



Ferocactus latispinus by Michelle Lottner.

SAGUARO SUIT WAS STUNNING SUCCESS By Lee Brownson



Her Honor Mayor Mila Besich and Lee. Photo by Pat Isaacson.

The editor of the *Central Spine* happened to see a picture of me in my trend-setting new suit. She asked if I would let her put it in this publication. At first, I was hesitant. I didn't want a bunch of copycats out on the streets of the greater Phoenix area stealing my thunder, so to speak. But, with great reluctance, I agreed.

You may well ask, "Where did you find such a stunning outfit?" Well, I was in Paris this spring and did a little fashion shopping on the Champs-Élysées. The suit was in the window of a famous men's designer's shop. I instantly knew that I had to have it; it would be perfect for attending the upcoming Green Gala fund raising event at the Boyce Thompson Arboretum in November.

From the moment of my arrival at the Green Gala, people's heads turned in awe. Everyone was talking about it. I was gobsmacked by the number of women who approached me to say the suit looked wonderful. The mayor of Superior wanted a picture with me! In the parlance of my youth, the suit and I had become a "chick magnet." I have to say, the men were much less enthusiastic.

I think I just may wear it to the 2026 CACSS Annual Cactus and Succulent Show.

(The truth is that I was looking for something to wear for Halloween and came across the suit. I guess this proves that you can find just about anything on the internet.)

Join Steve on January 11 in Dorrance Hall for our monthly program.



Twenty years ago, Steven Hammer realized that everyone who wanted to hear him had already heard him, twice, so he took a Long Vow of Silence.

Recently, to his great surprise, he has come back in fashion, expatiating on the wisdom of the dinosaurs or—which amounts to the same thing—the beauty and drama of mesembs.

Steven has been in South Africa every month of the year, enjoying 12 Aprils, 8 Julys and just one torrid January. He has grown plants in environments as diverse as Santa Cruz, Santa Monica, San Diego, Belen, New Mexico, and Worcester, South Africa.

For the CACSS January monthly program, Mesembs from A-Z, we will ponder obscurities like aspazoma and zeuktophyllum, their more familiar cognates, dactylopsis and octopoma, and that ever-dynamic duo, conophytum and fliptops. And yes, you really can grow these in the Phoenix cauldron!

HOLIDAY GATHERING By CACSS Holiday Party Committee

Festive music filled the air as members gathered to celebrate the holiday season. Our annual holiday party created an atmosphere for sharing merriment through good conversations, great food and, of course, lots of plants!



Left, partygoers fill their plates with delicious treats. Right, Eric Lundberg (left) explains growing from seed to Bob Hopfner. Photos by Natalie Fruciano.



We caught up with old friends and welcomed new members as our passion for cactus and succulents bonds us. The table centerpieces, containing a plant from Eric Lundberg's collection, went home with a lucky winner at each table. Nearly 60 plants, with some in bloom, were exchanged in the plant swap.



We said goodbye to Eric Lundberg before he moves to Colorado. Eric explained his journey from knowing nothing about growing cactus, as a commercial grower from Pennsylvania, to successfully growing cactus from seed in Arizona. He credits CACSS, the Propagation Education Group, and Tristan Davis's willingness to share his knowledge as being key to his success.

A heartfelt thank you goes out to all who contributed to the potluck by sharing your favorite foods. Members indulged in a delightful array of culinary treats.

We appreciate all the volunteers who made the party a success, from finding the site, organizing the event, and all who pitched in to set up and clean before we left. The planning committee is grateful for all your support to make the event possible. A special thank you to Lisa Moore, Eva Martony, Mary Miller, and Ann Winchell for their organization of the event. Eva Martony planned the program and Tom Fruciano ran the trivia game.

If you know of a venue to recommend, or would like to join us in the fun of planning next year's holiday party, please contact [Lisa Moore](#).

Looking forward to another year of shared growing adventures!



May 19-24, 2027 is when the Cactus and Succulent Society of America's national convention will be hosted by the Tucson club. You don't want to miss it.

SHOW PREPARATION By Editor Sue Hakala

It's not too early to start thinking about what plants you want to enter into the annual show. Below are articles about show prep that are listed in the Newsletter Index on the club website. You can go to the website, under the Newsletter heading, click on the Miscellaneous Index, then scroll down to the Showing Plants heading. Or, you can click on the links below (the underlined part) and go directly to the newsletter with the article in it. There is a lot of good information here, especially the articles by Steve Plath who is a club member and has been a judge of many, many shows around the country.



SHOWING PLANTS

- [Cactus Show Pointers](#) by Rodney Engard, 1/76, page 5
- [Checklist of Essentials For Well-Prepared Plants \(to show\)](#) (no author), 4/00, pages 2-3
- [Impressions](#) (of judging) by Joan Skirvin, 12/82, page 5
- [Judging our Show](#) by Cliff Fielding, 4/24, pages 7-8
- [Preparing Plants for Show](#) by Scott McMahon, 3/23, page 2
- [Preparing Plants for Show](#) by Sue Hakala, 3/18, page 6
- [Preparing Your Plants for Next Year's Show](#) by Leo Martin, 5/06, page 6
- [Ready, Set, Show](#) (preparing plants to show) (no author), 4/00, page 2
- [Show Preparation](#) by Sue Hakala, 1/99, page 11
- [Showing Cactus and Succulents for the Novice](#), Part 1 of 3 by Steve Plath, 1/15
- [Showing Cactus and Succulents for the Novice](#), Part 2 of 3 by Steve Plath, 2/15, page 8
- [Showing Cactus and Succulents for the Novice](#), Part 3 of 3 by Steve Plath, 3/15, page 6 (continued)

- [Showing Cactus and Succulents for the Novice, a Judge's Perspective](#) by Steve Plath, 3/08, page 4
- [Showing Plants: A Plant Geek's Perspective](#) by Steve Plath, 3/07, page 6
- [Shows and Judging](#) by Dorothy Dunn, 4/07, page 3

PREVENTION AND TREATMENT OF AGAVES FOR SNOUT WEEVIL INFESTATION From a Desert Botanical Garden handout March 2018



It is possible to annually apply a chemical as a preventative approach for a snout weevil infestation for at-risk agaves. We have found the more susceptible to be those approaching maturity, any large species in general, and those with a wide leaf blade or blue-grey/blue-green leaf coloring. *Agave americana* (all varieties), *A. murpheyi*, *A. parryi*, and *A. weberi* seem to be very common targets.

Systemic insecticides with the active ingredient imidacloprid have been effective in preventing and controlling infestations. Some suggest that Orthene (acephate) might offer protection as well.

Products can be applied around the base of the plant in early April and again in late May. The pesticide will be absorbed by the plant's roots and translocated throughout the plant. It might kill adult weevils when they initially taste the agave for its suitability, preventing egg-laying or introduction of bacteria. If eggs are laid, the chemical should kill the larvae that hatch and begin to feed on plant tissue before the spread of the bacteria becomes too great.

Be aware that if an agave that is about to bloom is treated with a systemic, the chemical could potentially be passed along to pollinators, endangering them. With this in mind, and since the agave generally dies after blooming anyway, you should forgo treatment if it is about to bloom and an infestation is indicated. You can usually tell that an agave is about to send up its flowering stalk when narrow, shorter leaves begin to emerge from the plant's center. Always follow all directions on the label for rate of use, how to protect your health and safety precautions.

To read articles about agave weevil prevention published in prior issues of the *Central Spine*, visit the club website and click on Newsletters, Miscellaneous Index. Then scroll down to the Insects heading.

- *Agave Weevils* by Scott McMahon, 9/00
- *Agave Weevils* by Sue Hakala, 9/04
- *Treating Agaves to Prevent Agave Snout Weevil Infestation* by Tom Gatz, 3/01

PRESIDENT'S MESSAGE By Don Begley

2025 was an outstanding year for our organization as we continued to grow and reinforce our mission to “Inspire knowledge and appreciation of cacti and succulents through education, programs and conservation.”

We had a remarkable annual show, profitable sale, fantastic fall Mega Auction, great speakers at club meetings, new education programs, and an expansion of our community outreach activities. The year ended with a wonderful holiday party and a total club membership of 748, a new record.

During 2025, the Board met 11 times, almost twice the normal number, as we worked to strengthen the Society, improving our financial systems and internal controls (checks and balances), updating our bylaws and procedures identified through a legal review, and a review of our liability insurance coverage.

Society officers met frequently with Desert Botanical Garden management to ensure solid collaboration to bring more synergy to our public facing conservation messages. The strength of our relationship with Desert Botanical Garden can be seen by the recent confirmation of Dorrance Hall for monthly club meetings and the Annual Show and Sale for 2026 and 2027.

Our technology volunteers continued to expand the information on our website and increase the usage of Google Workspace to facilitate organizational collaboration, efficiency and record retention.

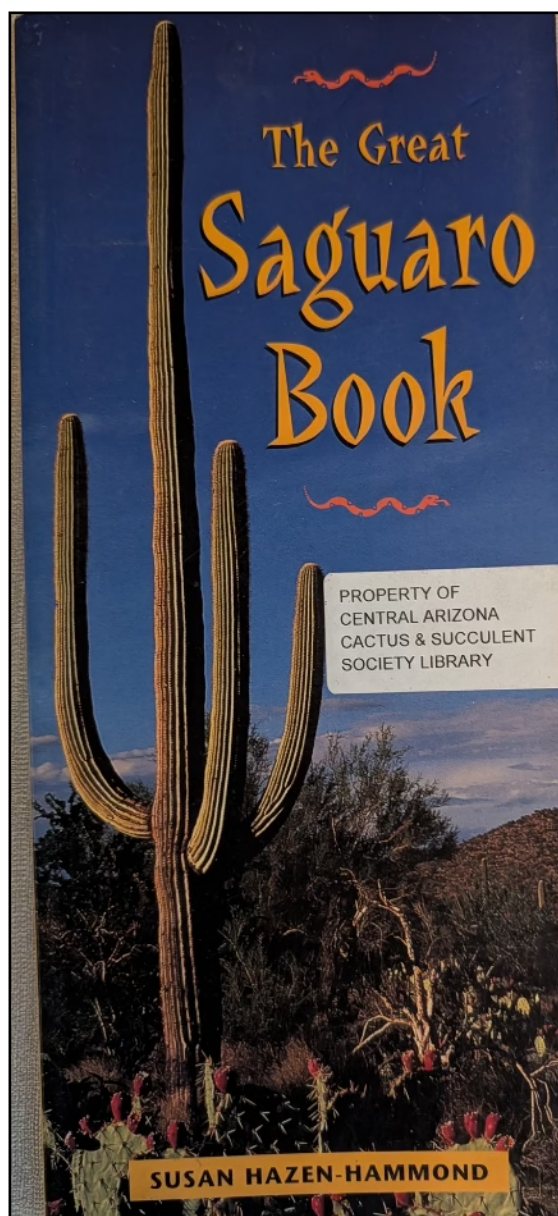
Communications has broadened the scope of our social media outreach to improve our community contact, as well as communications to our members.

I am proud to continue as president of our club as we begin our 53rd year. The challenge is to build on the legacy of all those who came before, while maintaining a vibrant, relevant organization for the future that includes meaningful experiences for our members and the communities we touch.

This is an exciting journey, but don't just read about it. Join the journey.

Attend the first club meeting of the year on January 11, 2026, in Dorrance Hall from 2-4 p.m. to learn more about our journey. Doors open at 1 p.m., so come in early and say hello to your fellow members.

THE GREAT SAGUARO BOOK By Susan Hazen-Hammond
Reviewed by Sylvia Lee



In the introduction, the author refers to a book she had previously written, *The Saguaro That Fought Back*. The rest of the introductory material is very interesting to read, but continue turning pages to see the unusual and usual photographs the author has taken. This is a small book, well worth relaxing and scrolling through the pages. The author's earlier book is not in the Phoenix Public Library collection. If anyone has a copy, I would like to borrow it.

The author seems to explain her fascination with saguaro cacti when she writes, "Around the world the celebrity cactus [saguaro], the most photographed plant on earth, has become a symbol not just of the Sonoran Desert, but of the West and the entire United States."

On pages viii-ix, she discusses bacterial necrosis of saguaro cacti and debunks tales related to this problem. Keep reading and you will learn about experiences the author has had when photographing saguaros.

The book itself has a picture of a saguaro on each page, along with a short paragraph of description and information. For instance, on page 19, there is a beautiful picture of a saguaro with two arms. The paragraph below the photograph says, "The most widely recognized form of the saguaro, popular in art and myth, is that of a cactus with two arms rising toward the sky. Actually, only a few saguaros match this stereotyped shape."

On page 23, the reader encounters a very, very unusual saguaro. The paragraph below the picture is informative: "The segmented look of this saguaro is probably due to a genetic defect. However, segmenting can also occur following a severe frost, which is the leading precipitator of natural death in saguaros."

To me, the most interesting picture is the one on page 27. The reader never knows what is going to be seen when a page is turned.

ARIOCARPUS: A MASTER OF DISGUISE By Kathleen M. McCoy

Meeting an unknown succulent for the first time always generates a smile on my face and a “need to know” cerebral itch. So, when the genus ariocarpus tumbled into my consciousness, I was compelled to investigate this succulent like native bees are attracted to wild bee balm (*Monarda fistulosa*).

Tacking into the unknown, ariocarpus, lithops and other mimicry plants (mesembs) are often described as being masters of disguise. Acclaimed for unusual patterns, textures and leaf forms, these succulents grow close to the ground. Almost impossible to see. Their camouflage among rocks is so complete that they are often overlooked. All thrive on rocky slopes or hills, and all are slow growing yet, their home of origin is different. Lithops hail from Namibia. Mesembs occur mostly in the southwestern parts of Africa. Ariocarpus, denizens of the Chihuahuan desert, settled in Mexico with a tentative border crossing into South Texas.

Delving deeper into the life of an ariocarpus, the succulent is described as a wild genus with only 6 to 8 species depending on the source. Each species shares common attributes, but some distinctive differences also exist between and within the species. The six species of ariocarpus most commonly identified are: *Ariocarpus agavoides*, *bravoanus*, *fissuratus*, *kotschoubeyanus*, *retusus*, and *scapharostrus* var. *trigonus*. Multiple subspecies may be attributed to the confusion regarding the number of species. Observable traits vary widely, for example, height or color the of flower in the species.

A gray-green rosette of tubercles, either protruding or flattened, is a descriptive form. All species are small, ranging in size at maturity from two inches (*A. agavoides*) to eight inches (*A. retusus*) above ground. Below the surface is a ball-like stem accompanied with a tuberous, turnip-like, thick taproot firmly rooted in porous soils, preferably loaded with limestone. The taproot, along with mucilage canal, acts like a reservoir, holding lifesaving water for the dry winter months. Spines are sparse, although a few bristles decorate cone-shaped protuberances covering the stems. On *A. fissuratus* woolen tufts can conceal a spine or two.

Depending on the species, flowers vary from white to yellow, yet the *A. confusus* produces a vibrant magenta, as well as white or pink flowers and even bicolored flowers on the same plant. Bloom time for most is August. The flower catches the eye like Sherlock Holmes to a crime scene, but short-lived traitorous blooms last only three to four days, giving away their otherwise secret location.

A perfect candidate for a xeriscape landscape, the ariocarpus family is known for parsimony with water intake. Not one for excesses, the ariocarpus takes water once in late spring and a little more in summer and fall; good news for plants growing in the hot desert climate. The not-so-welcome news is that members of the ariocarpus family are also known for a very slow growing rate. The racehorse of this species is the *A. retusus*, one of the largest and rapidly growing members of this genus, taking a mere

decade to reach maturity. Not surprisingly, reports of large, old plants have been priced for thousands of dollars. The source of such mature plants is most likely from the wild and most likely poached. Two hundred dollars or more is the expected cost for older and larger succulents when purchased from a legitimate grower. Almost desiccated looking, a plant in the wild will look a bit on the grim reaper's side, whereas rotund, tiny mounds of green tubercles are the hallmark of cultivation. Seedlings are much less expensive, but the price to pay lies in patience.

Those obsessed with possession of ariocarpus also include thrill seekers looking for a hallucinogenic or psychoactive high. However, the best they could hope to experience is delivered through a placebo effect despite native lore about mind-altering substance perpetuated by the Tarahumara, a group of indigenous people living in Chihuahua, Mexico.

Other more successful applications of chaute, the generic name used in Mexico for all species of these wily plants packed with bitter and toxic alkaloids, include glue from the mucilaginous sap in the stems, a poultice applied to bites, bruises and wounds, and as a tea used by runners for a boost in energy. If the runner has a disappointing performance, the ariocarpus can be brewed into tesguino, a formidable alcoholic beverage. Some might say ariocarpus should be considered the original power drink!

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Most people know the aloe vera plant, *Aloe barbadensis*. In fact, it may be among the first houseplants people grow. It's kind of exotic looking, takes a great deal of abuse in terms of growing conditions and is handy to have around for burns. Many a cook has snapped off a leaf and rubbed the slimy juice on a burn or blister. The juice helps to take away the burning feeling and helps to prevent blisters from forming. It aids in healing by helping to promote skin cell growth. Only 4 aloes, out of a known 300, are good for medicinal purposes though. Don't be in a rush to use just any aloe on your skin, as some can be quite caustic and damaging. It is best to know what you are using before you use it.



Aloe vera growing in a east corner shaded in the afternoon.

Humans have known the aloe vera for its uses for a very long time. The first recorded medicinal applications of the aloe vera plant were found in a Sumerian clay tablet written around 2200 BC. The aloe vera is listed among plants of great healing powers. The first real detailed discussion of aloe vera's medicinal value appears in a document written by the Egyptians in 1550 BC. This document gives 12 formulas for mixing aloe with other agents to treat both internal and external human disorders.

Through the ages, people have used the aloe vera plant for these and other purposes, some more successfully than others. Western medicine has studied the use of aloe vera in treating wounds, ringworm, skin allergies, abscesses, fungal infections, dermatitis, lacerations, inflamed cysts, etc. A physician in the Chicago Burn Center demonstrated in the 1980's that aloe treatment eliminated scarring, aided the return of normal skin color, and amazingly regenerated hair follicles in a burned skin area—all very important uses for burn patients.

This kind of publicity has given aloe vera an elevated status as a health remedy. Some promote aloe vera as a treatment for a wide variety of ailments beyond its use as a help for

burns. In doing research for this article on the Internet, I found hundreds of sites championing the use of aloe vera internally and externally for almost anything. Most claims are unsubstantiated and unproven. Desert Botanical Garden cautions that

consumers should be wary of claims on the Internet and elsewhere stating ingesting aloe can help arthritic swelling, reduce blood sugar in diabetics, and work wonders on a variety of ailments. It simply is not true.



As there are 300 known aloes, humans have found uses for others beyond the aloe vera. The stem of the tree *Aloe dichotoma* has been hollowed out to make a quiver for arrows. As the resinous part of the aloe is not water-soluble, mariners discovered this and used it to coat ships to protect wood from water for as long as eight months.

Not many aloes can take full exposure to the Arizona sun, and certainly not aloe veras, preferring some filtered shade on a hot summer day. Most also don't care for cold nights, needing some cover, or to be brought indoors for the night. Keep these requirements in mind when placing a plant. Provide slow deep watering after drying out the soil some, add a little rose food fertilizer, and you'll be rewarded with a flowering plant that helps with a burn. That is if you can bear to snap a leaf off.

CACSS NOTICE FOR 2026 DUES By Membership Chair Pat Adler

Hello Members,

Yikes, 2026 is just around the corner! It's that time to give you a heads-up about membership dues for 2026. After much consideration, the Board has adopted a new policy. Effective January 1, 2026, dues have a slight increase of \$5 for each category. This means a single membership for the calendar year is \$25 and a family membership is \$30. Also, there is no discount during the year. (The previous policy offered a half-price discount if paid after July 1.)

Please recall that honorary lifetime members are exempt from paying either single or family membership dues.

To remain an active member with the associated perks (for example, meeting and event notices, pumice pile, open gardens, guided walks, borrowing books from the library, PEG raffle, being an exhibitor in our annual show, and full color version of *Central Spine*), dues must be paid between January 1 and February 28, 2026. If dues are not paid by February 28, membership and associated perks lapse until dues are paid. Only a single year's payment is accepted.

Watch our CACSS website for the membership [link](#) that will be active the beginning of January 2026. Reminders will be sent. Send questions to centralarizonacactus@gmail.com.

**CONTACT INFORMATION FOR MEMBERS WILL NO LONGER BE PROVIDED
IN THE NEWSLETTER AS ISSUES HAVE OCCURRED.**

To contact a board member, committee chair, specialist, or others 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: centralarizonacactus@gmail.com

JENNY KUO SHOW VENDOR By Ruthanne LaQua

Jenny Kuo—best known for her videos on the Cookie’s Cacti YouTube channel—will be sitting on the other side of the table at the upcoming CACSS Annual Show and Sale. A first-time vendor, Jenny will be joining the one day sale tables on Sunday.



Curious about how filming YouTube videos intersects with growing cacti, I asked Jenny how those two worlds came together. She shared that building her channel mirrors her plant journey, more than people might expect. “You could say I grew the YouTube channel from seed knowing nothing about being a content creator,” Jenny said. “I learned by stumbling through it, just like growing cactus from seed. It requires nurture, care and time—and sometimes a bit of neglect.”

As she prepares for her first customers as a vendor, Jenny is excited to bring Cookie’s Cacti to the sale and connect with growers of all experience levels. From video-graphing other people’s collections to growing her own cacti from seed, and now selling them for the first time, it’s clear that Jenny’s love of all things cacti runs deep.

Be sure to stop by Jenny’s table in March at the CACSS Annual Show and Sale to say hello and check out her plants in person.

JUST BRING ONE! By “Bargain Bob” Hopfner

A thought has been rolling around my head as of late, and as it is such a rare occurrence, I thought I would share it with you. You may not know me personally. You may know my alternate persona as “Bargain Bob” of “Bargain Bob’s Botanical Bonanza” at the 2025 CACSS Show and Sale.

This one is for the newcomers, the neophytes, the newbies. Every club member has been there, so don’t let inexperience hold you back! We’re going to talk about how you can participate in this year’s Annual Show and Sale March 27, 28 and 29.

No need to panic, you have plenty of time to: Just bring one! Just bring one “what” you ask? Well, there are several things you could bring, but let’s start with the basics.

Just bring yourself! It’s three days of all kinds of cactus and succulents on display (and for sale!). It’s our premiere annual event, and it’s certainly not something you want to miss. You can see what other club members have been growing, chat with them and find out their best practices. As always, we have show ambassadors on hand to answer questions about any plant you find intriguing. They will even help you find it in the sales area if you ask nicely.

Just bring one friend. Maybe you know a friend that has some interest in cacti and succulents, maybe they don’t think they have a green thumb. Bring them along and share your interest and expertise. Show them that keeping a little green friend alive is not the terrible challenge it may seem to be. There is no better way to learn than to share knowledge with a friend and grow together.

Just bring one plant. You’re going to put a plant in the show. Ok, this is where it might get a little uncomfortable. Maybe you are worried you’re not up to snuff. Maybe you don’t think you have the “right” plant. But none of that matters. Here’s the big ask: bring just one plant to enter in the show. Yes, I am extending an invitation specifically to newer growers that have not shown a plant before. Just bring one.

To be clear, these are not plants I doted on all year, primping and fussing over that I brought to the show. They were just plants sitting outside where I keep all my plants. No fancy pots—just terra cotta, my plant and basic top dressing. I was nervous, I was going to back out and not show anything. A very wise friend looked at my plants and said, “Put THIS ONE in the show. Take this one too.” I tidied them up a bit and brought them in Wednesday morning. (Pro tip: Make it easy on yourself and fill out your tags as best you can BEFORE you come.) If you’re not sure of the name, there will be folks who can help you. So what are you going to do? Just bring one (or two), right?

In the coming weeks, stay tuned for more resources on how to show a plant. In the meantime, you can watch this video to get a little more inspiration: *How to prepare for*

the Show and Sale (click on the link to Jenny Quo's video: <https://www.youtube.com/watch?v=PZmmwQjsNqE>).



Bob's prize-winning plant.

Just bring yourself and volunteer. I don't know if I can express in words how much fun it was to participate over the course of three days at the Show and Sale. As the coordinator for the cuttings table, I worked with a bunch of great people that helped me immensely in setting up our little shop, answer questions, and sell a ton of cactus for the club.

There are nearly 200 volunteer positions that need to be filled over the course of three days. It's not a huge three day commitment. A standard shift is four hours. Come in, work a bit and then enjoy the Show and Sale. Volunteers are needed as cashiers, at the cuttings table, with show set-up, vendor support, general helpers, show ambassadors, and even assist with clean-up when it is over. There's tons to do, and you will meet fellow club members and make new friends. You even get a free meal out of it, so it's a win-win for sure! As a member of the Annual Show and Sale committee, I have to say that it's the volunteers that make the event run as smoothly as it does. We need your help—give it a try, just this “one” time.

Just bring one cutting! This last request is a bit more personal. As the cuttings coordinator, I ask that if you have a cutting to spare, let me know so we can make “Bargain Bob's Bargain Botanical Bonanza” the best ever! Save any cactus or succulent trimming for March, if you can. If you need assistance with a cutting or transportation, I can help with that. I am also looking for other volunteers to help collect and transport plants and larger cuttings as I do not have a truck.

That's it. You know what to do; just bring one. The “one” is up to you. See you in March!

NANCY MUMPTON: PROOFREADER EXTRAORDINAIRE

By Editor Sue Hakala



Left, Nancy Mumpton, right Nancy's gorgeous *Echinopsis* 'Flying saucer.'

It is with deep regret that I announce that after many years, Nancy Mumpton is stepping down as a very important member of the newsletter team: exceptional proofreader.

I've learned throughout my career that when writing an article, or producing something like the *Central Spine*, it is essential to have someone help with proofreading, as we all read seeing what we want, not necessarily what is there. Nancy is the single best person I have ever worked with. She has an eagle eye and catches anything I miss. It is a great loss.

If you have skills in this area and would like to help, please let me know.

OUTREACH COMMITTEE REQUEST By Kathi Metzger

The CACSS Outreach Committee is in need of new members to join our group. Formed in 2024, members have participated in activities such as education classes at Desert Botanical Garden (DBG), the Migratory Student Summer Academy at DBG, Home School Day at Boyce Thompson Arboretum, and garden club presentations. If you enjoy meeting people, doing presentations about all things cactus and succulents, and want to have fun, please consider joining our committee.

Please call or email Kathi Metzger at 480-241-2339 or kathi.metzger@centralarizonacactus.org. Hobbyists and experts are welcome! Thank you so much for your consideration.



Aloidendron dichotomum (formerly *Aloe dichotoma*) by Ken Blackford in Balboa Park Desert Garden, CA.

GNATS: THE MICRO BUT MIGHTY PEST Photos and text by Tammie Jansen

I was planning to do a write-up on my participation in the Saguaro Nursery Project at Desert Botanical Garden (DBG) this past May, but as I delayed my little endeavor, I watched with dismay as my tray of 195 saguaro seedlings faded away into oblivion over several weeks. What started out as a few annoying gnats turned into a learning experience for everyone involved in the Saguaro Nursery Project. Fungus gnats (left) are small, dark, mosquito-like flies, about 1/8 inch long, with one pair of wings that have



Fungus gnat adult, creator: Heather Broccard-Bell; credit: Getty Images/iStockphoto

<https://www.istockphoto.com/photos/fungus->

Y-shaped veins. Our initial approach was to get rid of the adults we could see by using a little fly trap paper in the open hole; the adult gnats disappeared, however, my sorrows continued.

Thanks to research by Hal Hoover and Crystal Zhou of DBG, we realized the real issue was the larvae we could not see. The larvae are very small and pale maggot-like creatures that remain in the top few inches of the plant soil where they feed on fungi, decaying matter and plant roots. You may see them if you disturb the soil.

The fungus gnats can enter your home through a variety of ways: attracted by overripe fruit, sweet-smelling hygiene products, rotting food in drains or garbage disposals, moisture in bathrooms and kitchens, new plants or soils, and so forth. Both moist and dry soils can be a host to gnats. Adult flying fungus gnats are just the reproductive part of the life cycle and do no direct harm to the seedlings. Their unseen larvae can wreak destruction! Fungus gnats lay hundreds of eggs in a week, and those eggs will continually hatch for the next 7 to 14 days. The larvae eat the young roots, which results in the weakening and eventual die off of seedlings and immature plants.

TREATMENT

Hal spent hours watching several videos and found one that was well done, and he felt the treatment was the most effective. He recommended Ashley Anita's video on YouTube: <https://www.youtube.com/watch?v=t8CeBX-UvcA>.

I purchased the following items on Amazon: an eight ounce bag of Mosquito Bits, and some smaller aquarium mesh bags. Using my two-gallon garden watering can, I made the "tea" recommended in the video. Put approximately four tablespoons of Mosquito Bits per gallon of water into one of the mesh bags (I added a little extra of the Bits for the first application so that the tea would be more concentrated). Then drop the prepared mesh bag into your watering can. Using very HOT water from your indoor faucet (do not use boiling water as it will kill the good bacteria in the Mosquito Bits) fill up your watering can to the desired volume. I made two gallons for my first application



so that I could treat all my indoor plants at the same time. Let the tea brew for at least 20 minutes, longer is better. I let my tea sit for hours so the water would return to room temperature. If you're in a hurry, use only three-quarters of the volume of hot water, let sit, then add cold water. You want to use this tea for the next three or four waterings to ensure you kill all the larvae that will hatch over the next several weeks. (Left, Mosquito Bits for the tea.)

I did my initial treatment and let my tray sit for ten days. I was so delighted to see that my one remaining seedling was still alive! I cleaned the tray, discarded the old water and added new tea. I have now planted another 190 saguaro seeds, so that hopefully my solitary seedling may one day have friends.

PREVENTION OF FUNGUS GNATS

Don't overwater! Watering from the bottom is best. Add the tea water to a tray with your potted plant, make sure the plant soaks up enough water so that the top of the soil is moist, then discard the extra water. Utilize top dressing such as bark, rocks or diatomaceous earth, which will help prevent easy access to soil for egg laying. Hope this information helps keep all your plants happy and flourishing!

SPECIALISTS TO CONTACT WITH QUESTIONS

- **Tristan Davis** Manages the Seed Depot. 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.)
- **Dean Patrick** Specializations in softwood stem-cuttings, plant division and seed starting, rooting cacti, agave, and aloe.

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- Serving through December 2027: **Pat Adler** | **Kim Andrews** | **Mary Dokes** | **Desi Kovacs** | **Lisa Moore** | **JR Trevas**

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- Annual Show and Sale Team: **Pat Adler, Bob Hopfner, Joan McDonnell, Kathi Metzger, Ruthanne LaQua**
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- CSSA Affiliate Representative: **Don Begley**
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- Donations Coordinator: **Chris Ginkel**
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- Outreach: **Kathi Metzger**
- Private Plant Sales at Meetings: **Chris Ginkel**
- Printify: **Natalie Fruciano, Jackie Peel**
- Propagation Education Group (PEG): **Tristan Davis**
- Pumice Sales: **Rich Caravello, Bob Hopfner**
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- Speaker Coordinator: **Nadia Whiteside**
- Tech and Communications: **Natalie Fruciano**
- Trip Coordinator: open
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- YouTube Administrator: **Brian Simmons**