



Desert Breeze

Newsletter of the Tucson Cactus and Succulent Society

January 2014

January 2, 2014 at 7:00 PM

A Digital Dozen: 12 Hints for Better Digital Plant Photography

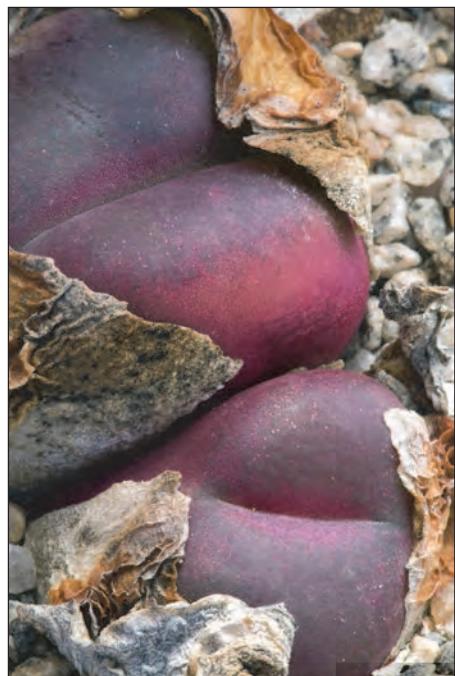
Presented by Irwin Lightstone

During the past dozen years, digital has gone from a novelty in a world ruled by film cameras to nearly totally supplanting film. In the course of this revolution, a bewildering array of cameras, techniques, software and equipment have flooded the market. In his program, Irwin seeks to make sense of this brave new world; and provide helpful, inspirational tips for your plant photography.

Irwin Lightstone's "UP CLOSE AND PERSONAL" perspective reveals a world easily overlooked. Using cutting edge digital technology, Irwin may merge as many as 100 nearly identical images, each with a different point of focus, creating final prints with unsurpassed clarity of detail, depth, and texture. With his command of lighting, intimate knowledge of his subject, and prodigious technique, Irwin's work reveals the mystery and wonder of a world not otherwise seen.

After 29 years practicing trial law, Irwin Lightstone closed his law firm to concentrate on his photography. Irwin is past president of the North Texas Cactus and Succulent Society,

past president of the Texas Association of Cactus and Succulent Societies, and a vice president of the Fort Worth cactus and Succulent Society. He led numerous photographic seminars throughout the state including Houston, San Antonio, Austin, Fort Worth, Plano, Kerrville, McKinney, and Dallas and was a featured speaker at the Gulf States Photographic Conference. Additionally, he led programs sponsored by the Dallas Museum of Art, the Dallas Arboretum, the International Photography Hall of Fame and the Cactus and Succulent Society of America. His photography has won numerous awards and is often featured in the Cactus and Succulent Journal. Recently, many of Irwin's images of the artifacts of war in the book were featured

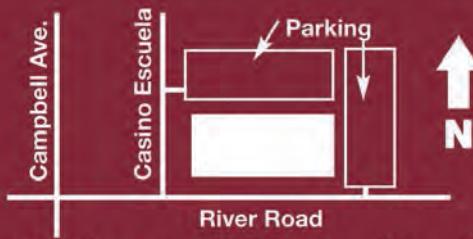


in Exotische. Irwin was formerly the Director of Photography at the Wilson History and Center. He published "Succulent Abstracts and Absurdities in black and white". Presently, he is working with Steven Hammer on the new mesemb book.

Irwin lives in Dallas with his wife, Robin, his two children, one cat and several thousand plants.



Meetings are held on the first Thursday of each month.



**Junior League of Tucson, Kiva Bldg.
2099 E. River Road**



President's Message

HAPPY NEW YEAR!

I am excited about 2014. Sonoran X is only 4 months away and it's hard to believe that this biennial conference has been going on for 20 years. A special mailing will be coming to you by the end of January so that you can be a part of this event. Some of the most popular plants and outstanding speakers will be featured at this conference "Plants for the Sonoran Desert Hobbyist".

Our "Novice Classes" created by Caryl Jones were a big hit in the fall and she will be putting together another series of classes that I know you will enjoy. By the way, we are all "novices" and there is always so much new to learn.

You can look forward to Home Tours in the spring and fall. The committee has done such a great job encouraging members to show off their individuality. Every home inspires me to look at what I am doing in my yard and make some changes or additions.

This will be a year for Pima Prickly Park. I want to invest the money we have received from so many of you into new planting and signage. As I have said, "come out and play in the dirt with friends". The Pima County Native Plant Nursery has completed

its move to the park and I am excited about new opportunities this might provide us. Come out to the park and walk around and give us your thoughts for its future.

The support for the "Field Guide" has been terrific. You have been more than generous in your support and the authors etc. will be busy this year. The book will be ready in early 2015. We will keep you up to date on the progress. I can't wait!

As the economy picks up and building starts booming we can look forward to the opportunity of rescuing more native cacti and succulent plants. In the last 14 years of this program we have successfully rescued almost 67,000 plants. No other organization can make this claim. All of us can take great pride in that number. It is not only the rescued plants but we have changed the attitude of developers and homeowners toward the value of these plants in our landscape.

There is always so much more to talk about, but I do want to express my sincere thanks to so many members for their help and generosity.

Thank you,

Dick Wiedhopf, President

PS. Membership cards, 2013 donation letters and cactus bucks will be sent to you soon.

President's Award

For the last several years, the Board of Directors has authorized the President to present awards to members for their service to the society. These awards are announced at the annual meeting in conjunction with the Holiday Party. There are two types of awards. The President's Award recognizes Outstanding Service to the society and the President's Special Service Award recognizes individuals for their Continued Special Dedication and Outstanding Service Contributions for the success of our society. The awardees are recommended to the President by the Board and committee chairs and the decisions are made by the president. Each recipient receives a framed certificate and special engraved trophy. A list of all awardees can be found on our website.

This year there are 4 recipients of the President's Award: Fredrick Evans, Caryl Jones, Val Little and Cathy Robson.

Fred Evans is one of those quiet volunteers who just keeps on contributing to our success. Whether it is driving a truck for the Sonoran Conference plant show or watering plants in mid-summer at Pima Prickly Park, Fred can be counted on to do tough jobs.

Caryl Jones as a professional educator most of her life has brought that experience and expertise to TCSS. She has involved us in Funfest (1000s of kids) and Science Nights at schools plus our new novice classes. She makes education an integral part of everything we do.

Val Little has taken on the most extraordinary task of organizing, sorting thousands of donated books and journals and making them available to our members and other

interested hobbyists. Val maintains the inventory and provides this information on our website. This just couldn't be done without her dedication and enthusiasm.

Cathy Robson maintains and organizes the plants at Pima Prickly Park hoop house. This is a huge task getting donated plants ready for planting in the park. Cathy is another quiet volunteer that makes things happen. She has also been a tremendous help in securing funds for the park.

Congratulations and thank you to all our awardees.



From the Florilegium

Over the past year, the Central Arizona Conservation Alliance and a team of citizen botanists led by Wendy Hodgson, Curator of the Desert Botanical Garden Herbarium, have been conducting a floristic inventory of the North Mountain area of the Phoenix Mountains Preserve. The goals of the North Mountain Plant Inventory Project are to: (1) improve our scientific knowledge of the Preserve's flora for land management, scientific, conservation, and educational purposes; (2) train, engage, and educate members of the public as plant stewards; and (3) provide a data-based plant atlas located on the Southwest Environmental Information Network (SEINet).

Members of the Southwest Society of Botanical Artists (SWSBA), Elaine Hultgren, Joyce Peters, and Marsha Bennett, are working with Stacie Beute of the Conservation Alliance and Leslie Spencer-Snider of the Save Our Mountains Foundation to develop a permanent botanical art collection of these plants which will be exhibited at the North Mountain Visitor Center located in the Preserve. Illustrations have been selected and materials purchased, and signage is being developed. The exhibit will open January 2014.

To date, 137 species and subspecies have been identified on the Preserve, and this number is expected to increase substantially. Less than 20% of the identified species have been illustrated. Botanical artists are being invited to participate by producing scientifically accurate illustrations of the plants in the inventory, which can be found on the SEINet website under "North Mountain Plant Inventory Project" (<http://swbiodiversity.org/seinet/checklists/>).

We also received a grant from the American Society of Botanical Artists (ASBA) to develop a 5-minute video to enhance the exhibit experience emphasizing botanical art and work of the Citizen Scientists. We will film in the spring and present the video at the 2014 ASBA conference in Denver. Future plans for the exhibit include interactive trail guides and specialty exhibits focusing on such topics as ethnobotany, invasive species, and desert plant adaptations. The sky is the limit! – Marsha Bennett



Ambrosia deltoidea, Triangle bursage
© Marsha Bennett
Colored Pencil and Graphite



Ironwood Tree Blossoms / Centris pallida bee
© Joyce Peters 2013
Watercolor



TCSS Educational Outreach

January 2014 Newsletter

Educational Outreach Volunteers

Bartlett, Linda
Bayburt, Kay
Bell, Jan
Brown, Cheri
Byrd, Jessie
Carling Barbara
Chesser, Steven
Daniels, Ross
Dennis, Norm and Linda
Dimmitt, Mark
Ellis, Mike and Donna
Finniss, Dawn
Frannea, Patsy and Joe
Giunta, Joie
Hallbach, Julie
Harris, Donna
Holcombe, Bill and Margaret
Johnson, Alberta
Johnson, Dale and Augie
Johnson, Janice
Jones, Caryl
Kaufman, Louise and Bill
Keller, Karen
Kunzman, Sandy
Loffi, Dick and Brenda
Mayotte, Noe
McCormick, Barry
Montana, Deborah
Neimann, Wendell
Oyarzo, Janice
Palmer, Joyce
Palzkill, Dave
Price, Colette and Jerry
Rowse, Doug and Kathy
Scarlotte, Dawne
Shulick, Julie
Swarbrick, John and Gayle
Warren, Chris and Elizabeth
Watkins, Vonn
Weeks, John
Wiedhopf, Dick and Pat

May we add your name?

Do you have time to help us?

We MAKE a DIFFERENCE!

Novice Classes will start up again in March/April and May. These classes along with participation in the April TCSS Sonoran Conference and the TCSS home tours will help you become more informed and excited about cacti and other succulents living in our desert. Registration will open February 1st.

Possible topics- Love your input!

- ✓ Secrets to becoming a Green Thumb!
Staging, watering, fertilizing, and collecting cacti and succulents.
- ✓ What's Buggin' You? Pests, mites &, grubs.
- ✓ How and When to Transplant your Cactus:
Includes cutting techniques and more.
- ✓ Adeniums and Agaves: collecting, caring and enjoying all year.
- ✓ Cactus Rescues and transplanting techniques for nature's magnificent cactus.



Volunteers Needed: **SIGN UP NOW** and more details will follow closer to the dates.

- SciTech Festival :Thursday, **January 23rd** at Sahuarita Middle School
2 volunteers for 9-2 pm plus set up and clean up or
4 volunteers if we have shifts.
- Science Night in Senita Valley Elementary School
Thursday, **January 30th** 6:30-8:30pm
2 volunteers for the event plus set up and clean up.
- "Music in the Canyon" at Sabino Canyon, **March 8th** 12-4pm
2-4 volunteers Our TCSS members Bill and Louise Kaufman are organizing the hands-on centers. *Let's be out there supporting them and TCSS.*
- SARSEF Science Fair: 4 judges for this event on **March 11th** at the TCC.
- **April Earth Day events TBA and May 3rd**, Early Childhood Conference at UA.



BROWN BAG LESSON..... Calling all New Members, Grandparents, Teachers,

Volunteers: We will have a short and oh so much FUN event on _____ that will provide you the background and knowledge to become an active volunteer with our fabulous "Build-a-Cactus" kits, areoles center and general experts on our TCSS materials and artifacts. School and community events for adults and children need us and we can/do make a difference. ***The date is flexible depending on the number of eager volunteers. Guaranteed FUN and worth your time. Interested? Email Caryl Jones for the date/time education@TucsonCactus.org***



Caryl Jones at 299-6813 or education@TucsonCactus.org

Acknowledgement of Contributions

The names below represent the Tucson Cactus & Succulent Society members and friends whose donations

helped make this year a success.

We extend our sincere thanks for your support.

Field Guide to Arizona Cacti & Succulents

Paul Shaw
Fiona Clark & Jim Boogs
Stephen Joel Coons
Nicole & Michael Montroy
Ralf Holzheu
Barbara & David Kelly
Craig & Patty Warren
Juergen Menzel
Patricia Phelan
Rick & Debra Raeber
Jody Wilson
David Palzkell
Geno DeCarlo & Diane Strzesak

Educational Outreach

Bill Sievers & Linda Matson
Margaret Fusari
Jan Konstanty & Pat Wallace
Daphna Lederman & Family
Geno DeCarlo & Diane Strzesak
Jeff Timan

Research Fund

Geno DeCarlo & Diane Strzesak

Conservation Fund

Saralaine Millet
Daphna Lederman & Family
Jerry & Colette Price
Jan Emming
Paul Cook
Geno DeCarlo & Diane Strzesak

Sonoran Desert Florilegium

Carol, Bill & Randy Owens
Jan Konstanty & Pat Wallace
Dick & Sue Hildreth
Diane & Ardner Cheshire
Geno DeCarlo & Diane Strzesak

Pima Prickly Park

Karen Topham & Family
Gene & Susan Kelley
Sharon & Max Atwell
Linda Ryan
Cathy Robson
Susanna Schippers
Cathy, Elias & Naheli Cabezas
Stephen Baier & Family
Geno DeCarlo & Diane Strzesak
Edith Jane Ulmer (correction)

General Fund

William Thornton
Anu Pundari
Colette & William Altaffer
Kurt & Andrea Furstenau
Jerry & Colette Price
Steven Chessler
Lee Oler
Barbara & David Kelly
Ron Meyer
Dean Brick
Hedy Gryszan
Eileen Green
Bill Kendall
Marlin Hostettler
Susan Richards
Joe & Sue Diehl
Dale & August Johnson
John & Jocelyne Rivers
Geno DeCarlo & Diane Strzesak
Joyce Abbott Parks
Jeff Timan

221 Ballots were received and counted. This is approximately 20% of the society. All candidates were running unopposed and have been elected.

President	Dick Wiedhopf
Vice President	Vonn Watkins
Secretary	Susan Durham
Treasurer	Linda Bartlett

Board of Directors (term ending December 31, 2016)

Peter Ertman
Cyndi Garrison
Val Little
Thomas Staudt

CSSA Affiliate Representative

Bill Holcombe (Term ends December 31, 2015)
Thank you on behalf of the nominations committee,
Dale Johnson
Thomas Staudt
Bill Salisbury

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Dale Johnson
Thomas Staudt
Bill Salisbury

**TCSS BOARD
Officers**

President: Richard Wiedhopf • president@Tucsoncactus.org
Vice President: Vonn Watkins • vp@Tucsoncactus.org

Secretary: Susan Durham
secretary@Tucsoncactus.org

Treasurer: Linda Bartlett
treasurer@Tucsoncactus.org

Board of Directors:
board@Tucsoncactus.org
(Ending Dec. 31, 2014)

Ed Bartlett
Rob Romero
Joie Giunta
Bill Salisbury

(Ending Dec. 31, 2015)

Keimpe Bronkhorst
John Durham
Linda Heisley
Dale Johnson

(Ending Dec. 31, 2016)

Val Little
Cyndi Garrison
Peter Ertman
Thomas Staudt

CSSA Affiliate Rep:
Bill Holcombe (2013)

Cactus Rescue
Cactus@TucsonCactus.org

Cactus Rescue: Chris Monrad/Joe Frannea

Education: Caryl Jones • committees@Tucsoncactus.org

Free Plants: Donna Ellis • donna.ellis@mindspring.com

Floilegium: Margaret Pope • art@Tucsoncactus.org

Librarian: Joie Giunta • librarian@Tucsoncactus.org

Prickly Park: Jesse byrd (Implementation)
park@Tucsoncactus.org

Programs: Vonn Watkins • programs@Tucsoncactus.org

Refreshments: Patsy Frannea • refreshments@Tucsoncactus.org

Technology: Open

Research: Doug Rowsell • research@Tucsoncactus.org

Garden Tours: Bill Salisbury • tours@Tucsoncactus.org

Field Trips/tours Rob Romero/Joie Giunta
trips@Tucsoncactus.org

Editor: Karen Keller runbunny@cox.net

Deadline for copy: Thursday, January 25, 2014

TCSS Web Page:

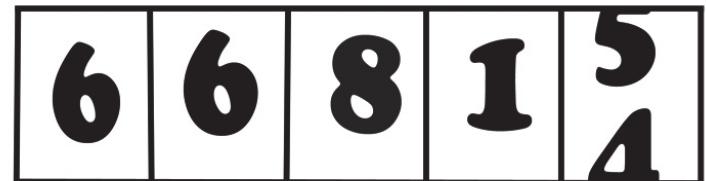
www.tucsoncactus.org

Webmaster: Keimpe Bronkhorst

For additional information call: (520) 256-2447

Everyone is Welcome!

Bring your friends, join in the fun and meet
the cactus and succulent community.



Please see our Website Calendar for the next rescued cactus sale. They are scheduled at various times during the year based on our inventory.

TCSS Club Members receive a 10% discount

January 2014

Thursday, January 2, 2014 7:00pm

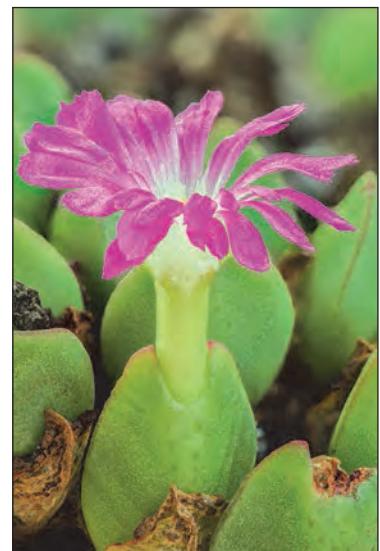
A Digital Dozen: 12 Hints for Better Digital Plant Photography
Presented by Irwin Lightstone

Tuesday, January 14, 2014 at 7:00pm

Board meeting at the U of A College of Pharmacy

A Digital Dozen: 12 Hints for Better Digital Plant Photography

Presented by Irwin Lightstone



January Meeting Refreshments

Those with family names beginning with V, W, X, Y, Z, A, and B please bring your choice of refreshments to the meeting.
Your generous sharing will be greatly appreciated and enjoyed!



Desert Breeze

Newsletter of the Tucson Cactus and Succulent Society

February 2014

Thursday, February 6, 2014 at 7:00 PM

Creating Bonsai with Desert-adapted Plants

Presented by Tom Gatz

Tom will go over the basic steps of creating miniature living sculptures using desert-adapted leafy plants with an emphasis on those with succulent qualities including Ficus, Fockea, Bursera, Pachycormus, Portulacaria, Pelargonium, Adenium, and Operculicarya.

Tom is a retired wildlife biologist and an avid gardener. He volunteers as a horticultural aide and as a docent in the education department at the Desert Botanical Garden where he is certified as a desert landscaper. He is a member of the Tucson Cactus and Succulent Society, the Central Arizona Cactus and Succulent Society and the Phoenix Bonsai Society. He writes a monthly article for the DBG volunteer newsletter on various aspects of landscaping and desert gardens, with emphasis on cactus, succulents, birds and bonsai, as well as articles for the Central Spine. Tom's garden has been featured in *Phoenix Home and Garden*, *The Sonoran Quarterly magazine* published by the Desert Botanical Garden and The Humane Society's online magazine, *All Animals and Modern Phoenix: The Neighborhood Network*.





President's Message

It's time to start a serious discussion about a seed collection program. Over the last decade many collections have been lost to the death of the owner or serious weather issues or just neglect. Many of these plants can no longer be acquired. Some habitats no longer exist or international laws prevent access to these plants. I will ask the

Board of Directors to establish this seed collection program as another important function of our society.

Our rescue program offers us a resource for cactus, succulent and related plants in this area. This is an opportunity that should not be overlooked. We also have many fine specialized growers and collectors who could assist with this effort. We are fortunate to have the financial resources to make this happen.

Our goal should be to acquire seeds, have plants grown and then disseminated to collectors & hobbyist through our nursery partners.

A number of years ago we tried to establish a match making website so that different clones of a particular scarce plant could be cross pollinated to produce viable seeds. The secret is to identify when each plant is in bloom and be able to share pollen. I had the good fortune of pollinating my Yucca enlichiana with the pollen from another members plant. This produced 100

viable seeds of this scarce Yucca which I gave to Gene Joseph of Plants for the Southwest who was only able to germinate 98 of them and grow them on to a saleable size. Everyone benefited from this activity. As you can tell, I am very proud of this effort.

Many cacti and succulents are not self-fertile and need pollen from another clone. We have over 1,000 members and all their friends to find a source for these kinds of activities. This is a necessary activity we need to do to preserve many rare and scarce plants.

If this interests you, please let me know so that we can form a group and plan our goal and strategies

Sonoran X is only 3 months away. As always, this is a first come first served event. I would encourage you to sign up as soon as possible. A form for pre-registration is available in this newsletter and also on our website. If you decide by April 1, not to attend you will receive a total refund. The complete registration package will be sent out by March 15, 2014.

Please do not gloat about the January weather. Just tell your Midwest and Eastern friends that it was just another boring January.

Thank you for all your support.

Dick Wiedhopf, President

Acknowledgement of Contributions

The names below represent the Tucson Cactus & Succulent Society members and friends whose donations helped make this year a success.
We extend our sincere thanks for your support.

Arizona Field Guide

CHRIS & SANDRA MARSHALL
KAY RANSDELL
CONNIE CLARK
KEIMPE BRONKHORST & REBECCA BUSHNER
KRISTINE FOX & SCOTT MARTIN
RUSS & CHRIS FREEMAN
CRAIG & PATTY WARREN
CONNIE ENGARD

Conservation

CHRIS & SANDRA MARSHALL

Florilegium

CHRIS & SANDRA MARSHALL
LINDA BURBACK

Pima Prickly Park

CHRIS & SANDRA MARSHALL
JULIE A SHULICK
DAVID BISHOP & CHARLA DAIN
ROBERT PITTMAN
SUZANNE EDWARDS
CONNIE CLARK

Unrestricted General Fund

KEVIN BARBER & HELEN BARBER
CHUCK HANSON In Memory of Christy,
Chuck & Jim Hanson
DRs. JOHN P. & HELEN S. SCHAEFER
BILL & VICKY HALL
CAROL CLAPP

From the Florilegium

Note: Because TCSS members receiving the January print version of The Desert Breeze may have missed the following account of a new botanical art project in Phoenix, we are running it again this month.

Over the past year, the Central Arizona Conservation Alliance and a team of citizen botanists led by Wendy Hodgson, Curator of the Desert Botanical Garden Herbarium, have been conducting a floristic inventory of the North Mountain area of the Phoenix Mountains Preserve. The goals of the North Mountain Plant Inventory Project are to: (1) improve our scientific knowledge of the Preserve's flora for land management, scientific, conservation, and educational purposes; (2) train, engage, and educate members of the public as plant stewards; and (3) provide a data-based plant atlas located on the Southwest Environmental Information Network (SEINet).

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Selected works from upcoming exhibit can be seen on the Florilegium's website:

www.art-botanical.org/Exhibit_NMPVC/News_NMPVC.html.



Dichelostemma capitatum, Wild hyacinth

© Joyce Riney Peters 2013

Watercolor



Ironwood Tree Blossoms / Centris pallida bee

© Joyce Riney Peters 2013

Watercolor

Garden Tour Awards

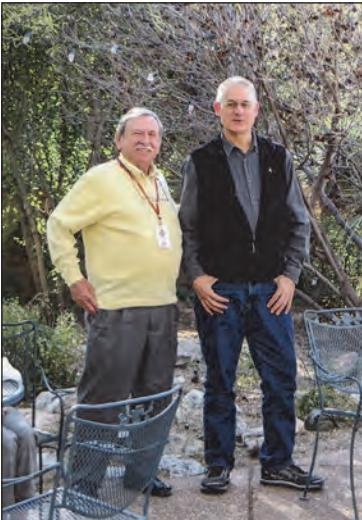
Photos by Ed Bartlett

A reception was held , Jan 12, 2014 at the Tucson Botanic Gardens to thank the 2013 fall garden tour owners. A flagstone participation plaque along with a dvd of the 5 gardens, produced by Ed Bartlett, was presented by President Dick Wiedhopf.

The TBG helped host this event by waving the entrance fees for the participants. If you have not been to the TBG lately we recommend you visit soon to see the many new plants and exhibits.

A thank you also goes to the tour committee for their hard work organizing this program.

The next spring garden tour will be Saturday, April 12, 2014, 9:00am - 3:30pm on the Northwest side of Tucson.
Mark your calendar!





Pre-Registration Information

Since 1996, on every even numbered year, the Tucson Cactus & Succulent Society holds a two-day event called the Sonoran Conference. This was established to thank TCSS members for their super effort that made the 1995 CSSA Convention the largest and most innovative gathering ever. Nineteen years later we are still saying "thank you" to all the members of the society for all that you do.

To attend the Sonoran X Conference a registration fee is required that covers four workshops, two lunches, five speakers and a special Saturday night dinner. Dinner reservations are also available for members who wish to only attend the dinner. In addition to the Conference activities, there are activities that are free and open to the public. These activities include plant, book, art, and pottery sales; the best plant show in southern Arizona featuring only cacti and succulents; and a silent auction. It is an opportunity for all of us to gather on a week-end and celebrate our efforts, hard work, friendship and our special interests in cacti and other succulent plants.

Our theme for Sonoran X is "Plants for the Sonoran Desert Hobbyist" featuring Adeniums, Dyckia, Hechtia, Trichocereus hybrids and Echinocereus. This is a wonderful opportunity to learn, enjoy and show the general public the wonders of our hobby.

There are a limited number of seats for each workshop, so this is your early opportunity to reserve your selection position. The full registration materials will be sent out in mid-March and you will be able to select your workshops and dinner preference for the Saturday night April 19, 2014. The Saturday dinner is a special feature of the conference. Dinner cost is substantially reduced from the real price of over \$25.00 to \$10.00 for TCSS members only who have not registered for the Conference. This is our thank you for all that you do. Remember there is limited seating so return your pre-reservation early.

We always need volunteer help for this conference to set-up and tear down and help out. Please sign up on the web or at the February, March or April meetings.

Thank you for your support.

Sonoran X Committee

Pre-Registration is \$50.00

(Fully refundable if requested by Sunday March 30, 2014)

Send to: TCSS Sonoran X Conference
 PO Box 64759
 Tucson, AZ 85728-4759



Attention New Members and Novice "Cactologists"



You are invited to JOIN US to learn more about cactus. The **WONDER FULL WORLD OF CACTI** is series of **beginner's** workshops enhancing and enriching your knowledge and skills with our desert cacti and other succulents. Presenters are TCSS experts selected for their amazing knowledge and skills and experiences that are guaranteed to inspire your enjoyment and increase your understanding of the arts and science of cacti and succulents. **Sign up soon- space is limited!**

Expect far more than a lecture- experts ideas, and hands-on experiences with live cacti as learning tools. Sessions will be 2 hours long with time to ask questions, meet the speakers and fellow novice or new members. The workshop fee is \$5 per session and for members only- have you renewed your membership in 2014? Sign up for 1, 2 or all 3 classes.

REGISTRATION OPENS February 2nd for our spring 2014 series. Space is limited. For your REGISTRATION NUMBER contact Caryl Jones Education@TucsonCactus.org or (520) 299-6813. Then send your check and registration number within one week to TCSS PO Box 64759 Tucson, AZ 85728-4759.

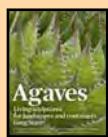
March 29, 2014

10 am - Noon

Location: Starr Nursery

Greg Starr presents " Cactus for All Seasons- AGAVES!"

The basics of selecting, potting, planting and caring for agaves in natural and man-made habitats and gardens. Learn about successful survival of these desert plants and their resistance to drought, cold, and garden pests.



Greg has been growing desert plants since graduating from the University of Arizona with a Masters of Science degree in botanical horticulture in 1985. Greg spends his days tending to Starr Nursery, specializing in

Agaves and related plants as well as other succulents and new introductions of perennials, flowering shrubs, and small trees from arid and semi-arid regions around the world.



April 5, 2014

10 am - Noon

Location: Pima Prickly Park

Joe and Patsy Frannea, Linda Heisley, Cathy Robson and Jessie Byrd present "Planting and Caring for Native Cacti in Desert Landscapes." Three sessions of hands-on planting, transplanting, touring and observing in the natural landscape at Pima Prickly Park. Includes, an introduction to TCSS Cactus Rescues from the experts. Dig in and plant!

What a team of presenters sharing their expertise. Joe and Patsy are TCSS Cactus Rescue leaders, Jessie is the park plant designer and Native Plant Nursery Manager for Pima County. Cathy is a Master Gardener with an amazing home garden. She and Linda coordinate the PPP Hoop House where they

nurture, propagate and harvest hardy plants for PPP. Join the FUN!



May 10, 2014

10 am - Noon

Location: Plants for the Southwest



Gene Joseph and Jane Evans present "Secrets of Becoming a GREEN THUMB"

Adeniums and other cacti, succulents..... Selecting, staging, watering, fertilizing and transplanting your potted cacti and other succulents. Each of these aspects in gardening has essential and specific details.... for success as Green Thumbs!

Gene and Jane received BS in Plant Sciences at U of A. After graduation Jane was Assistant Horticulturist for Pima County Cooperative Extension. Jane bought the nursery and ran the Garden Flower Shop for 12 years. Gene worked at the AZ Sonoran Desert Museum as plant propagator for 7 years.



Realizing he wanted to grow more plants he left the museum and with Jane opened PSW which they have grown for 27 years.

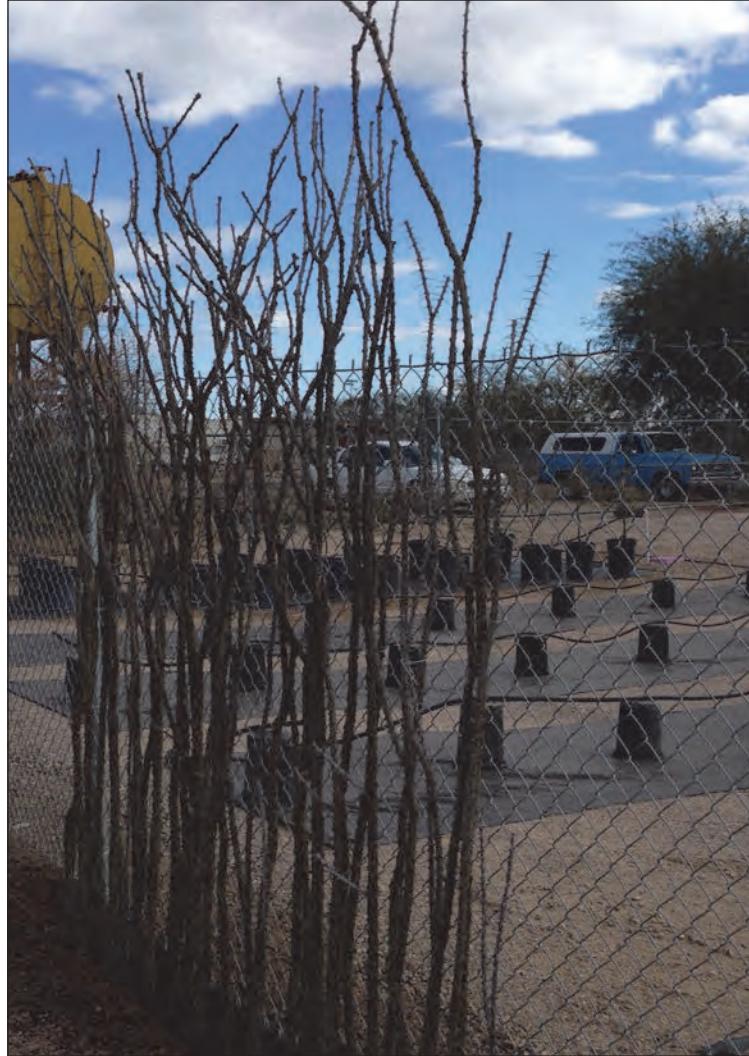
OTHER UPCOMING EDUCATIONAL OPPORTUNITIES: TCSS HOME TOURS ON APRIL 12, SONORAN SYMPOSIUM APRIL 19-20 AND A FIELD TRIP TO THE UNIVERSITY OF ARIZONA ARBORETUM AND HERBARIUM (WATCH FOR DATES COMING SOON.)



TEP Rescue

A huge 4 foot tall Barrel cactus with over 100 fruits had to be left behind by the Cactus Rescue Crew due to its weight, around 500 lbs. More beautiful than a "Sunflower".

Some of our rescued cactus make their way to Pima Prickly Park like these three large Barrels, three large Ocotillo and a large Hedgehog. Thanks to TEP for partnering with TCSS to save cacti on one of their new development sites.



Canes from an Ocotillo too large to relocate were cut to start our Ocotillo fence at Pima Prickly Park. These are from one large Ocotillo, 38 canes covering 7 feet.

**TCSS BOARD
Officers**

President: Richard Wiedhopf • president@Tucsoncactus.org
Vice President: Vonn Watkins • vp@Tucsoncactus.org

Secretary: Susan Durham
secretary@Tucsoncactus.org

Treasurer: Linda Bartlett
treasurer@Tucsoncactus.org

Board of Directors:
board@Tucsoncactus.org
(Ending Dec. 31, 2014)

Ed Bartlett
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CSSA Affiliate Rep:
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Cactus Rescue
Cactus@TucsonCactus.org

Cactus Rescue: Chris Monrad/Joe Frannea

Education: Caryl Jones • committees@Tucsoncactus.org

Free Plants: Donna Ellis • donna.ellis@mindspring.com

Floilegium: Margaret Pope • art@Tucsoncactus.org

Librarian: Joie Giunta • librarian@Tucsoncactus.org

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Field Trips/tours Rob Romero/Joie Giunta
trips@Tucsoncactus.org

Editor: Karen Keller runbunny@cox.net

Deadline for copy: Thursday, February 20, 2014

TCSS Web Page:

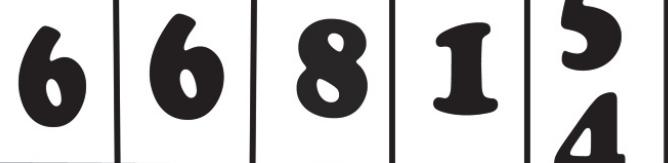
www.tucsoncactus.org

Webmaster: Keimpe Bronhorst

For additional information call: (520) 256-2447

Everyone is Welcome!

Bring your friends, join in the fun and meet
the cactus and succulent community.



**Cacti Rescued - Since 1999
326 Rescues - 22,925 Volunteer Hours**

Please see our Website Calendar for the next
rescued cactus sale. They are scheduled at various
times during the year based on our inventory.

TCSS Club Members receive a 10% discount

February 2014

Thursday, February 6, 2014 7:00pm

Creating Bonsai with Desert-adapted Plants
Presented by Tom Gatz

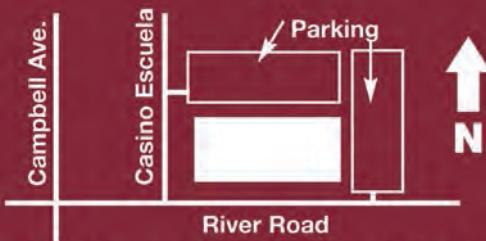
Tuesday, February 11, 2014 at 7:00pm

Board meeting at the U of A College of Pharmacy

Sunday, March 23, 2014 from 9:00am to 3:00pm

Gardeners' Spring Fair In Green Valley
Sponsored by the Green Valley Gardeners and the Tucson
Cactus and Succulent Society. Held in the Courtyard at
Continental Shopping Plaza, Exit 63 off of Interstate 19.
Featuring four free Educational Lectures and a dozen vendors
selling plants, pottery and other garden related items.
The TCSS plans to sell small rescued cactus including
Saguars under 16 inches tall.

**Meetings are held on the first
Thursday of each month.**



**Junior League of Tucson, Kiva Bldg.
2099 E. River Road**

**February Meeting
Refreshments**

Those with family names beginning with
A, B, C, D, E, F, and G please bring your choice
of refreshments to the meeting.
Your generous sharing will be greatly appreciated
and enjoyed!



Desert Breeze

Newsletter of the Tucson Cactus and Succulent Society

March 2014

Thursday, March 6, 2014 at 7:00 PM

From Road Kill to Rarity

Presented by Steve Martinez



Steve Martinez Photo by Marjan Donko

I started the cactus hobby in New York (Freeport, Long Island) in the early 1970s with a collection of dish gardens. A small greenhouse was to follow not too long after. It became a lifelong hobby.

My home club is the Central Arizona Cactus and Succulent Society. I moved from New York to Phoenix about 30 years ago. I was President of the Club in 2010-11-12, at which time I termed out. I was Show Chair in 2008, and have been Sales Chair for several years. I own a specialty nursery called Succulentia, located at the Farm at South Mountain (6106 S. 32nd St. Phoenix, AZ) which houses most of my collection as well as my sale plants. In recent years, I have been fortunate to be able to travel to numerous cacti and succulent habitats, including South Africa, Namibia, Argentina, and Baja (North and South). My companion on the Baja trip was Marjan Donko, a serious hobbyist from Slovenia, whom I met and became good friends with on our Argentina trip. With various warnings of danger to our lives and the risk of losing my new Silverado pickup truck (all unfounded in my opinion), we headed out in my wife's 2009 Hybrid Malibu and spent eight days driving along both paved and dirt roads in search of our beloved plants of interest. This presentation will be the story of the wonderful trip we took the week of Thanksgiving, 2012. Thank you, Steve Martinez

TCSS Program Presentation

Thursday, April 3, 2014

Guillermo Rivera

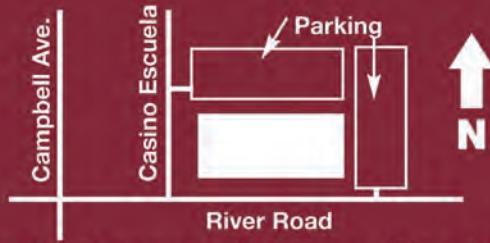
Program subject to be determined.

March Meeting Refreshments

Those with family names beginning with H, I, J, K, L, M, and N please bring your choice of refreshments to the meeting.

Your generous sharing will be greatly appreciated and enjoyed!

Meetings are held on the first Thursday of each month.



Junior League of Tucson, Kiva Bldg.
2099 E. River Road



President's Message

Sonoran X "Plants for the Sonoran Desert Hobbyist" is only 2 months away and it's hard to believe that this biennial conference has been going on for 20 years. There is still an opportunity to pre-register for the conference by sending in

\$50 to secure your spot. Don't forget this is also our largest public show and sale. This is not a competitive show and the public gets to vote on their favorite plants. The show is part of our education outreach to let the public see the diversity of cacti and other succulent plants. So start getting your favorite plants ready for the show.

The sale features a large assortment of plants from many member nurseries plus, pottery and other related items. There will also be a large rescue plant sale featuring plants from rescues in March and April. As always volunteers are needed for all aspects of this event. A list of opportunities to participate will available at the March and April meetings and on line. A complete registration package will be sent to every member in Mid-March.

On March 23rd from 9am to 3pm is another great

event the "Gardeners' Spring Fair" in Green Valley. This is a joint effort with the Green Valley Gardeners. Come on down and join us for this event. See the flyer in this newsletter for all the details.

I just did an interview for "Lovin' Life after 50". I spoke with the editor for more than an hour about all the things this Society does. The article will be out in April and will tell their reader about this incredible society. I realized on my way home that I forgot to mention some of the things we do and there was more to tell. How can a local Cactus and Succulent Society do so much? Then it dawned on me, **IT'S YOU!** It's the 1100 plus members who join each year. It is all of you who participate in plant rescues or open your home for a tour or who just come to a monthly meeting to listen and learn. All of you who help out at sales and silent auctions or go to science night and funfests to help educate young people about cactus and succulent plants and the environment. It is about everyone who grows succulent plants in their landscape and saves water. It is about the thousands of hours donated to Pima Prickly Park and so many other activities. It's about an outstanding group of officer, board members and committees who commit time and energy to make this society great. It's mind boggling. I can only think of one thing to say. **THANK YOU!**

Dick Wiedhopf, President

TCSS Field Guide Update

Member donations for the TCSS Field Guide have now reached over \$4000. TCSS is involved in a number of important projects that require your support, so we would like to thank those who have chosen to donate to this project. All donors will receive a copy of the book with their name in print on the donor page.

In January, we began sending out requests of support on a corporate level. Some of these corporate sponsors are companies that have partnered with us in the Cactus Rescue Program. Our hope is that they too will want their name associated with such a worthwhile endeavor.

There is still much work ahead and still time to get involved by supporting the book. Donations can be made directly through the TCSS website, in your name or in memory of a special person. For an ongoing update of our progress, we have a Facebook page dedicated to the book: <https://www.facebook.com/tcssfieldguide>

The authors and editing staff would like to thank Marc Baker, Mark Dimmitt, Matt Johnson, Margaret Pope and Dorde Woodruff for their assistance with reviews, rewrites and illustrations. We would also like to recognize SWCA Environmental and the Arizona Sonoran Desert Museum for their contributions for the distribution maps.



From the Florilegium

Parry's penstemon, one of our region's most familiar wildflowers, was among the plants collected and categorized during the U.S.-Mexican Boundary Survey (1850-1855). The particular specimen described in the report was collected by Charles Christopher Parry on the Gila River in March of 1852. Parry was a physician whose passion for botany led him to abandon his medical practice and join the Boundary Survey expedition as surgeon and botanist. His specimen appears in the survey report as *Penstemon puniceus* var. *parryi* but was renamed *Penstemon parryi* in 1878.

The first published illustration of Parry's penstemon appeared in 1915 in Margaret Armstrong's "Field Book of Western Wild Flowers." Armstrong was America's foremost designer of ornate cloth book covers, but in mid-life she took a serious interest in botany. While traveling in the American West, she was dismayed to find no published guides to the flowers of the region and decided to prepare one herself. With assistance from the botanist John James Thornber of the University of Arizona, Armstrong both wrote the field guide and prepared the illustrations—48 color plates and 500 pen and ink drawings. Her *Penstemon parryi* is gracefully rendered and provides a vivid representation of the flower color.

A more complete portrayal of Parry's penstemon can be seen in this drawing by Adrianna Hewings. While the colors of the plant are not indicated, the artist nonetheless documents the plant with clarity and precision. The habit of a flowering plant is shown alongside several enlarged plant structures. Of particular note are two male structures: an enlarged stamen in the upper left and to the right of that an enlarged staminode, an infertile male structure with a bristly tip. The artist includes a detail of the staminode because it is a key identifying structure used to differentiate penstemon species. Penstemons are also called "beardtongues" as the staminode looks much like a hairy tongue protruding from the flower.

Adrianna Hewings grew up in eastern Massachusetts and is a graduate of the University of Illinois with an MS in Biology and PhD in Plant Pathology. After a 25-year career as a research plant virologist and later a research administrator with USDA, she retired and devoted herself to art. She has taken courses at the Morton Arboretum and the Arizona-Sonora Desert Museum, working first in botanical art and then branching out to a wide variety of subject matter, although plant subjects are still her favorites. Her excellent illustration of *Penstemon parryi* was prepared for Margaret Pope's class "Drawing Plants for a Florilegium."



Penstemon parryi,
© Adrianna Hewings,
Graphite



Penstemon parryi, Margaret Armstrong
Watercolor and brown ink over graphite
From Field Book of Western Wild Flowers (1915)

Gardeners' Spring Fair

In Green Valley

Sunday, March 23rd ~ 9 am to 3 pm

In the Courtyard at Continental Shopping Plaza

Exit 63 off I-19

Educational Lectures

Open to the public ~ No Charge ~ Limited seating

10 am	Mark Sitter	Tricos ~ Huge Blooms to Die for
11 am	Jessie Byrd & Chuck Parsons	Desert Meadows Park
1 pm	Dave Palzkill	Principles of Propagating Cacti & Succulents
2 pm	Jon Weeks	The Invisible Queen

Vendors Selling Plants and Garden Related Items

Dryland Plants	Landscape Cacti
Starr Nursery	Arid Lands Greenhouses
B&B Cactus	Jackie Garrison's Garden Pottery
CAM Plants	JAG Art Studio
Blue Sky Plants	Linda Kaas, The Southwest "Pot" Lady
Native Gardens of GV	Handbuilt pots by Debra Raeber
Earth Angels	GVG Garden Tour Tickets
TCSS Rescue Cactus	Pima County Master Gardeners

Vendors will have a central cashier ~ Visa and MasterCard will be accepted



Green Valley Gardeners

A Service Club Made Up of Gardeners





Pre-Registration Information

Since 1996, on every even numbered year, the Tucson Cactus & Succulent Society holds a two-day event called the Sonoran Conference. This was established to thank TCSS members for their super effort that made the 1995 CSSA Convention the largest and most innovative gathering ever. Nineteen years later we are still saying "thank you" to all the members of the society for all that you do.

To attend the Sonoran X Conference a registration fee is required that covers four workshops, two lunches, five speakers and a special Saturday night dinner. Dinner reservations are also available for members who wish to only attend the dinner. In addition to the Conference activities, there are activities that are free and open to the public. These activities include plant, book, art, and pottery sales; the best plant show in southern Arizona featuring only cacti and succulents; and a silent auction. It is an opportunity for all of us to gather on a week-end and celebrate our efforts, hard work, friendship and our special interests in cacti and other succulent plants.

Our theme for Sonoran X is "Plants for the Sonoran Desert Hobbyist" featuring Adeniums, Dyckia, Hechtias, Trichocereus hybrids, and Echinocereus. This is a wonderful opportunity to learn, enjoy and show the general public the wonders of our hobby.

There are a limited number of seats for each workshop, so this is your early opportunity to reserve your selection position. The full registration materials will be sent out in mid-March and you will be able to select your workshops and dinner preference for the Saturday night April 19, 2014. The Saturday dinner is a special feature of the conference. Dinner cost is substantially reduced from the real price of over \$25.00 to \$10.00 for TCSS members only who have not registered for the Conference. This is our thank you for all that you do. Remember there is limited seating so return your pre- reservation early.

We always need volunteer help for this conference to set-up and tear down and help out. Please sign up on the web or at the February, March or April meetings.

Thank you for your support.

Sonoran X Committee

Pre-Registration is \$50.00

(Fully refundable if requested by Sunday March 30, 2014)

Send to: TCSS Sonoran X Conference
 PO Box 64759
 Tucson, AZ 85728-4759

Proposed By-Law Changes

Below are changes to the By-Laws approved by the Board of Directors to be voted on at the April 3, 2014 monthly meeting.
This is the issuance of the required 30 day notification.

Article IV. OFFICERS

Sec. 1. Number and term of office. There shall be a President, Vice-President, Secretary and Treasurer who shall be elected by the membership (Article VI, Sec. 2) to hold office for one (1) year. 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.

Change
one year to **two years** for Officers.

Article V. BOARD OF DIRECTORS.

Sec. 4. Editor. The Editor shall be appointed by the President with approval of the Board of Directors and shall 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.

Delete
shall serve for one (1) year

Article VI. ELECTION OF OFFICERS AND DIRECTORS.

Sec. 2. Elections. Elections of officers and Directors shall be by ballot, the balloting being continued until the offices are filled.

Change to
Election of officers and Directors shall be by ballot over a period established by the Board of Directors.

Article VII. MEETINGS

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.

Change to
a quorum shall consist of a simple majority of Officers and Board members.

Article VIII. COMMITTEES.

Sec. 1. Standing Committees. The Standing Committees shall be: Membership, Program, Library and Finance. Standing committees shall be, appointed by the President and approved by the Board of Directors.

Change to
Committees and their respective Chairperson shall be appointed by the President and approved by the Board of Directors as necessary.

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.

Change to

Two Hundred Fifty Dollars(\$250.00) to Five Hundred Dollars (\$500.00). Additional funds may be requested by Committee Chairpersons for approval by the Board of directors.

Cactus Rescue, Programs and Hospitality Committees are exempted from these conditions.

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.

Change to

The Board of Directors shall have the option to have the financial procedures of the Corporation **reviewed**. Such **reviews** 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. If conducted a report of the **review** shall 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 **reviewed** 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.

Delete

Sec. 2. Bonding. The Corporation shall maintain appropriate Surety Bonds when the total assets amount to \$10,000.00 or more.

Pima Prickly Park Installs a Living Ocotillo Fence

What do you do with large Ocotillo that are in the way of a development project but are too big to handle and probably won't survive the transplant... harvest the canes. The Cactus Rescue Crew was recently able to save a bunch of cactus including ocotillo. There were a dozen that were too large to move so the canes were cut off at about 6 to 8 feet long. The thick woody parts near the base were avoided as they are harder to root. Our park shares a common chain link fence with the Pima County Nursery that recently added a razor wire top for security so the Ocotillo fence seemed like a natural choice which helps hide the chain link fence and the razor wire as well. Combining manmade sharp objects with natures sharp objects has provided a great solution, a win/win for security and a win for park aesthetics.

About 12 large Ocotillo yielded 350 canes which covered 50 linear feet or chain link fence, spacing about one to two inches apart at the base. This is the start of several hundred more feet to be added over time. A trench about 4 inches deep was dug at the base of the fence. Each cane base was dipped in water to moisten the end then dipped in Hormodin 2 root inducing powder. This is a new process for us so we will need to wait to see if we get better results than the adjacent section where no powder was used. We filled in the trench with crushed gravel about the size of pea gravel (no dirt). We have used this method for years for our Barrels and Saguaros to encourage fast root growth, readily getting water and air to the root area. A small cover layer of dirt will be placed on top to help reduce evaporation. Most of the canes were in leaf and planted within 4 days after harvested. The tops of the canes were installed up through the razor wire then after all canes were in place, a length of electric fence wire was woven in and out of the chain link fence about 4 feet up to hold the canes against the fence. The canes will be sprinkled frequently to help keep moisture in them while roots are developed, takes months.

Thanks to TEP for allowing us to rescue these and other plants including 5 *Peniocereus greggii* (Queen of the Night) that will be planted in the University of Arizona Krutch Garden on the Mall.



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Acknowledgement of Contributions

The names below represent the Tucson Cactus & Succulent Society members and friends whose donations helped make this year a success. We extend our sincere thanks for your support.

Az Field Guide

Toni Yocom
Robert H Webb
Thomas A Gatz
Robie Willingham
Peyton & Furtsch-Bartlett

Pima Prickly Park

Michael Crumly
Dennis Kirchhoff
Mary A Miller
Nancy Tom & Family
Kevin Heuvel

Research

Patricia King
Trina Trimble & Family

Unrestricted General Fund

Paul Winick
Ronda Lustman
H Duane & Barbara Bock
Joseph Bannon
Monty & Karen Turner
Junie Hostetler
Thomas A Gatz
Jessy Zamorano
Kevin Heuvel

Conservation

Thomas Pringle
Martha Brumfield

Florilegium

Chris Bondante & Family



Desert Breeze

Newsletter of the Tucson Cactus and Succulent Society

April 2014

Thursday, April 3, 2014 at 7:00 PM

ARGENTINA “ An exploratory trip to Northwestern Argentina”

Presented by Guillermo Rivera



The presentation will cover the habitats of several provinces from central and Northwestern Argentina, from salt flats to high elevation Puna habitats. Gymnocalycium, Echinopsis, Parodia among many others will be well represented, as well as some bromeliads and some wildlife. Diversity and variability of plants

in habitat within populations and between populations will be addressed. Importance of habitat knowledge will be discussed and its significance in plant taxonomy.

Guillermo Rivera was born in Argentina but currently residing in Florida. Owner of South America Nature Tours (former Cactus Expeditions), a company dedicated to the organization of tours for the last 12 years, throughout South America (Chile, Argentina, Brazil, Peru, Colombia, Bolivia, Ecuador), Mexico and South Africa, and Madagascar with emphasis on plants (bromeliads, cacti, succulent plants and orchids), and birding. Former researcher at the University of Cordoba, Argentina. BS degree in Biology University of Cordoba MS Marine Biology. Northeastern University. PhD in Botany University of Cordoba.

Please be sure to place this date on your calendar, come and join us for a trip to Argentina. Bring a friend and introduce them to our membership. Everyone is welcome.

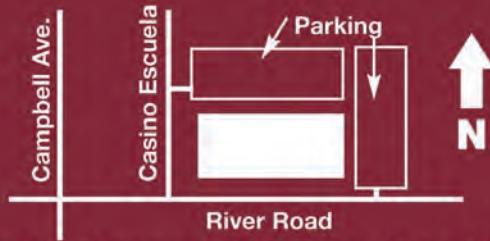
TCSS Program Presentation Thursday, May 1, 2014

“Echinocactus”
Presented by Michael Chamberland

April Meeting Refreshments

Those with family names beginning with O, P, Q, R, S, T, and U please bring your choice of refreshments to the meeting.
Your generous sharing will be greatly appreciated and enjoyed!

Meetings are held on the first Thursday of each month.



Junior League of Tucson, Kiva Bldg.
2099 E. River Road



President's Message

Everyone should have received in the mail, the complete information package on Sonoran X. This is our premier event that we have been doing since 1996. Your support is important for this event to be a success. One of the major reasons for the Sonoran Conference and all the activities associated with it is to say THANK

YOU for all the things you do to make the Tucson Cactus and Succulent Society the large and successful organization it is. Just as there is no requirement that as a member you must do something, there is no requirement that you register for the full conference. You can just come to the show and sale or pick and choose 1 or more workshops or take advantage of lunch and a speaker. I do encourage you to come to the Saturday night dinner and speaker program and be there a little early to participate in the silent auction. The dinner is at a great "thank you" price for members and a very reasonable price for non-member guests. You don't have to register for the full conference to sign-up for dinner but you do need to pick your entrée and send in your money so that we have the right count for the hotel.

It is real easy to fill out the registration form to pick and choose the events for which you need a ticket. Please respond as soon as possible.

I hope you will consider bringing your favorite plant(s) for the show. The public really likes to see the diversity of cacti and succulents that we grow. As many of you know, winners are based on the public voting with a handful of beans for their favorite plant and small trophies are given to the top bean getters.

We have a great line up of vendors selling plants, pots, and much more. They need your support and purchases, and we get the opportunity to expand our collections and interests, all in one convenient place. This year we will also have an assortment of rescued plants that need a good home. Our rescue program has been a great source of accomplishment, pride and funding. In 15 years we have saved 70,000 cacti and other succulents from destruction and been acclaimed by the New York Times and Sunset Magazine for what we accomplish.

All the used books from the Rainbow Garden Bookstore gift will be on sale, starting Saturday, April 19 at 8:00am. They are all priced at \$1.00. I know there are books valued at more than 50 times that. This is your chance to acquire them at a great price. I hope you will also consider buying many of these used books as a gift to others.

Finally, I hope you all realize that this conference was not intended to fall on Easter weekend. If you can join us on Saturday or help out setting up on Friday, it would be great and appreciated.

Dick Wiedhopf, President

Ferocactus wislizenii

I'd heard accounts of a tall barrel cactus and during some of my field survey work I'd come across numerous six, seven and up to eight footers. In February 2013 I hit the jackpot, a straight standing *Ferocactus wislizenii* that I estimated to be my first ten footer. With no tape measure and only my sketchy cell phone I took pictures and tried to figure out a measurement method. No real option, guess work was best. I figured I would be back working the same area again soon or if needed I could make a special trip to the site for an accurate measurement. Well, as we all know things can get put on hold and I didn't make it back to the location until this past November. I was stunned with what I saw, the *wislizenii* had fallen. Not only fallen but the core of it had snapped and roots looked to be attached. With sadness I took photos and did my measurements, 10' 4.5 inches from base to tip. Are there larger barrels out there? Within a half mile of the fallen giant I located another straight standing *wislizenii* that exceeded nine feet in height. These cactus are located southwest of the Swan and Los Reales intersection on private property. The location just happens to be 3/4 miles from a site that TCSS did rescues on in 2011.

Another plant with seventeen heads, you'd get your money's worth if you rescued this *Ferocactus wislizenii*. This one is still alive and easily found. It's located near Grant and Sweetwater, about 1/4 mile north of the intersection. It's on the west side of Silverbell almost directly west of Burlwood Dr. It's only about 50 feet off the road, look for the lone saguaro.

Thomas Staudt



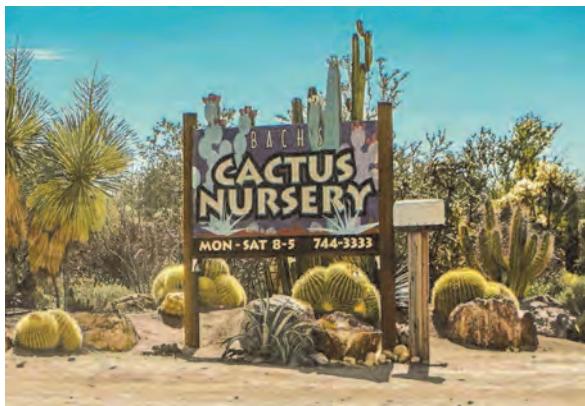
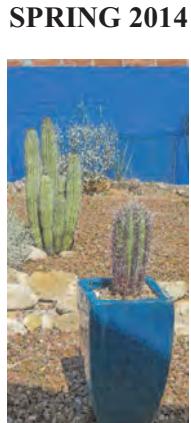
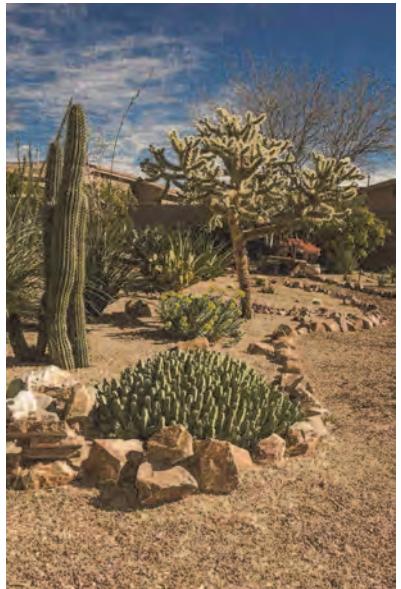
**TCSS 2014 SPRING DESERT GARDEN TOUR
SATURDAY - APRIL 12th - 9am to 3pm**

This Spring we will be offering a special tour of member desert gardens on the northwest side of Tucson. We are fortunate to have a group of landscapes that showcases each owner's creative use of cactus and succulents that will be sure to give you lots of ideas and inspiration for your own gardens. There are four homes, a nursery and a special desert park on tour. This tour is for TCSS Members and their Guests, it is free of charge. You can tour the gardens in any order you choose, watch for our directional arrow boxes with green flagging.

- [A] Per our map, we start with an eclectic artists' retreat surrounded by a natural desert landscape (with paths), framing a colorful secluded courtyard for their special plant collection and a separate impressive rock garden patio.
- [B] From there you will be treated to a hilltop home with sweeping views of the Catalinas that has been transformed in only 3 years from a large barren dirt lot, to a landscape with an extensive cactus and succulent collection surrounded by native trees, creosote, and desert wild flowers.
- [C] As you drive further north your next stop will surprise and delight you when you discover the hidden oasis they call their "Outback" Garden. Wandering paths take you through mature native trees, animal friendly plants, fountains, sculpture and an interesting variety of native and non-native specimens.
- [D] Next, you won't want to miss this special opportunity to visit Bach's Cactus Nursery. If you have never been there, be prepared to be overwhelmed by this cactus lover's wonderland. Huge greenhouses are surrounded by planted areas of mature, very special plant specimens.
- [E] After being overwhelmed at Bach's, continue on to the fourth home where you will be simply amazed at just how many plants can thrive in one small back yard area. The birds lucky enough to visit this garden have found their utopia, and you will find interesting specimens and ideas everywhere you look.
- [F] If you go south on Thornydale, past Orange Grove where it turns into River Road, you will come to our Society's newest project, Pima Prickly Park. It was born in 2011 as a joint educational venture with Pima County Natural Resources, Parks & Recreation. At the base of their office building is a 7 acre reclaimed gravel and sand pit area where we are creating special natural desert landscapes and demonstration gardens for public enjoyment and education.

To date we have enhanced an existing ring of Saguaros called "Saguarohenge", planted hundreds of specimens including many rescued native plants, created a Hummingbird Garden, Agave garden, Cristate area, Ocotillo Forest, and we have started a Cholla Maze. On one east end of the park we have a large Hoop House where club volunteers are nurturing a multitude of cuttings and potted plants that will someday find their home in the park. We hope that you will take time to stop by the park, get a map and see the results of the time and effort of our dedicated volunteers. There have been so many enhancements since our grand opening in September of 2012.

See the detailed descriptions of the gardens on our web site, will be posted about April first.



Photos by: Ed Bartlett



Maracay Homes site

A couple of very large rescued Hedgehogs (*Echinocereus fasciculatus*) from Maracay Homes site. Between them they have about 40 heads and 65 buds getting ready to bloom.

ASARCO's Silver Bell Mine

Some of the cacti rescued by our busy crew members working at ASARCO's Silver Bell Mine, these cacti are headed for our upcoming TCSS Sales. Many of the Golden Hedgehogs (*Echinocereus nicholii*) were already starting to bloom.



FROM THE FLORILEGIUM

The Florilegium Program's most significant undertaking has been its ongoing effort to preserve the botanical art in the University of Arizona Herbarium's illustrations collection. In 2008 Florilegium volunteers began cataloging the roughly 1300 pen and ink drawings which were being stored in cardboard boxes and file folders. Over time these non-archival storage conditions can cause deterioration of the drawings, and indeed, a small number of illustrations showed signs of damage. The entire collection has now been catalogued, enclosed in archival material, and stored in new custom cabinets at the Herbarium, and the process of creating a digital archive of the works is nearly complete.

Recently a similar preservation project has been progressing at the U.S. National Herbarium (see The Plant Press at <http://botany.si.edu/pubs/plantpress/vol16no2.pdf>). Alice Tangerini, staff illustrator in the Department of Botany at the National Museum of Natural History, found that the Herbarium had in its collection most of the original pencil drawings that Paulus Roetter prepared for the Pacific Railroad Report (Vol. IV, 1856). These delicate graphite drawings were being stored with the

original cactus specimens from the survey expedition, and as a result the images had become very faint from age and abrasion.

While physical restoration of the drawings wasn't possible, they have been digitally rescued. In 2013 the staff at the National Herbarium began scanning the drawings and devising techniques to restore the quality of the linework. Eventually these restored drawings will be available online through the Botany Department's Historical Collections project (<http://botany.si.edu/colls/collect/>). Anyone who has seen the magnificent engravings that were prepared from Roetter's drawings for the Pacific Railroad Report and the U.S.-Mexican Boundary Survey will be very eager to see these restored drawings.

You can read more about Paulus Roetter and his contributions to the mid-19th century exploratory expeditions on the Florilegium Program's website (<http://art-botanical.org/HistSurveysBios>). The site also has images of many of the excellent engravings made from his drawings as well as several of his preliminary sketches which are archived at the Missouri Botanical Garden Library. - CH



Margaret Pope and Joyce Peters with new archival storage boxes for the U of A Herbarium's botanical illustrations



Storage conditions for illustrations prior to preservation project

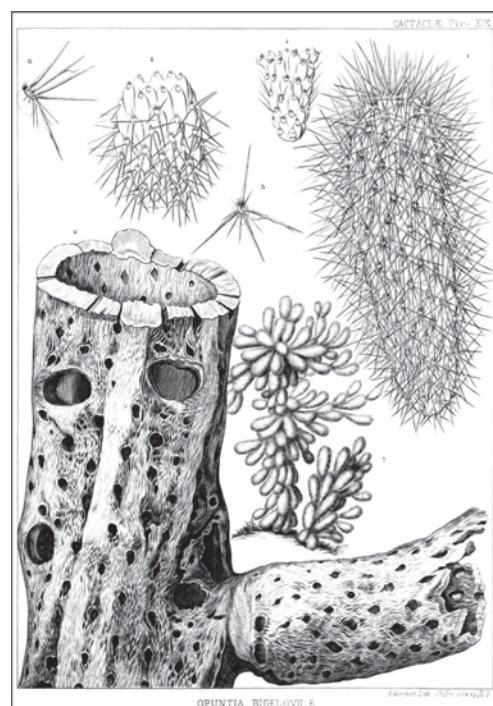


Current storage conditions for the illustrations



Eduardo Salgado
Distylium sinaloense
"Additions to the
Flora of Sinaloa and
Nuevo Leon"
By Howard Gentry,
Brittonia, Vol. 6, No.
3, 1948

One of the
illustrations from the
U of A Herbarium
collection which
shows signs of
damage from non-
archival storage
conditions



Paulus Roetter
Opuntia bigelovii
Steel engraving from
graphite drawing
Report of
Explorations for a
Railway Route Near
the 35th Parallel of
North Latitude from
the Mississippi River
to the Pacific Ocean,
1856

Sonoran X Conference Workshop Schedule

April 19 & 20, 2014

Hotel Tucson City Center InnSuites Conference Suite Resort • 475 N. Granada Avenue, Tucson, Arizona
For registration visit: www.tucsononcactus.org

Date	Time	SESSION	ROOMS	NAME	TITLE
Saturday, April 19, 2014	10:30AM-12:00PM	Session 1	Buckley	Jim Hastings	New things to try with cactus in the kitchen, by the Gringo Gourmet
Saturday, April 19, 2014	10:30AM-12:00PM	Session 1	El Conquistador	Andy Siekkinen	Growing and Propagating Hechitas and Other Succulent Bormeliads
Saturday, April 19, 2014	10:30AM-12:00PM	Session 1	El Dorado	Dave Palzkill	Adenium Propagation and Cultivation
Saturday, April 19, 2014	10:30AM-12:00PM	Session 1	St. Augustine	Scott Calhoun & Debra Raeber	Spines, Steel and Clay: Making Container Gardens
Saturday, April 19, 2014	2:15-3:45PM	Session 2	Buckley	Dennis Cathcart	Understanding and Cultivating Dyckias
Saturday, April 19, 2014	2:15-3:45PM	Session 2	El Conquistador	Peter Walkowiak	Staging Your Plants for a Beautiful Display
Saturday, April 19, 2014	2:15-3:45PM	Session 2	El Dorado	Peter Breslin & Rob Romero	Raising Hedgehogs in the Desert
Saturday, April 19, 2014	2:15-3:45PM	Session 2	St. Augustine	Scott Calhoun & Debra Raeber	Spines, Steel and Clay: Making Container Gardens
Sunday, April 20, 2014	10:00AM-11:30PM	Session 3	Buckley	Dennis Cathcart	Understanding and Cultivating Dyckias
Sunday, April 20, 2014	10:00AM-11:30PM	Session 3	El Dorado	Peter Breslin & Rob Romero	Raising Hedgehogs in the Desert
Sunday, April 20, 2014	10:00AM-11:30PM	Session 3	El Conquistador	Peter Walkowiak	Euphorbia Hybridization
Sunday, April 20, 2014	10:00AM-11:30PM	Session 3	St. Augustine	Mark Dimmitt	Growing Beautiful Succulents: Breakthrough in potting media
Sunday, April 20, 2014	11:45AM-1:15PM	Session 4	Buckley	Jim Hastings	New things to try with cactus in the kitchen, by the Gringo Gourmet
Sunday, April 20, 2014	11:45AM-1:15PM	Session 4	El Dorado	Dave Palzkill	Adenium Propagation and Cultivation
Sunday, April 20, 2014	11:45AM-1:15PM	Session 4	El Conquistador	Andy Siekkinen	Growing and Propagating Hechitas and Other Succulent Bormeliads
Sunday, April 20, 2014	11:45AM-1:15PM	Session 4	St. Augustine	Mark Dimmitt	Growing Beautiful Succulents: Breakthrough in potting media
Available Rooms:					
			Buckley		Workshop titles may change slightly but this schedule will remain constant until updates are provided.
			El Conquistador		
			El Dorado		
			MacArthur		
			St. Augustine		

Sonoran X Conference Event Schedule

April 19 & 20, 2014

Hotel Tucson City Center InnSuites Conference Suite Resort • 475 N. Granada Avenue, Tucson, Arizona
For registration visit: www.tucsonnconcaactus.org

Day and Time	Event	Location
Friday, April 18		
8:00 am to 8:00 pm	Set-up Registration Set-up All Signage Set-up Book Sales, Art Sales, Art displays Set-up Plant and Pottery Sales Set-up Plant Show Set-up Speakers and Meals Set-up Silent Auction and Plant Raffle Set-up Workshops Set-up Displays	Front Lobby All Areas Gold Room Outdoor Sales Area Silver Room Copper Room Front Lobby Assigned Rooms* Silver Room
6:00 PM	Dinner for Volunteers	Hospitality Room
Saturday, April 19		
8:00 am - 5:00 pm	Registration	Front Lobby
8:00 am - 5:00 pm	Books, Plants, Pottery and All Other Sales	Gold Room and Outdoor Sales Area
8:00 am - 6:00 pm	Plant Show	Silver Room
8:00 am - 5:45 pm	Silent Auction Bidding	Front Lobby
9:00 am - 10:15 am	Guest Speaker - Peter Breslin: "Echinocereus for the Sonoran Hobbyist"	Copper Room
10:30 am - 12:00 pm	Workshops Session 1	Assigned Rooms*
12:00 pm - 2:00 pm	Lunch and Guest Speaker - Mark Dimmitt: "Adenium Diversity: Select and grow the right plant"	Copper Room
2:15 pm - 3:45 pm	Workshops Session 2	Assigned Rooms*
5:30 pm	Silent Auction Ends - Bid winners plant collection 5:30 to 6:00 PM	Front Lobby
5:30 pm	Cash Bar	
6:15 pm - 9:00 pm	Dinner and Guest Speaker - Dennis Cathcart: "The Beautiful and Mysterious Dyckia"	Copper Room
Sunday, April 20		
8:00 am - 12:00 noon	Registration	Front Lobby
8:00 am - 1:30 pm	Books, Plants, Pottery and All Other Sales	Gold Room and Outdoor Sales Area
8:00 am - 3:30 pm	Plant Show	Silver Room
8:30 am - 9:45 am	Guest Speaker - Andy Siekkinen: "Hechtia - The Ignored Genus of Succulent Bromeliads"	Copper Room
10:00 am - 11:30 am	Workshops Session 3	Assigned Rooms*
11:45 am - 1:15 pm	Workshops Session 4	Assigned Rooms*
1:15 pm - 3:15 pm	Lunch and Guest Speaker - Mark Sitter: "Serious Trichocereus"	Copper Room
3:30 PM	All Conference Events End	All Areas

*Assigned Workshop Rooms: Buckley, El Conquistador, El Dorado and St Augustine - See Sonoran X Workshop Schedule

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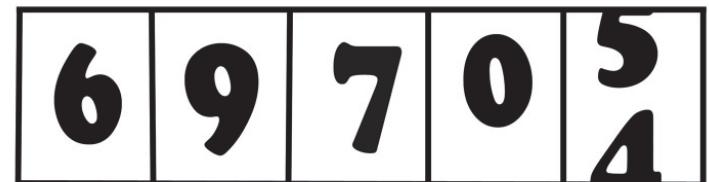
Deadline for copy: Monday, April 21, 2014

TCSS Web Page:
www.tucsoncactus.org

Webmaster: Keimpe Bronhorst
For additional information call: (520) 256-2447

Everyone is Welcome!

Bring your friends, join in the fun and meet
the cactus and succulent community.



**Cacti Rescued - Since 1999
331 Rescues - 23,561 Volunteer Hours**

Please see our Website Calendar for the next rescued cactus sale. They are scheduled at various times during the year based on our inventory.

TCSS Club Members receive a 10% discount

April 2014

Thursday April 3, 2014 7:00pm

ARGENTINA "An exploratory trip to Northwestern Argentina"
Presented by Guillermo Rivera

Tuesday April 8, 2014 7:00pm

Board meeting at the U of A College of Pharmacy

Saturday, April 12, 2014 9:00am to 3:00pm

TCSS Spring Garden Tour

Saturday and Sunday, April 19 - 20, 2014

Sonoran X Conference at the Hotel Tucson City Center Inn Suites. Saturday 8am - 9pm and Sunday 8am - 3:30pm. Five speakers and four workshops. TCSS will be selling rescued cacti.

Acknowledgement of Contributions

The names below represent the Tucson Cactus & Succulent Society members and friends whose donations helped make this year a success.

We extend our sincere thanks for your support.

Florilegium
Sharon W. Pettus

Pima Prickly Park
LOS CERROS GARDEN
CLUB

Field Guide
Jan Bell
William Thornton

**BOOK BONANZA at SONORAN X
OVER 500 USED BOOKS ONLY \$1.00 EACH**

That's right, during the upcoming SONORAN X Conference the TCSS BOOK BONANZA will be selling every used book we have. For \$1.00 each, over 500 gently used books will be available to those of you who attend the Conference. There are lots of great finds amongst these books and this will be your only chance to buy at these special prices.



Desert Breeze

Newsletter of the Tucson Cactus and Succulent Society

May 2014

Thursday, May 1, 2014 at 7:00 PM

"The Genus *Echinocactus*"

Presented by Michael Chamberland

Echinocactus is a small genus containing some large barrel cacti. One species vies for the record of being the largest barrel cactus. We'll look at what makes an *Echinocactus* different from those "other" barrel cacti known as *Ferocactus*. In this small genus some species are very rare in the wild and others are widespread across whole desert regions. Some species are seldom grown while the Golden barrel (*Echinocactus grusonii*) is likely the most common barrel cactus in cultivation, and might be in your yard. *Echinocactus* includes plants which stand out in the dramatic landscapes of the Grand Canyon, Death Valley, Big Bend, and the Pinacate region of Sonora. Three kinds are native to Arizona and the nearest may be encountered in the Ironwood National Monument. Michael Chamberland is the Director of Horticulture at the Tucson Botanical Gardens. He has also worked at other gardens including the Desert Botanical Garden, the US National Arboretum, and the Cheekwood Botanical Garden in Nashville. Michael holds a Master's degree in the advanced study of *Echinocactus*.



May Meeting Refreshments

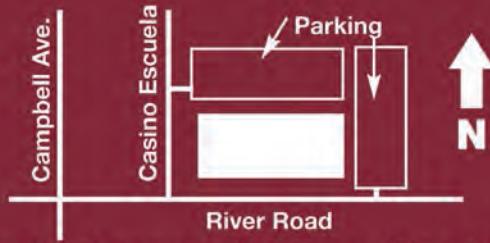
Those with family names beginning with V, W, X, Y, Z, A, and B please bring your choice of refreshments to the meeting.

Your generous sharing will be greatly appreciated and enjoyed!

Be sure to attend this excellent program presented by our good friend Michael Chamberland. There will be refreshments, raffle plants and also, free plants for all who remain.



Meetings are held on the first Thursday of each month.



Junior League of Tucson, Kiva Bldg.
2099 E. River Road



President's Message

Sonoran X is now just a very pleasant memory. Every aspect of the conference was terrific. That is the best adjective to describe this event. It all started to come together on Thursday with the construction of the shade structure for the outside vendors. Just a few hardy members put it all together. By the end of the day everything was set for the arrival of the vendors and the rescue plants.

On Friday the vendors set up. The rescue crew brought hundreds of plants to sell including lots of Saguaros, hedgehogs, barrels and Mammillarias. The rental truck was out picking up special plants for the show and silent auction. Two of our members spent the whole day going from the eastside to the westside of Tucson loading these special plants. Volunteers were setting up the plant show which was as spectacular as always. The Lobby of Hotel Tucson was filled with plants, art and pottery for the silent auction and organized by another group of volunteers.

The workshop rooms were set with the appropriate technology and other needs for the Saturday and Sunday workshops & speakers. Speakers and workshop leader from out of town arrived and readied there presentations. The books were set out for the \$1.00 used book sale.

On Saturday morning, registrants picked up their materials, the plant sale opened and the conference began with the first talk of the day. Hundreds of visitors voted with 10 beans for their favorite plant in the show and oohed and awed at the marvelous plants. At the end of the day Trophies were given out for the two favorite succulents and cacti.

A day of speakers, workshops, and lunch concluded with a silent auction before dinner and a final speaker. A fabulous three bodied ponytail palm was the star of the silent auction. Dinner was delicious and because it was changed to buffet style every one could enjoy the salmon, chicken marsala and the Flank steak.

Sunday continued the show and sale, speakers and workshops and concluded with a wonderful taco bar lunch and final speaker.

It sounds simple and easy doesn't it? Well, that's because we have a bunch of super volunteers who work their proverbial tail off to make it happen. I thought about listing them but if I forgot one person who helped I would be doing a great disservice to all. All of you know who they are and if you were one of the volunteers you know what you did to make this a success. I know that you and I put out our very best efforts to make this great and we succeeded. It feels great!

You are the greatest group of volunteers ever. Thanks from the bottom of my heart for your hard work.

Dick Wiedhopf, President

BOOK BONANZA NOW EVEN BETTER MAY 1 ALL BOOKS 75% OFF

That's right. Effective May 1, the entire Book Bonanza inventory will be available for just 25% of the original price. For example, \$40 books that we have been selling for \$20 will now be available for \$10.

We still have over 300 titles on hand, but only 1 or 2 copies of many so get them while we have them. Many of these titles are out of print, not for sale elsewhere, and certainly not available at these prices. So, you can't afford not to buy.

Take advantage of this great offer a couple ways.

ON SITE SALE: SATURDAY, MAY 10

10:00 am to 12:00 noon MEMBERS ONLY
STONE & BLACKLIDGE

In front of Plants for the Southwest. Park on Blacklidge.

This is the only currently scheduled opportunity to shop the incredible inventory of books given to TCSS by Rainbow Gardens Bookshop.

While you are at the sale take a look at the Rare Books and all the Plant Journals

MAIL ORDER:

Yes, ordering by mail is still available and the \$100 minimum order still applies. Take a look at the inventory listings on the TCSS web site under BOOK BONANZA for the new, improved book prices.

Prices are 75% off, (rounded to the nearest half dollar).

The order form is also on the web site so get your order in soon while the books are still available.

FROM THE FLORILEGIUM

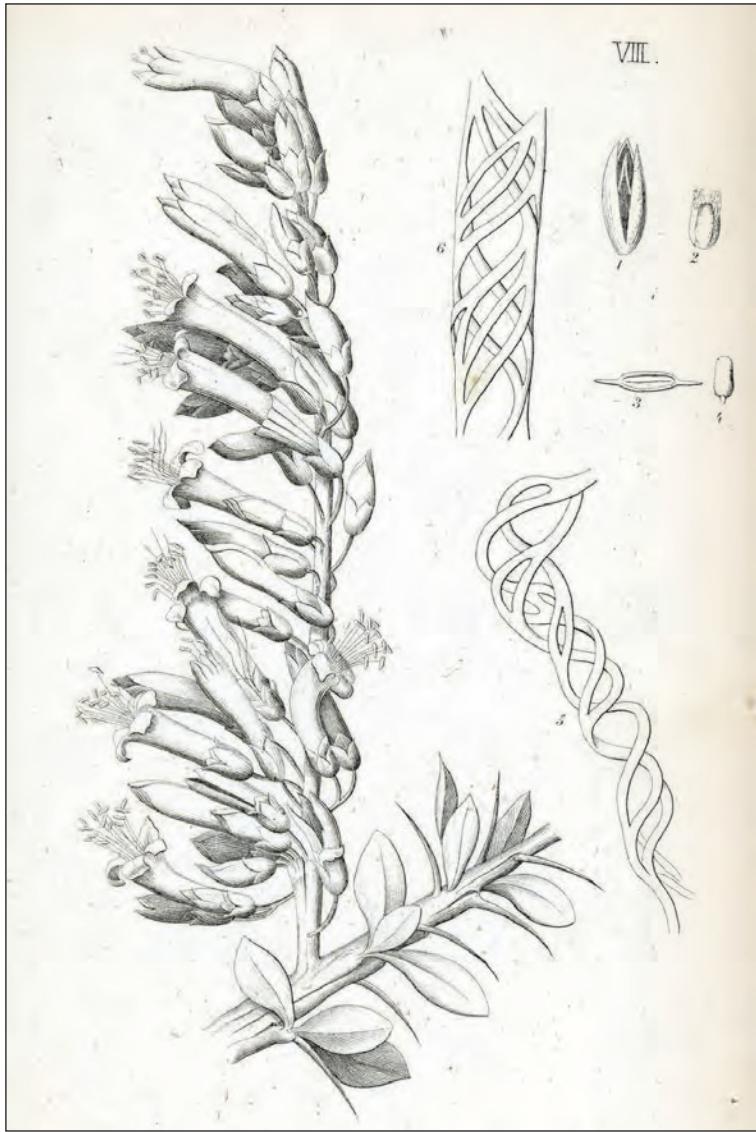
As 19th and early 20th century botanists and naturalists began exploring the southwestern U.S., one of the plants frequently described in their diaries and official reports was the extraordinary ocotillo, *Fouquieria splendens*. Illustrations accompanying these documents ranged from sketches of its unusual sprawling habit to detailed scientific renderings of its floral and vegetative structures.

One remarkable illustration of the ocotillo was prepared from a California specimen for John Torrey's botanical report of plants encountered during Lieut. Col. W. H. Emory's 1846 military reconnaissance from New Mexico to California. The drawing includes the top of a stem with its panicle of flowers and enlarged views of the seed. What makes this illustration so unique is Torrey's inclusion of greatly magnified views of the spiral vessels that compose the fine hairs on the margin of the seed. Torrey makes note in his report of how beautiful these structures appeared under the microscope, and they dominate the illustration with their unusual form.

A later and more dramatic illustration by Mary Vaux Walcott

(1860–1940) was painted from a specimen obtained in Superior, Arizona. Walcott's flamboyant watercolor of the ocotillo dispenses with enlarged details and portrays only the plant's glorious flowers. This painting was one of 400 included in Walcott's 5-volume *North American Wildflowers* (1925); following its publication Walcott was often referred to as the "Audubon of botany". In addition to her renown as a botanical artist, Walcott was an accomplished photographer and, with her brothers, spent many years photographing, surveying, mapping, and measuring glacial movements in Alberta and British Columbia. Mount Mary Vaux in Jasper National Park was named in her honor in 1908.

Both the ocotillo's family (Fouquieriaceae) and genus (*Fouquieria*) were named for Pierre Edouard Fouquier, a naturalist and professor of medicine in Paris and friend of the German botanist C.S. Kunth. The genus *Fouquieria* was described in Kunth's *Nova genera et species plantarum* (1815–1825), a 7-volume work describing some 4,500 plant species collected by Alexander von Humboldt and Aime Bonpland during a five-year expedition in Latin America. -- CH



Fouquieria spinosa (Current classification: *Fouquieria splendens*)

Illustrator uncredited
Notes of a Military Reconnaissance from Ft.
Leavenworth, in Missouri to San Diego, in California (1848) Botanical
Appendix by Prof. John Torrey



Ocotillo, Fouquieria splendens
Mary Vaux Walcott

Watercolor *North American Wildflowers* (1925)

Weed Control in Greenhouses: How We Learned to Love Herbicides

Bob Webb and Toni Yocum

We hate weeds. Weed (n): A plant considered undesirable, unattractive, or troublesome, especially one growing where it is not wanted. At our nursery, it seemed as if we had 20,000 square feet of space with weed-filled pots. Those varied from out-of-control succulents, such as a *Talinum* our nursery introduced long ago, and a *Kalanchoe* that is simultaneously useless, unattractive, and unwanted. In addition, native Sonoran Desert annuals, particularly an aster that attracts white fly, started proliferating. Of course, a couple species of *Oxalis* and several species of the ubiquitous *Chamaesyce* (spurge) seemed to be everywhere. We began to believe the *Oxalis* and spurge were rapidly evolving in our greenhouse and poised to stage a phytocoup. They had to go.

Ever try eliminating weeds by repotting a whole nursery? Well, we did. And a funny thing happened when we tried repotting and direct pulling of weeds – we actually spread some of them around. We learned that our salvation was contained in bottles and bags of herbicides, which simultaneously drastically reduced our weed problem while eliminating any claim that we are an organic nursery (we still claim we're vegan). Our experience may be useful to you, although we hope your problem is at a smaller scale than was ours.

We learned many lessons from pulling weeds and repotting plants. Our *Talinum* would prosper if we broke off the stem, but it was fairly easy to eliminate if we got the tuberous root. Spurge is pretty easy to pull, but it is able to produce new seeds within seemingly milliseconds of sprouting, which meant no end to pulling weeds out of spiny plants and then pulling the spines out of our hands. Because spurge is naturalized in the Sonoran Desert, it seems to have a long residence time in soil seed banks. The *Kalanchoe* established from each leaf; leave one behind, and it quickly reestablished.

Oxalis (mostly *Oxalis corniculata*) was probably our most serious problem and certainly the one weed that forced drastic action on our part. It clearly spread by seed, at least initially, but we came to learn that its roots remained viable unless exposed to dry air for perhaps a day. Because we reuse soil at our nursery, typically mixed with fresh soil, any *Oxalis* roots, even the most minute ones, could produce new plants if introduced into new pots. We found that pulling *Oxalis* merely encouraged it, and that we spread it like wildfire if we used recycled soil in repotting. Pulling weeds, while somewhat momentarily satisfying, was clearly not the answer to our problem.

Repotting plants to eliminate the *Oxalis* in them wasn't necessarily the answer either, because *Oxalis* appears to have some properties attributable to a parasite. *Oxalis* roots wrapped around the roots of our plants, which would seem to be a competitive disadvantage unless *Oxalis* was stealing water and nutrients from those plants. The more *Oxalis* we found in pots, the fewer roots of the plants we wanted to grow, and we literally could not untangle all those *Oxalis* roots from the roots of our plants during repotting, meaning *Oxalis* would regrow and our bare-rooted plants would be set back. Say *Oxalis* "has a competitive advantage," if you will, but we think it is a stinking parasite that could be killing our plants by robbing water and nutrients from their roots.

Of all groups, the U.S. Environmental Protection Agency has what we think is the best, most comprehensive information on herbicides. Of course, their interest in these compounds has to do with pollution control and regulation of potentially harmful substances, but their information is invaluable to anyone who wants to understand how modern herbicides work. The EPA website summarize four classes of herbicides: amino acid inhibitors, photosynthesis inhibitors, synthetic auxin growth inhibitors, and cell-division inhibitors. Yes, we're a long ways down the road from, say, "diesel fuel and black plastic," the old standby for ensuring death of Bermuda grass back in the bad old days. You can conceptualize herbicides into three easily-understood classes: contact killers, systemic killers, and pre-emergent inhibitors. Flame throwers and diesel fuel are good contact killers, not to mention your hands or hoes, but most of today's herbicides work differently.

So, you might be asking, what is the difference between contact and systemic herbicides? Some people interpret the word "systemic" to mean something that affects the entire plant – say, a compound taken up by the roots that ultimately kills the leaves. It might be easier to broaden that interpretation to any compound absorbed by foliage or roots that affects growth at the cellular level. A current advertisement touts an expensive vitamin supplement because "emerging research shows that cell health is vital to your health," a duh! statement if there ever were one. Therefore, all of the major herbicides currently available, and probably most future ones, can be considered as systemic because they are absorbed by the plant and taken up at the cellular level, jeopardizing the weed's "cell health."

Turns out that the most commonly used herbicide in the US, glyphosate, is associated with those extremely scary GMOs, or genetically modified organisms. You've probably heard of the most common brand of this type of herbicide, produced by Monsanto, called various names, particularly Roundup. We knew its early formulation as Doomsday, and it also has other formulations, one the enigmatic Rodeo and another the stump-killer Garlon. Glyphosate salts are taken up in foliage, transported to metabolic sites in the cells, and cause big problems with production of amino acids, thereby slowly killing the plant and its roots. How slow? Well, we've seen results in timeframes ranging from a few minutes to days, but the EPA says weeks. The only trick to glyphosate is the plant has to be growing to take it up, as well as willing to "ingest" it. That last one is one key to greenhouse weed control and, by the way, one thing that many GMOs are designed not to do.

Why not stop the seeds from germinating in the first place? Well, that wouldn't solve our *Oxalis* problem, at least not root regeneration, but it could take out the ubiquitous spurge before it even got started. The fourth class of herbicides, the cell-division inhibitors, does that job. Trifluralin is the most common of these compounds, and it acts as an inhibitor of root growth, thereby killing seeds that try to germinate. It is available as an extremely expensive liquid (e.g., Surflan) that a little bit goes a long ways or as an inexpensive granular substance (e.g., Snapshot) that a large amount goes a short way. Either way, trifluralin is sorbed by organic material and fine soil particles (e.g., clays) near the soil surface and has a preventative capability of up to six

months. Disturb the soil by repotting, and that chemical gets mixed in and doesn't disrupt seed growth but may impact root growth of your plants deeper in the pots.

Then, of course, there are cocktails of two or more of these herbicide types, such as one that includes a cell-division inhibitor (trifluralin) with a synthetic growth regulator (2, 4-D) for that double whammy, longer lasting effect. We consider these to be somewhat like the tendency of big pharma in the US to package all kinds of compounds into that allergy formulation they want you to buy even though all you really need is an antihistamine. That unnecessary decongestant will raise your blood pressure and that pain reliever could damage your liver, and both were probably necessary only to increase the profit margin of the manufacturer. It's a nuclear option that may have unintended consequences if used too enthusiastically, sort of the equivalent of using a sledgehammer to kill ants while breaking the concrete on the sidewalk. We wanted our herbicides applied sparingly and with single purposes in mind.

We started with Snapshot and had some limited effects. But root-growth inhibitors lurking near the soil surface won't affect already germinated plants with roots down deep, and the amount of this granular material needed is astronomical (I calculated it would take 350 pounds or so to just get started with a one-time whole-nursery application). We tried what, in retrospect, was an ill-advised option: treating repotted plants before applying the gravel topcoating. This needlessly exposed workers to a potentially harmful chemical and didn't affect those stray Oxalis roots, so we needed something else.

Turns out that one not-so-secret trick-of-the-trade involves glyphosate, particularly in the form of Roundup. Cacti do not appear to take it up, while the surrounding weeds definitely do. Perhaps it is the difference in photosynthetic pathway between CAM (cacti and succulents) and C3/C4 (most trees,

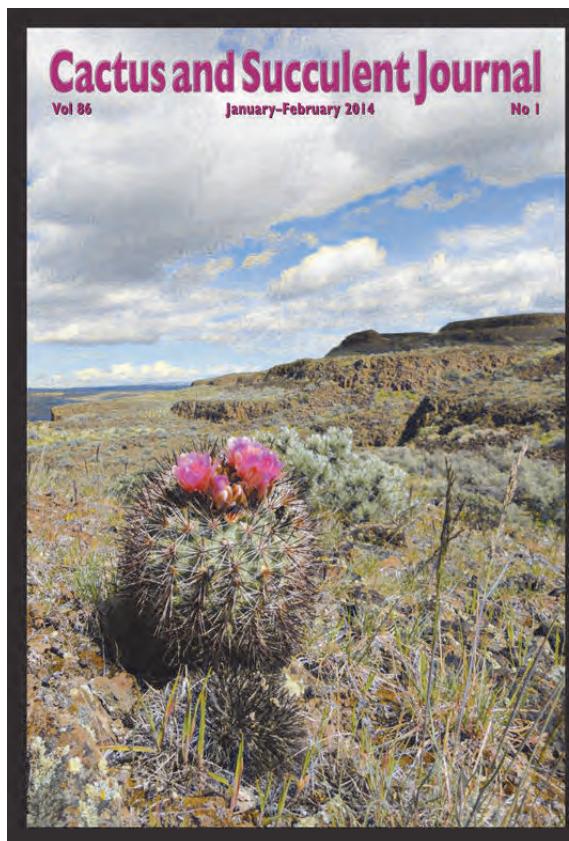
shrubs, and grasses), or maybe it is just the waxy coatings on the epidermis of most cacti: cacti don't seem to react to glyphosate, at least not during the cool season when their growth and CAM photosynthetic pathway is at low activity. We bought concentrated Roundup at our local big-box store, mixed it according to directions, and oversprayed a large number of species of cacti and Gasteria. The weeds died, the plants we wanted were not affected. Eureka! We have found it! Well, maybe not so fast because after all, we have around 4,000 species and around 100,000 plants at our nursery, many extremely rare, and we could ill afford to take the chance of overspraying everything, not to mention how expensive that would be for a one-time herbicide application.

Our answer came in the form of those little one-quart spray bottles commonly available seemingly everywhere (e.g., the Dollar Store). We mix up small batches of Roundup, put the setting on stream for accurate targeting, and just spray the weeds with minimal collateral contact with nearby plants. Many gallons sprayed and hours of effort spent later, we can summarize our results as extremely good news. Oxalis may well become endangered at our nursery owing to extremely negative response to glyphosate (i.e., those suckers die quickly). Spurge, aster, and Talinum are dead dead dead, but the Kalanchoe isn't reacting. Our closely targeted applications were in the cool season, so we don't know if certain species (e.g., Adenium and Euphorbia) can take up glyphosate from their trunks, particularly while in full growth mode. The only definite collateral damage we have observed so far is severe damage on an Agave nizandensis, a rare species, and leaf dieback on Zamioculcas zamiifolia, which commonly occurs on this species anyway and is not life-threatening. We've heard that the winter-growing Euphorbia resinifera is damaged by glyphosate, and that may be the big lesson here: target weeds in the off season for growth of your plants.

Previous Journal Article

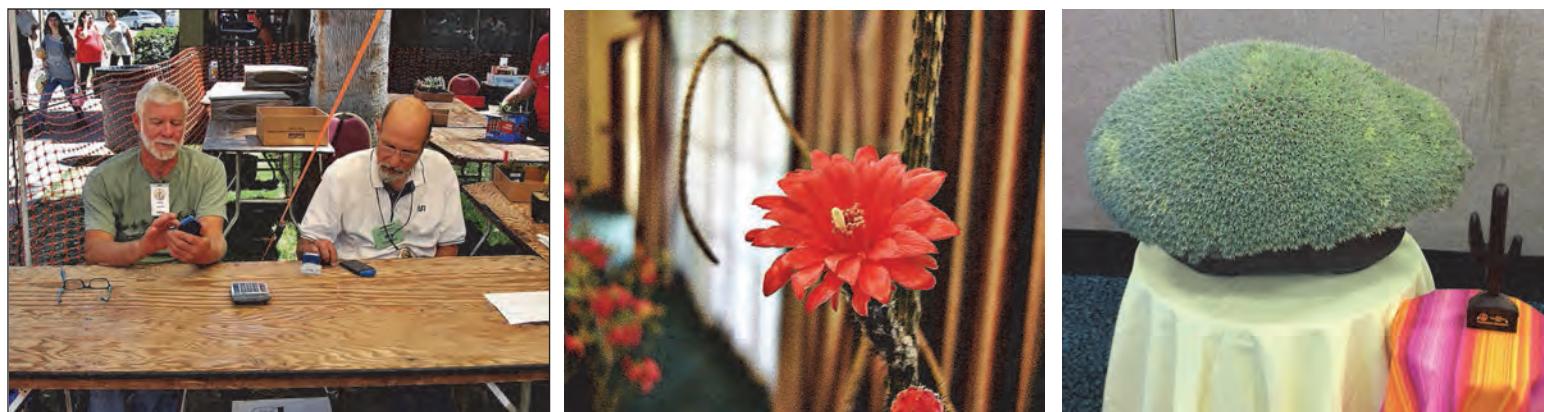
by Chris Miller

Volume 86 begins with a clarification of the identity of *Agave gigantensis* by Robert Webb and Gregg Starr. The article well illustrates the differences between this species and *Agave sobria* from the same area, with which *A. gigantensis* has been confused. Gideon Smith and Estrela Figueiredo give us a guided tour of the Hanbury Gardens (also known as La Mortola) in Italy. Two new species of *Avonia* are created by Graham Williamson's article, where he elevates them from subspecies level to full species. Featured on the cover is a beautiful specimen of *Pediocactus nigrispinus*, one of many shown in Dixie Dringman's article on them in habitat on the land owned by Dave Bishop in Washington State. Duke Benadom's Super Succulents features a highly contrasting pair this month, a bizarre *Astrophytum* cultivar and *Lithops lesliei*. Sharp eyes and a convenient place to sit resulted in the discovery of *Sedum minimum* in Veracruz, Mexico, a new record for the state, documented by Miguel Chazaro and co-workers. Root Gorelick brings the issue to an end with an account of *Sclerocactus parviflorus* growing along the trails in Arches and Canyonlands National Parks. Root has also been busy completing *Haseltonia* 19, which amongst many interesting, has a must-read article on *Huernia* by Darrel Plowes. If you didn't order a copy when you renewed your membership, now is the time to do so.



Sonoran X

Photos by John Durham and Karen Keller



Garden Tour

Photos provided by Bill Salisbury



Garden Tour

Photos provided by Bill Salisbury



Rescued Cactus a BIG Hit at Sonoran X

The TCSS Cactus Rescue Crew worked for several months to collect cacti to get ready for our Sonoran Conference. We had 440 plants all laid out for the Saturday start at 8 am. Many of our Crew members not only dig the cacti but come to the sales to setup, sell, load vehicles and share their knowledge about planting and care of our native plants. The golden hedgehogs, *Echinocereus nicholii* from the Silver Bell Mountains were the biggest hit and went quickly as did the nice flats of *Mammillaria grahamii* and the Saguaros are always a favorite too. A few additional cacti were brought in Sunday as most everything was sold Saturday. We brought in about \$5,000 for the rescued plants which helps support the Societies' events and our Educational Outreach program. A special thanks to ASARCO Silver Bell Mine, Maracay Homes, TEP and both the City of Tucson and Pima County Departments of Transportation for partnering with us to make these plants available to rescue. Our cactus inventory is now about zero so it will probably be several months before our next sale, the date and place will be posted on our web and emails will be sent out when scheduled.

Joe Frannea



**TCSS BOARD
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Floilegium: Margaret Pope • art@Tucsoncactus.org

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Garden Tours: Bill Salisbury • tours@Tucsoncactus.org

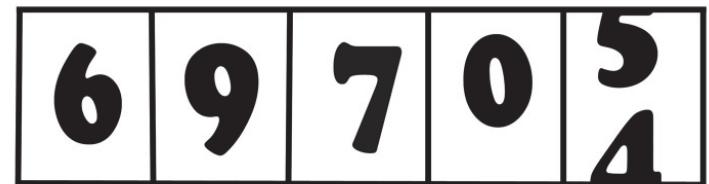
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Deadline for copy: Monday, May 19, 2014

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For additional information call: (520) 256-2447

Everyone is Welcome!
Bring your friends, join in the fun and meet
the cactus and succulent community.



**Cacti Rescued - Since 1999
331 Rescues - 23,561 Volunteer Hours**

Please see our Website Calendar for the next rescued cactus sale. They are scheduled at various times during the year based on our inventory.

TCSS Club Members receive a 10% discount

May 2014

Thursday May 1, 2014 7:00pm

“The Genus Echinocactus”

Presented by Michael Chamberland

Saturday May 10, 2014 10:00am - 12:00 noon

Book Bonanza On Site Sale, Stone & Blacklidge

Tuesday May 13, 2014 7:00pm

Board meeting at the U of A College of Pharmacy

Acknowledgement of Contributions

The names below represent the Tucson Cactus & Succulent Society members and friends whose donations helped make this year a success.

We extend our sincere thanks for your support.

Unrestricted General Fund

Pat Sullivan

Joan Hall

Jane Erikson

Research

Mike Bender

Florilegium

Cherie Gossett

“The Genus Echinocactus”

Presented by Michael Chamberland

(additional photos)





Desert Breeze

Newsletter of the Tucson Cactus and Succulent Society

June 2014

Thursday, June 5, 2014 at 7:00 PM

"Looking vs. Seeing"

Presented by Michael McNulty

For the last ten years, Michael McNulty has been coming to grips with how Nature presents herself, visually. A nature photographer (among other things), Michael has been more or less methodically documenting the look and feel of the Sonoran Desert for some time; sample images can be reviewed on his website: photos.mcnulty.net

For this presentation, he will discuss the differences between how cameras see and how humans see, and will explore the differences between what we see, and what pollinators see, and why. And he will encourage us to slow down and think as we regard the cacti and succulents of the desert. All accompanied by a geyser of images!

Please be sure to come and see this excellent program presentation from one of our long time members. Michael will present his program and we will have some fantastic refreshments, Win some great plants and receive a free plant before you go home.



Photos by Michael McNulty

TCSS Program Presentation

Thursday, July 3rd, 2014

Steven Lovecky will be presenting an excellent program on Texas cacti and other succulents.
No official title has been chosen at this time.

Meetings are held on the first Thursday of each month.



**Junior League of Tucson, Kiva Bldg.
2099 E. River Road**



President's Message

Will the next generation of volunteers please step forward?

The opportunity for new ideas, new programs and new leaders is here. An example would be our new school programs for Pima Prickly Park which will bring classrooms to the Park for a range of STEM (science, technology, engineering and math) related activities. This will be the highlight of our educational programs. You will hear a lot more about this in the next few months with a planned kickoff in the fall. You can be a part of this.

We are closing in on the 1000 member mark this month. It is very difficult to contact and engage each one of you in some activity, so it is really up to you to volunteer for something you like or want to do. You don't have to! But, if you want to take part in society activities we will make it happen.

The dates for Sonoran XI have been confirmed for April 16 & 17, 2016 with set-up occurring on April 14 & 15. This is your chance to help out on this great event. The first thing is to agree on a theme and then everything else is built around it. We will have a meeting in early fall to start the planning. I hope you will consider being part of this event.

Coming in the fall is our Good Times Silent Auction. This is a great event to volunteer for. Running several consecutive

silent auctions, sales, free plants, and food is a challenge. Join us in August at a planning meeting for this event and learn what's involved to make this a success.

Many of you have been part of the rescues and subsequent plant sales. We always need more trained cashier and help at the sales events. Getting ready for these sales is more than a one person job. There are a lot of details that have to be done to make these sales events successful. Did you know that we send out several thousand emails and close to a thousand postcards to potential buyers? This has been accomplished by a very small group of volunteers. It's time to expand and you need to be a part of this.

Each year a nominations committee is elected to find candidates for officers and board of director positions. You might be interested in running for one of these offices. The best way to become familiar with these responsibilities is to attend monthly Board meetings. They are open to all members and you are most welcome to attend.

There are many other activities being developed or already exist that need more volunteers. You can sign-up at meetings, on the website and in future newsletters. List will be available.

I got involved in 1972 and I am still excited about all the things we do and will continue doing them for the foreseeable future. I hope many of you will join in the fun.

Thank you for all the opportunities.

Dick Wiedhopf, President.

Ride Share

A number of our members no longer drive at night but would like to attend the monthly meetings. The Board of Directors will be asked to establish a program to bring together drivers and riders. We will let you know how to participate in this program starting in July.

If you have ideas or would like to participate email me at
president@tucsoncactus.org.

June Meeting Refreshments

Those with family names beginning with C, D, E, F, G, H, and I please bring your choice of refreshments to the meeting.
Your generous sharing will be greatly appreciated and enjoyed!

Trichocereus 'Flying Saucer'



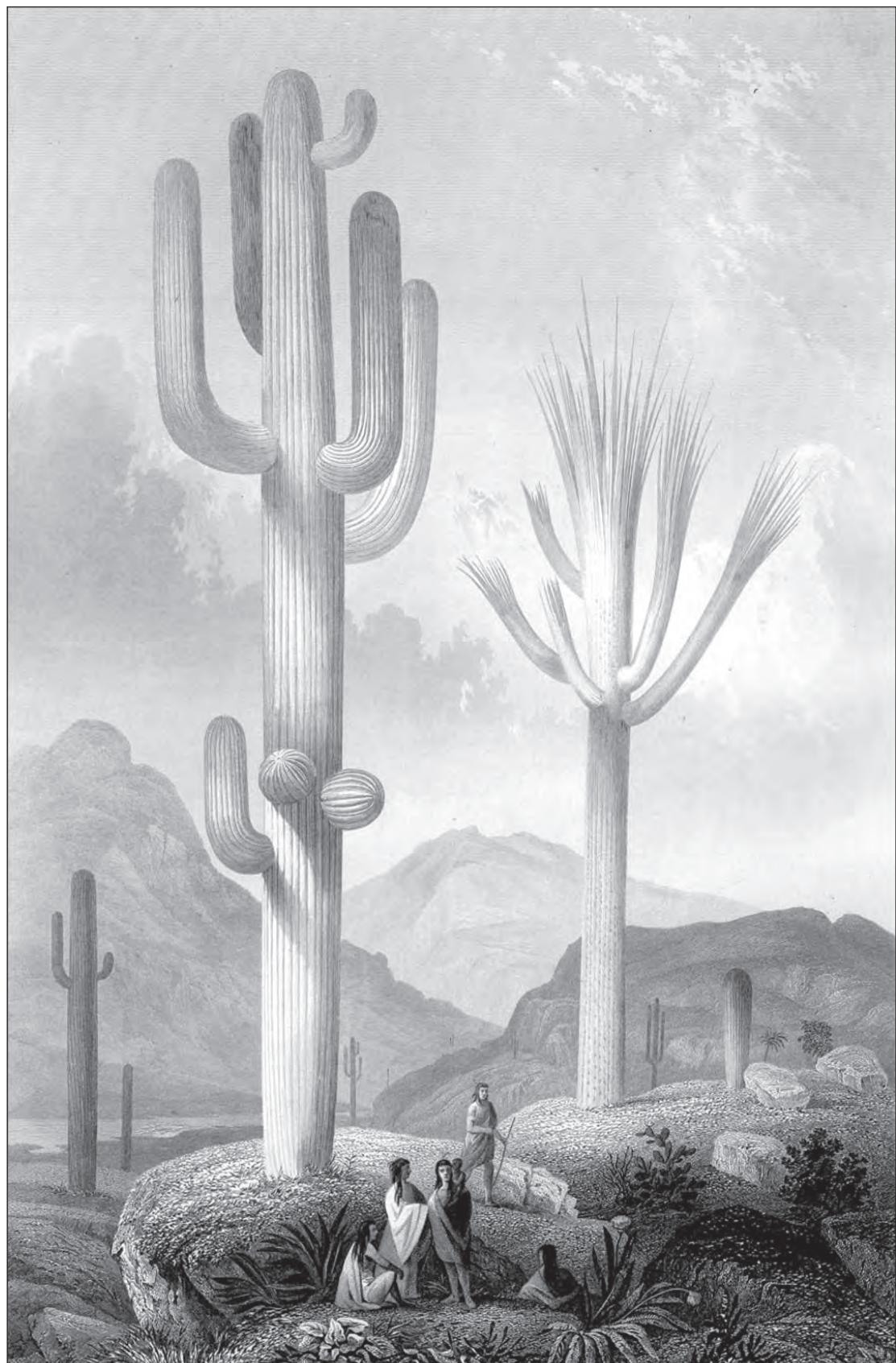
FROM THE FLORILEGIUM

Much of the botanical and landscape art that emerged from America's 19th-century surveying expeditions was not intended to be scientifically exacting. While expedition reports of the time did produce hundreds of accurate and beautiful botanical illustrations, much of the art was created simply to document the vast unexplored territories for the rest of the country. Drawings from this period are notable not for their botanical accuracy but for the impact that they had on the imagination of future settlers and travelers.

The most dramatic of these works, Paulus Roetter's "View Along the Gila / *Cereus giganteus*," was prepared for the U.S.-Mexican Boundary Survey (1859). Roetter created roughly 100 botanical illustrations for the government survey reports, but he did not travel with the expeditions, working instead from collected specimens or sketches by the field artists. His majestic rendering of saguaros was based on one such sketch by Balduin Möllhausen, one of the artists of the Pacific Railroad Survey. Roetter was a successful landscape artist, and the artistic romanticism of the day can be seen here in the idyllic setting at the base of the saguaro. What is most interesting botanically is that the drawing subtly includes the life cycle of the saguaro, from the armless spears to the multi-armed mature plant to a standing skeleton.

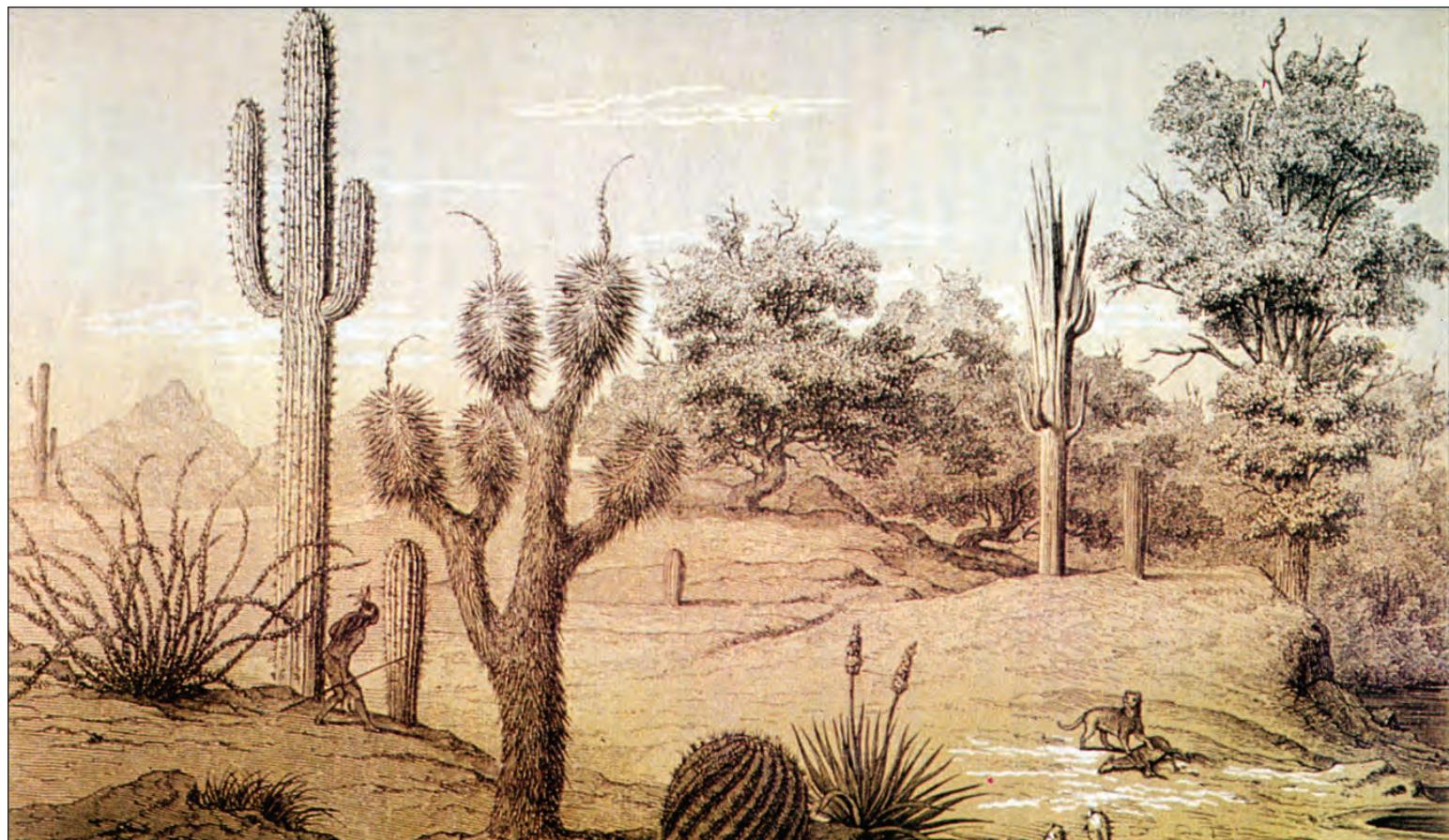
Möllhausen had little formal artistic training, but he nonetheless secured a position as draftsman and official artist for the railroad survey. In 1857 he joined the U.S. Survey of the Colorado River and later published a memoir of his travels in that expedition. One of his accompanying illustrations includes the various stages in the life cycle of the saguaro as did the field sketches he had made a few years earlier for Roetter.

The third drawing here is by Arthur Schott, another artist of the Boundary Survey. This was one of 64 scenic views along the border that were to serve as a legal record of sorts to document points along the boundary. As a topographic drawing it was not intended to be a detailed botanical portrait or even an evocative landscape, but Schott, ever meticulous and with a keen botanical interest, always strived to include in his drawings

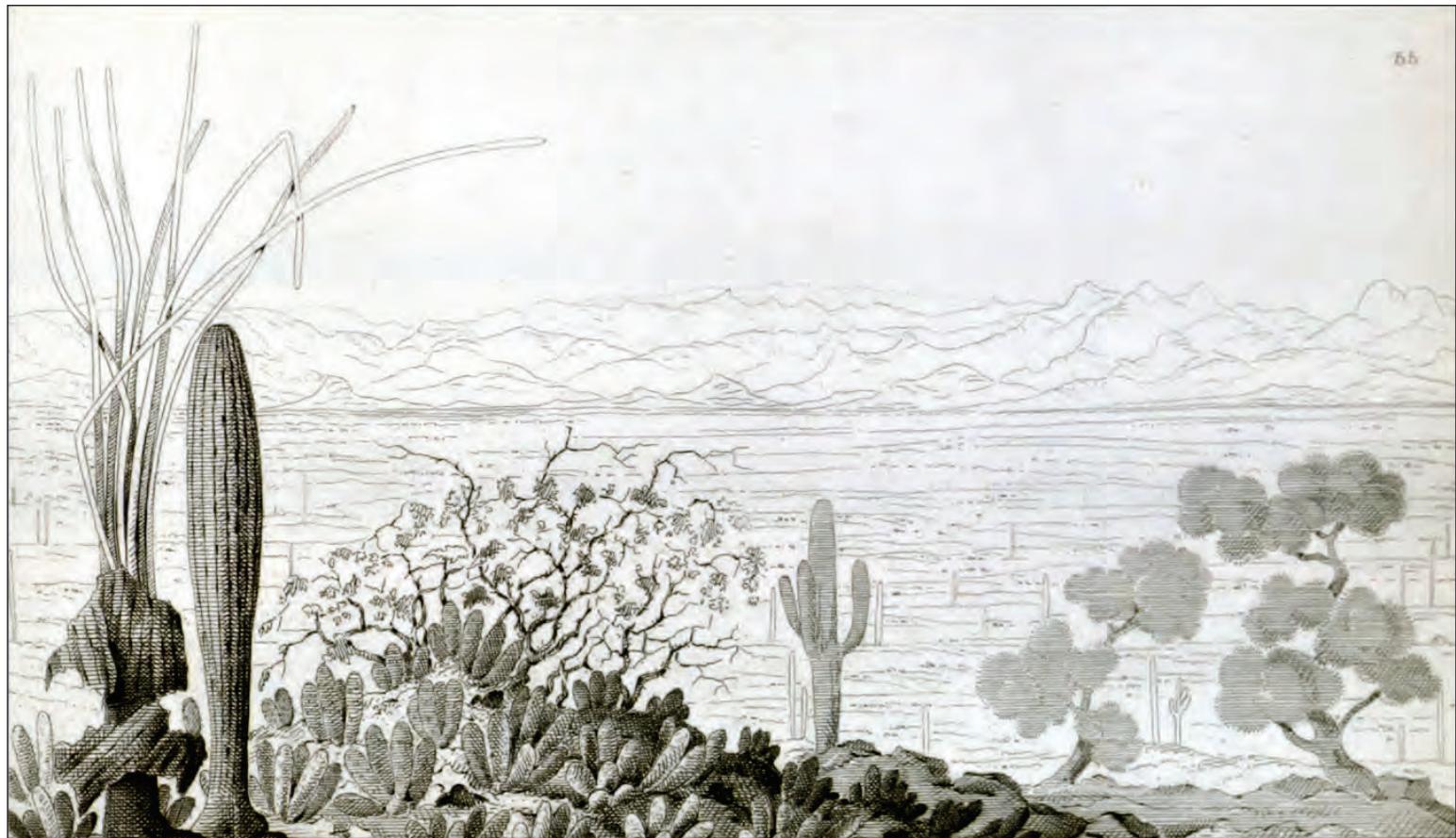


"View Along the Gila / *Cereus giganteus*"
Paulus Roetter (1806 - 1894)

FROM THE FLORILEGIUM



"Vegetation of the Rocky Desert and the Colorado Valley"
Heinrich Balduin Möllhausen (1825 - 1905)



"View from Monument No. XV on the Sierra Verde"
Arthur Carl Victor Schott (1814 - 1875)



TCSS Educational Outreach News and Ideas

"supporting the wonder full and wonderful world of cacti"

To all our TCSS members. We invite you to consider supporting our little part of this incredible organization's activities. This is not a huge time commitment nor heavy lifting and for sure... we are not all experts but we can be the spark that ignites learning in our community....outreach is FUN.

We can use your help to:

- represent the club at local events using our displays and artifacts with your enthusiasm and knowledge
- organize and set up for Novice Classes,, we need planners now for next fall,
- teach children to Build-a Cactus using our materials AND.... we provide training
- host a learning center for small group hands on learning about cactus
- host a Earth Day center at a wide variety of events we are invited to participate in.... locally of course
- assemble Build-a-Cactus kits
- evaluate school grants
- judge school science projects at the SARSEF event
- advocate and provide feedback to our "growing" outreach committee

FYI. we are currently organizing our own STEM Day at PRICKLY PARK. We expect to host several hundred students in a day long science experience that include the science and math of CACTUS. We are currently looking for feedback on our plan..... AND FOR SURE, we will be looking for volunteers to setup/cleanup and volunteer throughout the day.

PLEASE VOLUNTEER by contacting Caryl Jones at education@tucsoncactus.org or call 299-6813



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339 Rescues - 23,930 Volunteer Hours**

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times during the year based on our inventory.

TCSS Club Members receive a 10% discount

June 2014

Thursday June 5, 2014 7:00pm

“ Looking vs. Seeing”

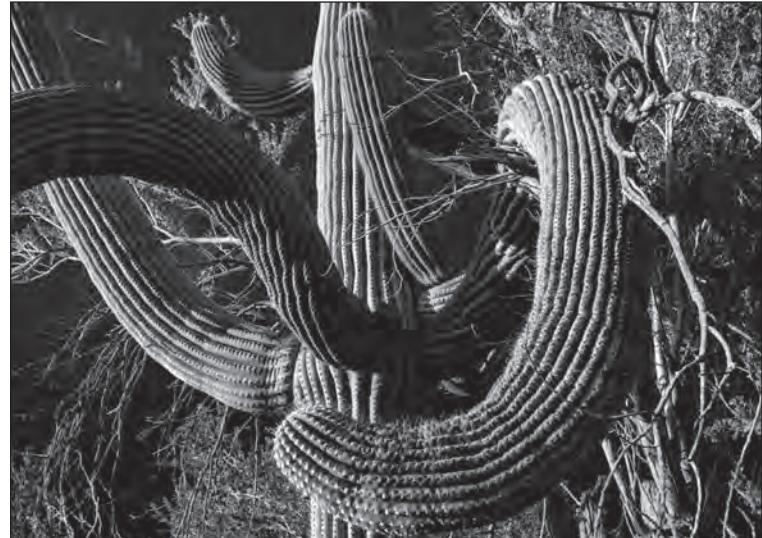
Presented by Michael McNulty

Tuesday June 10, 2014 7:00pm

Board meeting at the U of A College of Pharmacy

“Looking vs. Seeing”

Photos by Michael McNulty





Desert Breeze

Newsletter of the Tucson Cactus and Succulent Society

July 2014

Thursday, July 3, 2014 at 7:00 PM

"Stuck on Texas Cactus"

Presented by Steven Lovecky



This presentation will focus on cacti from Texas. We will begin in Central Texas and move south near Corpus Christi, westward to Laredo, Zapata, Del Rio, and on to the Trans Pecos country. We will discuss most of the nearly one hundred species of cacti found throughout the state and even highlight a few other succulents of interest. The genera discussed will include Echinocereus, Mammillaria, Coryphantha, Escobaria, Echinocactus, Ancistrocactus, Ariocarpus, Echinomastus, Epithelantha, Thelocactus, Peniocereus, Lophophora, and others.

Steven Lovecky has been growing succulents in Central Texas for over 45 years. He has had the opportunity to attend many cactus and succulent conferences across the nation and has visited most of the cacti habitats in the US. His goal is to successfully grow and propagate these amazing plants and to share his successes and failures for the benefit of others. He has spent countless hours identifying and photographing cacti throughout Texas, guiding cactus clubs and individuals, sharing the beauty of these amazing plants. Steven is one of the founders of the Central Texas Cactus and Succulent Society and is a past TACSS (Texas Association of Cactus and Succulent Societies) president. He is a member of the McLennan County Master Gardeners, serving in various offices and speaking to gardening clubs in Central Texas. Steven and his wife Darlene live in Hill County, Texas where he is actively farming and ranching.

Please come and welcome Steven Lovecky to our club! He has prepared an excellent program on Texas cacti and everyone should come out and really enjoy the evening. There will be refreshments, raffle plants, great conversation, and also, free plants for those who remain.

TCSS Program Presentation Thursday, August 7, 2014

"Speaker to be determined

July Meeting Refreshments

Those with family names beginning with J, K, L, M, N, O, and P, please bring your choice of refreshments to the meeting.
Your generous sharing will be greatly appreciated and enjoyed!

Meetings are held on the first Thursday of each month.



**Junior League of Tucson, Kiva Bldg.
2099 E. River Road**



President's Message

It's time to review all the activities that the Society does and prioritize them. Over the years we have evolved and expanded into many different areas. The question is always how much can we do and how well can we do it. Don't forget we are a 501(c)3 non-profit educational organization recognized by the IRS.

We have 11 monthly meetings and an annual meeting in December. Our regular meetings involve a speaker of interest, refreshments, free plants, door prizes, raffle plants, other sales, lots of technology, the library, membership and guest information, room rental, set-up and clean-up. There are a lot of people involved to make it work and expenses associated with this activity.

Our annual meeting of the corporation is combined with a Holiday Party buffet, election results and a gift exchange. We also give away some wonderful plants and planters at this meeting.

In 1999 we started a cactus and succulent Rescue Program. This is part of our conservation and education efforts and involves a lot of behind the scenes activities. We have a very knowledgeable group who coordinate every aspect of the process. They contact and coordinate with developers, city, county and state officials and appropriate offices, business representatives and members. A lot of work and expenses are associated with every rescue. In addition to the plants rescued and taken by participating members, many are tagged for future sales, directed to Pima Prickly Park or other such public spaces and need to be planted and maintained. Associated with this is all the preparation for sale of these rescued plants. We have several thousand emails to send out plus 1,000 addresses to be notified by postcards. We have a lay down area where the plants are stored and maintained and sales are held.

Ride Share

A number of our members no longer drive at night but would like to attend the monthly meetings. The Board of Directors will be asked to establish a program to bring together drivers and riders. We will let you know how to participate in this program starting in July.

If you have ideas or would like to participate email me at
president@tucsoncactus.org.

Every even year since 1996 we have planned and organized our Sonoran Conference which is a very large effort involving speakers, workshops, sales, show, meals, hotel costs, silent auction and an extensive set-up and take-down.

Every September is our Good Time Silent Auction, Sales and Free Plant give away plus ice creams and all the trimming. There are a lot of details association with this event to make it fun.

Our educational programs are numerous. Just to get ready for a build a cactus model it takes a whole group to gather the materials and put them together in a kit. We make about 500 kits at a time. Our novice classes have been very helpful to new members. Our real focus has been on young people to give them some extra insight into the cactus and succulent plants of the Sonoran Desert.

We have encouraged members to develop interesting activities which we support. Some only involve a few members like the Field Guide that is being published in 2015. The interest in Botanical Illustration and the Sonoran Desert Florilegium program is another group that falls under our umbrella.

Then there is Pima Prickly Park which is a major undertaking that we have a 15 year management and development agreement with Pima County. This is just at the beginning stages and needs a lot more of our support.

We have agreed to change our home tour program to once a year but it will still be one of the most popular things we do.

There's a lot more we do and this review will certainly help us to focus and prioritize.

Thank you for your support.

Dick Wiedhopf, President



© 2014 Karen Keller

FROM THE FLORILEGIUM

Many of the names of the naturalists, botanists, and officers who were part of the U.S.-Mexican Boundary Survey expedition are familiar to us because they have been commemorated in the specific epithets of botanical names: *Ferocactus emoryi*, after Maj. Wm. Emory, Boundary Commissioner, naturalist, and author of the final report; *Opuntia engelmannii*, after Dr. George Engelmann, author of 'Cactaceae of the Boundary'; *Yucca torreyi*, after Dr. John Torrey, author of 'Botany of the Boundary'; *Cylindropuntia whipplei*, after Lt. Amiel Whipple, topographic engineer; *Agave schottii*, after Arthur Schott, naturalist, surveyor, and topographic artist; *Agave parryi*, after Dr. Charles Parry, surgeon and botanist; *Datura wrightii*, after Charles Wright, botanist; *Stenocereus thurberi*, after George Thurber, botanist; and *Cylindropuntia bigelovii*, after John Bigelow, surgeon and botanist. Conspicuously missing among these many names is John Russell Bartlett.

Bartlett (1805-1886) was the U.S. Boundary Commissioner from 1850 to 1853, the years when most of the surveying and specimen collecting was completed. In 1853 the entire project was abruptly suspended and Bartlett removed from his position amid accusations of incompetence and mismanagement of funds. Given his background as a banker, bookseller, artist, and author, it's hard to imagine a more unlikely candidate to lead a large surveying party in unexplored and hostile territory, but such can be the nature of political appointments.

Bartlett's great intellectual curiosity and sense of adventure were assets in the job, but his tenure was plagued with troubles. An ongoing dispute over the location of the border of New Mexico resulted in persistent bickering and animosity among the expedition's members. To make matters worse, Bartlett made frequent personal explorations unrelated to the

official survey, and he was away from the survey teams for long periods of time. So after three years of delays and lack of resolution of the border dispute, Bartlett was removed from his post and replaced by the very experienced and capable Maj. William Emory.

During his wide-ranging travels, Bartlett made hundreds of valuable sketches of landscapes, plants, and peoples, none of which were published in the final government survey report. His companion on these explorations was Henry Cheever Pratt (1803-1880), an artist of considerable ability who had trained with the painter and inventor Samuel Morse. After being relieved of his position as Boundary Commissioner, Bartlett published a two-volume account of his adventures with his numerous pencil sketches fleshed out in ink. Pratt later refined and elaborated on some of Bartlett's sketches, such as this striking oil painting of saguaros with fruit. This work is very important in the history of the art of the Sonoran Desert as it was the first detailed rendering of the saguaro to show the plant with its flower and fruit in vivid color. (For added realism, there is an arrow buried in one of the arms.)

Bartlett's account of his journeys is highly entertaining and rich with details of his observations. In the text accompanying his sketch of the "Petahaya" (saguaro), he provides a thorough listing of all previous writers and explorers who had seen and described the giant cactus and then proceeds to give a "popular" (and perhaps better) description of the cactus than was done by either Emory or Engelmann. This memoir of Bartlett's travels along with its many illustrations can be downloaded in PDF form from the Biodiversity Heritage Library (www.biodiversitylibrary.org). -- CH

Petahaya.



"View from Maricopa Mountain Near the River Gila", 1855
Oil Painting by Henry Cheever Pratt

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For additional information call: (520) 256-2447

Everyone is Welcome!
Bring your friends, join in the fun and meet
the cactus and succulent community.



**Cacti Rescued - Since 1999
339 Rescues - 23,930 Volunteer Hours**

Please see our Website Calendar for the next rescued cactus sale. They are scheduled at various times during the year based on our inventory.

TCSS Club Members receive a 10% discount

July 2014

Thursday July 3, 2014 7:00pm

“Stuck on Texas Cactus”
Presented by Steven Lovecky

Tuesday July 8, 2014 7:00pm

Board meeting at the U of A College of Pharmacy

Pima Prickly Park Volunteers

A special thanks to the few regular volunteers who come to the park to water, plant, and make general improvements: Cathy Robson, Fred Evans, Patsy and Joe Frannea, Jessie Byrd. We now welcome two new volunteers: Lynn Pulley & Louise Kaufman

We definitely need all the help we can get especially during the summer months. If any club member is interested in volunteering at the park (on your schedule) please contact Linda Heisley at Park@TucsonCactus.org

Thanks Karen,
Linda Heisley
PPP Volunteer Coordinator

Don't forget about our **“What is it?” table!**
Bring one of your mystery plants to the monthly meeting and one of our fabulous knowledgeable members will identify it. Photos are okay, too.

Acknowledgement of Contributions

The names below represent the Tucson Cactus & Succulent Society members and friends whose donations helped make this year a success.

We extend our sincere thanks for your support.

Pima Prickly Park
Don & Madonna Toia

Arizona Field Guide
Joe & Patsy Frannea



Desert Breeze

Newsletter of the Tucson Cactus and Succulent Society

August 2014

Thursday, August 7, 2014 at 7:00 PM

"Survey of the genus Echinocereus"

Presented by Scott McMahon



Echinocereus triglochidiatus v. arizonicus

The genus Echinocereus, arguably is the prettiest in form and flower. There will be a brief description of the genus and its history and then photos of the different sections according to Hunt and Pilbeam. There will also be information about culture and pests. If some of the members would like to bring in some plants and talk about them, that would be great!

Scott is the Cactaceae Collections Manager at the Desert Botanical Garden (DBG) in Phoenix, AZ. The collection is one of the largest and most complete in the world. He received his Masters degree in Plant Protection from the University of Arizona

in 1977 and worked for 5 years in the agrichemical industry in Arizona and Southern California. Scott's father was a commercial landscaper, and Scott gained valuable experience in landscape design, installation, and maintenance working for him on and off over the years. He has also worked in the electronics industry as a technician and has held a K-8 elementary teaching certificate. He is a member of the Cactus and Succulent Society of America and also of the local affiliate, the Central Arizona Cactus and Succulent Society, where he served two terms as President. He started with the Garden as an arborist and became a Certified Arborist a year later. His current duties include caring for the Garden's extensive cactus collection, including numerous succulents from other families. Scott is an instructor in the Desert Landscaper School, teaching classes in both English and Spanish on desert trees, the Cactus Family, and on other succulents.

Scott has presented programs to our club on other occasions so please welcome him back. Learn a little more about this great group of plants, win a nice plant and even stay for a free plant when you go home. Please be sure to come and welcome Scott back to Tucson.



Echinocereus rigidissimus v. rubispinus

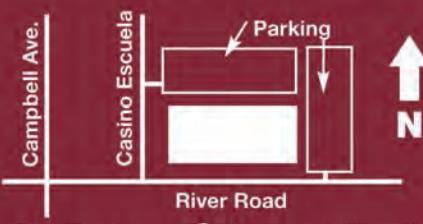
TCSS Program Presentation Thursday, September 4, 2014

"Euphorbia"
presented by Peter Walkowiak

August Meeting Refreshments

Those with family names beginning with Q, R, S, T, U, V, and W, please bring your choice of refreshments to the meeting.
Your generous sharing will be greatly appreciated and enjoyed!

Meetings are held on the first Thursday of each month.



Junior League of Tucson, Kiva Bldg.
2099 E. River Road



President's Message

Five great cactus rescues took place this July. Four were at a site to be developed by our rescue partner Maracay Homes. On July 12 and 13 we coordinated the rescue with the Oro Valley "Save a Plant" program and on July 19 & 20 we finished up with our rescue crew on this site. The effort of more than 200 people saved 2,659

cacti. Joe and Patsy Frannea , who coordinated these rescues, and I thank all of you who participated. This was a great effort and it filled up our holding area for the August 17, Blooming Barrel Sale. There are more detail in this newsletter about the sale and a reminder will be sent by email and postcards. I hope to see you there.

The fifth rescue was held on July 13 south of Sasabe, AZ near the Mexican border. Special arrangements were made to allow us the opportunity to save some very special plants including a large quantity of Agave parviflora. This is one of the smallest members of the agave family. A 60 mile pipeline is being installed that included this area of interesting plants. We only had a 150 ft area to work in and were monitored by some great folks to make sure that we did not disturb any areas outside this boundary.

One group headed north from the parking area and the group I was in headed south. The search was on and fortunately John Durham (Board Member who helped arrange this rescue) had GPS coordinates for plants of interest. This was part of his day

job and had spent a lot of time walking the area, and was familiar with where many of the plants were located. We walked and collected plants over very rough terrain till we were as close to the Mexican border fence as legally allowed.

It was a very emotional feeling to see that fence. As we looked to the East we could see that a storm was coming. The lightning and thunder was a wake-up call that we better get back to the cars and tagging area asap. It was a long walk back with wheel barrows filled with plants and all the digging equipment. Of course we stopped now and then to dig an additional plant or so. As the cars came in sight the sky opened up and our group was drenched. We got under the tagging tent just as the hail started. So we decided to packed up quickly and head up to Three Points to tag the plants. The dirt road to get to the highway was so slippery that all the cars and trucks were sideways sliding around the road but we all made it safe to the highway. Traveling up the road to Three Points another heavy rainstorm came across the road and wiped out all visibility. Quite a group of storms. Obviously we made it through and at Three Points it was clear, sunny and hot. We dried out quickly, tagged and sorted plants and headed home.

It was a ten hour journey that puts a smile on my face and a good feeling that it was worth the effort to save some very special plants.

Thanks to everyone who made this journey.

Dick Wiedhopf, President

2014 Blooming Barrel Sale Sunday, August 17th from 7:30 am to 11 am

Gates open at 7:00 am – Vendor Sales start at 7:30 am, Rescued cactus at 8:00 am
Location is 4342 N. 4th Ave (first street west of 1st Ave and just south of Wetmore)



We have invited our Member Businesses to sell with us at the side of our sales area. They will start selling by 7:30 am and they collect their own money (most require cash or checks).

Come early for best selections, rescued cactus sell very quickly.

Rescued Cactus Sales start at 8:00 am. Entry numbers will be handed out starting at 7:00 am, initially limiting access to rescued sales area starting at 8:00 am (about 15 customers at a time). All cacti sales for the first 30 minutes will have limits of 2 each type of cactus per customer. We have about 200 Barrels, 400 Hedgehogs, 100 small Saguars (under 20" tall), 450 Mammillaria (pincushions) and 10 Cholla. We will load the cactus in your vehicle for you. Heavy gloves available for \$12/pair. We accept cash, checks and credit cards.

FROM THE FLORILEGIUM

Some of the most challenging subjects for botanical artists are plants with white flowers. Traditional botanical art is presented on a white background, and painting white flowers that will stand out against that background is not easy. Even more challenging are the white night-bloomers whose luminance can't really be conveyed on white paper. In both instances, one solution for artists is to use scratchboard, a non-traditional medium with a black background.

Scratchboard, or scraperboard, was used in the nineteenth century as an economical alternative to the intaglio printing process. Instead of engraving on expensive metal plates such as copper, steel, or zinc, artists used a hardboard support covered with a layer of white clay or chalk and finished with a layer of black ink. Scraping off the black layer revealed the white below. This method, widely used in publishing until the 1950s, has become popular again with artists who now use the etched boards as the final piece of art and not as a printing plate. After the black ink is removed from a drawing, the artist has the option of adding colored ink or watercolor to the white areas. Because it is possible to produce extremely fine detail with a variety of sharp implements (X-acto or scalpel blades, needles, metal brushes), scratchboard has become very popular with wildlife artists for rendering fur and feathers. While it is less frequently used for botanical art, it can produce very detailed and intricate works.

Susan Ashton's "Mexican Gold Poppy (white variation)" is a perfect example of the usefulness of scratchboard in depicting white petals. The white variation of the poppy is unusual in itself, and placing the flower against the black background creates even more interest for the viewer. The artist has added watercolor to all parts of the plant except the white petals. In "Sphinx Moth and Datura wrightii", Joyce Peters has used scratchboard to excellent effect to capture the magic of the moonlit night-bloomer and its pollinator.

Both of these works were part of the Southwest Society of Botanical Artists' exhibition, "Portraits of Nature - Blending Science and Art", a juried exhibit of 57 works shown in 2013 at ASU's Polytechnic Campus Library. Additional works in scratchboard, including the night-blooming Periocerues greggii, can be seen on Susan Ashton's website. Her "Ferruginous Pygmy Owl" shows how well-suited scratchboard is for portraying the fine detail of feathers (<http://sashtonart.com/Scratch%20Board.html>).

The Arizona Sonora Desert Museum is currently exhibiting the scratchboard works of artist John Agnew. The subject of his work is natural history (although not botanical), and the exhibit is an excellent opportunity to see the amazing results that can be achieved with this medium. The exhibit in the Ironwood Gallery runs until September 7, 2014. --CH

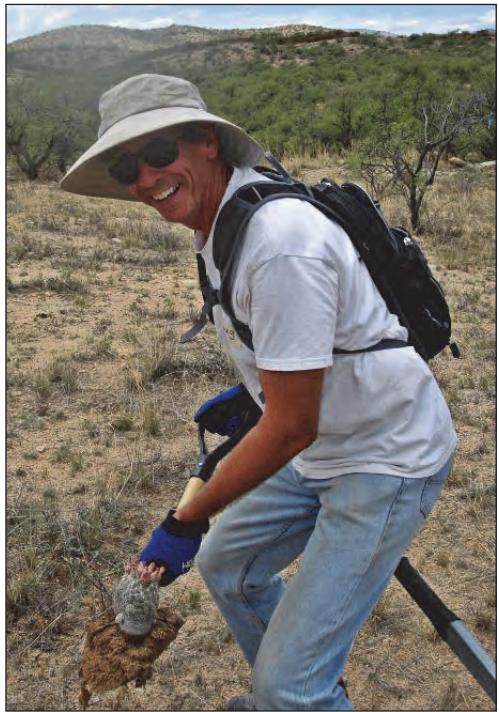


"Mexican Gold Poppy (white variation),
Eschscholzia californica subsp. *mexicana*"
© Susan Ashton 2011
Scratchboard with Watercolor



"Sphinx Moth and Datura wrightii"
© Joyce Riney Peters
Scratchboard

La Osa Wash Rescue



Good Time Silent Auction
Sunday, September 14, 2014
Junior League Building • 2099 E. River Rd • 3:00pm to 5pm

You can say good bye to the summer heat and a so so monsoon and hello to the wonderful fall planting time. This event has been a Tucson Cactus & Succulent Society tradition for more than 50 years.

This is a celebration: Silent Auctions, Free Plants, \$2, \$5, \$10 Sale Tables and Ice Cream with all the toppings. Bring your excess plants, pots etc for the free plant tables. All we ask is that your plants are free of disease and insects. Better plants will go on the \$2.00, \$5.00 and \$10.00 tables and special plants for the silent auctions, your choice.

Bid sheets and price stickers will be available at the September meeting, at the event and on our website for your convenience. The Board has adopted the same policy as we had at Sonoran X with a high value special silent auction plants. These items will have an opening minimum bid of \$20.00 or more set by the donor. If the item sells for at least the opening bid the donor receives the opening bid price and any amount above that goes to the society. We will have a number of special plants from Texas and recent rescues.

In the past, we have had at least 3 separate silent auctions during the afternoon. Pots, plants, special cuttings, books, tools etc. are welcome donations for these silent auctions. Free Plants will be available starting a 3:30pm in order to give everyone an opportunity to take some home. We will start the set-up at 1:00pm and the party will start at 3:00pm with the first silent auction ending at about 3:15pm and then about every 25 minutes there after. All you have to do is sign-in, get a bid number and then keep bidding until you hear "PENCILS DOWN".

We need volunteers for set-up, sales, and clean-up. Come help and have fun, ask questions, talk with friends, etc., etc., Please feel free to bring your family and friends to this event. You don't have to be a member or bring plants or buy them, just come and enjoy the event. Everyone is welcome. More information will be available at www.tucsoncactus.org or call (520) 256-2447.

2014 Sonoran Desert Master Gardener Conference

**Presented by: The University of Arizona College of Agriculture and Life Sciences
Cooperative Extension Master Gardener Program**

**Thursday, September 11, 2014 for a day of Tours
Friday, September 12th 2014 for a day of Lectures**

Casino del Sol

5655 W. Valencia Road, Tucson, AZ 85757

We are pleased to announce our 2nd annual Sonoran Desert Master Gardener Conference. This year the conference is open to everyone. In addition to being a wonderful opportunity for continuing education for Master Gardeners of Arizona, we are making the conference available to everyone interested in learning about trees, gardening techniques, eco-design and the good and bad insects that live in your yard and gardens.

If you have any questions, please contact:

Laura Mellow - l_mellow@yahoo.com

Wanda Bentley - bentlew@aol.com

Epithelantha micromeris

Epithelantha micromeris has been known to exist in Arizona for more than a century. Lyman Benson in *Cacti of Arizona* sited Cyrus Pringle (*Pachycereus pringlei*) as the first to collect this species in 1884. Benson gave locations as both Cochise and Santa Cruz Counties. W. Hubert Earle in *Cacti of the Southwest* also mentions both counties for occurrence. Subsequently other printed material and most online sites have repeated that assertion. The Santa Cruz Co. site is mostly likely incorrect. The reference is to the Mustang Mts. where Gene Joseph and others have conducted extensive surveys without locating the cacti.

Based on information from Pierre Fisher (*author of 70 Common Cacti of the Southwest*) and with funding from a grant program through the Arizona Sonoran Desert Museum, Gene Joseph conducted surveys for Epithelantha micromeris in the Dragoon Mts. in the early 1980's. He found concentrations of plants in at least two locations, and approximately 100 plants were recorded. Gene Joseph stated that nearly 10% of these were crested.

While there has been recent sparse information that this species still prevailed in the Dragoon Mts for purposes of including Epithelantha micromeris in the TCSS Cacti and Other Succulents of Arizona book it was deemed necessary for our group of authors to relocate this plant. Following detailed

directions from Matt Johnson a group including Rob Romero, John Durham, Maria Voris and Thomas Staudt ventured to the Dragoons June 21 to confirm that the plants had indeed survived the recent summer drought and cold winter conditions. To be honest we were not totally optimistic over the chances of finding the cactus. However once in the correct habitat in approximately two hours of searching we located 19 plants, two of which were crested.

Epithelantha micromeris is a plant of the Chihuahuan Desert, commonly found from Big Bend well into New Mexico. The closest population to the Dragoons is over 200 miles to the east. E. micromeris favors limestone shelves at 5,500-5,800 ft. in Arizona. It is known for having one of the smallest flowers in the cactus family. The plant is self-fertilizing and produces a bright pink fruit. The seeds are considered proportionally large. Seed dispersal may be by birds and small animals attracted by the fruit color. However a dehiscence of mature fruit is the most common method of dispersal. Plants are easily grown from seed and are available at Plants for the Southwest as well as other local nurseries.

The scientific name Epithelantha refers to flowering upon the tubercles. Micromeris refers to small parts, particularly the flower. As with all cactus in Arizona these plants are protected by state law.



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345 Rescues - 24,470 Volunteer Hours**

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August 2014

Thursday, August 7, 2014 7:00pm

“Echinocereus”

Presented by Scott McMahon

Tuesday, August 12, 2014 7:00pm

Board meeting at the U of A College of Pharmacy

Sunday, August 17, 2014 7:30am to 11:00am

TCSS Cactus Rescue Blooming Barrel Sale

Gates open at 7:00 am – Vendor Sales start at 7:30 am,
Rescued cactus at 8:00 am

Don't forget about our “What is it?” table!

Bring one of your mystery plants to the monthly meeting and one of our fabulous knowledgeable members will identify it. Photos are okay, too.

Acknowledgement of Contributions

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We extend our sincere thanks for your support.

General Fund
Elaine M Smith

GIGANTIC IRIS RHIZOME SALE

Sponsored by

Tucson Area Iris Society

WHEN: Saturday, September 20TH

WHERE: Harlow Gardens, 5620 E. Pima

HOURS: 10 AM - 4 PM

**For more information please contact:
MAXINE at 743-7993, OR tucsoniris.org**



Desert Breeze

Newsletter of the Tucson Cactus and Succulent Society

September 2014

Thursday, September 4, 2014 at 7:00 PM

"Flora Oaxacana: A different perspective on the succulent and xeric plants of Oaxaca, Mexico"

Presented by Andy Siekkinen



Hechtia isthmusiana AS292

The landscapes and climate zones of the southern Mexican state of Oaxaca is large and diverse. Not surprisingly, the diversity of its flora is equally impressive. Andy will show many of the ecosystems found in the state as seen

and do in Mexico. Food is always of interest and the different regional styles of cooking will never get boring. There is an active fostering of the arts, both modern and traditional. The cultural depth can be seen by the numerous and wonderful ruins to even the methods of regional artisanal crafts that continue to honor traditional methods. Trained as a lab nanotechnology chemist, Andy has continued his earlier 'citizen scientist' biology work and applied it to the bromeliads of Mexico. Focusing on the oft ignored genus *Hechtia*, a group of bromeliads that are almost entirely found within Mexico. Along with the likely discovery of some new species, he has begun the molecular phylogenetic study of the genus using the Next Generation

Sequencing methods - using the plants DNA to study the evolutionary history and relationships of these plants. Andy Siekkinen is a shameless plant adventurer and researcher who loves exploring the natural world. Now organizing botanical and cultural adventures exploring the wonders of Mexico. Scientist, adventurer, researcher, tour guide. Please be sure to come and enjoy an excellent presentation by an exceptional speaker. We will have lots of food at the break, excellent raffle plants and FREE plants upon departure.



Hechtia rubicunda AS130

TCSS Program Presentation Thursday, October 2, 2014

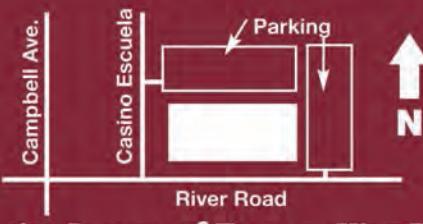
Presentation by Joe Shaw

Program title not yet available

September Meeting Refreshments

Those with family names beginning with X, Y, Z, A, B, C, and D, please bring your choice of refreshments to the meeting. Your generous sharing will be greatly appreciated and enjoyed!

Meetings are held on the first Thursday of each month.



Junior League of Tucson, Kiva Bldg.
2099 E. River Road



President's Message

Cacti and succulent plants have been a passion with me for more than 60 years. I grew up in the Los Angeles area where growing succulent plants was amazing. You could put small cutting in the ground and the next week it was tree like (obviously it took more than a week, sometimes 2 weeks). We had a neighbor with a large lath house who grew epiphyllums and when they were in bloom he would invite me over to see them. They were amazing and he was so pleased to have a young person appreciate them. That was a lesson I never forgot. A great deal of the pleasure in growing cacti and succulents comes from sharing them with others. I am probably about his age now and understand the lifelong enjoyment that these plants have given me.

I have grown successfully or failed miserably with most available cacti and succulents. Certainly the failures have been costly both personally to my ego and monetarily to the pocket book. There are plants that I just can't grow and I have learned my lesson and just don't grow them. The ones that do well just keep enthusiasm up.

Tucson is the only place to live if you are a cacti and succulent nut. We have the very best individuals growing these plants and making them available to the public. What is so unique about Tucson is that many of our nurseries grow their plants from seed. They are famous for growing unique plants or just wonderful specimens of popular plants. There must be something special about growing cacti and succulents from seed. I have discovered the secret. It is just an amazing process. It starts by acquiring seeds. You can buy them, harvest them from your own plants or get them from friends. The hope is that one seed will produce a very special specimen that you always dreamed of owning.

Then there is the process of germinating the seeds. There are hundreds of techniques and the challenge is to find one that works for you. Then find the one that works better. Then find one that works best with the seeds you have. Then find one that works better than that, etc. etc, and so on. It is a constant trial and error constantly improving the process and pretty soon if you are not careful you wind up where you started with one that works for you.

Once the seedlings are growing you are like a mother hen watching over her chicks. Keeping them growing well as they are changing and maturing. The time passes quickly and you are faced with the decision of which seedlings to transplant and grow on and which to discard. Let me warn you about two things. First of all you planted to many seeds so you have more seedlings than you can possibly deal with and secondly, they are all special and how can you discard any of them. Welcome to the joy of growing from seed. This is where nature, size of your property and spouses really mater. "What are you going to do with all those-you not going to plant all of those in the yard are you?" Enough said.

You are going to be fortunate enough to have several seedlings that really make the process worthwhile and you can focus your attention on them. They are special. The others will just pass away from unintended neglect. These special plants are grown to maturity the real enjoyment is seeing them flower and hopefully get pollinated by you or insects so that seeds are produced and the process can start again. It really is a personal triumph to grow a cacti or succulent from seed to maturity, flower and seed production. I'm hooked.

Thanks for indulging me.

Dick Wiedhopf, President.

Good Time Silent Auction Sunday, September 14, 2014

Junior League Building • 2099 E. River Rd • 3:00pm to 5pm

You can say good bye to the summer heat and a so so monsoon and hello to the wonderful fall planting time. This event has been a Tucson Cactus & Succulent Society tradition for more than 50 years.

This is a celebration: Silent Auctions, Free Plants, \$2, \$5, \$10 Sale Tables and Ice Cream with all the toppings. Bring your excess plants, pots etc for the free plant tables. All we ask is that your plants are free of disease and insects. Better plants will go on the \$2.00, \$5.00 and \$10.00 tables and special plants for the silent auctions, your choice.

Bid sheets and price stickers will be available at the September meeting, at the event and on our website for your convenience. The Board has adopted the same policy as we had at Sonoran X with a high value special silent auction plants. These items will have an opening minimum bid of \$20.00 or more set by the donor. If the item sells for at least the opening bid the donor receives the opening bid price and any amount above that goes to the society. We will have a number of special plants from Texas and recent rescues.

In the past, we have had at least 3 separate silent auctions during the afternoon. Pots, plants, special cuttings, books, tools etc. are welcome donations for these silent auctions. Free Plants will be available starting a 3:30pm in order to give everyone an opportunity to take some home. We will start the set-up at 1:00pm and the party will start at 3:00pm with the first silent auction ending at about 3:15pm and then about every 25 minutes there after. All you have to do is sign-in, get a bid number and then keep bidding until you hear "PENCILS DOWN".

We need volunteers for set-up, sales, and clean-up. Come help and have fun, ask questions, talk with friends, etc., etc., Please feel free to bring your family and friends to this event. You don't have to be a member or bring plants or buy them, just come and enjoy the event. Everyone is welcome. More information will be available at www.tucsoncactus.org or call (520) 256-2447.

FROM THE FLORILEGIUM

Today's landscape designers can't seem to get enough of the slipper plant, *Euphorbia lomelii* (formerly known as *Pedilanthus macrocarpus*). What used to be found only in gardens of dedicated plant enthusiasts is now commonplace and can even be seen in mass plantings in commercial landscapes. But while gardeners and designers have fallen in love with this unusual plant, it remains a rare subject for botanical artists.

The first botanical illustration of the slipper plant was prepared for "The Botany of the Voyage of the H.M.S. *Sulphur*" (1844). Collected near Mexico's Bay of Magdalena in 1837, the specimen sailed about the oceans for several years before finding its way to England and into the private herbarium of the botanist George Bentham. Bentham named the plant *Pedilanthus macrocarpus* and described it in the botanical report of the expedition with an accompanying illustration by Sarah Anne Drake. Drake (1803–1857) provided a total of sixty highly detailed drawings of plants from the *Sulphur*'s Pacific explorations, all of which bear the attribution "Drawn from Nature and on Stone by Miss Drake."

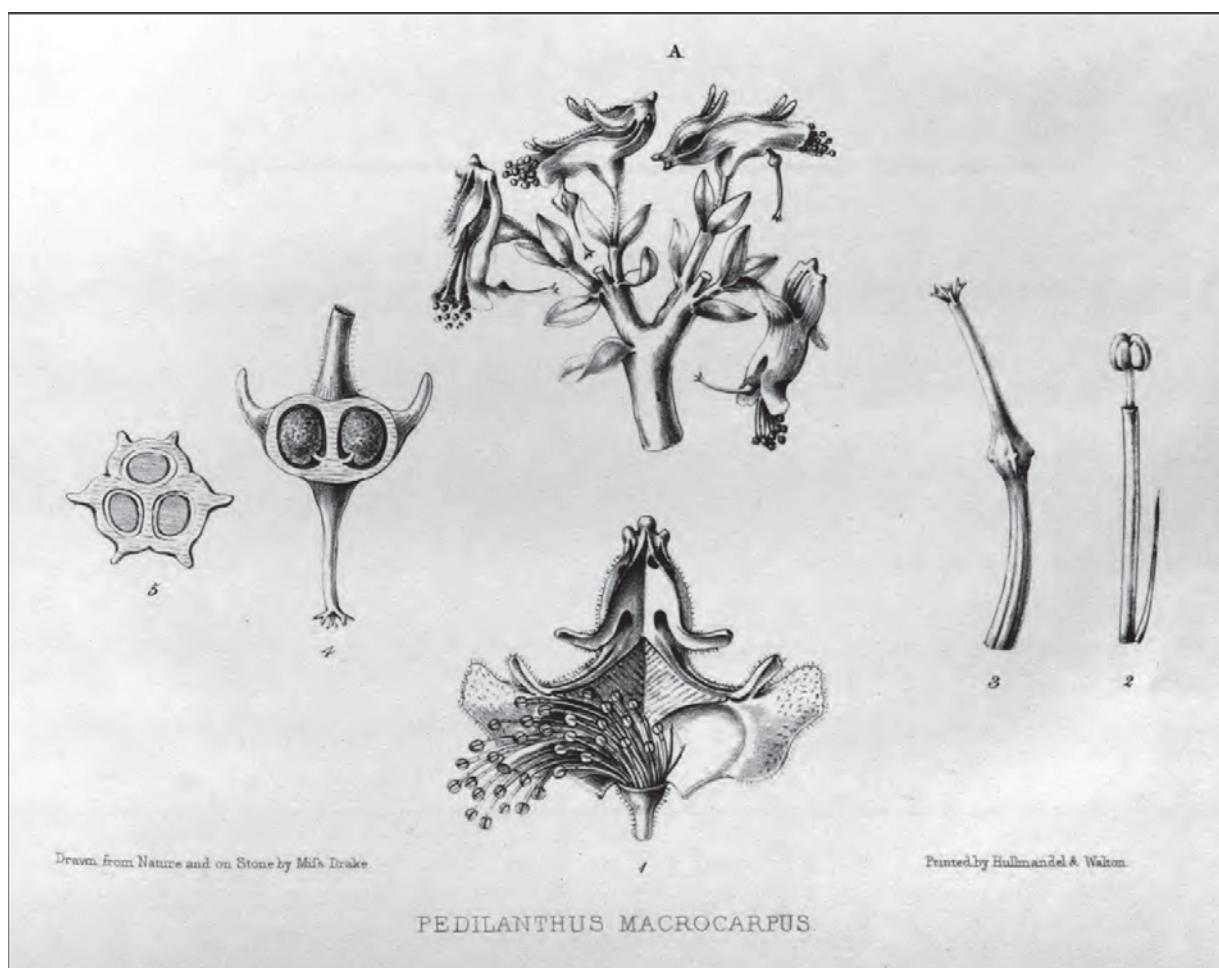
Drake's career as a botanical illustrator was notable but lasted only sixteen years. After studying in Paris she was hired by the famous orchidologist John Lindley as governess and assistant. Lindley, an accomplished artist himself, trained Drake to draw from both living and pressed botanical specimens, and she quickly developed considerable skill. She illustrated Lindley's textbook *Ladies' Botany*, and many of her works appeared in the prominent periodical *The Botanical Register*. Orchids became her specialty, and the most significant paintings can

be seen in James Bateman's *Orchidaceae of Mexico and Guatemala* and Lindley's *Sertum Orchidaceum*. *Drakaea*, the genus of "hammer orchids" of Australia, was named by Lindley in recognition of Drake's artistry.

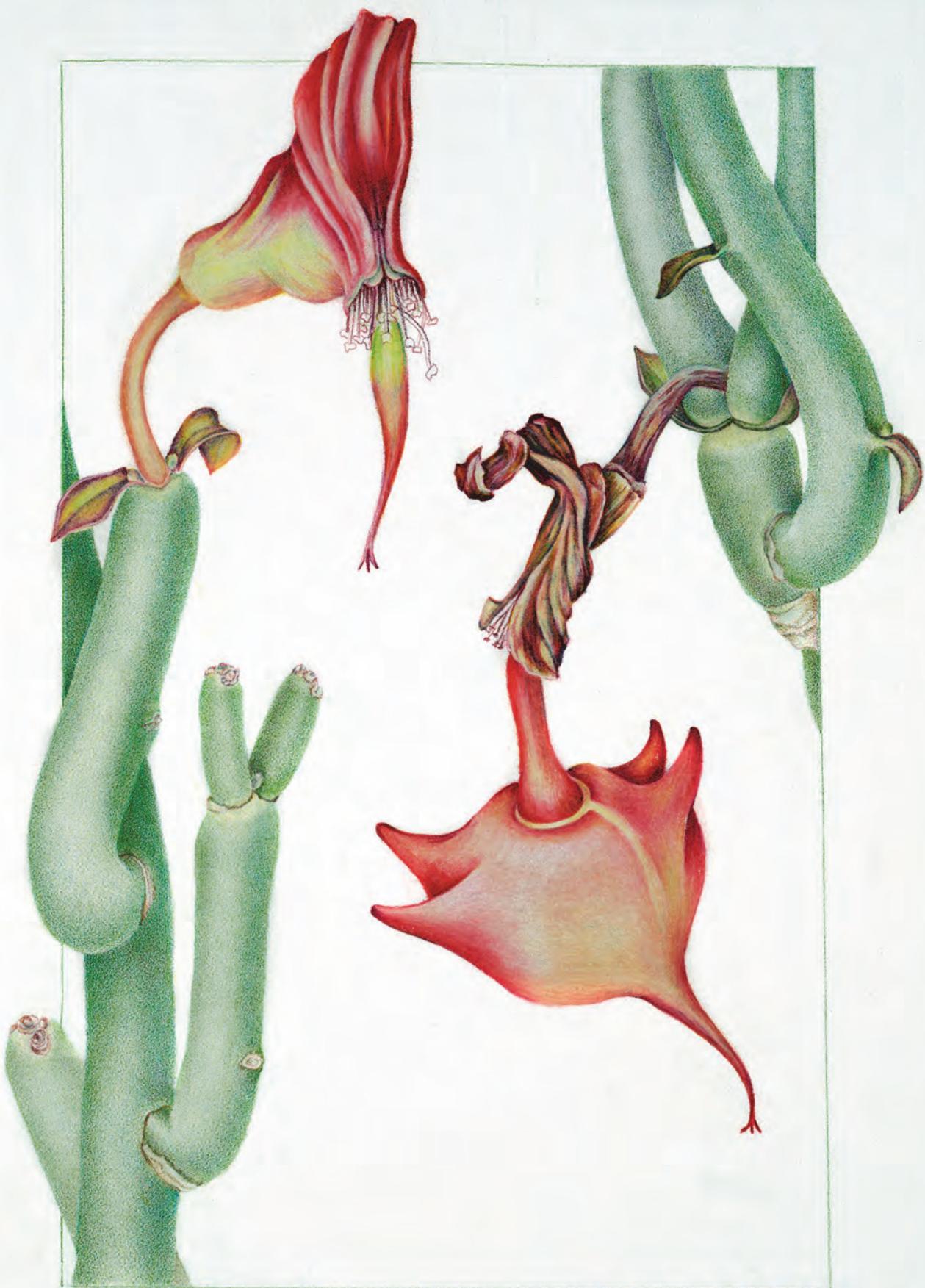
In a very short career "Miss Drake" created over 1300 drawings and paintings before leaving Lindley's employ in 1847 to care for relatives. She married in 1852 and died five years later at age 54. Drake did not receive the recognition that came to so many English botanical artists of the time. Her orchid paintings for Bateman's *Orchidaceae* are considered to be extraordinary, yet she remained relatively unknown, while her co-illustrator for the work, Augusta Innes Withers, was appointed Flower Painter to the Queen.

Shown here is Drake's finely detailed illustration of the slipper plant. The dominant image is a cutaway of the involucle to reveal the many male flowers, and to the right of that are enlargements of male and female flowers. At the top of the drawing is the habit of a flowering stem, and to the left are sectional views of a mature fruit.

While Drake's illustration was prepared to accompany Bentham's text, Margaret Pope had no such constraint for her colored pencil portrait of the slipper plant. Her inventive presentation draws the viewer's focus to the flower and fruit and then frames them with the stems. In a compact space, Margaret gracefully and efficiently brings this fascinating plant to life. --CH



Pedilanthus macrocarpus
Sarah Anne Drake (1803-1857)
Lithograph
From "The Botany of the
H.M.S. Sulphur", 1844



mmapope

Another Great Annual Blooming Barrel Sale

The weather was perfect on Sunday morning with over 1,200 rescued cactus waiting patiently for new homes. The 8 am start time gave the Fishhook Barrel cactus buds a chance to begin to open to show their true colors. The traditional oranges were complimented with some towards yellow and other barrels towards red. Sizes ranged from 6 inches to 24 inches tall, no buds to 20 buds.

In a few hours we sold over a thousand cacti bringing in \$10,000 with our profit about \$5,700. Twenty-five percent of our profits are earmarked for Education Outreach , K-12 Arizona Schools. The balance is used for other TCSS educational activities including funding our monthly programs. Our inventory is almost zero having sold 140 Saguars, 260 Barrels, 200 hedgehogs, 14 Cholla and over 500 Mammillaria. It is not likely we will have another sale this year but we never know when the next big cactus rescue will be either, the phone might ring tomorrow. We only sell the rescued cactus at our public sales. Sales are scheduled when we collect enough inventory to warrant a sale.

A BIG thanks to 46 TCSS volunteers who worked the sale, making it go very smoothly for 155 customers. The effort required to rescue and sell cactus is more than one might think. It is estimated TCSS members contributed about 600 man-hours to make the Blooming Barrel sale happen which includes rescue operations preparation work, rescues for the plants sold, maintenance of plants until the sale, sale holding site maintenance, sale preparations and setup, sale day workers, and post sale activities including accounting, sorting and putting items away for the next sale.



How to load a cab with lots of cactus, yes they all fit



When to leave your spouse at home so you can get a big barrel in the front seat



Acknowledgement to our recent Partners, sign at the "Get Entry Number Here" station

**TCSS BOARD
Officers**

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Vice President: Vonn Watkins • vp@Tucsoncactus.org

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secretary@Tucsoncactus.org

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board@Tucsoncactus.org
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Free Plants: Donna Ellis • plants@Tucsoncactus.org

Floilegium: Margaret Pope • art@Tucsoncactus.org

Librarian: Joie Giunta • librarian@Tucsoncactus.org

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www.tucsoncactus.org

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For additional information call: (520) 256-2447

Everyone is Welcome!
Bring your friends, join in the fun and meet
the cactus and succulent community.



Cacti Rescued - Since 1999 345 Rescues - 24,470 Volunteer Hours

Please see our Website Calendar for the next rescued cactus sale. They are scheduled at various times during the year based on our inventory.

TCSS Club Members receive a 10% discount

September 2014

Thursday, September 4, 2014 7:00pm

"Flora Oaxacana: A different perspective on the succulent and xeric plants of Oaxaca, Mexico" presented by Andy Siekkinen

Tuesday, September 9, 2014 7:00pm

Board meeting at the U of A College of Pharmacy

Sunday, September 14, 2014 3:00pm to 5:00pm

Good Time Silent Auction at the Junior League Building,
2099 E. River Rd., Tucson, AZ

Don't forget about our **"What is it?" table!**

Bring one of your mystery plants to the monthly meeting and one of our fabulous knowledgeable members will identify it. Photos are okay, too.



Along the road near Lake Mead, in northwestern Arizona



Desert Breeze

Newsletter of the Tucson Cactus and Succulent Society

October 2014

Thursday, October 2, 2014 at 7:00 PM

"Small opuntias of the USA"

Presented by Joe Shaw



Opuntia camanchica

Joe received a BA in Botany from UC Santa Barbara and a PhD in Plant Pathology from UC Davis. For a while he was on the research and teaching faculty of Auburn University in Alabama. Later he moved to the biotechnology industry and worked on mammalian genomes and



Opuntia nitens

knockout mice. Over time he improved his writing skills and now is a scientific writer.

"I've studied opuntias for about 15 years and am still learning."

This will be Joe's second visit to our club so be sure to come and welcome him back to Tucson. There will also be some good food, great raffle plants and some nice free plants! We will have enough free plants for everyone.

TCSS Program Presentation Thursday, November 6, 2014

"Out and Back, Adventures on the Arizona Cacti and other Succulents Field Guide Trail"

Presentation by Peter Breslin, John Durham, Rob Romero, Greg Starr, Thomas Staudt and Vonn Watkins

October Meeting Refreshments

Those with family names beginning with E, F, G, H, I, J, and K, please bring your choice of refreshments to the meeting.

Your generous sharing will be greatly appreciated and enjoyed!



Opuntia trichophora

Meetings are held on the first Thursday of each month.



Junior League of Tucson, Kiva Bldg.
2099 E. River Road



President's Message

Again this year we have well over 1,000 members making us the largest local Cactus and Succulent Society in the world. We live in the very best location to enjoy our hobby and are supported by outstanding political leaders, world famous scientists, renowned nurserypersons and great hobbyists.

Things can't be better except for the fact that we are all getting older and are slowing down. Don't worry, we are not stopping but it is time to think about the future.

To that end the officers, board of directors and committee chairpersons will be adding an extra hour to our Board meetings so we can spend that time evaluating all the things we do and planning for the future. These will be real strategic discussions which will assist in the direction our society should take in the future.

Our first strategic session will look at our rescue program and related activities such as Pima Prickly Park and rescue sales. The rescue program has been the heart of the society for the last 15 years. We need to make sure that it is healthy and beating strongly. This program contributes so much to the success of

our society that we really have to examine all aspects to make sure that it survives and flourishes.

As most of you know, the rescue program gave birth to Pima Prickly Park. It is the most important funding mechanism of our society. Our educational, conservation, research and outreach efforts are dependent on the flow of money and plants from rescues to the society's activities. We are eternally grateful for the support from Pima County, mining and other large business activities, the development community and the general public.

What are your thoughts and concerns about the rescue program and the other activities it supports? It requires equipment and people to make it work. How can we insure that these will be available in the future? Do we want to buy or rent this equipment and is storage space necessary? There is a lot of activity behind the scenes that has to be accomplished for each rescue. For example: negotiating a rescue site, surveying the site for plants to be rescued, obtaining signed permits and plant tags, date, time and notification of the crew and that's the easy stuff.

I encourage your input. Please email us (emails are on the back page of this newsletter).

Thanks as always for your continued support.

Dick Wiedhopf, President.

Nominations for Board of Directors and Officers

An elected nominations committee, chaired by Dale Johnson, is seeking anyone interested in standing for election for one of the four (4) open seats on the Board of Directors (a 3 year term) or for one of the officer positions (a 2 year term).

A slate of candidates will be presented at the November 6, 2014 meeting and nomination from the floor will also be accepted. A mailed ballot will be sent to every member following the regular November meeting and results will be announced at the December 7, 2014 Holiday Party.

FREE BOOK BONANZA

SATURDAY, OCTOBER 18, 9:00 AM – 11:00 AM

STONE & BLACKLIDGE

10 FREE Books, 20 FREE Journals

That's right! This time they are free! Saturday, October 18 will be the last time TCSS members can shop the Book Bonanza that has benefitted us all for the past year.

This event is our "GOING OUT OF THE BOOK BONANZA BUSINESS" event and we will offer members 10 free books and 20 free journals on a first come first served basis. If you want more than the free amount of either, you can make additional purchases at the 75% off retail price.

Be prepared to come early to get in line. We will begin issuing numbers to shoppers at 8:30 am. Doors will open at 9:00 am and stay open until 11:00 am or until the inventory is gone.

This is your last, best chance to get that book you have always wanted!

Good Time Silent Auction

I want to thank everyone for their support of the Good Time Silent Auction. A total \$2,932 was collected. Thanks to everyone who donated plants, art, free stuff and \$2, \$5, and \$10 item. Everything sold.

Special thanks go to Lu Salisbury, Dale Johnson and Maria Tallat-Kelpsa, the ice cream, toppings and cookie crew. They really made it a good time.

Doug Rowsell did an outstanding job getting the building set-up and managing the whole auction process assisted by a group of wonderful volunteers who made the whole day run smoothly. The September silent auction has been a part of the society for almost 50 years.

Thanks to everyone who participated, it was really a good time.

Pima County Master Gardeners

Saturday October 18th 2014
9am-3pm

Self Guided Tours of Four unique gardens planted and cared for by master gardeners of Pima County, with talks and demonstrations by master gardeners at each garden.

Tickets are available at the following places or on-line at <https://www.regonline.com/Register/Checkin.aspx?EventID=1590827>

- Civano Nursery
- Harlow Gardens
- Green Things
- Mesquite Valley Growers
- Plants of the South West
- Bachs Cactus Nursery
- B & B cactus Farm
- The Magic Garden
- Pima County Cooperative Extension, 4210 N. Campbell.

FROM THE FLORILEGIUM

Since the late 1500s, florilegia, or “flower books,” have been created as botanically accurate renderings of living plant collections. While the earliest published florilegia existed solely as compilations of paintings of plants from European flower gardens, they have come to play a valuable role in botanical and historical documentation. Now, with the increasing popularity of botanical art and the growing number of talented artists turning to botanical art, the florilegium is experiencing new life.



Salvia clevelandii 'Winifred Gilman'
© Nina Antze 2013, Colored Pencil
from The Gardens of Alcatraz Florilegium

Part of this new life is new media. Digital collections of art can reach a far wider audience than the big, expensive volumes of the past, and while some florilegia are still created to be curated art collections, a growing number are going digital. A digital florilegium is one that presents its collection online. Viewers can browse the works of the florilegium, zoom in to see intricate plant details, follow links to the artists’ other works, and read interpretive materials. The advantage of a digital collection over a curated collection is that these works of botanical art are always available for viewing online—no physical exhibit is required.

The Sonoran Desert Florilegium Program will soon begin soliciting works for its digital florilegium. Artists from the Southwest Society of Botanical Artists (SWSBA) and other artists who have participated in the Florilegium Program’s exhibits will be invited in early 2015 to submit their art, and in the spring, jurors Linnea Gentry, Matt Johnson, Gene Joseph, and Margaret Pope will select works from this first set of submissions. Artists will retain their original art and copyright, but will give the Florilegium Program high-resolution digital images. This arrangement will allow a high-quality online presentation and the possibility of future publication.

The florilegium sponsored by the Tucson Cactus and Succulent Society is just one of several florilegia that have been established in the United States in recent years. The two best known florilegia in the U.S. were both established in 2000. In New York, the **Brooklyn Botanic Garden Florilegium** documents the plants in the Garden’s extensive collection, and on the West Coast, the **Filoli Florilegium** in Woodside, California, documents the plants growing on the grounds of the historic estate.

Two florilegia were started in 2006 in the California Bay Area by artist Catherine Watters, and both can be seen online. The **Quarryhill Florilegium** in Glen Ellen documents selections from one of the largest collections of temperate Asian plants in North America. The **Gardens at Heather Farm Florilegium** in Walnut Creek was compiled between 2006 and 2009 by Watters and her students.

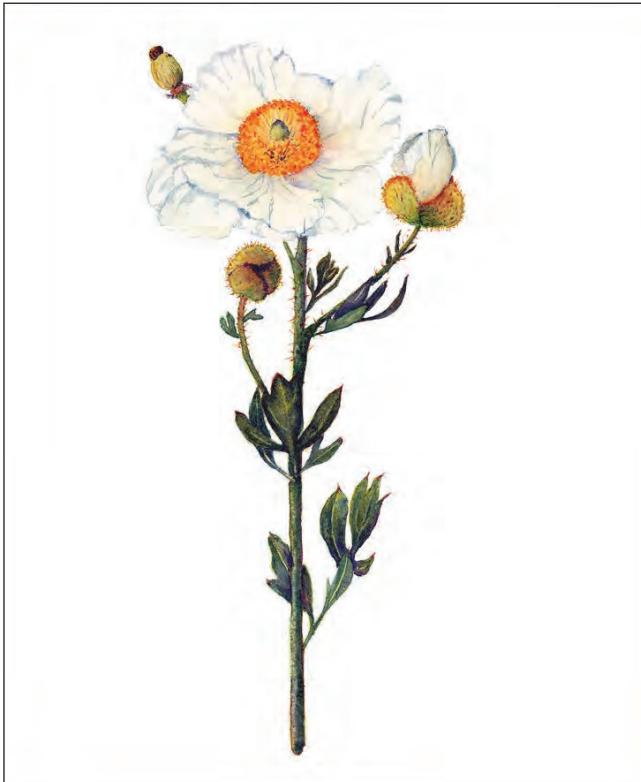
In 2010, the Minnesota School of Botanical Art (MSBA), led by artist Marilyn Garber, partnered with the oldest public wildflower garden in the U.S. to create **The Eloise Butler Wildflower Garden Florilegium**. Currently on exhibit at the Minneapolis Central Library are 50 paintings of native plants from the Garden by students and instructors of the MSBA. A number of the works can be seen online.

The Gardens of Alcatraz Florilegium, the newest of these florilegia, is a fascinating and remarkable project. The Northern California Society of Botanical Artists (NCalsBA) has partnered with The Garden Conservancy in the creation of a florilegium to document the plants from the historic gardens of Alcatraz Island. The idea for the Florilegium was conceived in 2012 by artists Lyn Dahl, Sally Petru, and Catherine Watters, who worked closely with Shelagh Fritz, the Garden Conservancy’s project manager.



NCalsBA artists on Alcatraz Island
Photo by Sally Petru

Participating artists of the NCalsBA first visited the island in the spring of 2013, and in a matter of months an exhibit of 45 works opened in September of 2013 in the Prison Band Rehearsal Room on Alcatraz Island. Since that exhibit, an additional 14 works have been added to the Florilegium. These paintings and drawings can be seen online at www.ncalsba.org/alcatraz/.



Romneya coulteri, Matilija poppy
© Jane Kraft 2013, Watercolor
from The Gardens of Alcatraz Florilegium

Even before it housed the infamous prison, Alcatraz was a forbidding place. Winds are harsh, the surrounding water is cold, and the only fresh water available comes from fog and the winter rains. The rocky island was perfect for nesting seabirds, but not for much else. Beginning in the 1850s, the military and later the federal prison system devoted immense effort to taming the island. Soil was brought in to fill areas damaged by construction, trees and groundcovers were planted to control erosion, and ornamental gardens were planted to soften the stark environment.

The original gardens of Alcatraz were planted by soldiers and their families when the island served as a military fortress. These early gardeners introduced many ornamental plants typical of a Victorian flower garden, but most of the plants selected over the years for this difficult site had to be of a more practical nature. Enterprising gardeners discovered that California natives performed well as did durable Mediterranean plants. Agaves thrived, as did other succulents such as aeonium, sedum, and drosanthemum. Drought-tolerant plants from the Sonoran and Mohave Deserts fared well on the dry and windy west side of the island.

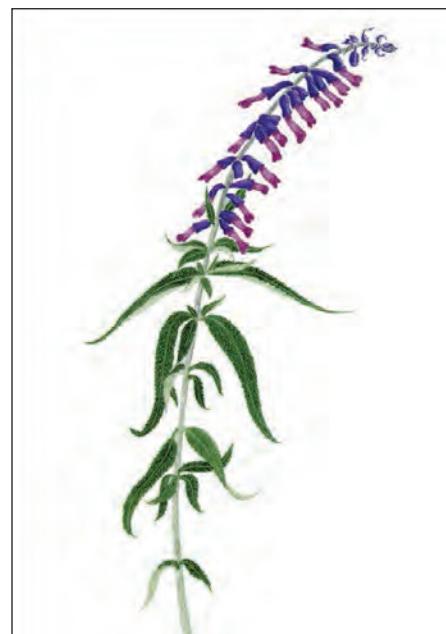
In 1933, the island became home to the federal penitentiary, and the gardens, now tended by inmates and prison staff, flourished. But thirty years later, escalating costs and deteriorating buildings forced the closure of the prison. The gardens were abandoned, overtaken by “weeds” and nesting birds.

The island was transferred to the National Park Service in 1972 to become part of the Golden Gate National Recreation Area. Restoration of the Gardens of Alcatraz began in 2003, when The Garden Conservancy and the Golden Gate National Parks Conservancy formed a partnership with the National Park Service. Gardens on the 22-acre island have been beautifully restored and are being maintained by volunteers with The Garden Conservancy. More about the restoration process, including a listing of the gardens' historic “survivor” plants, can be found at www.alcatrazgardens.org.



Artist Catherine Watters selecting specimen of
Rosa 'Bardou Job', the Rose of Alcatraz
Photo by Betsy Eisenberg

Each of these florilegia is unique—in scope, mission, and accessibility—but they all have historical importance in that they establish visual and written records of plants of a particular time and place. Each can inspire the viewer to a greater appreciation of plants and art and can even encourage greater efforts at preservation and protection, both of cultivated collections of plants and of regional flora.



Salvia leucantha, Mexican sage
© Elaine Shelby 2013, Watercolor
from The Gardens of Alcatraz Florilegium

We are TCSS Educational Outreach and WE



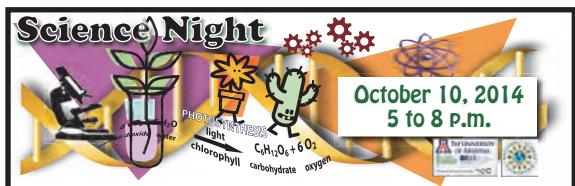
We are TCSS Educational Outreach and **WE NEED YOU** to participate as a volunteer in student/school outreach projects. See current opportunities below.

We are TCSS Educational Outreach and **WE ENCOURAGE YOU** to tell your local school and teacher friends that TCSS supports fabulous school grants.

We are TCSS Educational Outreach and **WE WANT YOU** to participate in Novice Classes (announcement coming next month.)

We are TCSS Educational Outreach and **WE INVITE YOU** and/or your children, grandchildren and neighbors to join us at PLANT SCIENCE FAMILY NIGHT on 10/10/14.

Contact: Caryl Jones at education@tucsoncactus.org or 299-6813



October 10, 2014 from 5-8 pm

Ventana Vista School
6085 N Kolb Road

35 hands-on plant science activities.



November 14, 2014

9-1 pm
UA Tech Park

Volunteers Needed



November 18, 2014 6-8 pm

Rattlesnake Ridge Elementary School in Marana

Volunteers Needed

Plant Sale

(Handmade ceramic pots and succulents)

Sunday, November 2nd 9:00 AM-1:00 PM.

3525 N. Milliard Drive, 85750

Take Sabino Canyon Rd. to Cloud and go West one block; that is Millard Drive...go North to the end, make a left and then another left. You are still on Millard Drive. We are the last house on the left; you can't go any further. The sale will be in the back yard. There will be a sign.

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Floilegium: Margaret Pope • art@Tucsoncactus.org

Librarian: Joie Giunta • librarian@Tucsoncactus.org

Prickly Park: Jesse byrd (Implmentation)
park@Tucsoncactus.org

Programs: Vonn Watkins • programs@Tucsoncactus.org

Refreshments: Patsy Frannea • refreshments@Tucsoncactus.org

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Saturday, October 18, 2014 9:00am to 11:00am

Book Bonanza Free Give-Away at Stone and Blacklidge. Open ONLY to TCSS members. TCSS members can each take home 10 free books and 20 free journals. Last chance!

Acknowledgement of Contributions

The names below represent the Tucson Cactus & Succulent Society members and friends whose donations helped make this year a success.

We extend our sincere thanks for your support.

Conservation

Todd Miller
Shelby & Fred Bivins

General Fund

Marilyn Russell

Field Guide

Sue Hakala
Richard & Susan Hildreth
Martin Harow

Sonoran Desert Florilegium

Mary Ann Jones

Fall Plant Sales

Desert Botanical Garden

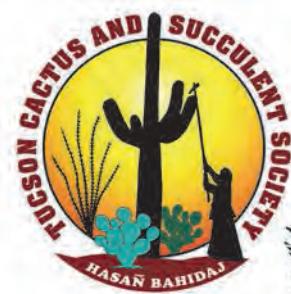
The Desert Botanical Garden is a 140 acres botanical garden located at 1201 N. Galvin Parkway in Phoenix. There is no admission charge to enter the Fall Plant Sale.

- Members Preview Day (Become a member today!) Friday / October 10, 2014 / 7 a.m. - 5 p.m.
- Open to General Public Saturday / October 11, 2014 / 7 a.m. - 5 p.m.
Sunday / October 12, 2014 / 9 a.m. - 5 p.m.

Boyce Thompson Arboretum

Fall Plant Sale October 10 - 26 (opens with "members-only" preview shopping Friday Oct. 10; sale area opens to all visitors Oct. 11)

Take Oracle Road North to Highway 79, continue through and past the town of Florence to the junction where Highway 79 meets Highway 60, then turn right and drive another 12 miles East on Highway 60 to our front gate.



Desert Breeze

Newsletter of the Tucson Cactus and Succulent Society

November 2014

Thursday, November 6, 2014 at 7:00 PM

"Out and Back, Adventures on the Arizona Cacti and other Succulents Field Guide Trail"

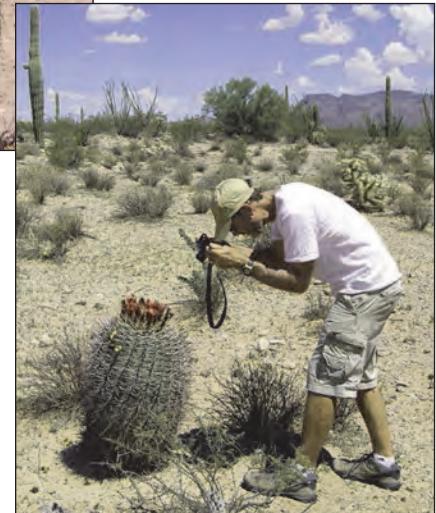
Presented by Peter Breslin, John Durham, Rob Romero, Greg Starr, Thomas Staudt and Vonn Watkins

This program will feature some of the travel venture experiences while gathering photos and information for the soon to be published Arizona cactus and succulent field guide. Each of the above have contributed a lot of time and effort to selectively locate and study the huge amount of plants that will be featured in this book.

The book will be a comprehensive and detailed guide to the identification, distribution and appreciation of Arizona's botanical wonders, the cacti and succulents. Home to at least 4 distinct desert regions and multiple biomes, Arizona is a hotbed of botanical diversity, rarity and endemism. Among the most charismatic and breathtakingly beautiful plants in the state are the ones featured in this field guide. Designed to be detailed enough for armchair reading, but portable enough for hands on

field work, this guide draws on the contributions of more than 6 author/photographers, all of whom are experts in Arizona field research. The authors have traveled and re-traveled hundreds of back road miles to establish not only species distributions and expand on current knowledge in populations, but also to capture that rare moment of peak flowering. The latest taxonomic, botanical and biogeographic information has been incorporated into this extensive regional treatment which the authors hope will be useful and entertaining for years to come.

This will be our final program presentation in 2014. Please come and enjoy a great program that will feature plant habitats throughout Arizona. Also enjoy meeting and talking with others, have some excellent refreshments, win a beautiful cactus or other succulent and be sure to take home a free plant!



November Meeting Refreshments

Those with family names beginning with L, M, N, O, P, Q, and R, please bring your choice of refreshments to the meeting.
Your generous sharing will be greatly appreciated and enjoyed!



President's Message

We are the largest local Cactus and Succulent Society in the world! How did this happen? We never had this as a goal nor even thought about it. We never thought about developing a rescue program but one day it happened. People took notice of what we were doing and said, "I want to be a part of this." All the sudden, membership grew.

Then, the kids members said "we love the rescue activity, but we are unable to participate, so what else can we do?"

The answer to that question is: develop a cactus model for kids to build and learn about how cacti survive. Volunteer to teach kids about it. Teach hundreds of kids each year. That's something to do.

What about touring member's gardens and seeing their collections? It requires a group of members to organize and staff the event. That's something to do.

What about publishing a recipe book from all the good foods that are brought to the holiday party? It took a group to collect, organize and have published a favorite recipe book. That's something to do.

Holiday Party, Ballots & Membership Renewals

Early in November every member will receive a mailing containing Holiday Party information and a RSVP. We need to know how many so that the appropriate amount of entrees (turkey, ham, etc.) should be ordered. We ask everyone to bring a favorite dish that can be shared with 10 + guests. There is more, so please read the holiday party announcement in the mailing. This event is lots of fun with food, gift exchange and plants.

We will be finalizing the ballot at the November meeting and every member will receive a ballot enclosed in this mailing so please vote and return your ballot. Family memberships receive two (2) ballots.

Also enclosed is a renewal membership form. Just write a check and return it and your membership will be renewed. You might also wish to include a donation to support one of our many programs. If you are paid up through next year just correct or provide us with the new information such as email changes or cell phone additions.

Finally, for your convenience, there is a self-addressed envelope with the Holiday Party RSVP, Ballot and Membership to be returned. Thanks so much for your continued support.

Cactus Slings

Over the year a number of our cactus slings have gone home with members and have not been returned. They may not look like much but each one cost more than \$45.00. If you have one that you have forgotten to return we would certainly like to have it back. Please drop it off at our next meeting or send me an email at president@tucsoncactus.org.

What about a biennial conference on the Sonoran Desert. We could have speakers, workshops, plant sales, a plant show and other activities. A lot of members could be involved in an event like that. We could do it every two years. That's something to do.

What about an area that we could develop with rescued and donated plants that would be free to the public and let them learn about cacti and succulent plants. We could work with Pima County Natural Resources, Parks and Recreation. We'll call it Pima Prickly Park. That's something to do.

How about writing a field guide to Arizona cacti and succulent plants? There are a number of really knowledgeable members who could be involved. The society could publish it. That's something to do.

The list of what we have done and can do goes on and on. I hope you get my point that the rescue program has been and still is at the heart of making things possible and we will always need support and help to maintain this vital program.

Thanks as always for your continued support.

Dick Wiedhopf, President.



Newest addition to Pima Prickly Park, *Cylindropuntia molesta*! Thanks to the incredible cactus-moving skills of TCSS members Ken Byrd and Aaron Byrd, the technical support of Pima County NRPR staff member Nicole Meyers, and generous donor Brad Starr.

FROM THE FLORILEGIUM

The newest member of the Florilegium Program's Steering Committee is a Master Gardener, a professional tailor, a citizen scientist, and a botanical artist with a passion for pollinators. Phoenix artist Joyce Peters has wide-ranging interests and the energy to match, and she is certain to make a dynamic contribution to the Florilegium Program.

Originally from St. Louis, Joyce has lived in Arizona since 1980. She was one of the lucky few artists to have completed a Certificate in Botanical Art and Illustration from Phoenix's Desert Botanical Garden (DBG) before the program was discontinued. Joyce is active in the Southwest Society of Botanical Artists (SWSBA) and is a juried member of the Arizona Art Alliance. In addition to her professional tailoring business, she is also a designer and fabricator for custom projects using a variety of fabrics and other materials.

Joyce has organized two juried exhibitions of botanical art in the Phoenix area: *Indigenous Botanicals of Arizona*, an exhibit at the Tempe Public Library in 2012, and *Portraits of Nature: Blending Science and Art*, an exhibit at ASU's Polytechnic Campus Library in 2013. Along with artists Marsha Bennett and Elaine Hultgren, she has worked to establish a permanent exhibit of botanical art at the North Mountain Visitor Center at the Phoenix Mountain Preserve that was installed in 2014.

The forthcoming *Legumes of Arizona, an Illustrated Flora and Reference* will contain some of Joyce's pen and ink illustrations. Along with several other SWSBA artists, Joyce provided illustrations to the Audubon Society for making flash cards to help children identify native plants of Arizona. And if all this

isn't enough to fill her time, Joyce is active in collecting and documenting plants for the DBG and the McDowell Sonoran Preserve.

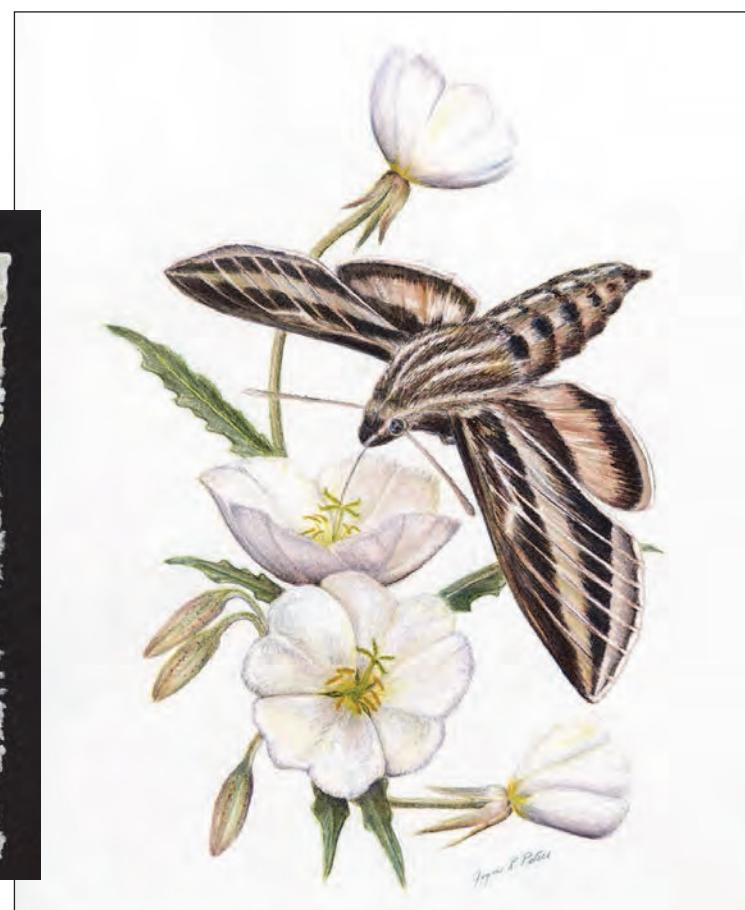
Joyce has a strong affinity for including pollinators in her botanical works. Her watercolor portrait of the *Centris pallida* bee on ironwood tree blossoms is being used for the signage at the North Mountain Visitors Center exhibit. Tohono Chul's 2012 exhibit, *Pollinators: The Art of Interdependence*, included Joyce's "Marine Blue butterflies on host plant, *Calliandra eriophylla*." A number of her pollinator-inspired works will be on exhibit at the North Mountain Visitor Center in 2015.

Besides using traditional mediums of watercolor, pen and ink, and colored pencil, Joyce has also developed a process for creating and working with mesquite paint. Her work "Mesquite Complete" was included in Tohono Chul's 2012 exhibit, *Mesquite*. This inventive piece is a combination of handmade mesquite paint on paper made from mesquite seed pods, thin stems, and leaves. "For the making of paint, I collect sap from the tree in the spring, and in late fall I gather gooey, shiny bark, which supplies the resin," explains Peters. "It requires boiling, straining, and boiling a second time. The paint is not an easy medium to use because of its granulation. The paper ingredients include leaves, thin stems and seed pods."

Joyce's works can be seen in the February and August 2014 issues of *The Desert Breeze* and also on the Florilegium's website (<http://art-botanical.org/Artists/Peters.html>). – CH



"Mesquite Complete"
© Joyce Riney Peters 2012
Mesquite paint on mesquite paper



"White-lined Sphinx Moth on Evening Primrose"
© Joyce Riney Peters 2012
Watercolor

A Trip to Puerto Blanco Loop in Organ Pipe National Monument

The National Park Service has just reopened the 41-mile Puerto Blanco Loop in Organ Pipe National Monument. This area of the monument has been closed since 2006 due to illegal activity. In September, citing new infrastructure and staffing, the NPS announced (quietly) that the road was now open. Upon learning this, Rob Romero and I wasted no time in making the trip.

The road forms a loop that travels from the visitor's center into the southern section of the monument. The road leads to Bonita Well, Golden Bell mine, Quitobaquito Springs, a drive along the international border and onto Senita Basin.

Our primary goal was to get photos of *Pachycereus schotti* (Senita) and *Echinomastus acunensis* in its type locality for the field guide. We were not disappointed. In addition to our target species, we found an abundance of other plants including

Stenocereus thurberi (Organ Pipe), *Ferocactus emoryi*, *Jatropha cuneata*, *Mammillaria thornberi*, *Echinocereus nicholii* and *Grusonia wrightiana*. This is the only place where you can see Saguaro, Senita and Organ Pipe Cactus growing together. On this sunny October day we only encountered one other person on the road.

New signage, picnic areas and bathrooms are now in place. Awesome desert scenery and a wide variety of desert plants make this a great destination. The road is rough and sandy in places, so a high clearance vehicle is recommended. With the weather cooling down, now is the time to plan your trip. In spite of the bumpy ride, it is well worth it.

John Durham



Additional Photos: Puerto Blanco Loop in Organ Pipe National Monument



Cactus Rescue Crew Program Coordination Needs

The Board is working on ideas and asking for additional TCSS Members to pick-up most of the Coordination and Administrative work load needed to sustain our Cactus Rescue Crew Program.

Our program has been in operation for 15 years saving over 73,000 cacti with members donating 24,000 volunteer hours on 345 rescues. We are currently averaging about ten rescues per year. We always have lots of volunteers to dig plants, a great testament to our Society's commitment to helping save and relocate native plants destined for the landfill. But, we need more members to commit to Coordination and Administrative roles to define, organize and conduct the rescues as our current coordinator can no longer coordinate and administer all the rescues and associated tasks.

Here are the basic Coordination and Administrative tasks that need performed to organize a cactus rescue:

1. Meet with or talk to the Developer or their agent to discuss plants available, timing of project, location, etc. (we will give you the project name and contact information)

If meeting with the developer it normally needs to be done M-F during working hours. Phone calls may work as well.

2. Conduct a site survey to determine what types of cactus and quantities TCSS would like to rescue.

This needs to be done so we can purchase the appropriate type and quantity of Native Plant Tags

3. Obtain tags for the rescues from AZ Dept of Agriculture. Additional tags can be purchased for subsequent rescues to avoid purchasing too many tags.

4. Pick a date, send out a notice on the Thursday before the rescue and collect any materials that may be needed for the rescue

These items include sign-in sheets, work tables, white-out, slings, etc. which will be available at a TCSS rescue items storage location

5. Conduct the rescue with the help of other crew chiefs as needed and document tags used, cactus rescued, work hours, etc.

We will provide training and mentoring to assure a smooth transition of responsibilities.

If you are interested and want to learn more about the coordination and administrative role outlined above, please send an email to TCSS at TucsonCactus dot org.

**TCSS BOARD
Officers**

President: Richard Wiedhopf • president@Tucsoncactus.org
Vice President: Vonn Watkins • vp@Tucsoncactus.org

Secretary: Susan Durham
secretary@Tucsoncactus.org

Treasurer: Linda Bartlett
treasurer@Tucsoncactus.org

Board of Directors:
board@Tucsoncactus.org
(Ending Dec. 31, 2014)

Ed Bartlett
Rob Romero
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Bill Salisbury

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Keimpe Bronkhorst
John Durham
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Val Little
Cyndi Garrison
Peter Ertman
Thomas Staudt

CSSA Affiliate Rep:
Bill Holcombe (2013)

Cactus Rescue: Joe and Patsy Frannea
cactus@Tucsoncactus.org

Education: Caryl Jones • education@Tucsoncactus.org

Free Plants: Donna Ellis • plants@Tucsoncactus.org

Floilegium: Margaret Pope • art@Tucsoncactus.org

Librarian: Joie Giunta • librarian@Tucsoncactus.org

Prickly Park: Jesse byrd (Implmentation)
park@Tucsoncactus.org

Programs: Vonn Watkins • programs@Tucsoncactus.org

Refreshments: Patsy Frannea • refreshments@Tucsoncactus.org

Technology: technology@Tucsoncactus.org

Research: Doug Rowsell • research@Tucsoncactus.org

Garden Tours: Bill Salisbury • tours@Tucsoncactus.org

Field Trips/tours Rob Romero/Joie Giunta
trips@Tucsoncactus.org

Editor: Karen Keller • editor@Tucsoncactus.org

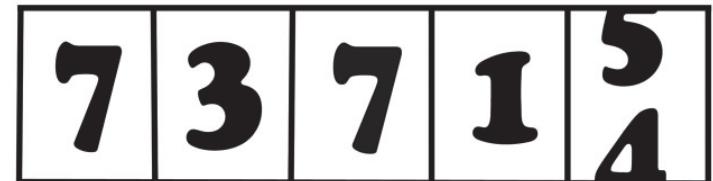
Deadline for copy: Thursday, November 20, 2014

TCSS Web Page:
www.tucsoncactus.org

Webmaster: Keimpe Bronkhorst • webmaster@Tucsoncactus.org

For additional information call: (520) 256-2447

Everyone is Welcome!
Bring your friends, join in the fun and meet
the cactus and succulent community.



**Cacti Rescued - Since 1999
347 Rescues - 24,965 Volunteer Hours**

Please see our Website Calendar for the next rescued cactus sale. They are scheduled at various times during the year based on our inventory.

TCSS Club Members receive a 10% discount

November 2014

Thursday, November 6, 2014 7:00pm

"Out and Back, Adventures on the Arizona Cacti and other Succulents Field Guide Trail" Presented by Peter Breslin, John Durham, Rob Romero, Greg Starr, Thomas Staudt and Vonn Watkins

Tuesday, November 11, 2014 7:00pm

Board meeting at the U of A College of Pharmacy

Acknowledgement of Contributions

The names below represent the Tucson Cactus & Succulent Society members and friends whose donations helped make this year a success.

We extend our sincere thanks for your support.

Educational Fund

Moira Shannon

General Fund

Anonymous gift

Field Guide

Bio-Resources Inc.

Val L. Little

Sunday, December 7, 2014

**"Tucson Cactus and Succulent Society
Holiday Party and Gift Exchange"**

Junior League Facility, 2099 East River Road

Setup: 1pm - 3pm • Dinner: 3pm -5pm

**Meetings are held on the first
Thursday of each month.**





Desert Breeze

Newsletter of the Tucson Cactus and Succulent Society

December 2014

Sunday, December 7, 2014 • 3-5pm

Tucson Cactus and Succulent Society Holiday Party and Gift Exchange

Junior League Facility, 2099 East River Road

Setup: 1pm - 3pm • Dinner: 3pm -5pm

The Society will provide Turkey, Ham, Shrimp, Condiments, tableware and Drinks (coffee, punch and water). You will provide your favorite recipe (enough for 10 or more servings) Hot or Cold Salads -Starches - Vegetables - Desserts (please bring serving dish and serving utensils). For the last decade or so, we have been collecting money and/or food for the Community Food Bank. This year the need is much greater, so let's make it special for others. Please bring donations (cash donations are preferred, they can get 10 times the food) for the Tucson Community Food Bank.

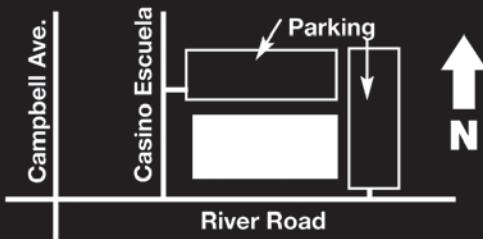
Gift Exchange:

Everyone can participate by wrapping (cleverly) a plant or plant related gift of at least \$10.00 value. If you bring a gift you get a gift and the fun is how they will be distributed.

Meeting:

Additionally there will be a short Annual Meeting, Election Results, Awards and Table prizes.

Holiday Party and Gift Exchange



Junior League of Tucson, Kiva Bldg.
2099 E. River Road





President's Message

In the January Newsletter, I will look back on 2014 and the activities, programs and people who made it a great year. I will give special recognition to several members of the Board of Directors whose service on the Board ended in 2014 but service to the society will continue.

Let's look forward to 2015 and the activities and challenges for the future. In the past 2 months the Board has reviewed the Rescue Program and Pima Prickly Park. These activities are closely related and are the two long term programs that support our mission.

April 12, 2015, has been approved for our Expo at Pima Prickly Park (PPP). This will be an opportunity to bring many of our member vendors together for a great sale plus rescue plants. We will also have exhibitors covering a wide range of subjects that will appeal to children and adults in the community. There will be educational activities and Food Trucks. Joe Frannea will be coordinating and has a group of volunteer that are chairing individual activities, we also need and want your help. More information will be available in the January newsletter.

Members of the Pima Prickly Park committee met with the staff and new director of the Pima County Natural Resources Park and Recreation. The future is bright and the relationships are strong. We are committed to making this Park special. We have made substantial progress in the development of this facility and need to really focus on the park in 2015. Our plans for the park will become more defined and will give you an opportunity

to adopt one of the gardens as your special project. New gardens will be developed in 2015 that will emphasize cactus and succulents for the Tucson community.

We need administrative support for the Rescue Program and there will be some workshops to train volunteers for this unique program. We are past 75,000 plants that have been rescued since the start of the program in 1999. That's just amazing. Your help is really needed to continue this activity into the future.

We have completed our program with the donation of the Rainbow Gardens Bookstore and hope that everyone who had an interest in acquiring books and journals took advantage of this unique opportunity.

Our AZ Field Guide is almost ready. Thanks to everyone who has contributed to this endeavor. We will be planning a publication event that will celebrate this achievement. More details will be available as soon as we know a publication date.

During 2015 we will start our STEM (science, technology, engineering and Math) programs at PPP for school classes. Our plan is to bring a classroom or two to the Park for a session of hands on STEM activities. This is one of the main reasons we wanted to have the park. Caryl Jones, education chairwoman, will be developing the curriculum and other activities for these sessions. I know Caryl will want your help.

These are just a few of the activities to look forward to in 2015.

I want to thank you for your continued support and look forward to being amazed by the things that this society does.

Dick Wiedhopf, President

Succulents 2015 Watercolor Calendar for Sale

Succulent book author and garden photojournalist Debra Lee Baldwin paints watercolors based on the photos she takes of succulents. "I give myself a deadline of Black Friday," Debra says. "I have to paint 12 by then to create a calendar, which I then sell online through my Zazzle store." Debra receives a mere 10% of the sales price. "But it's worth it, because painting

watercolors is so rewarding," she says. "I'd rather be doing that than anything else, except maybe taking the photos in the first place." Debra, who lives near San Diego, authored three bestselling gardening books: Designing with Succulents (2007), Succulent Container Gardens (2010) and Succulents Simplified (2013). www.debraleebaldwin.com.



FROM THE FLORILEGIUM

While plant enthusiasts in our region are familiar with Lucretia Hamilton's extraordinary botanical illustrations, few have seen more personal expressions of her art. Two years ago Florilegium volunteers were thrilled to find several of Hamilton's Christmas cards in Richard Felger's collection of botanical illustrations

currently housed at the University of Arizona Herbarium. Here for everyone's delight are some of her works used for the family's Christmas greetings from 1968 to 1974.

Happy Holidays from the Florilegium!



Illustrations by Lucretia Breazeale Hamilton
Images courtesy of Richard Felger



FROM THE FLORILEGIUM



Illustrations by Lucretia Breazeale Hamilton
Images courtesy of Richard Felger

Acknowledgement of Contributions

(Received through November 28, 2014)

The names below represent the Tucson Cactus & Succulent Society members and friends whose donations helped make this year a success. We extend our sincere thanks for your support.

Field Guide

Patti Bayham
Kathryn Bevacqua
Jim Bliss
Paula Borchardt
Edie & Alice Campbell
Mark Dimmitt
Carl Englander
Peter Ertman
Margaret & Ronald Eustice
Phil Feigin
Marie Hirsch
Margarete & Bill Holcombe
Evelyn & Peter Hubbell
Matt & Michelle Hughes
Bio-Resources Inc.
Jan Konstanty
Sandra & Chris Marshall
Rowena & Larry Matthews
Pat & Ray Merritt Merritt
Dorothy Montgomery
Gene Murphy
Bobbi Nichols
Rosemary & Wendell Niemann
William Peachy
Chuck Penson
Judy Pigue
Jane Prinz
Arlene & Douglas Ripley
Jane Ruggill
Susanna & Lucas Schippers
Moira Shannon
Victoria Smith
Robert Sogge
David Stevenson
Mark Sullivan & Family
Marija & Rim Tallat-Kelpsa
Susan Thicket
Boyce Thompson Arboretum
Michael Van Note
Barbara Walker
Pat Wallace
Peter Warren
Betsy Zukoski
Helga & Keith Zwickl

Education Outreach

Mark Barmann
Leo Jacques
Jan Konstanty
Daphna Lederman & Family
Susanna & Lucas Schippers
Pat Wallace
Douglas Williams & Family
Betsy Zukoski

Research Fund

Trina Trimble & Family

Conservation Fund

Jan Konstanty
Daphna Lederman & Family
Saralaine Millet
Marsha Turkin
Pat Wallace

Sonoran Desert Florilegium

Laurel Cooper
John Gilkey
Sue & Dick Hildreth
Carol, Bill & Randy Owens
Margaret Pope

Pima Prickly Park

Sharon Atwell
Laurel Cooper
Mark Dimmitt
John Gilkey
Brenda & Dick Loffi
Rowena & Larry Matthews
Betsy Zukoski

Unrestricted General Fund

Betty Bengtson
Kathryn Bevacqua
Sharon Eisenhower
Bridget & Mike Gagnon
Mary & Barry Ganapol
Marlin Hostettler
Bill Kendall
Carl Koprowicz
Brenda & Dick Loffi
Angela Miller
Rosemary & Wendell Niemann
Chuck Penson
Richard Ryan
Nancy & Regis Slutter
Michael Tamarack
William Thornton
Ann & John Tundermann
Edith Jane Ulmer & Family
David Williams
Douglas Williams & Family
Jody Wilson
Betsy Zukoski

TCSS EDUCATIONAL OUTREACH



November 2014



Build-a-Cactus kit building focuses on the adaptations of the cacti that support survival in the desert.



Build-a-Cactus kit building now includes enhancements that integrate pollination, photosynthesis and seed dispersal.... and we are adding soil analysis and animal interactions soon!

Interested in joining our volunteer team...
contact Caryl at education@tucsoncactus.org

Sahuarita SciTech 2015 would like to have us participate.... do you have time?
Contact Caryl at education@tucsoncactus.org

TCSS volunteers bring SCIENCE and the DESERT ALIVE to kids. Many Thank to Bill Holcombe, Colette Price, Julie Shulick, Barry McCormick, Judy and Jerry Merchant.

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Floilegium: Margaret Pope • art@Tucsoncactus.org

Librarian: Joie Giunta • librarian@Tucsoncactus.org

Prickly Park: Jesse byrd (Implementation)
park@Tucsoncactus.org

Programs: Vonn Watkins • programs@Tucsoncactus.org

Refreshments: Patsy Frannea • refreshments@Tucsoncactus.org

Technology: technology@Tucsoncactus.org

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Garden Tours: Bill Salisbury • tours@Tucsoncactus.org

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Editor: Karen Keller • editor@Tucsoncactus.org

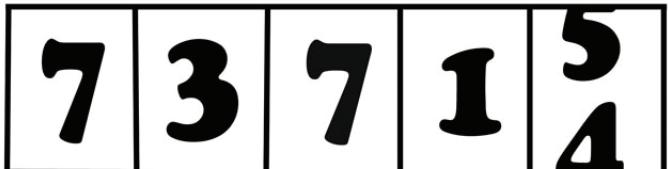
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TCSS Web Page:
www.tucsoncactus.org

Webmaster: Keimpe Bronkhorst • webmaster@Tucsoncactus.org

For additional information call: (520) 256-2447

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Tucson Cactus and Succulent Society

Holiday Party and Gift Exchange

Junior League Facility, 2099 E. River Road

Tuesday, December 9, 2014 at 7:00pm

Board meeting at the U of A College of Pharmacy

**Acknowledgement of 2014 Donations
will appear in the January Newsletter."**

Winter Beauty, Tucson, AZ

Photo by Karen Keller

