classification and its predictions. This process is how an hypothesis is tested and how a classification is shown to be a product of a sceptical and inquiring mind; rather than the artistic product of an individual, driven by some undefined motive underlying a pretension to really understanding what has been done, and what needs to be done. ▲



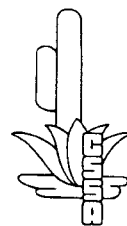
Haworthia comptoniana

Other Notes on the evening of Bruce Bayer's talk:

As our members Electra and Jim Elliott were feeling guilty :-)) about taking two of the raffle prizes donated by Rudolf Schulz on the evening of his talk back to Phoenix with them, they very kindly donated an Arizona Cactus Sales gift certificate as the door prize at Bruce's evening. This too was taken back to Phoenix by Joan Skirvin, the Affiliate Representative to the CSSA of the Central Arizona C&SS! But we TCSS members don't mind . . . we are only too happy to see our clubs getting together more these days.▲

The CSSA Corner

News from the Cactus and Succulent Society of America



Contents of the July/Aug Journal

(to be mailed out around August 1):

- Twenty-five ways to look at *Haworthia*, by Steven Hammer.
- Haworthias in the veld, by Mary Parisi.
- An old variant of *Haworthia magnifica*, by Steven Hammer.
- Haworthia*, where and why confusion?, by M. B. Bayer.
- Haworthia 'Gerald Barad'*, by Rowena Southwell.
- Growing haworthias from leaves, by Mary Parisi.
- Haworthias and light, by Steven Hammer.
- A history of *Haworthia*, part 1, by Stephen Holloway.
- Correct names for some cultivated species of *Adenium*, by Paul Forster.
- Villadia cucullata* and a new subspecies, by Reid Moran & Charles Uhl.
- A new genus of *Aizoaceae* from South Africa, by Burgoyne, Smith & Chesselet.
- Cacti & Succulents for the Amateur, by Duke Benadom.
- Spotlight on Round Robins, by Engelke & Fleischmann.

Most or all of the following will be in the Sept/Oct Issue:

- Haworthia bruynsii*: a trickster's masterpiece, by Gerhard Marx.
- Notes on the cultivation of haworthias in southern California, by Robert Keni.
- Haworthia societies: a brief history, by Harry Mays.
- Retuse haworthias in the Riversdale-Mossel Bay area — a hobbyist's view, by Robert Kent.
- A history of *Haworthia*, part 2, by Stephen Holloway.
- Haworthia* micropropagation: low-tech methods for the home laboratory, by Michael Louie.
- Read about it there, but see it at Sonoran 2.*

Several major articles on other subjects will be appearing soon: The much-awaited concluding part of the Lavranos-Roosli article on Madagascan pachypodiums; a wonderfully illustrated article on the pachycaul succulent trees of Socotra, by Bruno Mies; and a long and enthusiastic treatment of pediocacti by Fred Dortort.

Myron Kimmach, Editor, CSSA Journal

TCSS/CSSA Affiliate's note:

If you join the CSSA for 1998, you will receive its journals back to Jan/Feb 1998 and the newsletter which accompanies each issue. It is not just for the advanced grower - the editors aim to offer something in every issue for every enthusiast at varying levels of expertise. I have some application forms all ready for you. Please ask me about it at our meetings.

Cactus Carol

P.S. As a CSSA member, you will also benefit by the reduced cost of registration for members attending CSSA Conventions.

Copiapoas, and Their Environment

A report on the talk given to TCSS by Rudolf Schulz

Written by Cactus Carol

The Chilean park where the Copiapoas were shown growing is pretty bleak. Vegetation is sparse but, after the occasional rains, some green can be seen. Rudolf showed us a picture of a magnificent, massive, clumping specimen of *Copiapoa dealbata*. "How old are they? It is not really possible to know at this stage." Rudolf and Attila Kapitany, co-authors of *Copiapoa* took photographs of the plants and, using a G.P.S. instrument, ascertained the geographical coordinates of each plant. These locations would enable other people to find the same plants and, after a few years, to assess the amount of growth. Subsequent visitors would also be able to locate the same plants and further the knowledge of rate of growth, producing the information which Rudolf was unable to put into the *Copiapoa* book. "If you go to this part of Chile, take a G.P.S. unit with you and YOU might be able to find the exact same plants." Rudolf said he didn't feel bad about putting the precise G.P.S. locations in his book as there are so many plants there. "Without even getting out of your car you can take wonderful photos of them."

The continued aridity of the area was causing many plants to die. In many places there were no small plants. Where there were small ones, some only the size of a quarter were coated with silvery wax. In cultivation they are 15 to 20 years of age before developing that silvery coat.

"Why are some of the same species black on their lower parts?" Those growing near the sea were orange on the lower parts of their stems. Rudolf concluded that the salt spray from the sea inhibits lichen growth on those near the sea, whereas those growing inland have the moisture of the fog to encourage the growth of the associated black fungus. Where little new growth is showing on habitat plant with lots of old drying stem lower down the stem, it indicates plant is on the way out. The middle portions of large clumps of Copiapoa sometimes are black and appear dead, while the stem tips are green drawing the moisture from the roots and flowering the year around - not just seasonably. Plants don't appear to rot in the Atacama desert, they just dry up. The waxy outer covering holds them together until, in death, plants turn almost to ash, due partly to the high concentration of salt there.

The Copiapoas tilt to the north as they grow in the southern hemisphere on the gravelly flats and up the mountain sides, some in the fog and some above the fog layer. Rudolf said that it is a myth that they grow only in the fog layer which is mostly high elevation fog between 1000 ft to 2000 ft. It is almost never foggy at sea level.

Rudolf and Attila distributed the seed they collected and are now learning of comparisons in growth from about 200 people, who

are cultivating the seedlings. Looking at some 3 year-old seedlings it was hard to believe that they came from seeds from the same plant. Some were very spiny, some not very spiny. The diversity is great. Ants often take seeds in habitat. On the crown of the plant, the top of the seed pod comes off like a lid. Sometimes the seed needs digging out from among the wool between the tubercles.

Many of the Copiapoas could not be identified so could not all be written about in the book. *C. cñneria* was seen growing on everything but black volcanic lava. Volcanic lava is not the best substrate for growing cacti. Heat builds up in the black rock. Photographs of whole valleys full of Copiapoas drew the "oohs" and "aahs." Back nearer the sea shore, *Eulychnia saint-pieana* was seen.

The coastal area of Chile which Rudolf and Attila researched has now been declared a National Park by Chilean authorities. Guanacos live there too. One aim is to preserve these animals in the park area, but unfortunately they like to gnaw on the cacti. Guanacos, similar to llama, were seen to lick their lips and take bites out of Copiapoas and other plants. Hoof marks were seen around plants where they were looking for tasty young morsels. Rudolf tasted one, "Ugh - worse than mother's cooking!" Guanacos dig around plants apparently trying to get to the succulent roots of cactus.

Rudolf counted all plants in a 4 sq. meter area, some were dead and some were alive. When a plant is found which has lost almost all its spines they do not recover. In another experiment, they poured 1 gallon of water on a sq yard of ground. Soon it looked as though a fern was growing there.

To get to the narrow coastal band which Rudolf explored you have to drive inland about 5 miles before turning towards the coast. *C. solaris* has much trouble in surviving there. Several Copiapoas were seen strewn in stream beds, washed down by an infrequent rain.

Photos of variable forms of *C. krainziana* were shown, tall ones, short ones, and some with long spines. A specimen *C. krainziana* showed fungus on one side only. Fog encourages fungus to grow in the spines and hastens their demise. Also found were a few crested Copiapoas. 3 yo seedlings of *C. serpentisulcata* can flower. Usually *C. rupestris* grows together with *C. columna-alba*. Copiapoa flowers are always yellow. Pollinators seen were hover flies which flew straight to the yellow flowers.

Copiapoas were growing 50 ft above sea edge. The Chilean coast slopes extremely steeply even below the shoreline of the Pacific Ocean and the sea rises more quickly here than in any other area of the world. The coastal mountains rise 10,000 feet from the coastal plains. The influence of fog is important. Northern part of Atacama range had a thriving community of

(Continued on page 10)

Welcome New Members



Thomas O. Miller and Angela McGhee Miller, formerly of Tucson, but now living in Spring Lake, New Jersey.

George L. Nadler and Essie Nadler of Tucson
e-mail: EGNADLER@aol.com

Mickey L. Reed and Carla A. Singer of Quinto Sol Nursery in Tucson.
e-mail: fivesun@primenet.com

Regina Rodgers of Peoria. Regina came with her husband, Hugh, to both our June meetings to meet and listen to Rudolf Schulz and Bruce Bayer.

e-mail: roddgersr@ateng.az.honeywell.com

Did you get details
and a registration form
for Sonoran 2 ?
If you need more information please
call Maury on (520) 908-9001
or e-mail: kitfox@azstarnet.com

(Copiapoas - Continued from page 9)

cacti 50 years ago, but today they are all dead. They found uprooted cacti which collectors had unscrupulously dug up and abandoned. Other plants which grow in this coastal area include *Oxalis gigantea* which has no leaves in the dry season; *Copiapoa gigantea*, a huge one near the road looking like a *Ferocactus*. The often tap-rooted, *C. atacamensis* was there. A very white and fuzzy *C. krainziana* was shown, looking like the ones we have in cultivation. When Rudolf bent down to photograph *C. esmeraldana*, he felt something under his hand and found it was a group of *C. laui*. Some were growing in rock cracks. They found a *Eulychnia* covered with lichen on one side only caused by the fog. An *Eriosyce* farther inland can take even more drought than Copiapoas. *Trichocereus* were there too and *Tillandsias* looking grey on grey cactus, due to being covered by dust.

Showing photographs of the Atacama desert appearing like a lunar landscape, Rudolf said, "There is nothing alive in the upper Atacama Desert. I really think they never went up to the moon !!!!". The last photo shown was of an old mining road winding its way along the craggy top of the mountain range, but leading to more Copiapoas. Rudolf said, "If and when you visit that part of Chile, just take that road and send me a report on the Copiapoas and other plants you find, but remember: when it rains the roads are gone." ▲

The Succulents of Pinguone, Kenya, and Their Environment

A report on the talk to the TCSS by Rudolf Schulz

Written by Cactus Carol

The center of Kenya where the Pinguone Ranch lies is almost subtropical and is dominated by the 18000 ft. Mount Kenya. Pinguone slopes down from the granitic rocks bare of vegetation, to alpine and heath areas, below which giant *Senecios* grow which Rudolf considers to be 'honorary succulents.' Lower down are big forests. Here we saw Rudolf lying reposed upon a giant rosewood trunk 5-6 ft in diameter. When Rudolf was only 11 years old and collected postage stamps, he saw a lake on one of them called Lake Rudolf, since when he had always wanted to go there. Since renamed Lake Turkana, Rudolf landed with Mr Powys (of Pinguone Ranch) in his aircraft on island in that very lake at the start of his research on the plants and animals of Pinguone. He found acacia and scrub land, and wonderful termite mounds. Truly tropical ground is 80 deg so termites build these chimneys with a network of channels inside so they can keep the underground chambers cool. An *Adenia globosa* sub species so huge, Rudolf had his foot on it. *Pyrenacantha* too was there. He also found an unidentified cucurbit not previously described from Kenya, with red fruits and related to *Ibervillea* and *Kedrostis*. Many plants in Pinguone have yet to be identified and described. An *Adenium obesum* in the Rift Valley, with narrow leaves, from the more northern areas was shown. Another *Adenium* with grey stem and white flowers was growing beside another with the more common red and white flowers.

A species of *Plectranthus*, in the mint family *Labiatae*, and collected on neighboring farm, is still to be identified. Anne Powys is now running a seed business - see list of seed offered in Pinguone book. There too is *Caralluma socatrana* with red flowers and green seedpods. *Aloes* are rare on Pinguone ranch as cattle graze on the grassland, but they [*aloes*] are common only near settlements. Volcanic lava flows, granite outcrops with thorny woodland and acacias - each of these three types of land has succulents. Open grassy spaces were probably inhabited by Masai tribes and vegetation not yet had time to recover. This land is mainly of shallow soil or heavy adobe clay material, so that when it rains, much of the land floods. April and September rains saturate the ground for up to 3 weeks. Funny mushroom shaped shrubs get that way by being 'pruned' by giraffes. We saw galls on shrubs - purple black galls with ant colonies inside. When the galls are knocked, ants come out.

Aloe myriacantha grows all the way through South Africa to Ethiopia. Grass aloe, very abundant but, when not in flower, is hard to find. *Sarcostemma stolonifera* gets eaten in habitat, so appears to grow to only 4" tall. *Plectranthus*, a caudiciform with knobby growth, purple flowers, should be grown hard, then

(Continued on page 11)

(Continued from page 10)

plants look tidy. *Ammocharis* grows in areas relatively free of grass, the bulbs just under the surface of the soil. A *Caralluma* with a long rhizome of 20" was shown. When fires burn such plants, underground roots allow survival, and these big root systems also help plants to survive when animals eat the parts above ground.

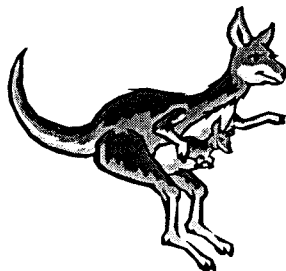
Rocky outcrops are wonderful habitats for finding succulents, particularly among lava rock. Gazelles roam there and nibble on Euphorbias. *E. heterophylla* grows thickly on the outcrops. *E. magnicapsula* is there too and is the fastest growing Euphorbia Rudolf knows. It grows to tree size if planted in open ground. If you want to keep it small, try growing it in a pot.

There were some Stapelias with flowers at their stem tips, like those of East African and Indian species. Kalanchoes, some with 6ft tall flower stalks, and *K. matejea*, too. The tubers of *Ipomeae tubiflora* (white flowers) look like potatoes and grow in volcanic soil. *Edithcolea grandis* in dense shade grows a bright green but, in sun, is dull and light grey. All wildlife eats succulent plants in Kenya. Rudolf showed photographs of the *Kedrostis* with red fruits, and the *Cephalopentandra* grown from seed, specimens of which he had very kindly donated to us for door prizes. Only five months from seed the young (red fruited) *Kedrostis* will be setting seed. Another plant which grows on Pinguone is *Kleinia pertraea* which is good in hanging baskets.

The very rare *Aloe nyeriensis* can be found growing on the edge of a rock where animals can't get to it. *Dracaena ellenbeckii* grows 30 ft to become a beautiful scenic plant. One of Rudolf's favorite plants is one of the *Sarcostemma species*. *Drimia* with nicely spotted leaves grows on neighboring farms among the granite.

Rudolf showed a photograph of another *Adenium obesum* about 3 ft across on a nearby ranch. Nineteen species of stapeliads are known to grow there, some tucked in under the granite rocks in full shade. *Caralluma speciosa* similar to *C. russelliana* likes lots of heat and nothing eats this plant. One photograph showed the interesting root system of figs - elephants push over the trees and uproot them. We saw photos of animals, and the son of Anne and Ken Powys with chameleon; and the stem of a plant with hundreds of ticks covering it. When you get covered with these ticks they make you itch badly. Not only are there elephants on Pinguone ranch, but buffalo, lion and spitting cobra, so it is always advisable to wander around in groups.

The Pinguone ranch covers 44000 acres of which 60 % is natural vegetation, the rest for grazing. As the field work was done soon after the rains there had been plenty of other vegetation for the animals to eat. Annual rainfall is about 16", but with the sun being overhead it quickly evaporates. ▲



The books to which Rudolf Schulz referred are:

1. *Copiapoa in their Environment*, co-authored with Attila Kapitany, 1996
2. *Pinguone, Kenya - Succulents and their Environment*, co-authored with Anne Powys, 1998

The books are similar in format, both being 8¾" x 11½", lots of color photographs and easy to read. Prices approximately \$95 and \$80 each depending upon when and where you get them. Only 2000 copies were printed of each one.

Other notes on the Rudolf Schulz evening:

Charlie Bachman won the first door prize - all kindly donated by Rudolf and we thank him - and chose the red fruited *Kedrostis sp.* Second ticket pulled was for Electra Elliott who also chose a *Kedrostis sp.* Other tickets were won by Sydney Levy who selected the cucurbit, *Cephalopentandra sp.* which is very sensitive to cold and damp weather; one of our new members, Dave Palzkill, also chose a *Cephalopentandra sp.*, as did Linda Ryan; and the last ticket was won by Jim Elliott and he was delighted to get the *Haworthia "Fivestar"*.

Letter to the Editor from Rudolf Schulz



Dear Carol

Just a note to let you and the Tucson C&S Society know how much I appreciated being invited to speak and sell books during my recent visit. Judging from the numbers present for my talk, your society seems to be a fun and easy going bunch who made a great audience. I look forward to coming down when my next book is completed.

Regards,

Rudolf

Rudolf:

Thank you for coming to Tucson and speaking to TCSS.

We look forward to seeing you again and listening to more of your exciting adventures!

Ed.

NEXT MEETING - Thursday, August 6 at 7 P.M.

Porter Room

Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson, AZ 85712

John Wiens will be speaking on

The Succulents of the Avra Valley Watershed

See page 3 for more details.

SHOW AND TELL - Please bring along any cactus or other succulent plant you would like to show other members or ask their advice about.

Refreshments by those with family names beginning with E to N - please bring some cookies, fruit or other easy-to-pick-up-and-eat food, for the mid meeting break.

Visitors always welcome.

Desert Breeze

Volume 3 Issue 8
SEPTEMBER 1998

Sonoran 2

23-25

October

1998

Workshops
Talks & More

at

Holiday Inn

Palo Verde

Tucson AZ

1-800-465-4329

Special room
rates of \$69 or

\$79 poolside
suite

until Sept 22

Sonoran 2 update

Reservations are coming in well ahead of expectations.

Remember that the
*early booking
discount*

comes to an end on Sept 14.

If you cannot locate the registration form and details sent out with the June/July issue of Desert Breeze, please call for another copy, or download the forms from our web page on <http://www.desertcactus.com/tcss/>

We have more information on two of our workshops at this upcoming event.

Scott McDermott's workshop content should now read: "Various aspects of greenhouse/shade structure types and their pros and cons; techniques to aid in the construction of benches, shade and greenhouse; covers for winter, summer and excluding pests; and sources for materials and information."

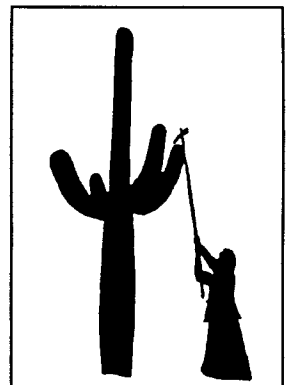
Bruce Birt's workshop will not now include the use of digital cameras.

Sales of Plants and Books
and sundry related items

SALES will include plants and related products. If you would like to be a plant, book or pot vendor and have not yet been contacted, please call Dick Wiedhopf on (520) 885-6367 (home) or 626-4429 (work), or e-mail him on wiedhopf@pharmacy.arizona.edu

If you have things **other than plants** you wish to sell, such as pots, or other artwork, and would like to consign them for sale at this event, please get in touch with Linda Burback on (520) 747-2965 or 751-9285 (work).

We're looking forward to meeting you at Sonoran 2, having fun, learning more, and developing some new friendships.



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TCSS Calendar and Other Events of Interest.....	page 3
The Huntington Symposium, Sept 12, 1998	page 4
A Preview of <i>A Newer Haworthia Handbook</i> , by M.B. Bayer	page 5
Revised TCSS By-Laws for Membership Approval on October 1, 1998	page 6
CSSA Convention, Las Vegas, April 1999	page 8
Intercity Show, August 22-23	page 9
Next TCSS Meeting with details of refreshments.....	page 10

TCSS TREASURER'S REPORT

as at July 31, 1998:

Checking account: Previous balance \$3075.33
 Checks written: \$0.00
 Deposits: \$1635.00
 Interest, \$9.91
 Closing balance: \$4720.24 which includes \$3371.57
 of net Sonoran 2 income after expenses.
 Savings account: Previous balance \$2798.65
 Interest \$15.23
 Closing balance \$2813.88

Arnold White, TCSS Treasurer

Tucson Cactus & Succulent Society
Founded 1960

OFFICERS AND BOARD 1998

PRESIDENT: Richard Wiedhopf 885-6367
VICE-PRESIDENT: Margaret Pope 795-1285

SECRETARIES:

Carol and Maury Clapp 908-9001

TREASURER: Arnold White 577-1348

BOARD OF DIRECTORS:

(terms expire December 31 of year indicated)

Miles Anderson 1998

Sara Perper 1998

Linda Ryan 1998

Mary Odette 1999

Dan Birt 2000

Al Coritz 2000

Lois Ladwig 2000

AFFILIATE REPRESENTATIVE TO CSSA:

Carol Clapp (520) 908-9001

e-mail: kitfox@azstarnet.com



Desert Breeze EDITOR:

Carol Clapp

e-mail: kitfox@azstarnet.com

Tel: (520) 908-9001

FAX: (520) 908-0396

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PO Box 91560

Tucson, AZ 85752-1560

The **Desert Breeze** is the Newsletter of the Tucson Cactus & Succulent Society.

Please send your copy by the 20th of the month preceding the following month's issue to the Editor.

TCSS Web Page

<http://www.desertcactus.com/tcss/>

TCSS WEBMASTER: Lois Ladwig

e-mail: lois@desertcactus.com

Items for possible inclusion on our web page should be sent to <kitfox@azstarnet.com> for consideration.

Arid Lands Greenhouses

3560 W. Bilby Rd
Tucson AZ

Please note the revised business hours for this nursery:

CLOSED.....SUNDAY AND MONDAY

OPEN.....TUES - SAT 8 A.M. TO 4 P.M.

Arid Lands Greenhouses are also happy to offer a discount of 15% to TCSS members.



missed the deadline for this issue

Note from Editor:

Apologies for this issue being out early, but it had to be sandwiched between two unplanned-for overseas trips.

Cactus Carol

TCSS Calendar of Events

Unless otherwise stated, meetings are on the first Thursday of the month at 7 p.m. at the Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson, AZ 85712

Thursday Aug 20 TCSS Board Meeting
7 p.m. College of Pharmacy

Thursday Sept 3 **Miles Anderson on Grafting**
Our home-grown Miles will be telling us about his successful methods of grafting. Miles is the owner of Miles-To-Go Cactus Nursery, Tucson, and specializes in Ariocarpus and similar types of cacti and, during his many years of cultivating these plants, he has developed the skills required to coax these less common plants into fine specimens. Miles has given talks and demonstrations of grafting to many groups of cactophiles all over America.

Thursday October 1 **Ronnie Sidner**, a mammologist from the U of A, will speak on the nectar feeding bats which pollinate and feed on the Saguaro and other columnar cacti and on agaves.



Full details and registration forms were mailed out with the June/July *Desert Breeze*. If you didn't get your own and would like one, please contact Carol Clapp, address etc on page 2.

October 23 - 25 **Sonoran 2**
Holiday Inn Palo Verde, Tucson

For updates on any changes in the program, please check with our web page and future issues of *Desert Breeze*.

November 5 Regular monthly meeting

November 19 TCSS Board Meeting
7 p.m. College of Pharmacy

Sunday December 13 **Christmas Party Luncheon at TBG**

2000

In the Fall - **Sonoran 3** - Tucson, Arizona

TCSS reserves the right to change dates and/or program should it be necessary.

Other Societies' Events

Recommend you check time and place before travelling a great distance

August 22-23 Intercity C&S Show. Los Angeles State & County Arboretum in Arcadia, CA - one of the largest shows in the world. Co-sponsored by the Los Angeles, Long Beach and San Gabriel Valley C&S Clubs. Call Woody Minnich on (805) 944-2784 or see more on page 9.

August 30 (Sunday) 2 p.m. Central Arizona C&SS.
NOTE CHANGE OF DATE FOR THIS EVENT
Presentation by Regina Rodgers (a new TCSS member) on a virtual trip through three of the North American Deserts. Webster Auditorium, Desert Botanical Garden, Phoenix. Tel: Regina on (602) 974-1105

September 12 The Huntington Symposium 9 a.m. - 4 p.m.
Huntington Botanical Gardens, 1151 Oxford Rd, San Marino, CA 91108. Call (626) 405-2100. See more on page 4.

September 19-20 C&SS of California Show & Sale.
Lakeside Park Garden Center, Oakland. Info: Carole Keeton (408) 258-9444

October 2-4 The Mauritius Horticultural Society Show and Sale - details CSSA Journal Newsletter

Oct 4 Texas Association of C&SS Meeting, Show and Sale.
Info Mike Cracraft (713) 666-9722 or Roy (713) 436-1629

October 10-11 Show and Sale at the Fullerton Arboretum.
Orange County C&SS. Details from Don and Jean Wendland on (714) 526-3871.

October 17-18 San Gabriel C&SS Winter Show and Sale at the Los Angeles State & County Arboretum in Arcadia. Call Woody Minnich for details - (805) 944-2784

Nov 5-9 1st International Conference on Cacti & Other Succulents will be held on the Rock of Gibraltar, where Europe meets Africa. Details from Brian Lamb, PO Box 561, PMB 6152, Gibraltar. FAX: (350) 42465, or e-mail the Gibraltar Botanic Gardens at <wildlife_gib@compuserve.com>. Speakers from UK, Spain, Morocco, Gibraltar, Portugal, Africa, and USA.

1999

April 11-16 CSSA Biennial Convention in Las Vegas at the Tropicana Hotel. More details later, but early warning of pre and post convention tours, to stimulate your spines. See display ad on page 8.

Huntington Botanical Gardens Fifteenth Succulent Plants Symposium

Saturday, 12 September 1998 Succulent Plant Uses

Featured speakers:

- James Folsom, Huntington Botanical Gardens, *Plants and People: A General Introduction*
- Wendy Hodgson, Desert Botanical Garden, *Use of Stenocereus and Agave by Baja California Tribes for Food*
- Amadeo Rea, University of San Diego, *Comparing the Peyote Complex of the Northwest Mexican Rancheria Indians with the Peyote Use of the Native American Church*
- Gary Nabhan, Arizona-Sonora Desert Museum, *Succulent Plants, Native Diets, and Diabetes Control*
- Mark Dimmitt, Arizona-Sonora Desert Museum, *Succulents: What Else Are They Good For?*
- Exequiel Ezcurra, San Diego Natural History Museum, *Biogeography of Mexican Columnar Cacti (Tribe Pachycereae)*

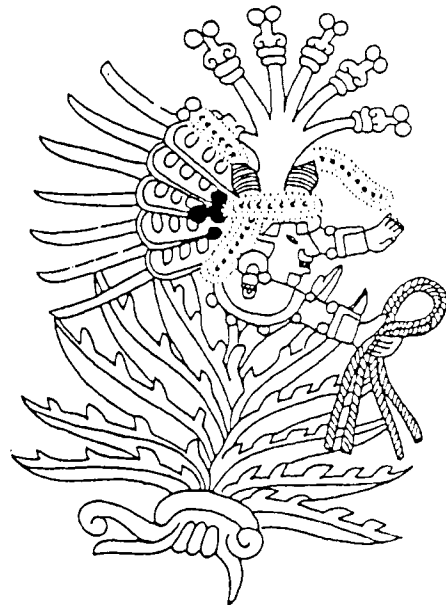
*Speaker follows the dinner
Plant sales and silent auction

To register mail your name(s), address, and a check payable to The Huntington to:

Succulent Symposium
Huntington Botanical Gardens
1151 Oxford Road
San Marino, CA 91108
(626) 405-2160
(626) 405-2260 FAX

Symposium \$65.00
Barbecue \$25.00

Registration and continental breakfast begin at 8:30 A.M.



A PREVIEW OF A NEWER HAWORTHIA HANDBOOK

As presented to the Aloe Congress 1996

M.B. Bayer; S.A. Hammer and J.D. Venter

Published in the *Desert Breeze* by kind permission of M.B. Bayer

The *Haworthia Handbook* was printed by National Botanic Gardens in 1976 as an illustrated guide to the species of *Haworthia*. This was followed by a revised version in 1983, and then by Col. C.L. Scott's revision in 1985. Work has now started on updating the Handbook with two main objects. Firstly to reconcile the species concepts and names used in the different works, and secondly to review these against the new information that has become available in the last 10 years and more. The popularity of the genus appears to have grown enormously and enthusiasts have taken a big interest in the provenance of their collections and in correct identification. They have also demonstrated a keen interest in the cultivation and propagation of the species, particularly by artificial pollination and seed production. This interest must form a large base for the ex situ conservation of *Haworthias*.

The identification and naming of plants is the basis of collections, and collectors need to know what to acquire, what to expect, how to appreciate and value their plant, and they need the means to communicate with one another about their plants. Those who are privileged enough to be able to get into the field and see the plants, need to be able to discriminate the important from the less important. Wishfully thinking, the professional botanist also needs some agreement from the hobbyists who, in a popular genus like this, will probably always know that much more. Hopefully, the systematics of the plants will never move to a level where the hobbyist cannot test and comment on claims made on the basis of technical sophistication. The two editions of *The Handbook* and Col. Scott's work, have provided a fairly robust foundation for discussion about the plants and their variability. The weakness has been the differences in approaches of the books and the consequent uncertainty about which names are correct and which are not, and about how to apply those names.

The Handbooks did not attempt to address the problems of nomenclature, types and priorities, whereas Col. Scott's work did partially do so. The aim of the new work is to reconcile the problems of what species should now be recognised and also by what name to call them. Neither works had adequate access to enough material in the way of properly preserved and recorded herbarium material. Few collectors were then making any worthwhile effort in this regard or even recognised the need for, and the contribution, the amateur collector can make to the scientific record. It is not possible for the chronicler to ever alone see all that should be seen. The plants are small and the populations highly localised, and it is all too easy to walk past and miss seeing things by the smallest of margins. This has changed, and many collectors have been into the field and made notable discoveries and observations. It is unfortunate that

some of this will still be formally unrecorded and missing from the sight of the herbarium, scientific record and posterity.

In *The New Handbook*, 68 species were recognised with 47 lesser ranks. The new work will recognise about 60 species of which 4 will be wholly new. Thus there are quite a number of reductions which are mostly to the lesser rank of variety, where about 120 names will be applied. Important changes will be to *H. arachnoidea* (sensu *The Handbook*) where there will be 8 varieties of which one will be var. *nigricans* to replace var. *venteri* (formerly under *H. unicolor*). Other varieties will be *aranaea* and *xiphophylla*. *H. unicolor* will become *H. mucronata* and include all the species and varieties of *H. habdomadis* as well as *H. integra* (to replace *rycroftiana*). Steven Hammer and Kobus Venter have unravelled the *H. correcta/emelyae* enigma and will apply the name *bayeri* to the Uniondale species. *H. blackburniae* will take up var. *graminifolia*. *H. cooperi* will get a new look to better present the degree and extent of variation in that species and include the extraordinary hairy variety which Col. Scott has described. Similarly *H. cymbiformis* will see some new varieties, as will *H. decipiens*. The old Haworth species *aristata* will be resuscitated to accommodate new records. *H. comptoniana* will be incorporated into *H. emelyae* and the var. *major* of *H. magnifica* will be transferred here too. The name *translucens* seems to be doomed and will be replaced with probably *H. gracilis*. *H. magnifica* will be split to accommodate new perceptions about the Riversdale/Albertinia populations based on striking new finds. The western populations will resort to *H. maraisii*. *H. marumiana* will be enlarged to accommodate *H. archeri* and also *H. batesiana*. *H. divergens* will resort to *H. monticola*. *H. pehlemannii* will be treated as a variety of *nortieri*. The concept of *H. pygmaea* will be slightly enlarged.

H. truncata will include *maughanii* as a variety. This is a relationship reasonably recognised in the first *Handbook* and confirmed by new reports. There can be little doubt, however unpopular this formal change will be, that the varietal difference is only the simple question of retained juvenile character or not. This change does not discount the enormous range of variation in an extraordinary species. A variation which has been explored to great degree by the Japanese. *H. turgida* and *H. variegata* both have varieties added.

Not many changes are made in the subgenus Hexangulares. *H. radula* is reduced to varietal rank under *H. attenuata* and *woolleyi* to a subspecies of *H. venosa*. The biggest change will be the re-arrangement of *H. scabra* to include *starkiana*. In the *Robustipedunculares*, the only changes are the recognition of the obvious *H. minima* var. *poellnitziana*, and the replacement of the name *H. margaritifera* by *H. maxima*.

In commenting specifically on the name change *H. truncata* var. *maughanii*. Name changes are never popular, and we have set out to minimise them, subordinate to the general claims of botanical nomenclature. We also want to see a set of names which is logical and rational and which reasonably accommodates the different elements of the genus in a consistent way. ▲

LEGAL NOTICE:

Notice is hereby given that the Board of Directors of the Tucson Cactus and Succulent Society, Inc. proposes revising the By-Laws of the Corporation to be more in keeping with today's environment. This will be put to a vote of the general membership at the October 1, 1998 meeting and requires a three-quarters (3/4) vote of those members in attendance.

The proposed By-Laws are printed below with deletions in ~~strikeout~~ and additions in *italics*.

TUCSON CACTUS AND SUCCULENT SOCIETY, INC.

BY-LAWS ~~3/4/94~~ Revised 10/1/98

Article I. NAME

The name of this Corporation shall be the Tucson Cactus and Succulent Society.

Article II. OBJECTIVES

The objectives of this Corporation shall be to function continuously in the study and protection of cacti and other succulents. ~~native flora, to further the protection of cacti and native flora of Arizona, to sponsor a botanical garden in Pima County, near Tucson, Arizona, and to foster the planting of cacti and native plants in other suitable places.~~

Article III. MEMBERSHIP

Sec. 1. Eligibility. Those persons who subscribe to the objectives of the Corporation as stated in the by-laws and have paid membership dues as prescribed by the Board of Directors, may become members of the Tucson Cactus and Succulent Society.

Sec. 2. Member in Good standing. A member in good standing shall be one whose dues are current.

Sec. 3. Categories. There shall be the following membership categories: life, ~~sustaining~~, general and student.

Sec. 4. Life-Time Honorary Membership. Life-time honorary membership may be designated by the Board of Directors.

Sec. 5. Dues. Dues shall be on a one-year basis, beginning 1 January. Persons joining after 1 July shall pay one-half the annual dues for that year. 1 September shall be deemed to have paid for the following year.

Article IV. OFFICERS

Sec. 1. Number and term of office. There shall be a President, ~~V~~ice-~~P~~resident, Secretary and Treasurer who shall be elected by the membership (Article VI, Sec. 2) to hold office for one (1) year ~~beginning 1 January. There shall be an Affiliate Representative who shall be elected by the membership (Article VI, Sec. 2) to hold office for two (2) years beginning in even years.~~ In the event of a vacancy, it shall be filled for the unexpired term by majority vote of the Board of Directors at its next meeting.

Sec. 2. President. The President shall call and preside at all meetings of the Board of Directors and general meetings of the membership. ~~S~~He shall exercise authority and assume responsibility specified in the Articles of Incorporation and by-laws of the Corporation.

Sec. 3. ~~V~~ice-~~P~~resident. The ~~V~~ice-~~P~~resident shall assume all duties of the ~~P~~resident during absence of the President.

Sec. 4. Secretary. The Secretary shall record and retain minutes of all meetings of the Board of Directors and the general meetings of the membership. In addition, the Secretary shall prepare and send out announcements of meetings, ~~remind the President of pending and needed action, and prepare and send out letters as requested by the President or Board of Directors, or as required by law or Government agencies, and all official correspondence.~~

Sec. 5. Treasurer. The Treasurer shall maintain records of all receipts and disbursements of the Corporation and shall conduct all financial business for the Corporation as directed by the President and/or authorized by the Board of Directors. ~~All checks shall be signed by the Treasurer and the President or the vice-president in the absence of the President.~~

Sec 6. Affiliate Representative. The Affiliate Representative shall be the Tucson Cactus and Succulent Society representative to the Cactus and Succulent Society of America, Inc. and shall be responsible to keep the CSSA informed of TCSS events and activities and keep TCSS apprised of CSSA activities.

Sec. 76. Eligibility. Any member in good standing shall be eligible to hold office.

Article V. BOARD OF DIRECTORS.

Sec. 1. Membership and Terms of Office. The Board of Directors shall consist of immediate

~~past President, President, V~~ice-~~P~~resident, Secretary, Treasurer, ~~Affiliate Representative~~, and no less than three (3) or more than eleven (11) Directors. ~~In addition the Affiliate Representative and immediate past President shall be Directors with one (1) vote each (a past President, for example, who might be a Director as well as a past President would have only one vote). Each individual shall have one vote.~~ Vacancies on the Board shall be filled each year in accordance with need and Directors shall hold office for three (3) years.

Sec. 2. Eligibility. Any member in good standing shall be eligible for election to the Board of Directors.

Sec. 3. Duties. The Board of Directors shall conduct the affairs of the Corporation and shall exercise all authority and assume all responsibility specified in the by-laws and the Articles of Incorporation. The Board of Directors at its pleasure shall establish and maintain a business office in accordance with need. The Board of Directors shall fill any vacancies occurring among the Officers or Directors. Any Officer or Director appointed by the Board of Directors shall hold office until the membership elects a successor at the next Annual Meeting. The Board of Directors shall approve rules governing the showing, sale and exhibition of plants by members in shows and exhibits sponsored by the Corporation.

~~Sec 4. Affiliate Representative. The Affiliate Representative shall be appointed by the President with approval of the Board of Directors and shall hold office for one (1) year. The Affiliate Representative shall be the Tucson Cactus and Succulent Society representative to the Cactus and Succulent Society of America, Inc. The Affiliate Representative shall also maintain liaison with other organizations whose interests relate closely with those of this Corporation, and, with approval of the Board of Directors, maintain (or cause to be maintained) personal or corporate membership in such organizations.~~

Sec. 45. Editor. The Editor shall be appointed by the President with approval of the Board of Directors and shall hold office serve for one (1) year. The Editor shall be responsible for publications as directed by the Board of Directors. *The Editor shall be an ex-officio, non-voting member of the Board of Directors.*

(Continued following page)

~~Sec. 6. Other Officers. Other officers may be appointed by the President with the approval of the Board of Directors as necessary. Any officer appointed under this section shall hold office for no more than one (1) year and shall hold office only during the term of the President who appointed him, unless re-appointed by the succeeding President. The duties performed by these officers shall be at the direction of the President and the Board of Directors at the time of appointment.~~

Article VI. ELECTION OF OFFICERS AND DIRECTORS.

Sec. 1. Nominations Committee. The Nominations Committee of no less than three (3) persons shall be elected by the Board of Directors and shall report its nomination to the membership at the Annual meeting preceding the Annual Meeting (see Article VII, Sec. 3)

Sec. 2. Elections. Elections of officers and Directors shall be by ballot, the balloting being continued until the offices are filled.

Sec. 3. Voter Eligibility. Any member in good standing and in attendance at the Annual Meeting shall be eligible to vote.

Sec. 4. Possession of Office. An officer-elect or director elect shall take possession of that office January 1 or at the next regularly scheduled meeting of the Corporation.

Article VII. MEETINGS.

Sec. 1. Membership. A membership meeting shall be held monthly at the call of the President.

Sec. 2. Board of Directors. The Board of Directors shall meet quarterly at the call of the

President. Other meetings of the Board of Directors may be called by the President or a majority of the Directors.

Sec. 3. Annual Meeting. The Annual Meeting for election of Officers and Directors shall be held in December at the call of the President.

Sec. 4. Quorum. At any regular membership meeting, Board of Directors meeting, or special meeting, a quorum shall consist of two (2) officers and three (3) Directors.

Article VIII. COMMITTEES.

Sec. 1. Standing Committees. The Standing Committees shall be: Membership, Program, Refreshment-hospitality, Public relations-publicity, Library, History, and Planning and Finance. Standing committees shall be appointed by the President and approved by the Board of Directors.

Sec. 2. Other Committees. Other committees and their respective chairmen shall be appointed by the President and approved by the Board of Directors as necessary except for the Nominations Committee (see Article VI, Sec. 1).

Article IX. EXPENDITURES OF CORPORATE FUNDS.

Sec. 1. Obligations. Corporate funds when in excess of Two Hundred and Fifty Dollars (\$250.00) shall not be obligated or expended except as approved by the Board of Directors.

Sec. 2. Fiscal Policy. The Board of Directors shall control and direct the fiscal policy of the Corporation.

Article X. AUDITING AND BONDING.

Sec. 1. Auditing. The Board of Directors shall have the responsibility to have the financial procedures of the Corporation audited annually. Such audit shall be conducted by a Committee of three (3) members appointed by the President or by a professional accountant approved by the Board of Directors. The report of audit will be submitted to the Board of Directors as soon after the close of the calendar year as possible. The Board of Directors will take action necessary to assure that the Corporation funds are properly protected and maintained. The audit report and action taken by the Board of Directors will be presented to the membership at the first monthly meeting following the release of the report by the Board of Directors.

Sec. 2. Bonding. The Corporation shall maintain appropriate Surety Bonds when the total assets amount to \$2,500.00-\$10,000.00 or more.

Article XI. PARLIAMENTARY AUTHORITY.

The rules contained in the latest edition of Robert's Rules of Order, Revised shall govern the Corporation in all cases to which they are applicable and in which they are not inconsistent with the by-laws or the Special Rules of order of this Corporation.

Article XII. AMENDING THE BY-LAWS.

These by-laws may be amended by a three-quarter (3/4) vote of the members in good standing at a monthly or annual meeting following the issuance of a notice at least thirty (30) days prior to the meeting stating the purpose of the intended meeting.

The By-Laws which have been revised in order to bring them up-to-date are on pages 6 and 7 and require the approval of the membership of the Tucson Cactus & Succulent Society, Inc.

It is proposed to vote on these By-Laws at our general meeting on Thursday October 1, 1998. This conforms to the 30 days notice required under the statutory requirements of our corporation.

CACTUS & SUCCULENT SOCIETY OF AMERICA

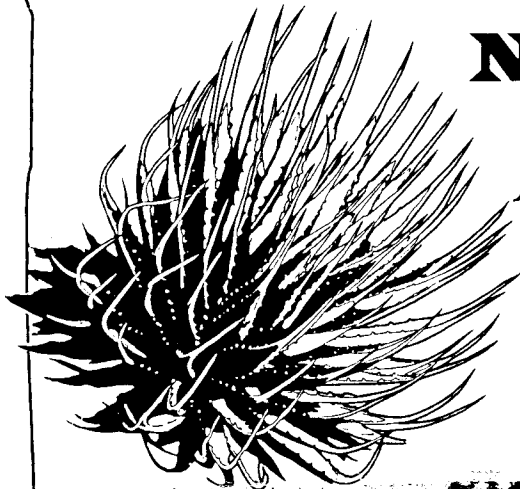
Presents:

THE 28th BIENNIAL CONVENTION

In the Entertainment Capital of the World

Las Vegas NEVADA

APRIL 11-16 1999



Agave utahensis var. *eborispina*
Illustration/Steve Plath

**PROGRAM FEATURES
MANY FANTASTIC
EXOTIC and DOMESTIC
SPEAKERS**

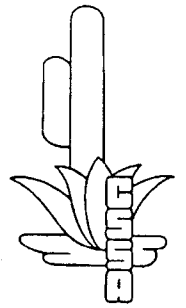
EXOTIC SPEAKERS INCLUDE:

- **SUSAN CARTER HOLMES (UK):**
Succulents of Africa
- **GERHARD MARX (S. AFRICA):**
Haworthias and Euphorbias
- **DEREK TRIBBLE (UK):**
South African Succulents
- **EVA and VOYTEK FOIK (Vancouver, BC):**
Cacti and Succulents in 3-D
- **SONIA BARKER-FRICKER (UK):**
The Grand Canyon and Borderlands

• TOURS

- PRE-CONVENTION:** Death Valley – Mojave Desert
POST-CONVENTION: South Rim of the Grand Canyon – Northern Arizona
FOUR MID-WEEK CONVENTION TOURS (\$35 each)
- (1) Red Rock – Spring Mountain Ranch – Potosi Mountain
 - (2) Valley of Fire – Lake Mead (including visitors' center)
 - (3) Ash Meadows – Devil's Hole – Pahrump Vineyards – Potosi Mountain
 - (4) Castle Mountain Mine (Viceroy Gold Corp) – and surrounding area

Detailed program guide and registration forms appeared in the July-August 1998 issue of the Cactus and Succulent Journal and are on the CSSA web site: www.cactus-mall.com/cssa. For more information write to: Duke Benadom, CSSA Convention Chairman, 1746 Julie Circle, Simi Valley, CA 93065 [e-mail—office: duke@advanced-bionics.com; home: dukebenadom@earthlink.net]



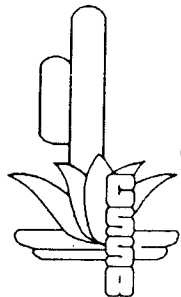
These biennial conventions put on by the Cactus and Succulent Society of America are always great fun.

Cactophiles and sometimes their families too come from all over the world to exchange their news on our hobby plants. And it is great to meet so many of one's friends of many years at one big gathering.

The last time the convention was in Las Vegas was in 1973 when it was held at the Sands Hotel which was demolished a few years ago.

The numbers of attendees range from about 400 to the fantastic 700 at the 1995 convention in Tucson. It had previously been in Tucson in 1977 and 1965.

Details of the pre and post convention tours, as well as the mid-week excursions, will be available in due course and will be published in the Desert Breeze. ▲



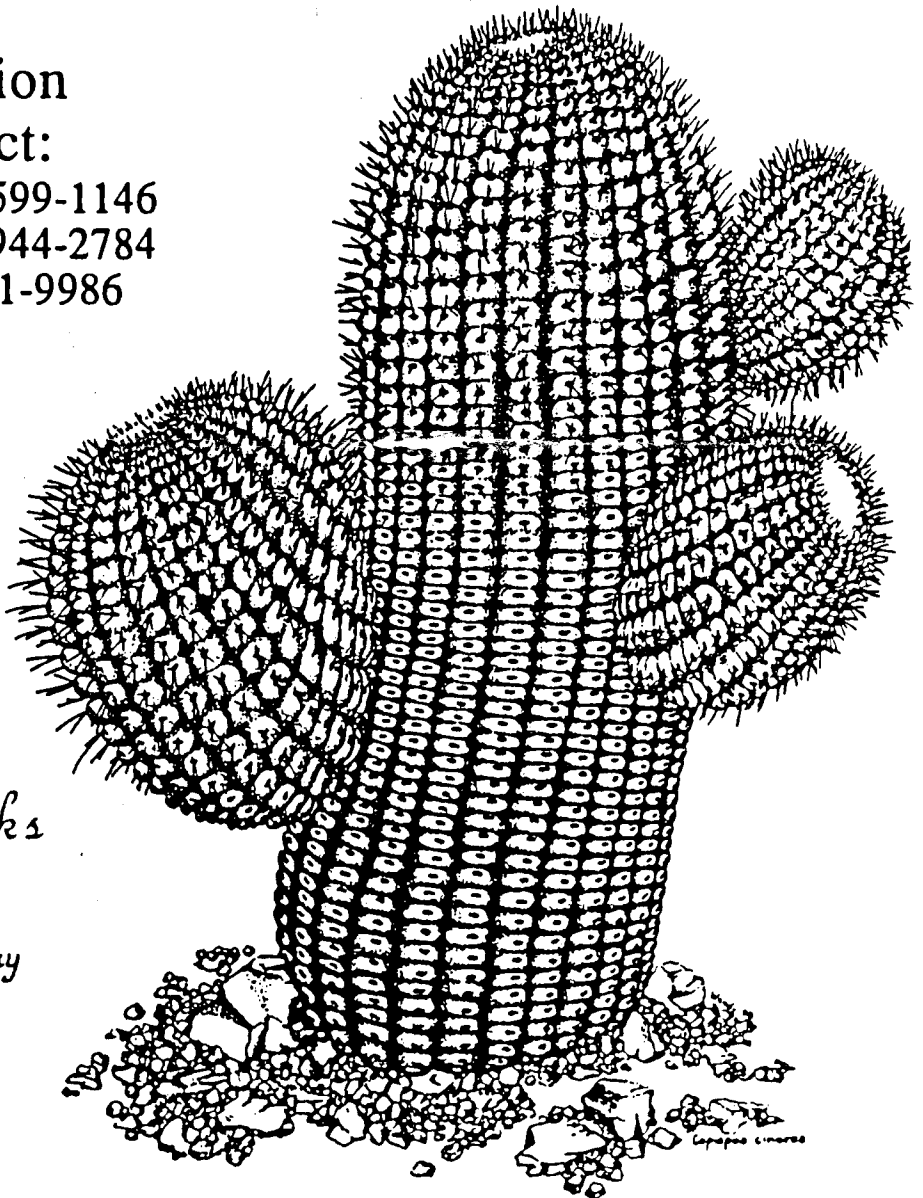
13th ANNUAL INTER-CITY CACTUS & SUCCULENT SHOW & SALE

Creating Habitat

Sat. & Sun. August 22nd & 23rd 1998
from 9:00 am to 5:00 pm each day at the Los Angeles State &
County Arboretum 301 N. Baldwin Ave. Arcadia CA

For Information
please contact:

Larry Grammer 562-599-1146
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Sponsored by the Long Beach, Los Angeles & San Gabriel Valley
Cactus and Succulent Societies

NEXT MEETING - Thursday, September 3 at 7 P.M.

Porter Room

Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson, AZ 85712

Miles Anderson on Grafting

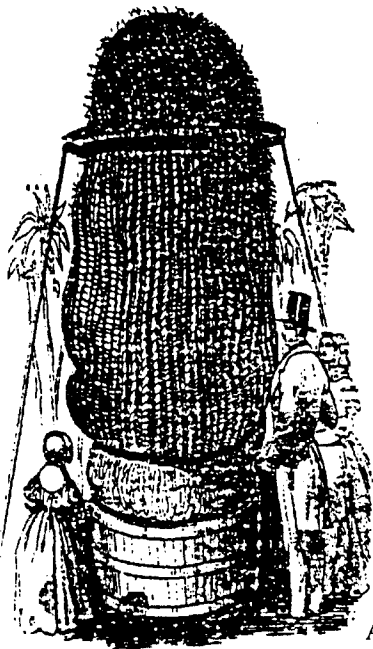
See page 3 for more details.

SHOW AND TELL - Please bring along your cactus or other succulent and tell us about them. Maybe you have a grafted one on which you would like Miles' advice?

Or any other cactus or succulent in flower.

**Refreshments by those with family names beginning with
S to Z and A to B**

Please come along. Visitors always welcome.



A. Blanc woodcut 1892

Desert Breeze

OCTOBER/NOVEMBER 1998

Volume 3, Issue 9

This issue combines both our October and November issues owing to Sonoran 2. The November issue should go to press and be folded on the Sonoran 2 weekend, but we figure you will have had enough fun that weekend and can live without a folding party in October.



Support TCSS at Sonoran 2

1998
October
23, 24 & 25

I know you are all excited about the coming of Sonoran 2. We are lucky that we have so many talented and knowledgeable speakers in our area participating in this event, as well as other talent coming from Phoenix and California. The workshops will be lots of fun and the food great.

I hope all of you who can come, have registered. For those of you who aren't registering, please support our club by helping with set-up, silent auction, sales and/or giving out beans for the plant show. And YES, by popular demand, we are having the public vote for their favorite plants again this year. If you can come for just part of the event, you may sign up for 2-hour segments. This way you can support the club and see the plant show and the sales tables.

Everyone should plan to bring one or more of his or her cacti to the show. We

need to show the public and those from out of state some of the fantastic plants we grow. It need not be a rare or huge specimen — just clean and healthy. Plant arrival times were in original registration package sent out in the June/July issue of *Desert Breeze*, but are repeated on page 14. If you can't be there or take a plant yourself, try to make arrangements with someone else to take it or pick it up. This year we are letting our local growers each have a display showing their cacti and succulent specialties. Let's make sure their plants don't outnumber the individual

Only 21 more days to register!

Let's put on a good show!
Linda Ryan, Shows Chairman for Sonoran 2



October 23-25, 1998
Tucson, Arizona

Registration forms can be found in the middle of this *Desert Breeze*, together with details of speakers and workshops, and hotel information. Also there are details of the choice you have for dinner at the Arizona-Sonora Desert Museum. Chef Patrick Fahey will show you his creativity with native and indigenous foods. Saturday evening at the ASDM is always a delight. And you will have the chance to wander around the museum grounds and see special night time exhibits before and after dinner. Registrants to date have been sent cards to fill in their choice for the ASDM dinner and return to TCSS.

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Tucson Cactus & Succulent Society
Founded 1960

OFFICERS AND BOARD 1998

PRESIDENT: Richard Wiedhopf 885-6367
VICE-PRESIDENT: Margaret Pope 795-1285

SECRETARIES:

Carol and Maury Clapp 908-9001

TREASURER: Arnold White 577-1348

BOARD OF DIRECTORS:

(3-year terms expire December 31 of year indicated)

Miles Anderson 1998

Sara Perper 1998

Linda Ryan 1998

Mary Odette 1999

Dan Birt 2000

Al Coritz 2000

Lois Ladwig 2000

AFFILIATE REPRESENTATIVE TO CSSA:

Carol Clapp (520) 908-9001

e-mail: kitfox@azstarnet.com



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The **Desert Breeze** is the Newsletter
of the Tucson Cactus & Succulent Society.

Please send your copy by the 20th of the
month preceding the following month's issue
to the Editor.

TCSS Web Page

<http://www.desertcactus.com/tcss/>

TCSS WEBMASTER: Lois Ladwig

e-mail: lois@desertcactus.com

Items for possible inclusion on our web page should
be sent to <kitfox@azstarnet.com> for consideration.

TCSS TREASURER'S REPORT

as of August 1998

Checking account: Previous balance, \$4720.24;

Checks written, \$979.92; Deposits, \$1179.00;

Interest, \$0.00; Closing balance, \$4919.32 (This includes
\$4110.05 of net Sonoran 2 income after expenses.)

Savings account: Previous balance \$2813.88; Interest, \$0.00;
Closing Balance, \$2813.88

Arnold White, TCSS Treasurer

NomCom at it again!

The TCSS Nominating Committee is seeking nominations for the elected positions in the TCSS to run from January 1, 1999.

Each director on the board is elected for a 3-year term which expires on December 31 of the year beside their name. This year we need five directors to add to the four who are in the middle of their terms. All elected positions are open to bids. Elected positions are listed to the left, starting with the President. The editor, the webmaster and the librarian are appointed by the president.

Accepted nominations are already in place for some slots, but don't let that put you off nominating other members or offering your own services.

If you would like to be part of the TCSS management team, please get in touch with one of the Nominating Committee members below.

Nominations will be announced at the TCSS meeting on November 5 and will be published in December's *Desert Breeze*. Additional nominations can be accepted at the November meeting.

Maury Clapp	908-9001	mclapp@azstarnet.com
Bobbie Coritz	682-8333	phobos11@aol.com
Dan Sims	299-9706	dan.sims@mcione.com

We need YOUR

enthusiasm

Loleta Schacht

As we go to press, we have just learned of the passing of long-time member, Loleta Schacht. Although she was not able to attend our meetings regularly, the TCSS was very important to her. Our sincere sympathy goes to her family and friends.

TCSS Calendar of Events

Unless otherwise noted, meetings are on the first Thursday of the month at 7 p.m. at the Tucson Botanical Gardens, 2150 N. Alvernon Way (just south of Grant Rd), Tucson AZ 85712

October 1 Nectar-Feeding Bats and Arizona's Cactus and Succulents

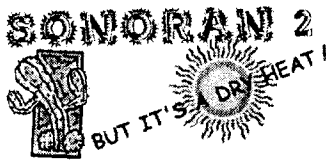
Ronnie Sidner plans to discuss the relationship of nectar-feeding bats to the reproduction of certain cacti and succulents in Arizona. She will present some results from her monitoring work on endangered Lesser Long-nosed Bats in the Huachuca Mountains where they feed extensively in Palmer's Agave.

Ronnie Sidner is a self-employed ecological consultant conducting field studies on mammals, primarily on bats. She has completed projects at Saguaro National Park; Buenos Aires National Wildlife Refuge; Kartchner Caverns State Park; and the Coronado, Coconino, and Apache-Sitgreaves National Forests. She is continuing an 8-year monitoring program to determine resource use by endangered Lesser Long-nosed Bats at Ft. Huachuca. Her research was begun in 1980 in Arizona's Sonoran and Chihuahuan Deserts with a field study for her M.S. thesis on "offspring sex ratios for female Pallid Bats." Adding Big Brown Bats for comparison, Ronnie expanded that project and completed a Ph.D. dissertation at the University of Arizona in 1997 on "lifetime mortality and reproduction of desert bats" after following several thousand tagged animals through their lifespan. Her publications include results of bat studies, range extensions by desert shrews, prey identification from pellets of spotted owls, and mammal surveys of public lands.

TCSS Bylaws are due for approval at this meeting.

Refreshments from members with last names beginning with S to Z and A to D, please. Anything easy to pick up with the fingers!

Show and Tell: Do you have a cactus or succulent which is native to Arizona, and which is small enough to bring along? If so, then bring it to the meeting but, if not, bring any cactus you think would interest other members.



Oct 23, 24 and 25 **Sonoran 2** at the Holiday Inn PaloVerde - see center pages of this issue for registration details. Updated information on page 14.

Nov 5 Biotic Communities of the Sonoran and Chihuahuan Deserts

Regina Rodgers will take us on a virtual tour through several biotic communities of the southwest, focusing on the U.S. portions of the Sonoran Desert and the Chihuahuan Desert. Various aspects of these biotic communities will be illustrated by discussion and slides of Anza Borrego State Park (California), Big Bend National Park (Texas) and Organ Pipe Cactus National Monument (Arizona). Regina Rodgers is a software engineer at Honeywell Air Transport Systems in Phoenix. She has an avid

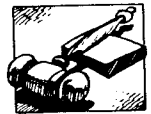
interest in desert ecology and environmentalism. She is treasurer of the Central Arizona Cactus and Succulent Society, a regular volunteer at the Nature Conservancy's Hassayampa River Preserve, an avid birder, and an enthusiastic collector of plants which grow in arid lands. And she is a TCSS member, too.

Nominations for 1999 Officers and Board will be announced. Nominations will also be received from the floor at this meeting. **Refreshments by members with last names beginning with E to R this time.**

Show and Tell: Bring a cactus or succulent native to the Sonoran or Chihuahuan deserts, or any other cactus you would like to tell members about or to ask their advice.

November 19 TCSS Board Meeting 7 p.m. College of Pharmacy

If YOU can't make it to this meeting, please let Dick or Carol know - contact numbers on p.2. It is important that we get a quorum at this meeting.



Sunday Dec 13 TIME FOR FUN AT OUR CHRISTMAS PARTY Tucson Botanical Gardens More details in December *Desert Breeze*

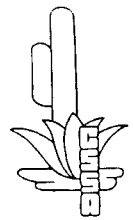
The Cactus & Succulent Society of America Convention '99

Guess what?" says Rosalie Gorchoff, CSSA Affiliate Chairperson,

"Ka-ching, ka-ching, ka-ching. You're a winner! Where else but in Las Vegas? Save those quarters and join lots of other cactophiles for the 1999 CSSA Convention in Las Vegas, Nevada, where the entertainment and fun never stops.

The CSSA Convention Committee is doing its best to welcome all of you with a fantastic program, great plant and book sales, and the best accommodations possible. Our Nevada hosts have chosen wonderful sites for your field trips. See you there - - - Viva Las Vegas!"

More info on this event on page 4



Welcome New Members



Rick and Debra Raeber, Tucson
Stan Korabell, Las Vegas, Nevada

577-3029
(702) 255-1744

Orange County Cactus and Succulent Society

22st Annual Plant Show & Sale



**New Time
and Place**

Fullerton Arboretum

Yorba Linda Blvd. and Associated Road, Fullerton

In conjunction with the Arboretum's Annual Octoberfest.

Admission: Call 714-278-4790

Saturday

October 10, 1998

9:00 a.m. - 4:00 p.m.

Sunday

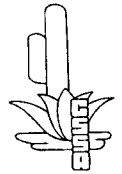
October 11, 1998

10:00 a.m. - 4:00 p.m.

For More Information Call (714) 539-8773 or 637-8192
or email: LESchroeder@compuserve.com

1999

April 11-16 CSSA Convention, Tropicana Hotel Las Vegas NV



As details become available we will put them in the *Desert Breeze* for you. Remember there is considerable saving in registration fees for CSSA members. (Arrive by April 10.)

The Tropicana Hotel is located at 3801 Las Vegas Blvd S., Las Vegas, NV 89019 - on the corner opposite the MGM Grand, and Excalibur, and kitty corner from New York New York. Make your own hotel reservations by calling The Tropicana on 800-468-9494 or 702-739-2222. Please don't forget to mention that you are going to be a part of the CSSA Convention to receive the special rate of \$79 weekdays and \$109 weekends.

Registration CSSA members.....\$165.00
Registration non-CSSA members\$225.00
Late registration - after March 15, 1999add \$50.00
There will be NO "daily" registrations!

Mid-week Tours:

Trip 1 Red Rock Canyon, Spring... etc.....\$35.00
Trip 2 Valley of Fire, Lake Mead, etc.....\$35.00
Trip 3 Ash Meadows, Devil's Hole, etc.....\$35.00
Trip 4 Castle Mountain Mine, etc.....\$35.00
Farewell Party (with live entertainment).....\$51.00
\$50 cancellation fee on ALL refunds

There is now some tentative information (not finalized) on a post-convention trip to the Grand Canyon. It is expected to include a tour of the caverns at the Grand Canyon, after which depart for Supai Hilltop. There you will be greeted by a Havasupai member to guide you by horseback to campgrounds on Supai Reservation. (10 miles to campground approx 3 hours by horseback.) Enjoy rest of day hiking around reservation or swimming in the waterfall-fed pools. For avid hikers, there are trails that go down to Beaver Falls (3 miles) and the Colorado River (9 miles). These trails are primitive and not maintained. Optional overnight accommodation at the Havasupai Lodge is expected to be available. *See . . . that was just Day One!*

On Day Two, hiking and/or relaxing by the falls.

Day Three, hike out of the Supai Reservation (10 miles approx 3 hours) or take the optional horse. And a vehicle will return you to Las Vegas - a 3.5 hour drive. This trip may be extended.

Other tours will be announced later.

The above may just whet your appetite. It is hoped to print the registration form in a later *Desert Breeze*, space permitting. There is plenty of time for making your reservation, at this time.

When registering, please state which CLUB you come from so that our club is credited with the correct number of attendees. In 1997 at San Diego Convention, we had 12 attendees but weren't even listed in the top ten, as some attendees said they came from Tucson and that didn't count as the TCSS, even though they were our members. The tenth position for highest number of attendees was about 5, and there we were with 12 and didn't get a mention. *Let's win next time!*

Other Events of Interest

We recommend you check time and place before travelling a great distance to these events.

Change Happens

Oct 4 Texas Association of C&SS Show, Sale and Meeting
8 a.m. - 5 p.m. Houston Garden Center, 1500 Hermann Dr., Houston, Texas. Call Mike Cracraft 713-666-9722 or Roy Paramore, 713-436-1629

Oct 17 & 18 San Gabriel C&SS Winter Show and Sale. Los Angeles State & County Arboretum, Arcadia. For more info, call Woody Minnich 805-944-2784

Nov 5-9 1st International Conference on Cacti & Other Succulents will be held on the Rock of Gibraltar, where Europe meets Africa. Details from Brian Lamb, PO Box 561, PMB 6152, Gibraltar. FAX:-(350) 42465. or e-mail the Gibraltar Botanic Gardens at <wildlife_gib@compuserve.com>. There will be speakers from UK, Spain, Morocco, Gibraltar, Portugal, Africa, and USA.

1999

Feb 19-21 If you fancy a trip down-under, go to the **New Zealand C&SS 51st Annual General Meeting and CONVENTION.** Angus Inn, Hastings. Info from Frances and Ted Verrity, e-mail: <verrity@actrix.gen.nz>

The Huntington Symposium, San Marino, California on 12 September 1998

Notes by Cactus Carol and Maury Clapp

Ninety-five succulent plant buffs gathered for the 1998 Huntington Symposium at the Huntington Botanical Gardens in September, including eight Tucsonans. Two of these were speakers, the others came for participation in this exciting annual event. This year's topic was *Uses of Succulent Plants*.

The Director of HBG, Jim Folsom, introduced the event offering his *Plant Trivia Timeline, a working draft* of 48 pages, as a handout. "The timeline gives world history from the viewpoint of a botanist. It is the story of plant discovery and use, and addresses the roles of plants in human civilization." Events are listed in chronological order from "5 billion+ years ago when carbon, oxygen and other elements were createdin the fury of burning supernovae" through 6000 BC when chili peppers were known in Peru; in 1847 AD when chocolate candy was first created, and 1962 AD when Rachael Carson published *Silent Spring* which prompted a new era of environmental awareness.

Jim introduced the first speaker of the event, Wendy Hodgson, Desert Botanical Garden, Phoenix, who discussed the Use of *Stenocereus* and *Agave* by Baja California Tribes for Food.

Amadeo Rea, University of San Diego, compared the Peyote Complex of the Northwest Mexican Rancheria Indians with the Peyote Use of the Native American Church.

John Traeger, Curator of Desert Collections, HBG, introduced the speakers after lunch: Gary Nabhan, Arizona-Sonora Desert Museum, spoke on Succulent Plants, Native Diets, and Diabetes Control, using native plants in the diet. Gary explained the increase in diabetes among Indians in recent years due to their eating more of the westerners' fast food, instead of using the native foods such as cacti and mesquite beans.

Bruce Hargreaves, who has lived for many years in parts of Africa, told of the succulents used to make khadi, a fermented drink like beer made from desert plants, usually the roots, sometimes the flowers. In recent times, sugar has been substituted for honey, to increase the alcohol content. He also said that some people would add parts of one species (known to be poisonous) when they wanted to give the drink more of a kick.

Then it was ASDM's Mark Dimmitt's turn to tell us what else succulent plants are good for. After the earlier speakers, it was a tough task.

Throughout the day, the silent auction of rare plants was running. Excitement and tension built as the close of bids got nearer. We had the opportunity, while partaking of cool drinks, to view the gardens and to buy cacti and other succulents from the HBG nursery before dinner on the Garden Terrace.

After dinner, Exequiel Ezcurra, San Diego Natural History Museum, described the biogeography of Mexican Columnar Cacti and showed slides of the most densely populated hillsides packed full of columnar cacti in the tribe *Pachycereae*.

We are looking forward to the 1999 Huntington Symposium.

We like the WEIRD stuff.

We should rename ourselves the Weird Plant Society

The quote of the day uttered by Mark Dimmitt in his talk *Succulents: What Else Are They Good For?* at the Huntington Symposium '98.

After hearing five earlier speakers talk on the Uses of Succulent Plants, Mark had the difficult task of defining What Else Are They Good For? He commented upon the differing attitudes towards plants borne by growers of different types of plants. Half of the thirty thousand species of orchids are succulent, but few succulent growers grow these orchids. Yet, orchid growers show orchids only when in flower, whereas we who grow other succulent plants usually show our plants when not in flower and relish the beauty of their stems. Growers of orchids and of other succulents have different viewpoints. We see beauty in oddities and in the parts of plants other growers prefer to keep hidden. Many bromeliads are succulents too. Then we [succulent growers] grow some apparently unsucculent-looking plants such as *Fouquierias*, which have adapted to life in the desert. Maybe we should refer to ourselves as the Xerophytic Society not Succulent Society?

Mark then showed a few slides illustrating additional uses of succulents. *Ocotillos* stems as roof of ramadas supported by mesquite trunks; saguaro ribs used as roofing material too; succulents are good for commerce - they are good for Kodak and Fuji; we take hundreds of photos to record the oddities and comparisons in the plant world - the single rosettes and the colonies; those big teeth and toothless leaves; the green ones; the blue ones; and the leaf imprinting patterns on *Agaves*; the variable flower color of *Ferocactus wislizenii*, as well as in bud and the seed pods, the close-ups too.

But THE greatest use of all . . . Plants are Good For US.

The Huntington Botanical Gardens

1151 Oxford Road
San Marino California 91108-1299

Telephone: (626) 405-2160
Facsimile: (626) 405-2260

Art Collection and Library
Beautifully landscaped gardens
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Contents of the Sept-October 1998 issue of the Cactus & Succulent Journal (US)

Written and announced on cacti_etc by Myron Kinnach, Editor, Cactus & Succulent Journal

Retuse haworthias in the Riversdale-Mossel Bay area — a hobbyist's view, by Robert Kent.
 Haworthia societies: a brief history, by Harry Mays.
Haworthia bruynsii: a trickster's masterpiece, by Gerhard Marx.
 Notes on the cultivation of haworthias in southern California, by Robert Kent.

Haworthia micropropagation: low-tech methods for the home laboratory, by Michael S. Louie.

A history of Haworthia, Part 2, by Stephen Holloway.

People Notes, Saying farewell to Charlie, by Betty & W.A. Fitzmaurice.

A new tylecodon from northern Namaqualand, Northern Cape Province of South Africa, by Graham Williamson.

Book Review: Succulent and xerophytic plants of Madagascar, Vol. 2 by Colin C. Walker.

Orostachys paradoxa, a rare species from the Russian Far East, by Vyacheslav Byalt.

Cacti & Succulents for the Amateur, by Duke Benadom.

Spotlight on Round Robins, by Engelke & Fleischmann.

This is another issue mostly about haworthias — the second of two consecutive special issues on the genus. (We promise to concentrate more on other kinds of succulents in forthcoming issues!)

Colin Walker's review of Rauh, vol. 2, is probably the longest book review ever published in a succulent journal — as is only proper for such a monumental work.

(Have you got your copy yet? Or maybe you've seen it in our TCSS Library? Ed)

Michael Louie's article shows how anyone can perform tissue-culture in his own home.

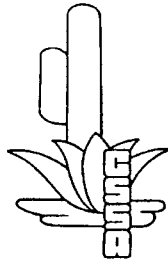
(Come to Sonoran 2 and participate in Michael's workshop. Ed)

See page 13 for Nov/Dec Journal contents.

Change in Format of CSSA Journal

The Jan-Feb issue of 1999 will be the first in the new format, which will allow larger color photos. Early in the year we will be printing part 2 of the Lavranos/Roosli series on pachypodiums of Madagascar, a wonderful article on the tree succulents of Socotra by Bruno Miles, a two-part discourse on *Pediocactus* by Fred Dortort, new species of *Ceropegia* and *Euphorbia*, and travelogues by E. Anderson and co-authors.

The July/August 1999 issue of the Cactus & Succulent Journal will be a specialist *Ariocarpus* issue. If you have anything you would like to contribute to that issue, please make a note that the deadline is March 15, 1999. Myron Kinnach will be glad to receive your copy and photos asap.



Some of the Aims of the Cactus & Succulent Society of America

The Articles of Incorporation of the CSSA state the main purposes of the corporation:

- A. To stimulate interest in the conservation, and promoting the culture and development of cacti and succulents;
- B. To further the use of a standard nomenclature;
- C. To acquire and disseminate information regarding these plants, and to encourage their production and propagation.

A little on the beginnings of the CSSA and its Journal:

The Journal is one of the most important and effective ways the Association has to accomplish these specific objectives. G A Frick, Secretary, Pro-Tem, who sent invitations to the founding meeting of the CSSA said,

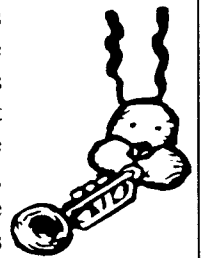
"I had been corresponding with James West of San Rafael for some time concerning an organized effort toward publishing a cactus magazine in America, and West was as anxious as I to see it launched" Frick met subsequently with Arthur D. Houghton who suggested inviting people to a founding meeting in Houghton's home "for the purpose of organizing a cactus society and to publish a magazine". The meeting was held in January 1929, 39 people paid dues, and the first issue of the Journal appeared in July 1929. So while the Journal is not specifically mentioned in the ByLaws, it has been a major effort of the CSSA since its inception. The information about Frick is from the Jan/Feb 1998 issue of *To The Point* (CSSA Journal Newsletter) where Frick is the subject of Larry Mitich's President's Comments.

The complete text of the currently effective ByLaws and Articles of Incorporation were published in *To The Point*, Jan/Feb 1997, pp 11-15.

The editor of *Desert Breeze* also happens to be the Affiliate Representative of the TCSS to the CSSA. She usually has CSSA membership application forms at the TCSS meetings, and will also have them at Sonoran 2. If you join the CSSA,

you will receive the Journals as soon as they are available and you will be among the first to read the excellent articles in the exciting world of succulents.

Another big advantage of membership is a reduction in CSSA convention registration fees.



Cactus Carol

Succulents of the Avra Valley Watershed, west of Tucson

A Summary of the Plants listed by John F. Wiens in his talk to the TCSS in August 1998

CACTACEAE

Cereoides

Carnegiea gigantea (= *Cereus giganteus*) Saguaro
Peniocereus greggii (= *Cereus greggii*) Desert Night Blooming
 Cereus

Stenocereus thurberi (= *Cereus thurberi*) Organ Pipe Cactus

Hedgehogs

Echinocereus fendleri v. *robustus* (= *E. fasciculatus*) Robust
 Hedgehog
Echinocereus engelmannii v. *acicularis* Strawberry Hedgehog
Echinocereus nicholii (= *E. engelmannii* v. *nicholii*) Golden
 Hedgehog

Echinocereus triglochidiatus v. *melanacanthus* Claret Cup
 Hedgehog

Barrels

Ferocactus wislizenii Fishhook Barrel
Ferocactus cylindraceus (= *F. acanthodes*) Spiny or California
 Fire Barrel
Echinocactus horizonthalonius v. *nicholii* Turk's Head or Blue
 Barrel

Pincushions

Mammillaria grahamii v. *microcarpa* (= *M. microcarpa*)
 Fishhook Pincushion
Mammillaria thornberi Thornber's Pincushion
Mammillaria viridiflora Fishhook Pincushion
Coryphantha scheeri v. *robustispina* Pima Pineapple Cactus

Chollas

Opuntia acanthocarpa v. *major* Buckhorn Cholla
Opuntia versicolor Staghorn Cholla
Opuntia spinosior Cane Cholla
Opuntia fulgida v. *fulgida* Jumping or Chain-fruit Cholla
Opuntia fulgida v. *mamillata* Jumping or Chain-fruit Cholla
Opuntia bigelovii Teddybear Cholla
Opuntia arbuscula Pencil Cholla
Opuntia leptocaulis Desert Christmas Cholla
Opuntia X kelvinensis (= *O. fulgida X O. spinosior*) hybrid cholla
Opuntia X tetracantha (= *O. kleiniae*) hybrid cholla
Opuntia acanthocarpa X O. versicolor hybrid cholla
Opuntia leptocaulis X O. acanthocarpa hybrid cholla
Opuntia leptocaulis X O. fulgida hybrid cholla
Opuntia leptocaulis X O. spinosior hybrid cholla
Opuntia spinosior X O. versicolor hybrid cholla

Prickly Pears

Opuntia phaeacantha v. *discata* (= *O. engelmannii*) Engelmann's
 Prickly Pear
Opuntia phaeacantha v. *major* Sprawling Prickly Pear
Opuntia chlorotica Pancake Prickly Pear
Opuntia macrocentra (= *O. violacea* v. *macrocentra*)
 Long-spined Prickly-Pear
Opuntia santa-rita (= *O. violacea* v. *santa-rita*)
 Santa Rita Prickly Pear (exotic)
Opuntia lindheimeri v. *linguiformis* Cow Tongue Prickly Pear
 (exotic)
Opuntia ficus-indica Indian Fig Prickly Pear (exotic)
Opuntia microdasys Bunny Ears or Polka-dot Cactus (exotic)

AGAVACEAE

Agave deserti Desert Agave
Agave americana Century Plant (exotic)
Yucca elata Soap-tree Yucca

Yucca arizonica (= *Y. bacatta* v. *brevifolia*, or *Y. thornberi*)
 Banana Yucca

Dasyliirion wheeleri Sotol or Desert Spoon
Agave schottii Shindagger or Amole

CRASSULACEAE

Graptopetalum rusbyi (clumping rosettes look like miniature
 hen and chicks)

***MORE SUCCULENTS** (. . . more or less, that is!)

FOUQUIERIACEAE

Fouquieria splendens Ocotillo

BURSERACEAE

Bursera microphylla Elephant Tree

AIZOACEAE

Trianthema portulacastrum Horse Purslane
 (mat-forming summer ephemeral)

PORTULACACEAE

Calyptidium monandrum Sand Cress
 (mat-forming winter/spring ephemeral)
Portulaca oleracea Common Purslane
 (mat-forming exotic summer ephemeral)
Portulaca parvula Purslane (summer ephemeral)
Portulaca suffrutescens Purslane (clumping summer ephemeral)
Portulaca umbraticola Purslane
 (mat-forming summer ephemeral)

****A LAST FEW SUCCULENTS** (really stretching the
 definition of a succulent!)

CRASSULACEAE

Crassula connate (= *Tillaea erecta*) Pygmy Weed
 (tiny winter/spring ephemeral)

CUCURBITACEAE

Cucurbita digitata Coyote Melon (tubercous perennial vine)
Tumamoca macdougallii Tumamoc Globeberry
 (tubercous perennial vine)

FABACEAE

Hoffmeisteria glauca Hog Potato (forms succulent (?) tubers)

PORTULACACEAE

Calindrinia ciliata Red Maids
 (mat-forming winter/spring ephemeral)
Talinum aurantiacum Flame Flower
 (root perennial with succulent leaves)
Talinum paniculatum Pink Baby Breath
 (root perennial with succulent leaves)

EUPHORBIACEAE

Euphorbia eriantha Desert Poinsettia
 (marginally succulent stemmed subshrub)
Jatropha cardiophylla Limberbush
 (marginally succulent stemmed perennial)

▲

What is an Haworthia Species?

Presented at the Aloe Congress in 1996 by M. Bruce Bayer, Cape Town, South Africa

The object of this presentation is to suggest that *Haworthia* is not the problem genus it is perceived to be, and that the problems that do exist are largely the product of poor judgement and human failing.

There seems to be a lot of doubt about what solution to *Haworthia* to accept. At present the National Herbarium seems to be on the horns of a dilemma and about 150 species names are listed in the Precis list of plant species in Southern Africa. Scott recognises 88 species in his revision (plus 4 subsequent to this work). I listed 68 in 1976, and now 60, which includes 4 wholly new. This does not include any of Scott's new species and whether this is perversity or not is the judgement prerogative of the audience. Neither Scott nor I have fully cited herbarium specimens as a basis for our opinions. The National Herbarium seems to conclude that Bayer was dealing with one set of species and Col. Scott with another.

In the first place the two Handbooks were written in 1976 and 1983 respectively. Col. Scott's Revision appeared in 1985, and some of the more blatant discrepancies between the two accounts could have been avoided. A major difficulty is simply the recognition of the subgenera. Linnaeus based his *Species Plantarum* primarily on floral structure. Overlooking this feature in the small Aloid genera is inexcusable, and especially so when small size is extrapolated to mean small in significance.

There have been two major attempts to analyze the Aloid genera. These were by Rowley in 1976, and the other was by Gideon Smith and B. van Wyk in *Taxon*. Both these accounts were seriously flawed because neither work was able to focus on any meaningful character states. Beyond sub-genera it does become very difficult to circumscribe the species adequately, but only in the sub-genus *Haworthia* where most of the species are. Thus that so many authors discount sub-generic markers gives very little hope for a sensible discussion of species. Where the flowers are said to be different in the sub-genera, there are in fact anatomical differences in the vegetative structure pointed out by Schneider (1972), differences in the flowering stalk itself (Uitewaal, 1947) and seed differences, angular in *Hexangulares* and *Haworthia* and flat in *Robustipedunculares*.

If one looks at the criteria that Smith and Van Wyk used in *Taxon*, it is obvious that while the genera may be obvious to the eye, the botanical characteristics of those genera are very obscure. It is thus not in the least surprising that there is conflict and confusion about the recognition and circumscription of species within those genera. It is in fact impossible to circumscribe species in a written description based on visual observation, with or without the distortions that growing conditions create. The contention that taxonomy is a visual discipline (Scott, 1985) is irrelevant. I have repeatedly written that I think the most fruitful approach to recognising species in *Haworthia* is that of geographical distribution. There is evidence from cyto-

logical studies which supports this contention, and field observations also seems to confirm the logic. Where early authors seem to have scattered individuals and variants of a species over quite wide and random areas, considered observation is that they have simply confused look-alikes. Where species can be positively recognised in all their varietal disguises, there is no doubt that they occupy geographically coherent areas. Thus co-occurrence is also a good guide to the recognition of the species as role-players in a structural kaleidoscope. Co-occurrence is a measure of the breeding interaction of the plants and of the integrity of the species.

Dr H Masahiko of Japan has been involved with *Haworthia* for a long time (tissue culture and cytology) and has put forward (in ms) a very promising review of species relationships. He has arrived at a schematic geographic representation of radiative speciation. The difficulty is that his work suffers from the same fate of previous efforts, which is inadequate data and inadequate definition of the elements he recognises. From necessity he uses a combination of my species concepts which are geographically based, Scott's which are not, and both of which were incomplete. In some cases he has a little information to relate species, in others it is simply absent. There is always the real danger that basic information is misused or even abused. Masahiko (priv. comm.) dismisses the floral differences between the sub-genera *Robustipedunculares* and *Hexangulares* as 'not so large'. This is in trying to arrive at an explanation for the disjunction in distribution between species of the two groups. The admission must be made that, as for *Poellnitzia*, there just is no evidence as to the actual origin of these species nor any real measure of their affinity.

Referring to Masahiko's scheme, I would suggest there are more realistic ones for the sub-genus *Haworthia* and the subgenus *Hexangulares*. The relationship of the 4 species of the *Robustipedunculares* are self-evident. I must emphasize that the evidence I use to suggest relationships is based on the geographical realities of distribution, and on the limited information available in the literature relating to tissue culture, cytology and morphology.

I wrote that the application of an objective botanical approach to the question of species in *Haworthia*, would probably reduce the number to about 34 species. Looking critically at the proposals for *The Newer Handbook* already presented, 41 species may realistically be taken as the most conservative for the genus.

Whatever opinions people may have about species, the ultimate practical test is how satisfactorily the existing dry herbarium specimens are accommodated in their cabinets, how easily new material is positively identified and fitted into that arrangement, and how little residual material there is at the end.

▲

This article was very kindly given to editor by Bruce Bayer.

Cactus and Succulents - a care manual

by Tony and Suzanne Mace 1998
9½" x 11½" 128 pages \$19.95



Nov/Dec '98 CSSA Journal Contents

Here are the contents of the November-December issue of the Cactus & Succulent Society Journal (U.S.), which will be mailed out around December 1.

Another book written by an English couple, Tony and Suzanne, who have been growing cacti and succulents since they were in school. Who better to write this sort of book? It is the best book I've ever seen for those who are just starting to grow cacti and other succulent plants.

It is what it says - a **care manual**. It starts with "What Are Cacti and Succulents?" and explains this in as non-technical a way as possible. Growth forms are shown. A fascinating section on Myths and Urban Legends discusses such myths as "A cactus exploded and released a horde of tarantulas." The cultivation section compares basic containers, how and when to water and has photos of problems incurred when you get it wrong, and what to do to put things right. Pictures of how to repot cover the basics and even how to apply top dressing. Things that experienced growers do automatically often overlooking the point that beginners may not know how to repot a spiny cactus, for example. Propagation by cuttings and grafting and seed raising are described in detail. Tony and Suzanne advise how to treat plants which are attacked by pests and diseases - photos show the damage these cause. The cover shows mealy bugs on the opuntia pads! Even experienced growers may find this section useful when they encounter a particular pest or disease for the first time.

Its Plant Directory lists alphabetically some genera of cacti and succulents, with photos of a typical example of many genera. Countries of origin are given plus cultivation hints. Equipment, information on cactus societies, a bibliography, a simple glossary of plant terms, are also given.

A colorful book, reasonably priced, and very highly recommended. If a beginner could have one book on the subject, this should be IT.

Copiapoa - The Cactus File Handbook 4

by Graham Charles, June 1998 ~6½"x 9½" format 90 pages

The introduction tells when Copiapoas were first discovered in 1841 by the English explorer, Thomas Bridges, and of further discoveries up to the present day. Citations on Copiapoa are given to encourage you to seek more information from other sources. The uncommon feature in the Family Cactaceae which Copiapoas share with Echinocereus and some species of Trichocereus is described: "the offsets burst out through the skin of the main body. The large cut surfaces [of offsets] can result in significant dehydration before rooting starts." This is just one of the easy to read useful pieces of information given. Environmental conditions of habitats are described and habitat maps show where each species grows.



- Echinocereus -----, a new species from Coahuila, Mexico, by Anderson, Hodgson & Quirk.
- Some tips on collecting field data, by Richard May.
- Yucca -----, a new species from Baja California Sur, Mexico, by Lee Lenz.
- Conservation — a commonsense approach, by Dan Bach.
- Some changes in status in Echeveria, by Myron Kimmach.
- Matelea cyclophylla: some recent notes on a popular asclepiad caudiciform from Mexico, by Mostul & Chazaro.
- The caatinga vegetation of northeastern Brazil, by Marlon Machado.
- Three Sansevieria species of Kenya. II. S. braunii, by Paul Mbugua.
- Cacti & Succulents for the Amateur, by Duke Benadom.
- Spotlight on Round Robins, by Braden Engelke & Rita Fleischmann.

Note that, as usual, the names of yet-unpublished taxa have been omitted.

Myron Kimmach

Editor, Cactus & Succulent Journal

*See what you would get as a member of the
Cactus & Succulent Society of America!*

Cultivation tips are given, mainly from the point of view of growers in Europe. The checklist of names, compared to generally accepted names, might well make you think you have fewer species than you thought you had. The commentary on each species includes habitat photos with close-ups of spines and flowers, as well as details of when that species was first published, and synonyms. It concludes with a section on Field Collectors' Numbers for Copiapoas: GC, RMF, JJ, FK, KK, Lau, PM, FR giving collection localities for each plant named in this list of numbers. From this list you may be able to name the plant or seeds for which you have only a field number.

While this book is not *too* technical for the average grower they, undoubtedly, will find plenty to learn from it.

This excellent handbook has been written by an enthusiastic cactophile who is keen to share the knowledge he acquired during his happy travels in Chile, with other Copiapoa growers. ▲

Footnote by Bookworm Bill:
You think Haworthias and Aloes are in the Asphodelaceae? Just wait until you see the Lexicon of Succulents!

Final Update for Sonoran 2 - this is the last Desert Breeze before the BIG EVENT
23, 24 and 25th October 1998 - Holiday Inn Palo Verde, Tucson, Arizona

Sonoran 2 Committee

- Committee Chairman Dick Wiedhopf
- Program Chairman Margaret Pope
- Finances Arnold White
- Registration and Facilities Maury Clapp
- Show & Display Chairman Linda Ryan
- Silent Auction Norma Beckman
- Plant Vendors Mary Odette
- Consignment Sales Linda Burback

Advertising

- Cactus Societies Carol Clapp
- Web Page Lois Ladwig
- Local & media Dick Wiedhopf

Vendors tel: 520-749-2285

As we go to press, the following have committed to selling at Sonoran 2:

- Arid Lands Greenhouses** - Marilyn Bernzott
- Miles' To Go** - Miles Anderson
- Plantas del Sol** - John and Dorothy Pasek
- Plants for the Southwest** - Gene Joseph and Jane Evans
- and **Mary Odette Books** - Mary Odette

We anticipate receiving confirmation from other nurseries within the next few days that they, too, will be selling their plants on the attractive terrace within the hotel. **Easy access for carts from parking lot to sales area.**

TCSS Consignment Sales tel: 520-647-3200

Plants are NOT being taken on consignment, but there will be other exciting things on these tables. We expect to have some pottery for sale from some of your favorite potters - let's hope they still have plenty of inventory available after all the summer shows. There will be watercolors and other art work. You'll find it hard to resist the Succulent Wreaths, and the superb T-shirts of southwestern designs. Stamps and pins, too.

Silent Auction tel: 520-885-0669

Norma Beckman already has some fantastic plants offered by local nurseries for our Silent Auction, but we are requesting that members also may be able to give some. Remember the fun and excitement when bidding!

Plant Show tel: 520-299-2338

Linda Ryan needs bean counters. Call her and offer your time to count beans into cups for visitors to use when judging the plant show, and then

later when the total bean votes need counting to find the winners. Also, some security personnel are needed for the plant show. Ask Linda for her sign-up sheet at the October meeting. **BRING YOUR SPECIAL PLANTS AND DISPLAY THEM AT THE SHOW. For placement in the show, plants need to arrive by 9 a.m. Saturday 24 Oct or, preferably, on Friday afternoon 23 Oct.**

Members:

Please bring seed of cacti and other succulents, preferably local native species, to our meeting on Oct 1, in bulk, labeled, and we will package it into small envelopes. We hope to give all registrants some seeds to take home.

Time slots

If you are not registering, have YOU signed up to help with the show, security, TCSS consignment sales? Many of the committee members above need you to sign up for a few hours or more. Please ask for the sign-up sheets when you come to the October meeting.

Meal times

Help for covering the TCSS Consignment Sales tables is needed at meal times in particular. It is hoped that those who are not registrants will be happy to help at such times, and to adjust their refreshment breaks accordingly. Remember . . . there is a bar and a restaurant within the Holiday Inn Palo Verde.

NOTE: All rooms for talks and workshops, eating, plant sales and consignment sales, silent auction and plant show are all located in very close proximity to each other. Easy handicapped access, too.

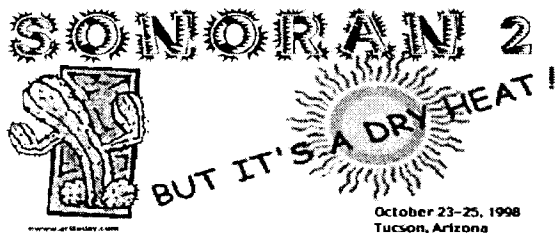
Yes, I'll be attending *Sonoran 2* as a TCSS member helper and would like to attend the following meals:

- Saturday: Breakfast.....\$5.00 ea. _____
- Lunch\$15.00 ea. _____
- Arizona-Sonoran Desert Museum.\$37.00 ea. _____
- [] Salmon [] Beef [] Chicken
- Sunday: Breakfast.....\$5.00 ea. _____
- Lunch\$15.00 ea. _____

Name: _____ Total Fees: _____

Mail this slip (photocopies OK or even just a piece of paper with info) along with your check **before October 17, 1998** to:

Maury Clapp, Sonoran 2 Reservations,
PO Box 91560, Tucson AZ 85752-1560



SONORAN 2

OCTOBER 23, 24 & 25, 1998

LAST CHANCE TO REGISTER

TENTATIVE SCHEDULE

Friday, October 23

Noon - 5:30 P.M. Plant Show set-up
 3:00 - 7:00 P.M. Registration
 6:30 - 8:00 P.M. Welcome Reception with No Host Bar

Saturday, October 24

7:30 A.M. Registration continues
 Sales Begin
 7:30 - 8:30 A.M. Continental Breakfast
 8:30 - 9:45 A.M. Opening Remarks: Dick Wiedhopf
 President TCSS
 Speaker: Tony Burgess
Characteristics of Arid Lands
 Plant Ecologist formerly with USGS, now
 Site Naturalist and Coordinator of
 Biomangement at Biosphere 2
 9:00 A.M. Plant Show opens
 9:45 - 10:00 A.M. Morning Break, Beverage and Granola Bars
 10:00 - 11:15 A.M. Speaker: Mark Dimmitt
Plant Adaptations to Arid Regions
 Director of Natural History at the Arizona-
 Sonora Desert Museum, Ph.D. in biology,
 University of California, Riverside
 11:30 A.M. - 1:00 P.M. Workshop
 1:00 - 2:00 P.M. Lunch: Deli Buffet
 2:00 - 3:30 P.M. Workshop
 3:30 - 3:45 P.M. Afternoon Break, Cookies, Brownies and Beverage
 3:45 - 4:30 P.M. Silent Auction
 4:30 P.M. Sales and Plant Show Hours end
 5:00 P.M. Optional Dinner and Arizona-Sonora Desert
 Museum Trip

Sunday, October 25

7:30 A.M. Sales begin
 7:30 - 8:30 A.M. Traditional Breakfast
 8:45 - 9:30 A.M. Speaker: Matt Johnson
Legume Succulent Associations in Arid Regions
 Botanical Research Specialist for the Desert
 Legume Project, familiar with arid regions of
 North and South America and Australia, B.S.
 and M.S. in Horticulture, University of
 Arizona
 9:00 A.M. Plant Show opens
 9:45 - 11:15 A.M. Workshop
 11:00 A.M. Plant Show Voting ends
 11:30 A.M. - 1:00 P.M. Workshop
 1:15 - 3:00 P.M. Farewell Lunch; Arizona Buffet
 Speaker: Meg Quinn
Succulents of Kenya
 Educational Director at the Tucson Botanical
 Gardens, assisted R. Schulz and A. Powys
 with their book *Pinguone, Kenya-Succulents
 and Their Environment*
 Announcement of Plant Show Winners
 Closing Remarks: Dick Wiedhopf, President TCSS
 3:00 P.M. Plant Show closed, pick up your plants
 4:00 P.M. Sales end

WORKSHOPS

Multiple sessions are planned for each workshop. However, attendance in many sessions is limited to approximately fifteen persons; so get your reservations in early to ensure getting your choices.

CULTIVATING CAUDICIFORMS FROM GROUND TO POT

Miles Anderson

This workshop program will discuss the advantages and disadvantages of using large containers and ground beds to hasten the growth of caudiciform succulents. It will also cover species which have performed particularly well in the Tucson area and successful techniques for their cultivation.

Miles Anderson, owner of the Tucson mail order nursery, Miles' To Go, has been growing cacti and succulents as a hobby for 24 years and commercially for the last 12 years. Although known best for propagating rare and unusual cacti, often by grafting, Miles' interest in caudiciforms is equal to his love for cacti. Miles is on the Board of Directors of the TCSS.

CREATING A SUCCULENT GARDEN IN A CONTAINER

Cathy Babcock and Diane Barker

This workshop will cover design principles; container selection; utilization of natural accents, proper plant selection and plant combinations; and creating color themes in containers. This presentation will also include some slides of agaves.

Cathy Babcock received a B.S. in Urban Horticulture from Arizona State University in 1989. She completed internships at McK Greenhouses in Mesa, AZ; Los Angeles County Arboretum in Pasadena, CA; and at the Desert Botanical Garden (DBG) in Phoenix, AZ. Currently she is Assistant to the Superintendent of Horticulture and Propagation Manager at the DBG.

Diane Barker received an A.A.S. in Landscape Horticulture from Mesa Community College. She started at DBG in 1987 as a volunteer and became an employee in 1993 assuming responsibility for the Agave Family. She is also responsible for the Chihuahuan section of the garden.

PROPAGATING CACTUS FROM A NURSERYMAN'S POINT OF VIEW

Dan Bach

This workshop will show you how a successful commercial grower of cacti manages to produce masses of young plants, and some not so young, for both the wholesale and retail markets.

Dan Bach is owner of Bach's Greenhouse Cactus Nursery in Tucson and a member of TCSS.

DIGITAL ENHANCEMENT OF PHOTOS AND SLIDES USING A PHOTO SCANNER

Bruce Birt

Bruce will demonstrate the uses and capability of a photo scanner and a printer utilizing a computer to produce a picture on Kodak paper. He will also give you ideas on how to file the images in the computer for later transmittal by e-mail and prepare a transparency for use with an overhead projector so that a slide may be magnified many times.

Bruce Birt is the technology consultant and owner of Advanced Business Solutions.

ALOES IN CULTIVATION

Gene Joseph

This workshop will include a slide presentation and a demonstration of Aloes suitable for cultivation, both in containers and in the landscape. Gene will present slides on "some Aloes I have known" and growing techniques. He will have numerous plants on hand to discuss some specifics of those plants and their culture. There will be a brief discussion of the main books on Aloes and participants will be given a list of Aloes suitable for cultivation.

Gene Joseph has a B.S. in Plant Sciences from the University of Arizona. He was a plant propagator at the Arizona-Sonora Desert Museum for 7 years. He now maintains a large collection of plants under the guise of running a business, Plants for the South West/Living Stones Nursery. His favorite plants are Lithops and Aloes. Gene is a member of TCSS.

GROWING LITHOPS AND MESEMBS

Gene Joseph

A slide presentation and a demonstration of Lithops in cultivation will be presented. Included will be a discussion of their annual cycles, seed dispersal mechanism, plant anatomy and propagation of this unique group of plants. Literature on Lithops will be discussed briefly.

Gene Joseph -- see above.

MICROPROPAGATION: LOW - TECH METHOD FOR THE HOME LABORATORY

Michael Louie

This workshop will cover the full background, history, basic biochemistry, sterile technique and a hands-on demonstration of low-tech tissue culture of micropropagation in the kitchen.

Michael Louie attended the University of California at Davis where he received a B.S. in Biochemistry. He learned to grow fungus cultures and the basics of lettuce and tomato tissue culture. In 1992 he received a Ph.D. in Organic Chemistry specializing in the synthesis of potential drugs found in bulbous African plants. Michael currently works as a research scientist in the area of infectious human diseases and computerized data management. In 1995 he developed a 'home laboratory' system working primarily on haworthia tissue cultures and dabbling in cacti, Agave, Gasteria and Aloe micropropagation. Michael is president of the San Francisco Cactus and Succulent Society and a volunteer at the Strybing Arboretum in Golden Gate Park.

SHADE ESSENTIALS: BENCHES TO GREENHOUSES

Scott McDermott

This workshop will cover various aspects of greenhouse/shade structure types and their pros and cons; techniques to aid in the construction of benches, shade and greenhouse; covers for winter, summer and excluding pests; and sources of materials and information.

Scott McDermott is a life long gardener and plant propagator, specializing in South African bulbs and succulents. Southern Illinois Univ. School of Design. Owner of Shade Concepts; greenhouses and patio covers (design, construction and consulting). Scott is a member of the TCSS.

HOW TO START YOUR OWN COLLECTION

James Pickering

This workshop will cover all the basics: how to select plants to meet your needs; where to house your plants -- window sill, patio, porch, greenhouse, etc.; selection of containers, soil mixes, watering regimens, fertilizing, etc. and year round maintenance. Starting an outdoor collection in the ground, where conditions are favorable, will also be discussed.

James Pickering has lived in Tucson since 1970. As a hobbyist, James has grown cacti for fifty-eight years, specializing in Brazilian cephalic cacti for the last forty. James is a member of the TCSS.

PLANT COMBINATIONS FOR YOUR LANDSCAPE

Greg Starr

A slide presentation showing plant combinations and the use of succulent plants with leafy plants will be followed by a hands-on look at some of the plants discussed in this workshop.

Greg Starr graduated from the University of Arizona with B.S. and M.S. degrees in Horticulture where he worked with Professor Warren Jones learning a lot about collecting and testing plants. Greg has been collecting, testing and introducing plants from Arizona and Mexico to the general public since 1985 when he opened Starr Nursery. He has written articles for the

journal *Desert Plants*, and has given talks on new plants for southern Arizona landscapes. He regularly contributes articles to the newsletter of the Tucson Botanical Gardens on the care for specific plants.

TALKS

CHARACTERISTICS OF ARID LANDS

Tony Burgess

Using the Sonoran desert and its six subdivisions as an example, the arid regions of the world will be reviewed including their common characteristics, differences, location, landforms, soils and lack of succession of plants.

PLANT ADAPTATIONS TO ARID LANDS

Mark Dimmitt

This talk will cover the diverse ways in which plants have adapted to enable them not only to survive, but often to thrive, in the hostile conditions of arid lands.

LEGUME-SUCCULENT ASSOCIATIONS IN ARID REGIONS

Matt Johnson

In the Sonoran Desert of southern Arizona, palo verde, mesquite, ironwood and acacia are important legume plants which characterize the vegetation. Cacti and other succulents also abound, growing with the legumes and other plants to form diverse and interesting associations. What happens in other arid regions? Matt will tell us about some of the other hot, dry areas of the world, including parts of North and South America and Australia, where legumes (Leguminosae/Fabaceae) are also conspicuous.

SUCCULENTS OF KENYA

Meg Quinn

Meg will show slides of different habitats and plant communities throughout Kenya and the succulent plants occurring within them. Some interesting parallels to the Sonoran Desert will be noted.

ARIZONA-SONORA DESERT MUSEUM

Summer nights are special. The Museum remains open till 10:00 P.M. providing a rare opportunity to observe the nocturnal animals of the desert. Except for the aviaries, all exhibits are open for these special evenings and docents will be conducting demonstrations showing off the nocturnal aspects of the desert.

Saturday evening dining at the museum is always a delight, and we look forward to something special for this occasion too. *Let Your Palate Wander Through the Sonoran Desert* was the title of a profile written in 1997 about the Museum's Chef, Patrick Fahey. Apt words describing Chef Fahey's work at the Arizona-Sonora Desert Museum's Ocotillo Café where he is encouraged to showcase his natural creativity for native and indigenous foods. For this occasion we have three entrees to choose from:

Salmon Palo Verde - Arizona herb encrusted filet of salmon, served with black rice, calabacitas, and finished with anchoa chili orange butter.

Sunset Strip Sirloin - Char-broiled dry-aged certified Black Angus strip loin served with roasted potato polenta, calabacitas and finished with cantaloupe avocado pico, tumbleweed onion, and red chili pesto medallion.

Roast Chicken "Pueblo" - Slow roasted half chicken served with black rice, calabacitas, and finished with Sonora citrus crema.

ACCOMMODATIONS

Holiday Inn, Palo Verde
4550 South Palo Verde Blvd
Tucson AZ 85714
(520) 746-1161

This is the conference hotel. The hotel offers limousine service from the Tucson airport; call them on the courtesy telephone located in the baggage claim area.

Additional lodging is available within walking distance of the Holiday Inn at the following facilities:

Days Inn
4855 S Palo Verde Blvd (at Irvington)
Tucson AZ 85714
(520) 747-8988

Fairfield Inn
4805 S Hotel Dr
Tucson AZ 85714
(520) 747-7474

Red Roof Inn
3700 E Irvington Rd
Tucson AZ 85714
(520) 571-1400

Tucson Cactus and Succulent Society

presents Sonoran 2

October 23-25, 1998

Holiday Inn Palo Verde

4550 S. Palo Verde Blvd.

Tucson, Arizona 85714

Tel: 1-(800) 465-4329, (520) 746-1161

FAX (520) 741-1170

OFFICIAL USE ONLY

Post Mark Date _____

Received _____

Sequence _____

Registration Form

Submit a separate form for each person attending the conference; please duplicate this form for additional registrants. ~~Call the hotel before September 23, 1998 for special room rates as an attendee of Sonoran 2. Note the special early registration fees.~~

Registration fee includes Friday evening reception (no host bar); continental breakfast, mid-morning break, lunch, and afternoon break on Saturday; traditional breakfast and lunch on Sunday; four workshops; and all speakers. There will also be on-site plant and book sales, silent auction(s) and a plant show.

The **Saturday evening trip to the Arizona-Sonora Desert Museum** is optional and charged separately. The museum will be open until 10:00 p.m. Participants will visit the museum and have a special dinner, prepared by Chef Patrick Fahey, of the Desert Museum's Ocotillo Café. Carpooling will be arranged.

Name: _____ Club/Organization: _____
as you want it to appear on your registration badge

Street Address: _____ Apt: _____

City: _____ State: _____ Zip: _____ + _____

Home Phone: (____) _____ Work Phone: (____) _____

E-mail: _____ Fax Number: (____) _____

- | | | | |
|----|---|------------|-------------------|
| 1. | Early Registration Fee: Postmark on or before 9/14/98 (non-TCSS members) | \$95.00 | XXXXXX |
| | (TCSS members with 1998 dues paid as of 4/15/98) | \$75.00 | XXXXXX |
| | Registration Fee: (all) Postmark after 9/14/98 | \$115.00 | _____ |
| 2. | Saturday Evening Trip Arizona-Sonora Desert Museum | \$37.00 | _____ |
| | Dinner selection [] Salmon [] Beef [] Chicken | | |
| 3. | Tickets for guests of registered participants: | | |
| | Saturday: Breakfast | Qty. _____ | \$5.00 ea. _____ |
| | Lunch | Qty. _____ | \$15.00 ea. _____ |
| | Arizona-Sonoran Desert Museum | Qty. _____ | \$37.00 ea. _____ |
| | [] Salmon [] Beef [] Chicken | | |
| | Sunday: Breakfast | Qty. _____ | \$5.00 ea. _____ |
| | Lunch | Qty. _____ | \$15.00 ea. _____ |

Guest Name(s): _____ Total Fees: _____
as it is to appear on name badge

Payment can be made by check or money order payable to TCSS. Return form and payment to: TCSS, c/o Maury Clapp, PO Box 91560, Tucson, AZ 85752-1560. Make checks payable to TCSS. No credit cards accepted for registration. Cancellation and request for refund must be in writing and is subject to a \$10.00 administrative fee. No refunds after October 1, 1998.

(Registration and Workshop Sign Up Continued on Reverse)

Name _____

Plant Show

Please indicate if you plan to enter plants in the Plant Show. Yes _____ No _____
(If yes, you will be sent "Plant Show Guidelines and Rules" and "Plant Show Entry Forms.")

Workshops (Four Sessions)

Each workshop has a limited number of spaces available to paid registrants only. Priority will be based on registration postmark date. Five workshops run concurrently each session; therefore, you will be able to attend one early and one late session on Saturday and one early and one late session on Sunday. Please decide which workshops, if any, you are interested in attending and rank them in descending order of preference, starting with "1" as the most preferred. Rank only those you wish to attend, but please provide a couple of alternates.

Rank	Workshop	Workshop Leader
_____	Cultivating Caudiciforms from Ground to Pot	<i>Miles Anderson</i>
_____	Creating a Succulent Garden in a Container	<i>Cathy Babcock & Diane Barker</i>
_____	Propagating Cactus from a Nurseryman's Point of View	<i>Dan Bach</i>
_____	Digital Enhancement of Photos and Slides using a Photo Scanner	<i>Bruce Birt</i>
_____	Aloes in Cultivation	<i>Gene Joseph</i>
_____	Growing Lithops and Mesembs	<i>Gene Joseph</i>
_____	Micropropagation: Low-tech Method for the Home Laboratory	<i>Michael Louie</i>
_____	Shade Essentials: Benches to Greenhouses	<i>Scott McDermott</i>
_____	How to Start Your Own Collection	<i>James Pickering</i>
_____	Plant Combinations for Your Landscape	<i>Greg Starr</i>

The Tucson Cactus & Succulent Society, Inc. reserves the right to change the program if necessary.

Do you need special assistance to attend the conference and activities? Yes _____ No _____
What assistance is required? _____
Do you have special needs for meals? Yes _____ No _____
What are your special needs? _____

If you need any additional information about this event, please contact either Dick Wiedhopf, President: 7510 E. Rio Verde Dr., Tucson, AZ 85721 or e-mail <wiedhopf@Pharmacy.Arizona.EDU> or Carol Clapp, Secretary: P.O. Box 91560, Tucson, AZ 85752-1560; FAX (520) 908-0396; or e-mail <kitfox@azstarnet.com> or check our website: <<http://www.desertcactus.com/tcss/>>. We will assist you in any way we can and look forward to seeing you at Sonoran 2!

When do you expect to arrive at the Holiday Inn Palo Verde? Date _____ Time _____

Please tell us how you heard of our event: _____

Please use this form, or copy it, to renew your membership or start a new membership.

**Tucson Cactus and Succulent Society
Membership Form to end 1999**

Name(S) (F, Mi, Last) _____

Address _____

City _____ State _____ ZIP _____ - _____

Home telephone (_____) _____ - _____ Work telephone (_____) _____ - _____

Fax (_____) _____ - _____ e-mail _____

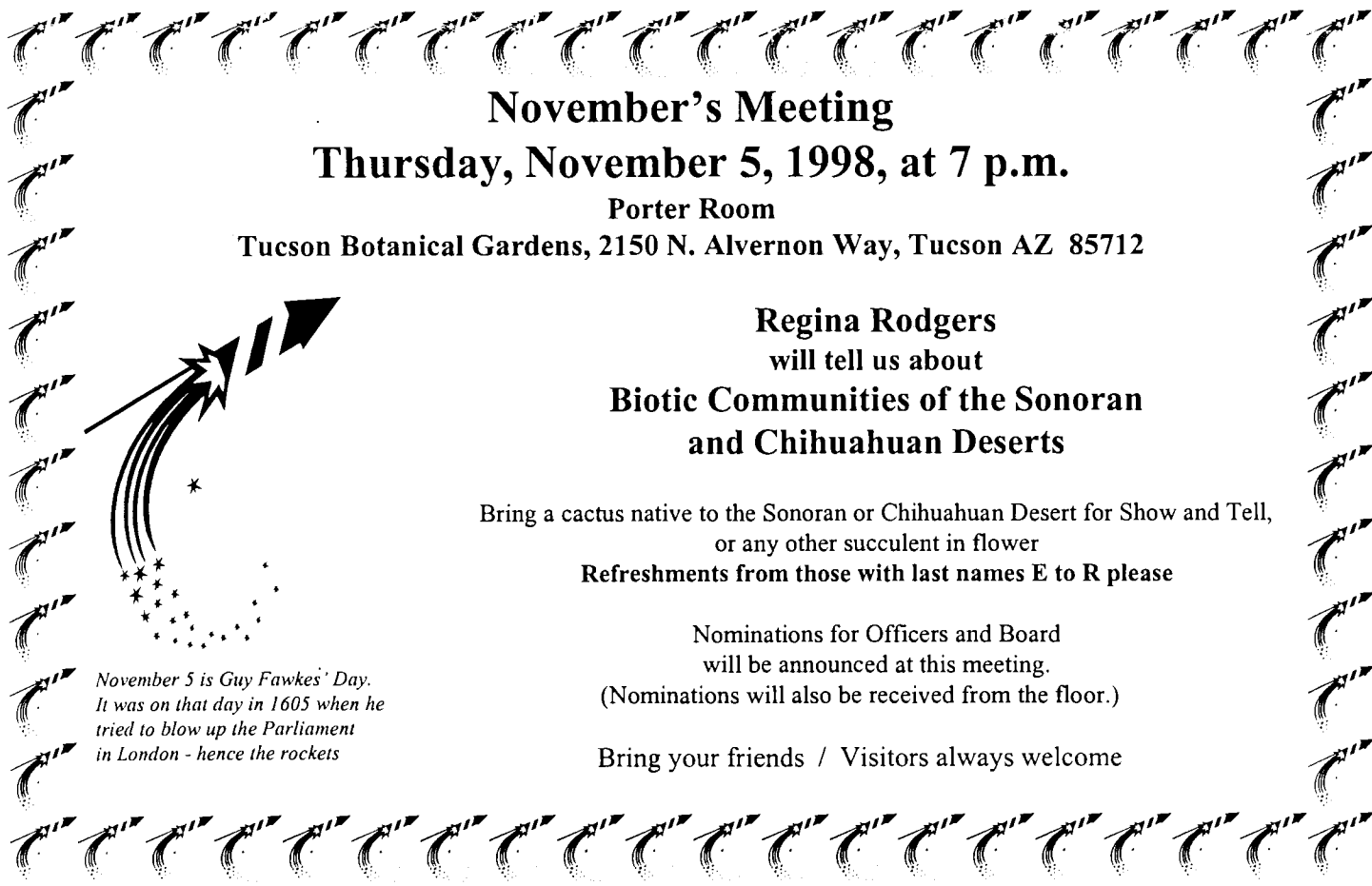
Life \$500 _____ Family \$20 _____ General \$15 _____ Student (18 and under) \$10 _____

New Membership _____ Renewal Membership _____

Dues run from January 1 through December 31 each year.

Please make checks payable to TCSS, and mail with completed form to:

TCSS Membership Secretary, Maury Clapp, PO Box 91560, Tucson, AZ 85752-1560



**November's Meeting
Thursday, November 5, 1998, at 7 p.m.**

Porter Room
Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson AZ 85712

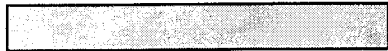
Regina Rodgers
will tell us about
**Biotic Communities of the Sonoran
and Chihuahuan Deserts**

Bring a cactus native to the Sonoran or Chihuahuan Desert for Show and Tell,
or any other succulent in flower
Refreshments from those with last names E to R please

Nominations for Officers and Board
will be announced at this meeting.
(Nominations will also be received from the floor.)

Bring your friends / Visitors always welcome

*November 5 is Guy Fawkes' Day.
It was on that day in 1605 when he
tried to blow up the Parliament
in London - hence the rockets*





NEXT MEETING - Thursday, October 1 at 7 p.m.

Porter Room

Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson, AZ 85712

Ronnie Sidner

on

Nectar-feeding Bats and Arizona's Cactus and Succulents

See page 3 for more details.

SHOW AND TELL - Please bring along a cactus or other succulent native to Arizona and tell us about it. Or bring any other cactus or succulent in flower.

**Refreshments by those with family names beginning with S to Z and A to D
Bring a friend. Visitors always welcome.**



Desert Breeze

Volume 3, Issue 10

DECEMBER 1998



SONORAN 3

SPRING

2000 AD

The only word for this conference is SUPERLATIVE!!!

So wrote one of the attendees at Sonoran 2 in his/her after-convention critique.

Instead of writing our own thoughts on last October's event, we are relating to you some of the comments we received afterwards.

“ I wish I was clever enough to think of something you didn't. The only word for this conference is SUPERLATIVE!!! Good speakers, good classes - right length of time....

Beautifully put together and wonderfully organized program. Thank you all. A Saturday evening mixer in someone's garden would be very nice if you could get a volunteer.

I really enjoyed this conference and thought it was well run.

Great conference!

We were very impressed with the organization of this conference. The binders were great. The speakers and workshop presenters were fantastic. I know a lot of work went into the conference . . . and it showed. We look forward to Sonoran 3.

It was a good idea to have multiple presentations to make up for [some of the smaller rooms] so that more people could attend.

Without a doubt, the best organized convention I have ever attended.

The best conference I have ever attended. I have attended many over the years.

I thought it was a terrific conference, well organized, good food, interesting speakers and informative workshops.

The best part of Sonoran 2 was the 4 natural history talks. The two best by Tony Burgess and Meg Quinn. I hope to see more of the same. The vendors were great.

In future a visit to local cactus/succulent nurseries may be of interest.

Handouts would help make good workshops better.

This was an excellent conference and well organized. My only suggestion is ask workshop leaders to make printed lists of plants discussed (maybe speakers too, where applicable).

Away site dinner Saturday night too late to eat such a large meal.

I really enjoyed the weekend - the talk on lithops clearly showed me the mistake I was making and encouraged me to try again.

How about some field trips - 1/2 day or 1 day to Sonoran locations.

More science subjects and subjects for novices.

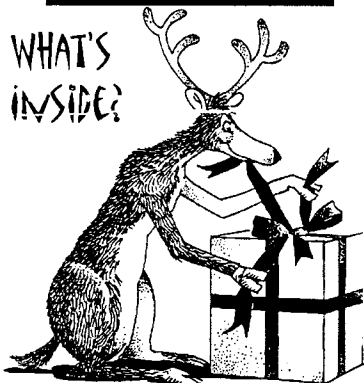
This was a great deal - including food.

EXCELLENT . . . SUPERIOR . . . PERFECT -

Your whole team worked together as a unit!

BRAVO !

The comments above were written by you - more reports and thanks inside this issue.



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Tucson Cactus & Succulent Society
Founded 1960

OFFICERS AND BOARD 1998

PRESIDENT: Richard Wiedhopf 885-6367
VICE-PRESIDENT: Margaret Pope 795-1285

SECRETARIES:

Carol and Maury Clapp 908-9001

TREASURER: Arnold White 577-1348

BOARD OF DIRECTORS:

(terms expire December 31 of year indicated)

Miles Anderson 1998

Sara Perper 1998

Linda Ryan 1998

Mary Odette 1999

Dan Birt 2000

Al Coritz 2000

Lois Ladwig 2000

AFFILIATE REPRESENTATIVE TO CSSA:

Carol Clapp (520) 908-9001

e-mail: kitfox@azstarnet.com



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Snail mail:

PO Box 91560

Tucson, AZ 85752-1560

The **Desert Breeze** is the Newsletter
of the Tucson Cactus & Succulent Society.

Please send your copy by the 20th of the
month preceding the following month's issue
to the Editor.

TCSS Web Page

<http://www.desertcactus.com/tcss/>

TCSS WEBMASTER: Lois Ladwig

e-mail: lois@desertcactus.com

Thanks to Lois for keeping our web site up-to-date
and especially leading up to Sonoran 2.

Items for possible inclusion on our web page should
be sent to <kitfox@azstarnet.com> for consideration.

Treasurer's Report on Sonoran 2

Our total expenses for Sonoran 2 amounted to \$11,223.62. Facilities and meals cost \$7,846.26, program (speakers and workshop leaders) cost \$1,296.03, and printing, postage, and other expenses amounted to \$2,081.33. Our income for the event totaled \$10,442.56. This includes \$7,364.01 from registration, \$1,221 from the silent auction, \$1,049.93 from vendor sales and the remainder (\$807.62) from the raffle, consignment sales and club sales. (The cost of the dinner is not included since all of the money received [\$1,911.99] went to ASDM). Sonoran 2 therefore cost the TCSS an additional \$781.06. In anticipation of a deficit I transferred \$1,000.00 from the savings account to the checking account. We thank Dan Bach and Matt Johnson for refunding their honoraria, and Dan Bach for taking all of the unsold wreaths at cost.

As of November 18, we have \$727.02 in the checking account and \$1,837.00 in the savings account.

Arnold White, TCSS Treasurer

Thanks . . . to those who with the Plant Show

I want to thank all of you who made the plant show part of Sonoran 2 a success. We needed everyone to contribute a plant, no matter what size or how common, as long as the plant was healthy. Next time I hope even more of us contribute plants.

Many thanks to:

Miles Anderson of Miles to Go,
Dan and Diane Bach of Bach's Greenhouses,
Wendy Beall,
Norma Beckman,
Dan Birt of Dan's Desert Plants,
Christina of Arid Lands Greenhouses,
Anthony Fontes of Desert Trees Nursery,
Peggy Hitner,
Gene Joseph and Jane Evans of Plants of the Southwest,
Paul Magoon,
Scott McDermott,
Valarie Miller,
Laurinda Oswald and Graf Oswald,
John and Dorothy Pasek of Plantas del Sol,
Margaret Pope,
Jack Ramsey,
Mick Reed,
Linda Ryan,
Carol Scannell of Tanque Verde Greenhouses,
Mark and Margaret Sitter,
Tim Sos,
Jon Weeks of Landscape Cacti,
Bob and Bev White of B&B Cactus Farm.

Linda Ryan

Show Chairman, Sonoran 2

President's Message

Thank you for the opportunity to serve as president for the last five years. It is hard to believe that you've put up with me so long. We've done great things during this period.



- Tripled Membership 1994-1998
- Tucson 95 - CSSA Biennial Convention
- Stuck on Tucson 1996
- Sonoran 2 1998
- More than 50 programs at monthly meetings
- World Class experts
- Shows, Sales, Silent Auctions, Holiday Parties
- New Friends, New Plants, New Opportunities
- Highly acclaimed newsletter
- Dedicated Officers, Board Members and Committee Chairs
- Active and committed Membership.

If I tried to thank every individual that has made these five years so special, I would need the entire newsletter to do so. If I just say THANK YOU, it's special to each one of you for all the big and little things you contributed to our success.

But we are just starting. The Board has approved planning for Sonoran 3 our own conference that educates about the Sonoran Desert and showcases our local nursery people and talented speakers and hobbyists.

A new group of Officers and Board of Directors will be elected at the Holiday Party that will bring new and exciting activities to our Society. The future is bright and change must be embraced, encouraged and enthusiastically supported.

My family and I wish you and your families a wonderful Holiday Season.

Dick Wiedhopf
TCSS President 1994-1998

A special thanks to our Treasurer, Arnold White, for endeavoring to keep us all under control with the Society's finances during our preparations for Sonoran 2 and throughout the year.



Next TCSS Meeting HOLIDAY HAPPENING Sunday, Dec. 13, 1998

Porter House
at the Tucson Botanical Gardens
2150 N. Alvernon Way, Tucson
Program — Holiday Potluck
SET UP starts at 12:00 p.m.
Begin SERVING at 1:00p.m.

TCSS will provide Turkey, Ham, Rolls, Drinks & Cups.

Members & guests will need to bring a PLATE, UTENSILS, DISH TO SHARE, and a GIFT to exchange.

A couple of notes —

- ♦ on the Gift . . .
- ♦ a PLANT, POT or related item;
- ♦ must be wrapped;
- ♦ worth about \$5.
- ♦
- ♦ and the DISH . . .
- ♦ in true potluck style - bring what you like!
- ♦ Bring enough to feed yourself, your guests & 8 more.

To aid planning we encourage you to RSVP by December 12 to Dick (885-6367). Leave message.

Everyone in your family is WELCOME so please RSVP and join in.

Important — Election of Officers and Board Members will be held at the Holiday Party

TUCSON BOTANICAL GARDEN SPRING FLOWER PHOTO CONTEST

- If you took great photos of the bountiful wild-flowers last spring, you can enter them in a photo contest. Entries welcomed from all parts of the state or even from visitors from elsewhere.
- For information, contact Meg Quinn at TBG, 2150 N. Alvernon Way, Tucson, AZ 85712.
- Tel: 520-326-9686

Sonoran 2 Plant Show Winners:

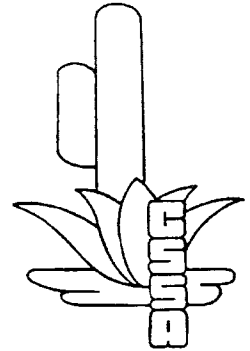
Laurinda Oswald won three "Superior Succulent" awards
Miles Anderson won one "Superior Succulent" award

Sonoran 2 Nursery Display Winners:

Plants for the Southwest - *Totally Awesome*
Miles-to-Go - *Oh Wow*
Desert Trees - *Gee Wiz!*
(See photos on page 9)



The Cactus and Succulent Society of America
presents its 28th Biennial
International Convention
April 11-16, 1999 in Las Vegas



Be a part of CSSA's ultimate convention of this millennium in fabulous Las Vegas. Cactus and succulent lovers will be able to attend an information-packed convention at the famous Tropicana, while accompanying guests may enjoy endless wonderment in the entertainment capital of the world. This is not a convention to miss. Arrangements have been made for discounted air fares and bus passes that run the "strip" every few minutes.

Pre- and post-convention tours to Death Valley, California, and to the south rim of the Grand Canyon in Arizona are on ATV Action Tours webpages at <<http://www.actiontours.com/cssa.html>> or for more information call them toll free at 1-888-288-5200, or 702-566-7400.

There will be four mid-week tours to choose from:

1. Red Rock Canyon, Spring Mountain Ranch, and Potosi Mountain;
2. Valley of Fire and Lake Mead (Glen Canyon);
3. Ash Meadows along with Devil's Hole, Pahrump Vineyards, and Potosi Mountain;
4. Castle Mountain Mine (Viceroy Gold Corp.), the New York Mountains, the Clark Mountains, and a taste of the East Mojave National Preserve.

Boxed lunches and beverages will be included on all tours.

The following succulent plants are those which may be encountered on the above mid-week tours:

CACTACEAE

- Coryphantha (Escobaria) vivipara v. desertii
- Coryphantha vivipara v. rosea
- Echinocactus polycephalus v. polycephalus
- Echinocactus polycephalus v. xeranthemoides
- Echinocereus engelmannii v. engelmannii
- Echinocereus engelmannii v. chrysocentrus
- Echinocereus engelmannii v. variegatus
- Ferocactus cylindraceus v. lecontei
- Mammillaria tetrancistra
- Neolloydia johnsonii v. johnsonii
- Neolloydia johnsonii v. lutescens
- Opuntia acanthocarpa v. coloradensis

AGAVACEAE

- Agave utahensis v. eborispina
- Agave utahensis v. nevadensis
- Yucca brevifolia v. jaegeriana
- Yucca baccata
- Yucca schidigera
- Nolina bigelovii

AND MORE CACTACEAE

- Opuntia basilaris
- Opuntia bigelovii
- Opuntia chlorotica
- Opuntia echinocarpa
- Opuntia erinacea v. erincaceae
- Opuntia erinacea v. ursina
- Opuntia littoralis
- Opuntia phaeacantha v. major
- Opuntia polyacantha v. rufispina
- Opuntia ramosissima
- Opuntia stanleyi v. parishii
- Opuntia whipplei

CRASSULACEAE

- Dudleya saxosa
- Dudleya arizonica, found in Kingston range and Clark Mountain
- Dudleya pulverulenta, found in Mountain Springs, NV

The Convention Hotel is the TROPICANA —

Prospective conventioners should contact the Tropicana Hotel directly and reserve rooms. The convention dates are April 11-16, 1999. Schedule your arrival by the afternoon of Sunday, April 11, in order to take advantage of the program on "Members' Slides" as well as joining us for the wine and cheese social which follows.

The Tropicana is located at 3801 Las Vegas Blvd. S, Las Vegas, NV 89019, USA. Reservations may be made by calling 800-468-9494 or 702-739-2222. Special rates, if you state you are part of the CSSA Convention, are \$79 weekdays and \$109 weekends.

CSSA President is Dr. Larry Mitich; Convention Chair, Duke Benadom, 805-526-8620 or dukebenadom@earthlink.net for answers to your questions; Convention Program Chairman and Rare Plant Procurer, Steve Hammer; Denni and Steve Plath are Convention Host Society Chairpersons; Mindy Fusaro, Convention Registrar and Treasurer; and Dr. Jerry Barad is Rare Plant Auction Chairman.

CSSA 1999 Convention Programs at Las Vegas

Sunday, 11 April

6:30 - 7:45 p.m. Members' Slide Show, hosted by Jon Dixon

Monday, 12 April

Starting at 9 a.m. -

Susan Carter-Holmes *Succulent Hunting in Zimbabwe*
 Steve Plath *Revegetating the East Mojave*
 Larry W. Mitich *Movers and Shakers, Part III*
 Gerhard Marx *The Euphorbia arida Complex*
 Jerry and Bea Barad *Half a Century with Succulent Plants*
 Chris Barnhill *The Flowers Behind the Plants*
 6 p.m. Opening Banquet, with featured speaker, Graham Charles *Peru, Dry Valleys to Lush Mountains*

Tuesday, 13 April

Starting at 9 a.m. -

Eva and Voytek Foik *Andean Fascination - Coastal Deserts and High Altiplano*
 Mary Parisi *Haworthias; Where Might They Grow?*
 Tim Metcalf *What's in Your Pot?*
 Steven Hammer *A New Look at Lithops*
 Michael Louie *Succulents in My Dessert*
 Derek Tribble *South Africa's Smallest Succulents*
 6:30 p.m. Rare Plant Auction, Dr Jerry Barad

Wednesday, 14 April

Mid-week tour during the day

Evening programs at Tropicana only

6 p.m. Round Robin meeting, Braden Engelke
 7:05 p.m. Affiliate Meeting, Rosalie Gorchoff

Thursday, 15 April

Starting at 9 a.m. -

Eva and Voytek Foik *Taxonomy, Taxonomy . . . I can't see the Difference*
 Roger Brown *Be a Creative Caretaker*
 Inge Hoffman *Peru - Cacti Wherever I Can Find Them*
 Rob Wallace *Understanding Plant Evolution*
 Jon Dixon *Cultural Panel*
 7 p.m. Newsletter Editors' Meeting, Mac Clarke
 8:05 p.m. Cacti_etc Subscribers' Meeting, Bob Jewett

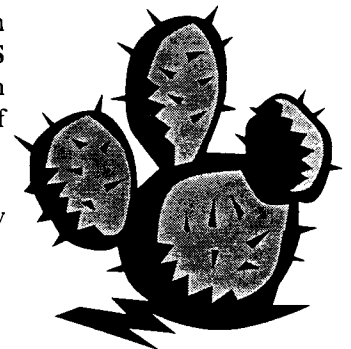
Friday, 16 April

Starting at 9 a.m. -

Jon Rebman *Cacti and Succulents of Lower California*
 Susan Carter-Holmes *Euphorbias of East Africa*
 Derek Tribble *Anacampseros and Avonia - Land Corals?*
 Rob Wallace *Phylogeny and Classification of the Mesembs*
 Graham Charles *Argentina, Land of Diversity*
 Gerhard Marx *Haworthia emelae and relatives*
 6:30 p.m. Farewell Banquet, with entertainment

We realize that all our members are not 'on-line' so will have some photocopies of the registration forms available for you at the December and January meetings. PLEASE LIST TUCSON C&S SOCIETY AS YOUR CLUB AFFILIATION, SO THAT WE GET PROPER RECOGNITION when numbers from each club are assessed - last time we should have had at least third place in order of numbers of members attending, but if you put only *Tucson*, it doesn't count.

The CSSA has its own web site at <<http://www.cactus-mall.com/cssa/convprog.html>> where you may download your own registration forms and other information.



A letter to cacti_etc by two of our Sonoran 2 Guests — Carol and Joe Wujcik - we appreciate their kind words, thank you guys.

Joe & I had a wonderful time at Sonoran 2 in Tucson last weekend. From the individualized registration notebooks to the very first talks, to the varied workshops, to the FREE meals and nibbles, to the incredible weather, to the meticulous planning, to the neat stuff on sale, to the camaraderie, everything was close to perfect!

Education was the primary goal of the conference, but friendship, fun, acquisition & creature comforts (excellent facilities) were right up there in importance. The first talk by Tony Burgess of Biosphere 2 was about characteristics of arid lands. Having created one desert, then having redesigned and maintained it, Tony had to learn how it all works? not theory, actually doing it. A bit like God in the creation of habitat!

Mark Dimmitt of the Arizona-Sonora Desert Museum then talked on plant adaptations to arid regions. This was another fabulous talk which explained why certain plants grow one place and not another. We were entranced. Questions we'd had for years were being answered. Mark also is among the creative souls in Tucson, creating new Adeniums and Trichocereus in his spare time. He is also a first-rate speaker.

Only two talks down & already the Conference was worth the price of admission. The workshops were super too. The only complaint is that we couldn't attend them all, but had to choose 4 each. Between us, Joe & I cultivated caudiciforms from ground to pot with Miles Anderson (who is soon to have a new book published), propagated cactus as a nurseryman (businessman) does with Dan Bach, digitally enhanced our photos and slides using a photo scanner with Bruce Birt, grew mesembs and lithops with Gene Joseph, created benches & greenhouses with Scott McDermott and created plant combos for desert landscaping, with generous uses of annual color. Note that these speakers and the others, plus those giving the major talks, were by the talented & professional "locals" in the Phoenix/Tucson area, with one exception from the San Francisco area: Michael Louie did a workshop on low-tech micropropagation at home, which we heard was excellent, as was Michael's sense of humor.

A surprise to most of us was that our meals were included in our registration fee. And these were very good. Also, the optional evening stroll & banquet by moonlight at the Arizona-Sonora Desert Museum was a gourmet treat, starting out with ocotillo salad (no they didn't harvest lots of ocotillo leaves, but sliced opuntia was included) and finishing with some sort of caramelized banana burrito concoction, very good.

The silent auction and plant show were excellent, too, as were sales. Most of us couldn't resist spending some money, but we received enormous value. Which sums up the excellent conference? value.

For all the hospitality and planning, thanks go to all the Tucson folk, especially Prez Dick Wiedhopf; Margaret Pope, artist; Mary Odette, sales & bookseller; Carol & Maury Clapp, newsletter editor & registration; Linda Ryan, who put on the show; Linda Burback, consignment sales; and Norma Beckman, silent auction. And that's just some of the hard workers!

Sonoran 3 is already being planned for the year 2000, in the spring. We expect to be there and hope everyone interested in cacti and succulents will come to learn and celebrate.

Best wishes,

Carol & Joe Wujcik
Southern California.

The competition for the design of a logo for Sonoran 3 has already begun. Give your ideas for a logo to any TCSS officer or board member

Sonoran 2

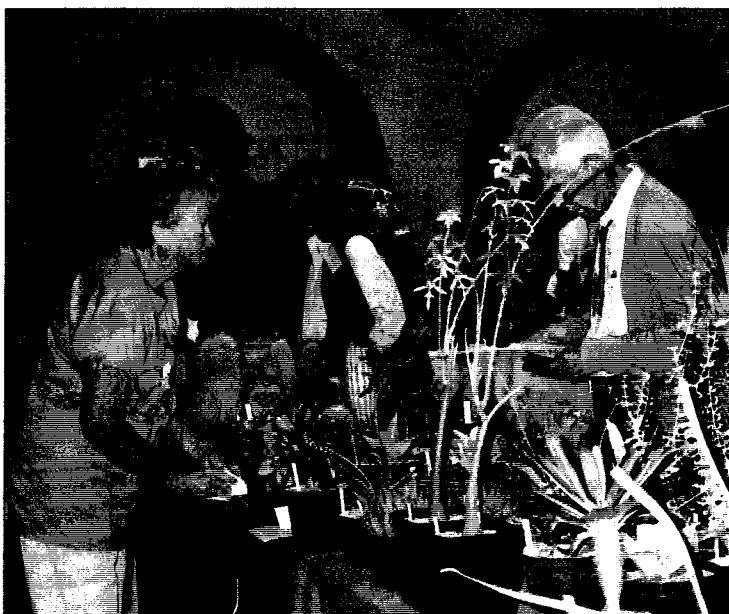
Sonoran 2 started here at the Registration Desk where Maury and Carol Clapp greeted our guests and gave them their registration material



The Welcome Reception was a chance for everyone to get to know each other, renew old acquaintances and make new friends.

Above left:
Bobette Levy, Michael Louie and Wendy Beall

Above right:
Kimberly Urman, Leo and Lillian Pickoff and Amber Jones

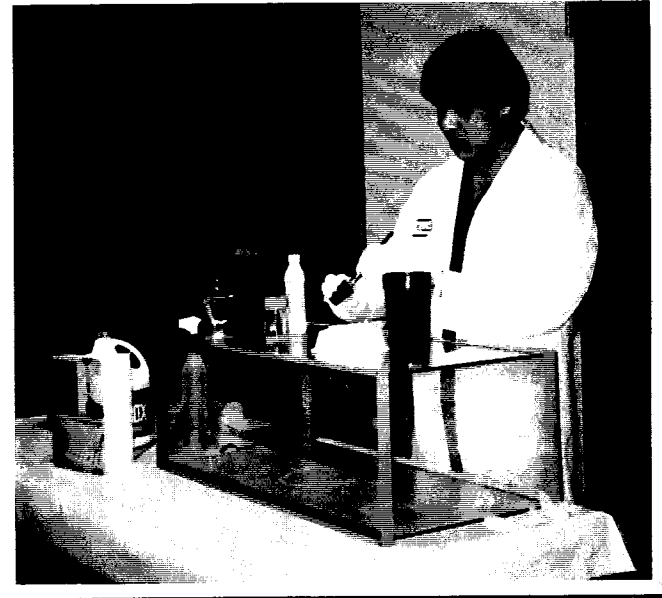


Left:
Sales were brisk as
Lloyd Perper looks
over Dorothy
Pasek's plants
(Plantas del Sol)



Right:
David Shearer from
North Carolina
and Walter Rigling
from Florida
traveled the
greatest distance to
attend Sonoran 2

Workshops were popular with everyone. Right: Michael Louie demonstrates his techniques for micropropagation, while (below) Mark Dimmitt, Don Wendland, Sterling Kragten (our youngest registrant at 12 y.o.) and Ronald Burnight examine the results.



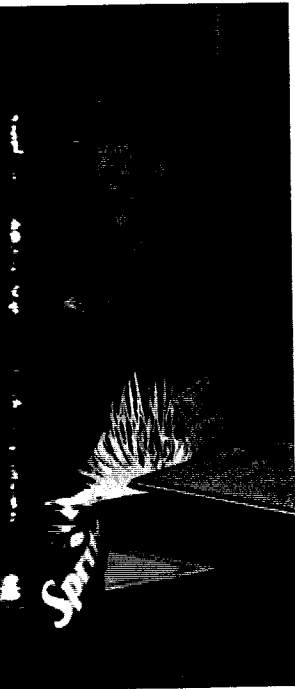
From left to right:
Don and Jean Wendland, Susan Fortune, Wendy Beall, Michael Louie, Sterling Kragten, Maury Clapp and Joe Wujcik gather on the Ocotillo Café terraces before the Saturday night dinner at the Arizona-Sonora Desert Museum

*Photos by Cactus Carol
Layout by Maury Clapp*

Right:
Dick Wiedhopf
presents three awards for
Superior Succulents to
Laurinda Oswald and
(far right) one to
Miles Anderson



Right:
Awards for Nursery Displays were
presented as follows:
Oh Wow to Miles-To-Go (Miles
Anderson); *Gee Wiz!* to Desert Trees
(Anthony Fontes) and
Totally Awesome to Plants for the
Southwest (Gene Joseph)



Another raffle prize was taken home
by Kathryn Fridlind

Right:
Maury Clapp
wins the first
raffle plant, an
Adenia sp.



Coral Island - by Professor Len Newton, PO Box 38995, Nairobi, Kenya

For most people, Christmas is essentially a family occasion. For someone with no family, what better way can there be to spend Christmas day than by botanising on an uninhabited coral island in the Indian Ocean? On the morning of Wednesday 25 December 1996 I stepped ashore on Misali. The fishing boat I had hired to get me there went off to do some fishing, leaving me to look for plants. There was no Man Friday (or Man Wednesday) to greet me, nor (alas) any dusky maidens. This was the ultimate "get away from it all" trip.

This story starts in 1930. A British botanist who was then working in Tanzania, Dr. Peter Greenway, visited Misali on 22 December of that year and made a collection of plants. One was an aloe, his dried specimen of which is now in Kew Herbarium. Until recently the plant had remained a mystery. Dr. G.W. Reynolds examined the specimen in 1959 and wrote on the sheet "I have studied this material carefully, and don't know what it is." When a friend in Kenya, Ken Brown, told me in 1995 that he would be going to the nearby Pemba Island I suggested that he might try to visit Misali and look for the plant, and he did just that. As a result he gave me a living plant, some preserved specimens, and some photographs. His wife, Anne, joined him on another visit and she prepared more herbarium specimens. Later, another visitor to Misali, Mrs. Shelagh Ballard, also sent me some photographs and preserved material. All these were sufficient to convince me that the plant was an undescribed species, but I decided that I must go to Misali myself to complete my investigation. For this expedition I was fortunate to obtain a supporting grant from the Cactus & Succulent Society of America Research Committee.

Where is Misali? About 40 miles off the coast of northern Tanzania is the Archipelago of Zanzibar. This consists of two large islands, Pemba and Unguja (usually called Zanzibar Island), each with a number of associated smaller islands. Misali is one of the smaller islands on the west side of Pemba. It is a little under one and a quarter miles long and half a mile wide at the north-east end, tapering to a pointed south-west end. It is entirely forested but has some fine beaches along some of its coastline. Zanzibar was an Arab Sultanate until 1890, when it became a British Protectorate. The Governor at one time was Sir John Kirk, who sent many plants to Kew, including those named later as *Aloe kirkii* and *Sansevieria kirkii*. In 1963 the whole peninsula joined with mainland Tanganyika to become part of the independent Republic of Tanzania.

To reach Misali I first flew from Nairobi to Unguja on 22 December. The next morning I took a sea ferry for the journey to Pemba, lasting two and a quarter hours. With the help of Ken Brown I had already arranged for a local fisherman, called Chili, to meet me at the harbour with a vehicle and drive me to the capital, Chake Chake, about 25 miles away. There I checked into the Star Inn, a small guest house. The Zanzibar Archipelago is often called the spice islands, and on the journey to Chake Chake we passed through extensive plantations of cloves trees. Even the tea served in the Star Inn was deliciously

spiced with cinnamon.

For my first full day on Pemba, on 24 December, Chili drove me northwards. As Pemba is only about 40 miles long we soon reached the northern end of the island. In the north-west corner I visited the Ngezi Forest Reserve, a relic of the forest that once covered most of the island. Then we were beginning to feel hungry. Chili had said there was no need to carry food because we could buy food in any of the little villages. We could, but the food available was dried octopus and small dried fish. However, to wash it down there was the finest ice-cold tamarind juice I have ever tasted.

After lunch we went to the north-east corner of the island. Ken told me he had seen the "Misali aloe" there as well, but he had not collected any specimens. On the way we stopped to look at a shrubby aloe in the hedgerows. It was not in flower but it seemed similar to *A. rabaiensis*, which is quite widespread in the coast region of Kenya, Tanzania and Somalia. Chili said it is used as a medicinal herb and I suspect that it had been imported for that purpose since what is known of the original vegetation of Pemba seems unsuitable for this species. Also growing in the hedgerows was a climbing species of *Cissus* with 5-angled succulent stems and succulent leaves. It is probably *C. phymatocarpa*, which is characterised by its warty fruits, but I found no fruits for confirmation.

On the map of Pemba, routes are shown variously as thick red lines, called "main road", grading through "secondary road" and "main track" down to a single black dotted line, called "other track/footpath". After reaching the end of the last dotted line we just went across country, with Chili carefully guiding his 4-wheel drive vehicle over huge chunks of fossilised coral and crashing through the bushes. Eventually we came to a line of coastal forest and we found a path through to the beach. The first succulent plant to catch my eye in the forest was *Sansevieria kirkii*, growing in clumps over a yard across, and nearby was more of the *Cissus* seen earlier. Then came the aloe — my first sight of this species in its natural habitat. No flowers were seen, but some plants had fruits. This was exciting because the fruits were fleshy berries, which meant that the plant is in the *Lomatophyllum* group, regarded as a separate genus until recently. After taking photographs, making some measurements, and writing notes, I collected a few samples and we headed back to Chake Chake.

Early the next morning, 25 December, Chili collected me from the Star Inn and drove for 45 minutes to a distant beach where his boat was waiting a hundred yards or

(Continued on page 11)



(Continued from page 10)

so offshore. It was a small open boat with an outboard motor. We waded out through the warm shallow water, over a bed of fascinating marine flowering plants growing and looking like algal seaweeds, and after we clambered into the boat it took about 25 minutes to cross the fairly calm sea to Misali. At one time a marine turtle surfaced alongside the boat, its shell about two feet long. On reaching the beach at the north-east end of the island I waded ashore and started looking for the aloe. I soon found the aloe, for it grows just inside the forest within a few feet of the beach. Some plants had trunks up to four feet high, and most were suckering around the base. Many plants were in bud and one had open flowers, so I was able to sit on the beach with my hand-lens, ruler, notebook and pencil and complete a description. Once again, the *Cissus* species and *Sansevieria kirkii* were growing in the same locality. Also plentiful was a climbing species of orchid with succulent stems. This is in the genus *Vanilla*, a relative of the species from which vanilla essence is obtained.

After an hour or so the boat returned with a fresh catch of tuna fish and king fish. Chili's crew cooked these over a wood fire on the beach, together with some green mangoes as a vegetable. Much as I enjoy eating roast turkey, sitting on a tropical beach in the shade of a huge screw pine (*Pandanus kirkii*) eating boiled fish and mango was, for me, a Christmas lunch to remember. Then it was back to the main Pemba Island, and the drive back to the Star Inn. My expedition had been a complete success. I had enough material and data to publish an account of the "Misali aloe" and to give it a name at last (*Aloe pembana*). I had met Dr. Greenway in 1975, then in his 78th year, but at that time I had no idea that some day I would have an opportunity to solve the mystery of his "Misali aloe". ▲

This article was published in *Ballya* 5: No: 2 (June 1998) and is reprinted in *Desert Breeze* with permission from the author, Prof Len Newton, and also from Eddy Harris, editor of the *Essex Succulent Review* 34: 37-39 (December 1997) in which this article first appeared.

Queen of the Night

The Tucson Chapter of the Arizona Native Plant Society has their next meeting on Thursday, December 9, at 7 p.m. at the Tucson Botanical Gardens.

Cindy Henzel, doctoral student at the University of Arizona, will be discussing her research on the queen of the night, *Peniocereus greggii*, a fascinating and, often elusive, native cactus.

Contact Jared Shortman (TCSS member) on 520-882-7060 for more information.

Editorial

We have just had a fantastic convention - Sonoran 2. Many members worked exceedingly hard for long hours for months leading up to this event. But . . . I wonder . . . have we killed off some of our committee? Margaret Pope who did an excellent job organizing the program of speakers and workshops is retiring as Vice-President at the end of this year. She has been program chair for some years for the TCSS. Margaret is the person who made the notes at the Sonoran 2 committee meetings and gave us a 'refreshed' copy of notes at each meeting. She has done so much work for the TCSS over the years that it is hard to know how to express our thanks fully. And after five years as TCSS President, Dick Wiedhopf, is also standing down - he tried to get away last year, but we wouldn't let him go. Even our secretaries, Maury and me, are changing positions - not because we've had enough, but because the TCSS has gained 51 new members this year, so there are plenty of members to share the work (?enjoyment) of running the club.

Nominating Committee

The nominating committee of Maury Clapp, Bobbie Coritz and Dan Sims, came up with a slate of officers and board members with several new names appearing for the first time. New faces are essential in all organizations from time to time to help bring in some fresh ideas. The new slate is announced on page 12 and you will be able to place your votes at the Christmas meeting on December 13 (Sunday). Please come and vote and join in the fun at our party.

Sponsorship for Sonoran 2

Expressing thanks to people for their efforts following any event is always a precarious thing to do. Once you start naming people, some people get overlooked. As Maury's wife, I know how generous he was in offering our sponsorship of Michael Louie to come from San Francisco to Sonoran 2 so many of you could enjoy his unique demonstration of micropropagation of succulent plants. Thanks must also be given to Dan Birt, who brought his son, Bruce, down from Las Vegas for Sonoran 2. Bruce gave an excellent workshop on photo enhancing which I really enjoyed and I will put the system he demonstrated into practice very soon. **I think that thanks expressed publicly of our sponsors might encourage others to sponsor later events.** We enjoyed having Michael with us and we took advantage of his suggestion at the Saturday night dinner that we take a dip in the hotel pools with him later that night. That was fun too. Where were the rest of you?

CSSA Biennial Convention 1999 at Las Vegas

Details of the next biennial CSSA Convention are on pages 4 and 5. I went to the last one in Las Vegas which was in 1973, and have been to six others. They are always good fun and there is potential for you to learn a lot. **There is considerable cost saving for CSSA members - ask me for CSSA membership forms at TCSS meetings. It is only 4 months away, so think about it NOW.**

(Continued on page 15)

Notes on November's TCSS Meeting

by Lois Ladwig

The meeting was called to order by Vice-President Margaret Pope. She welcomed new members Kevin Sims, Bruce Hilbert, Rick and Debra Raeber, Doug Browder, and Gail and George Virtas. VP then introduced the speaker for the evening, Regina Rodgers, her topic - *Biotic Communities of the Sonoran and Chihuahuan Deserts* (see Lois' summary on page 13).

After the presentation there was a break for refreshments and then the business meeting resumed with a financial report by Arnold White. At that point he did not have a final statement from Sonoran 2, but estimated that there would be an \$800 deficit. The treasury had \$2,405 at that point. The fees for Sonoran 2 were set low to attract registrants; early registration for members was \$75 and non-members was \$95, although it was estimated that the actual cost would be approximately \$125 per registrant.

Sonoran 2 received very good evaluations and this was a tribute to TCSS members. Margaret recognized a long list of volunteers, double the number who helped with Sonoran 1 (Stuck on Tucson). Having hosts for the workshops was a great help. Thanks were given to our member nurseries who donated plants for the silent auction. Sonoran 3 is planned for the spring of 2000.

The nominations committee (Maury Clapp, Bobbie Coritz, and Dan Sims) reported the following candidates for the election to be held in December:

President: Maury Clapp
 Vice-President: Al Coritz
 Secretary: Joseph Costante
 Treasurer: Arnold White
 Board of Directors:
 Ron Fridlind, Marty Harow, George Nadler,
 Sara Perper, Jack Ramsey, Linda Ryan,
 Vonn Watkins.

There were no further nominations from the floor. Bobette Levy made a motion to accept the slate and George Nadler seconded it. Elections will take place on December 13, at the Holiday party. Setup will be at 12:00 with a potluck lunch to start at 1:00. (Details on page 3)

Quent Quiner, Gail Virtas, Doug Browder, Kathryn Fridlind, Linda Ryan, Lois Ladwig, George Nadler, Wendy Beall, Sidney Levy, Bobette Levy, and Margaret Pope won door prizes. The raffle winners were Linda Ryan, George Virtas and Gail Virtas.

Dan Birt presented two Sonoran Desert plants, *Echinocereus weingeri* and *Echinocereus bristolii*. Dan said he had grown the *E. bristolii* from Mesa Garden seed, but it has not yet flowered for him. Meeting adjourned. ▲

Welcome New Members

Doug Browder of Tucson	520-320-0745
e-mail: dbrowd@statefund.com	
Robert J. Carlson of Costa Mesa, CA	949-548-2912
e-mail: rcarlson@smarhome.com	
Bruce Hilbert of Tucson	520-888-1280
e-mail: gdead@theriver.com	
Carol R. Otteson of Tanque Verde Greenhouses, Tucson	520-512-0868 wk 520-749-4414
J. M. "Pete" Petrie , c/o Boyce Thompson Arboretum	
e-mail: jpetrie@ag.arizona.edu	520-689-9762
Joan and Stan Skirvin of Scottsdale	602-948-2515
e-mail: jaskirv@netzone.com	
Kevin Sims of Tucson	520-818-1686
John and Meg Watt of Tucson	520-791-0912
e-mail: mwatt@earthcorp.com	
and a belated welcome (apologies) to	
Scott McDermott of Tucson	520-792-4270
who joined us earlier this year.	

Welcome Aboard!

Change of e-mail address:

Mickey Reed and Carla Singer - fivesun@ix.netcom.com

TCSS Program 1999

Meetings are usually held on the first Thursday of the month at the Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson, at 7 pm

Thursday January 7 **Jared Shortman** (TCSS Member)
 JATROPHAS OF ARIZONA AND SONORA
 This talk will be on the ecology and distribution of the various jatrophas of the Sonoran desert and the thornscrub and tropical deciduous forest areas of Sonora, Mexico. Horticulture and historical ethnobotany of these jatrophas will also be discussed.

Jared Shortman is a botanist and horticulturist who has lived in Tucson for 5 years. Most of his life he has worked in the nursery trade. He has volunteered at the Desert Legume Program and at the Desert Botanical Gardens in Phoenix and has worked part-time at the Arizona-Sonora Desert Museum. Currently he is president of the Tucson Chapter of the Arizona Native Plant Society and has his own small nursery, TUCSON GROWERS, growing plants for botanical gardens, arboretums, and research institutions.

Thursday February 4 **Diane Barker**
 The Behavior of the Genus Agave in cultivation, followed by a brief report of the Mexico City Symposium on Agaves ▲

Biotic Communities of the Sonoran and Chihuahuan Deserts

Presented by Regina Rodgers

Summary written by Lois Ladwig

Regina Rodgers is a software engineer at Honeywell Air Transport Systems in Phoenix. She has an avid interest in desert ecology and environmentalism. She is treasurer of the Central Arizona Cactus and Succulent Society, a regular volunteer at the Nature Conservancy's Hassayampa River Preserve, an avid birder, and an enthusiastic collector of arid plants.

Regina said she was moved to Phoenix by her employer, continued her hiking hobby, and fell in love with the desert, especially the Sonoran Desert. She recommended using the David Brown book *Biotic Communities of Southwestern United States and Northwest Mexico* and its companion map to learn about desert areas before visiting them. Using this map, Regina showed us the areas she wanted to discuss and then presented beautiful slides of these areas.

Regina first took us to Big Bend National Park in Texas part of the Chihuahuan Desert. Her trip was made during the month of April when many plants and cacti are in bloom. The Chihuahuan Desert developed about 10,000 years ago and is much larger in Mexico than in the US. Most of this desert is at 3500-4200 foot elevation and receives summer rain. The soil has a high calcium level and supports grass, yucca, cactus and agave. Big Bend National Park was established in June 1944, after the area had been used for grazing cattle and it is still recovering from the grazing. The park's elevation ranges from 1800-7800 feet and has a varied biotic community. The Rio Grande River forms the southern boundary of the park and there is dense vegetation and rugged terrain along the river. The eastern part of the park is lower with typical Chihuahuan desert vegetation. This area receives 10 inches of rain a year so it is a good cacti area. Northern Big Bend is at a higher elevation with grassland and dasyliiron or sotol. In central Big Bend the Chisos Mountains have woodlands of broadleaf and coniferous trees. Cacti found in Big Bend include *Echinocereus dasyacanthus* with beautiful large yellow flowers, *Echinocereus pectinatus* v. *neomexicanus* is very common, while the higher elevations have *Echinocereus triglochidiatus* with their red-orange flowers. The Horse Crippler, *Echinocactus texensis*, with its shiny pink flowers occurs in upper elevation grasslands at the edge of grass clumps and grows very low in the soil. The spines of these cacti caused serious injury to horses during the days this area was grazed, so the ranchers dragged chains to remove as many plants as possible. Limestone rock areas had *Echinocactus horzonthalonius* (Eagle Claws) with beautiful pink flowers and *Ariocarpus fissuratus* growing in the broken desert pavement. *Escobaria tuberculosa*, growing in very rocky areas, was common along with the brown flowered *Echinocereus chloranthus*. Big Bend has many opuntia species, including *Opuntia rufida* and *Opuntia violacea* v. *macrocentra*. Two mat-forming chollas that often grow together and sometimes hybridize are *O. grahamii* and *O. schottii*. The Christmas cholla, *O leptocaulis*, is very abundant in Big Bend National

Park. *Echinocereus stramineus* was in full bloom. Two agaves also grow in Big Bend. *Agave lechuguilla* forms very dense clumps across the Chihuahuan Desert. This plant is used to make ropes and baskets and has poisonous compounds. *Agave havardiana* grows only in the Chisos Mountains in the US. The spine of this agave and its attached fibers were used by the Native Americans as a needle and thread. The park rangers have measured the growth of the flower stalk and have recorded growth of 18 inches in 24 hours. Candelilla, *Euphorbia antisiphilitica*, grows in large clumps. This plant contains a very high quality wax and has been harvested in Mexico to extract this wax for use in shoe and floor polish to the point the plant has become scarce in Mexico. *Jatropha dioica*, Dragon's Blood, was seen also. The sap of this plant turns blood red if the stem is broken hence the common name. There were many yuccas here, with widespread bloom, along with many wildflowers including Texas blue bonnets, prickly poppy, blackfoot daisy, and rock nettle. Big Bend is birders' paradise, and Regina found the Colima warbler on the very trail reported as the place to find this bird.

Regina gave a brief overview of the Sonoran Desert, the most diverse desert in the United States. This desert benefits from biseasonal rain and has an abundance of tall plants. There are three of the seven biotic subdivisions of the Sonoran Desert in the US's Lower Colorado, Arizona Uplands and Central Gulf Coast.

Our next visit was to California's Anza Borrego State Park, a 600,000-acre park and home to desert big horn sheep. The Mason Valley is the part of Anza Borrego that is most rich in cacti. The ocotillo in this park is very large by comparison to other places in the deserts of the Southwest. Regina saw several elephant trees, *Bursera microphylla*. Anza Borrego State Park has an area within it that contains a grove of 200 elephant trees. A sandy area of the park displayed blooming sand verbena. There was the beautiful, but parasitic dodder growing abundantly over plants and smoke trees up to 20 foot tall. The Desert Fan Palm, *Washingtonia filifera*, grows in this park around permanent water sources and provides shelter to many birds and other wildlife. Fire aids seedlings of this palm to compete with grasses. Cacti in this park include *Opuntia basilaris*, a low-growing prickly pear with blue-gray pads and magenta flowers, *O. ramosissima*, (diamond cholla) and thickets of *O. bigelovii*, (teddy bear cholla). There was a variety of this opuntia with rosy spination growing in Anza Borrego. Regina showed a slide of *O. ramosissima* with a cristate branch. She said they found an unusual number of cristate cacti in this park. *Agave desertii* grew in dense clumps. In the nearby Cuyamaca State Park, they observed oak trees used by acorn woodpecker families to store acorns in holes they drilled into the trees. One tree may have up to 30,000 holes.

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In 1976, the UN declared Organ Pipe Cactus National Monument in Arizona a biosphere preserve. It averages 17 nights a year when the temperature is below freezing. While visiting Organ Pipe Cactus National Monument, Regina observed the special vegetation of Senita Basin, an extension of the Central Gulf Coast subdivision of the Sonoran Desert. This area has *Opuntia fulgida* (jumping cholla), *Lophocereus schottii* (senita) and *Stenocereus thurberi*, the organ pipe cactus for which this monument was named, as well as saguaro cactus. *Bursera microphylla*, Elephant Tree, is found in this area, along with limber bush, *Jatropha cuneata*. The organ pipe cactus normally branches at the base, however in this, the most northernmost area of this plant's range, it will branch at points where it has been damaged by frost. This cactus is most commonly found on the southfacing slopes. The senita cactus has pink night-blooming flowers in areas of old spination. Many senita and organ pipe seedlings don't survive the first year. Many wildflowers bloom throughout Organ Pipe Cactus National Monument in the spring - Mexican gold poppies, owl clover, and primrose, along with lupin. There is a wildflower display in the spring and also in the summer, but few people visit the monument during the hot summers.

Regina extended an invitation for TCSS members to visit the Central Arizona Cactus and Succulent Society, which meets on the 4th Sunday of the month at the Desert Botanical Garden in Phoenix. Call Regina on 602-974-1105 for more details. (See below) ▲

Future events of the Central Arizona Cactus & Succulent Society

Jan 24, 1999	2:00 p.m.	Show Preparations Steve Southwell RSVP Nursery, CA
Feb 17-21	All day	Annual Show
Mar 28	2:00 p.m.	History of Landscaping Jim Wheat Landscape Architect
Apl 18	2:00 p.m.	Landscaping with Cacti Jon Weeks Landscape Cacti Nursery

Meetings are usually held on the last Sunday of the month from 2:00 p.m. to 4:00 p.m., at the Webster Auditorium, Desert Botanical Garden, Phoenix.

Please check with Regina Rodgers 602-974-1105 where show is being held and hours of opening. It is also recommended that you verify dates and times of meetings and shows before traveling a long way.

Registration Statistics of Sonoran 2

Maury Clapp, Registrar

Sonoran 2 registrations were exactly as aimed for. At Stuck-on-Tucson '96 there were 50+ registrants but, this time, we aimed at 75 registrants which is exactly the number of attendees after allowing for the 2 who had to cancel and the 2 no-shows. Of those 75:

- 63 took advantage of early registration discount;
- 7 pre-registered after the September 14 deadline for discount;
- 1 registered by e-mail and paid at the door;
- 4 registered at the door. Eight registrations were on forms downloaded from our web page. Fifty registrants and guests attended the optional Saturday evening event at the Arizona-Sonora Desert Museum.

Other than the Tucson C&S Society, the clubs with the most attendees were the Central Arizona Cactus & Succulent Society of Phoenix and the Gates Cactus & Society of Redlands, California, with a tie at 8 from each society. We were delighted to have so many visitors from out-of-state. Those who came the farthest were Walter Rigling from Florida and David Shearer from North Carolina. Guests also came from Oklahoma, Nevada, Utah and California, and all over Arizona.

How did they find out about Sonoran 2?

Other club newsletters.....	11
CSSA newsletter.....	3
Internet - TCSS Website.....	8
Cacti_etc.....	1
Direct mailing.....	8
Friend.....	3
Other club meetings.....	2

and Carol and Joe Wujcik said "Everywhere!"

To advertise this event outside the local area, our mailing list for *Desert Breeze* was expanded since the announcement of Sonoran 2 in the January 1998 issue to include editors of other C&S society newsletters, CSSA affiliate representatives, and to those selected personally as 'most likely to attend such a convention' based on Carol's almost 40 years as a member of CSSA. Total registration fees collected were \$8919 which included all food and snacks.

My thanks to Joe and Carolyn Costante who helped Carol and me with the registration/information table on Saturday and Sunday to enable us both to take time out to eat and to participate in some of the workshops. My thanks also to the Holiday Inn Palo Verde and its staff for making my life as Facilities Chairman relatively easy.

We plan to entertain even more of you at Sonoran 3 in 2000.

Maury Clapp
Sonoran 2 Registrar

Is this your last Desert Breeze?

Please check YOUR address label on this newsletter

Unless there is a code line above your name stating 1998, 1999 or COMP, this will be the last issue of *Desert Breeze* you will be sent. That is, unless you join as a TCSS member to continue receiving our newsletter. Please see form above.

Circulation was increased in January 1998 as our way of advertising Sonoran 2 but now, for economic reasons, we will not be continuing this free distribution.

Address labels showing 1999 indicate dues paid cover your membership until the end of the coming year.

If label shows 1998 then **DUES ARE DUE**.

Your prompt renewal helps the membership secretary enormously. Thank you very much.

Maury Clapp
Membership Secretary

Encephalartos

Steven Carter is keen to know if anyone grows *Encephalartos*, an African cycad, in Arizona. Please contact him at the Boyce Thompson Arboretum, 520-689-2723, or e-mail him at <scarter@ag.arizona.edu>

(Editorial continued from page 11)

Ballya - publication of Succulenta East Africa

It is always sad to see the demise of a good publication. *Ballya* has just published its final issue. It was published three times a year by Succulenta East Africa, a division of the East Africa Natural History Society, and ran to a total of five volumes. Small in format size I found it to be a pleasant-to-read journal covering many aspects of succulent plants, well-referenced, even to postage stamps. Obviously financial considerations played a major part in the decision to cease publication, but the other reason why *Ballya* stopped was that Len Newton was not only editor, but also had to become a prolific author as well as doing "the intricate task of fitting text and illustrations to pages on the computer". With many others, I am sorry to see the final issue of *Ballya*. I first read *Coral Island* written by Len Newton in *Ballya* and thought you too would like it as this year's Christmas Story in *Desert Breeze*. Thank you, Len, for giving me permission to publish your article in this *Desert Breeze*.

TCSS Membership

Our membership has increased by leaps and bounds in 1998 by 51 members, representing an increase in this year alone by 40.8%. Membership now stands at 176 members, of which 5 are children and 14 are out-of-state members. Of the 157 adult members who live in Arizona, 144 have an address in the Tucson postal area. Now it is up to us to maintain that membership by keeping everyone enthused with interesting meetings and publications. There are bound to be faces you do not recognize at meetings. Go up to them, chat about the hobby, and make new friends. *Have a very happy and healthy New Year.*

Cactus Carol

NEXT MEETING - Sunday December 13 at noon

Porter Room

**Tucson Botanical Gardens, 2150 N. Alvernon Way,
Tucson, AZ 85712**

Christmas Party - see page 3

**Happy Holiday Season
to all our members, their
families and friends
from the TCSS**

GET READY FOR SONORAN 3

SPRING 2000

TUCSON ARIZONA USA

