

CENTRAL SPINE

May 2024



Facebook Succulent of the Month: *Aloe camperi* by Cameron Davis.

PRESIDENT'S MESSAGE By Don Begley

Excitement is building for our 2024 Annual Show at Dorrance Hall with Wednesday, May 15 being submission day for members' plants. The opening to the public is on Friday, May 17. Our new Annual Show model has a strong emphasis on education and conservation that joins the exhibition of fantastic plants. Check our website so you don't miss a chat on interesting topics concerning our hobby.

- May 15, 7:30 a.m. to 6 p.m. Setup and member plant delivery. If you cannot deliver your plants during this time, please contact the show chair or someone else via the club website to make arrangements. We want to ensure that everyone interested in submitting a plant is able to do so.
- May 16, Judgement Day Closed except for judges.
- May 17 and 18, 9 a.m. to 5 p.m. The show is open to the public
- May 19, 9 a.m. to 4 p.m. Open to the public

In collaboration with DBG, our membership is supporting the Save the Saguaro and the Cactus Census programs. Dr. Tanya Hernandez, fellow club member and DBG scientist, provided details on how we can help collect and input data for the project. Go to the [Instructions and Video](#) to obtain the directions. Take your spouse, children or grandchildren and have fun exploring and collecting information in your neighborhood or park. Maybe there is an up-and-coming scientist in your family, and this could spark a new interest.

Our club's search to fill the vacant secretary position continues for this officer and board position. Responsibilities include recording and publishing our board actions, while contributing to the development of our forward-looking plans in collaboration with other board members.

The Outreach Committee continues with projects directed toward educating the public. In the past weeks, members have conducted short classes at DBG and local garden clubs. Contact Kathi Metzger if you are interested in joining this effort.

The Education Committee is developing programs for our club members. Early activities are developing summer programs and fall multi-science hikes. Contact Sue Hakala with your ideas or if you are wanting to volunteer.

Lee Brownson coordinates the restoration program with our partner Natural Restorations. In March, five of our members volunteered to replant burned areas in the Tonto Forest. Natural Restorations is a conservation group that also helps returning veterans.

Volunteering is another method of learning. The club offers learning about growing plants and provides opportunities to practice skills by working within a team and its administration. If you would like to volunteer, please, contact me. Include your name, email address and your area of interest.

ANNOUNCING A NEW SERIES: SMALL TALKS By Wayne MacDonald

You asked and we responded. In June of 2024 a new series will be presented at the monthly CACSS meetings. These Small Talks will provide a response to questions of interest from our surveyed members. Designed to be short and pointed, we'll dive into the "why" behind some of our plants' biggest mysteries.

The Education Committee is sponsoring this series which is:

- Simple topics of interest to our members.
- Fun, not too deep and built upon prior topics where possible.
- The goal is that it perhaps causes you to think, "Oh, that's pretty cool" or "I didn't know that."
- Short presentations, just 10-15 minutes.

The first presentation is titled *How Fouquieria Produce Spines*. Did you ever wonder how they pull off this amazing little trick? Well, the answer is simple and kind of cool too.

Please join us at DBG for the meeting on June 23, 2024 as we launch this new educational series!



By Veronika Countryman

OUTSTANDING CACSS VOLUNTEERS By Recognition Committee Chair Cricket Peterson



We now have a way of recognizing members for their volunteer efforts. Volunteers who are nominated by other members can earn a cactus pin by simply volunteering and being noticed by other CACSS members. Pins will be given at regular meetings.

To be eligible, members must be a CACSS member in good standing. The member must have volunteered and performed a duty that benefits the CACSS club. Forms to nominate a fellow member will be available starting June 23 at the next regular meeting or you can email Cricket Peterson for a form. Members can submit nominations to the Recognition Chair Cricket Peterson by email at cricketcacss@gmail.com or hand deliver the form at the next regular meeting.

PURPOSE OF THE CACSS IS TO:

- study, propagate and cultivate cactus and succulents
- educate members and the public
- aid conservation programs
- support the Desert Botanical Garden and other institutions

The newsletter deadline is always the fifth of the month unless announced. Email all submissions to Editor Sue Hakala at cacsscentralspine@gmail.com. Members are encouraged to submit medium resolution images of their plants with captions for inclusion in the newsletter, when and where possible.

CACSS ANNUAL SHOW & SALE 2024 EDUCATION AGENDA FINALIZED

By Pat Adler, Joan McDonnell and Kim Andrews

Speakers from DBG Research/Conservation/Collections and renowned members from the CACSS will present informal 30-minute Chats each day of our annual show. This will provide some insight on the important conservation work being done at the Garden and beyond. Mike Gallagher, who has won a staggering number of awards for his specimen plants grown in containers, will discuss the challenges during last summer's heat. Scott McMahon, former DBG Cactus Collections Manager and long time CACSS member, will offer a longer talk with advice on arid adapted plants to improve success during our increasingly hot summers.

| Date and Time | Speaker | Subject |
|--|---|--|
| Friday, May 17 11a.m. | Michiel Pillet International Union for Conservation of Nature Cacti representative at DBG | Plants of High Risk Extinction Assess, Plan, Act: the role of the IUCN Red List and Cactus and Succulent Plants Specialist Group |
| Friday, May 17 2 p.m. | Raul Puente-Martinez DBG curator of living collections | Restoring AZ Hedgehog Restoration of the threatened Arizona hedgehog |
| Saturday, May 18 11 a.m. | Steve Blackwell DBG conservation collections manager | DBG's Cactus Conservation Preserving the Prickly: An overview of cactus conservation efforts at DBG |
| Saturday, May 18 2 p.m. | Mike Gallagher Over 200 awards for his plants | Summer Challenges of Potted Plants Challenges faced by an expert grower |
| Sunday, May 19 11 a.m. and 2 p.m. | Scott McMahon Former DBG cactus collections manager | Summer Landscape Extremes Surviving Summer Extremes: arid adapted plants for the landscape |

Not only will you meet and interact with CACSS master growers Mike Gallagher and Eric Lundberg, but also DBG behind-the-scene experts Raul Puente-Martinez, Steve Blackwell, Noemi Hernandez-Castro (cactus collections manager), and Michiel Pillet (who among other achievements owns Prickly Prospects Nursery in Tucson). You will be able to talk to CACSS experts on growing from seed and saving prized plants from the effects of our brutal summer.

Be dazzled. DBG experts will share their efforts to conserve wild populations, discourage poaching and restore habitats. You will see threatened, endangered and confiscated plants. You will also witness how some applied TLC is helping to restore

heat stressed plants. It's a rare treat to see and interact with dedicated people who share your passion for cactus and succulents.

The Chats are free with Garden admission and will be presented in the Marley building during the three day show.

Ottosen Gallery will hold special treats for attendees.

DESERT BOTANICAL GARDEN
&
CENTRAL ARIZONA CACTUS AND SUCCULENT SOCIETY
PRESENT
ANNUAL CACTUS & SUCCULENT SHOW
& mini **SALE**

MAY 17th-19th 2024

At Desert Botanical Garden
1201 N. Galvin Pkwy Phoenix, AZ 85008
Inside Dorrance Hall

FOR MORE INFORMATION VISIT
WWW.CENTRALARIZONACACTUS.ORG
WWW.DBG.ORG

WHERE TO BUY CACTUS AND SUCCULENTS By Sue Hakala

In our club survey, many people wanted to know where to buy ethical C&S. Thanks to Scott McMahon and Chris Ginkel for adding to the list. Start saving now!

CALIFORNIA

Botanic Wonders - Vista
Solana Succulents - Solana Beach

IN THE VALLEY

Apache Landscape
Arizona Cactus Sales
DBG Plant Sales
Desert Foothills Gardens Nursery
Elgin Nursery
Phoenix Desert Nursery
Strictly Exotics

IN ARIZONA

Boyce Thompson Arboretum - Superior

Tucson

Arid Adaptations by appointment
Arid Lands Greenhouses
B&B Cactus Farm
Bach's Greenhouse Cactus Nursery
Desert Survivors Native Plant Nursery
Mesquite Valley Growers
Miles to Go
Plants for the Southwest - lots of lithops
Prickly Prospects Cactus Nursery
Tohono Chul
Tucson Cactus and Koi

Below, just some of the fabulous offerings at Bach's in Tucson.





ADENIUM, ALOE AND EUPHORBIA CARE By Editor Sue Hakala

In our survey of members, we learned that the top six plants that members want to know about are: *Lithops*, *Aloe* trees, *Adeniums*, *Euphorbias*, *Sansevierias*, and *Aloes* in that order. We've recently had articles about *Lithops*, *Aloe* trees and *Sansevieria* in the newsletter in response to these requests.

There have been MANY articles written about *Adeniums*, *Aloes* and *Euphorbias* in past newsletters. To read the articles, go to the club website, hover over the Newsletter tab, click on Newsletter Indexes. Then scroll down to the Plant Index and click on it. Then scroll down to the heading for *Adenium*, *Aloe* or *Euphorbia* to find the articles. Then click on the weblink (the underlined title) which will take you directly to the newsletter with the article in it. There are lots of articles for each topic. If you still can't find what you want, let me know and I'll try to find someone to address your question.



Left, *Euphorbia fruticosa* and right, *Euphorbia phillipsiae* by Scott McMahon.

CENTRALARIZONACACTUS FACEBOOK PAGE By Michelle Schrade

Spring is a gorgeous time of year in Arizona and the weather is great for hiking. My favorite posts on our FB page (besides the multitude of flowering plant photos) were those of plants in habitat. Ron Parker's post of April 12 boasted four subspecies of *Agave utahensis*, with photos of each, along with information and location of each subspecies. Veronika Countryman posted about several hikes she took in Arizona and New Mexico. Each post was accompanied with photos of cactus in bloom: April 14, *Echinocereus* in New Mexico, April 25, Superstition lowlands and April 27, Barnhardt Trail. Hank Radda posted photos of plants in habitat at the Grand Canyon from a hike on April 10 and on April 28,.

Each month a photo of a cactus and succulent posted by CentralArizonaCactus members is selected for recognition.

Succulent of the Month: *Aloe camperi* posted April 15 by Cameron Davis (on the cover).



Cactus of the Month: *Echinocereus* posted April 14 by Veronika Countryman.

NESTING BIRDS

Members Nick Diomede and Wendy Barrett had the great luck of having a dove make a nest in a hanging plant. Nick has a nest on his condo patio (babies below right). Left, we see mom sitting on the eggs at Wendy Barrett's house.



Be sure to visit CACSS on the web at: centralarizonacactus.org,
Facebook, Instagram and YouTube at: CentralArizonaCactus, and
members only at: CentralArizonaCactus Swap and Shop.

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CARNEGIA GIGANTEA By Sue Hakala

A saguaro (*Carnegiea gigantea*) doesn't live where freezing temperatures continue during the day and in areas with less than two inches of rain. A saguaro can reach 60



Crested saguaro by Kevin Nettles

feet in height and have as many as 50 arms, if it is lucky to live long enough in the rough desert conditions. In nature they don't flower until they are about 40-70 years old.

When they flower, the pollen and nectar is eaten by bats, insects and doves pollinating the plant. Each flower can have 2,000 seeds in one red, pulpy fruit loved by doves, rodents, javelinas, coyotes, and you. The fruit is 70% carbohydrates, 30% fat and 10% protein. Native people have harvested and eaten the fruits for centuries. A saguaro can produce up to 40 million seeds in its lifetime, needing just one to live to carry on the genes.

The seeds need just the right amount of summer rain to sprout and well spaced seasonal rains for up to three years to establish themselves. They also need a "nurse plant" to shield them from the blazing sun, frost and high desert winds. An ironwood, palo verde or mesquite tree works. Maybe a bush too, thanks to birds who eat the seeds and then poop them out. Saguaros often outlive their nurse plants.

How fast do they grow? In the right conditions: at 20 years about 1 foot, by 40 years 4 feet, at about 70 it might start to grow arms, and if lucky, live to be about 200 years old, but this depends on good growing conditions.

I had a bird deposit a seed right next to my front sidewalk. Thanks to extra rain from the garage roof and afternoon shade, it grew to 15" high in about 10 years. We transplanted it into the front yard, providing 50% shade cloth for the first few summers. It has taken off beautifully since then. In summers, when I don't get much rain, I give it

a good soak once a month in June, July and August, then nothing at all for the rest of the year. It needs nothing else.

You can tell when your plant needs water as the “pleats” in the epidermis get close together. When the plant has filled its tissues with moisture, the trunk swells and the pleats get further apart. It’s fun to use a measuring tape to track the circumference of the trunk before the monsoon season (or your watering), and then after, to see how the plant has expanded.

Sometimes the growing tip of a saguaro starts having an unusual growth. Researchers think that this could be from the growing tip getting a bit frosted or from an injury. This can often lead to the arms “cresting” and other unusual growth.



Above, crested saguaro by Marty Rose, and right, a saguaro skeleton two years after dying at Usery Pass by Sue Hakala.



AZORELLA LLARETA: ONE OF THE OLDEST LIVING PLANTS IN THE WORLD

By Chau Tu

This hard-as-a-rock South American succulent plant can live thousands of years. “The plant’s canopy is made up of just thousands of really small, little rosettes (leaves) that are at the end of the stem, and they are compacted together so tightly that you could sit on this plant and not fall through the canopy. You can jump up and down on it; nothing happens,” adds Philip Rundel, a distinguished professor of biology at UCLA. “It grows and branches and ramifies and makes this really dense surface.”

A. llaretas grow from taproots and are part of the carrot and parsley family, but don’t expect their leaves to be soft to the touch. “They’re almost the texture of a two-by-four,” says Rundel. “You can cut them with a sharp knife, but they’re very woody.” In fact, the plant was once extensively harvested to be burned as fuel, but these days, locals use it more often as tea.



Left, *Azorella compacta* estimated to be 3,000 years old by Ritebook. Right, *A. compacta* close up by Dick Culbert.

Despite the compactness of their leaves, *llaretas* most noticeable feature may be their size. “They can get huge! Just massively huge!” says Researcher Kleier. The biggest one she’s measured was nearly 40 feet in perimeter, but they generally reach approximately 20 feet around and about 10-16 feet across.

Llaretas tend to grow low to the ground, near and over rocks. They’re attracted to the heat that the rocks absorb during the day and retain through nighttime, says Kleier. In one of her studies, Kleier found that *llaretas* especially prefer north facing—and thereby equator facing—rocks.

One of the highest growing plant species in the world, the *llareta* generally takes root in the tropical alpine areas of Chile, Bolivia and Peru at elevations of 14,000 to upwards of

17,000 feet, where there's a lot of direct sunlight and solar radiation during the day, but near freezing temperatures at night. She found one living above 17,200 feet, "but I suspect that they are higher than that," she says. (Editor's note: this is not a plant that will want to live here in the low desert.)

A. lloretas could also be among the oldest living plants in the world. While scientists haven't carbon-dated them yet, one 1978 study estimated the age of a sample of plants at 850 years to 3,000 for bigger ones. For her part, Kleier observed a group of *lloretas* over the course of 14 years and found that they only grew about a centimeter a year—if at all (the study hasn't been published yet). That sluggish rate is on par with the 1978 study's findings.

There's still a lot about *lloretas* that we don't know. Kleier hopes to conduct more research about the plants' ages and about a possible correlation between elevation and size. There could be potential for more ethnobotanical uses too. Kleier recently heard of researchers testing the species' terpenoids—chemical compounds found in the plant—for anti-cancer and HIV-fighting properties.



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PREPARING PLANTS FOR SHOW



Before our April meeting, Mike Gallagher answered questions and demonstrated how to prepare your plants for our upcoming Annual Show. Thank you Mike.

CONTACT INFORMATION FOR MEMBERS WILL NO LONGER BE PROVIDED IN THE NEWSLETTER AS ISSUES HAVE OCCURRED. To contact a board member, committee chair or specialist, use the Contact Us form on the club website. When filling in the form, put the name of the person in the subject field that the message is intended for so it can be forwarded to the appropriate person. Just click on the direct link: <https://centralarizonacactus.org/contact-us/>

CACSS OFFICERS AND BOARD OF DIRECTORS 2024

Officers: President **Don Begley** | Vice President **Chris Ginkel** | Secretary open | Treasurer **Glen Legus**

Members-at Large: **Emily Adler** | **Pat Adler** | **Kim Andrews** | **Elaine Hu** | **Joanne Johnson** | **Barbara Macnider** | **Joan McDonnell** | **Kathy Metzger** | **Mary Miller** | **Erik Ruggaard**

CACSS PROGRAM AND COMMITTEE CHAIRS 2024

- Annual Show/Sale Chair: **Dan Bernstein**
- Archivist/Historian: **Lois Schneberger**
- Assistant Treasurer: **Hank Radda**
- Auction Chair: **Chris Ginkel**
- Audit Committee: **Mike Gallagher**
- CSSA Representative: **Don Begley**
- Donations: **Chris Ginkel**
- Education Committee: **Sue Hakala**
- Facebook Coordinators: **Tom Briggs, Chris Ginkel, Celeste Gornick, Ken Luiten, Thom Young**
- Facebook Swap and Shop Page: **Chris Ginkel and Tom Briggs**
- Google Workspace Chair: open
- Holiday Party: **Sue Glenn**
- Instagram: **Elaine Hu and Ian McFaul**
- Co-Librarians: **Diana Rogers and Nancy Mumpton**
- Keeping in Touch with Members: **Jo Davis**
- Mega Auction Chair: **Chris Ginkel**
- Membership: **Beth Kirkpatrick**
- Newsletter Editor: **Sue Hakala**
- Outreach Committee: **Kathi Metzger**
- Plant Rescue and Restoration: **Lee Brownson**
- Private Plant Sales at Meetings: **Sue Tyrrel**
- Program Chair: **Elaine Hu**
- Propagation Education Group (PEG): **Tristan Davis**
- Pumice Sales: **Tom Briggs**
- Recognition Chair: **Cricket Peterson**
- Website: **Anna-Rosa Lampis**

Any comments, suggestions, thank yous, etc., please submit to *Central Spine* Editor Sue Hakala.

SPECIALISTS TO CONTACT WITH QUESTIONS

- **Tristan Davis** Specializations include plant propagation and heading PEG (Propagation Education Group).
- **Doug Dawson** Specializations include growing from seed, flora of Namibia, *Lithops*, other *Mesembs*, *Melocactus*, and miniature cacti and succulents of Arizona.
- **Tom Gatz** Specializations include *Adenium*, *Agave* and growing succulent trees as bonsai (*Bursera*, *Portulacaria*, *Ficus*, *Operculicarya*, *Pachycormus*, etc.)
- **Eric Lundberg** Specialization in horticulture including soils, potting media, watering, fertilization, and light. Plant placement and construction methods for optimizing growing environment.
- **Dean Patrick** Specializations in softwood stem-cuttings, plant division and seed starting, rooting cacti, *Agave*, and *Aloe*.



Opuntia 'Fruit Punch' by Robert Sacha.