

J A N U A R Y 2 0 0 4



Central SOCIETY

CENTRAL ARIZONA CACTUS & SUCCULENT SOCIETY

www.centralarizonacactus.org

President's Letter January 2004

This is the best time of year; it's why most of us live here. The weather is great - no snow! - and our plants look wonderful. Plus, I just came back from our annual Christmas party. If you were not there, you missed some great food and wonderful fellowship.

You also missed our annual election where I was accorded the honor of being elected as the CACSS President for the coming year. My name is Lee Brownson. I've been a member of the Society about five years and I am excited this opportunity to serve the membership. I believe 2004 will be a great year for us.

I know I have some big shoes to fill. Scott McMahon presided over a banner year for the club. Let's review what was accomplished.

- A record setting Annual Show...and what a show it was. I was amazed at the number and variety of plants presented for judging. It was marvelous that the vast majority of the exhibitors were in the novice class, for many it was their first competition. The plant sale garnered a record profit for the club. Now we have over \$10,000 in the bank. We also had several new members join because of the show.
- A record setting Silent Auction in October. Thanks to the generosity of everyone who brought plants to sell, the club took in \$1,000.
- Monthly Silent Auctions that are a great plants to get starter plants.
- A awesome buying trip to Tucson where a good time was had by all - and lots of plants were brought home.
- Four member Open Gardens this year - the most of any year I've been in the Society. Open Gardens are a great way to get to know the wonderful group of people in our club who share a love of cacti and succulents. They are also a great place to ask questions and learn how others grow their plants.
- And don't forget the interesting and informative programs we had every month.

This is going to be a tough act to follow. Fortunately, the work was not done by just the President or just the Board of Directors, it was done by a cross section of the membership. It took a lot of people to make the above happen. I hope that we will see the same kind of participation in 2004. The Society will be only as good as the membership makes it. That being said, we are going to hit the ground running as we enter 2004. Highlights include:

- The program schedule is almost complete. Our vice-president, Gard Roper, has a fantastic line-up of speakers for the coming year.
- The dates for the Annual Show and Plant sale are
- There will be a plant buying trip to the Los Angeles area in early July to coincide with the Cactus and Succulent Society of America (CSSA) Annual Show and Sale at the Huntington Botanical Gardens.

As the membership grows, there will be opportunities for new ideas and new programs. If there is anything you would like to see the Society do, contact me or one of the members of the Board of Directors and let us know. Come to the Board meetings (One hour before our regular club meetings in the building to the west of Dorrance Hall).

I have one idea I would like to have the membership consider. Please read the article in this issue - **A Rescue Plan for Phoenix?**

Please feel free to talk to me about anything concerning the CACSS. My phone number is 480-951-9494. My email address is lsbrownson@cox.net. See you at the January meeting.

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What is a Cactus?

BY: Muriel Beroza

Cactus plants are a unique and integral part of the desert scene. How can you identify a plant that falls into this enchanting category? There are many differences between members of the cactus family and other flowering plants (angiosperms). But there is just one that is always present and found only in cactus plants ... the areole (L. = little area or little space). This unique organ is a depression or opening containing growing points or meristematic tissue and from which all sorts of things may emerge ... spines, bristles, hairs, wool, glochids, new branches, flowers, sometimes even leaves.

Many evolutionary changes were necessary for the cactus family to survive in the harsh conditions of the desert. Obstacles had to be overcome in plant bodies and metabolism for these plants to venture into the desert environment. Leaves must be reduced in size and/or become fleshier or disappear entirely. During the day most plants respire by opening the stomata to allow the capture of carbon dioxide (needed for photosynthesis) and release of oxygen (a waste product). The loss of water during this process is substantial. Succulent tissue had to be formed for water storage in the leaves, stem or roots or all of the above. CAM photosynthesis (Crassulacean Acid Metabolism) had to be devised. Gas exchange takes place during the night to prevent water loss. The carbon dioxide had to be changed to an acid and stored for the next day's photosynthetic process which needs sunlight as the source of energy. Spine formation or other similar features needed to provide shade for the plants and discourage animal predators. Bark formation delayed or eliminated. Sunlight needs to have access to the stem area for photosynthesis to take place. The stomata must be able to open to capture and release gases. Neither of these could take place with bark blocking the way. Ribs or tubercles formed for water storage allowing expansion without tearing the outer skin.

In addition there are many other differences from regular angiosperms ... flower structure and pigmentation, root growth, cortical bundles for water and food transport to name a few. There are few fossil remnants of the ancient ancestors of cactus plants. Plant material does not lend itself to fossil preservation like the bones and other factors of animal life. We are fortunate that there is one genus still in existence that is believed to represent the early changes that were made in cactus evolution. The most primitive cactus is the *Pereskia*. It has bright green leaves, but also an areole with a sharp and distinctive

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CACSS Library News, January 2004

NEW BOOKS / JOURNALS:

Cactus and Succulent Journal, Vol 75, No. 5, September-October 2003. Articles of Interest

- Some superb Echinocerei. By Duke Benadom.
- Rediscovering Lindsay's Hedgehog Cactus. By Joseph A. Betzler.
- Succulents on the rise – The unexpected consequences of human activity in north-western Sekhukhuneland. By Charles Craib.
- The genus *Echinocereus* in Lower California, Mexico – taxonomy, rarity & reproductive biology. By Jon P. Rebman.
- Success with *Echinocereus* from seed. By Bill R. Beaton.
- Natural *Echinocereus* hybrids of Otero County, New Mexico, Part 1: *E. polyacanthus* x *E. stramineus*. By Gary L. Duke.
- Book Review: Die Echinocereen der Baja California. By Duke Benadom.
- Walking amongst the baobab trees – *Adansonia digitata* in Kenya and Tanzania. By Deborah Ellis.
- Santa Clara Canyon. By Duke Benadom.
- History of the journal
- Progress on the taxonomy of the claret-cup cacti (*Echinocereus*, section *Triglochidiatus*) of the United States. By Mark Baker & Rafael Routson.
- Superb Succulents. By Duke Benadom.

Aloe, Vol. 41, No. 1, 2004. Articles of Interest

- The latest trends and developments in the hybridization of Aloes. By Andy de Wet.
- The Global Strategy for Plant Conservation: implications for succulent plant conservation in southern Africa. By Christopher K. Willis & Gideon F. Smith.
- Yemen and its succulents. By Frans Noltee.
- *Aloe dichotoma* Masson – establishment of a manmade quiver tree forest. By Ian B. Oliver.
- Notes on *Brachystelma comptum* N.E. Br., an endangered species from the Eastern Cape Province, South Africa. By Tony Dold & Janine Victor.

CIRCULATION

Several people have asked how much activity the CACSS Library experiences. Currently we have 29 books/journals checked out to 17 different members. Given we average about 50-70 people at our meetings this means roughly a quarter to a third of the membership present is taking advantage of this great resource. I encourage everyone to check out a book/journal. It's free, it's convenient, and it will help you enjoy plants even more!!!

WEB SITE OF THE MONTH

Get ready for spring!!! Before going on a wildflower field trip, check out Desert USA's Web site at www.desert-usa.com. Click on "plants & wildflowers." You will find a list of wildflowers, such as Arizona poppy and desert marigold. Click on the name and you will find a photo of the plant and interesting information.

HOW DO I CHECK OUT CACSS BOOKS?

To see a list of the books we have please see our catalog. Paul Schueneman, the CACSS librarian, can email you a copy of the catalog (see contact information at the end of this article). Or, you can pick up a catalog from him at a CACSS meeting. Or, there's a copy of the catalog on the CACSS website: www.centralarizonacactus.org/liblist.htm. When you would like to check out books or journals, contact Paul at least a couple of days before the CACSS meeting and he will give the books to you there or he will go with you to Webster Auditorium (our books are shelved there) after the meeting and you can browse/check out books.

NEED HELP?

Contact the CACSS librarian, Paul Schueneman:
602-381-9859 (W) • 480-706-1672 (H)
Schue888@aol.com

ATTENTION! DUES FOR 2004

If you have not paid this years dues, this will be your last issue of the newsletter. Please contact Tom Ballen for information.

A Rescue Plan for Phoenix

BY: Lee Brownson

A while back, I was cruising the Internet, visiting various cactus-related sites. I came across the web site for the Tucson Cactus and Succulent Society (TCSS). There I learned that they have a very successful program committed to saving the native succulent plants that are typically destroyed when a new section of desert is cleared by a developer.

It's an exciting program that has many benefits and I am proposing that the CACSS study the possibility of undertaking a similar program. The benefits, as I see them, are:

- Provide a significant source of income for our club.
- Give our members a sense of purpose and accomplishment.
- Develop closer friendships within the society as people get to know one another better as they work side-by-side.

I don't put forth this idea lightly. I know that it is a big undertaking. By necessity, it would need to start out small, but it could turn into a big thing. I think there are a lot of people in Phoenix who love the desert and it's huge variety of plant life and who would like to participate in a plant rescue effort.

If you have Internet access, I recommend you go to this web page to read about the TCSS program, http://www.tucsoncactus.org/html/cactus_rescue.html.

- Rescuing hundreds of smaller native plants from needless destruction. Developers recover some of the large and more dramatic plants, especially the Saguaros, but many of the other plants are simply bulldozed into the ground.
- Increasing the awareness in the Phoenix community that these plants are part of nature's bounty and should not be needlessly destroyed.

The White Plague of Opuntia

BY: Muriel Beroza

What is that white stuff all over my prickly pear? It looks like a public bathroom for the bird population of the neighborhood. We can't blame the birds for this mess. It is caused by the cochineal scale insect (*Dactylopius coccus*). This bug loves to latch and hatch on the *Opuntia* species, both the prickly pears and the chollas.

The female is a 1/8 inch long body of stuff. She prefers to be near an areole where there is protection from predators afforded by those nasty spines and glochids. She and her babies are sheltered under a white waxy substance which looks like bird droppings or cotton. The plant provides their source of nourishment. The scale insects will probe into the plants for their food. The give-away is the presence of a dark red substance which can be seen if you remove the white residue.

It started a very large industry for the Mexican people from about 1500 until this past century. The arrival of the Spanish ostensibly in search of gold, found another source of wealth ... the beautiful red dye of the cochineal insect. The trade in red dye exported to most of the European cultures during this time period reached enormous proportions displacing the previously preferred red dye from another scale insect ... the *Kermes vermilio*, growing on the Mediterranean Oak. The market for dye stuff for fabrics in Europe at that time was very lucrative. Sometimes the fabrics sold had more money invested in the dye than in the fabric itself. Big sources of customers were the British (red coats), Canadian Mounted Police, the Vatican Cardinals, most Royal houses ... almost all of the elite wanted this beautiful color of red.

The process of producing the product was very labor intensive... first tending the *Opuntia* plants, infesting them with the scale insect, then the harvest which was done about 3 times per year. It takes 70,000 female scale bodies to make a pound of dye. The product was dried to produce bricks of dye which were then transported to Europe. Eventually, the plants and scale parasites were grown elsewhere which weakened the Spanish monopoly on this product. Now, with the advent of cheaper aniline dyes, Cochineal is no longer in great demand. But ... there may be a comeback in the future. The dye also has some insecticidal properties and has found new uses as a coloring for food products and cosmetics. Are you turned off by an insect providing the scrumptious color of your hot dogs, jams, fruit juice or lipstick?

The scale insect is easy to remove if you use a hard/fast spray of water to wash them off. They will probably return so vigilance is the word. They can also be controlled by application of soap solution, alcohol (save the gin and vodka for yourselves) use methyl (rubbing) instead. The male is a very small winged creature and seldom seen. The baby scales are airborne to nearby plants. The infestation can also be spread by birds settling on the plant and transporting the infection to other target plants on their feet. Of course, insecticides work well, but I prefer the water method. No environmental damage and quite good results if you are watchful and prepared to wash them off more than once. Keep an eye on your precious *Opuntias* they richly deserve your attention.

An Open Garden

February 22, 2004

Sheri and Denise, of Rainbow Valley Nursery, are having an Open Garden/Open Nursery, on Sunday, February 22, 2004, from 10:00 am to 3:00 pm. Please come out and stroll through our botanical garden in progress (aka the front yard), as well as the nursery (the main draw! we will be open for sales, too). Unleaded beverages will be provided, if you wish anything else, feel free to bring it. Please bring something for everyone to nibble on! It is recommended that you carpool, as we are a bit of a drive from Phoenix (okay, we are 30 miles from Ray Road and I-10). Take I-10 east towards Tucson, but get off at Queen Creek. Turn right, follow the road to the NEW TOWN of Maricopa. Go through town, go past Harrah's Casino (keep going, you can stop on the way back!) and turn right on Papago Road. Go 4 miles until the road turns left and becomes Warren. Go 4 miles until you come to Barnes Road (look for sign). Turn Left. We are the 2nd driveway on the right! If you have any other questions or need a map (we are NOT on Mapquest), please call 520-424-3464 or email us at rainbowvalleymsy@aol.com. See you here!

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What is a Cactus?

spine emerging from it. It looks like a regular tree or shrub. The areole is located just beneath the leaf. The leaves are not succulent nor are the stems. It probably would not survive in the desert climate without some help. There is a large specimen at the DBG which is in the cactus green house where it is protected from extremes of temperature and lack of water. This is a representative of the early changes that took place over tens of millions of years ago. The original site of cactus plant evolution is thought to be in South America. All plants in the cactus family evolved in the New World ... they are found from Canada to Tierra de Fuego. These lovely plants should be admired and cherished for their ability to live, even thrive under adverse conditions. They add so much beauty and pleasure to the desert.

Upcoming Events - CALENDAR

General meetings are at 2:00 pm unless otherwise noted. Board meetings are one hour earlier. Members are welcome to attend board meetings.

January 25, 2004 Dorrance Hall— Joe McAuliffe, Director of Research at the Desert Botanical Garden, will speak on the impact of drought on death rates of plant families in the Sonoran and Mohave deserts. Dr. McAuliffe is conducting the first comprehensive survey of plant death due to drought. The current situation will be marked as a baseline to evaluate ongoing likely drought impact. Dr. McAuliffe will explain the current drought in a historical climate context.

February 29, 2004 Dorrance Hall— Scott McMahan, Arborist at the Desert Botanical Garden and past president of the CACSS, will speak on *Growing Conophytums in the Desert*.

March 28, 2004 Field Trip. Meet at 2 pm: Arizona Cactus Sales, 1619 South Arizona Avenue, Chandler
www.arizonacactusales.com 480-963-1061

Central Spine is the newsletter of the Central Arizona Cactus and Succulent Society. All opinions are those of respective authors. Publication herein does not imply that CACSS or any CACSS members agree with any statements published.

Change of Address: contact our Treasurer, Judy Brody, with any changes of address.

DEADLINE FOR NEXT ISSUE!

The deadline for material submission for the next issue of *Central Spine* is:

February 1, 2004

Please make a note of this!

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